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

Appendix 14
Chicopee River Basin
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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Notice of Availability

This report is available on the Massachusetts Department of Environmental Protection website.

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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Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Abbey Brook	MA36-40	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Abbey Brook	MA36-40	5	5	Total Suspended Solids (TSS)	--	Unchanged
Adams Pond	MA36001	3	3	None	--	Unchanged
Asnacomet Pond	MA36005	5	5	Dissolved Oxygen	--	Unchanged
Asnacomet Pond	MA36005	5	5	PFAS in Fish Tissue	--	Added
Atherton Brook	MA36-30	2	2	None	--	Unchanged
Beaver Lake	MA36010	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Beaver Lake	MA36010	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Bemis Road Pond	MA36012	3	3	None	--	Unchanged
Bennett Street Pond	MA36014	3	3	None	--	Unchanged
Bickford Pond	MA36015	3	3	None	--	Unchanged
Blodgett Mill Brook	MA36-87	--	3	None	--	Unchanged
Bottle Brook	MA36-46	2	2	None	--	Unchanged
Bradish Brook	MA36-58	2	2	None	--	Unchanged
Briggs Brook	MA36-61	2	2	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Brigham Pond	MA36020	3	3	None	--	Unchanged
Broad Brook	MA36-86	--	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Brookhaven Lake	MA36021	5	5	Turbidity	--	Unchanged
Brooks Pond	MA36022	3	3	None	--	Unchanged
Brooks Pond	MA36023	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Browning Pond	MA36025	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Browning Pond	MA36025	5	5	Mercury in Fish Tissue	--	Unchanged
Browning Pond	MA36025	5	5	Nutrient/Eutrophication Biological Indicators	3626	Unchanged
Burnshirt River	MA36-37	2	2	None	--	Unchanged
Burrow Brook	MA36-93	--	3	None	--	Unchanged
Cadwell Brook	MA36-54	2	2	None	--	Unchanged
Cadwell Creek	MA36-29	2	2	None	--	Unchanged
Calkins Brook	MA36-26	2	2	None	--	Unchanged
Camel Brook	MA36-63	2	2	None	--	Unchanged
Canesto Brook	MA36-36	2	2	None	--	Unchanged
Carter Pond	MA36029	3	3	None	--	Unchanged
Chicopee Brook	MA36-21	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Chicopee Brook	MA36-21	5	5	Temperature	--	Unchanged
Chicopee Reservoir	MA36033	4c	5	(Non-Native Aquatic Plants*)	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Chicopee Reservoir	MA36033	4c	5	Harmful Algal Blooms	--	Added
Chicopee Reservoir	MA36033	4c	5	PFAS in Fish Tissue	--	Added
Chicopee River	MA36-22	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Chicopee River	MA36-22	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Chicopee River	MA36-22	5	5	Mercury in Fish Tissue	--	Unchanged
Chicopee River	MA36-22	5	5	PFAS in Fish Tissue	--	Added
Chicopee River	MA36-23	2	5	Escherichia Coli (E. Coli)	--	Added
Chicopee River	MA36-23	2	5	PFAS in Fish Tissue	--	Added
Chicopee River	MA36-24	5	5	(Water Chestnut*)	--	Unchanged
Chicopee River	MA36-24	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Chicopee River	MA36-24	5	5	Fecal Coliform	R1_MA_2024_04	Changed
Chicopee River	MA36-24	5	5	PFAS in Fish Tissue	--	Added
Chicopee River	MA36-25	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Chicopee River	MA36-25	5	5	PFAS in Fish Tissue	--	Added
Cloverdale Street Pond	MA36036	3	3	None	--	Unchanged
Cobb Brook	MA36-62	2	2	None	--	Unchanged
Comins Pond	MA36037	3	3	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Conant Brook	MA36-45	2	2	None	--	Unchanged
Conant Brook Reservoir	MA36038	3	3	None	--	Unchanged
Cooley Brook	MA36-38	2	5	Escherichia Coli (E. Coli)	--	Added
Coys Brook	MA36-78	--	5	Escherichia Coli (E. Coli)	--	Added
Cranberry Meadow Pond	MA36040	3	3	None	--	Unchanged
Cranberry River	MA36-20	3	3	None	--	Unchanged
Crystal Lake	MA36043	3	3	None	--	Unchanged
Cunningham Pond	MA36044	3	3	None	--	Unchanged
Cusky Pond	MA36045	4c	4c	(Water Chestnut*)	--	Unchanged
Danforth Brook	MA36-50	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Dean Pond	MA36049	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Dean Pond	MA36050	5	5	Algae	--	Unchanged
Dean Pond	MA36050	5	5	Turbidity	--	Unchanged
Demond Pond	MA36051	3	2	None	--	Unchanged
Dimmock Pond	MA36053	3	3	None	--	Unchanged
Doane Pond	MA36054	5	5	(Aquatic Plants (Macrophytes)*)	--	Changed
Doane Pond	MA36054	5	5	Nutrient/Eutrophication Biological Indicators	--	Added

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Dunn Brook	MA36-19	5	5	Dissolved Oxygen	--	Unchanged
Dunn Brook	MA36-19	5	5	Phosphorus, Total	--	Unchanged
Eames Pond	MA36056	5	5	Dissolved Oxygen	--	Unchanged
East Branch Fever Brook	MA36-47	2	2	None	--	Unchanged
East Branch Swift River	MA36-35	2	2	None	--	Unchanged
East Branch Ware River	MA36-01	2	5	Escherichia Coli (E. Coli)	--	Added
East Branch Ware River	MA36-01	2	5	PFAS in Fish Tissue	--	Added
East Brookfield River	MA36-13	5	5	(Fanwort*)	--	Unchanged
East Brookfield River	MA36-13	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
East Brookfield River	MA36-13	5	5	Dissolved Oxygen	--	Unchanged
Edson Pond	MA36180	3	3	None	--	Unchanged
Fish Brook	MA36-94	--	3	None	--	Unchanged
Fivemile Pond	MA36061	3	3	None	--	Unchanged
Fivemile Pond South	MA36182	3	3	None	--	Unchanged
Fivemile River	MA36-92	--	3	None	--	Unchanged
Forest Lake	MA36063	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Forget-Me-Not Brook	MA36-18	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Forget-Me-Not Brook	MA36-18	5	5	Lack of a Coldwater Assemblage	--	Unchanged
Forget-Me-Not Brook	MA36-28	5	5	Benthic Macroinvertebrates	--	Unchanged
Fuller Brook	MA36-41	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Gaston Pond	MA36065	3	4c	(Aquatic Plants (Macrophytes)*)	--	Added
Giles Brook	MA36-83	--	3	None	--	Unchanged
Great Brook	MA36-89	--	2	None	--	Unchanged
Hardwick Pond	MA36066	5	5	(Fanwort*)	--	Unchanged
Hardwick Pond	MA36066	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Hardwick Pond	MA36066	5	5	Escherichia Coli (E. Coli)	--	Added
Hardwick Pond	MA36066	5	5	Mercury in Fish Tissue	--	Unchanged
Hardwick Pond	MA36066	5	5	PFAS in Fish Tissue	--	Added
Haviland Pond	MA36069	3	3	None	--	Unchanged
Higher Brook	MA36-42	3	3	None	--	Unchanged
Hop Brook	MA36-32	2	5	Escherichia Coli (E. Coli)	--	Added
Horse Pond	MA36072	3	3	None	--	Unchanged
Jabish Brook	MA36-43	2	2	None	--	Unchanged
Jabish Brook	MA36-73	3	3	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Joslin Brook	MA36-44	2	2	None	--	Unchanged
Kings Brook	MA36-48	5	5	Temperature	--	Unchanged
Knights Pond	MA36077	3	3	None	--	Unchanged
Lake Lashaway	MA36079	4a	4a	(Fanwort*)	--	Unchanged
Lake Lashaway	MA36079	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Lake Lorraine	MA36084	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Lake Lorraine	MA36084	5	5	Dissolved Oxygen	--	Unchanged
Lake Lorraine	MA36084	5	5	Enterococcus	--	Unchanged
Lake Lorraine	MA36084	5	5	Mercury in Fish Tissue	--	Added
Lake Whittemore	MA36165	5	5	Turbidity	--	Unchanged
Long Pond	MA36082	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Long Pond	MA36082	5	5	Mercury in Fish Tissue	--	Unchanged
Long Pond	MA36083	4a	4a	Nutrient/Eutrophication Biological Indicators	722	Unchanged
Lovewell Pond	MA36085	3	3	None	--	Unchanged
Mare Meadow Reservoir	MA36090	3	3	None	--	Unchanged
Mare Meadow Reservoir North	MA36178	3	3	None	--	Unchanged
Meadow Brook	MA36-91	--	3	None	--	Unchanged
Middle Branch Swift River	MA36-33	2	5	Escherichia Coli (E. Coli)	--	Added
Minechoag Pond	MA36093	4a	4a	Nutrient/Eutrophication Biological Indicators	3629	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Mona Lake	MA36094	4a	4a	Nutrient/Eutrophication Biological Indicators	3630	Unchanged
Moose Brook	MA36-51	2	2	None	--	Unchanged
Moose Hill Reservoir	MA36179	3	3	None	--	Unchanged
Moosehorn Brook	MA36-66	3	3	None	--	Unchanged
Moosehorn Pond	MA36097	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Moulton Pond	MA36098	3	3	None	--	Unchanged
Muddy Brook	MA36-77	--	2	None	--	Unchanged
Muddy Pond	MA36102	3	3	None	--	Unchanged
Murphy Pond	MA36103	3	3	None	--	Unchanged
Natty Pond Brook	MA36-95	--	2	None	--	Unchanged
Old Reservoir	MA36114	4c	4c	(Flow Regime Modification*)	--	Unchanged
O'Neil Brook	MA36-88	--	3	None	--	Unchanged
Palmer Reservoir	MA36115	3	3	None	--	Unchanged
Paradise Lake	MA36116	3	3	None	--	Unchanged
Pattaquattic Pond	MA36117	3	3	None	--	Unchanged
Peppers Mill Pond	MA36121	3	3	None	--	Unchanged
Perry Hill Pond	MA36122	3	3	None	--	Unchanged
Pinnacle Creek	MA36-55	2	2	None	--	Unchanged
Pleasant Brook	MA36-68	2	2	None	--	Unchanged
Popple Camp Brook	MA36-67	2	2	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Pottapaug Pond	MA36125	4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
Pottapaug Pond	MA36125	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Prescott Brook	MA36-84	--	3	None	--	Unchanged
Prince River	MA36-08	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Purgee Brook	MA36-81	--	2	None	--	Unchanged
Quabbin Reservoir	MA36129	4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
Quabbin Reservoir	MA36129	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Quaboag Pond	MA36130	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Quaboag Pond	MA36130	5	5	(Fanwort*)	--	Unchanged
Quaboag Pond	MA36130	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Quaboag Pond	MA36130	5	5	Algae	33846	Unchanged
Quaboag Pond	MA36130	5	5	Mercury in Fish Tissue	--	Unchanged
Quaboag Pond	MA36130	5	5	Phosphorus, Total	33846	Unchanged
Quaboag River	MA36-14	5	5	Dissolved Oxygen	--	Unchanged
Quaboag River	MA36-15	5	5	Dissolved Oxygen	--	Unchanged
Quaboag River	MA36-15	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Quaboag River	MA36-16	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Quaboag River	MA36-16	5	4a	Fecal Coliform	R1_MA_2024_04	Changed
Quaboag River	MA36-17	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Quacumquasit Pond	MA36131	4a	4a	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Quacumquasit Pond	MA36131	4a	4a	(Fanwort*)	--	Unchanged
Quacumquasit Pond	MA36131	4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
Quacumquasit Pond	MA36131	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Queen Lake	MA36132	3	2	None	--	Unchanged
Roaring Brook	MA36-56	2	2	None	--	Unchanged
Rocky Run	MA36-64	2	2	None	--	Unchanged
Rutland Brook	MA36-97	--	2	None	--	Unchanged
Sevenmile River	MA36-11	5	5	Dissolved Oxygen	--	Unchanged
Sevenmile River	MA36-11	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Sevenmile River	MA36-12	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Shaw Pond	MA36138	3	3	None	--	Unchanged
Silver Brook	MA36-72	5	5	Temperature	--	Unchanged
Spectacle Pond	MA36142	4a	4a	Nutrient/Eutrophication Biological Indicators	3631	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Springfield Reservoir	MA36145	3	3	None	--	Unchanged
Stone Bridge Pond	MA36148	3	2	None	--	Unchanged
Sucker Brook	MA36-90	--	3	None	--	Unchanged
Sugden Reservoir	MA36150	4a	4a	Nutrient/Eutrophication Biological Indicators	3633	Unchanged
Swift River	MA36-09	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Swift River	MA36-10	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Thayer Pond	MA36181	3	3	None	--	Unchanged
Thompson Lake	MA36154	3	3	None	--	Unchanged
Thompsons Pond	MA36155	3	3	None	--	Unchanged
Town Barn Beaver Pond	MA36156	3	3	None	--	Unchanged
Turkey Hill Brook	MA36-49	2	2	None	--	Unchanged
Turkey Hill Pond	MA36157	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Twelvemile Brook	MA36-53	5	5	Temperature	--	Unchanged
Underhill Brook	MA36-65	2	2	None	--	Unchanged
Unnamed Tributary	MA36-39	5	5	(Bacterial Slimes*)	--	Unchanged
Unnamed Tributary	MA36-39	5	5	(Debris*)	--	Unchanged
Unnamed Tributary	MA36-39	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Unnamed Tributary	MA36-39	5	5	Trash	--	Unchanged
Unnamed Tributary	MA36-52	2	2	None	--	Unchanged
Unnamed Tributary	MA36-57	2	2	None	--	Unchanged
Unnamed Tributary	MA36-59	2	2	None	--	Unchanged
Unnamed Tributary	MA36-60	2	2	None	--	Unchanged
Unnamed Tributary	MA36-70	2	2	None	--	Unchanged
Unnamed Tributary	MA36-71	2	2	None	--	Unchanged
Unnamed Tributary	MA36-74	--	2	None	--	Unchanged
Unnamed Tributary	MA36-75	--	2	None	--	Unchanged
Unnamed Tributary	MA36-76	--	2	None	--	Unchanged
Unnamed Tributary	MA36-80	--	2	None	--	Unchanged
Unnamed Tributary	MA36-82	--	2	None	--	Unchanged
Unnamed Tributary	MA36-85	--	3	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Unnamed Tributary	MA36-96	--	3	None	--	Unchanged
Vinica Brook	MA36-79	--	2	None	--	Unchanged
Vinica Pond	MA36160	--	4c	(Aquatic Plants (Macrophytes)*)	--	Added
Waite Pond	MA36161	3	3	None	--	Unchanged
Ware River	MA36-03	5	5	Escherichia Coli (E. Coli)	--	Added
Ware River	MA36-03	5	5	Lack of a Coldwater Assemblage	--	Unchanged
Ware River	MA36-03	5	5	Mercury in Fish Tissue	--	Unchanged
Ware River	MA36-03	5	5	PFAS in Fish Tissue	--	Added
Ware River	MA36-03	5	5	Temperature	--	Unchanged
Ware River	MA36-04	4c	5	(Non-Native Aquatic Plants*)	--	Unchanged
Ware River	MA36-04	4c	5	PFAS in Fish Tissue	--	Added
Ware River	MA36-05	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Ware River	MA36-05	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Ware River	MA36-05	5	5	PFAS in Fish Tissue	--	Added
Ware River	MA36-06	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Ware River	MA36-06	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Ware River	MA36-06	5	5	Fecal Coliform	R1_MA_2024_04	Changed

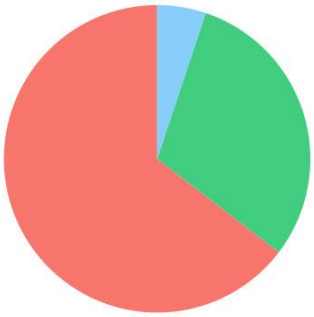
Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Ware River	MA36-06	5	5	PFAS in Fish Tissue	--	Added
Ware River	MA36-07	2	5	PFAS in Fish Tissue	--	Added
Ware River	MA36-27	2	5	Escherichia Coli (E. Coli)	--	Added
Ware River	MA36-27	2	5	PFAS in Fish Tissue	--	Added
West Branch Fever Brook	MA36-34	2	2	None	--	Unchanged
West Branch Swift River	MA36-31	2	2	None	--	Unchanged
West Branch Ware River	MA36-02	2	5	PFAS in Fish Tissue	--	Added
Wickaboag Pond	MA36166	4a	4a	Mercury in Fish Tissue	33880	Added
Wickaboag Pond	MA36166	4a	4a	Turbidity	1332	Unchanged
Winimusset Brook	MA36-69	2	2	None	--	Unchanged

Abbey Brook (MA36-40)

Location:	Headwaters west of Saint James Avenue, Springfield (through former 2008 segment: Bemis Pond MA36011) to mouth at confluence with the Chicopee River, Chicopee.
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B

Abbey Brook (MA36-40)

Watershed Area: 1.31 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.31	1.31	0.19	0.19
Agriculture	0%	0%	0%	0%
Developed	64.6%	64.6%	20.2%	20.2%
Natural	30.3%	30.3%	53.6%	53.6%
Wetland	5.1%	5.1%	26.2%	26.2%
Impervious	40.9%	40.9%	11.3%	11.3%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Total Suspended Solids (TSS)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	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	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Total Suspended Solids (TSS)	Source Unknown (N)	--	--	X	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 recently, so the Fish Consumption Use for Abbey Brook (MA36-40) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Abbey Brook (MA36-40) continues to be assessed as Not Supporting with the Total Suspended Solids (TSS) impairment being carried forward. No new data are available to evaluate the Aesthetics Use for this Abbey Brook AU.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Abbey Brook (MA36-40) 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 CRC-CAB1. The prior Total Suspended Solids (TSS) impairment (from the Aesthetics Use) is being carried forward. CRC staff/volunteers collected *E. coli* bacteria samples in Abbey Brook (MA36-40) at CRC-CAB1 [Abbey Brook] from Jun-Sep 2021 (n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC-CAB1 indicated 66% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. E. coli data from CRC-CAB1 are indicative of an *E. coli* impairment.

Monitoring Stations

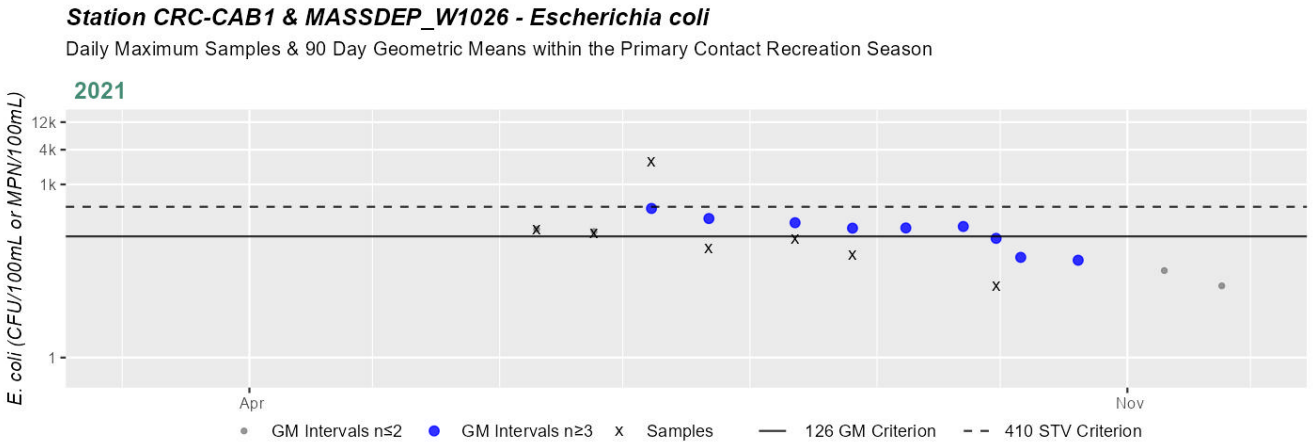
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC-CAB1	Connecticut River Conservancy	Water Quality	Abbey Brook	Abbey Brook	42.147950	-72.590660

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC-CAB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	17	2419	125



Variable*	Result
Samples	7
SeasGM	125
#GMI	9
#GMI Ex	6
%GMI Ex	66%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
66%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Abbey Brook (MA36-40) continues to be assessed as Not Supporting. The prior Total Suspended Solids (TSS) impairment (from the Aesthetics Use) is being carried forward. The *Escherichia coli (E. coli)* impairment is being removed. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Abbey Brook (MA36-40) at CRC-CAB1 & W1026 [upstream of storm drain discharge, Front St, Chicopee & Abbey Brook] from Apr-Oct 2003 (historic n=6) and Jun-Sep 2021 (current n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC-CAB1 & W1026 indicated 22% of intervals had GMs >244 CFU/100ml and 1 sample exceeded the 794 CFU/100ml STV. *E. coli* data from CRC-CAB1 & W1026 meet 2024 CALM guidance.

Monitoring Stations

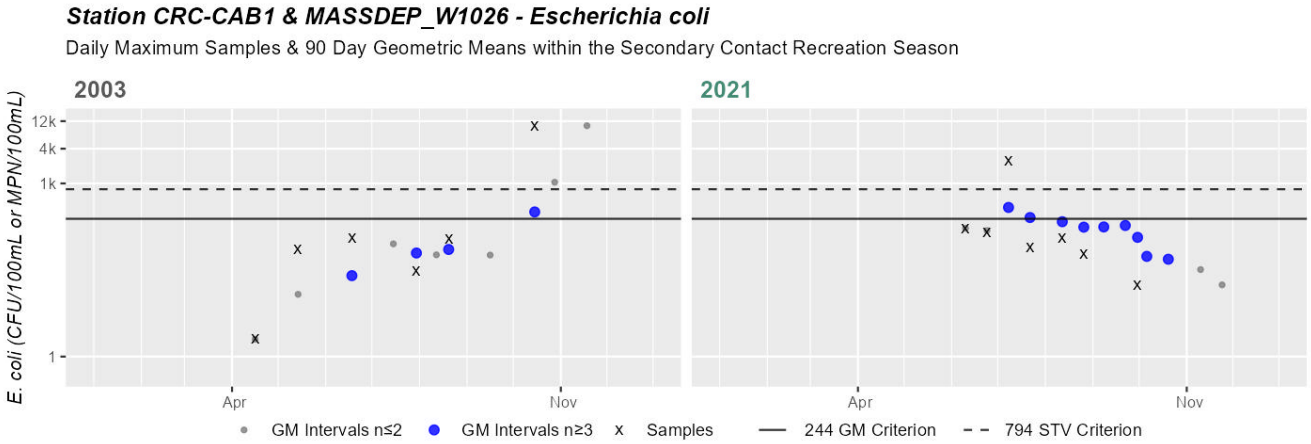
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC-CAB1	Connecticut River Conservancy	Water Quality	Abbey Brook	Abbey Brook	42.147950	-72.590660
W1026	MassDEP	Water Quality	Abbey Brook	[upstream of storm drain discharge, Front Street, Chicopee]	42.148106	-72.590680

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (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
CRC-CAB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	17	2419	125
W1026	MassDEP	E. coli	04/16/03	10/15/03	6	2	10000	90



Variable*	Result
Samples	6
SeasGM	90
#GMI	4
#GMI Ex	1
%GMI Ex	25%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	125
#GMI	9
#GMI Ex	2
%GMI Ex	22%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance Historic (1997-2010)
25%

Cumulative %GMI Exceedance Current (2011-2022)
22%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Adams Pond (MA36001)

Location:	Oakham.
AU Type:	FRESHWATER LAKE
AU Size:	30 ACRES
Classification/Qualifier:	B

No usable data were available for Adams Pond (MA36001) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Asnacomet Pond (MA36005)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	126 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
PFAS in Fish Tissue	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 Asnacomet Pond (MA36005) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in Asnacomet Pond (MA36005) at station F0472 (PFAS Study ID 6) on 07/24/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Asnacomet Pond in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
F0472	MassDEP	Fish Toxics	Asnacomet Pond	[Hubbardston (impounded by Asnacomet Pond Dam NAT ID: MA01248)]	42.456347	-71.983709

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in Asnacomet Pond (MA36005) at station F0472 (PFAS Study ID 6) on 07/24/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Asnacomet Pond in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for Asnacomet Pond (MA36005).

MassDEP 2022 PFAS in Fish Tissue Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 5) (MA DPH 2023c)

[ng/g = ppb. All PFBA, PFBS, and HFPO-DA (Genx) concentrations <MDL. ND indicates that the PFAS analyte was not detected in any of the composite samples (i.e., it was <MDL). Means weighted by the number of fish in the contributing composites were calculated for any PFAS analyte – waterbody – species combination where an analyte was detected in at least one sample; if a sample did not have the analyte detected, the concentration for that sample was set to ½*MDL for the purposes of calculating a mean. Data are highlighted red per the fish consumption advisory thresholds summarized in Table 4.2 of MDPH's 2023 Technical Support Document for the evaluation of PFAS in recreational waterbodies.]

[Species List: B = bluegill, LMB = largemouth bass]

Station Code	PFAS Study ID	Sample Date	Species	Mean PFHxS ng/g	Mean PFNA ng/g	Mean PFOA ng/g	Mean PFOS ng/g	Analytes with ≥ 1 Sample Qualified
F0472	6	07/24/2022	B	ND	ND	ND	3.20	
F0472	6	07/24/2022	LMB	ND	ND	ND	3.80	

Aesthetic

2024/26 Use Attainment	Alert

Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Asnacomet Pond AU (MA36005), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Asnacomet Pond (MA36005) continues to be assessed as Fully Supporting. PFAS surface water sampling was conducted in Asnacomet Pond (MA36005) at stations W3264 (PFAS Study ID 6) and W3265 (PFAS Study ID 6B), the beach on the western edge of the pond, on 07/24/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. Asnacomet Pond (MA36005) has a beach with DPH Beach Closure data: Asnacomet Pond (DCR) [Beach ID: 4940] beach in Hubbardston. The beach was rarely, if at all, posted for swimming from 2018-2022. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Asnacomet Pond (MA36005) at DCRWS_116 [Asnacomet Pond] from 2011, 2015, and 2019-2020 (n=3-15/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from DCRWS_116 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_116 meet 2024 CALM guidance.

Monitoring Stations

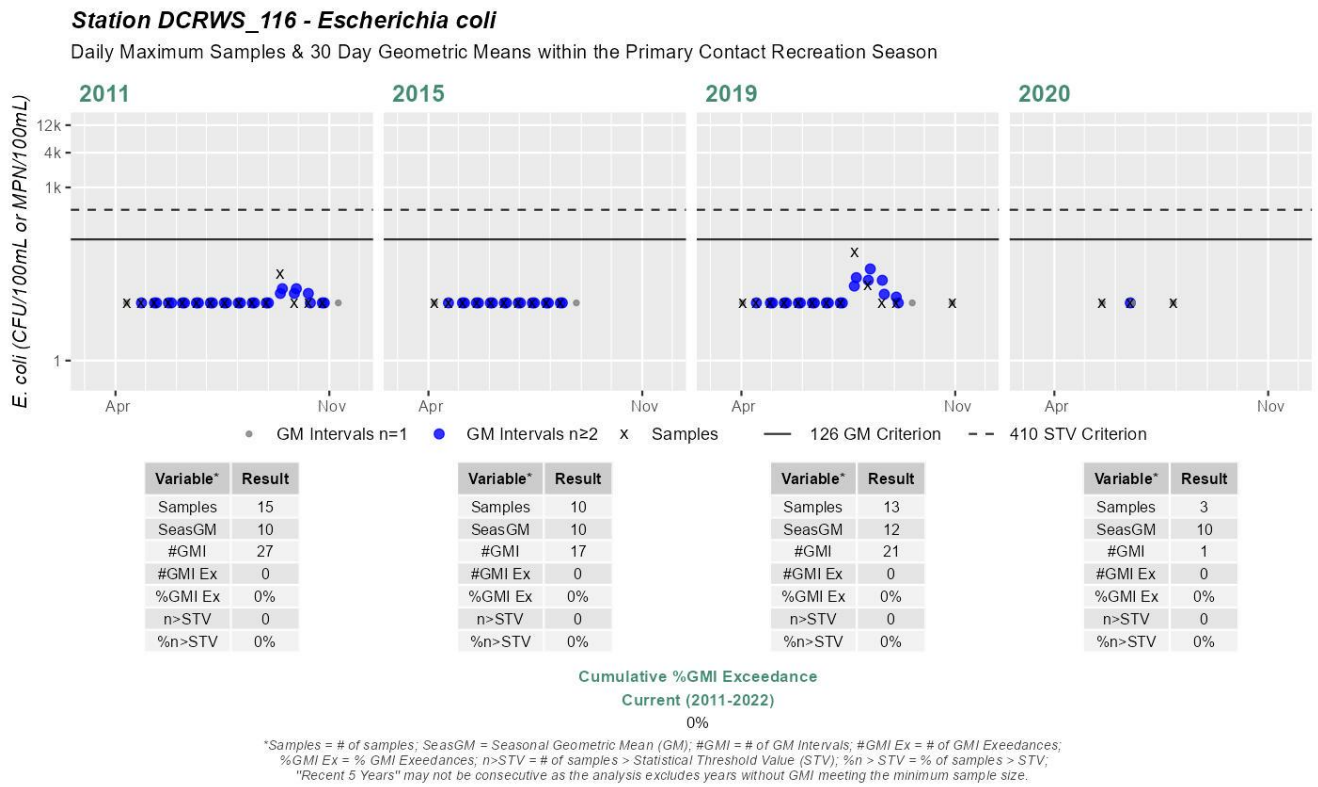
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_116	MA DCR Division of Water Supply Protection	Water Quality	Unnamed Tributary	Asnacomet Pond	42.449390	-71.978799
W3264	MassDEP	Water Quality	Asnacomet Pond	[the default location representing co-located water/fish PFAS sampling, Hubbardston]	42.456347	-71.983709
W3265	MassDEP	Water Quality	Asnacomet Pond	[beach on western edge of pond, east of Worcester Road (Route 68), Hubbardston]	42.455350	-71.986050

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (MA DCR 2023) (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
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	10	31	10
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	04/07/15	08/11/15	10	10	10	10
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	13	10	75	12
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	05/18/20	07/28/20	3	10	10	10



Beach Postings

MDPH 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%
4940	Asnacomet Pond Beach (DCR)/ Hubbardston	42.45548, -71.98650	42.45511, -71.98610	0%	2%	0%	0%	0%	0%	0%	2%	0%	0

Other Indicators

Summary Statement(s) for MassDEP 2022 PFAS in Water Column Data (MassDEP 2023) (MassDEP Undated 4)

Summary
Surface water sampling was conducted in Asnacomet Pond (MA36005) at station W3264 (PFAS Study ID 6) on 07/24/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.
Surface water sampling was conducted in Asnacomet Pond (MA36005) at station W3265 (PFAS Study ID 6B), the beach on the western edge of the pond, on 07/24/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.

MassDEP 2022 PFAS in Water Column Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 4)

[HFPO-DA is also known as GenX; the ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here); * indicates the ∑PFAS6 concentration was qualified since data for one or more individual PFAS6 analytes were qualified; b = blank contamination qualifier, d = qualifier indicating precision of field duplicates did not meet project data quality objectives; j = 'estimated' value qualifier; ## = censored data.]

Station Code	PFAS Study ID	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	HFPO-DA ng/L	∑PFAS6 ng/L
W3264	6	07/24/2022	1.9j	<0.52	<0.52	<0.59	<2.1	0.52j	<2.1	5.1*
W3265	6B	07/24/2022	2	1.1j	<0.49	<0.56	<2	0.5j	<2	5.8*

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Asnacomet Pond (MA36005) continues to be assessed as Fully Supporting. Asnacomet Pond (MA36005) has a beach with DPH Beach Closure data: Asnacomet Pond (DCR) [Beach ID: 4940] beach in Hubbardston. The beach was rarely, if at all, posted for swimming from 2018-2022. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Asnacomet Pond (MA36005) at DCRWS_116 [Asnacomet Pond] from 2011, 2015, and 2019-2020 (n=11-26/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_116 indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_116 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_116	MA DCR Division of Water Supply Protection	Water Quality	Unnamed Tributary	Asnacomet Pond	42.449390	-71.978799

Bacteria Data

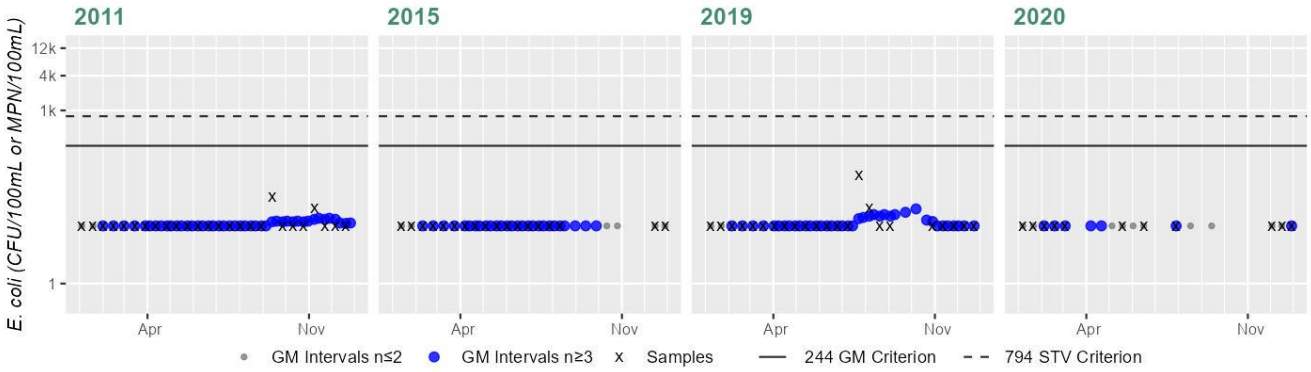
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1)

[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
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	26	10	31	10
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	18	10	10	10
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	23	10	75	11
DCRWS_116	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	11	10	10	10

Station DCRWS_116 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	10
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	18
SeasGM	10
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	23
SeasGM	11
#GMI	41
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	11
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

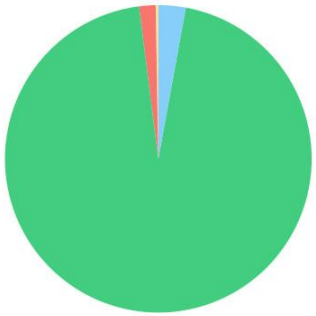
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Atherton Brook (MA36-30)

Location:	Headwaters, confluence Town Farm and Osgood brooks, Shutesbury to mouth at inlet Quabbin Reservoir, Pelham.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Atherton Brook (MA36-30)

Watershed Area: 2.62 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.62	2.62	0.96	0.96
Agriculture	0.3%	0.3%	0%	0%
Developed	1.7%	1.7%	1.1%	1.1%
Natural	95.1%	95.1%	95.2%	95.2%
Wetland	2.9%	2.9%	3.7%	3.7%
Impervious	0.8%	0.8%	0.6%	0.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Atherton Brook (MA36-30) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Atherton Brook (MA36-30) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Atherton Brook (MA36-30) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Atherton Brook (MA36-30) at DCRWS_211A-1 [Atherton Brook] from Apr-Oct 2019 (n=15). Analysis of the single year high frequency *E. coli* dataset from DCRWS_211A-1 indicated 0% of intervals had GMs >126 CFU/100ml and 0% of samples exceeded the 410 CFU/100ml STV. *E. coli* data from DCRWS_211A-1 meet 2024 CALM guidance.

Monitoring Stations

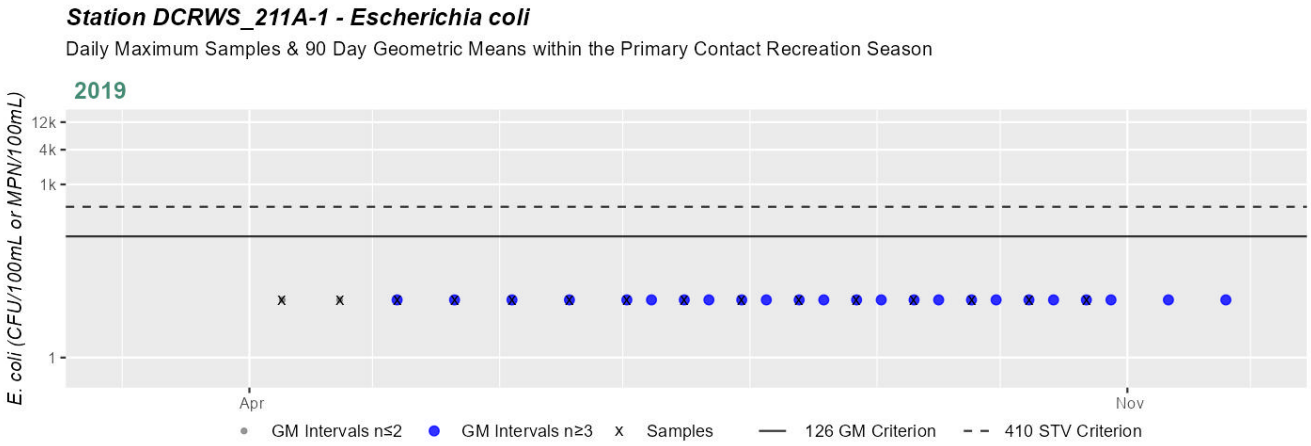
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211A-1	MA DCR Division of Water Supply Protection	Water Quality	Atherton Brook	Atherton Brook	42.425912	-72.395325

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_211A-1	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	10	10



Variable*	Result
Samples	15
SeasGM	10
#GMI	25
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Atherton Brook (MA36-30) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Atherton Brook (MA36-30) at DCRWS_211A-1 [Atherton Brook] from Jan-Dec 2009 (historic n=26) and Jan-Dec 2019 (current n=27). Analysis of the single year high frequency *E. coli* dataset from DCRWS_211A-1 indicated 0% of intervals had GMs >244 CFU/100ml and 0% of samples exceeded the 794 CFU/100ml STV. *E. coli* data from DCRWS_211A-1 meet 2024 CALM guidance.

Monitoring Stations

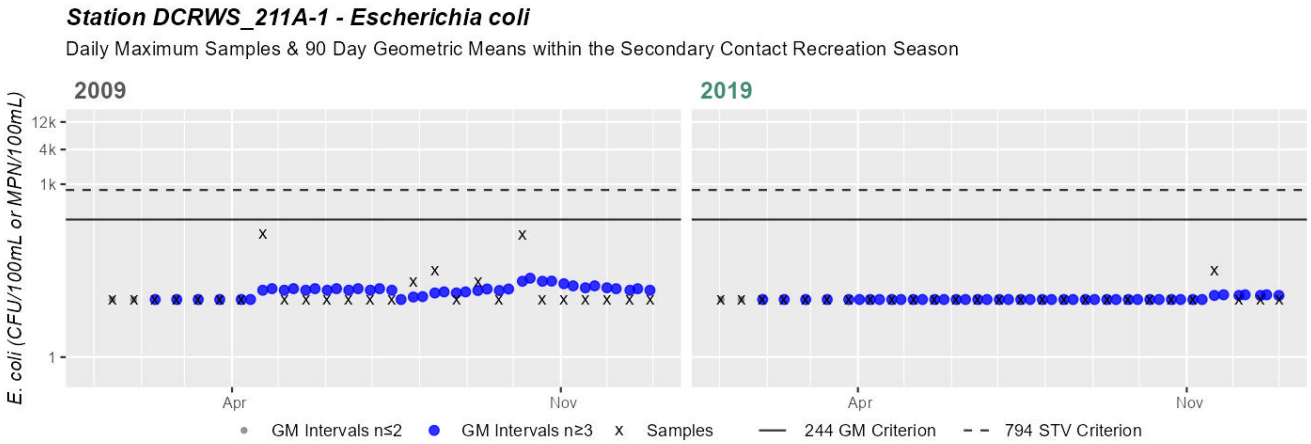
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211A-1	MA DCR Division of Water Supply Protection	Water Quality	Atherton Brook	Atherton Brook	42.425912	-72.395325

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_211A-1	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	134	13
DCRWS_211A-1	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/31/19	27	10	31	10



Variable*	Result
Samples	26
SeasGM	13
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	10
#GMI	49
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.

Beaver Lake (MA36010)

Location:	Ware.
AU Type:	FRESHWATER LAKE
AU Size:	150 ACRES
Classification/Qualifier:	B

No usable data were available for Beaver Lake (MA36010) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Bemis Road Pond (MA36012)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	16 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Bemis Road Pond (MA36012) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Bennett Street Pond (MA36014)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	6 ACRES
Classification/Qualifier:	B

No usable data were available for Bennett Street Pond (MA36014) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Bickford Pond (MA36015)

Location:	Hubbardston/Princeton.
AU Type:	FRESHWATER LAKE
AU Size:	163 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Bickford Pond (MA36015) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Blodgett Mill Brook (MA36-87)

Location:	Headwaters, perennial portion northeast of Lyman Barnes Road, Brimfield to mouth at confluence with Quaboag River, Brimfield.
AU Type:	RIVER
AU Size:	1.6 MILES
Classification/Qualifier:	B

No usable data were available for Blodgett Mill Brook (MA36-87) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

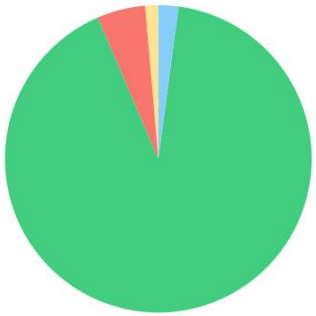
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	3	None	--	Unchanged

Bottle Brook (MA36-46)

Location:	Headwaters, perennial portion, east of Dunhamtown Brimfield Road, Brimfield to mouth at confluence with Quaboag River, Brimfield.
AU Type:	RIVER
AU Size:	2 MILES
Classification/Qualifier:	B

Bottle Brook (MA36-46)

Watershed Area: 1.15 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.15	1.15	0.35	0.35
Agriculture	1.4%	1.4%	2.4%	2.4%
Developed	5.1%	5.1%	5.4%	5.4%
Natural	91.4%	91.4%	88.1%	88.1%
Wetland	2.1%	2.1%	4.2%	4.2%
Impervious	1.8%	1.8%	2.5%	2.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Bottle Brook (MA36-46) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Bottle Brook AU (MA36-46), so it 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 Bottle Brook (MA36-46) 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 Bottle Brook (MA36-46) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Bottle Brook (MA36-46) at W1855 [Dunhampton Palmer Rd crossing, Brimfield] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1855 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 65 CFU/100ml. Historic *E. coli* data from W1855 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1855	MassDEP	Water Quality	Bottle Brook	[Dunhampton Palmer Road crossing, Brimfield]	42.153395	-72.261799

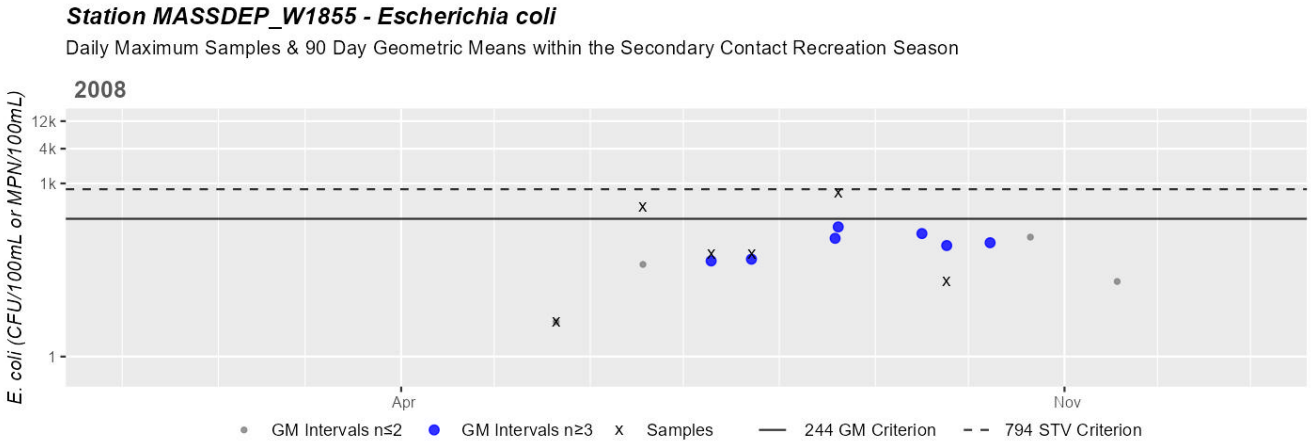
Bacteria Data

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

(MassDEP Undated 6) (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
W1855	MassDEP	E. coli	05/20/08	09/23/08	6	4	690	65



Variable*	Result
Samples	6
SeasGM	65
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Bradish Brook (MA36-58)

Location:	Headwaters, perennial portion east of New Braintree Road, West Brookfield to Wickaboag Valley Road and inlet of swamp east of Wickaboag Pond, West Brookfield.
AU Type:	RIVER
AU Size:	0.7 MILES
Classification/Qualifier:	B: CWF

No usable data were available for Bradish Brook (MA36-58) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Briggs Brook (MA36-61)

Location:	Headwaters, outlet unnamed pond west of Daniel Shays Highway (Route 202), Shutesbury to mouth at inlet Quabbin Reservoir, Pelham.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Briggs Brook (MA36-61) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Brigham Pond (MA36020)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	45 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Brigham Pond (MA36020) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Broad Brook (MA36-86)

Location:	From Jabish Canal Road, Belchertown (through former 2022 segment: Alden Pond MA36003) to inlet of unnamed impoundment (water impounded by old railroad bed has direct connection to the Red Bridge Impoundment of the Chicopee River) south of Poole Street, Ludlow.
AU Type:	RIVER
AU Size:	4.8 MILES
Classification/Qualifier:	B

No usable data were available for Broad Brook (MA36-86) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	--	--	--

Brookhaven Lake (MA36021)

Location:	West Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	34 ACRES
Classification/Qualifier:	B

No usable data were available for Brookhaven Lake (MA36021) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Turbidity	Source Unknown (N)	--	--	X	X	X

Brooks Pond (MA36022)

Location:	Petersham.
AU Type:	FRESHWATER LAKE
AU Size:	87 ACRES
Classification/Qualifier:	A: PWS, ORW (PWS and Tributary to PWS)

No usable data were available for Brooks Pond (MA36022) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Brooks Pond (MA36023)

Location:	North Brookfield/New Braintree/Spencer/Oakham.
AU Type:	FRESHWATER LAKE
AU Size:	179 ACRES
Classification/Qualifier:	B

No usable data were available for Brooks Pond (MA36023) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Browning Pond (MA36025)

Location:	Oakham/Spencer.
AU Type:	FRESHWATER LAKE
AU Size:	106 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	3626	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (Y)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Nutrient/Eutrophication Biological Indicators	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 Browning Pond (MA36025) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Browning 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 Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Browning Pond AU (MA36025), so it 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 Browning Pond (MA36025) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

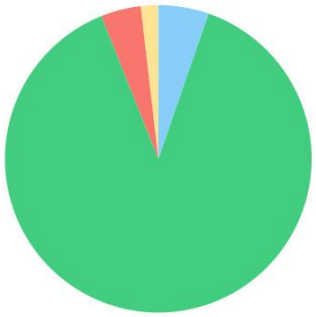
2024/26 Use Attainment Summary
No bacteria or other indicator data for Browning Pond (MA36025) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

Burnshirt River (MA36-37)

Location:	Headwaters, outlet Stone Bridge Pond, Templeton/Phillipston to mouth at confluence with Canesto Brook, Barre (through former 2008 segment: Williamsville Pond MA36167).
AU Type:	RIVER
AU Size:	8.6 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Burnshirt River (MA36-37)

Watershed Area: 17.34 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	17.34	3.87	10.34	2.06
Agriculture	1.8%	0.9%	1.6%	0.1%
Developed	4.2%	1.3%	4%	1.4%
Natural	88.6%	90.9%	86.2%	86.6%
Wetland	5.3%	6.9%	8.2%	12%
Impervious	1.9%	0.6%	1.9%	0.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Burnshirt River (MA36-37) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Burnshirt River AU (MA36-37), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for the Burnshirt River (MA36-37) continues to be assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the Burnshirt River (MA36-37) from 2013-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_103 [Burnshirt R at Rte 62] from 2013, 2017, and 2022 (n=15-16/yr), DCRWS_112 from Apr-Oct 2022 (n=15). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_103 indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the single year high frequency *E. coli* dataset from DCRWS_112 indicated 0% of intervals had GMs >126 CFU/100ml and 6% of samples exceeded the 410 CFU/100ml STV. *E. coli* data from DCRWS_103 and DCRWS_112 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_103	MA DCR Division of Water Supply Protection	Water Quality	Burnshirt River	Burnshirt R @ Rte 62	42.436078	-72.052909
DCRWS_112	MA DCR Division of Water Supply Protection	Water Quality	Burnshirt River	--	42.475689	-72.076378

Bacteria Data

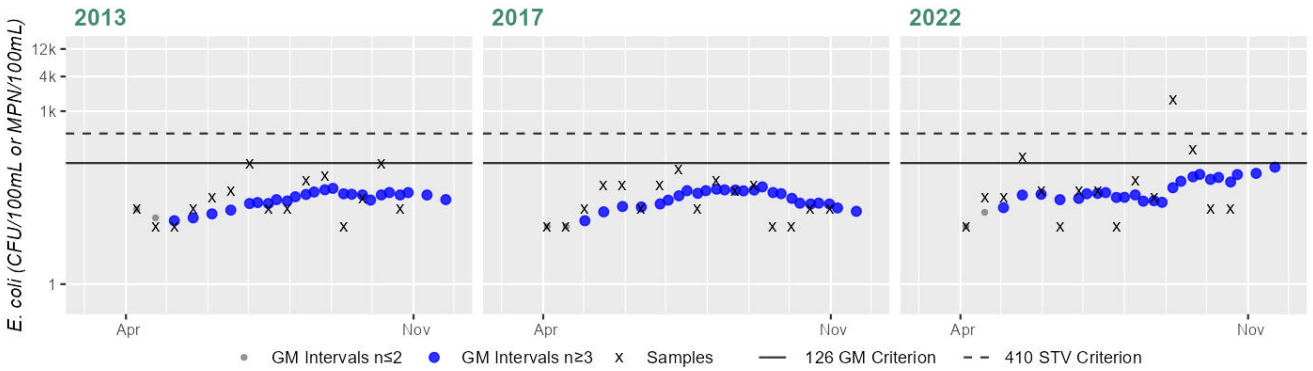
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

[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
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	122	28
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	97	26
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	1550	42
DCRWS_112	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	3080	38

Station DCRWS_103 - Escherichia coli

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



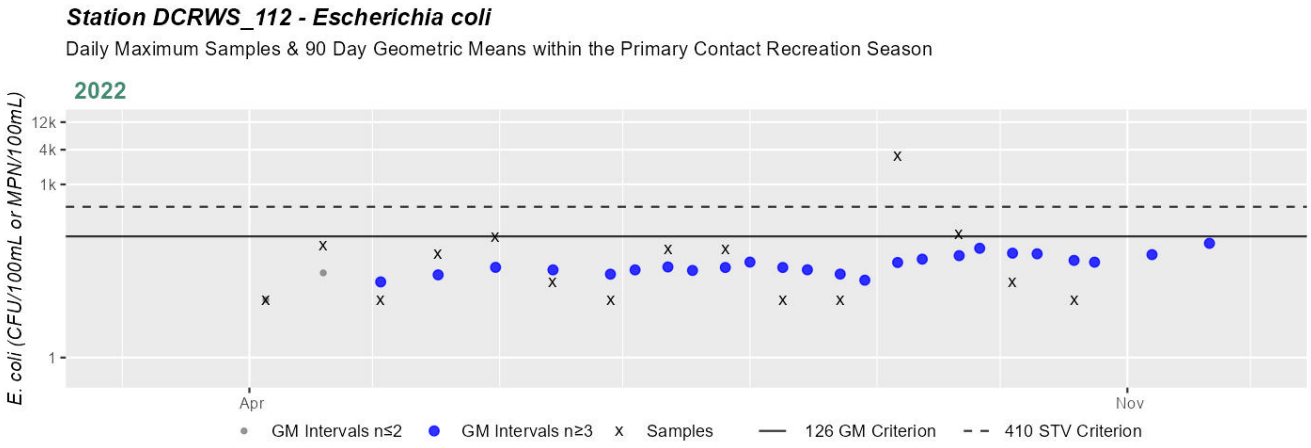
Variable*	Result
Samples	15
SeasGM	28
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	26
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	42
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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	15
SeasGM	38
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Burnshirt River (MA36-37) continues to be assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Burnshirt River (MA36-37) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_103 [Burnshirt R at Rte 62] from Jan-Dec 2009 (historic n=26) and 2013, 2017, and 2022 (current n=26-27/yr), W1849 [Rt. 62 (Hubbardston Rd), Barre] from May-Sep 2008 (n=6), DCRWS_112 from Jan-Dec 2022 (n=26). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_103 indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the single year high frequency *E. coli* dataset from DCRWS_112 indicated 0% of intervals had GMs >244 CFU/100ml and 3% of samples exceeded the 794 CFU/100ml STV. Current *E. coli* data from DCRWS_103 and DCRWS_112 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_103	MA DCR Division of Water Supply Protection	Water Quality	Burnshirt River	Burnshirt R @ Rte 62	42.436078	-72.052909
DCRWS_112	MA DCR Division of Water Supply Protection	Water Quality	Burnshirt River	--	42.475689	-72.076378
W1849	MassDEP	Water Quality	Burnshirt River	[Route 62 (Hubbardston Road), Barre]	42.436290	-72.052670

Bacteria Data

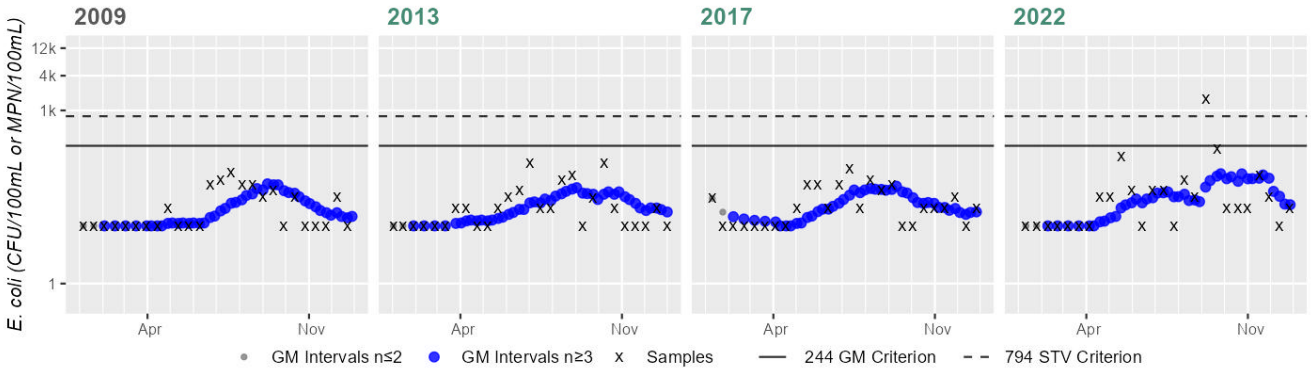
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	01/06/09	12/22/09	26	10	85	17
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	27	10	122	19
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	97	20
DCRWS_103	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	1550	27
DCRWS_112	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	3080	24
W1849	MassDEP	E. coli	05/20/08	09/23/08	6	12	150	49

Station DCRWS_103 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	19
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	20
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

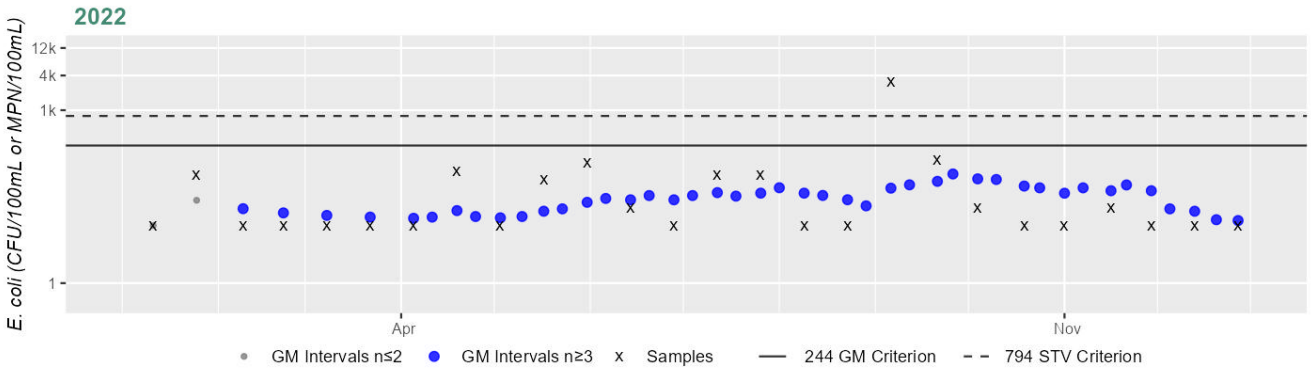
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_112 - Escherichia coli

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



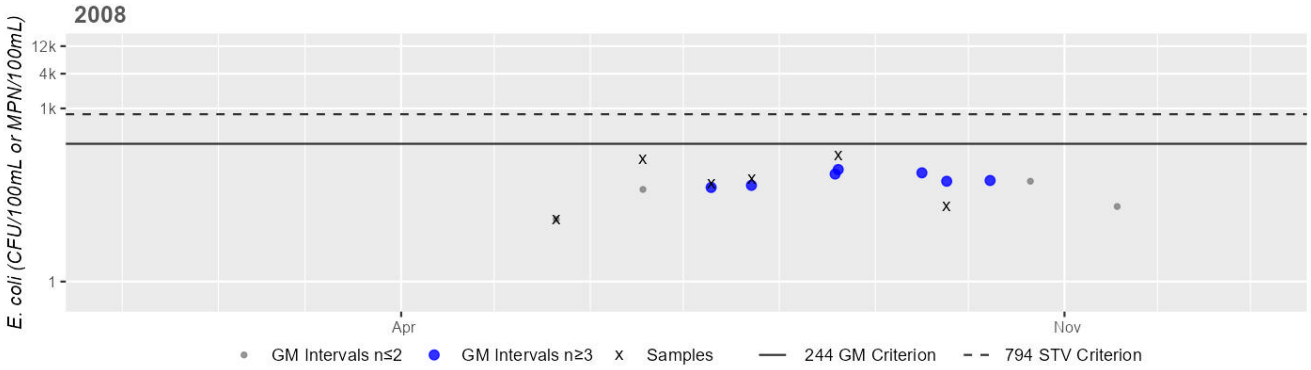
Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1849 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	49
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Burrow Brook (MA36-93)

Location:	Headwaters, outlet Adams Pond, Oakham to mouth at confluence with Pratt Brook, Barre.
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	B

No usable data were available for Burrow Brook (MA36-93) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Cadwell Brook (MA36-54)

Location:	Headwaters, south of Mt. Marcy, Wilbraham to mouth at confluence with Twelvemile Brook, Wilbraham.
AU Type:	RIVER
AU Size:	1.8 MILES
Classification/Qualifier:	B: CWF

No usable data were available for Cadwell Brook (MA36-54) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

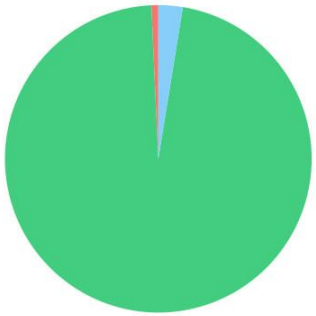
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Cadwell Creek (MA36-29)

Location:	Headwaters east of Route 202 and northwest of Dodge Hill, Pelham to mouth at inlet Quabbin Reservoir, Belchertown.
AU Type:	RIVER
AU Size:	3.2 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

Cadwell Creek (MA36-29)

Watershed Area: 2.63 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.63	2.60	0.63	0.63
Agriculture	0%	0%	0%	0%
Developed	0.7%	0.6%	0.8%	0.8%
Natural	96.7%	96.9%	95.2%	95.2%
Wetland	2.6%	2.5%	4%	4%
Impervious	0.5%	0.5%	0.6%	0.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Cadwell Creek (MA36-29) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Cadwell Creek (MA36-29) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Cadwell Creek (MA36-29) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Cadwell Creek (MA36-29) at DCRWS_211B-X [Cadwell Creek] from Apr-Oct 2019 (n=15). Analysis of the single year high frequency *E. coli* dataset from DCRWS_211B-X indicated 0% of intervals had GMs >126 CFU/100ml and 0% of samples exceeded the 410 CFU/100ml STV. *E. coli* data from DCRWS_211B-X meet 2024 CALM guidance.

Monitoring Stations

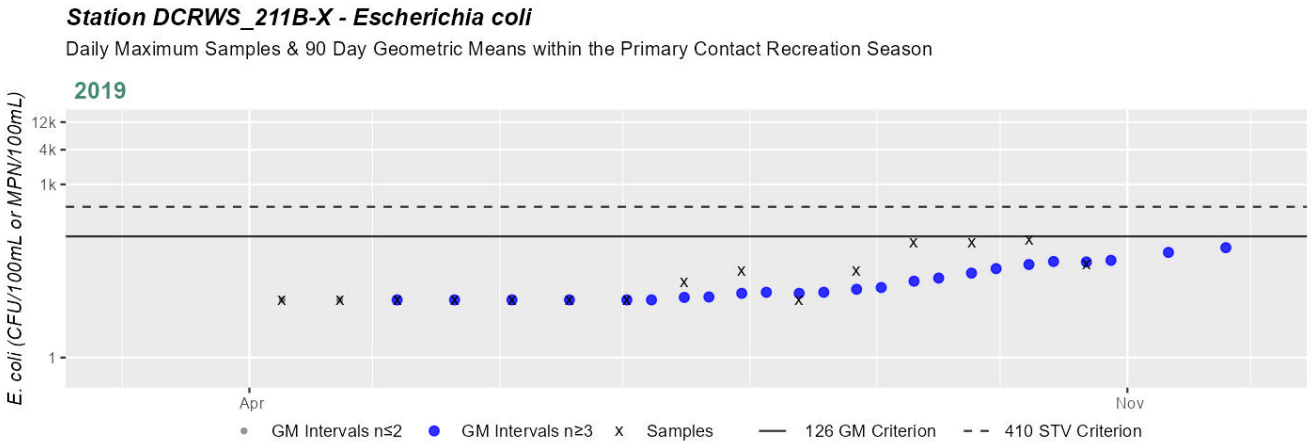
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211B-X	MA DCR Division of Water Supply Protection	Water Quality	Cadwell Creek	Cadwell Creek	42.334143	-72.369332

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_211B-X	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	110	21



Variable*	Result
Samples	15
SeasGM	21
#GMI	25
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Cadwell Creek (MA36-29) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Cadwell Creek (MA36-29) at DCRWS_211B-X [Cadwell Creek] from Jan-Dec 2009 (historic n=26) and Jan-Dec 2019 (current n=26). Analysis of the single year high frequency *E. coli* dataset from DCRWS_211B-X indicated 0% of intervals had GMs >244 CFU/100ml and 0% of samples exceeded the 794 CFU/100ml STV. Current *E. coli* data from DCRWS_211B-X meet 2024 CALM guidance.

Monitoring Stations

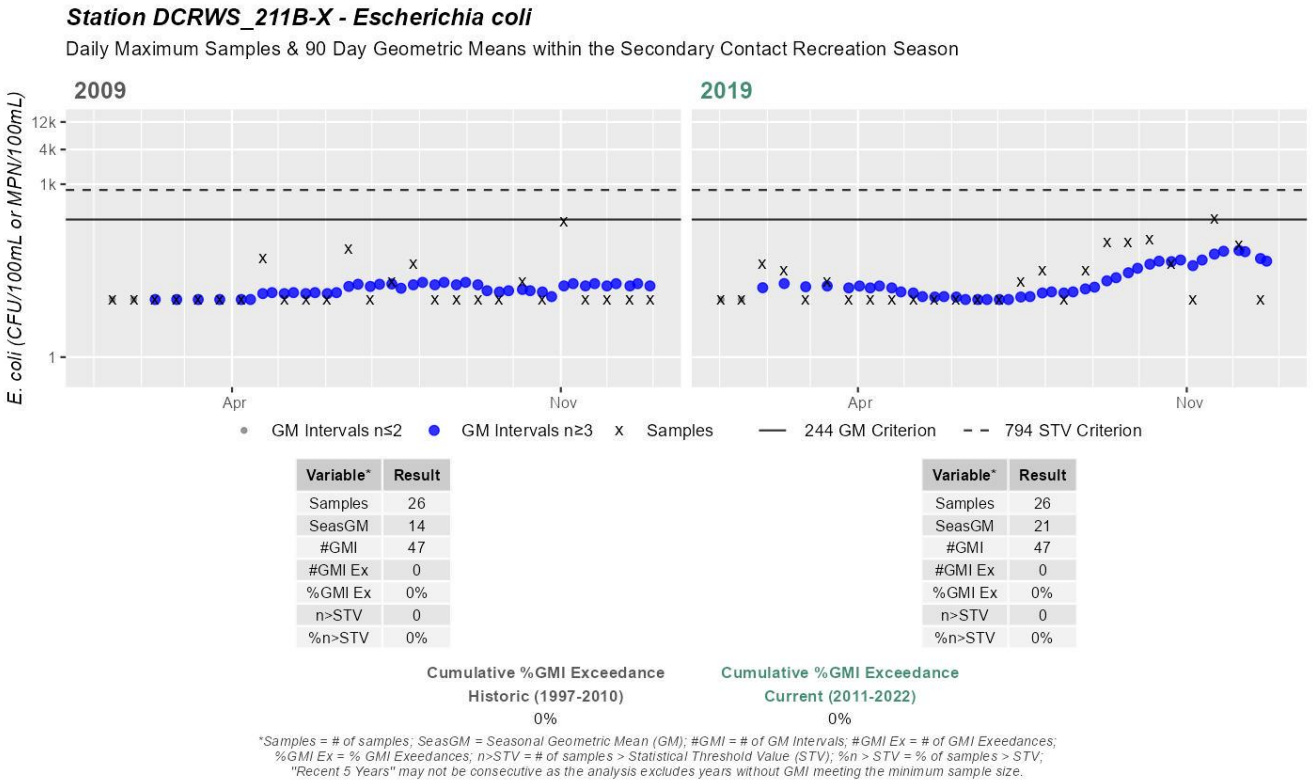
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211B-X	MA DCR Division of Water Supply Protection	Water Quality	Cadwell Creek	Cadwell Creek	42.334143	-72.369332

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_211B-X	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	223	14
DCRWS_211B-X	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/19/19	26	10	253	21



Calkins Brook (MA36-26)

Location:	Headwaters, perennial portion, southeast of Baptist Hill, Palmer to mouth at confluence with Twelvemile Brook, Wilbraham.
AU Type:	RIVER
AU Size:	2.7 MILES
Classification/Qualifier:	B

Calkins Brook (MA36-26)

Watershed Area: 3.24 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.24	3.24	0.81	0.81
Agriculture	1.6%	1.6%	1.3%	1.3%
Developed	10.4%	10.4%	10.5%	10.5%
Natural	78.7%	78.7%	67.6%	67.6%
Wetland	9.3%	9.3%	20.5%	20.5%
Impervious	5%	5%	4.8%	4.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Calkins Brook (MA36-26) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Calkins Brook AU (MA36-26), so it 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 Calkins Brook (MA36-26) 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 Calkins Brook (MA36-26) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Calkins Brook (MA36-26) at W1857 [E of Crane Hill Rd ~60 ft from confluence with Twelvemile River, Wilbraham] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1857 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 66 CFU/100ml. Historic *E. coli* data from W1857 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1857	MassDEP	Water Quality	Calkins Brook	[east of Crane Hill Road approximately 60 feet from confluence with Twelvemile River, Wilbraham]	42.148207	-72.399557

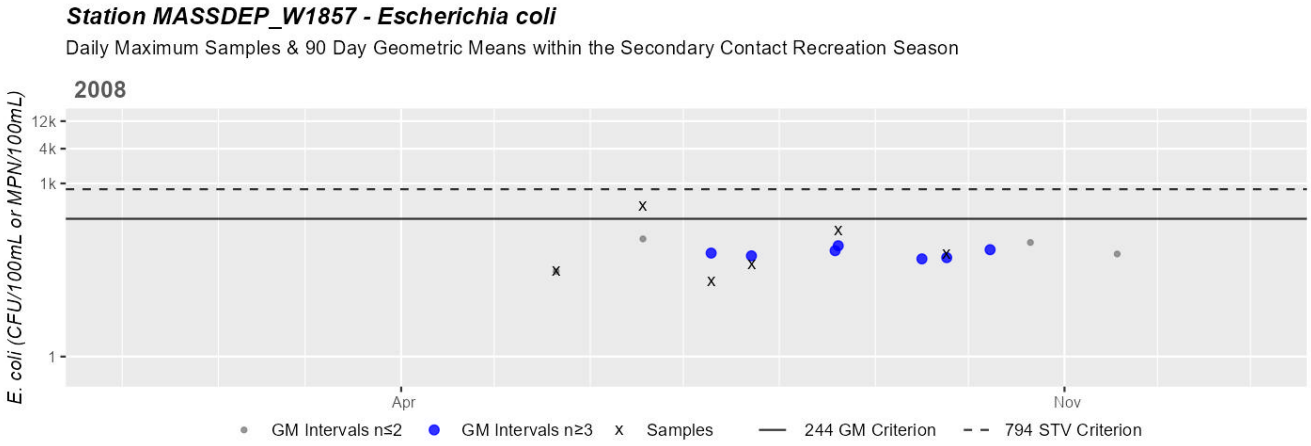
Bacteria Data

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

(MassDEP Undated 6) (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
W1857	MassDEP	E. coli	05/20/08	09/23/08	6	20	400	66



Variable*	Result
Samples	6
SeasGM	66
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Camel Brook (MA36-63)

Location:	Headwaters, perennial portion north of Cooleyville Road in the Shutesbury State Forest, Shutesbury to mouth at confluence with West Branch Swift River, Shutesbury.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

No usable data were available for Camel Brook (MA36-63) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Canesto Brook (MA36-36)

Location:	Headwaters, perennial portion, northwest of Hubbardston State Forest near Hubbardston/Templeton town line to mouth at confluence with Ware River, Barre.
AU Type:	RIVER
AU Size:	7.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Canesto Brook (MA36-36)

Watershed Area: 30.93 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	30.93	6.98	18.71	4.09
Agriculture	2.5%	1.3%	1.8%	0.9%
Developed	5.2%	2.1%	4.4%	1.8%
Natural	86.7%	88.6%	85.3%	84.6%
Wetland	5.6%	8%	8.6%	12.8%
Impervious	2.1%	1%	1.9%	0.9%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Recommendations

2024/26 Recommendations
2024 IR [E. COLI, MEDIUM] Additional monitoring is recommended at {DCRWS_C2} due to elevated *E. coli* concentrations in 2013.

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, so the Fish Consumption Use for Canesto Brook (MA36-36) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Canesto Brook (MA36-36) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the downstream end of this Canesto Brook AU ~975 feet north/upstream of Hubbardston Road (Rt. 62), Barre (W2900) in summer 2019 (n=4). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2900	MassDEP	Water Quality	Canesto Brook	[approximately 975 feet north/upstream of Hubbardston Road (Route 62), Barre]	42.439532	-72.041158

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
W2900	2019	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2900 on Canesto Brook (MA36-36) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2900	2019	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2900	Canesto Brook	2019	Aesthetics Impaired?	No	4	4
W2900	Canesto Brook	2019	Aquatic Plant Density, Overall	None	1	4
W2900	Canesto Brook	2019	Aquatic Plant Density, Overall	Sparse	3	4
W2900	Canesto Brook	2019	Color	Light Yellow/Tan	4	4
W2900	Canesto Brook	2019	Objectionable Deposits	No	4	4
W2900	Canesto Brook	2019	Odor	None	4	4
W2900	Canesto Brook	2019	Periphyton Density, Filamentous	None	3	4
W2900	Canesto Brook	2019	Periphyton Density, Filamentous	Sparse	1	4
W2900	Canesto Brook	2019	Periphyton Density, Film	None	4	4
W2900	Canesto Brook	2019	Scum	No	4	4
W2900	Canesto Brook	2019	Turbidity	None	1	4
W2900	Canesto Brook	2019	Turbidity	Slightly Turbid	3	4

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Canesto Brook (MA36-36) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Canesto Brook (MA36-36) at DCRWS_C2 [Canesto Bk at Williamsville Rd] from 2013, 2017, and 2022 (n=15-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_C2 indicated 1 out of 3 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2013, 36%), 2 yrs had >10% of samples exceed the 410 CFU/100ml STV (2013 and 2022, 20 & 20%), and cumulatively across years 11% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_C2 meet 2024 CALM guidance; however, an Alert is being identified for *Escherichia coli* at DCRWS_C2 due to elevated concentrations in 2013.

Monitoring Stations

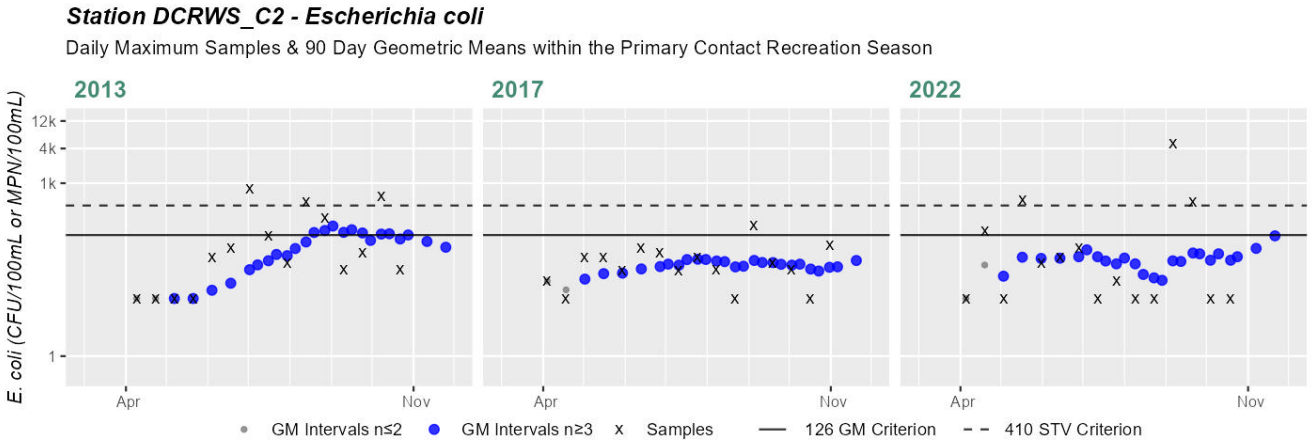
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_C2	MA DCR Division of Water Supply Protection	Water Quality	Canesto Brook	Canesto Bk @ Williamsville Rd	42.473184	-72.051516

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	809	61
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	183	35
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	4790	44



Variable*	Result
Samples	15
SeasGM	61
#GMI	25
#GMI Ex	9
%GMI Ex	36%
n>STV	3
%n>STV	20%

Variable*	Result
Samples	16
SeasGM	35
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	44
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	3
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
11%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Canesto Brook (MA36-36) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Canesto Brook (MA36-36) from 2008-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_C2 [Canesto Bk at Williamsville Rd] from 2013, 2017, and 2022 (n=26-27/yr), W2015 [~70 ft upstream from confluence with Ware River, Barre] from Sep 2008 (n=1). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_C2 indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Current *E. coli* data from DCRWS_C2 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_C2	MA DCR Division of Water Supply Protection	Water Quality	Canesto Brook	Canesto Bk @ Williamsville Rd	42.473184	-72.051516
W2015	MassDEP	Water Quality	Canesto Brook	[approximately 70 feet upstream from confluence with Ware River, Barre]	42.421277	-72.048082

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

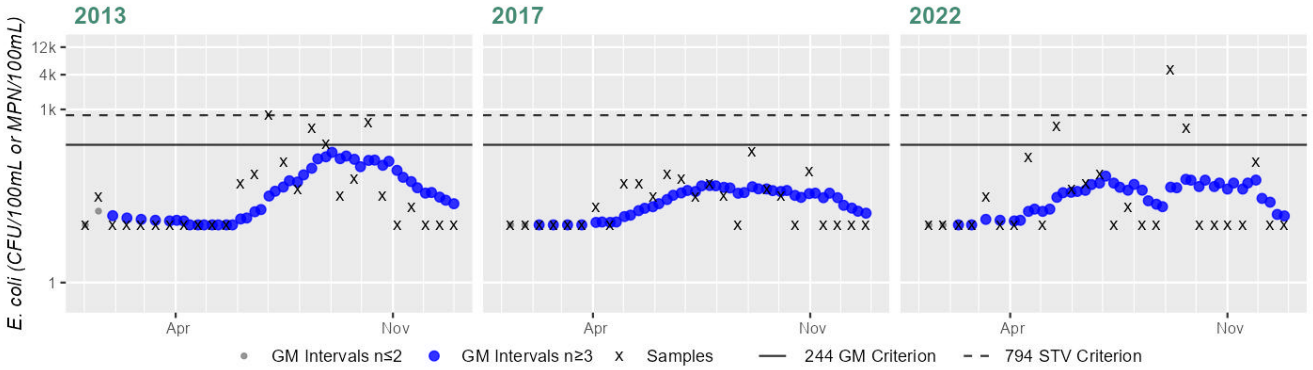
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	27	10	809	29
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	183	21
DCRWS_C2	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	4790	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2015	MassDEP	E. coli	09/30/08	09/30/08	1	240	240	239

Station DCRWS_C2 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	29
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

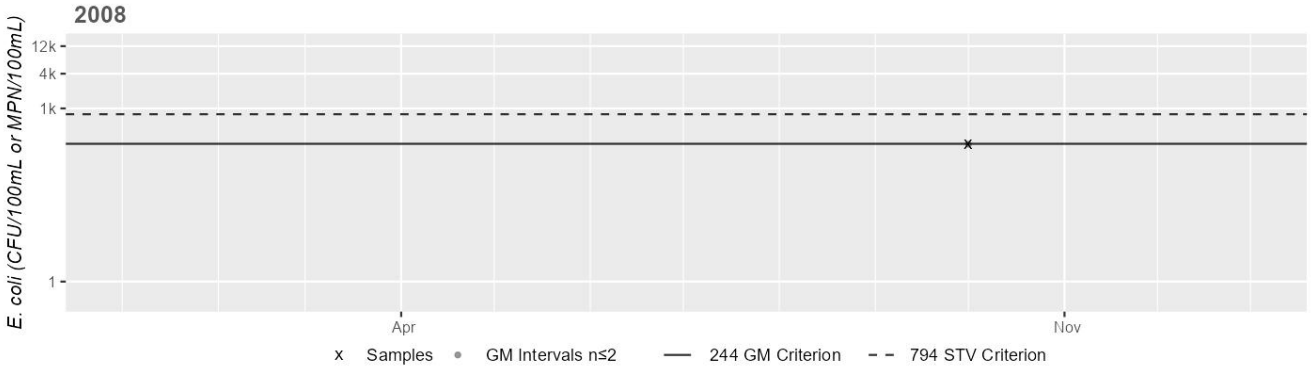
Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2015 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	240
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Carter Pond (MA36029)

Location:	Petersham.
AU Type:	FRESHWATER LAKE
AU Size:	44 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Carter Pond (MA36029) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Chicopee Brook (MA36-21)

Location:	Headwaters, east of Peaked Mountain, Monson (through former 2008 segment: Chicopee Brook Pond MA36031) to mouth at confluence with Quaboag River, Monson.
AU Type:	RIVER
AU Size:	9.9 MILES
Classification/Qualifier:	B: CWF

Chicopee Brook (MA36-21)

Watershed Area: 23.92 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	23.92	6.26	6.84	1.62
Agriculture	4.1%	4.5%	3.7%	5%
Developed	10.3%	16.4%	12.3%	19.1%
Natural	80.1%	71.2%	72.4%	56.6%
Wetland	5.5%	7.9%	11.6%	19.3%
Impervious	3.9%	6.1%	4.8%	7.2%

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
Temperature	Dam or Impoundment (Y)	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 recently, so the Fish Consumption Use for Chicopee Brook (MA36-21) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Chicopee Brook (MA36-21) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Chicopee Brook AU at the Rt.32 crossing nearest Green Street, Monson (W2350/MAP2-509) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted minor-moderate trash deposits on two occasions.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2350	MassDEP	Water Quality	Chicopee Brook	[Route 32 crossing nearest Green Street, Monson]	42.093242	-72.311835

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
W2350	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2350 on Chicopee Brook (MA36-21) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2350	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2350	Chicopee Brook	2014	Aesthetics Impaired?	No	5	5
W2350	Chicopee Brook	2014	Aquatic Plant Density, Overall	None	4	5
W2350	Chicopee Brook	2014	Aquatic Plant Density, Overall	Sparse	1	5
W2350	Chicopee Brook	2014	Color	Light Yellow/Tan	1	5
W2350	Chicopee Brook	2014	Color	None	3	5
W2350	Chicopee Brook	2014	Color	NR	1	5
W2350	Chicopee Brook	2014	Objectionable Deposits	No	3	5
W2350	Chicopee Brook	2014	Objectionable Deposits	Yes	2	5
W2350	Chicopee Brook	2014	Odor	None	5	5
W2350	Chicopee Brook	2014	Periphyton Density, Filamentous	None	5	5
W2350	Chicopee Brook	2014	Periphyton Density, Film	None	4	5
W2350	Chicopee Brook	2014	Periphyton Density, Film	Sparse	1	5
W2350	Chicopee Brook	2014	Scum	No	4	5
W2350	Chicopee Brook	2014	Scum	Yes	1	5
W2350	Chicopee Brook	2014	Turbidity	None	3	5
W2350	Chicopee Brook	2014	Turbidity	NR	1	5
W2350	Chicopee Brook	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert

Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Chicopee Brook (MA36-21) 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 W2350. MassDEP staff collected *E. coli* bacteria samples in Chicopee Brook (MA36-21) at W2350 [Rt. 32 crossing nearest Green St, Monson] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2350 indicated 100% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 146 CFU/100ml. *E. coli* data from W2350 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2350	MassDEP	Water Quality	Chicopee Brook	[Route 32 crossing nearest Green Street, Monson]	42.093242	-72.311835

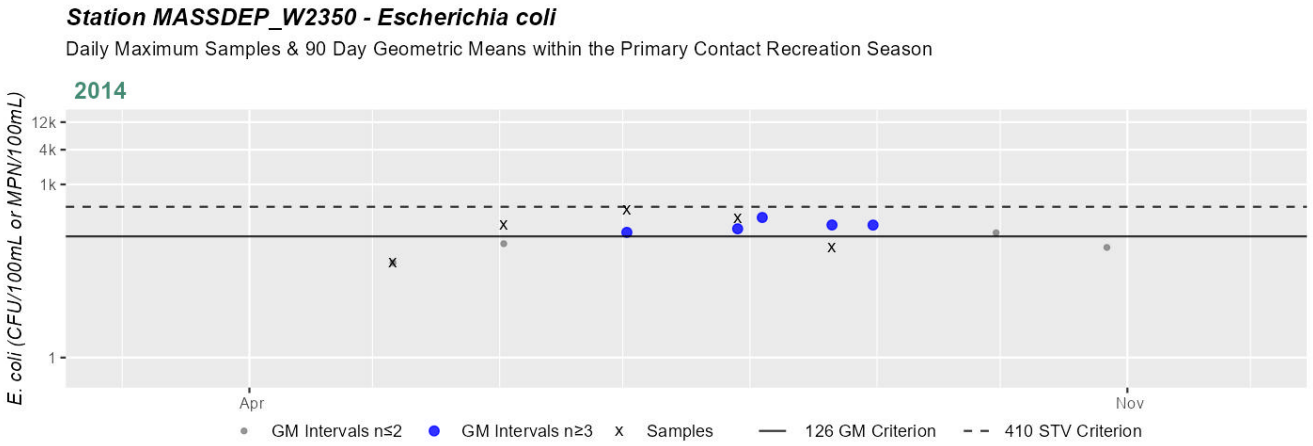
Bacteria Data

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

(MassDEP Undated 6) (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
W2350	MassDEP	E. coli	05/06/14	08/21/14	5	44	365	146



Variable*	Result
Samples	5
SeasGM	146
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Chicopee Brook (MA36-21) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Chicopee Brook (MA36-21) from 2008-2014 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2350 [Rt. 32 crossing nearest Green St, Monson] from May-Aug 2014 (n=5), W1853 [State St, Monson] from May-Sep 2008 (n=6), W1871 [Rt. 32 crossing nearest Bunyan Rd, Monson] from May-Sep 2008 (n=6), W1854 [Bunyan Drive, Monson] from May-Sep 2008 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2350 indicated 20% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 146 CFU/100ml. Current *E. coli* data from W2350 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1853	MassDEP	Water Quality	Chicopee Brook	[State Street, Monson]	42.101043	-72.313355
W1854	MassDEP	Water Quality	Chicopee Brook	[Bunyan Drive, Monson]	42.131356	-72.310029
W1871	MassDEP	Water Quality	Chicopee Brook	[Route 32 crossing nearest Bunyan Road, Monson]	42.124316	-72.307489
W2350	MassDEP	Water Quality	Chicopee Brook	[Route 32 crossing nearest Green Street, Monson]	42.093242	-72.311835

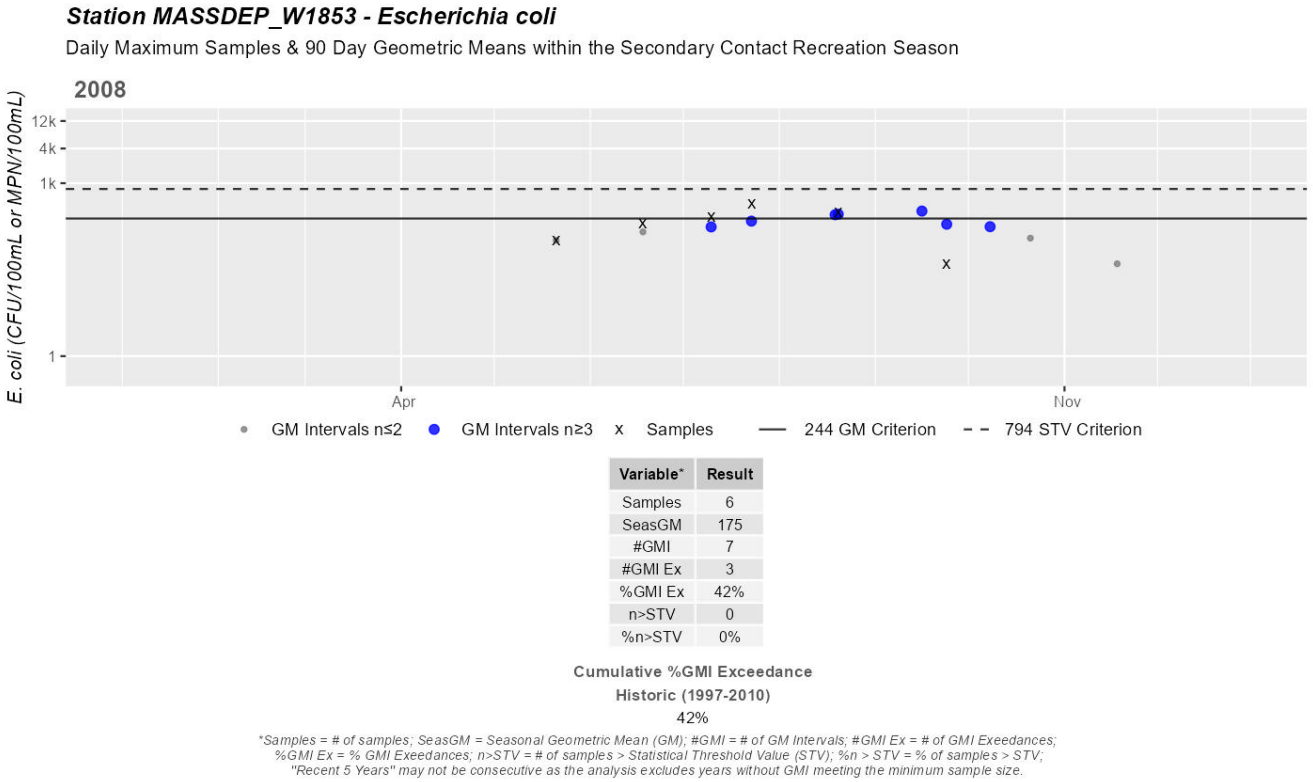
Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 3)

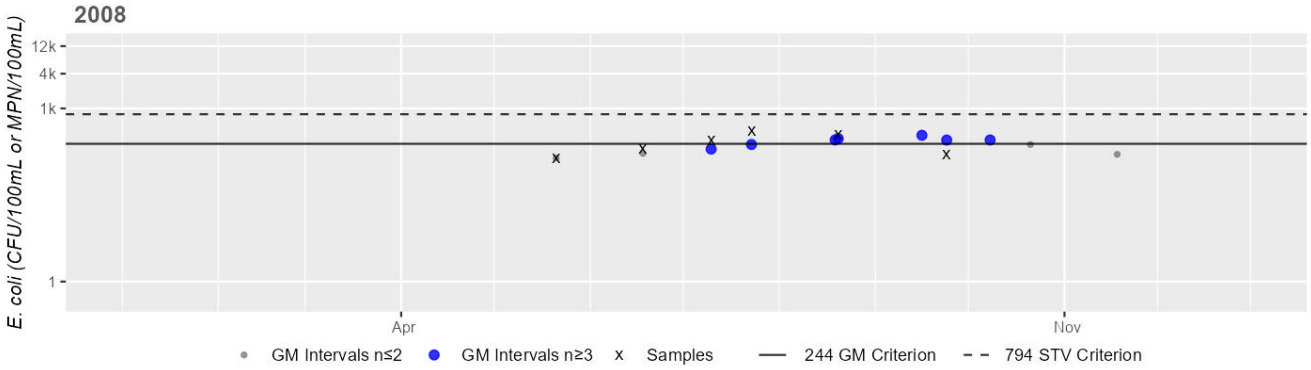
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1853	MassDEP	E. coli	05/20/08	09/23/08	6	40	440	175
W1854	MassDEP	E. coli	05/20/08	09/23/08	6	138	410	237
W1871	MassDEP	E. coli	05/20/08	09/23/08	6	82	800	254
W2350	MassDEP	E. coli	05/06/14	08/21/14	5	44	365	146



Station MASSDEP_W1854 - Escherichia coli

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



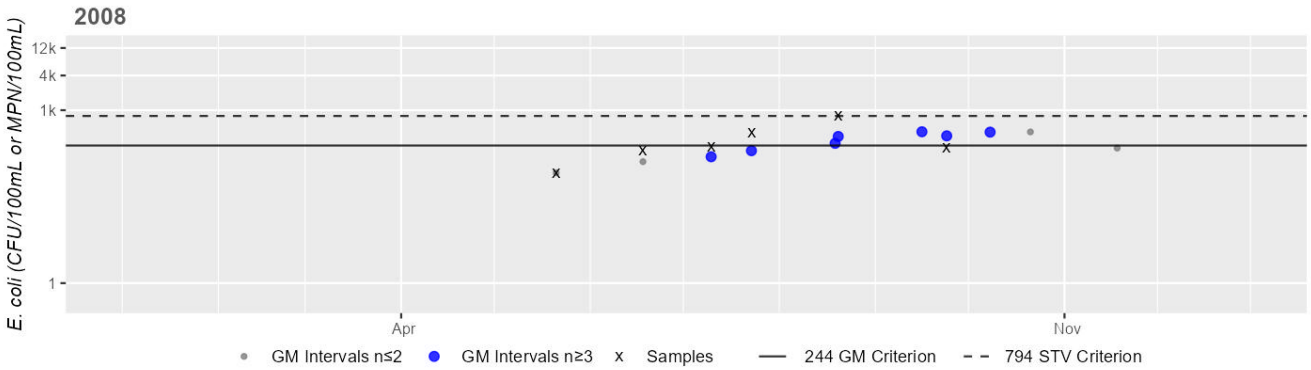
Variable*	Result
Samples	6
SeasGM	237
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Historic (1997-2010)
71%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1871 - Escherichia coli

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



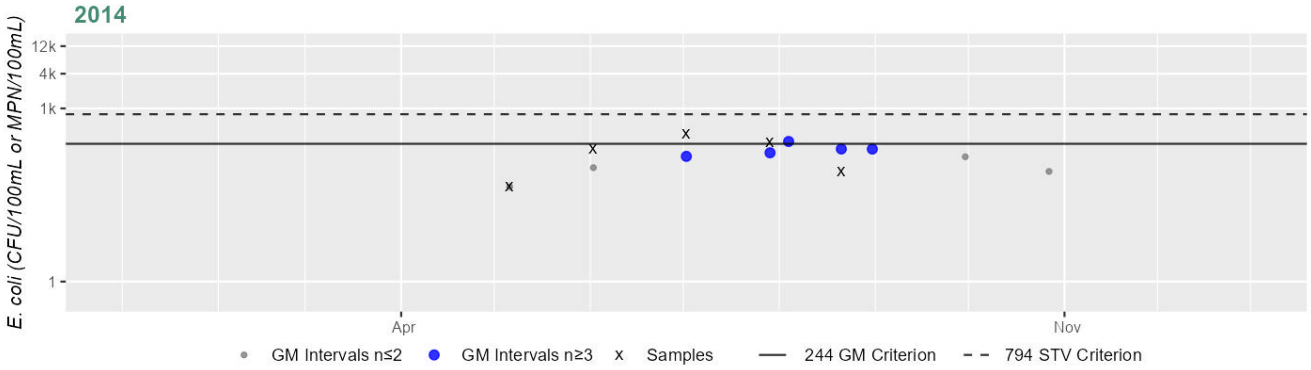
Variable*	Result
Samples	6
SeasGM	254
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
71%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2350 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	146
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
20%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Chicopee Reservoir (MA36033)

Location:	Chicopee.
AU Type:	FRESHWATER LAKE
AU Size:	22 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Non-Native Aquatic Plants*)	--	Unchanged
4c	5	Harmful Algal Blooms	--	Added
4c	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Harmful Algal Blooms	Source Unknown (N)	--	--	X	X	X
PFAS in Fish Tissue	Source Unknown (N)	--	X	--	--	--

Recommendations

2024/26 Recommendations
2024 IR [ENTEROCOCCUS, MEDIUM] Additional monitoring is recommended because Chicopee Beach (DCR) {Beach ID: 5172} was posted for >10% of the swimming season in 2021 (29%).

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Chicopee Reservoir (MA36033) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted at Chicopee Reservoir (MA36033) in Chicopee as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. DPH issued a site-specific advisory for PFAS in Chicopee Reservoir in their February 2023 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MA DPH 2025) (MA DPH 2023b)

Summary Statement
Fish toxics sampling was conducted at Chicopee Reservoir (MA36033) in Chicopee as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Chicopee Reservoir in their February 2023 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for Chicopee Reservoir (MA36033).

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Chicopee Reservoir (MA36033) is assessed as Not Supporting based on a C-HAB posting reported to MDPH in 2020. An impairment for Harmful Algal Blooms is being added. During the period 2015 through 2022, C-HAB postings for Chicopee Reservoir were reported to MDPH by DCR for 22 days in 2020, and no blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the Aesthetics Use is assessed as Not Supporting.

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 Chicopee Reservoir (MA36033) were reported to MDPH by DCR for 22 days in 2020. No blooms were reported in other years. Since extended blooms (>20 days in duration) 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
Chicopee Reservoir	Chicopee						22		

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Chicopee Reservoir (MA36033) 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 a yr. Surface water sampling was conducted at Chicopee Beach on Chicopee Reservoir (MA36033) in Chicopee as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were less than the 90 ng/L (ppt) recreational screening value, however, the average PFOS concentration was elevated at 116 ng/L. DPH conducted a site-specific evaluation and concluded that this location is safe for all recreational activities, including swimming. Chicopee Reservoir (MA36033) has a beach with DPH Beach Closure data: Chicopee (DCR) [Beach ID: 5172] beach in Chicopee. The beach was rarely, if at all, posted for swimming from 2018-2022. An Alert for *Enterococcus* is being identified since Chicopee Beach (DCR) was posted for >10% of the swimming season in 2021 (29%). During the period 2015 through 2022, C-HAB postings for Chicopee Reservoir (MA36033) were reported to MDPH by DCR for 22 days in 2020. No blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment.

Beach Postings

MDPH 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%
5172	Chicopee Beach (DCR)/ Chicopee	42.16958, -72.55380	42.17013, -72.54970	6%	6%	4%	0%	5%	0%	7%	29%	0%	1

Other Indicators

Summary of MDPH 2021 and 2022 PFAS in Water Column Data

Data Sources: (MA DPH 2023a, MA DPH 2023b)

Surface water sampling was conducted at Chicopee Beach on Chicopee Reservoir (MA36033) in Chicopee as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were less than the 90 ng/L (ppt) recreational screening value, however, the average PFOS concentration was elevated at 116 ng/L. DPH conducted a site-specific evaluation and concluded that this location is safe for all recreational activities, including swimming.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Chicopee Reservoir (MA36033) 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 a yr. Chicopee Reservoir (MA36033) has a beach with DPH Beach Closure data: Chicopee (DCR) [Beach ID: 5172] beach in Chicopee. The beach was rarely, if at all, posted for swimming from 2018-2022. During the period 2015 through 2022, C-HAB postings for Chicopee Reservoir (MA36033) were reported to MDPH by DCR for 22 days in 2020. No blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment.

Chicopee River (MA36-22)

Location:	Source, confluence of Ware River and Quaboag River, Palmer (through former 2008 segment: Red Bridge Impoundment MA36171) to Red Bridge Impoundment Dam (NATID: MA00723), Wilbraham/Ludlow.
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	B: WWF, CSO

Chicopee River (MA36-22)

Watershed Area: 662.91 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	662.91	12.35	260.85	4.36
Agriculture	4.3%	8.1%	3.1%	5.4%
Developed	7%	14.2%	5.8%	10.2%
Natural	81.1%	68.9%	78.6%	71.4%
Wetland	7.6%	8.7%	12.6%	13%
Impervious	2.6%	5.4%	2.2%	3.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	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
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
PFAS in Fish Tissue	Source Unknown (N)	--	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 Supporting	No

2024/26 Use Attainment Summary

The Fish Consumption Use for this Chicopee River AU (MA36-22) continues to be assessed as Not Supporting. The prior Mercury in Fish Tissue impairment (for Red Bridge Pond, a run-of-river impoundment) is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in this Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Chicopee River (referred to by MDPH as ''Chicopee River'' or ''Red Bridge Pond'') in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing Mercury advisory in the January 2025 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. No source of PFAS has been identified at this time.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
F0181	MassDEP	Fish Toxics	Chicopee River/Red Bridge Impoundment	[in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham]	42.179127	-72.405495

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in this Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. Additionally, MDPH retained the existing site-specific fish consumption advisories for Mercury associated with the Chicopee River (referred to by MDPH as Red Bridge Pond) in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and Mercury in Fish Tissue for this Chicopee River AU (MA36-22).

MassDEP 2022 PFAS in Fish Tissue Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 5) (MA DPH 2023c)

[ng/g = ppb. All PFBA, PFBS, and HFPO-DA (Genx) concentrations <MDL. ND indicates that the PFAS analyte was not detected in any of the composite samples (i.e., it was <MDL). Means weighted by the number of fish in the contributing composites were calculated for any PFAS analyte – waterbody – species combination where an analyte was detected in at least one sample; if a sample did not have the analyte detected, the concentration for that sample was set to ½*MDL for the purposes of calculating a

mean. Data are highlighted red per the fish consumption advisory thresholds summarized in Table 4.2 of MDPH's 2023 Technical Support Document for the evaluation of PFAS in recreational waterbodies.]
[Species List: B = bluegill, LMB = largemouth bass]

Station Code	PFAS Study ID	Sample Date	Species	Mean PFHxS ng/g	Mean PFNA ng/g	Mean PFOA ng/g	Mean PFOS ng/g	Analytes with ≥ 1 Sample Qualified
F0181	43	09/27/2022	B	ND	ND	ND	3.00	
F0181	43	09/27/2022	LMB	ND	ND	ND	5.20	

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Chicopee River AU (MA36-22), so it 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 the Chicopee River (MA36-22) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward based on the presence of active CSOs. Surface water sampling was conducted in Chicopee River (MA36-22) at station W3308 (PFAS Study ID 43) on 09/27/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W3308	MassDEP	Water Quality	Chicopee River/Red Bridge Impoundment	[the default location representing co-located water/fish PFAS sampling, on Chicopee River in Red Bridge Impoundment, Ludlow/Wilbraham]	42.179127	-72.405495

Other Indicators

Summary Statement(s) for MassDEP 2022 PFAS in Water Column Data (MassDEP 2023) (MassDEP Undated 4)

Summary
Surface water sampling was conducted in Chicopee River (MA36-22) at station W3308 (PFAS Study ID 43) on 09/27/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.

MassDEP 2022 PFAS in Water Column Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 4)

[HFPO-DA is also known as GenX; the ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here); * indicates the ∑PFAS6 concentration was qualified since data for one or more individual PFAS6 analytes were qualified; b = blank contamination qualifier, d = qualifier indicating precision of field duplicates did not meet project data quality objectives; j = 'estimated' value qualifier; ## = censored data.]

Station Code	PFAS Study ID	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	HFPO-DA ng/L	∑PFAS6 ng/L
W3308	43	09/27/2022	3.9	1.6j	<0.51	<0.58	2.3j	1j	<2	9.0*

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Chicopee River (MA36-22) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of the presence of active CSOs and bacteria data not meeting the threshold at W1033. MassDEP staff collected *E. coli* bacteria samples in the Chicopee River (MA36-22) at W1033 [near the intersection of New Hampshire Avenue and Springfield St, Palmer] from 2003 and 2008 (n=6/yr). Analysis of this historic multi-year limited frequency *E. coli* dataset from W1033 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2003 and 2008, 50 & 42%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 45% of intervals had GMs >244 CFU/100ml. Historic *E. coli* data from W1033 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1033	MassDEP	Water Quality	Chicopee River	[near the intersection of New Hampshire Avenue and Springfield Street, Palmer]	42.177712	-72.374590

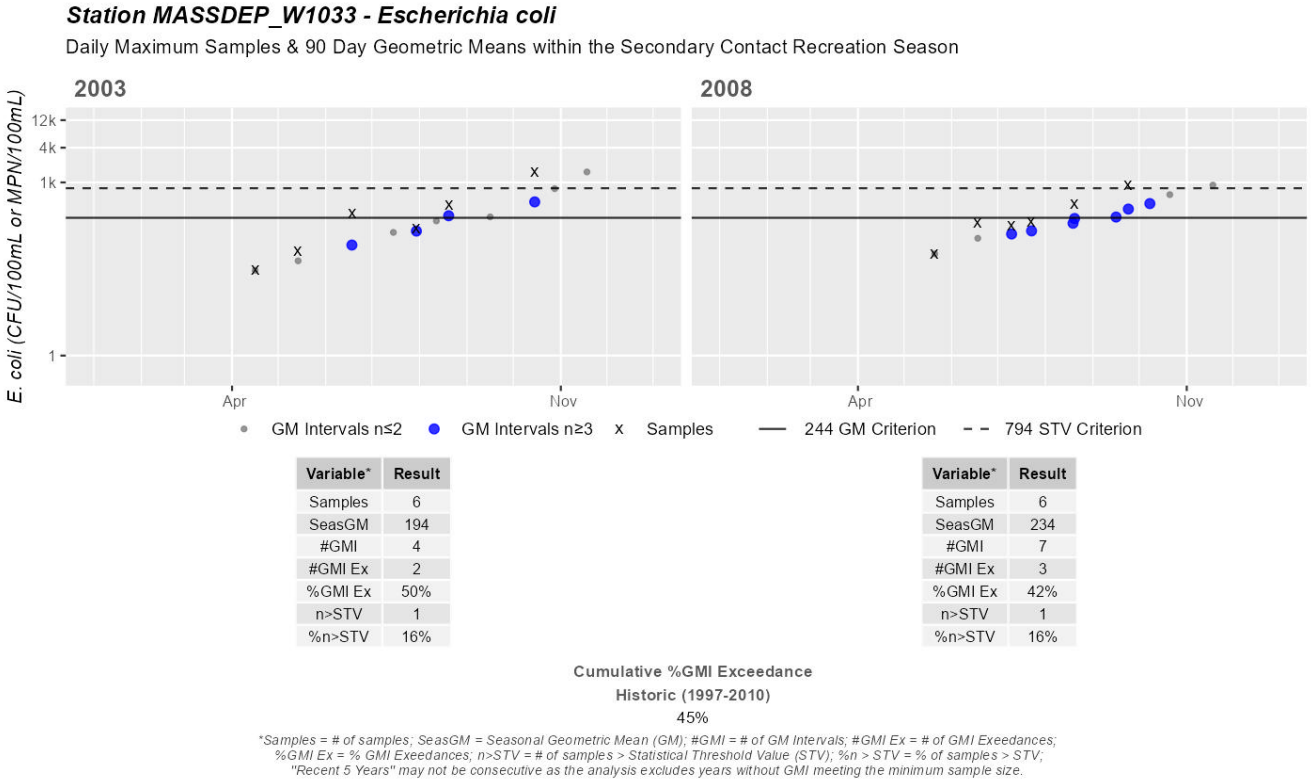
Bacteria Data

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

(MassDEP Undated 6) (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
W1033	MassDEP	E. coli	04/16/03	10/15/03	6	30	1520	194
W1033	MassDEP	E. coli	05/20/08	09/23/08	6	58	900	234

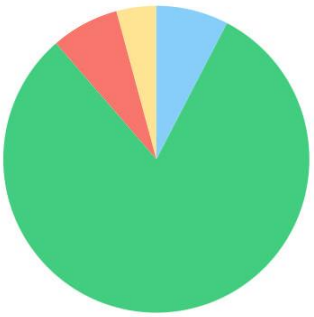


Chicopee River (MA36-23)

Location:	Red Bridge Impoundment Dam (NATID: MA00723), Wilbraham/Ludlow to Wilbraham Pumping Station (old WWTP), Wilbraham/Ludlow.
AU Type:	RIVER
AU Size:	3.8 MILES
Classification/Qualifier:	B: WWF, CSO

Chicopee River (MA36-23)

Watershed Area: 682.85 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	682.85	9.37	266.09	3.21
Agriculture	4.2%	1.8%	3.1%	2.5%
Developed	7.2%	18.2%	5.9%	13.7%
Natural	81%	72.4%	78.4%	70.4%
Wetland	7.6%	7.7%	12.6%	13.4%
Impervious	2.7%	7.5%	2.3%	5.9%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)	--	Added
2	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Combined Sewer Overflows (N)	--	--	--	X	X
PFAS in Fish Tissue	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 this Chicopee River AU (MA36-23) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Chicopee River AU (MA36-23).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Chicopee River AU (MA36-23), so it 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 the Chicopee River (MA36-23) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to a presumptive impairment decision because of the presence of active CSO outfalls. CRC staff/volunteers collected *E. coli* bacteria samples in the Chicopee River (MA36-23) at CRC_CRB1 [Lower Red Bridge, Wilbraham] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CRB1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 5% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CRB1 meet 2024 CALM guidance.

Monitoring Stations

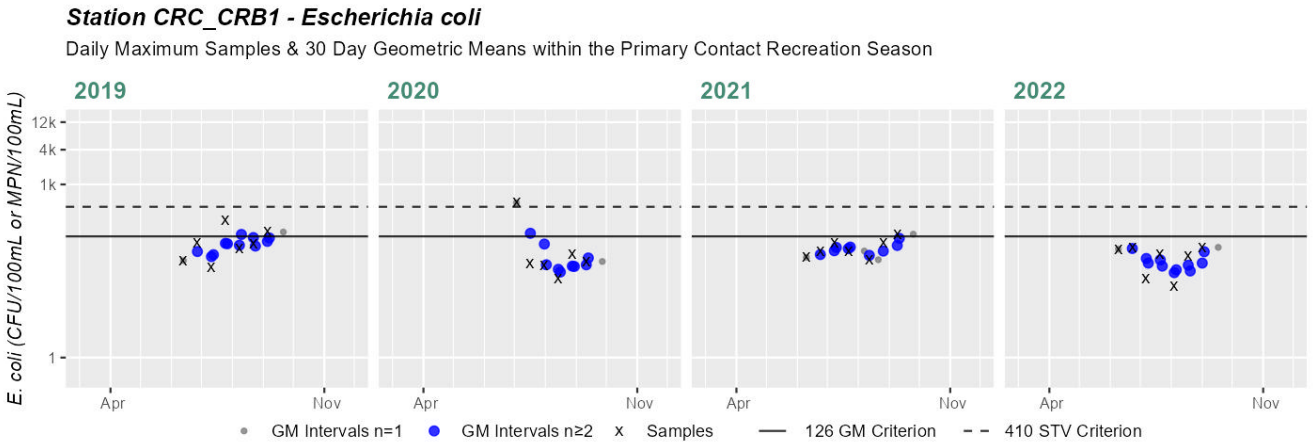
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CRB1	Connecticut River Conservancy	Water Quality	Chicopee River	Lower Red Bridge, Wilbraham	42.174721	-72.410500

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (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
CRC_CRB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	37	235	89
CRC_CRB1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	23	483	61
CRC_CRB1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	49	137	77
CRC_CRB1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	17	81	49



Variable*	Result
Samples	7
SeasGM	89
#GMI	11
#GMI Ex	1
%GMI Ex	9%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	61
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	77
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	49
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
5%

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Chicopee River (MA36-23) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to a presumptive impairment decision because of the presence of active CSO outfalls. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Chicopee River (MA36-23) from 2003-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CRB1 [Lower Red Bridge, Wilbraham] from 2019-2022 (n=6-7/yr), W2005 [Rt. 90 crossing, Wibraham/Ludlow] from Jul 2008 (n=1), W1032 [Miller St/Cottage Avenue bridge, Ludlow/Wilbraham] from 2003 and 2008 (n=6/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CRB1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC_CRB1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CRB1	Connecticut River Conservancy	Water Quality	Chicopee River	Lower Red Bridge, Wilbraham	42.174721	-72.410500
W1032	MassDEP	Water Quality	Chicopee River	[Miller Street/Cottage Avenue bridge, Ludlow/Wilbraham]	42.156941	-72.423164
W2005	MassDEP	Water Quality	Chicopee River	[Route 90 crossing, Wibraham/Ludlow]	42.157299	-72.409512

Bacteria Data

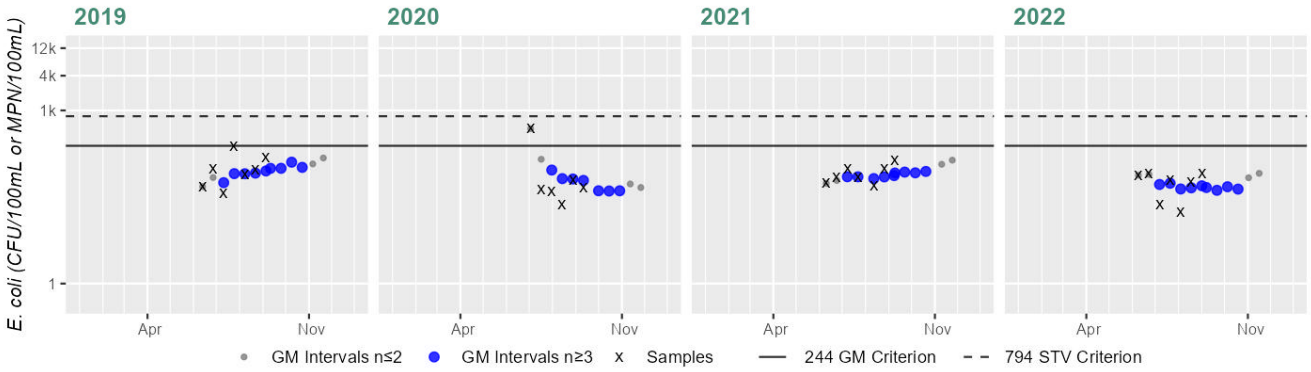
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CRB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	37	235	89
CRC_CRB1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	23	483	61
CRC_CRB1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	49	137	77
CRC_CRB1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	17	81	49
W1032	MassDEP	E. coli	04/16/03	10/15/03	6	2	160	20
W1032	MassDEP	E. coli	05/20/08	09/23/08	6	40	180	87
W2005	MassDEP	E. coli	07/09/08	07/09/08	1	150	150	149

Station CRC_CRB1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	89
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	61
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	77
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

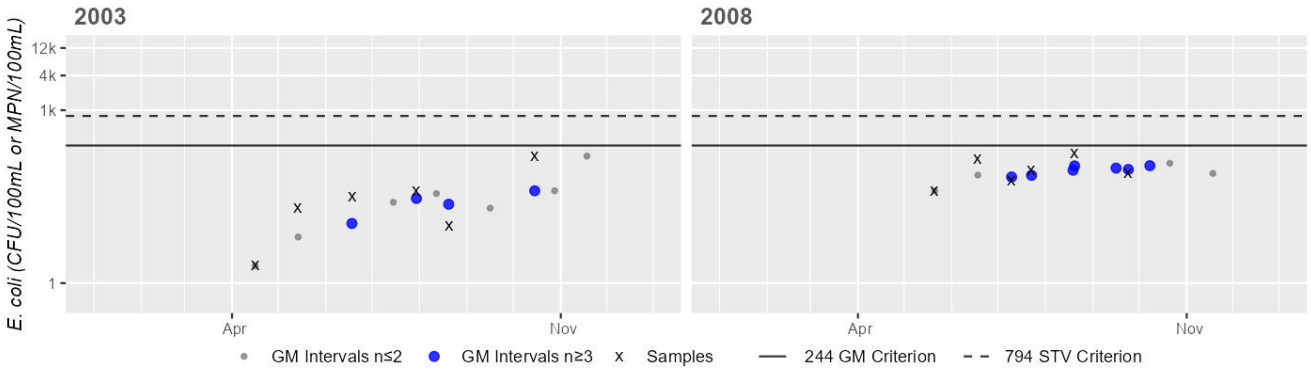
Variable*	Result
Samples	7
SeasGM	49
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1032 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	20
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

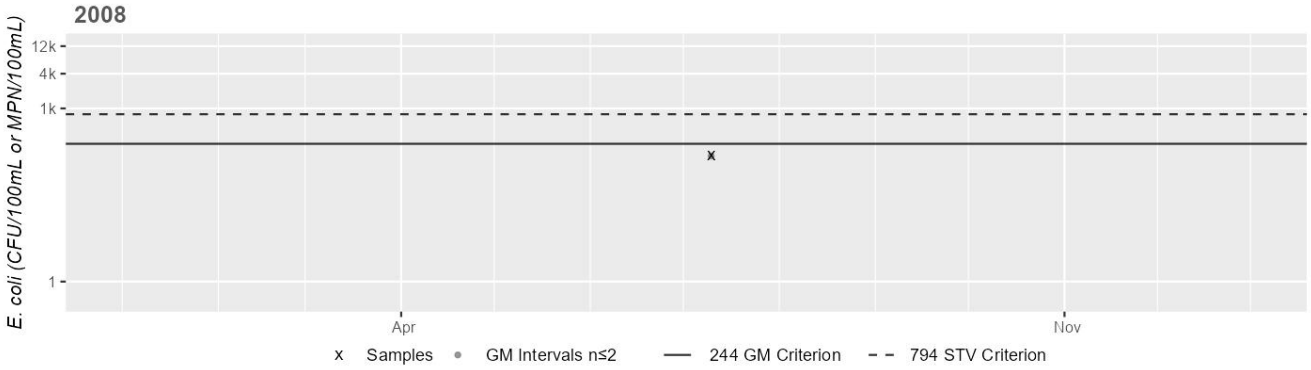
Variable*	Result
Samples	6
SeasGM	87
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2005 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	150
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Chicopee River (MA36-24)

Location:	Wilbraham Pumping Station (old WWTP), Wilbraham/Ludlow to Chicopee Falls Dam (NATID: MA00719), Chicopee.
AU Type:	RIVER
AU Size:	8.8 MILES
Classification/Qualifier:	B: WWF, CSO

Chicopee River (MA36-24)

Watershed Area: 713.93 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	713.92	9.25	274.02	2.21
Agriculture	4.1%	0.2%	3%	0.6%
Developed	8.8%	57%	6.5%	23.7%
Natural	79.4%	36.7%	77.6%	56.6%
Wetland	7.7%	6.1%	12.9%	19.1%
Impervious	3.6%	33.2%	2.5%	14%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Water Chestnut*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Fecal Coliform	R1_MA_2024_04	Changed
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
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
Fecal Coliform	Combined Sewer Overflows (Y)	--	--	--	X	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
PFAS in Fish Tissue	Source Unknown (N)	--	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)
Fecal Coliform	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 Supporting	No

2024/26 Use Attainment Summary

The Fish Consumption Use for this Chicopee River AU (MA36-24) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the most upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the most upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Chicopee River AU (MA36-24).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Chicopee River AU (MA36-24), so it 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 the Chicopee River (MA36-24) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward based on the presence of CSOs and bacteria data not meeting the threshold at CRC_CPB1 and CRC_CI01. The prior Fecal Coliform impairment is being carried forward. Surface water sampling was conducted by the USGS on the Chicopee River (MA36-24) at station USGS_01177000 at Indian Orchard, MA on three dates during September to November 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study). CRC and USGS staff/volunteers collected *E. coli* bacteria samples in the Chicopee River (MA36-24) from 2019-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CPB1 [Chicopee River, Putts Bridge Access, Wilbraham] from 2019-2022 (n=6-7/yr), CRC_CI01 [Chicopee River, Indian Orchard Access, Springfield] from 2019-2022 (n=6-7/yr), USGS-01177000 [Chicopee River At Indian Orchard, Ma] from 2019-2021 (n=6-7/yr), CRC-CGM1 [Grochmal St] from Jun-Sep 2021 (n=7), CRC-CFR1 [Fuller Rd] from Jun-Sep 2021 (n=7). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CPB1 indicated 3 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019 and 2021-2022, 36-54%), 1 yr had ≥2 samples exceed the 410 CFU/100ml STV (2019, n=2), and cumulatively across years 37% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CI01 indicated 2 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019 and 2021, 36 & 57%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 21% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year limited frequency *E. coli* dataset from USGS-01177000 indicated 1 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019, 50%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 14% of intervals had GMs >126 CFU/100ml. Analysis of the single year moderate frequency *E. coli* dataset from CRC-CGM1 indicated 28% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. Analysis of the single year moderate frequency *E. coli* dataset from CRC-CFR1 indicated 28% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. While *E. coli* data from USGS-01177000, CRC-CGM1, and CRC-CFR1 meet 2024 CALM guidance*, E. coli* data from CRC_CPB1 and CRC_CI01 are indicative of an *E. coli* impairment. Additionally, there is a presumptive *Escherichia coli (E. coli)* impairment decision in place due to the presence of active CSO outfalls.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CI01	Connecticut River Conservancy	Water Quality	Chicopee River	Chicopee River, Indian Orchard Access, Springfield	42.160800	-72.502000
CRC_CPB1	Connecticut River Conservancy	Water Quality	Chicopee River	Chicopee River, Putts Bridge Access, Wilbraham	42.152778	-72.478000

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC-CFR1	Connecticut River Conservancy	Water Quality	Chicopee River	Fuller Rd	42.161580	-72.563520
CRC-CGM1	Connecticut River Conservancy	Water Quality	Chicopee River	Grochmal St	42.155070	-72.536660
USGS-01177000	USGS Massachusetts Water Science Center	Water Quality	Chicopee River	CHICOPEE RIVER AT INDIAN ORCHARD, MA; no WWTF	42.160649	-72.513976

Bacteria Data

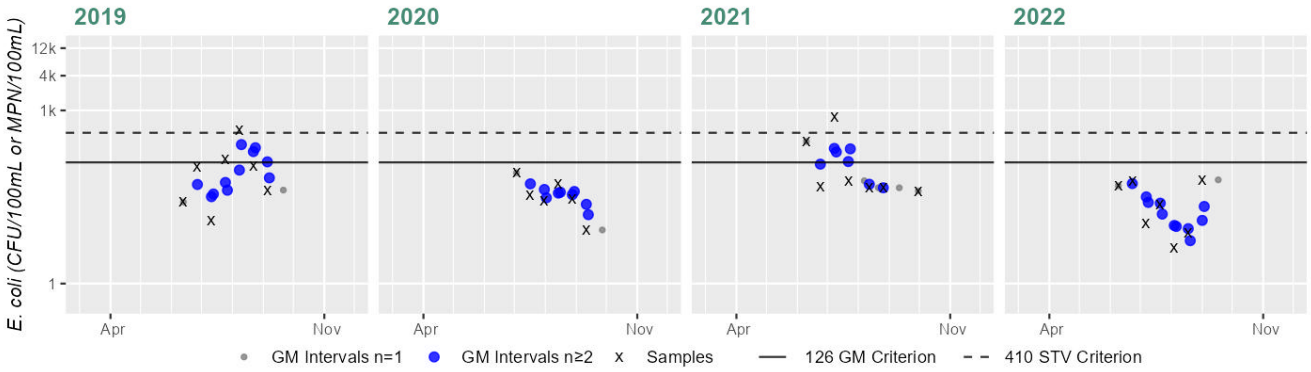
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (MassDEP Undated 2) (USGS 2024) (MassDEP Undated 2)

[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
CRC_CI01	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	12	461	71
CRC_CI01	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	8	83	31
CRC_CI01	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	40	770	91
CRC_CI01	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	4	62	20
CRC_CPB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	14	648	94
CRC_CPB1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	22	275	62
CRC_CPB1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	38	1413	111
CRC_CPB1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	13	1119	67
CRC-CFR1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	35	727	78
CRC-CGM1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	37	410	65
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	04/16/19	10/17/19	6	21	370	82
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	05/14/20	10/23/20	6	8	34	19
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	04/20/21	10/18/21	7	8	96	31

Station CRC_CI01 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	71
#GMI	11
#GMI Ex	4
%GMI Ex	36%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	6
SeasGM	31
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	91
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	1
%n>STV	14%

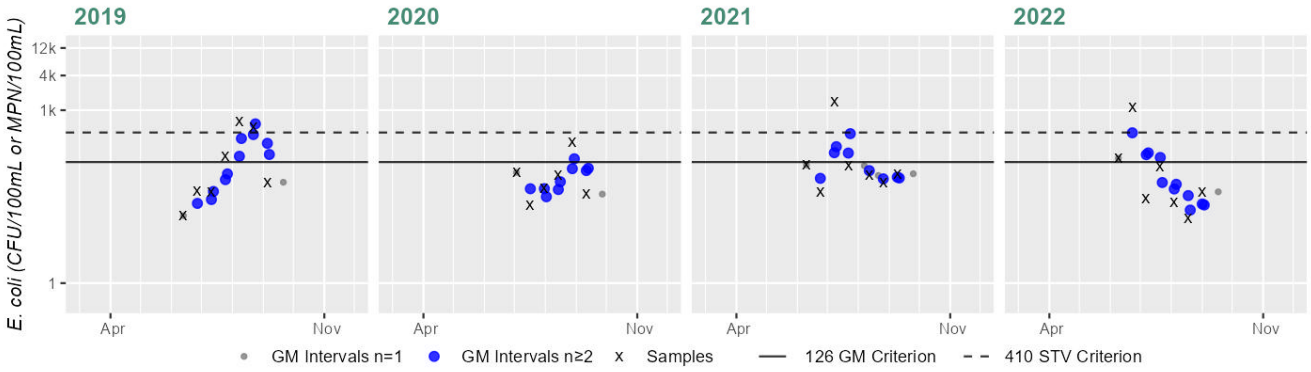
Variable*	Result
Samples	7
SeasGM	20
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
21%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CPB1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	94
#GMI	11
#GMI Ex	6
%GMI Ex	54%
n>STV	2
%n>STV	28%

Variable*	Result
Samples	6
SeasGM	62
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	111
#GMI	9
#GMI Ex	4
%GMI Ex	44%
n>STV	1
%n>STV	14%

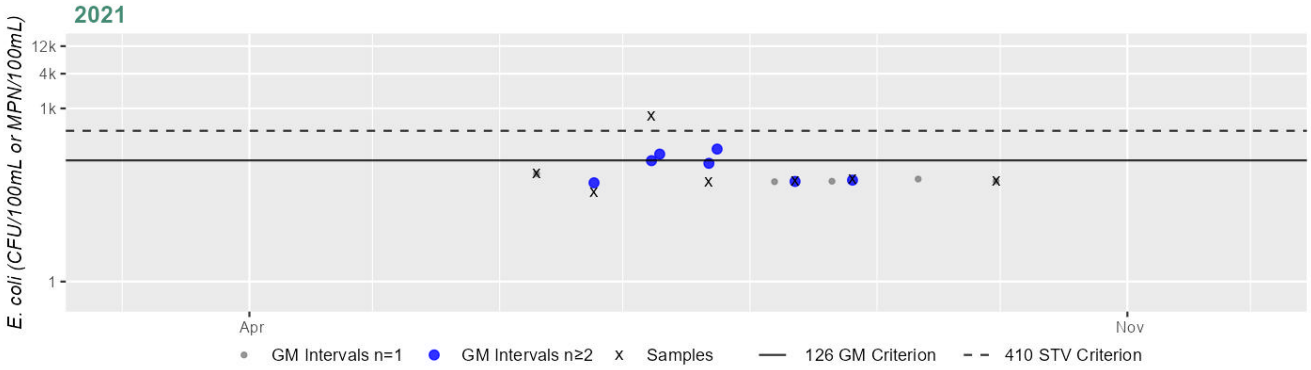
Variable*	Result
Samples	7
SeasGM	67
#GMI	11
#GMI Ex	4
%GMI Ex	36%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
37%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC-CFR1 - Escherichia coli

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



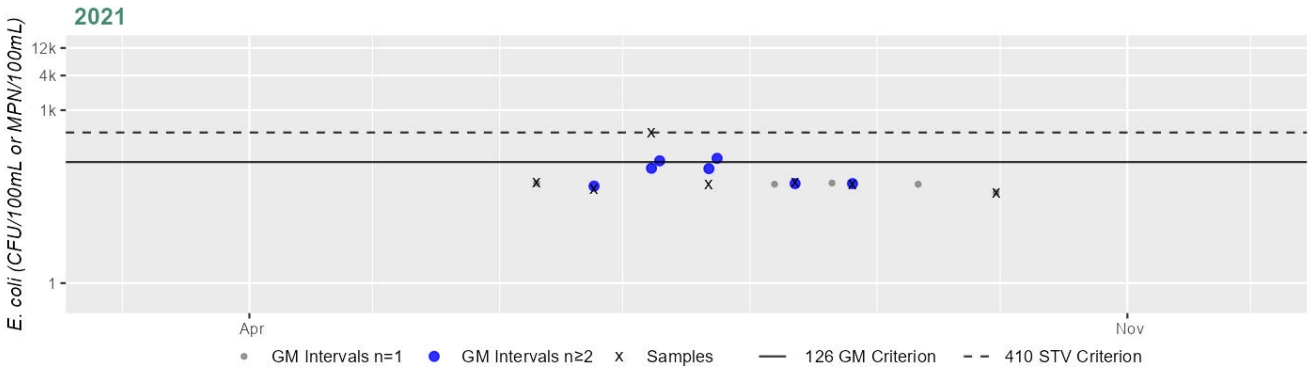
Variable*	Result
Samples	7
SeasGM	78
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
28%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC-CGM1 - Escherichia coli

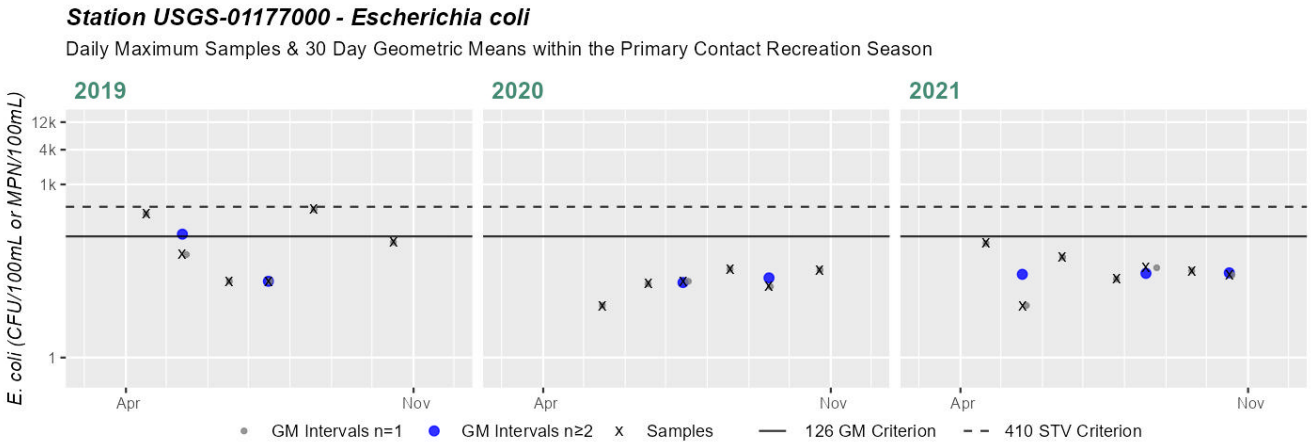
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	7
SeasGM	65
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
28%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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	6
SeasGM	82
#GMI	2
#GMI Ex	1
%GMI Ex	50%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	19
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	31
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
14%

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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(s) for USGS 2020 PFAS in Water Column Data (Savoie and Argue 2023) (MassDEP Undated 2)

Summary
Surface water sampling was conducted by the USGS on the Chicopee River (MA36-24) at station USGS_01177000 at Indian Orchard, MA on three dates during September to November 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study).

USGS 2020 PFAS in Water Column Data Collected Upstream and Downstream of Wastewater Treatment Facilities (Savoie and Argue 2023) (MassDEP Undated 2)

[The ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here). * indicates the ∑PFAS6 concentration is qualified since data for one or more individual PFAS6 analytes were qualified. A concentration with a "<" was less than the reporting detection limit (RDL) and the RDL was used to calculate the ΣPFAS6. E = qualifier "value is estimated"; V = qualifier "value affected by field or laboratory contamination"]

Station Code	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	ΣPFAS6 ng/L
USGS-01177000	9/9/2020	2.35	E1.14	E0.363	E0.56	E1.71	E0.982	7.8*
USGS-01177000	9/28/2020	2.41	E1.09	E0.392	E0.42	E1.48	E0.723	7.6*
USGS-01177000	11/9/2020	E2.96	E1.3	E0.433	E0.498	E1.32	E1.1	8.7*

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Chicopee River (MA36-24) continues to be assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being carried forward due to a presumptive impairment decision because of the presence of active CSO outfalls. CRC, MassDEP, and USGS staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Chicopee River (MA36-24) from 2003-2022 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CPB1 [Chicopee River, Putts Bridge Access, Wilbraham] from 2019-2022 (n=6-7/yr), CRC_CI01 [Chicopee River, Indian Orchard Access, Springfield] from 2019-2022 (n=6-7/yr), W1031 [River St/W St bridge, Springfield/Ludlow] from 2003 and 2008 (n=6/yr), USGS-01177000 [Chicopee River At Indian Orchard, Ma] from 2019-2021 (n=10-11/yr), CRC-CGM1 [Grochmal St] from Jun-Sep 2021 (n=7), CRC-CFR1 [Fuller Rd] from Jun-Sep 2021 (n=7). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CPB1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 2% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CI01 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from USGS-01177000 indicated 0 out of 3 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the single year moderate frequency *E. coli* dataset from CRC-CGM1 indicated 0% of intervals had GMs >244 CFU/100ml and no samples exceeded the 794 CFU/100ml STV. Analysis of the single year moderate frequency *E. coli* dataset from CRC-CFR1 indicated 0% of intervals had GMs >244 CFU/100ml and no samples exceeded the 794 CFU/100ml STV. *E. coli* data from CRC_CPB1, CRC_CI01, USGS-01177000, CRC-CGM1, and CRC-CFR1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CI01	Connecticut River Conservancy	Water Quality	Chicopee River	Chicopee River, Indian Orchard Access, Springfield	42.160800	-72.502000

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CPB1	Connecticut River Conservancy	Water Quality	Chicopee River	Chicopee River, Putts Bridge Access, Wilbraham	42.152778	-72.478000
CRC-CFR1	Connecticut River Conservancy	Water Quality	Chicopee River	Fuller Rd	42.161580	-72.563520
CRC-CGM1	Connecticut River Conservancy	Water Quality	Chicopee River	Grochmal St	42.155070	-72.536660
W1031	MassDEP	Water Quality	Chicopee River	[River Street/West Street bridge, Springfield/Ludlow]	42.160607	-72.510198
USGS-01177000	USGS Massachusetts Water Science Center	Water Quality	Chicopee River	CHICOPEE RIVER AT INDIAN ORCHARD, MA; no WWTF	42.160649	-72.513976

Bacteria Data

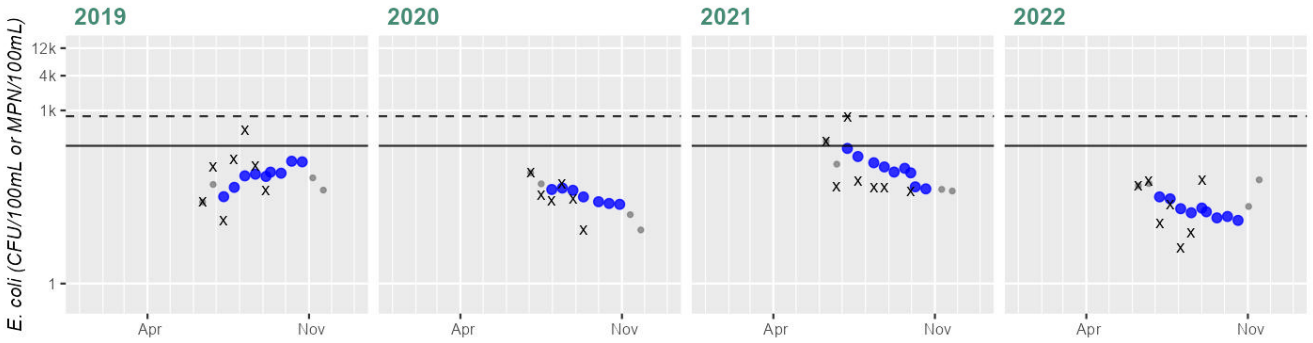
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3) (USGS 2024) (MassDEP Undated 1)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
CRC_CI01	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	12	461	71
CRC_CI01	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	8	83	31
CRC_CI01	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	40	770	91
CRC_CI01	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	4	62	20
CRC_CPB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	14	648	94
CRC_CPB1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	22	275	62
CRC_CPB1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	38	1413	111
CRC_CPB1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	13	1119	67
CRC-CFR1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	35	727	78
CRC-CGM1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	37	410	65
W1031	MassDEP	E. coli	04/16/03	10/15/03	6	4	126	35
W1031	MassDEP	E. coli	05/20/08	09/23/08	6	32	510	85
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	01/28/19	11/21/19	10	21	370	70

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	01/22/20	12/09/20	11	8	130	23
USGS-01177000	USGS Massachusetts Water Science Center	E. coli	01/25/21	12/16/21	10	8	96	28

Station CRC_CI01 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	71
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	31
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	91
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

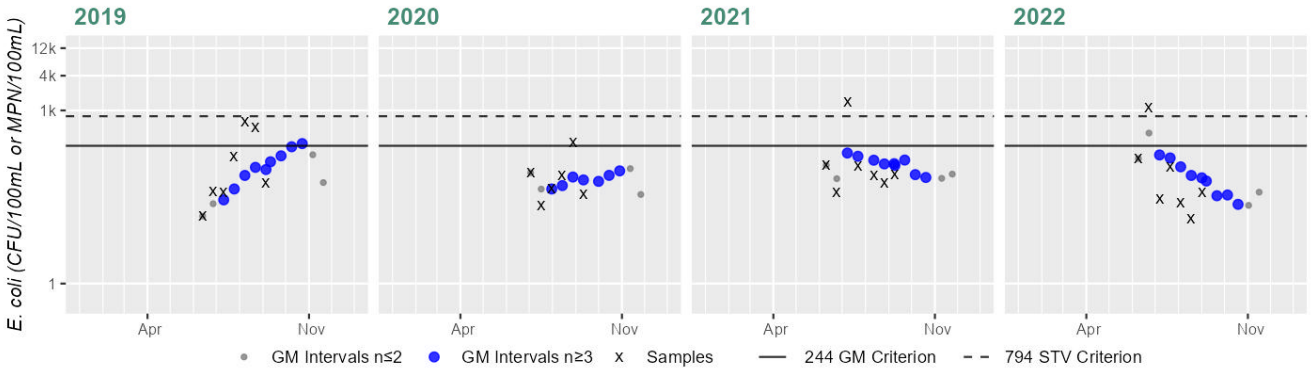
Variable*	Result
Samples	7
SeasGM	20
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CPB1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	94
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	62
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	111
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

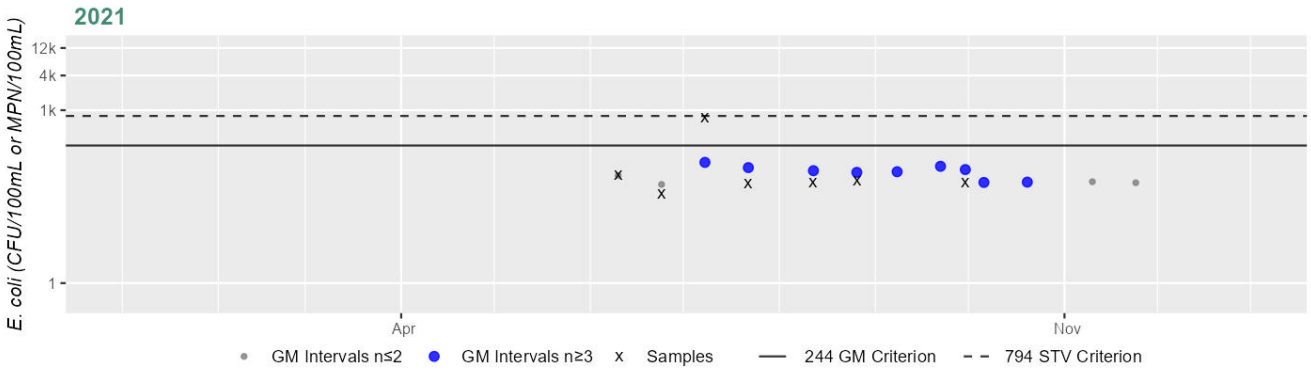
Variable*	Result
Samples	7
SeasGM	67
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
2%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC-CFR1 - Escherichia coli

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



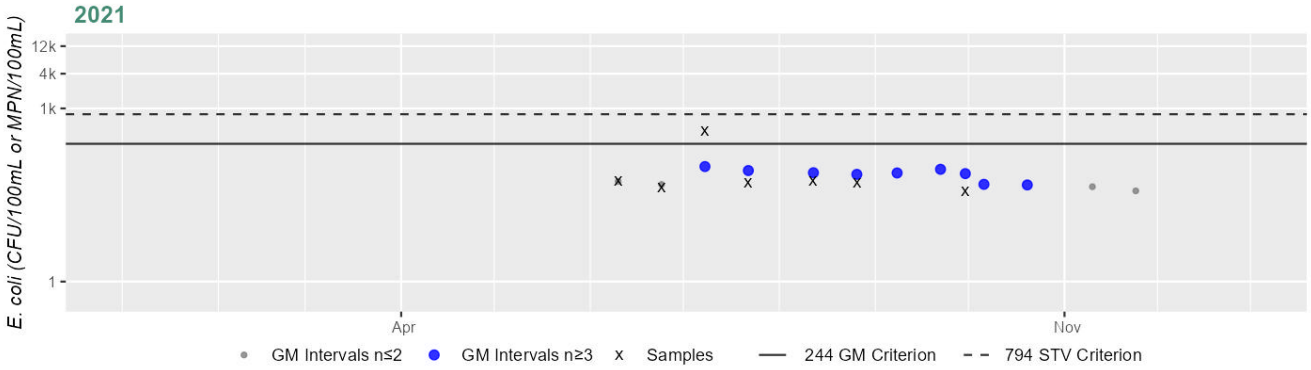
Variable*	Result
Samples	7
SeasGM	78
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC-CGM1 - Escherichia coli

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



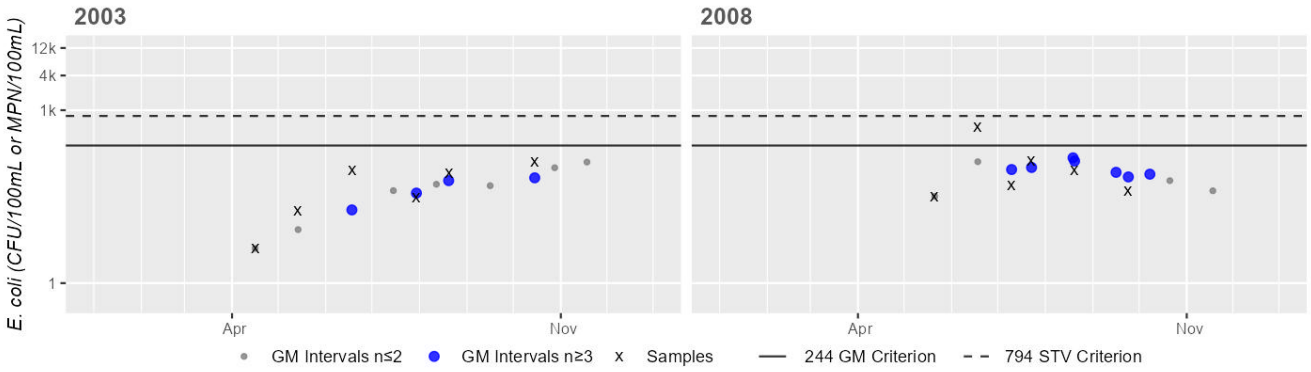
Variable*	Result
Samples	7
SeasGM	65
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1031 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	35
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

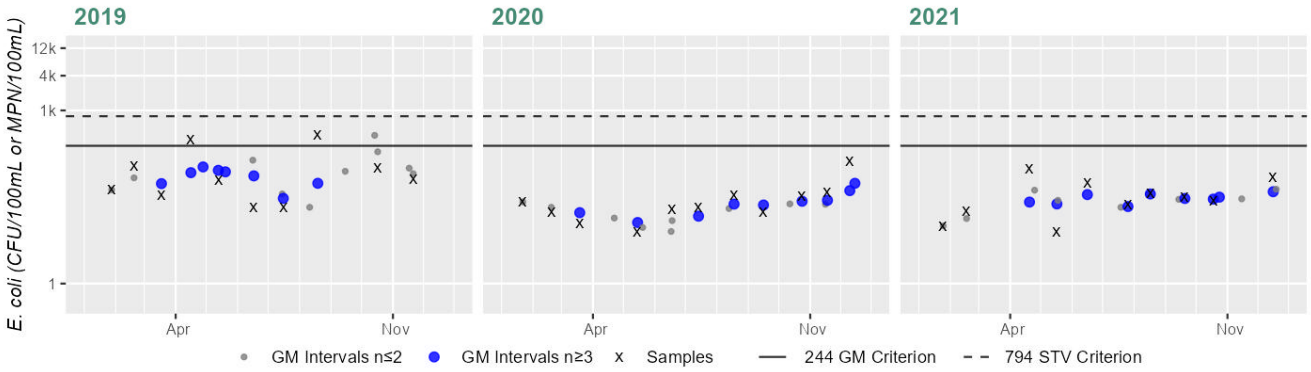
Variable*	Result
Samples	6
SeasGM	85
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 USGS-01177000 - Escherichia coli

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



Variable*	Result
Samples	10
SeasGM	70
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	11
SeasGM	23
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	28
#GMI	9
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Chicopee River (MA36-25)

Location:	Chicopee Falls Dam (NATID: MA00719), Chicopee to mouth at confluence with Connecticut River, Chicopee.
AU Type:	RIVER
AU Size:	3 MILES
Classification/Qualifier:	B: WWF, CSO

Chicopee River (MA36-25)

Watershed Area: 722.38 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	722.37	9.80	275.30	1.78
Agriculture	4.1%	0.3%	3%	0.4%
Developed	9.5%	66%	6.6%	30.9%
Natural	78.8%	29.2%	77.5%	48.6%
Wetland	7.6%	4.5%	12.9%	20.1%
Impervious	4%	39.8%	2.6%	18.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	X
PFAS in Fish Tissue	Source Unknown (N)	--	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 Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for this Chicopee River AU (MA36-25) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the most upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the most upstream Chicopee River AU (MA36-22) at station F0181 (PFAS Study ID 43) [in impoundment (Red Bridge Impoundment) of Red Bridge Dam (NAT ID: MA00723), Ludlow/Wilbraham] on 09/27/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Chicopee River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Chicopee River AU (MA36-25).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Chicopee River AU (MA36-25), so it 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 the Chicopee River (MA36-25) continues to be assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being carried forward due to a presumptive impairment decision because of the presence of active CSO outfalls. CRC staff/volunteers collected *E. coli* bacteria samples in the Chicopee River (MA36-25) at CRC-CDB1 [William F. Devitt Memorial Bridge] from Jun-Sep 2021 (n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC-CDB1 indicated 57% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. *E. coli* data from CRC-CDB1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC-CDB1	Connecticut River Conservancy	Water Quality	Chicopee River	William F. Devitt Memorial Bridge	42.150700	-72.604830

Bacteria Data

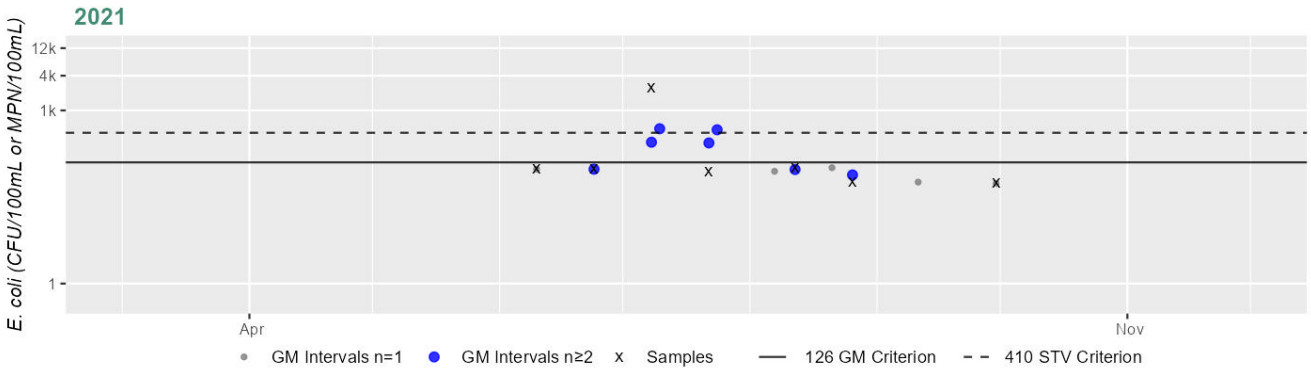
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (MassDEP Undated 2)

[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
CRC-CDB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	54	2419	129

Station CRC-CDB1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	129
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
57%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Chicopee River (MA36-25) 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 W0475 and a presumptive impairment decision in place due to the presence of active CSO outfalls. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Chicopee River (MA36-25) from 2003-2021 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC-CDB1 [William F. Devitt Memorial Bridge] from Jun-Sep 2021 (n=7), W0475 [Rt. 116 bridge, Chicopee] from 2003 and 2008 (n=6/yr), W2055 [northern end of Rt. 116 bridge, Chicopee] from May-Sep 2008 (n=5), W2056 [southern end of Rt. 116 bridge, Chicopee] from May-Sep 2008 (n=6). Analysis of the single year moderate frequency *E. coli* dataset from CRC-CDB1 indicated 11% of intervals had GMs >244 CFU/100ml and 1 sample exceeded the 794 CFU/100ml STV. Analysis of this historic multi-year limited *frequency E. coli* dataset from W0475 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2003 and 2008, 25 & 42%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 36% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC-CDB1 meet 2024 CALM guidance. Historic *E. coli* data from W0475 are indicative of an *E. coli* impairment. While recent data indicated generally good conditions, data from W0475 are indicative of an *Escherichia coli* impairment and poor water quality conditions in the historic window (1997-2010) and no recent data are available to assess the location in the current window (2011-2022).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC-CDB1	Connecticut River Conservancy	Water Quality	Chicopee River	William F. Devitt Memorial Bridge	42.150700	-72.604830
W0475	MassDEP	Water Quality	Chicopee River	[Route 116 bridge, Chicopee.]	42.150375	-72.607636
W2055	MassDEP	Water Quality	Chicopee River	[northern end of Route 116 bridge, Chicopee]	42.150638	-72.607577
W2056	MassDEP	Water Quality	Chicopee River	[southern end of Route 116 bridge, Chicopee]	42.150079	-72.607691

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

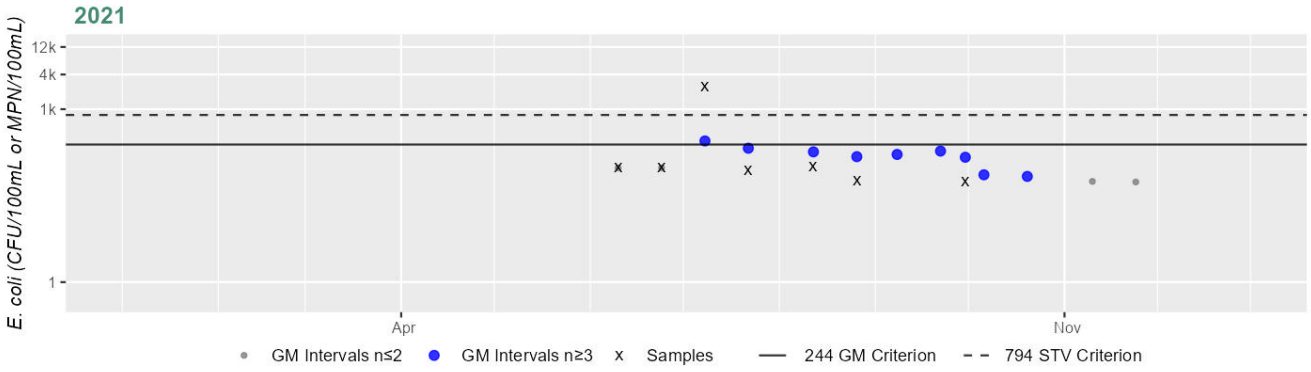
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
CRC-CDB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	54	2419	129

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0475	MassDEP	E. coli	04/16/03	10/15/03	6	4	2980	91
W0475	MassDEP	E. coli	05/20/08	09/23/08	6	40	760	168
W2055	MassDEP	E. coli	05/20/08	09/23/08	5	30	770	209
W2056	MassDEP	E. coli	05/20/08	09/23/08	6	18	890	187

Station CRC-CDB1 - Escherichia coli

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



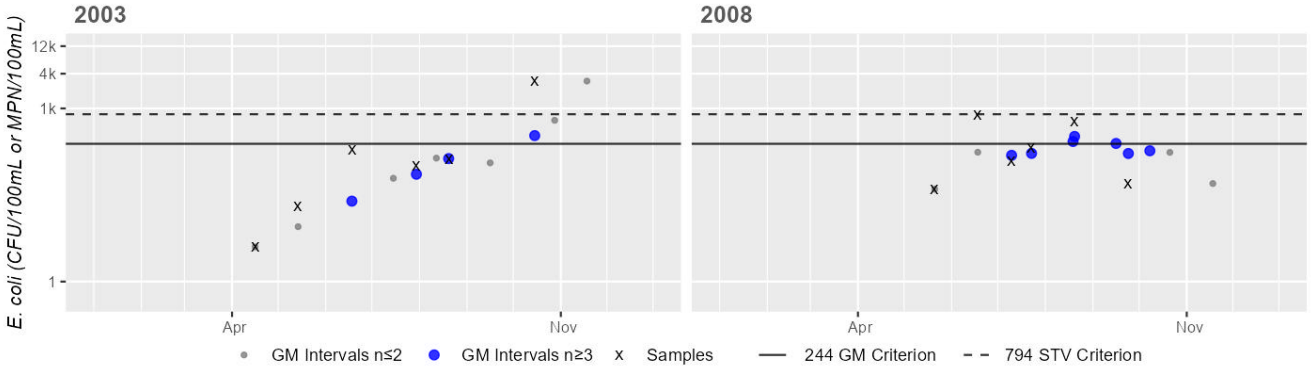
Variable*	Result
Samples	7
SeasGM	129
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
11%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W0475 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	91
#GMI	4
#GMI Ex	1
%GMI Ex	25%
n>STV	1
%n>STV	16%

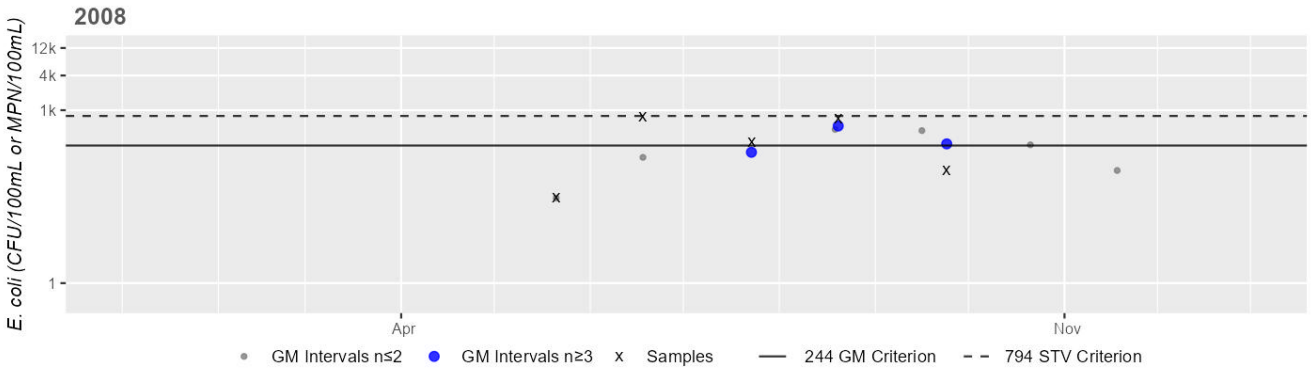
Variable*	Result
Samples	6
SeasGM	168
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Historic (1997-2010)
36%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2055 - Escherichia coli

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



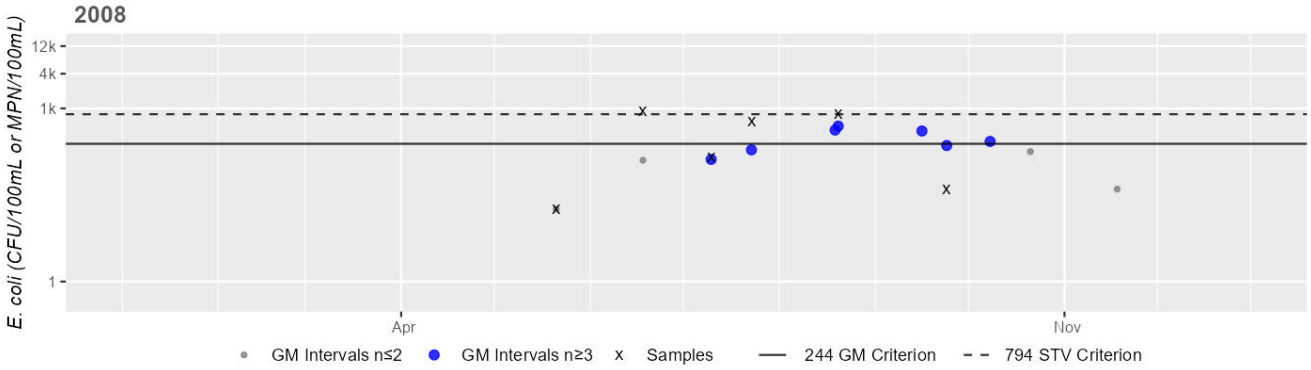
Variable*	Result
Samples	5
SeasGM	209
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2056 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	187
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Historic (1997-2010)
57%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Cloverdale Street Pond (MA36036)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Cloverdale Street Pond (MA36036) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Cobb Brook (MA36-62)

Location:	Headwaters, perennial portion east of Town Farm Road, Shutesbury to mouth at inlet Quabbin Reservoir, Shutesbury.
AU Type:	RIVER
AU Size:	1.6 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

No usable data were available for Cobb Brook (MA36-62) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Comins Pond (MA36037)

Location:	Warren.
AU Type:	FRESHWATER LAKE
AU Size:	26 ACRES
Classification/Qualifier:	B

No usable data were available for Comins Pond (MA36037) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Conant Brook (MA36-45)

Location:	Headwaters, outlet Conant Brook Reservoir dam (NATID: MA00965), Monson to mouth at confluence with Chicopee Brook, Monson.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Conant Brook (MA36-45)

Watershed Area: 8.81 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.81	4.88	2.84	1.50
Agriculture	3.3%	5%	3.8%	6.6%
Developed	5.5%	7%	5.4%	6.6%
Natural	85.6%	82.6%	81.2%	79.3%
Wetland	5.7%	5.4%	9.6%	7.4%
Impervious	2%	2.4%	2%	2.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Conant Brook (MA36-45) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Conant Brook AU (MA36-45), so it 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 Conant Brook (MA36-45) 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 Conant Brook (MA36-45) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Conant Brook (MA36-45) at W1862 [Rt. 32 crossing, Monson] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1862 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 98 CFU/100ml. Historic *E. coli* data from W1862 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1862	MassDEP	Water Quality	Conant Brook	[Route 32 crossing, Monson]	42.084717	-72.310659

Bacteria Data

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

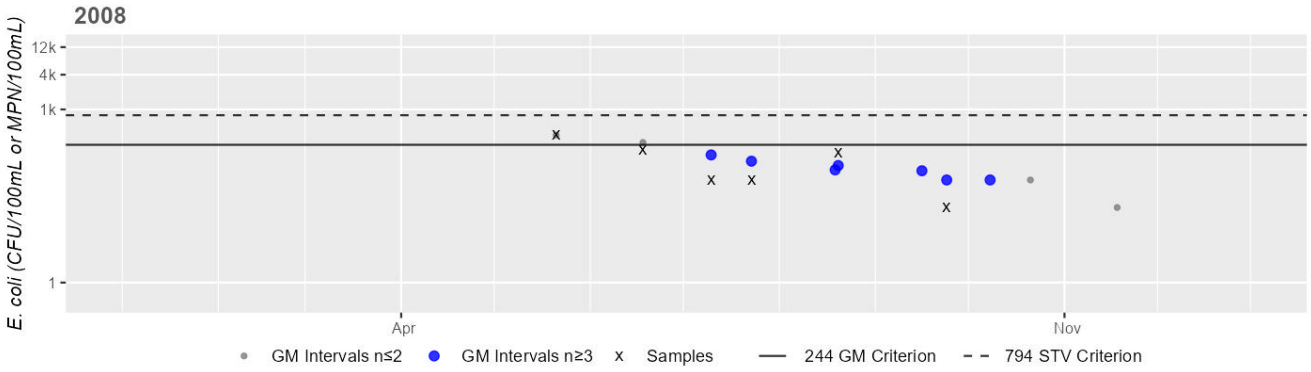
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1862	MassDEP	E. coli	05/20/08	09/23/08	6	20	360	98

Station MASSDEP_W1862 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	98
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Conant Brook Reservoir (MA36038)

Location:	Monson.
AU Type:	FRESHWATER LAKE
AU Size:	4 ACRES
Classification/Qualifier:	B

No usable data were available for Conant Brook Reservoir (MA36038) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

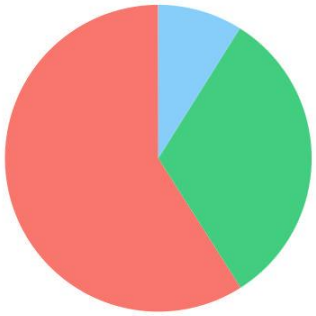
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None	--	Unchanged

Cooley Brook (MA36-38)

Location:	From the outlet of Chicopee Reservoir, Chicopee to mouth at confluence with the Chicopee River, Chicopee (segment mileage includes length of channelized diversion south of Route 90, a "braid" that confluences with the Chicopee River upstream of the mouth of Cooley Brook).
AU Type:	RIVER
AU Size:	1.2 MILES
Classification/Qualifier:	B

Cooley Brook (MA36-38)

Watershed Area: 5.32 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.32	3.65	1.01	0.77
Agriculture	0%	0%	0.1%	0.2%
Developed	59%	60.7%	21%	13.4%
Natural	32%	30.3%	53.2%	57.8%
Wetland	8.9%	8.9%	25.7%	28.7%
Impervious	23.9%	27%	3.9%	2.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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	--

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, so the Fish Consumption Use for Cooley Brook (MA36-38) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Cooley Brook (MA36-38) 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 Cooley Brook (MA36-38) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CCB1. CRC staff/volunteers collected *E. coli* bacteria samples in Cooley Brook (MA36-38) at CRC_CCB1 [Cooley Brook (Chicopee River Watershed)] from Jun-Sep 2021 (n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CCB1 indicated 88% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. *E. coli* data from CRC_CCB1 are indicative of an *E. coli* impairment.

Monitoring Stations

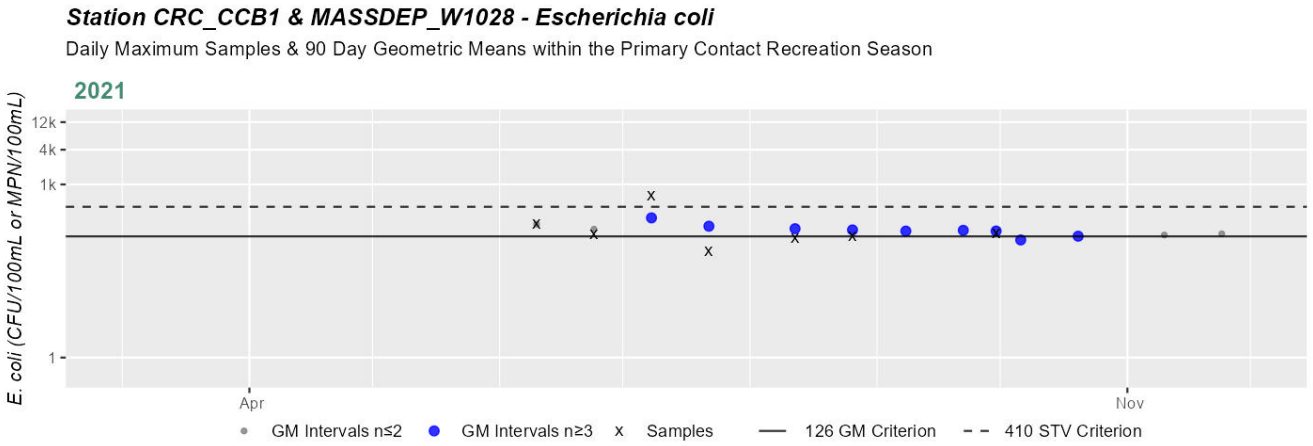
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CCB1	Connecticut River Conservancy	Water Quality	Cooley Brook, Chicopee, MA	Cooley Brook (Chicopee River Watershed)	42.162530	-72.560410

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CCB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	69	648	159



Variable*	Result
Samples	7
SeasGM	159
#GMI	9
#GMI Ex	8
%GMI Ex	88%
n>STV	1
%n>STV	14%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Cooley Brook (MA36-38) is assessed as Fully Supporting. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Cooley Brook (MA36-38) at CRC_CCB1 & W1028 [Fuller Rd, ~1100 ft NW of Haynes Circle, Chicopee (on southerly flowing channelized diversion of Cooley Brook) & Cooley Brook (Chicopee River Watershed)] from Apr-Oct 2003 (historic n=6) and Jun-Sep 2021 (current n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CCB1 & W1028 indicated 11% of intervals had GMs >244 CFU/100ml and no samples exceeded the 794 CFU/100ml STV. *E. coli* data from CRC_CCB1 & W1028 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CCB1	Connecticut River Conservancy	Water Quality	Cooley Brook, Chicopee, MA	Cooley Brook (Chicopee River Watershed)	42.162530	-72.560410
W1028	MassDEP	Water Quality	Cooley Brook	[Fuller Road, approximately 1100 feet northwest of Haynes Circle, Chicopee (on southerly flowing channelized diversion of Cooley Brook)]	42.162380	-72.560397

Bacteria Data

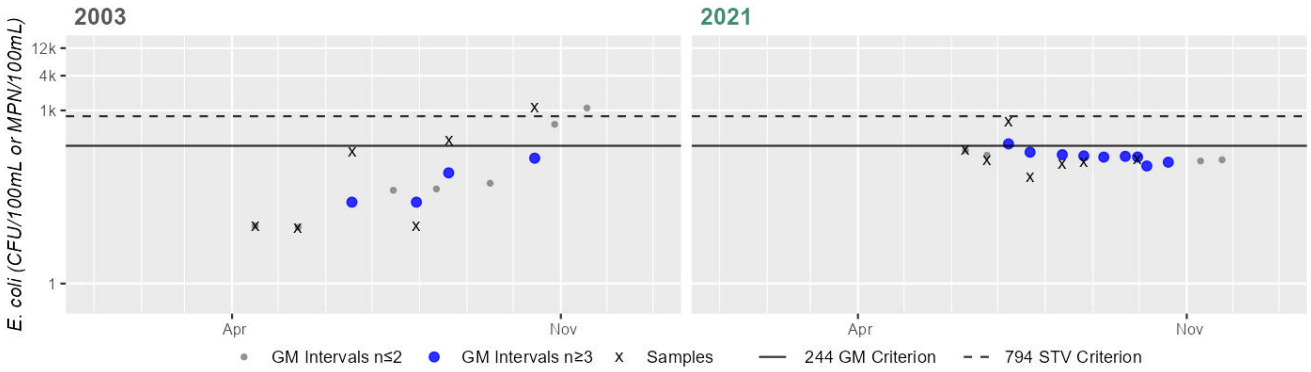
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CCB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	69	648	159
W1028	MassDEP	E. coli	04/16/03	10/15/03	6	9	1100	61

Station CRC_CCB1 & MASSDEP_W1028 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	61
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	159
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	0
%n>STV	0%

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

Cumulative %GMI Exceedance Current (2011-2022)
11%

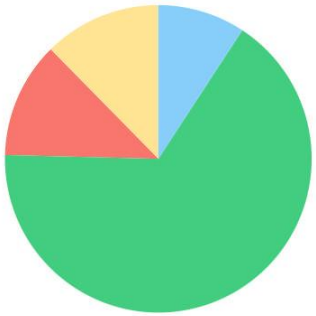
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Coys Brook (MA36-78)

Location:	Headwaters, perennial portion south of Downey Road, North Brookfield to mouth at confluence with Quaboag River, West Brookfield.
AU Type:	RIVER
AU Size:	7.4 MILES
Classification/Qualifier:	B

Coys Brook (MA36-78)

Watershed Area: 8.38 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.38	4.48	3.30	2.01
Agriculture	12.4%	15.3%	12.8%	16.1%
Developed	12.2%	9.8%	8.7%	7.3%
Natural	66.2%	61.5%	61.5%	53.8%
Wetland	9.2%	13.3%	17.1%	22.8%
Impervious	4.4%	3.4%	2.7%	2.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Escherichia Coli (E. Coli)	--	Added

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 recently, so the Fish Consumption Use for Coys Brook (MA36-78) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Coys Brook (MA36-78) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations a third of the way down this Coys Brook AU ~900 feet upstream from Tucker Rd, North Brookfield (W2166) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2166	MassDEP	Water Quality	Coys Brook	[approximately 900 feet upstream from Tucker Road, North Brookfield]	42.262151	-72.106600

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
W2166	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2166 on Coys Brook (MA36-78) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2166	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2166	Coys Brook	2014	Aesthetics Impaired?	No	5	5
W2166	Coys Brook	2014	Aquatic Plant Density, Overall	Moderate	1	5
W2166	Coys Brook	2014	Aquatic Plant Density, Overall	None	1	5
W2166	Coys Brook	2014	Aquatic Plant Density, Overall	Sparse	3	5
W2166	Coys Brook	2014	Color	Light Yellow/Tan	2	5
W2166	Coys Brook	2014	Color	None	3	5
W2166	Coys Brook	2014	Objectionable Deposits	No	4	5
W2166	Coys Brook	2014	Objectionable Deposits	Yes	1	5
W2166	Coys Brook	2014	Odor	None	4	5
W2166	Coys Brook	2014	Odor	Other (Farm/Animals)	1	5
W2166	Coys Brook	2014	Periphyton Density, Filamentous	Moderate	1	5
W2166	Coys Brook	2014	Periphyton Density, Filamentous	None	4	5
W2166	Coys Brook	2014	Periphyton Density, Film	None	5	5
W2166	Coys Brook	2014	Scum	No	5	5
W2166	Coys Brook	2014	Turbidity	None	4	5
W2166	Coys Brook	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Coys Brook (MA36-78) is assessed as Not Supporting. An *Escherichia Coli (E. Coli)* impairment is being added due to bacteria data not meeting the threshold at W2166. MassDEP staff collected *E. coli* bacteria samples in Coys Brook (MA36-78) at W2166 [~900 ft upstream from Tucker Rd, N Brookfield] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2166 indicated 100% of intervals had GMs >126 CFU/100ml, 3 samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 480 CFU/100ml. *E. coli* data from W2166 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2166	MassDEP	Water Quality	Coys Brook	[approximately 900 feet upstream from Tucker Road, North Brookfield]	42.262151	-72.106600

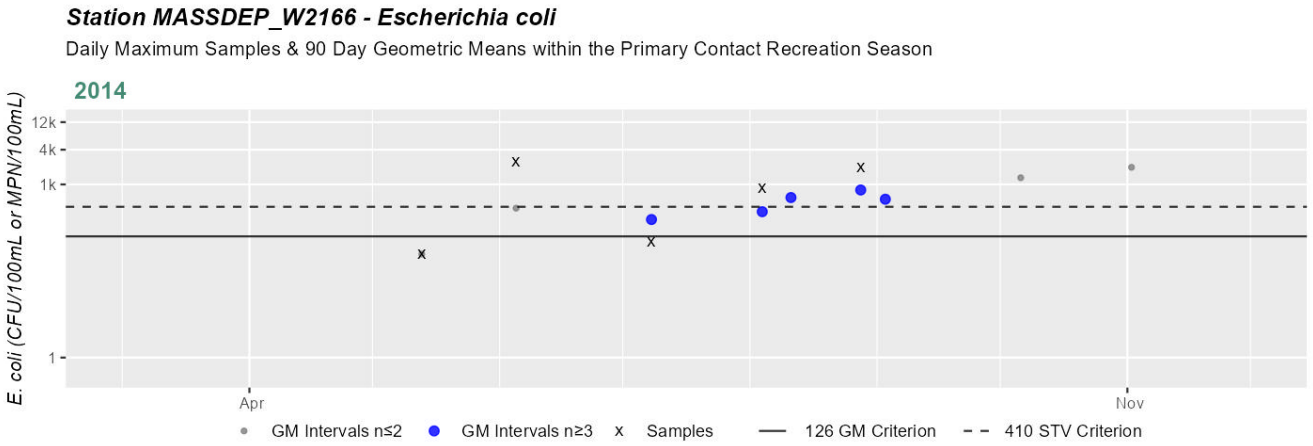
Bacteria Data

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

(MassDEP Undated 6) (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
W2166	MassDEP	E. coli	05/13/14	08/28/14	5	62	2419	480



Variable*	Result
Samples	5
SeasGM	480
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	3
%n>STV	60%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Coys Brook (MA36-78) 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 W2166. MassDEP staff collected *E. coli* bacteria samples in Coys Brook (MA36-78) at W2166 [~900 ft upstream from Tucker Rd, N Brookfield] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2166 indicated 100% of intervals had GMs >244 CFU/100ml, 3 samples exceeded the 794 CFU/100ml STV, and the overall GM was 480 CFU/100ml. *E. coli* data from W2166 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2166	MassDEP	Water Quality	Coys Brook	[approximately 900 feet upstream from Tucker Road, North Brookfield]	42.262151	-72.106600

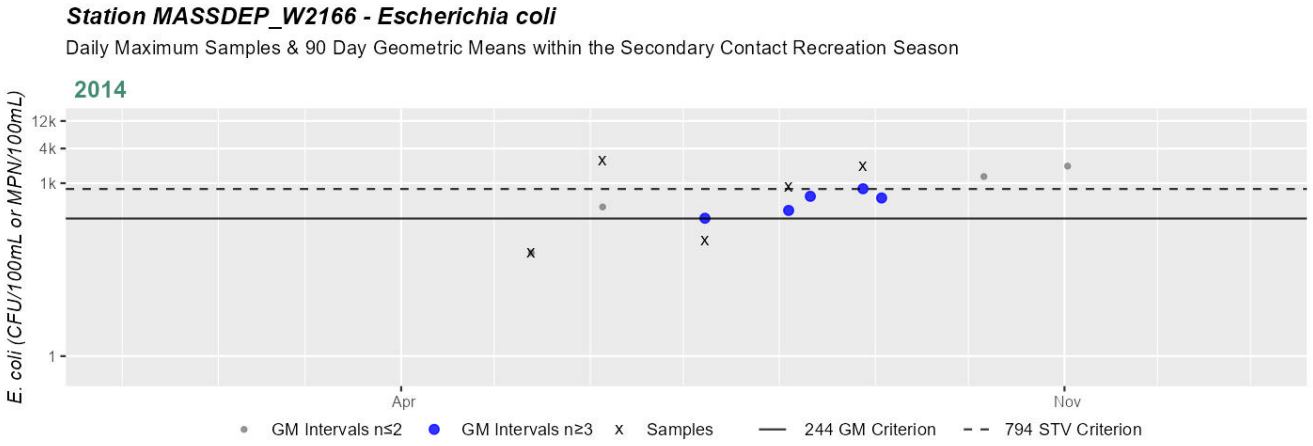
Bacteria Data

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

(MassDEP Undated 6) (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
W2166	MassDEP	E. coli	05/13/14	08/28/14	5	62	2419	480



Variable*	Result
Samples	5
SeasGM	480
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	3
%n>STV	60%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Cranberry Meadow Pond (MA36040)

Location:	Spencer/Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	69 ACRES
Classification/Qualifier:	B

No usable data were available for Cranberry Meadow Pond (MA36040) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Cranberry River (MA36-20)

Location:	Headwaters, outlet Cranberry Meadow Pond, Spencer to mouth at confluence with Sevenmile River, Spencer (through former 2008 segment: Howe Pond MA36073).
AU Type:	RIVER
AU Size:	3.6 MILES
Classification/Qualifier:	B

Cranberry River (MA36-20)

Watershed Area: 6.53 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	6.53	6.11	2.63	2.45
Agriculture	5.1%	5.4%	4.2%	4.6%
Developed	8.9%	8.4%	8.1%	7.9%
Natural	78%	78%	74.1%	73.7%
Wetland	8.1%	8.2%	13.6%	13.8%
Impervious	3.2%	3%	3.2%	3%

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 recently, so the Fish Consumption Use for Cranberry River (MA36-20) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Cranberry River (MA36-20) 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 the Cranberry River (MA36-20) 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 the Cranberry River (MA36-20) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the Cranberry River (MA36-20) at W1035 [S Spencer Rd, Spencer] from Apr-Oct 2003 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1035 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 53 CFU/100ml. Historic *E. coli* data from W1035 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1035	MassDEP	Water Quality	Cranberry River	[South Spencer Road, Spencer]	42.227976	-72.012697

Bacteria Data

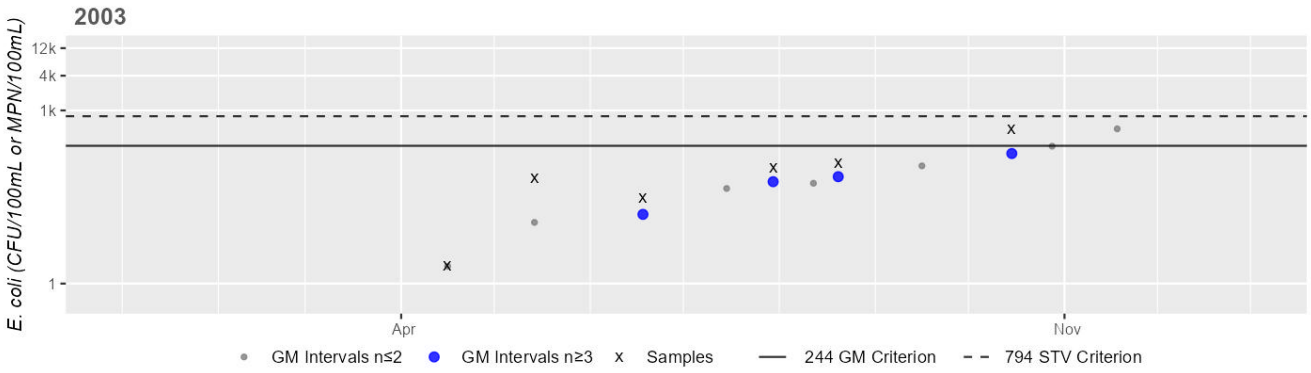
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1035	MassDEP	E. coli	04/16/03	10/15/03	6	2	480	53

Station MASSDEP_W1035 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	53
#GMI	4
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Crystal Lake (MA36043)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	16 ACRES
Classification/Qualifier:	B

No usable data were available for Crystal Lake (MA36043) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Cunningham Pond (MA36044)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	27 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Cunningham Pond (MA36044) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Cusky Pond (MA36045)

Location:	New Braintree.
AU Type:	FRESHWATER LAKE
AU Size:	28 ACRES
Classification/Qualifier:	B

No usable data were available for Cusky Pond (MA36045) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Water Chestnut*)	--	Unchanged

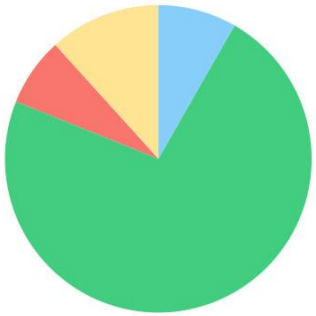
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Danforth Brook (MA36-50)

Location:	Headwaters, east of Charity Road, Hardwick to mouth at confluence with Ware River, Hardwick.
AU Type:	RIVER
AU Size:	5.8 MILES
Classification/Qualifier:	B

Danforth Brook (MA36-50)

Watershed Area: 5.45 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.45	3.32	1.94	1.14
Agriculture	11.7%	13.3%	11.1%	13.9%
Developed	7.2%	8.3%	6.2%	8.7%
Natural	72.8%	70.8%	64.8%	59.9%
Wetland	8.3%	7.6%	17.8%	17.5%
Impervious	2.6%	2.9%	2.7%	3.7%

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)	Source Unknown (N)	--	--	--	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 recently, so the Fish Consumption Use for Danforth Brook (MA36-50) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Danforth Brook AU (MA36-50), so it is Not Assessed. Since the Total Phosphorus Alert was redundantly duplicated across multiple uses for this waterbody, the Total Phosphorus Alert is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Danforth Brook (MA36-50) continues to be assessed as Not Supporting. The prior Total Phosphorus (from Aesthetics Use) is being removed but will continue to be maintained under the Aquatic Life Use. The prior *Escherichia coli (E. coli)* impairment is being carried forward. Elevated data from Connecticut River Conservancy (CRC) Station CRC_CWDB1 are reflective of the existing *Escherichia coli (E. coli)* impairment.
CRC staff/volunteers collected *E. coli* bacteria samples in Danforth Brook (MA36-50) at CRC_CWDB1 [Danforth Brook] from Aug-Sep 2021 (n=2). The available *E. coli* data at CRC_CWDB1 are too limited to assess according to the 2024 CALM; however, 1 of 2 samples exceeded the 410 CFU/100ml STV in 2021 (max STV=2419 CFU/100ml) and is reflective of the prior *E. coli* impairment.

Monitoring Stations

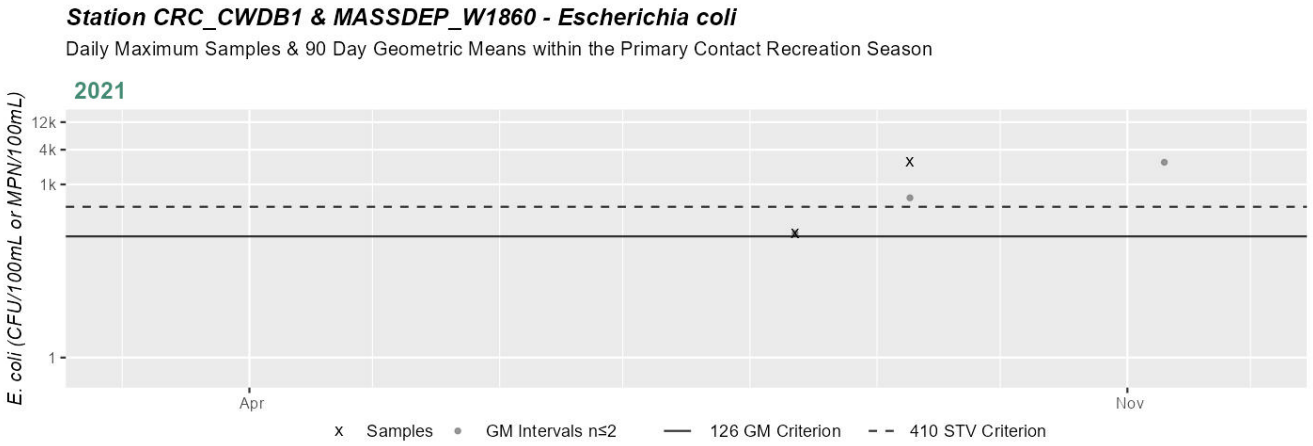
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWDB1	Connecticut River Conservancy	Water Quality	Danforth Brook	Danforth Brook	42.311950	-72.206940

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CWDB1	Connecticut River Conservancy	E. coli	08/12/21	09/09/21	2	142	2419	586



Variable*	Result
Samples	2
SeasGM	586
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Danforth Brook (MA36-50) so it is assessed as having Insufficient Information. The prior Total Phosphorus (from Aesthetics Use) is being removed but will continue to be maintained under the Aquatic Life Use. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Danforth Brook (MA36-50) at CRC_CWDB1 & W1860 [Rt. 32, Hardwick & Danforth Brook] from May-Sep 2008 (historic n=6) and Aug-Sep 2021 (current n=2). The available *E. coli* data at CRC_CWDB1 & W1860 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 794 CFU/100ml STV in 2021 (n=1).

Monitoring Stations

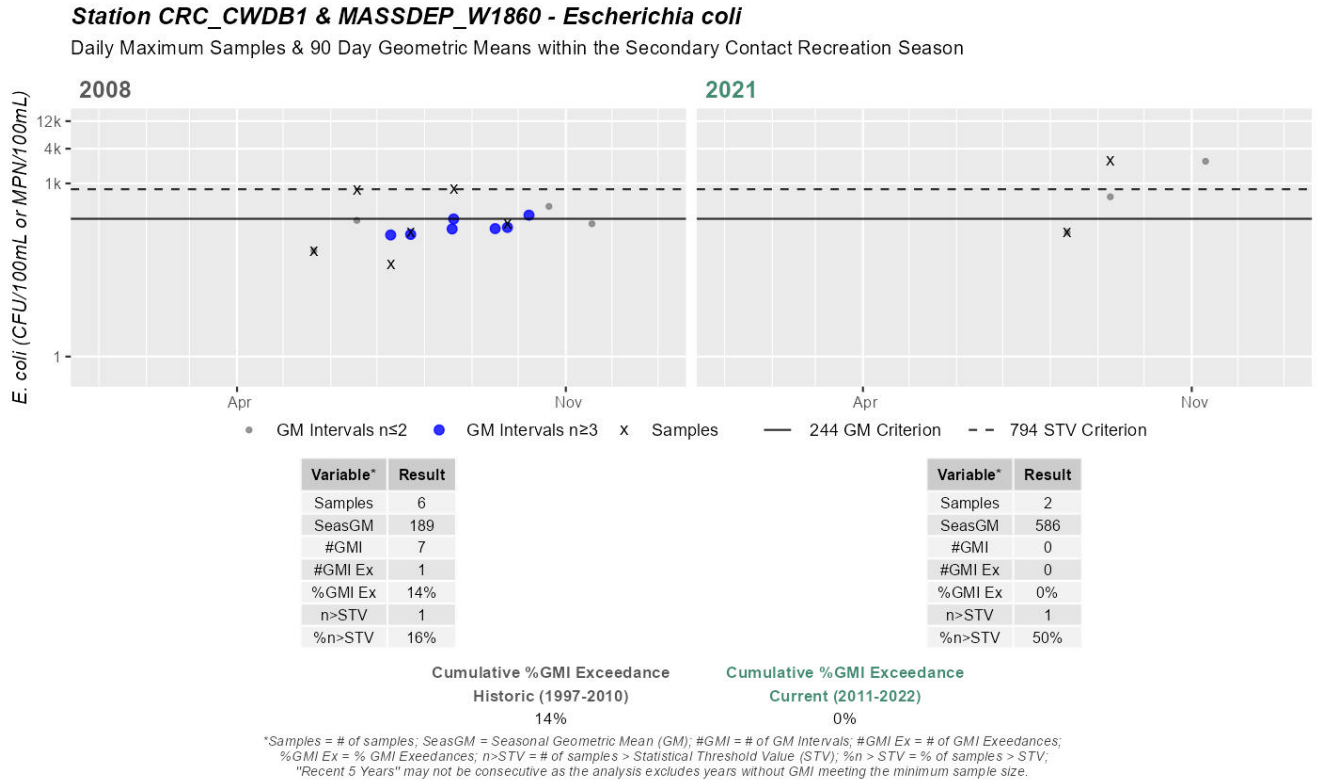
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWDB1	Connecticut River Conservancy	Water Quality	Danforth Brook	Danforth Brook	42.311950	-72.206940
W1860	MassDEP	Water Quality	Danforth Brook	[Route 32, Hardwick]	42.312165	-72.206996

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (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
CRC_CWDB1	Connecticut River Conservancy	E. coli	08/12/21	09/09/21	2	142	2419	586
W1860	MassDEP	E. coli	05/20/08	09/23/08	6	40	800	189



Dean Pond (MA36049)

Location:	Brimfield/Monson.
AU Type:	FRESHWATER LAKE
AU Size:	10 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	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 recently, so the Fish Consumption Use for Dean Pond (MA36049) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Dean Pond (MA36049) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Dean Pond (MA36049) continues to be assessed as Fully Supporting. Dean Pond (MA36049) has a beach with DPH Beach Closure data: Dean Pond (DCR) [Beach ID: 5180] beach in Brimfield. The beach was rarely, if at all, posted for swimming from 2018-2022.

Beach Postings

MDPH 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%
5180	Dean Pond Beach (DCR)/ Brimfield	42.10077, -72.27060	42.10034, -72.27010	0%	0%	64%	0%	0%	0%	0%	0%	0%	1

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Dean Pond (MA36049) continues to be assessed as Fully Supporting. Dean Pond (MA36049) has a beach with DPH Beach Closure data: Dean Pond (DCR) [Beach ID: 5180] beach in Brimfield. The beach was rarely, if at all, posted for swimming from 2018-2022.

Dean Pond (MA36050)

Location:	Oakham.
AU Type:	FRESHWATER LAKE
AU Size:	64 ACRES
Classification/Qualifier:	B

No usable data were available for Dean Pond (MA36050) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Algae	--	Unchanged
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Algae	Source Unknown (N)	--	--	X	X	X
Turbidity	Source Unknown (N)	--	--	X	X	X

Demond Pond (MA36051)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	120 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	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 recently, so the Fish Consumption Use for Demond Pond (MA36051) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Demond Pond (MA36051) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Demond Pond (MA36051) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Demond Pond (MA36051) at DCRWS_119 from Apr-Oct 2021 (n=15). Analysis of the single year high frequency *E. coli* dataset from DCRWS_119 indicated 0% of intervals had GMs >126 CFU/100ml and 0% of samples exceeded the 410 CFU/100ml STV. *E. coli* data from DCRWS_119 meet 2024 CALM guidance.

Monitoring Stations

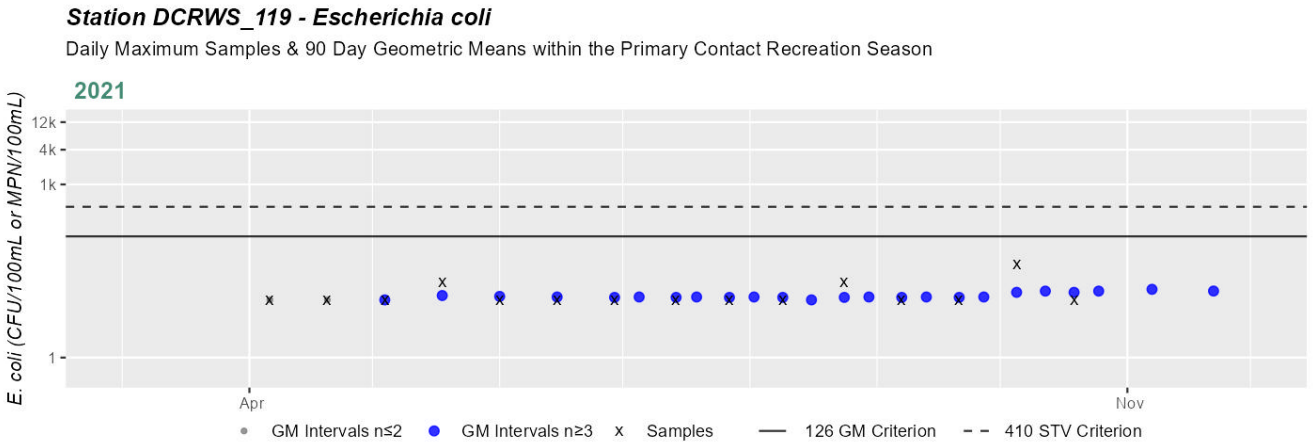
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_119	MA DCR Division of Water Supply Protection	Water Quality	Demond Pond	--	42.356724	-71.971425

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_119	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	41	12



Variable*	Result
Samples	15
SeasGM	12
#GMI	25
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Demond Pond (MA36051) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Demond Pond (MA36051) at DCRWS_119 from Jan-Dec 2021 (n=26). Analysis of the single year high frequency *E. coli* dataset from DCRWS_119 indicated 0% of intervals had GMs >244 CFU/100ml and 0% of samples exceeded the 794 CFU/100ml STV. *E. coli* data from DCRWS_119 meet 2024 CALM guidance.

Monitoring Stations

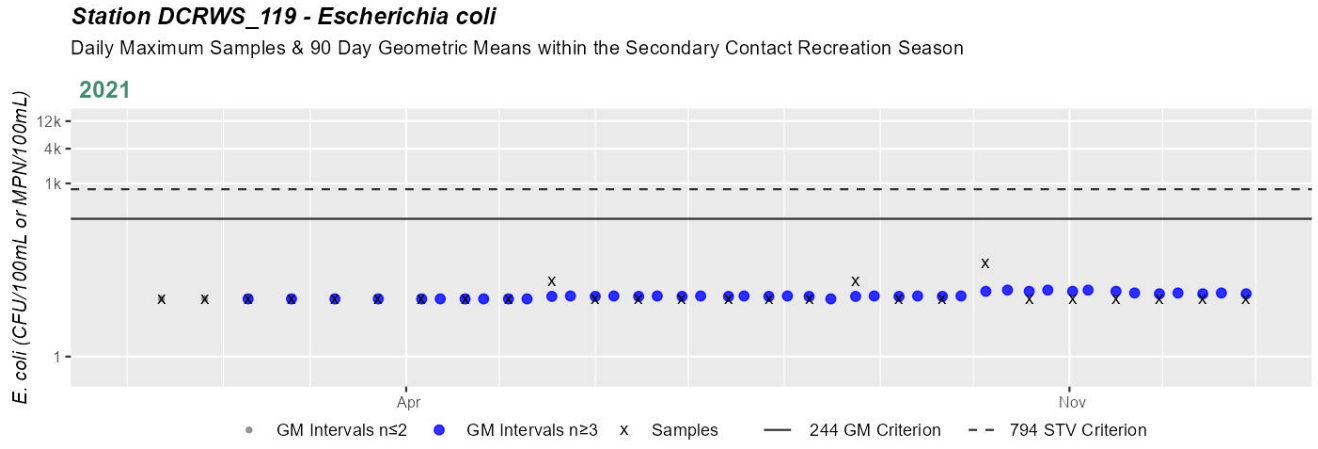
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_119	MA DCR Division of Water Supply Protection	Water Quality	Demond Pond	--	42.356724	-71.971425

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_119	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	41	11



Variable*	Result
Samples	26
SeasGM	11
#GMI	47
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Dimmock Pond (MA36053)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	9 ACRES
Classification/Qualifier:	B

No usable data were available for Dimmock Pond (MA36053) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Doane Pond (MA36054)

Location:	North Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	28 ACRES
Classification/Qualifier:	A: PWS, ORW

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Aquatic Plants (Macrophytes)*)	--	Changed
5	5	Nutrient/Eutrophication Biological Indicators	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Aquatic Plants (Macrophytes)*)	Source Unknown (N)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	--	--	X	X	X

Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Aquatic Plants (Macrophytes)	Not caused by a pollutant (4c)	As described in detail in the 2024 CALM guidance document the mapping of Aquatic Plants (Macrophytes) impairments as a pollutant is being reevaluated. Doane Pond (MA36054) was first listed as impaired for Noxious Aquatic Plants in 2002 and this cause was remapped to Aquatic Plants (Macrophytes) during the 2010 IR cycle (MassDEP 2022). The original impairment was based on an August 1998 synoptic survey conducted by MassDEP staff in which it was noted that 35-85% of the surface area at three observation sites on the pond were covered with dense or very dense aquatic plants. Two of the sites included the non-rooted, floating species, *Utricularia purpurea* or *Wolffia sp.* (MassDEP 1998, MassDEP 2002). Google Earth images from August 2016, September 2017 and July 2021 show plant coverage of roughly 25% (Google Earth Pro Undated). Nutrient/Eutrophication Biological Indicators is being added as an impairment based on the presence of two non-rooted, floating, aquatic macrophyte species. Additionally, Aquatic Plants (Macrophytes) is being delisted as a pollutant and added again as a non-pollutant since roughly 25% of the pond was covered in aquatic macrophytes in recent years.

Aquatic Plants (Macrophytes)

2002 WBS Coding Sheet (MassDEP 2002):

original ✓ LAKE, A

RSM E'JCR 25 June 02 6/11/02

(Printed 08/01/96)

WBID: MA 36054 WATERSHED: Chicopee (36)
NAME: Doane Pond TYPE: Lake/Pond
CODE: 36054 SIZE: 28 acres

CLASS: A/
ORW?: Yes or No
Water Supply?: Yes or No

LATITUDE:
LONGITUDE:
Lake/Pond Name:
Ecoregion Name:
Description:

Assessment Date: 0009 ✓ Begin Sampling: 9808 ✓ Water Quality Limited?: YES or NO
Cycle: 02 ✓ End Sampling: 9808 ✓ 303(d) List?: YES or NO

Lake Specific Information

	1999 ~~2002~~
Significantly Publicly Owned:	(Y) or N
Trophic Status:	O M E (H) D U
Trophic Trend:	I S D (U)
Acidity/Toxics Trend:	I S D (U)
Acidity Effects:	I V N (U)

Uses	Support	Threat	Partial	Non-Sup	Not-Asses	Not-Attain
OVERALL USE SUPPORT	11.0 ✓			17.0 ✓		
ALUS					28.0 ✓	
FISH CONSUMPTION					28.0 ✓	
PRIMARY CONTACT				17.0 ✓	11.0 ✓	
SECONDARY CONTACT	11.0 ✓			17.0 ✓		
DRINKING WATER					28.0	
Nondegradation - ORW	~~11.0~~			17.0 ✓	11.0	
Aesthetics	11.0 ✓			17.0 ✓		
ALUS Bio						
ALUS Chem/Phys						
ALUS Toxicity						

Nonattainment Causes

Code	Size	Magnitude

1999 ~~2002~~

Code	Size	Magnitude
0200	17.0	H ✓

Nonattainment Sources

Code	Size	Magnitude

1999 ~~2002~~

Code	Size	Magnitude
9000	17.0	H ✓

Assessment Type

1999 Assessment Category => (M) E NA

R 20, R 35

Media/Pollutants Assessed

1999 Toxics Monitoring => YES or (NO)

Comments:

1998 Synoptic Survey Field Sheet (MassDEP 1998):

A

LAKE/POND: DOANE POND SIZE (acres): 28 ac GIS 25K Lakes 8/23/00 RSM 31 PALIS NO. 36054

TOWN/CITY: NORTH BROOKFIELD USGS TOPO. SHEET: N. BROOKFIELD 7.5'15'

DATE: 8/27/98 WATERSHED: CHICOPEE OBSERVERS: HAYNES

ACCESS – Location [describe each observation site and assign sequential numbers (1, 2, 3, etc.) to use in subsequent records; be specific in descriptions (e.g., public boat ramp at west cove area off Simpson St., etc.)]

Site (1) Earthern Dam & Outlet adjacent to Oakham Road (Route 148)

Site (2) Along Pond Road, which parallels east shoreline

Site (3) North end of Pond @ Inlet along Pond Road

ACCESS – Type (for multiple observation sites use numbers in boxes that apply)

Formal Boat Ramp ☐☐☐ and/or Beach ☐☐☐ Informal Boat Ramp ☐☐☐ and/or Beach ☐☐☐

Park ☐☐☐ Conservation Area ☐☐☐ Right-of-Way: Road ☐ ☑ ☑ Other ☐☐☐

Other (describe): ☑ Dam and outlet structure

☑ Pond Road

☑ Pond Road

ACCESS -- Ownership (for multiple observation sites use numbers in boxes that apply)

Public ☐☐☐ Private ☐☐☐ Uncertain ☑ ☑ ☑

Names of Owners ☐ ____ No. & Street Name ☐ ____

☐ ____ No. & Street Name ☐ ____

☐ ____ No. & Street Name ☐ ____

SIGN POSTINGS --

☐☐☐ Warning: Stop Aquatic Plant Spread ☐☐☐ Fishing Advisory or Ban

☐☐☐ Public Access without Restrictions ☐☐☐ Public Access with Restrictions

Describe any restrictions (or other notes) ☐ ____

☐ ____

☐ ____

WATER /LAKE QUALITY OBSERVATIONS --

Turbidity: ☐☐☐ Slight ☑ ☑ ☐ Moderate ☐☐☐ Excessive (grey-colored water @ ☑ ☑)

Transparency: ☐☐☐ < 1.2 m.(4 ft.) ☑ ☑ ☑ > 1.2 m. (4 ft.) (Barely to water)

☑ ☑ ☑ Estimated visually

Diss. Organics: ☑☐☐ Slight ☐☐☐ Moderate ☐☐☐ Dark

☐☐☐ Measured w/ Secchi Disk ☐ ____ meters

☐ ____ meters

Algal Bloom: ☐☐☐ Slight ☐☐☐ Moderate ☐☐☐ Dense ☐ ____ meters

Bottom Type: ☑ ☑ ☐ Undecomposed matter ☑ ☑ ☐ Muck/silt ☐☐☑ Sand ☑☐☑ Gravel ☑ ☑ ☑ Cobble ☑ ☑ ☐ Boulders

☑ ☑ ☐ Vegetation Other ☑ fine organic layer ☑ ditto ☑ ditto

Other Observations: ☑ Fine organic matter coats submerged plants & boulders, water grey-colored

☑ " " " " " " " , water grey-colored

☑ " " " " " " " .

AESTHETICALLY OBJECTIONABLE -- Substances attributable to wastewater or other discharges (point or nonpoint) that:

☑ ☑ ☐ Settle to form objectionable deposits

Describe: Grey-brown organic matter

☐☐☐ Float as debris, scum or other matter to form a nuisance

Describe: ____

☐☐☐ Produce objectionable odor, color, taste, or turbidity

Describe: ____

☐☐☐ Produce undesirable nuisance species of aquatic life

Describe: ____

RECORD OF AQUATIC PLANT "SPECIES" OBSERVED --

NON-NATIVE WETLANDS SPECIES PRESENT: ☐☐☐ *Lythrum Salicaria* ☐☐☐ *Phragmites* sp.

NON-NATIVE AQUATIC SPECIES PRESENT: ☐☐☐ *Butomus umbellatus* ☐☐☐ *Cabomba caroliniana* ☐☐☐ *Egeria densa*

☐☐☐ *Eichornia crassipes* ☐☐☐ *Hydrilla verticillata* ☐☐☐ *Hydrocharis morsus-ranae* ☐☐☐ *Marsilea quadrifolia*

☐☐☐ *Myriophyllum aquaticum* ☐☐☐ *Myriophyllum heterophyllum* ☐☐☐ *Myriophyllum spicatum*

☐☐☐ *M.* sp. (*M. heterophyllum* requiring further confirmation when flowering heads are evident) _____

☐☐☐ *Najas minor* ☐☐☐ *Nelumbo lutea* ☐☐☐ *Nymphoides peltata* ☐☐☐ *Potamogeton crispus* ☐☐☐ *Trapa natans*

NATIVE SPECIES POPULATIONS:

Emergent Plants	Floating Leaf Plants	Submergent Plants
☑☑☑ Pontederia cordata	☑☐☐ Nuphar variegatum	☑☑☐ U. vulgaris (Huge plants)
☑☑☐ Scirpus sp.	☑☑☑ Nymphaea sp.	☑☑☑ Myriophyllum sp
☑☑☐ Sparganium sp.	☑☑☑ Brasenia schreberi	☑☐☐ Ludwigia sp.
☑☐☑ Typha latifolia	☐☐☐	☑☐☐ Eleocharis sp. (submersed)
☑☑☐ Peltandra virginica	☐☐☐	☐☑☐ U. purpurea
☑☑☑ Sagittaria sp	☐☐☐	☐☐☑ watermeal Wolffia (?)
☑☑☐ various sedges & grasses	☐☐☐	☐☑☑ (?) Hypericum boreale (*)
☐☐☐	☐☐☐	☑☑☐ Small, floating petaloid seum
☐☐☐	☐☐☐	☐☐☐ (present, but uncommon)
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐

AQUATIC PLANT DENSITY – ≥ 40% @ II ≥ 35-40% @ I

Percent of suface area (at observation site) with dense (50 - 75 %) aquatic plant cover ☐ ____ % ☑ 50 % ☐ ____ %

Forms [(E)mergent, (F)loating, or (S)ubmerent] present ☐ _____ ☑ (F) E S ☐ _____

Percent of surface area (observation site) with very dense (75 - 100 %) plant cover ☐ ____ % ☐ ____ % ☑ 75 %

Forms [(E)mergent, (F)loating, or (S)ubmerent) present ☐ _____ ☐ _____ ☑ (F) E S

Percent of entire lake surface covered with dense or very dense aquatic plants ____ % Forms _____

Describe locations of dense and/or very dense plant beds North end of pond @ Pond Road (Myriophyllum sp abundant here). Nymphaea is predominant. Nymphaea sp predominate @ South end of pond too

Loss of open water habitat over entire lake (estimated): ☐ >90 - 100 % ☐ >60 - 90 % ☑ >25 (60 %) ☐ ≤ 25 %

ASSESSMENTS --

TROPHIC STATUS ESTIMATE: ☐ Oligotrophic ☐ Mesotrophic ☐ Eutrophic ☑ Hypereutrophic ☐ Dystrophic ☐ Undetermined

305(b) USE IMPAIRMENT ASSESSMENTS (Acres):

USES	Full Support	Threatened	Partial Support	Non-support	Not Assessed	Not Attainable
Aquatic Life					28.0	
Fish Consumption					28.0	
Primary Contact				17.0	11.0	
Secondary Contact	11.0			17.0		
Aesthetics	11.0			17.0		

CAUSES: ☑ Noxious plants (2200) – Size 17.0 acres / Magnitude H ☐ Exotic plants (2600) -- Size _____ acres / Magnitude ____
☐ Turbidity (2500) -- Size _____ acres / Magnitude ____ ☐ Flow alteration (1500) -- Size _____ acres / Magnitude ____
☐ Metals (0500) ☐ Hg (0501) -- Size _____ acres / Magnitude ____ ☐ Siltation (1100) -- Size _____ acres / Magnitude ____
☐ _____ ( ) – Size _____ acres / Magnitude ____ ☐ _____ ( ) – Size _____ acres / Magnitude ____

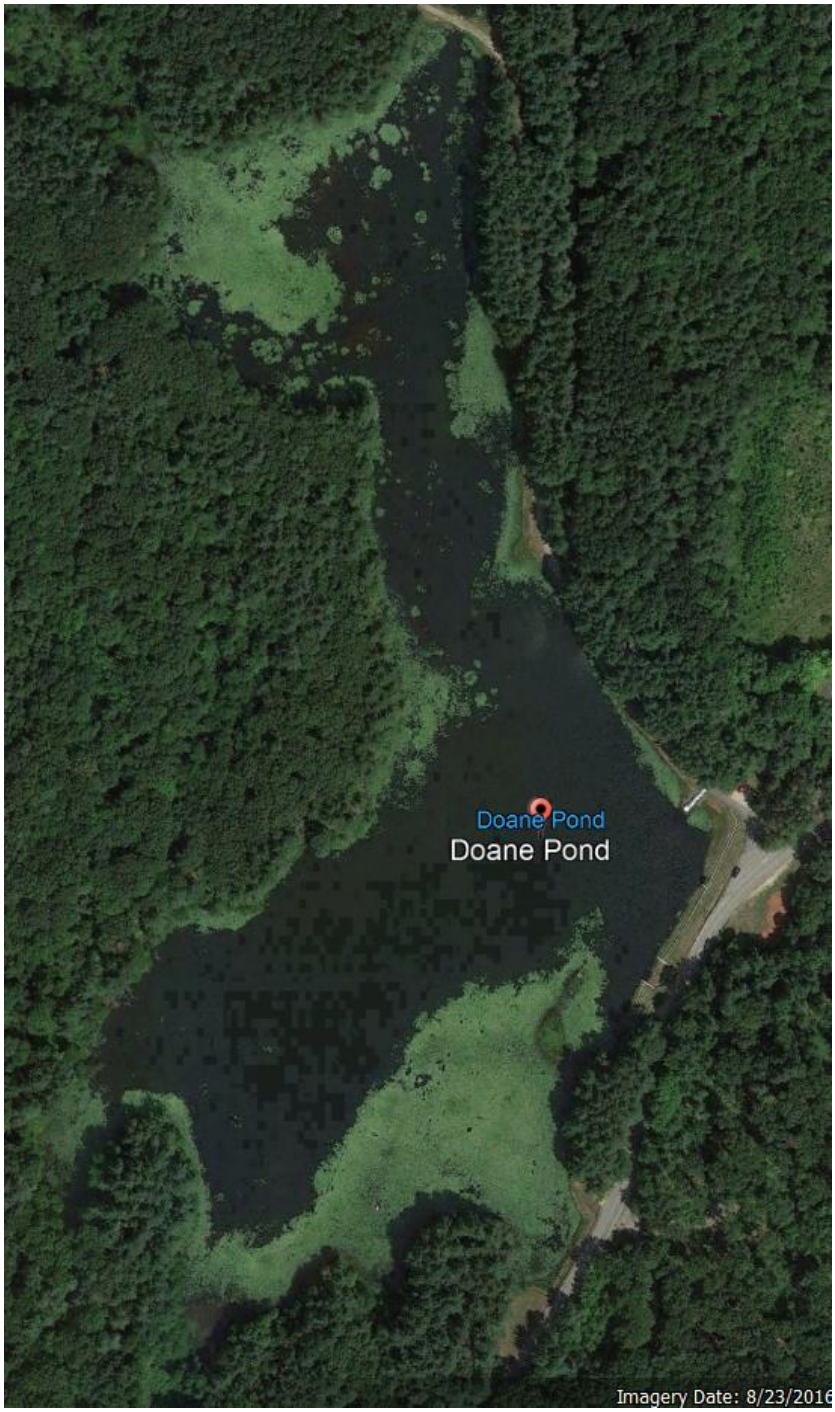
SOURCES: Describe any obvious sources of impairment _____

(*) About life-size. Plants 4" to 5" tall. Erect in water; not rigid out of water. Lacks petiole.

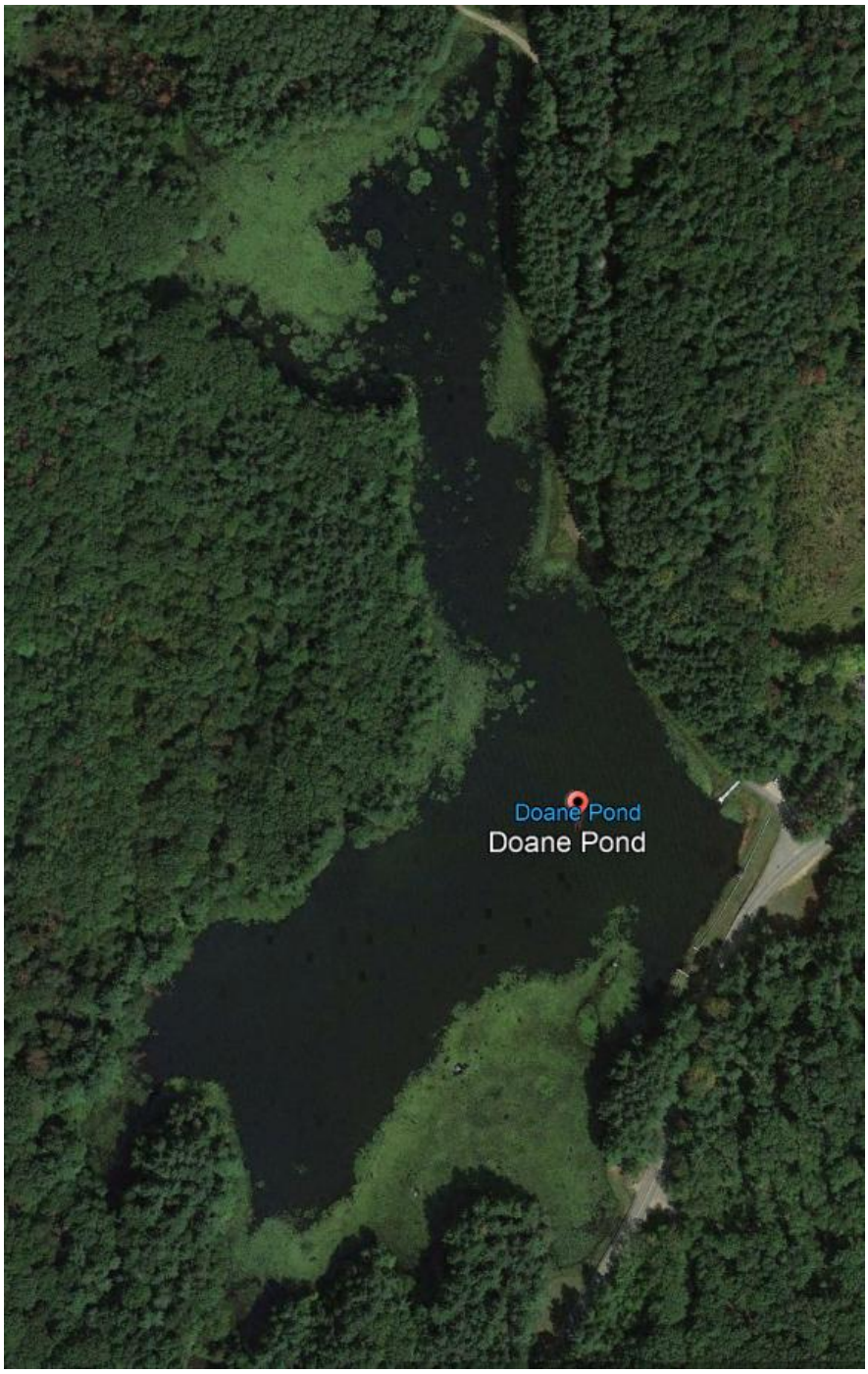
Google Earth image of Doane Pond, 3/31/2005 (Google Earth Pro Undated):



Google Earth image of Doane Pond, 8/23/2016 (Google Earth Pro Undated):



Google Earth image of Doane Pond, 9/12/2017 (Google Earth Pro Undated):


Doane Pond
Doane Pond

Google Earth image of Doane Pond, 7/26/2021 (Google Earth Pro Undated):



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, so the Fish Consumption Use for Doane Pond (MA36054) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Doane Pond (MA36054) continues to be assessed as Not Supporting. The prior pollutant Aquatic Plants (Macrophytes) impairment is being removed and replaced with a non-pollutant Aquatic Plants (Macrophytes) impairment. Additionally, a Nutrient/Eutrophication Biological Indicators impairment is being added. As described in detail in the 2024 CALM guidance document the mapping of Aquatic Plants (Macrophytes) impairments as a pollutant is being reevaluated. Doane Pond (MA36054) was first listed as impaired for Noxious Aquatic Plants in 2002 and this cause was remapped to Aquatic Plants (Macrophytes) during the 2010 IR cycle (MassDEP 2022). The original impairment was based on an August 1998 synoptic survey conducted by MassDEP staff in which it was noted that 35-85% of the surface area at three observation sites on the pond were covered with dense or very dense aquatic plants. Two of the sites included the non-rooted, floating species, *Utricularia purpurea* or *Wolffia sp.* (MassDEP 1998, MassDEP 2002). Google Earth images from August 2016, September 2017 and July 2021 show plant coverage of roughly 25% (Google Earth Pro Undated). Nutrient/Eutrophication Biological Indicators is being added as an impairment based on the presence of two non-rooted, floating, aquatic macrophyte species. Additionally, Aquatic Plants (Macrophytes) is being delisted as a pollutant and added again as a non-pollutant since roughly 25% of the pond was covered in aquatic macrophytes in recent years. No new data are available to evaluate the Aesthetics Use for this Doane Pond AU.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Doane Pond (MA36054) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior pollutant Aquatic Plants (Macrophytes) impairment is being removed and replaced with a non-pollutant Aquatic Plants (Macrophytes) impairment. In addition, a Nutrient/Eutrophication Biological Indicators impairment is being added (from the Aesthetics Use).

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

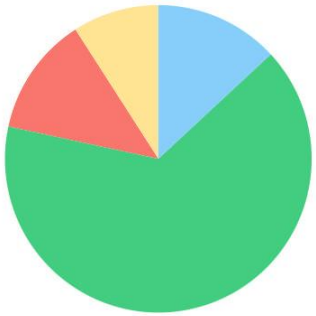
2024/26 Use Attainment Summary
No bacteria or other indicator data for Doane Pond (MA36054) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior pollutant Aquatic Plants (Macrophytes) impairment is being removed and replaced with a non-pollutant Aquatic Plants (Macrophytes) impairment. In addition, a Nutrient/Eutrophication Biological Indicators impairment is being added (from the Aesthetics Use).

Dunn Brook (MA36-19)

Location:	From confluence with Forget-Me-Not Brook, East Brookfield/Brookfield to mouth at confluence with Quaboag River, Brookfield.
AU Type:	RIVER
AU Size:	2.4 MILES
Classification/Qualifier:	B: WWF

Dunn Brook (MA36-19)

Watershed Area: 6.75 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	6.75	4.27	3.09	2.30
Agriculture	9.1%	7.3%	5.9%	4.4%
Developed	12.5%	11%	9.3%	9.8%
Natural	65.3%	64.4%	62.9%	60.3%
Wetland	13.1%	17.3%	21.9%	25.5%
Impervious	4.4%	3.3%	3.3%	3.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged
5	5	Phosphorus, Total	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Phosphorus, Total	Municipal Point Source Discharges (Y)	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 recently, so the Fish Consumption Use for Dunn Brook (MA36-19) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for Dunn Brook (MA36-19), so it is Not Assessed. Since the prior Alert identified for Total Phosphorus concentrations was redundantly duplicated across multiple uses for this waterbody, it is being removed from the Aesthetics Use but will continue to be maintained as an impairment under the Aquatic Life Use.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Dunn Brook (MA36-19) are available, so the Primary Contact Recreation Use is Not Assessed. The prior Alert identified for Total Phosphorus (from Aesthetics Use) is being removed but will continue to be maintained as an impairment under the Aquatic Life Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No bacteria or other indicator data for Dunn Brook (MA36-19) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. The prior Alert identified for Total Phosphorus (from Aesthetics Use) is being removed but will continue to be maintained as an impairment under the Aquatic Life Use. MassDEP staff collected *E. coli* bacteria samples in Dunn Brook (MA36-19) from 2003-2008 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1873 [~350 ft upstream of the Rt. 9 crossing, E Brookfield] from May-Sep 2008 (n=6), W1042 [Quaboag St, Brookfield] from Apr-Oct 2003 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1873 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 103 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1042 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 37 CFU/100ml. Historic *E. coli* data from W1042 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Historic *E. coli* data from W1873 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1042	MassDEP	Water Quality	Dunn Brook	[Quaboag Street, Brookfield]	42.211564	-72.080315
W1873	MassDEP	Water Quality	Dunn Brook	[approximately 350 feet upstream of the Route 9 crossing, East Brookfield]	42.215405	-72.078248

Bacteria Data

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

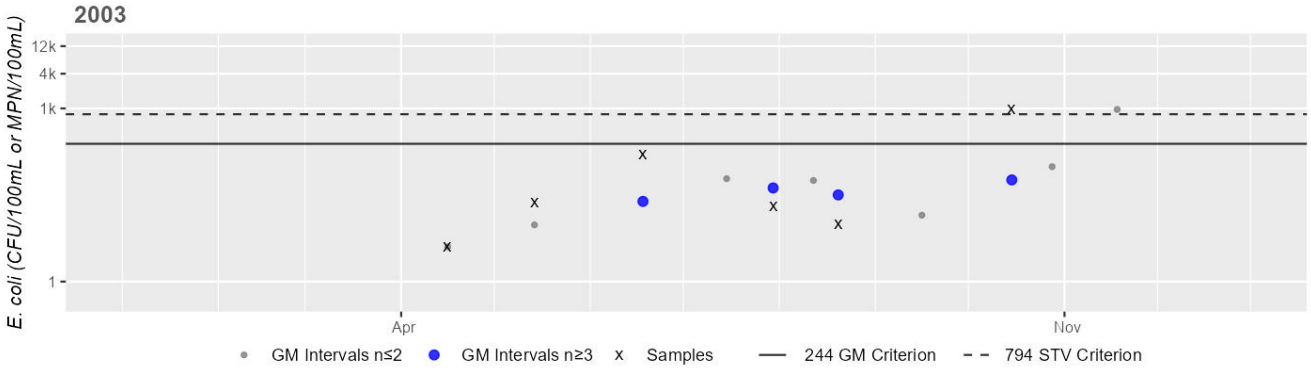
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1042	MassDEP	E. coli	04/16/03	10/15/03	6	4	960	37
W1873	MassDEP	E. coli	05/20/08	09/23/08	6	20	640	103

Station MASSDEP_W1042 - Escherichia coli

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



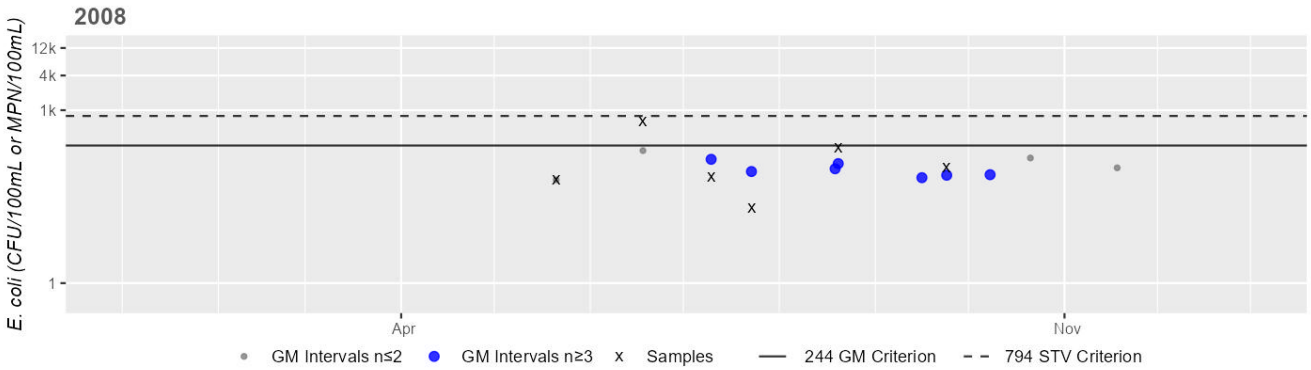
Variable*	Result
Samples	6
SeasGM	37
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1873 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	103
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Eames Pond (MA36056)

Location:	Paxton.
AU Type:	FRESHWATER LAKE
AU Size:	58 ACRES
Classification/Qualifier:	B

No usable data were available for Eames Pond (MA36056) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged

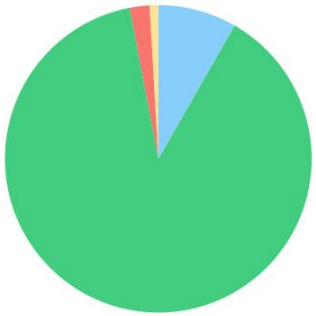
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--

East Branch Fever Brook (MA36-47)

Location:	Headwaters, outlet Brooks Pond, Petersham to mouth at inlet Quabbin Reservoir, Petersham.
AU Type:	RIVER
AU Size:	5.2 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

East Branch Fever Brook (MA36-47)

Watershed Area: 8.74 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.74	3.92	1.78	0.81
Agriculture	0.9%	0.3%	0.2%	0.1%
Developed	2.1%	0.5%	1%	0.4%
Natural	88.7%	92.3%	80.4%	81.6%
Wetland	8.3%	6.9%	18.4%	18%
Impervious	0.8%	0.3%	0.6%	0.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Recommendations

2024/26 Recommendations
2024 IR [E. COLI, MEDUM] Additional monitoring is recommended at {DCRWS_215} due to elevated *E. coli* concentrations in 2016.

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, so the Fish Consumption Use for East Branch Fever Brook (MA36-47) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for East Branch Fever Brook (MA36-47), so it is Not Assessed

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for East Branch Fever Brook (MA36-47) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in East Branch Fever Brook (MA36-47) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_215 [E Branch Fever Brook] from 2011-2020 (n=4-16/yr), DCRWS_215G [E. Fever Bk at Camels Hump Rd] from 2013, 2017, and 2021-2022 (n=15-16/yr), DCRWS_215F [E Br Fever Bk & Dugway Rd] from 2013, 2017, and 2022 (n=14-16/yr). Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_215 indicated 1 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2016, 55%), 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2016, 12%), and cumulatively across years 14% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215G indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215F indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 2% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_215, DCRWS_215, DCRWS_215, DCRWS_215, DCRWS_215, DCRWS_215G, and DCRWS_215F meet 2024 CALM guidance. An Alert is being identified for elevated *Escherichia coli* concentrations at DCRWS_215.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_215	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	East Branch Fever Brook	42.488014	-72.216407
DCRWS_215F	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	E Br Fever Bk & Dugway Rd	42.462336	-72.245750
DCRWS_215G	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	E. Fever Bk at Camels Hump Road	42.480010	-72.224125

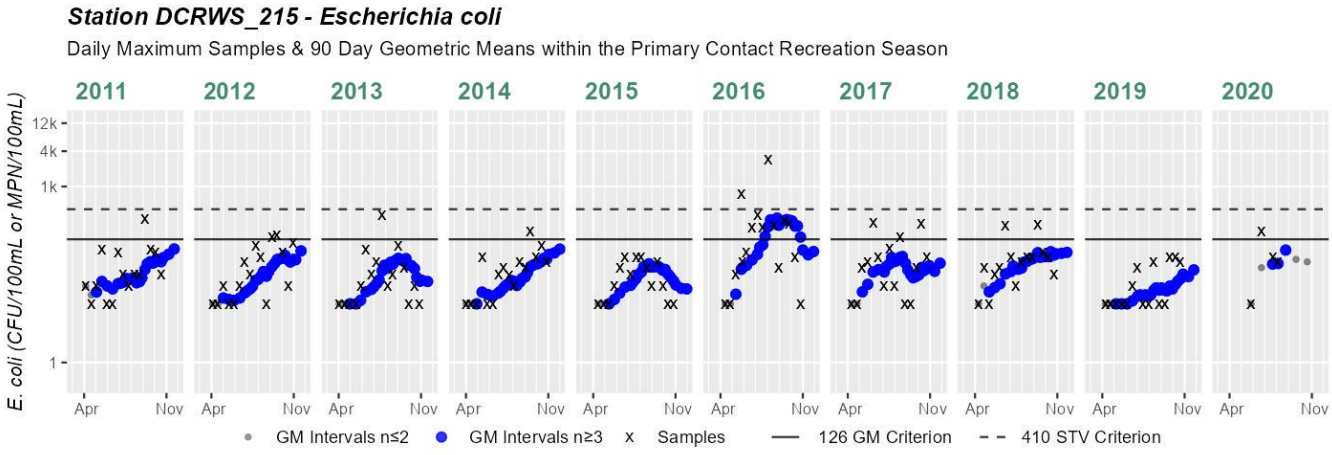
Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	279	33
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	148	32
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	323	26
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	169	30
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	15	10	63	24
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	16	10	2910	100
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	241	39
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	15	10	223	46
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	63	18
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	05/26/20	08/04/20	4	10	171	48
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	231	19

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	464	33
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	14	10	906	51
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	63	13
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	448	25
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	85	26
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	15	10	359	33



Variable*	Result
Samples	15
SeasGM	33
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	32
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	26
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	30
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	24
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	100
#GMI	27
#GMI Ex	15
%GMI Ex	55%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	15
SeasGM	39
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	46
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	18
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	48
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

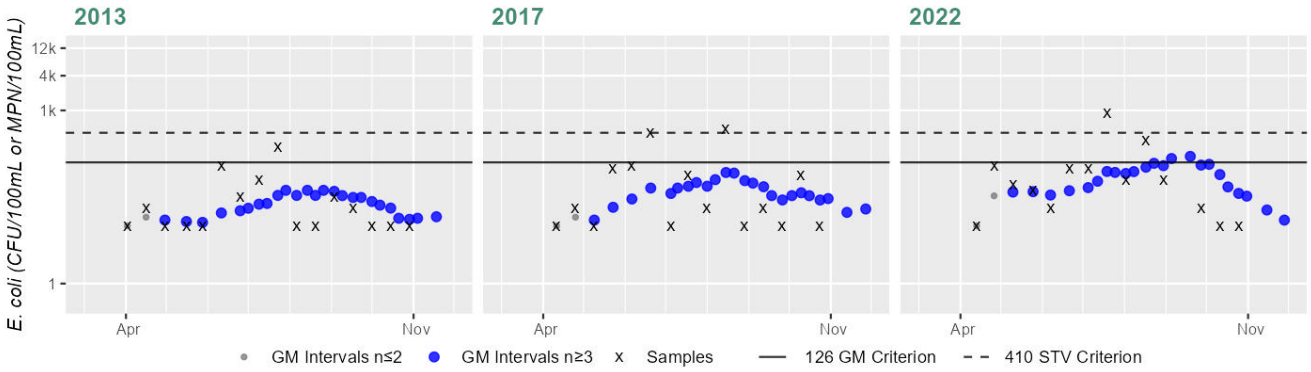
Cumulative %GMI Exceedance Current (2011-2022)
6%

Cumulative %GMI Exceedance Current (Recent 5 Years)
14%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_215F & MASSDEP_W2022 - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	19
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	33
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

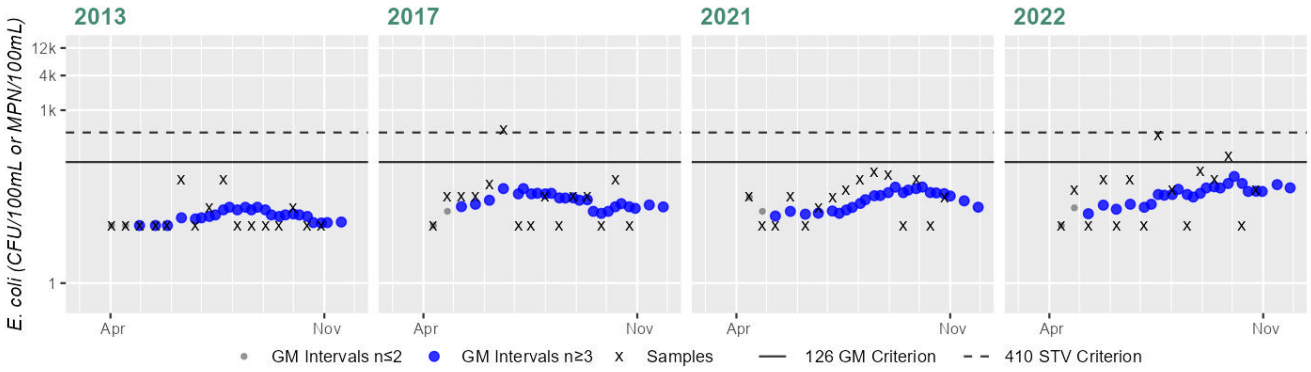
Variable*	Result
Samples	14
SeasGM	51
#GMI	23
#GMI Ex	2
%GMI Ex	8%
n>STV	1
%n>STV	7%

Cumulative %GMI Exceedance
Current (2011-2022)
2%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_215G - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	13
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	25
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	26
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	33
#GMI	25
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for East Branch Fever Brook (MA36-47) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in East Branch Fever Brook (MA36-47) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_215 [E Branch Fever Brook] from 2008-2010 (historic n=26-27/yr) and 2011-2020 (current n=11-27/yr), DCRWS_215G [E. Fever Bk at Camels Hump Rd] from 2013, 2017, and 2021-2022 (n=24-26/yr), DCRWS_215F & W2022 [at old dam, ~50 ft upstream of unnamed trail/Rd crossing NE of Rattlesnake Hill, Petersham & E Br Fever Bk & Dugway Rd] from Apr-Dec 2008 (historic n=25-27/yr) and 2013, 2017, and 2022 (current n=25-26/yr). Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_215 indicated 1 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml (2016, 16%), 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 4% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215G indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215F & W2022 indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_215, DCRWS_215G, and DCRWS_215F & W2022 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_215	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	East Branch Fever Brook	42.488014	-72.216407
DCRWS_215F	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	E Br Fever Bk & Dugway Rd	42.462336	-72.245750

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_215G	MA DCR Division of Water Supply Protection	Water Quality	East Branch Fever River	E. Fever Bk at Camels Hump Road	42.480010	-72.224125
W2022	MassDEP	Water Quality	East Branch Fever Brook	[at old dam, approximately 50 feet upstream of unnamed trail/road crossing northeast of Rattlesnake Hill, Petersham]	42.462583	-72.245617

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

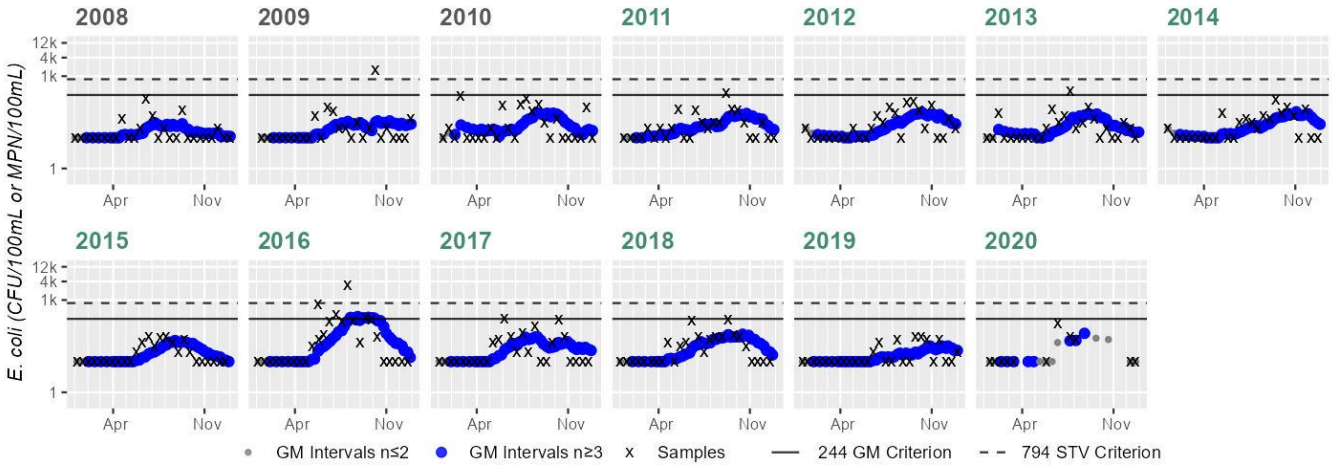
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	27	10	187	14
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	1520	18
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	223	23
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	26	10	279	21
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	148	22
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	323	20
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	169	22
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	26	10	63	16
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	27	10	2910	39
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	26	10	241	22
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	26	10	223	24

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/31/19	27	10	63	15
DCRWS_215	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	11	10	171	17
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	25	10	131	16
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	231	18
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	25	10	464	23
DCRWS_215F	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	25	10	906	29
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	24	10	63	13
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	24	10	448	19
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	25	10	85	17
DCRWS_215G	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	26	10	359	20
W2022	MassDEP	E. coli	07/01/08	12/02/08	2	20	40	28

Station DCRWS_215 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	14
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	20
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	16
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	39
#GMI	49
#GMI Ex	8
%GMI Ex	16%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	15
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

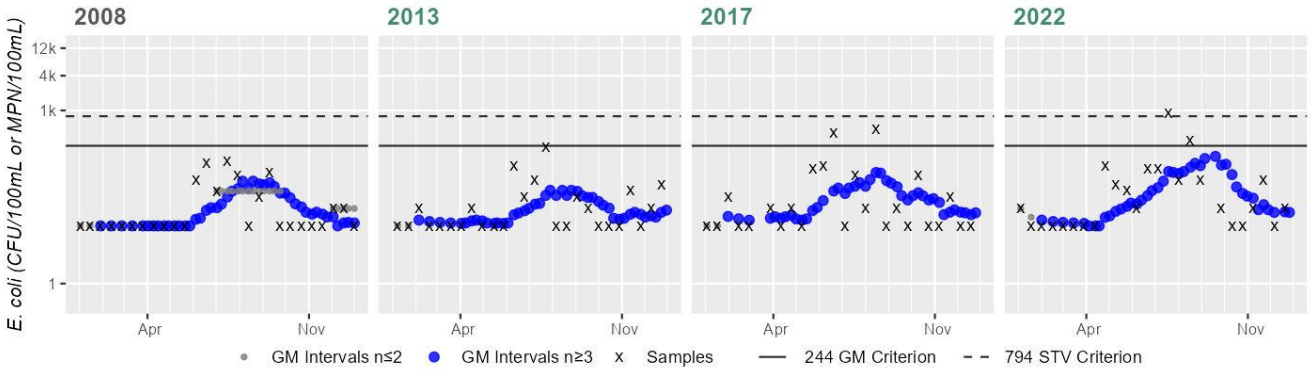
Variable*	Result
Samples	11
SeasGM	17
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)	Cumulative %GMI Exceedance Current (2011-2022)	Cumulative %GMI Exceedance Current (Recent 5 Years)
0%	1%	4%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_215F & MASSDEP_W2022 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	17
#GMI	48
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	23
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	29
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

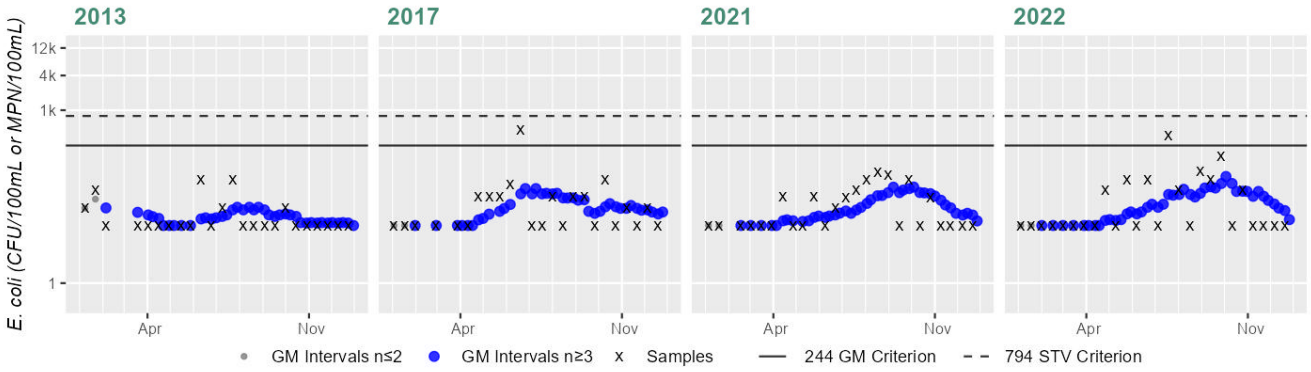
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_215G - Escherichia coli

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



Variable*	Result
Samples	24
SeasGM	13
#GMI	43
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	24
SeasGM	19
#GMI	43
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	17
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	20
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

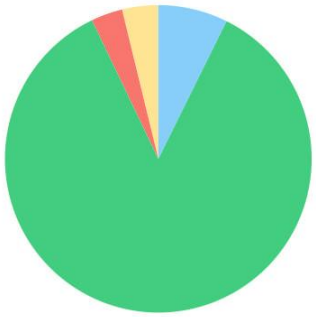
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

East Branch Swift River (MA36-35)

Location:	Headwaters, confluence of Shattuck and Popple Camp brooks, Phillipston to mouth at inlet Pottapaug Pond, Petersham (through former 2008 segment: Connor Pond MA36039).
AU Type:	RIVER
AU Size:	9.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

East Branch Swift River (MA36-35)

Watershed Area: 33.16 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	33.16	10.04	7.51	2.63
Agriculture	3.8%	1.9%	2.3%	1.6%
Developed	3.3%	3.4%	2.3%	2.2%
Natural	85.5%	87.7%	79.8%	83.3%
Wetland	7.3%	7%	15.7%	13%
Impervious	1.3%	1.2%	0.9%	0.9%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for East Branch Swift River (MA36-35) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for East Branch Swift River (MA36-35), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for the East Branch Swift River (MA36-35) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the East Branch Swift River (MA36-35) from 2011-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_216D [Connor Pond Outlet] from 2014-2015, 2018, and 2020 (n=10-16/yr), DCRWS_216 [E. Br Swift River & Rte 32A] from 2011-2022 (n=10-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_216D indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2020, 10%), and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_216 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2020, 10%), and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_216D and DCRWS_216 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_216	MA DCR Division of Water Supply Protection	Water Quality	East Branch Swift River	E. Br Swift River & Rte 32A	42.438062	-72.207055
DCRWS_216D	MA DCR Division of Water Supply Protection	Water Quality	East Branch Swift River	Connor Pond Outlet	42.460745	-72.164898

Bacteria Data

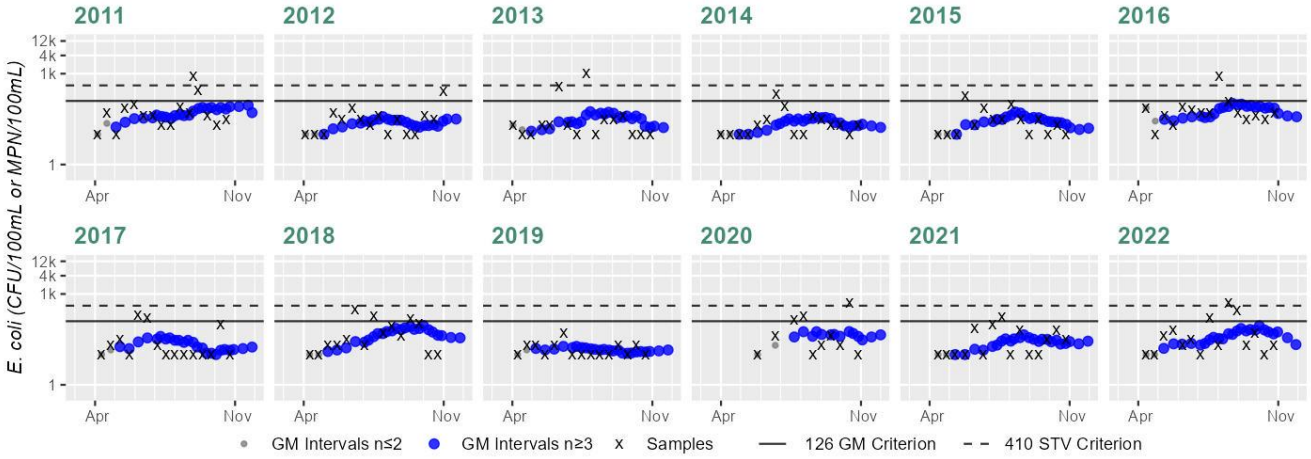
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

[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
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	16	10	836	47
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	256	25
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	1010	24
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	206	20
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	15	10	187	23
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	15	10	836	53
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	203	20
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	15	10	295	37
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	52	14
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	487	39
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	173	23
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	15	10	504	35
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	754	27
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	15	10	173	15
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	15	10	384	48
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	521	21

Station DCRWS_216 & MASSDEP_W2025 - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	47
#GMI	26
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	25
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	24
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	20
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	23
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	53
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	20
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	37
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	14
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	39
#GMI	15
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	10%

Variable*	Result
Samples	15
SeasGM	23
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	35
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

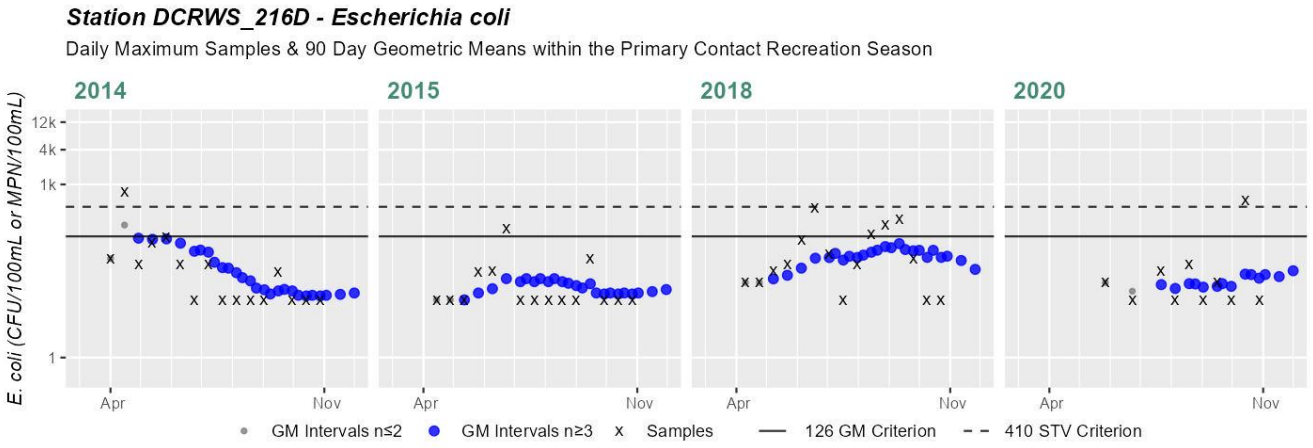
Cumulative %GMI Exceedance Current (2011-2022)

0%

Cumulative %GMI Exceedance Current (Recent 5 Years)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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	16
SeasGM	27
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	15
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	48
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	21
#GMI	15
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	10%

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

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the East Branch Swift River (MA36-35) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the East Branch Swift River (MA36-35) from 2008-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_216D [Connor Pond Outlet] from Jan-Dec 2010 (historic n=26) and 2014-2015, 2018, and 2020 (current n=19-26/yr), DCRWS_216 & W2025 [Rt. 32A (Hardwick Rd), Petersham & E. Br Swift River & Rte 32A] from 2008-2010 (historic n=26/yr) and 2011-2022 (current n=19-27/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_216D indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_216 & W2025 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_216D and DCRWS_216 & W2025 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_216	MA DCR Division of Water Supply Protection	Water Quality	East Branch Swift River	E. Br Swift River & Rte 32A	42.438062	-72.207055
DCRWS_216D	MA DCR Division of Water Supply Protection	Water Quality	East Branch Swift River	Connor Pond Outlet	42.460745	-72.164898
W2025	MassDEP	Water Quality	East Branch Swift River	[Route 32A (Hardwick Road), Petersham]	42.438162	-72.207324

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

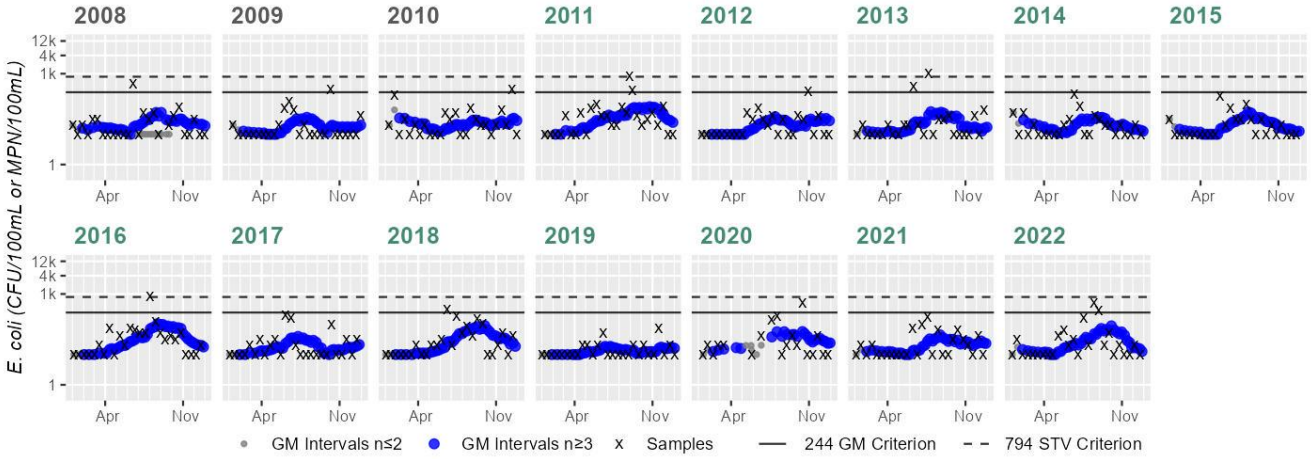
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	25	10	473	19
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	309	16
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	292	23
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	27	10	836	31
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	256	18
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	1010	20
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	206	18
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	26	10	187	17

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	26	10	836	27
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	26	10	203	17
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	26	10	295	25
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/31/19	27	10	74	13
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	487	24
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	173	18
DCRWS_216	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	26	10	504	22
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	554	26
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	754	23
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	26	10	173	13
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	26	10	384	38
DCRWS_216D	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	521	20
W2025	MassDEP	E. coli	07/01/08	07/01/08	1	10	10	10

Station DCRWS_216 & MASSDEP_W2025 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	16
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	31
#GMI	48
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	20
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	13
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	24
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

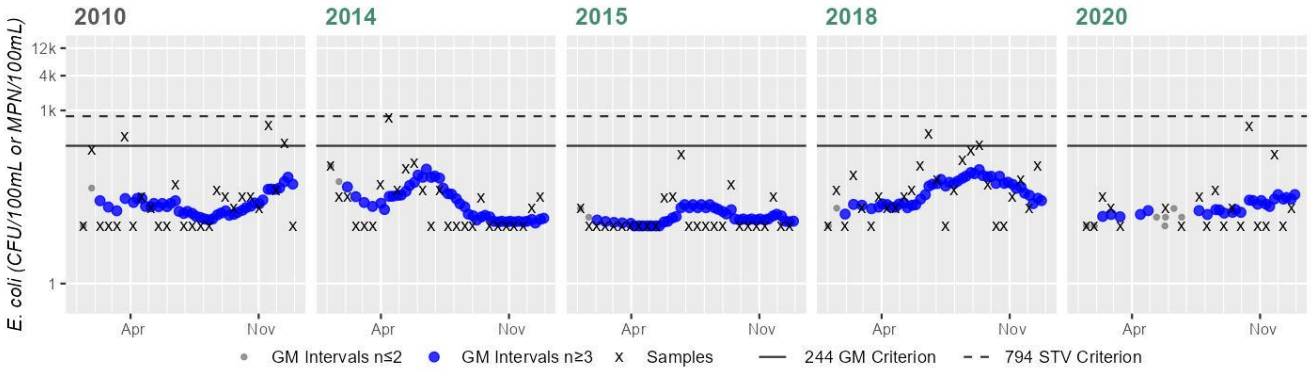
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_216D - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	26
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	13
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	38
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	20
#GMI	28
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

East Branch Ware River (MA36-01)

Location:	Headwaters, outlet Bickford Pond, Hubbardston to mouth at confluence with West Branch Ware River (forming headwaters of Ware River), Barre.
AU Type:	RIVER
AU Size:	12.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

East Branch Ware River (MA36-01)

Watershed Area: 38.17 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	38.17	10.24	23.97	6.61
Agriculture	2.5%	1.4%	1.6%	0.8%
Developed	6.7%	3.8%	5.3%	3.3%
Natural	76%	75%	72.4%	69.3%
Wetland	14.7%	19.8%	20.7%	26.7%
Impervious	2.9%	1.6%	2.5%	1.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)	--	Added
2	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
PFAS in Fish Tissue	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 the East Branch Ware River (MA36-01) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the East Branch Ware River (referred to by MDPH as ''Ware River'') in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for East Branch Ware River (referred to by MDPH as Ware River) in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for the East Branch Ware River (MA36-01).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for East Branch Ware River (MA36-01), so it 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 the East Branch Ware River (MA36-01) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at DCRWS_108A. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the East Branch Ware River (MA36-01) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_108C [E Branch Ware River Bickford at Lombard Rd] from 2011, 2015, and 2019-2020 (n=7-16/yr), DCRWS_108A [E Branch Ware River at Rt. 68] from 2011, 2015, and 2019-2020 (n=9-16/yr), DCRWS_108 [E Branch Ware River] from 2011-2022 (n=9-17/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_108C indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2020, 14%), and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_108A indicated 2 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2011 and 2015, 52 & 25%), 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2020, 11%), and cumulatively across years 22% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_108 indicated 1 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2018, 25%), 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 5% of intervals had GMs >126 CFU/100ml. While *E. coli* data from DCRWS_108C and DCRWS_108 meet 2024 CALM guidance, *E. coli* data from DCRWS_108A are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_108	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	East Branch Ware River	42.403814	-71.991138
DCRWS_108A	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	Route 68	42.430130	-71.974961
DCRWS_108C	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	Bickford	42.481512	-71.937890

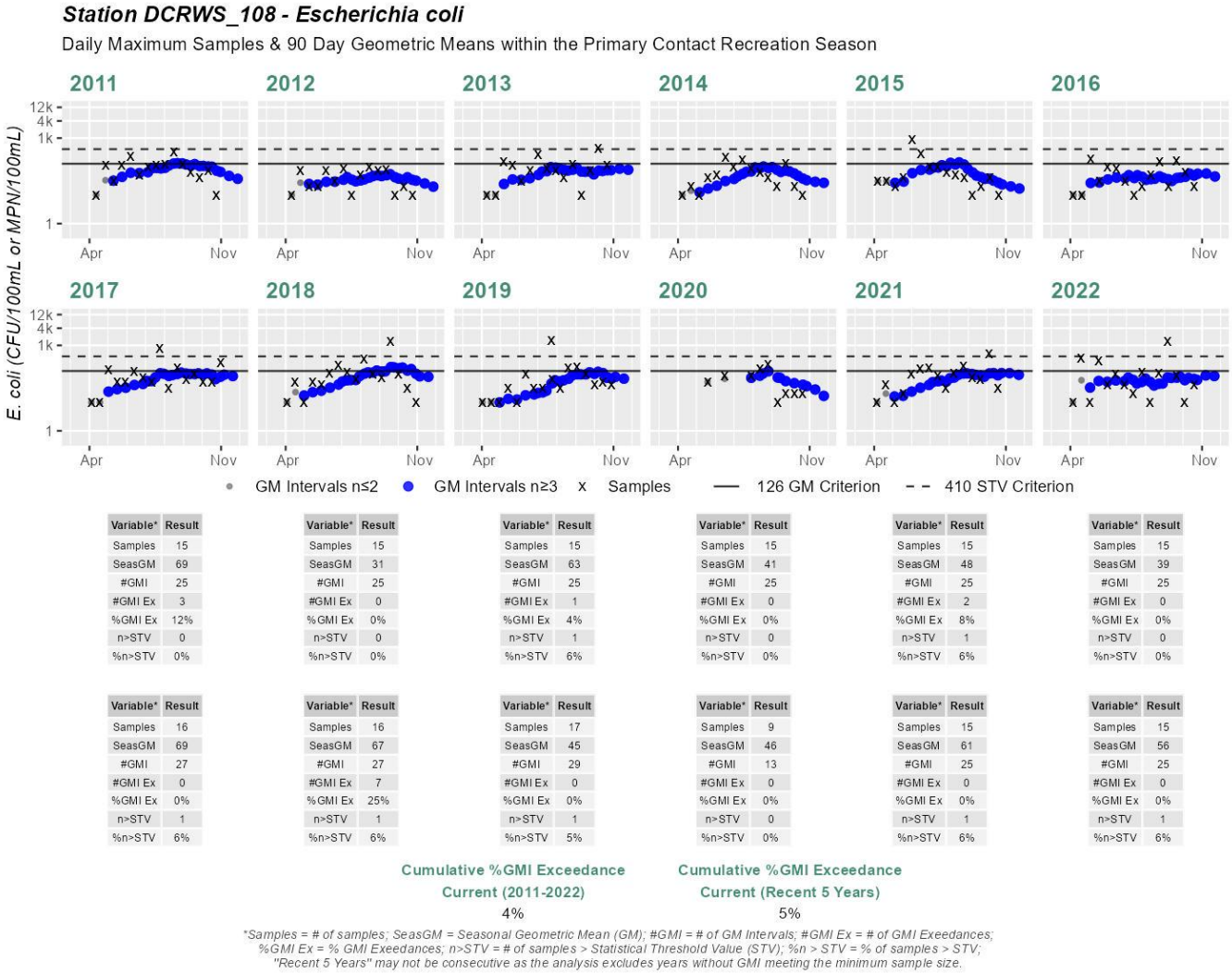
Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	10	331	69
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	98	31
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	441	63
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	216	41
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	905	48
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	189	39
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	794	69
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	1350	67
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	17	10	1470	45
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	10	218	46
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	495	61
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	1400	56
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	20	12000	98
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	16	10	1190	61
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	323	42
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	20	420	56
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	10	52	14

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	148	17
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	262	17
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	7	10	1350	23



Variable*	Result
Samples	15
SeasGM	69
#GMI	25
#GMI Ex	3
%GMI Ex	12%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	31
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	63
#GMI	25
#GMI Ex	1
%GMI Ex	4%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	41
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	48
#GMI	25
#GMI Ex	2
%GMI Ex	8%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	39
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	69
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	67
#GMI	27
#GMI Ex	7
%GMI Ex	25%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	17
SeasGM	45
#GMI	29
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	9
SeasGM	46
#GMI	13
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	61
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	56
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

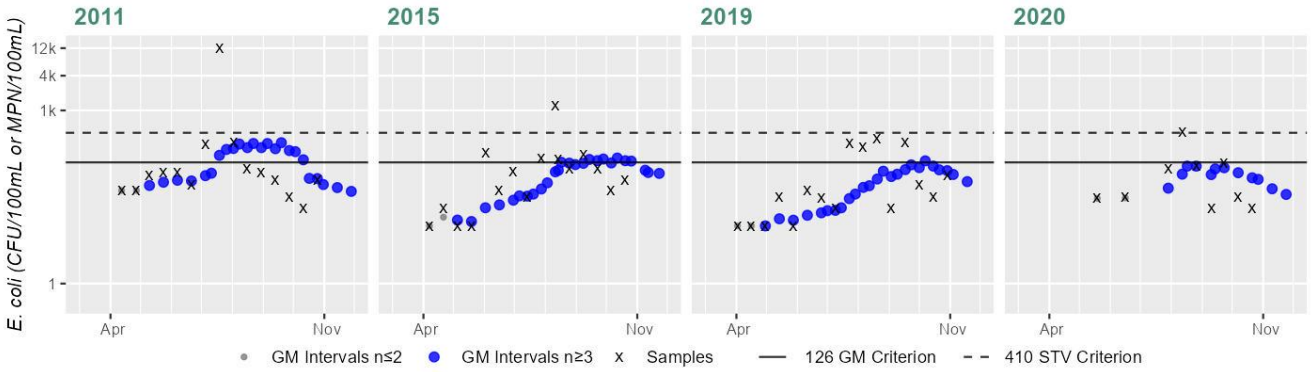
Cumulative %GMI Exceedance Current (2011-2022)
4%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_108A - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	98
#GMI	25
#GMI Ex	13
%GMI Ex	52%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	61
#GMI	27
#GMI Ex	7
%GMI Ex	25%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	42
#GMI	27
#GMI Ex	1
%GMI Ex	3%
n>STV	0
%n>STV	0%

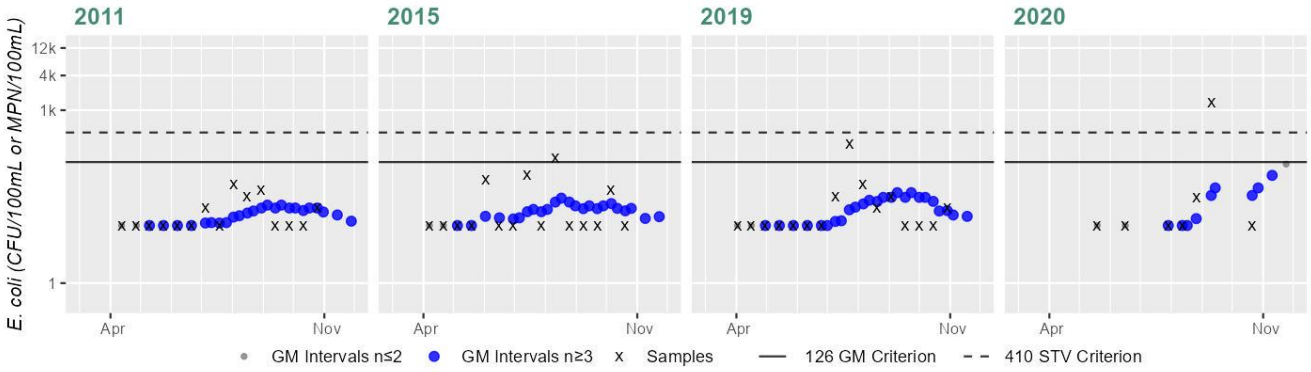
Variable*	Result
Samples	9
SeasGM	56
#GMI	13
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	11%

Cumulative %GMI Exceedance
Current (2011-2022)
22%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_108C - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	14
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	17
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	17
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	23
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the East Branch Ware River (MA36-01) continues to be assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the East Branch Ware River (MA36-01) from 2008-2022 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_108C [E Branch Ware River Bickford at Lombard Rd] from 2011, 2015, and 2019-2020 (n=17-26/yr), W1848 [Old Colony Rd crossing, Princeton] from May-Sep 2008 (n=6), DCRWS_108A [E Branch Ware River at Rt. 68] from 2011, 2015, and 2019-2020 (n=19-27/yr), DCRWS_108 [E Branch Ware River] from 2008-2010 (historic n=26/yr) and 2011-2022 (current n=19-27/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_108C indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_108A indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 2% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_108 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_108C, DCRWS_108A, and DCRWS_108 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_108	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	East Branch Ware River	42.403814	-71.991138
DCRWS_108A	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	Route 68	42.430130	-71.974961
DCRWS_108C	MA DCR Division of Water Supply Protection	Water Quality	East Branch Ware River	Bickford	42.481512	-71.937890

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1848	MassDEP	Water Quality	East Branch Ware River	[Old Colony Road crossing, Princeton]	42.454258	-71.950726

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

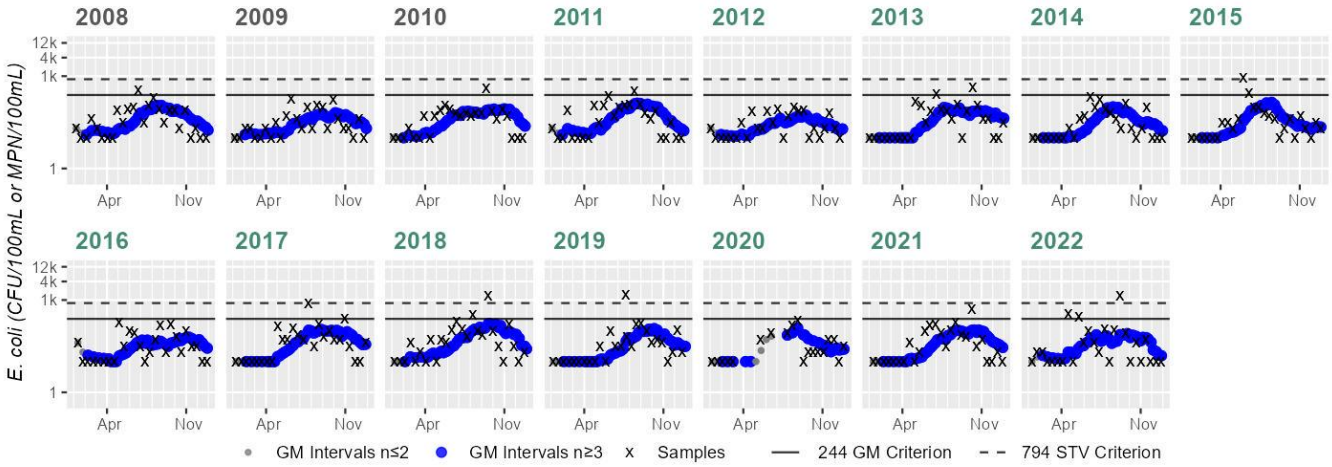
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/08/08	12/23/08	26	10	355	33
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/06/09	12/22/09	26	10	187	26
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/05/10	12/21/10	26	10	408	34
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	26	10	331	35
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	26	10	98	23
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	27	10	441	32
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	216	25
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	26	10	905	29
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	189	27
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	794	36
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	26	10	1350	41
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	27	10	1470	30
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	218	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	495	31
DCRWS_108	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	1400	30
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	26	10	12000	38
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	27	10	1190	34
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	26	10	323	27
DCRWS_108A	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	420	27
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	26	10	52	12
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	26	10	148	13
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	26	10	262	15
DCRWS_108C	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	17	10	1350	14
W1848	MassDEP	E. coli	05/20/08	09/23/08	6	8	80	28

Station DCRWS_108 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	33
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	26
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	34
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	35
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	32
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	29
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	36
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	41
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	27
SeasGM	30
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	19
SeasGM	27
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	31
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	30
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Cumulative %GMI Exceedance Historic (1997-2010)

0%

Cumulative %GMI Exceedance Current (2011-2022)

0%

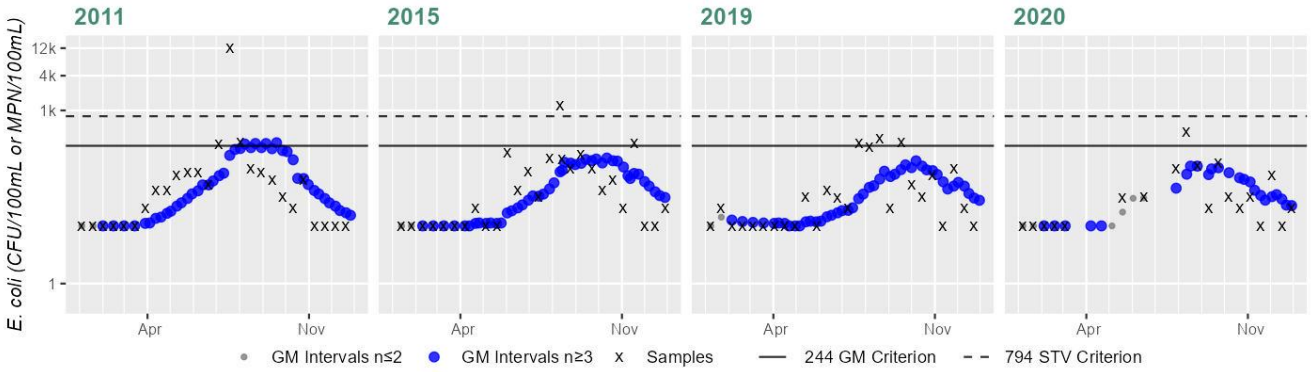
Cumulative %GMI Exceedance Current (Recent 5 Years)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_108A - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	38
#GMI	47
#GMI Ex	4
%GMI Ex	8%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	27
SeasGM	34
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	27
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

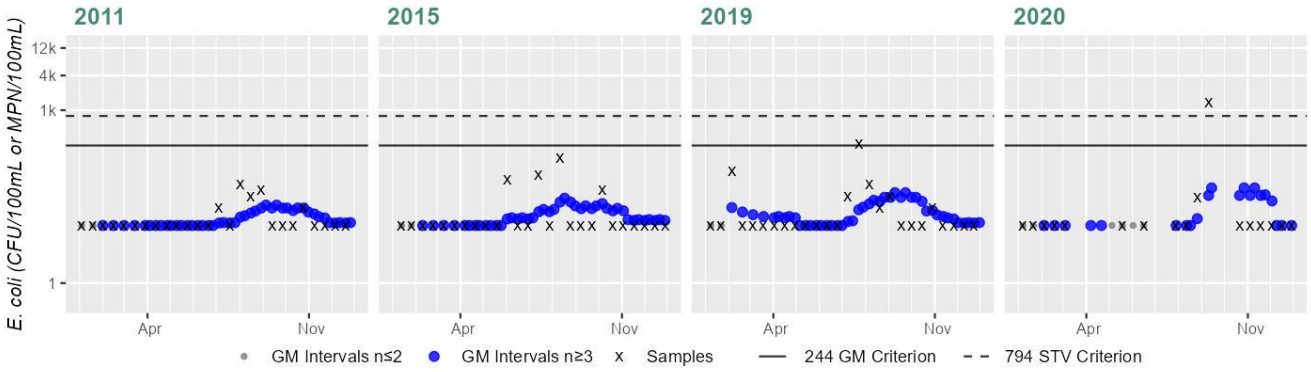
Current (2011-2022)

2%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_108C - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	12
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	13
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	15
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	17
SeasGM	14
#GMI	24
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	5%

Cumulative %GMI Exceedance

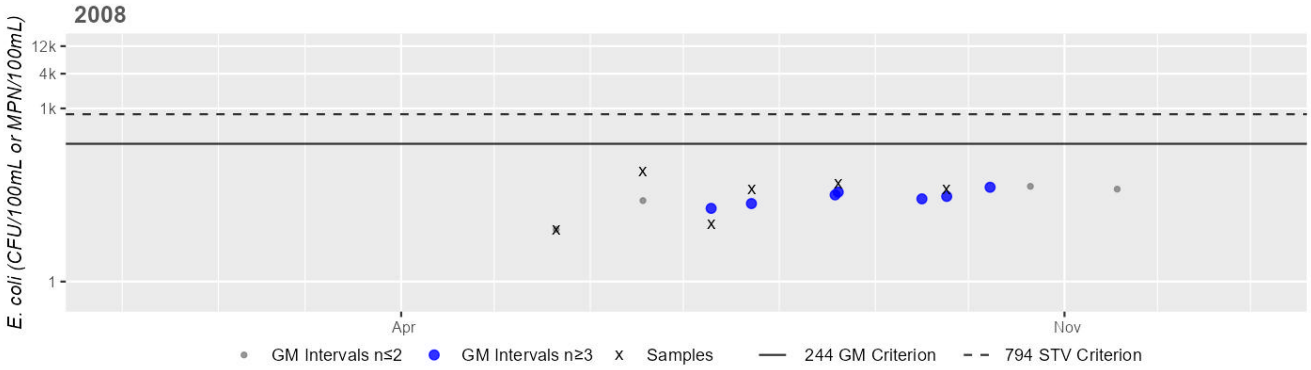
Current (2011-2022)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1848 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	28
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

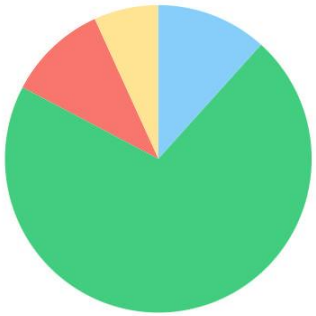
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

East Brookfield River (MA36-13)

Location:	Headwaters, outlet Lake Lashaway, East Brookfield to mouth at inlet Quaboag Pond, East Brookfield.
AU Type:	RIVER
AU Size:	2.4 MILES
Classification/Qualifier:	B: WWF

East Brookfield River (MA36-13)

Watershed Area: 71.49 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	71.49	12.73	27.76	5.23
Agriculture	6.8%	4.7%	3.9%	2.8%
Developed	10.5%	10.9%	8.7%	9.7%
Natural	71%	72.2%	69.3%	67.5%
Wetland	11.7%	12.2%	18.1%	20%
Impervious	3.9%	4.2%	3.3%	3.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)	--	Unchanged
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2016 IR [MACROPHYTES, LOW] Investigate whether macrophyte coverages are natural or symptomatic of nutrient enrichment.

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, so the Fish Consumption Use for East Brookfield River (MA36-13) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	YES

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this East Brookfield River AU (MA36-13), so it is Not Assessed. The prior Alert identified for dense macrophytes ~100 feet downstream of the Rt. 9 bridge, East Brookfield in 2008 is being carried forward.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for the East Brookfield River (MA36-13) are available, so the Primary Contact Recreation Use is Not Assessed. The prior Alert for Macrophytes was removed and will be maintained under the Aesthetics Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for the East Brookfield River (MA36-13) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. The prior Alert for Macrophytes was removed and will be maintained under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples in the East Brookfield River (MA36-13) from 2003-2008 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1038 [below all Lake Lashaway outlet structures, ~100 ft downstream of Rt. 9 bridge, E Brookfield] from 2003 and 2008 (n=6/yr), W1016 [Shore Rd, E Brookfield] from Apr-Oct 2003 (n=6). Analysis of this historic multi-year limited frequency *E. coli* dataset from W1038 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1016 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 11 CFU/100ml. Historic *E. coli* data from W1038 and W1016 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1016	MassDEP	Water Quality	East Brookfield River	[Shore Road, East Brookfield]	42.201348	-72.057492
W1038	MassDEP	Water Quality	East Brookfield River	[below all Lake Lashaway outlet structures, approximatley 100 feet downstream of Route 9 bridge, East Brookfield]	42.225710	-72.049996

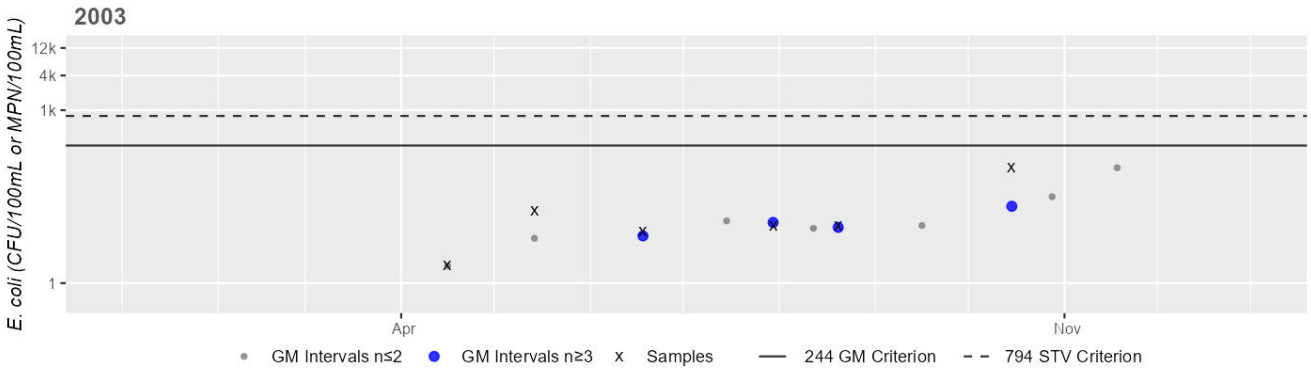
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (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
W1016	MassDEP	E. coli	04/16/03	10/15/03	6	2	100	11
W1038	MassDEP	E. coli	04/16/03	10/15/03	6	0	90	9
W1038	MassDEP	E. coli	05/20/08	09/23/08	6	2	20	9

Station MASSDEP_W1016 - Escherichia coli

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



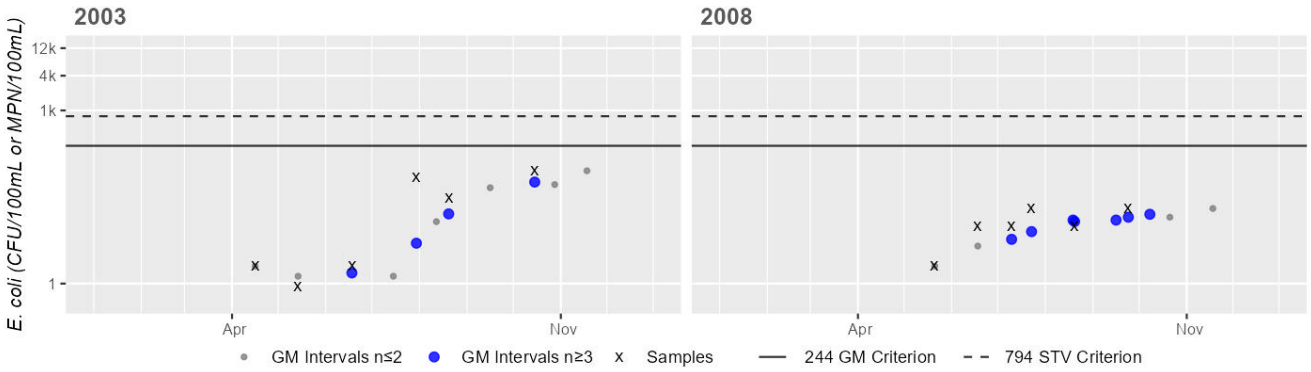
Variable*	Result
Samples	6
SeasGM	11
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1038 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	9
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	9
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Edson Pond (MA36180)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	36 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Edson Pond (MA36180) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Fish Brook (MA36-94)

Location:	Headwaters, perennial portion south of Barre Road, Hardwick to mouth at confluence with Ware River, Hardwick.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	B

No usable data were available for Fish Brook (MA36-94) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Fivemile Pond (MA36061)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	36 ACRES
Classification/Qualifier:	B

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
Insufficient Information	No

2024/26 Use Attainment Summary
There is Insufficient Information to assess the Fish Consumption Use for Fivemile Pond (MA36061). Fish toxics sampling for mercury and additional metals, PCB arochlors and organochlorine pesticides was performed by MassDEP WPP biologists in Fivemile Pond (MA36061) at station F0469 in 2018 at the recommendation of the Interagency Committee on Freshwater Fish Toxics Monitoring and Assessment in response to a public request for monitoring. Additionally, fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Fivemile Pond in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). No site-specific fish consumption advisories were issued by MDPH.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MassDEP Undated 5)

Summary Statement
Fish toxics sampling was performed by MassDEP WPP biologists in Fivemile Pond (MA36061) for mercury and additional metals, PCB arochlors and organochlorine pesticides at station F0469 in 2018 at the recommendation of the Interagency Committee on Freshwater Fish Toxics Monitoring and Assessment in response to a public request for monitoring. Additionally, fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Fivemile Pond (MA36061) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). No site-specific fish consumption advisories were issued by MDPH.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Fivemile Pond (MA36061) 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 Fivemile Pond (MA36061) 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 Fivemile Pond (MA36061) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

Fivemile Pond South (MA36182)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	4 ACRES
Classification/Qualifier:	B

No usable data were available for Fivemile Pond South (MA36182) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Fivemile River (MA36-92)

Location:	Headwaters, outlet Dean Pond, Oakham to inlet Brooks Pond, Oakham.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B

No usable data were available for Fivemile River (MA36-92) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Forest Lake (MA36063)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	45 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	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 recently, so the Fish Consumption Use for Forest Lake (MA36063) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Forest Lake (MA36063) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Forest Lake (MA36063) is assessed as Fully Supporting. CRC staff/volunteers collected *E. coli* bacteria samples in Forest Lake (MA36063) at CRC_CWFL1 [Forest Lake Beach, Palmer] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWFL1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CWFL1 meet 2024 CALM guidance.

Monitoring Stations

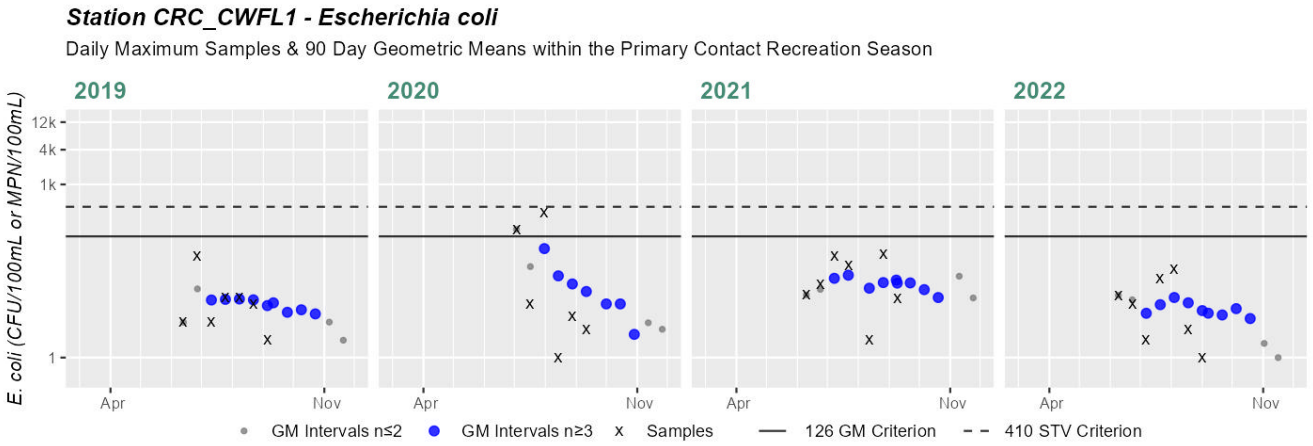
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWFL1	Connecticut River Conservancy	Water Quality	Forest Lake	Forest Lake Beach, Palmer	42.210160	-72.308140

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	2	58	7
CRC_CWFL1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	1	325	13
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	2	61	18
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	1	34	6



Variable*	Result
Samples	7
SeasGM	7
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	13
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	18
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	6
#GMI	9
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Forest Lake (MA36063) is assessed as Fully Supporting. CRC staff/volunteers collected *E. coli* bacteria samples in Forest Lake (MA36063) at CRC_CWFL1 [Forest Lake Beach, Palmer] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWFL1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC_CWFL1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWFL1	Connecticut River Conservancy	Water Quality	Forest Lake	Forest Lake Beach, Palmer	42.210160	-72.308140

Bacteria Data

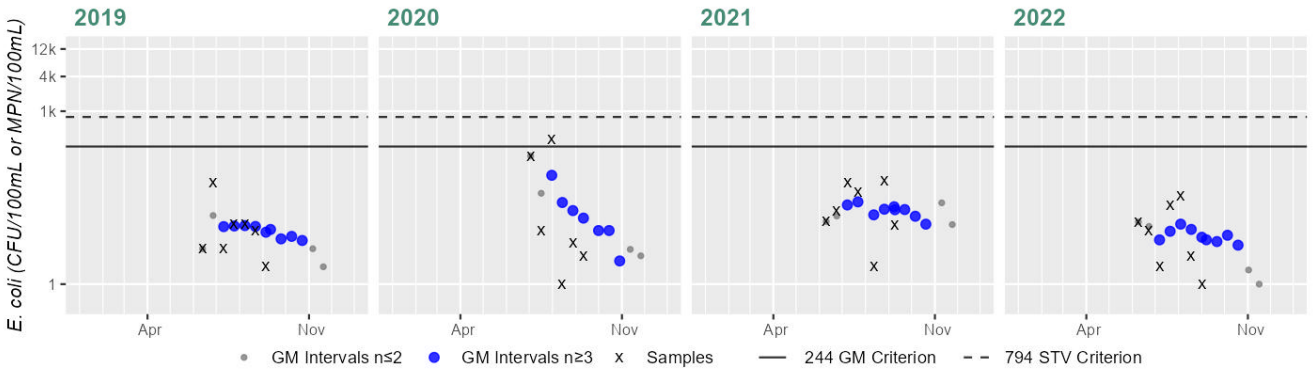
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1)

[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
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	2	58	7
CRC_CWFL1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	1	325	13
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	2	61	18
CRC_CWFL1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	1	34	6

Station CRC_CWFL1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	7
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	13
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	18
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	6
#GMI	9
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Forget-Me-Not Brook (MA36-18)

Location:	Headwaters, North Brookfield to North Brookfield WWTP discharge (NPDES: MA0101061), North Brookfield.
AU Type:	RIVER
AU Size:	1.2 MILES
Classification/Qualifier:	B: CWF, HQW

Forget-Me-Not Brook (MA36-18)

Watershed Area: 1.26 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.26	1.26	0.33	0.33
Agriculture	7.5%	7.5%	12.7%	12.7%
Developed	25.7%	25.7%	14.3%	14.3%
Natural	61.3%	61.3%	63.3%	63.3%
Wetland	5.6%	5.6%	9.8%	9.8%
Impervious	10.2%	10.2%	6.1%	6.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Lack of a Coldwater Assemblage	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
Lack of a Coldwater Assemblage	Source Unknown (N)	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 recently, so the Fish Consumption Use for Forget-Me-Not Brook (MA36-18) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Forget-Me-Not Brook AU (MA36-18), 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 Forget-Me-Not Brook (MA36-18) 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 Assessed	NO

2024/26 Use Attainment Summary

No bacteria or other indicator data for Forget-Me-Not Brook (MA36-18) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Forget-Me-Not Brook (MA36-18) at W1040 [E Brookfield Rd/Donovan Rd intersection (~1100 ft upstream of the N Brookfield WWTP (MA0101061) discharge), N Brookfield] from 2003 and 2008 (n=6/yr). Analysis of this historic multi-year limited frequency *E. coli* dataset from W1040 indicated 1 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2008, 28%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2003, n=2), and cumulatively across years 18% of intervals had GMs >244 CFU/100ml. Historic *E. coli* data from W1040 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1040	MassDEP	Water Quality	Forget-Me-Not Brook	[East Brookfield Road/Donovan Road intersection (approximately 1100 feet upstream of the North Brookfield WWTP (MA0101061) discharge), North Brookfield]	42.250590	-72.074744

Bacteria Data

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

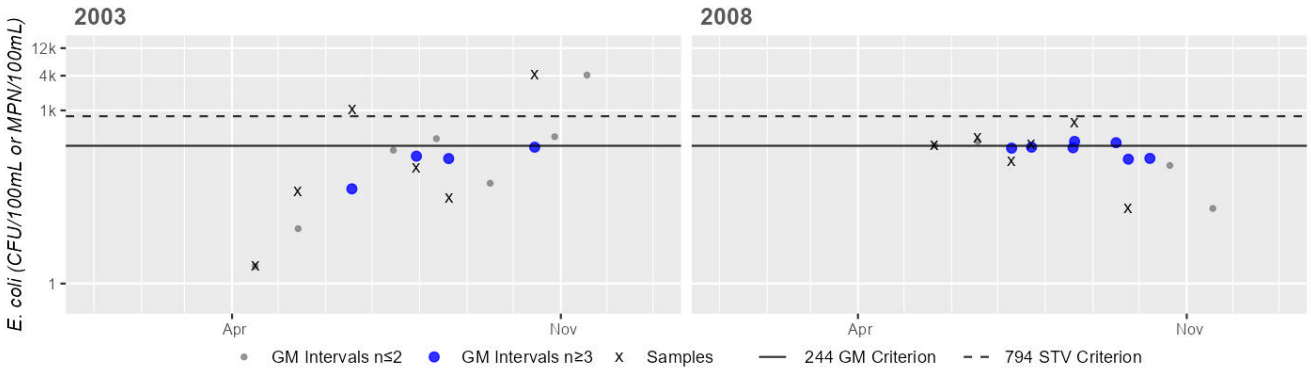
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1040	MassDEP	E. coli	04/16/03	10/15/03	6	2	4100	100
W1040	MassDEP	E. coli	05/20/08	09/23/08	6	20	620	181

Station MASSDEP_W1040 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	100
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	33%

Variable*	Result
Samples	6
SeasGM	181
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Historic (1997-2010)
18%

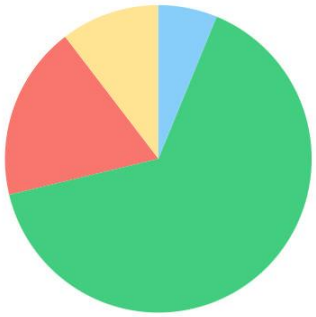
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Forget-Me-Not Brook (MA36-28)

Location:	North Brookfield WWTP discharge (NPDES: MA0101061), North Brookfield to mouth at confluence with Dunn Brook, East Brookfield/Brookfield.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B: WWF

Forget-Me-Not Brook (MA36-28)

Watershed Area: 2.20 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.20	2.19	0.75	0.75
Agriculture	10.4%	10.5%	9.6%	9.6%
Developed	18.4%	18.3%	10.5%	10.5%
Natural	65%	65%	68.7%	68.7%
Wetland	6.2%	6.2%	11.2%	11.2%
Impervious	7.4%	7.3%	5%	5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Benthic Macroinvertebrates	Municipal Point Source Discharges (Y)	X	--	--	--	--
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2016 IR [ODOR, LOW] Alert due to treated effluent odor at {W1039}.

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, so the Fish Consumption Use for Forget-Me-Not Brook (MA36-28) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	YES

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Forget-Me-Not Brook AU (MA36-28), so it is Not Assessed. The prior Alert identified for treated effluent odor is being carried forward.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Forget-Me-Not Brook (MA36-28) are available, so the Primary Contact Recreation Use is Not Assessed. The prior Odor Alert has been removed and will be retained in the Aesthetic Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No bacteria or other indicator data for Forget-Me-Not Brook (MA36-28) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. The prior Odor Alert has been removed and will be retained in the Aesthetic Use. MassDEP staff collected *E. coli* bacteria samples in Forget-Me-Not Brook (MA36-28) at W1039 [W of E Brookfield Rd ~1300 ft downstream of N Brookfield WWTP (MA0101061) discharge, N Brookfield] from 2003 and 2008 (n=6/yr). Analysis of this historic multi-year limited frequency *E. coli* dataset from W1039 indicated 1 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2003, 25%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 9% of intervals had GMs >244 CFU/100ml. Historic *E. coli* data from W1039 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1039	MassDEP	Water Quality	Forget-Me-Not Brook	[west of East Brookfield Road approximately 1300 feet downstream of North Brookfield WWTP (MA0101061) discharge, North Brookfield]	42.244987	-72.073749

Bacteria Data

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

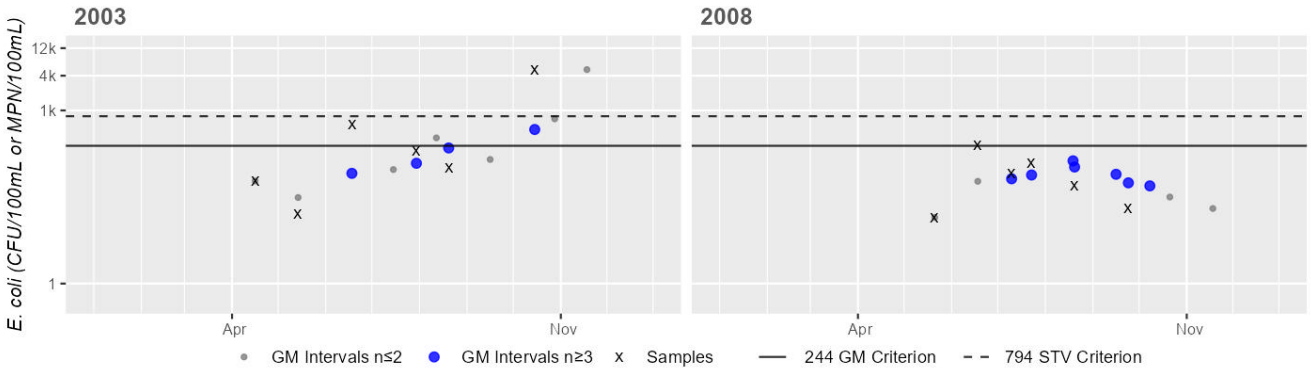
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1039	MassDEP	E. coli	04/16/03	10/15/03	6	16	5100	194
W1039	MassDEP	E. coli	05/20/08	09/23/08	6	14	250	56

Station MASSDEP_W1039 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	194
#GMI	4
#GMI Ex	1
%GMI Ex	25%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	6
SeasGM	56
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Historic (1997-2010)
9%

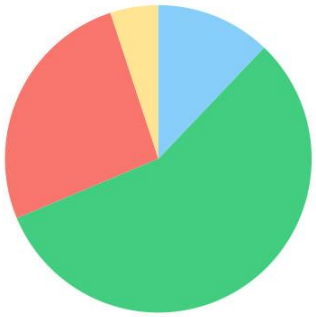
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Fuller Brook (MA36-41)

Location:	From the Ludlow/Chicopee corporate boundary where the stream name changes from Higher Brook, to mouth at confluence with the Chicopee River, Chicopee.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Fuller Brook (MA36-41)

Watershed Area: 11.13 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	11.13	2.85	2.96	0.79
Agriculture	5.1%	2.5%	5.8%	2.8%
Developed	26.2%	38.5%	21.2%	25%
Natural	56.6%	49.6%	46.3%	47.1%
Wetland	12.1%	9.4%	26.6%	25.2%
Impervious	10.8%	17.4%	8.2%	10.2%

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)	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 recently, so the Fish Consumption Use for Fuller Brook (MA36-41) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Fuller Brook (MA36-41) 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 Fuller Brook (MA36-41) 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 CRC_CFB1. CRC staff/volunteers collected *E. coli* bacteria samples in Fuller Brook (MA36-41) at CRC_CFB1 [Fuller Brook] from Jun-Sep 2021 (n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CFB1 indicated 100% of intervals had GMs >126 CFU/100ml and 2 samples exceeded the 410 CFU/100ml STV. *E. coli* data from CRC_CFB1 are indicative of an *E. coli* impairment.

Monitoring Stations

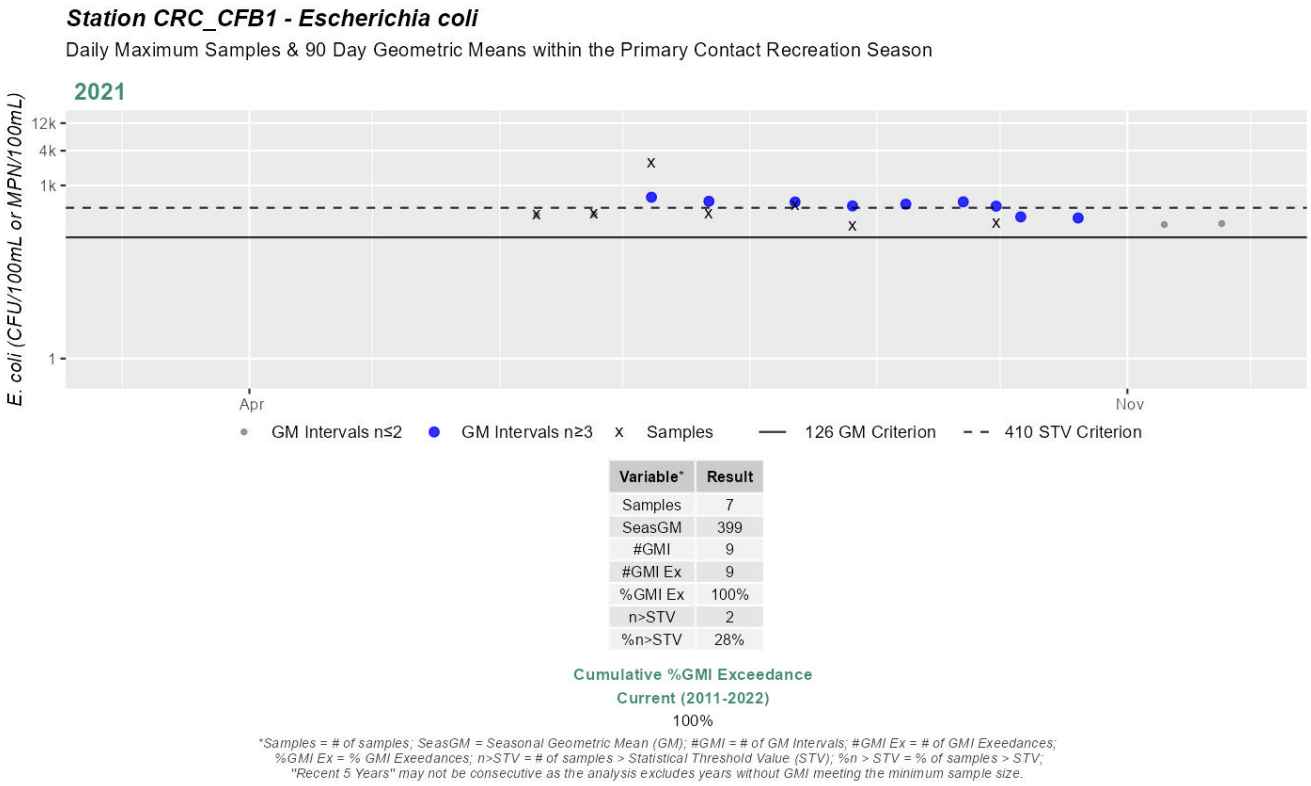
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CFB1	Connecticut River Conservancy	Water Quality	Fuller Brook	Fuller Brook	42.163110	-72.534830

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CFB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	201	2419	399



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Fuller Brook (MA36-41) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CFB1. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Fuller Brook (MA36-41) from 2003-2021 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CFB1 [Fuller Brook] from Jun-Sep 2021 (n=7), W1029 [between Rt. 90 and Shawinigan Drive, Chicopee] from Apr-Oct 2003 (n=6). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CFB1 indicated 100% of intervals had GMs >244 CFU/100ml and 1 sample exceeded the 794 CFU/100ml STV. *E. coli* data from CRC_CFB1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CFB1	Connecticut River Conservancy	Water Quality	Fuller Brook	Fuller Brook	42.163110	-72.534830
W1029	MassDEP	Water Quality	Fuller Brook	[between Route 90 and Shawinigan Drive, Chicopee]	42.160872	-72.535427

Bacteria Data

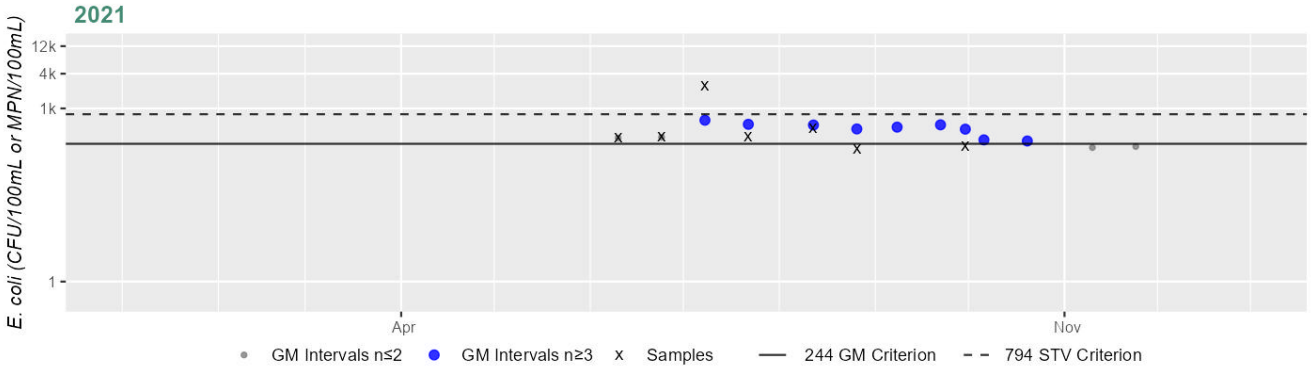
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CFB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	201	2419	399
W1029	MassDEP	E. coli	04/16/03	10/15/03	6	14	1120	152

Station CRC_CFB1 - Escherichia coli

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



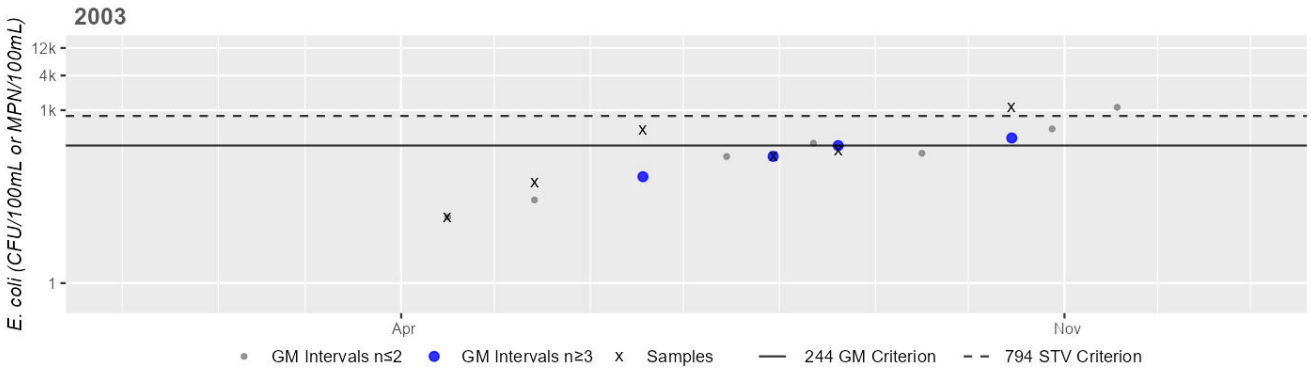
Variable*	Result
Samples	7
SeasGM	399
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1029 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	152
#GMI	4
#GMI Ex	1
%GMI Ex	25%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
25%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Gaston Pond (MA36065)

Location:	Barre.
AU Type:	FRESHWATER LAKE
AU Size:	15 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Aquatic Plants (Macrophytes)*)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Aquatic Plants (Macrophytes)*)	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 recently, so the Fish Consumption Use for Gaston Pond (MA36065) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Gaston Pond (MA36065) is assessed as Not Supporting based on observations made by MassDEP staff during the MAP2 macrophyte mapping survey in July 2016. An Aquatic Plants (Macrophytes) non-pollutant impairment is being added. MassDEP staff surveyed this Gaston Pond AU at; a shoreline station on the northern end of pond, east of pond outlet, south off Mill Road, Barre W2601 (MAP2L-012S) and at the deep hole index station at the northern end of the pond, Barre W2624 (MAP2L-012), both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2601 (n=5) and W2624 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1). However, during the MAP2 macrophyte mapping survey in July (n=1), greater than 25% (64.3%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2601	MassDEP	Water Quality	Gaston Pond	[northern end of pond, east of pond outlet, south off Mill Road, Barre]	42.458737	-72.130749
W2624	MassDEP	Water Quality	Gaston Pond	[index site, northern end of pond, Barre]	42.458609	-72.131000

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
W2601	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2601 (MAP2L-012S) on Gaston Pond (MA36065) during 5 site visits between May 2016 and Aug 2016. 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.

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2624	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2624 (MAP2L-012) on Gaston Pond (MA36065) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Jul 2016, greater than 25% (64.3%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%. The observations from the MAP2 survey are indicative of an Aesthetics Use impairment.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2601	Gaston Pond	2016	Aesthetics Impaired?	No	5	5
W2601	Gaston Pond	2016	Color	Light Yellow/Tan	5	5
W2601	Gaston Pond	2016	Objectionable Deposits	No	5	5
W2601	Gaston Pond	2016	Odor	None	5	5
W2601	Gaston Pond	2016	Scum	No	5	5
W2601	Gaston Pond	2016	Turbidity	None	5	5
W2624	Gaston Pond	2016	Aesthetics Impaired?	No	2	3
W2624	Gaston Pond	2016	Aesthetics Impaired?	NR	1	3
W2624	Gaston Pond	2016	Aquatic Plant Density, Overall	None	2	3
W2624	Gaston Pond	2016	Aquatic Plant Density, Overall	Sparse	1	3
W2624	Gaston Pond	2016	Color	Light Yellow/Tan	3	3
W2624	Gaston Pond	2016	Objectionable Deposits	No	3	3
W2624	Gaston Pond	2016	Odor	None	3	3
W2624	Gaston Pond	2016	Scum	No	1	3
W2624	Gaston Pond	2016	Scum	Yes	2	3
W2624	Gaston Pond	2016	Turbidity	None	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Gaston Pond (MA36065) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Gaston Pond (MA36065), MassDEP collected Secchi and cyanobacteria cell count data at W2624 [MAP2L-012, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2601 [MAP2L-012S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2624 in 2016 (n=3, 2.7-3.05m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2601 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Gaston Pond (MA36065) at W2601 [northern end of pond, E of pond outlet, S off Mill Rd, Barre] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2601 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 6 CFU/100ml. *E. coli* data from W2601 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2601	MassDEP	Water Quality	Gaston Pond	[northern end of pond, east of pond outlet, south off Mill Road, Barre]	42.458737	-72.130749
W2624	MassDEP	Water Quality	Gaston Pond	[index site, northern end of pond, Barre]	42.458609	-72.131000

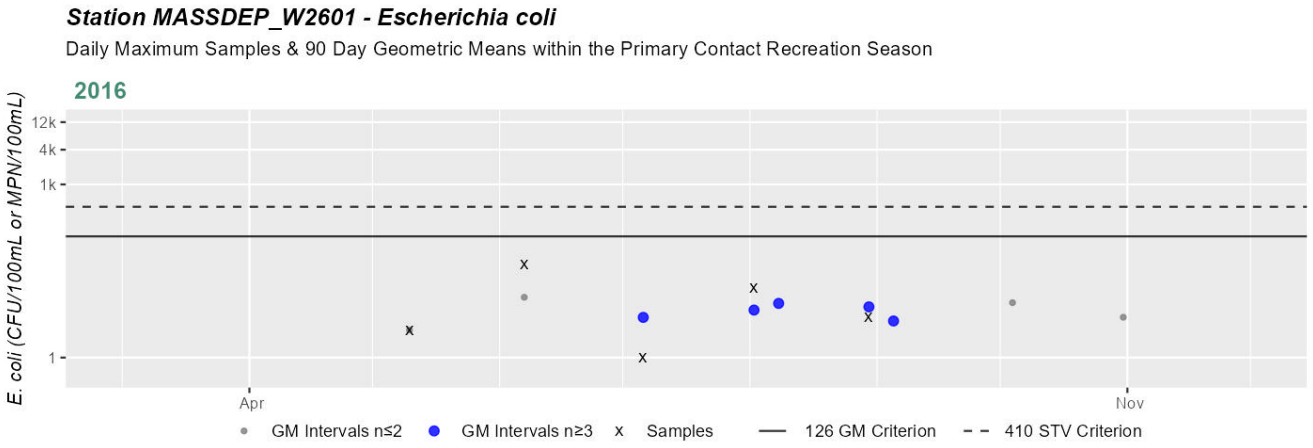
Bacteria Data

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

(MassDEP Undated 6) (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
W2601	MassDEP	E. coli	05/09/16	08/29/16	5	1	41	6



Variable*	Result
Samples	5
SeasGM	6
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In Gaston Pond (MA36065) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2624 [MAP2L-012, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2601 [MAP2L-012S, Shoreline]. At station W2624 (station depth=3.1 m) the Secchi depth measurements ranged from 2.7-3.05 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 W2601 (n=4) 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 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2601	Gaston Pond	Shoreline	2016	3	0	NA
W2624	Gaston Pond	Index	2016	3	0	NA

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Gaston Pond (MA36065) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Gaston Pond (MA36065), MassDEP collected cyanobacteria cell count data at W2624 [MAP2L-012, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2601 [MAP2L-012S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2601 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Gaston Pond (MA36065) at W2601 [northern end of pond, E of pond outlet, S off Mill Rd, Barre] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2601 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 6 CFU/100ml. *E. coli* data from W2601 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2601	MassDEP	Water Quality	Gaston Pond	[northern end of pond, east of pond outlet, south off Mill Road, Barre]	42.458737	-72.130749

Bacteria Data

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

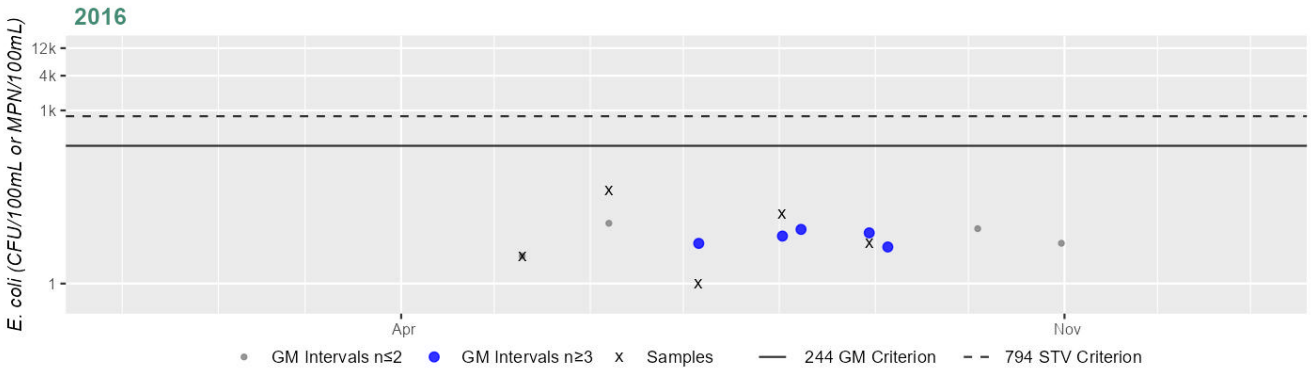
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2601	MassDEP	E. coli	05/09/16	08/29/16	5	1	41	6

Station MASSDEP_W2601 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	6
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Giles Brook (MA36-83)

Location:	Headwaters, perennial portion west of Belden Hill Road, New Salem to mouth at inlet to Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	0.2 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Giles Brook (MA36-83) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Great Brook (MA36-89)

Location:	Headwaters in wetland east of High Rocks, East Brookfield to mouth at confluence with East Brookfield River, north of Shore Road, East Brookfield.
AU Type:	RIVER
AU Size:	2.1 MILES
Classification/Qualifier:	B

Great Brook (MA36-89)

Watershed Area: 4.37 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.37	4.37	1.58	1.58
Agriculture	4.1%	4.1%	2.1%	2.1%
Developed	6.1%	6.1%	4.3%	4.3%
Natural	76%	76%	67.7%	67.7%
Wetland	13.8%	13.8%	26%	26%
Impervious	2.1%	2.1%	1.3%	1.3%

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 recently, so the Fish Consumption Use for Great Brook (MA36-89) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Great Brook (MA36-89) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations two-thirds of the way down this Great Brook AU at Draper Road, East Brookfield (W2901) in summer 2019 (n=4). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2901	MassDEP	Water Quality	Great Brook	[Draper Road, East Brookfield]	42.201548	-72.044871

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
W2901	2019	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2901 on Great Brook (MA36-89) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2901	2019	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2901	Great Brook	2019	Aesthetics Impaired?	No	4	4

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2901	Great Brook	2019	Aquatic Plant Density, Overall	None	1	4
W2901	Great Brook	2019	Aquatic Plant Density, Overall	Sparse	3	4
W2901	Great Brook	2019	Color	Light Yellow/Tan	4	4
W2901	Great Brook	2019	Objectionable Deposits	No	4	4
W2901	Great Brook	2019	Odor	Musty (Basement)	1	4
W2901	Great Brook	2019	Odor	None	3	4
W2901	Great Brook	2019	Periphyton Density, Filamentous	None	3	4
W2901	Great Brook	2019	Periphyton Density, Filamentous	Sparse	1	4
W2901	Great Brook	2019	Periphyton Density, Film	None	3	4
W2901	Great Brook	2019	Periphyton Density, Film	Sparse	1	4
W2901	Great Brook	2019	Scum	No	3	4
W2901	Great Brook	2019	Scum	Yes	1	4
W2901	Great Brook	2019	Turbidity	Moderately Turbid	1	4
W2901	Great Brook	2019	Turbidity	None	1	4
W2901	Great Brook	2019	Turbidity	Slightly Turbid	2	4

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 Great Brook (MA36-89) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information.

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 Great Brook (MA36-89) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information.

Hardwick Pond (MA36066)

Location:	Hardwick.
AU Type:	FRESHWATER LAKE
AU Size:	67 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)	--	Unchanged
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	--	Added
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
PFAS in Fish Tissue	Source Unknown (N)	--	X	--	--	--

Recommendations

2024/26 Recommendations
2024 IR [MACROPHYTES, LOW] Additional monitoring is recommended because during the MAP2 macrophyte mapping survey because in Aug 2016 (n=1) MassDEP staff did raise an aesthetics flag due to excessive growth of macrophytes (*Cabomba*) observed in "wide bands" around the pond.; 2024 IR [HARMFUL ALGAL BLOOMS, MEDIUM] Additional monitoring is recommended at {W2603} because the cyanobacteria cell count exceeded 70,000 cells/ml for a single sample on Aug 02, 2016 in 2016 (n=6).

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Hardwick Pond (MA36066) continues to be assessed as Not Supporting. The prior Mercury in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in Hardwick Pond (MA36066) at station F0416 (PFAS Study ID 10) on 10/26/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Hardwick Pond in the May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing Mercury advisory in the January 2025 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. No source of PFAS has been identified at this time.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
F0416	MassDEP	Fish Toxics	Muddy Brook/Hardwick Pond	[on Muddy Brook in Hardwick Pond impoundment, Hardwick]	42.313574	-72.239596

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in Hardwick Pond (MA36066) at station F0416 (PFAS Study ID 10) on 10/26/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Hardwick Pond in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. Additionally, MDPH retained the existing site-specific fish consumption advisories for Mercury associated with Hardwick Pond in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and Mercury in Fish Tissue for Hardwick Pond (MA36066).

MassDEP 2022 PFAS in Fish Tissue Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 5) (MA DPH 2023c)

[ng/g = ppb. All PFBA, PFBS, and HFPO-DA (Genx) concentrations <MDL. ND indicates that the PFAS analyte was not detected in any of the composite samples (i.e., it was <MDL). Means weighted by the number of fish in the contributing composites were calculated for any PFAS analyte – waterbody – species combination where an analyte was detected in at least one sample; if a sample did not have the analyte detected, the concentration for that sample was set to ½*MDL for the purposes of calculating a mean. Data are highlighted red per the fish consumption advisory thresholds summarized in Table 4.2 of MDPH's 2023 Technical Support Document for the evaluation of PFAS in recreational waterbodies.]

[Species List: B = bluegill, LMB = largemouth bass, YP = yellow perch]

Station Code	PFAS Study ID	Sample Date	Species	Mean PFHxS ng/g	Mean PFNA ng/g	Mean PFOA ng/g	Mean PFOS ng/g	Analytes with ≥ 1 Sample Qualified
F0416	10	10/26/2022	B	ND	ND	ND	1.10	PFOS
F0416	10	10/26/2022	LMB	ND	ND	ND	1.75	PFOS
F0416	10	10/26/2022	YP	ND	ND	ND	0.41	PFOS

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for Hardwick Pond (MA36066) is assessed as Fully Supporting. However an Alert is identified due to the excessive growth of macrophytes in wide bands around the pond. MassDEP staff surveyed this Hardwick Pond AU at a shoreline station at the southwest corner of the pond, at pond outlet, from boat launch north of Hardwick Pond Road, Hardwick, W2603 (MAP2L-035S) and at the deep hole index station at the southern end of pond, Hardwick W2633 (MAP2L-035); both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2603 (n=5) and W2633 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1), though field staff noted green water color on two occasions at the deep hole index station. During the MAP2 macrophyte mapping survey in Aug 2016 (n=1), while less than 25% (22.3%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%, MassDEP staff did raise an aesthetics flag due to excessive growth of macrophytes (*Cabomba*) observed in “wide bands” around the pond.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2603	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[southern end of pond, at pond outlet, from boat launch north of Hardwick Pond Road, Hardwick]	42.310788	-72.241563
W2633	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[index site, southern end of pond, Hardwick]	42.312180	-72.239044

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
W2603	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2603 (MAP2L-035S) on Hardwick Pond (MA36066) during 5 site visits between May 2016 and Aug 2016. 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.
W2633	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2633 (MAP2L-035) on Hardwick Pond (MA36066) during 3 site visits between Jun 2016 and Sep 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted green water color (n=2). During the MAP2 macrophyte mapping survey (n=1) in Aug 2016, less than 25% (22.3%) of the waterbody was determined to have an aquatic macrophyte biovolume >50% and the survey also noted an aesthetics impairment flag due to aquatic plants (macrophytes).

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2603	Hardwick Pond	2016	Aesthetics Impaired?	No	5	5
W2603	Hardwick Pond	2016	Color	Light Yellow/Tan	4	5
W2603	Hardwick Pond	2016	Color	None	1	5
W2603	Hardwick Pond	2016	Objectionable Deposits	No	5	5
W2603	Hardwick Pond	2016	Odor	None	5	5
W2603	Hardwick Pond	2016	Scum	No	4	5
W2603	Hardwick Pond	2016	Scum	Yes	1	5
W2603	Hardwick Pond	2016	Turbidity	None	4	5
W2603	Hardwick Pond	2016	Turbidity	Slightly Turbid	1	5
W2633	Hardwick Pond	2016	Aesthetics Impaired?	No	3	3
W2633	Hardwick Pond	2016	Aquatic Plant Density, Overall	None	3	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2633	Hardwick Pond	2016	Color	Greenish	2	3
W2633	Hardwick Pond	2016	Color	Light Yellow/Tan	1	3
W2633	Hardwick Pond	2016	Objectionable Deposits	No	3	3
W2633	Hardwick Pond	2016	Odor	None	3	3
W2633	Hardwick Pond	2016	Scum	No	3	3
W2633	Hardwick Pond	2016	Turbidity	None	2	3
W2633	Hardwick Pond	2016	Turbidity	Slightly Turbid	1	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Hardwick Pond (MA36066) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at W2603. Surface water sampling was conducted in Hardwick Pond (MA36066) at station W3270 (PFAS Study ID 10) on 10/26/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. An Alert is being identified for Harmful Algal Bloom and additional sampling is recommended for this AU. In Hardwick Pond (MA36066), MassDEP collected Secchi and cyanobacteria cell count data at W2633 [MAP2L-035, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2603 [MAP2L-035S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2633 in 2016 (n=3, 2.2-2.9m). The cyanobacteria cell count exceeded 70,000 cells/ml for a single sample on Aug 02, 2016 in 2016 (n=1/6). The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Analysis of microcystins and cylindrospermopsin samples from W2603 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Hardwick Pond (MA36066) at W2603 [southern end of pond, at pond outlet, from boat launch N of Hardwick Pond Rd, Hardwick] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2603 indicated 80% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 199 CFU/100ml. *E. coli* data from W2603 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2603	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[southern end of pond, at pond outlet, from boat launch north of Hardwick Pond Road, Hardwick]	42.310788	-72.241563
W2633	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[index site, southern end of pond, Hardwick]	42.312180	-72.239044
W3270	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[the default location representing co-located water/fish PFAS sampling, on Muddy Brook in Hardwick Pond impoundment, Hardwick]	42.313574	-72.239596

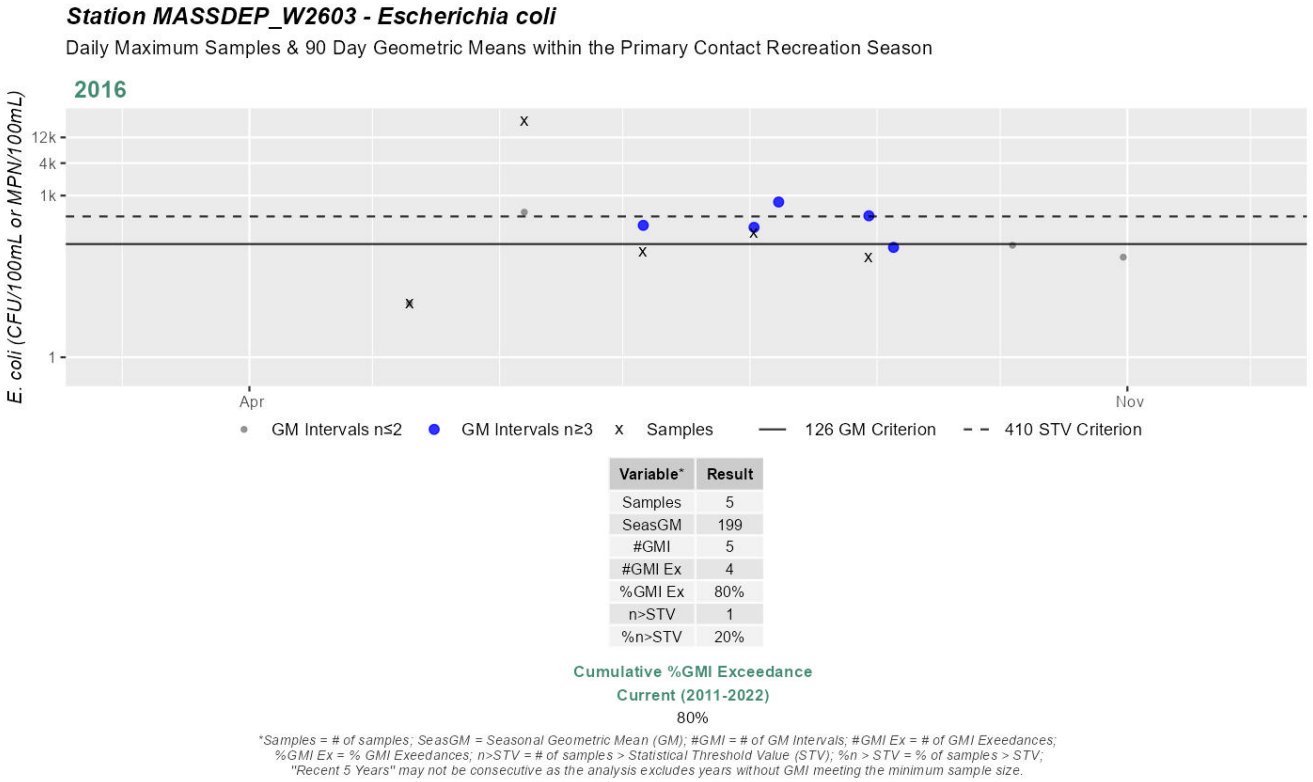
Bacteria Data

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

(MassDEP Undated 6) (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
W2603	MassDEP	E. coli	05/09/16	08/29/16	5	10	24200	199



Other Indicators

Summary Statement(s) for MassDEP 2022 PFAS in Water Column Data (MassDEP 2023) (MassDEP Undated 4)

Summary
Surface water sampling was conducted in Hardwick Pond (MA36066) at station W3270 (PFAS Study ID 10) on 10/26/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.

MassDEP 2022 PFAS in Water Column Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 4)

[HFPO-DA is also known as GenX; the ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here); * indicates the ∑PFAS6 concentration was qualified since data for one or more individual PFAS6 analytes were qualified; b = blank contamination qualifier, d = qualifier indicating precision of field duplicates did not meet project data quality objectives; j = 'estimated' value qualifier; ## = censored data.]

Station Code	PFAS Study ID	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	HFPO-DA ng/L	∑PFAS6 ng/L
W3270	10	10/26/2022	3	1.2dj	0.59j	<0.62	<2.2	1.2j	<2.2	7.3*

Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data (MassDEP Undated 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In Hardwick Pond (MA36066) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2633 [MAP2L-035, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2603 [MAP2L-035S, Shoreline]). At station W2633 (station depth=5.5 m) the Secchi depth measurements ranged from 2.2-2.9 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count exceeded 70,000 cells/ml for a single sample on Aug 02, 2016 (n=6). The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Analysis of microcystins and cylindrospermopsin samples from the shoreline station W2603 (n=4) 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 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2603	Hardwick Pond	Shoreline	2016	3	0	NA
W2633	Hardwick Pond	Index	2016	3	1	8/2/2016

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Hardwick Pond (MA36066) 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 W2603. An Alert is being identified for Harmful Algal Bloom and additional sampling is recommended for this AU. In Hardwick Pond (MA36066), MassDEP collected cyanobacteria cell count data at W2633 [MAP2L-035, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2603 [MAP2L-035S, Shoreline] (2016). The cyanobacteria cell count exceeded 70,000 cells/ml for a single sample on Aug 02, 2016 in 2016 (n=6). The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Analysis of microcystins and cylindrospermopsin samples from W2603 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Hardwick Pond (MA36066) at W2603 [southern end of pond, at pond outlet, from boat launch N of Hardwick Pond Rd, Hardwick] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2603 indicated 80% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 199 CFU/100ml. *E. coli* data from W2603 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2603	MassDEP	Water Quality	Muddy Brook/Hardwick Pond	[southern end of pond, at pond outlet, from boat launch north of Hardwick Pond Road, Hardwick]	42.310788	-72.241563

Bacteria Data

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

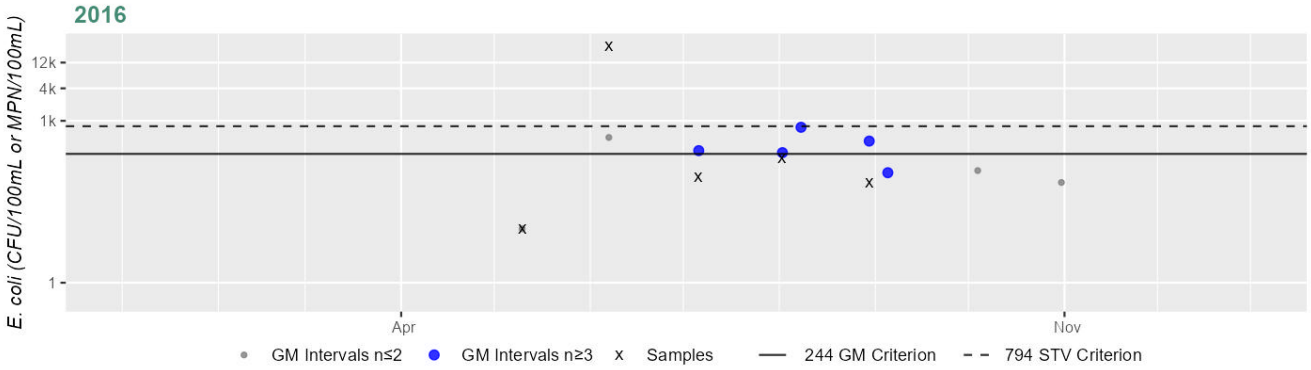
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2603	MassDEP	E. coli	05/09/16	08/29/16	5	10	24200	199

Station MASSDEP_W2603 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	199
#GMI	5
#GMI Ex	4
%GMI Ex	80%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
80%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Haviland Pond (MA36069)

Location:	Ludlow.
AU Type:	FRESHWATER LAKE
AU Size:	25 ACRES
Classification/Qualifier:	B

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
Insufficient Information	No

2024/26 Use Attainment Summary
There is Insufficient Information to assess the Fish Consumption Use for Haviland Pond (MA36069). Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Haviland Pond (MA36069) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). However, no site-specific fish consumption advisory was issued by MDPH.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MassDEP Undated 5)

Summary Statement
Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Haviland Pond (MA36069) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). No site-specific fish consumption advisory was issued by MDPH.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Haviland Pond (MA36069) 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 Haviland Pond (MA36069) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

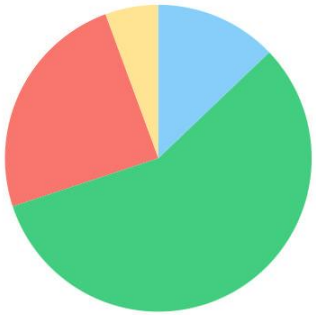
2024/26 Use Attainment Summary
No bacteria or other indicator data for Haviland Pond (MA36069) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

Higher Brook (MA36-42)

Location:	Headwaters, perennial portion, south of Route 21, Ludlow (through former 2008 segment: Harris Pond MA36067) to mouth at Ludlow/Chicopee corporate boundary where the stream name changes to Fuller Brook.
AU Type:	RIVER
AU Size:	6.3 MILES
Classification/Qualifier:	B

Higher Brook (MA36-42)

Watershed Area: 9.75 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	9.75	4.48	2.64	1.39
Agriculture	5.6%	8.2%	6.3%	7%
Developed	24.5%	35.1%	21.7%	28.2%
Natural	57%	45%	45.2%	39%
Wetland	12.9%	11.8%	26.8%	25.8%
Impervious	9.6%	14.3%	8.3%	11.1%

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 recently, so the Fish Consumption Use for Higher Brook (MA36-42) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Higher Brook (MA36-42) 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 Higher Brook (MA36-42) 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 Higher Brook (MA36-42) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Higher Brook (MA36-42) at W1030 [W St bridge, S of Roy St, Ludlow (stream name change at Ludlow/Chicopee corporate boundary, natural extension of Fuller Brook with station 2.5 miles up "Fuller Rt.")] from Apr-Oct 2003 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1030 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 83 CFU/100ml. Historic *E. coli* data from W1030 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1030	MassDEP	Water Quality	Higher Brook	[West Street bridge, south of Roy Street, Ludlow (stream name change at Ludlow/Chicopee corporate boundary, natural extension of Fuller Brook with station 2.5 miles up "Fuller route")]	42.171150	-72.512362

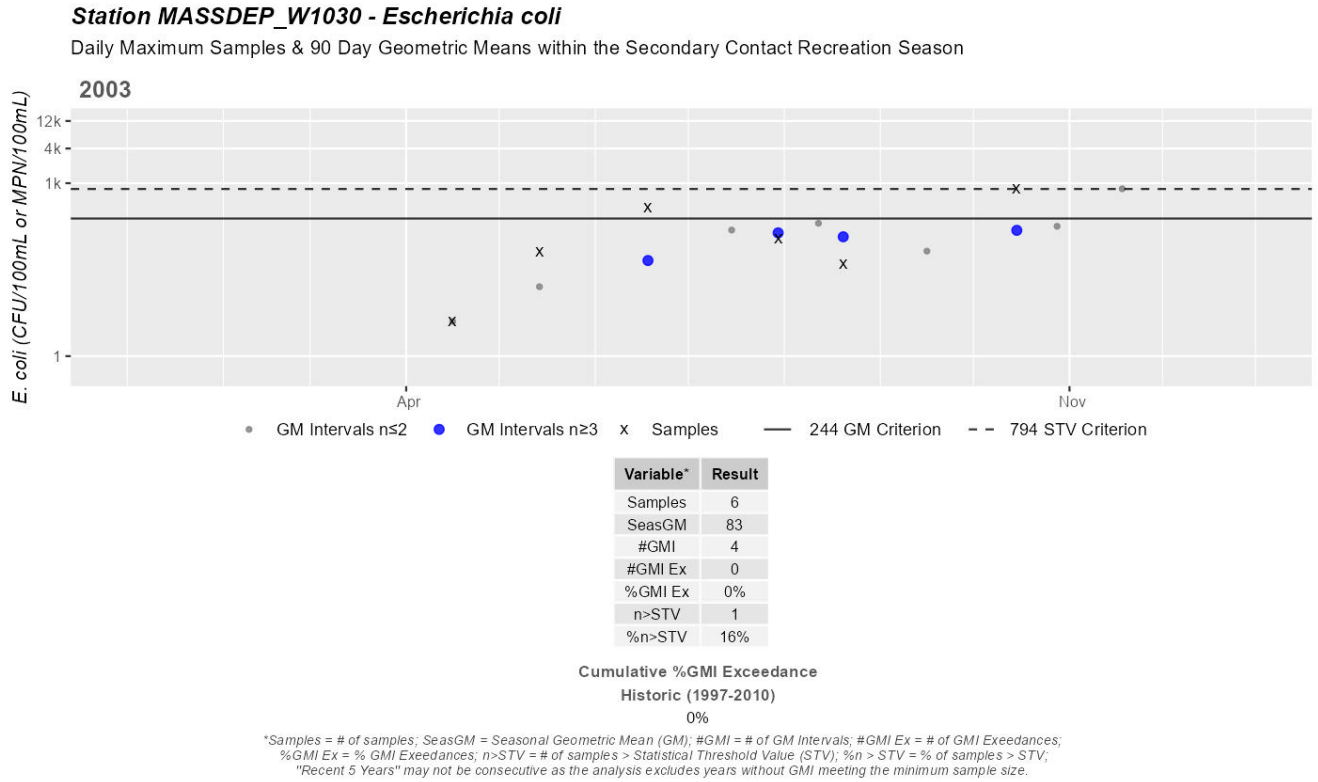
Bacteria Data

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

(MassDEP Undated 6) (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
W1030	MassDEP	E. coli	04/16/03	10/15/03	6	4	800	83

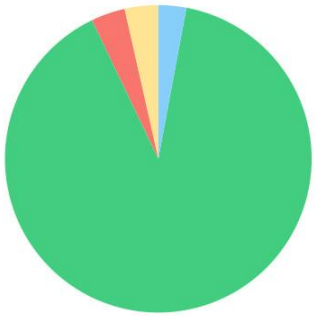


Hop Brook (MA36-32)

Location:	Headwaters, perennial portion, upstream of West Street, New Salem to mouth at inlet Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	3.7 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Hop Brook (MA36-32)

Watershed Area: 5.51 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.51	4.87	1.63	1.53
Agriculture	3.5%	3.2%	1.5%	1.5%
Developed	3.6%	3.7%	3.5%	3.7%
Natural	89.9%	90.2%	88.2%	87.8%
Wetland	2.9%	2.9%	6.8%	7%
Impervious	1.6%	1.6%	1.4%	1.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	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 recently, so the Fish Consumption Use for Hop Brook (MA36-32) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Hop Brook (MA36-32) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station at the downstream end of this Hop Brook AU ~1500 feet upstream of inlet to Quabbin Reservoir, New Salem (W1757/MAP2-492) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1757	MassDEP	Water Quality	Hop Brook	[approximately 1500 feet upstream of inlet to Quabbin Reservoir, New Salem]	42.469994	-72.322599

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
W1757	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1757 on Hop Brook (MA36-32) during 5 site visits between May 2014 and Sep 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1757	2014	5	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1757	Hop Brook	2014	Aesthetics Impaired?	No	5	5
W1757	Hop Brook	2014	Aquatic Plant Density, Overall	None	4	5
W1757	Hop Brook	2014	Aquatic Plant Density, Overall	Unobservable	1	5
W1757	Hop Brook	2014	Color	Light Yellow/Tan	2	5
W1757	Hop Brook	2014	Color	None	2	5
W1757	Hop Brook	2014	Color	NR	1	5
W1757	Hop Brook	2014	Objectionable Deposits	No	4	5
W1757	Hop Brook	2014	Objectionable Deposits	Unobservable	1	5
W1757	Hop Brook	2014	Odor	None	5	5
W1757	Hop Brook	2014	Periphyton Density, Filamentous	None	4	5
W1757	Hop Brook	2014	Periphyton Density, Filamentous	Unobservable	1	5
W1757	Hop Brook	2014	Periphyton Density, Film	None	3	5
W1757	Hop Brook	2014	Periphyton Density, Film	Sparse	1	5
W1757	Hop Brook	2014	Periphyton Density, Film	Unobservable	1	5
W1757	Hop Brook	2014	Scum	No	4	5
W1757	Hop Brook	2014	Scum	Yes	1	5
W1757	Hop Brook	2014	Turbidity	Moderately Turbid	1	5
W1757	Hop Brook	2014	Turbidity	None	4	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Hop Brook (MA36-32) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at DCRWS_212B and DCRWS_212. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in Hop Brook (MA36-32) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_212B [Hop Brook Russell Rd (South)] from 2011-2012, 2015-2016, and 2021 (n=1-17/yr), DCRWS_212 [Hop Brook Gate 22 Rd] from 2011-2022 (n=10-17/yr), W1757 [~1500 ft upstream of inlet to Quabbin Reservoir, New Salem] from May-Sep 2014 (n=5). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_212B indicated 3 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2012, 2016, and 2021, 40-44%), 3 yrs had >10% of samples exceed the 410 CFU/100ml STV (2012, 2016, and 2021, 13-23%), and cumulatively across years 31% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_212 indicated 2 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2018 and 2022, 48 & 32%), 2 yrs had >10% of samples exceed the 410 CFU/100ml STV (2018 and 2020, 25 & 10%), and cumulatively across years 20% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1757 indicated 0% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 24 CFU/100ml. *E. coli* data from W1757 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. *E. coli* data from DCRWS_212B and DCRWS_212 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_212	MA DCR Division of Water Supply Protection	Water Quality	Hop Brook	Hop Brook, Gate 22 Rd	42.473703	-72.333121
DCRWS_212B	MA DCR Division of Water Supply Protection	Water Quality	Hop Brook	Hop Brook - Russell Rd (South)	42.478845	-72.334042
W1757	MassDEP	Water Quality	Hop Brook	[approximately 1500 feet upstream of inlet to Quabbin Reservoir, New Salem]	42.469994	-72.322599

Bacteria Data

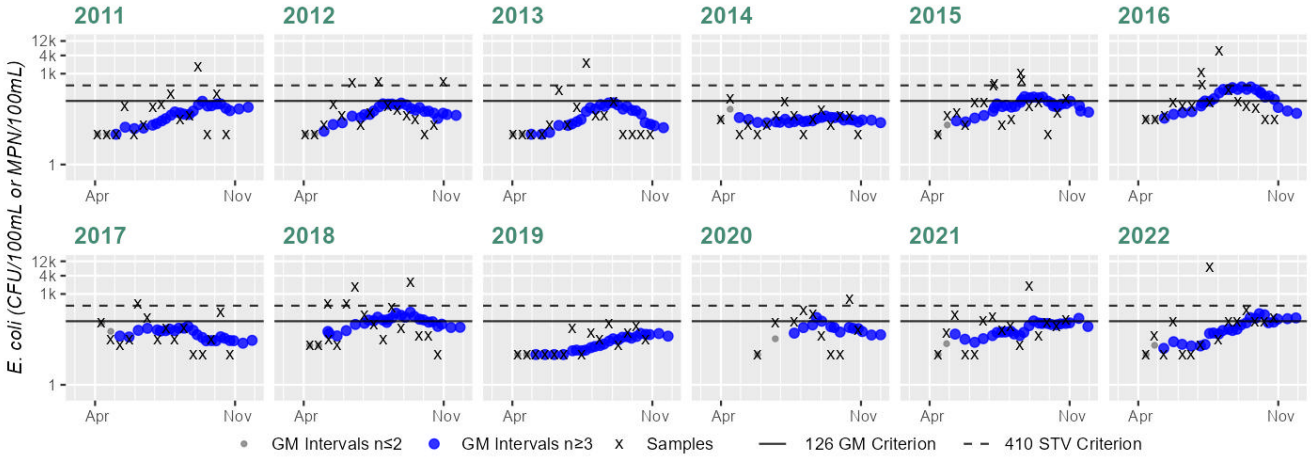
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2) (MassDEP Undated 6) (MassDEP Undated 4)

[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
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	1720	40
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	538	50
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	2190	29
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	145	28
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	17	10	987	80
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	16	30	5480	119
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	473	45
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	16	10	2360	96
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	108	23
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	650	64
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	1850	66
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	15	10	7700	66
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	1720	41
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	17	10	1720	96
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	08/20/15	08/20/15	1	72	72	72
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	15	10	5480	69
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	12000	105
W1757	MassDEP	E. coli	05/20/14	09/04/14	5	5	1300	24

Station DCRWS_212 - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	40
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	50
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	16
SeasGM	29
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	28
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	17
SeasGM	80
#GMI	29
#GMI Ex	6
%GMI Ex	20%
n>STV	4
%n>STV	23%

Variable*	Result
Samples	16
SeasGM	119
#GMI	27
#GMI Ex	15
%GMI Ex	55%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	15
SeasGM	45
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	96
#GMI	27
#GMI Ex	13
%GMI Ex	48%
n>STV	4
%n>STV	25%

Variable*	Result
Samples	15
SeasGM	23
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	64
#GMI	15
#GMI Ex	1
%GMI Ex	6%
n>STV	1
%n>STV	10%

Variable*	Result
Samples	15
SeasGM	66
#GMI	25
#GMI Ex	2
%GMI Ex	8%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	66
#GMI	25
#GMI Ex	8
%GMI Ex	32%
n>STV	1
%n>STV	6%

Cumulative %GMI Exceedance Current (2011-2022)

14%

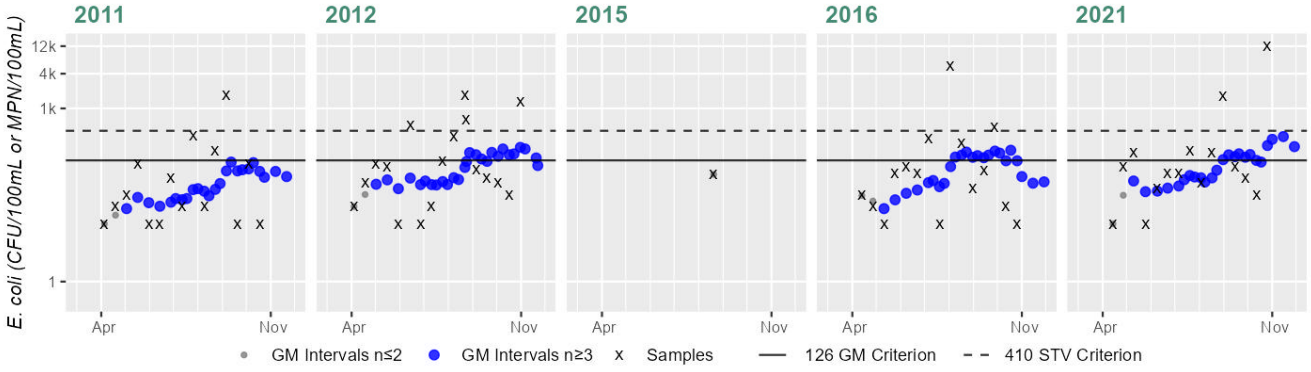
Cumulative %GMI Exceedance Current (Recent 5 Years)

20%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_212B - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	41
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	17
SeasGM	96
#GMI	29
#GMI Ex	12
%GMI Ex	41%
n>STV	4
%n>STV	23%

Variable*	Result
Samples	1
SeasGM	72
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	69
#GMI	25
#GMI Ex	10
%GMI Ex	40%
n>STV	2
%n>STV	13%

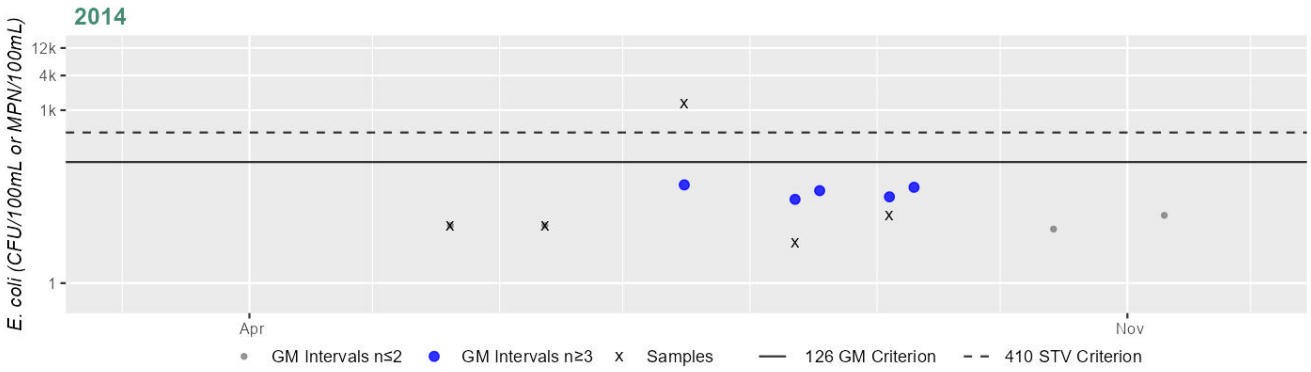
Variable*	Result
Samples	15
SeasGM	105
#GMI	25
#GMI Ex	11
%GMI Ex	44%
n>STV	2
%n>STV	13%

Cumulative %GMI Exceedance
Current (2011-2022)
31%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1757 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	24
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Hop Brook (MA36-32) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Hop Brook (MA36-32) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_212B [Hop Brook Russell Rd (South)] from 2011-2012, 2015-2016, and 2021 (n=1-27/yr), DCRWS_212 [Hop Brook Gate 22 Rd] from 2008-2010 (historic n=26-27/yr) and 2011-2022 (current n=19-28/yr), W1757 [~1500 ft upstream of inlet to Quabbin Reservoir, New Salem] from May-Sep 2014 (n=5). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_212B indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_212 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1757 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 24 CFU/100ml. *E. coli* data from W1757 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. *E. coli* data from DCRWS_212B and DCRWS_212 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_212	MA DCR Division of Water Supply Protection	Water Quality	Hop Brook	Hop Brook, Gate 22 Rd	42.473703	-72.333121
DCRWS_212B	MA DCR Division of Water Supply Protection	Water Quality	Hop Brook	Hop Brook - Russell Rd (South)	42.478845	-72.334042
W1757	MassDEP	Water Quality	Hop Brook	[approximately 1500 feet upstream of inlet to Quabbin Reservoir, New Salem]	42.469994	-72.322599

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

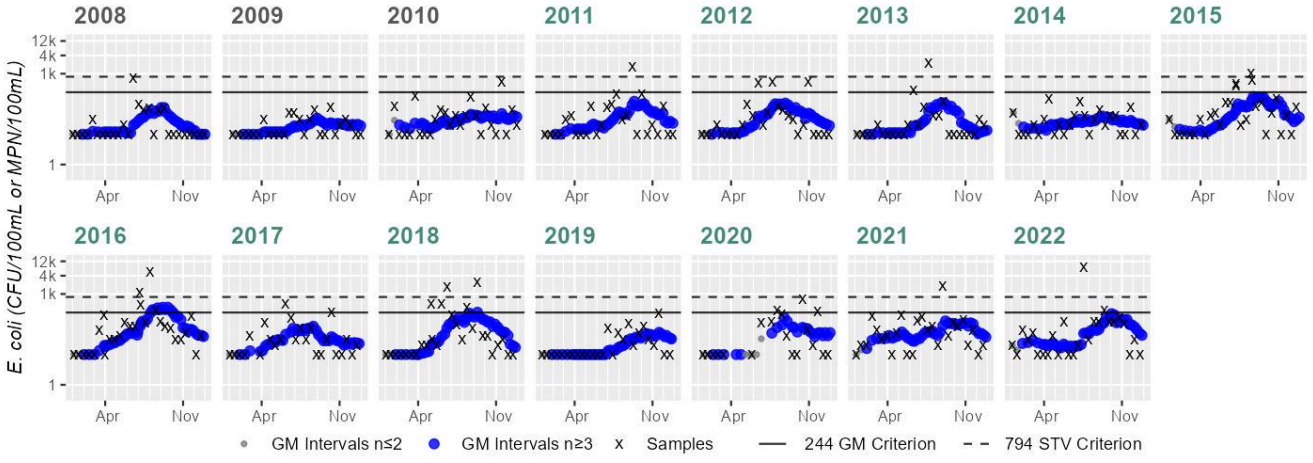
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	27	10	712	18
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	75	16
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	554	28
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	26	10	1720	27
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	538	27
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	2190	21
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	145	23
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	28	10	987	43
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	28	10	5480	60
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	25	10	473	28
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	27	10	2360	40
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/19/19	26	10	231	18
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	650	32
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	1850	47
DCRWS_212	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	26	10	7700	42
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	25	10	1720	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	27	10	1720	44
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	08/20/15	08/20/15	1	72	72	72
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	27	10	5480	45
DCRWS_212B	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	12000	63
W1757	MassDEP	E. coli	05/20/14	09/04/14	5	5	1300	24

Station DCRWS_212 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	18
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	16
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	28
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	27
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	28
SeasGM	43
#GMI	51
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	28
SeasGM	60
#GMI	51
#GMI Ex	9
%GMI Ex	17%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	25
SeasGM	28
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	40
#GMI	49
#GMI Ex	1
%GMI Ex	2%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	32
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	47
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	42
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

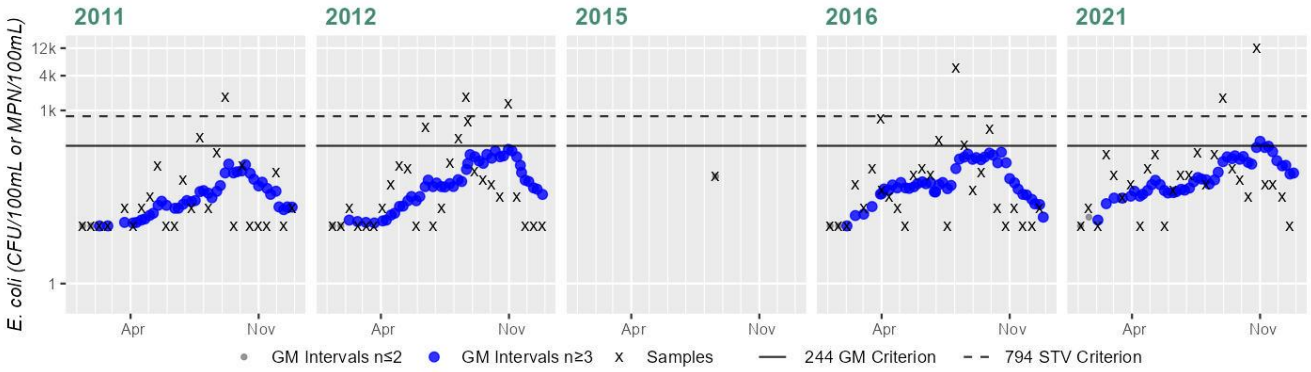
Cumulative %GMI Exceedance Current (2011-2022)
1%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_212B - Escherichia coli

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



Variable*	Result
Samples	25
SeasGM	27
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	27
SeasGM	44
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	1
SeasGM	72
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	45
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

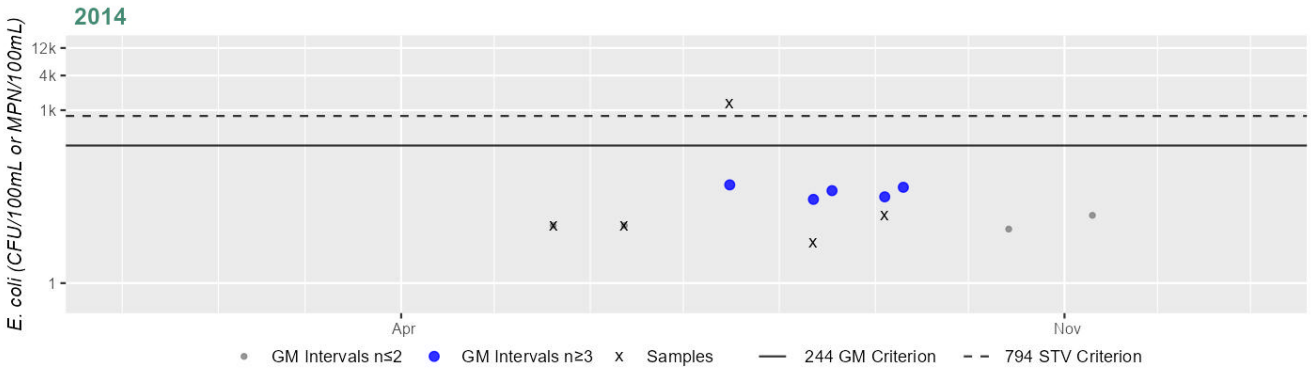
Variable*	Result
Samples	26
SeasGM	63
#GMI	47
#GMI Ex	1
%GMI Ex	2%
n>STV	2
%n>STV	7%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1757 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	24
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Horse Pond (MA36072)

Location:	North Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	63 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Horse Pond (MA36072) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

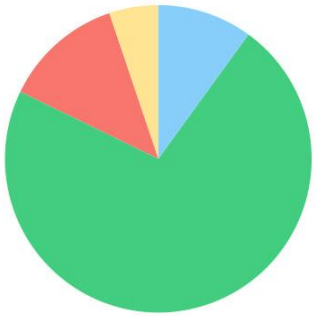
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None	--	Unchanged

Jabish Brook (MA36-43)

Location:	Headwaters, outlet Knights Pond, Belchertown to Jabish Canal, Belchertown.
AU Type:	RIVER
AU Size:	7.5 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Jabish Brook (MA36-43)

Watershed Area: 19.33 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	19.33	11.79	4.67	2.85
Agriculture	5.2%	6%	4.2%	4%
Developed	12.6%	15.7%	9.2%	10.7%
Natural	72.2%	68.2%	67.2%	65.2%
Wetland	10%	10.1%	19.4%	20.1%
Impervious	4.2%	5.2%	3.2%	3.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Jabish Brook (MA36-43) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Jabish Brook AU (MA36-43), so it 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 Jabish Brook (MA36-43) 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 Jabish Brook (MA36-43) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Jabish Brook (MA36-43) from 2008 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1874 [Rt. 21 (Jabish St) crossing, Belchertown] from May-Sep 2008 (n=6), W1859 [Aldrich St crossing, (upstream of canal diversion), Belchertown] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1874 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 102 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1859 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 96 CFU/100ml. Historic *E. coli* data from W1859 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Historic *E. coli* data from W1874 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1859	MassDEP	Water Quality	Jabish Brook	[Aldrich Street crossing, (upstream of canal diversion), Belchertown]	42.270430	-72.379486
W1874	MassDEP	Water Quality	Jabish Brook	[Route 21 (Jabish Street) crossing, Belchertown]	42.282813	-72.392841

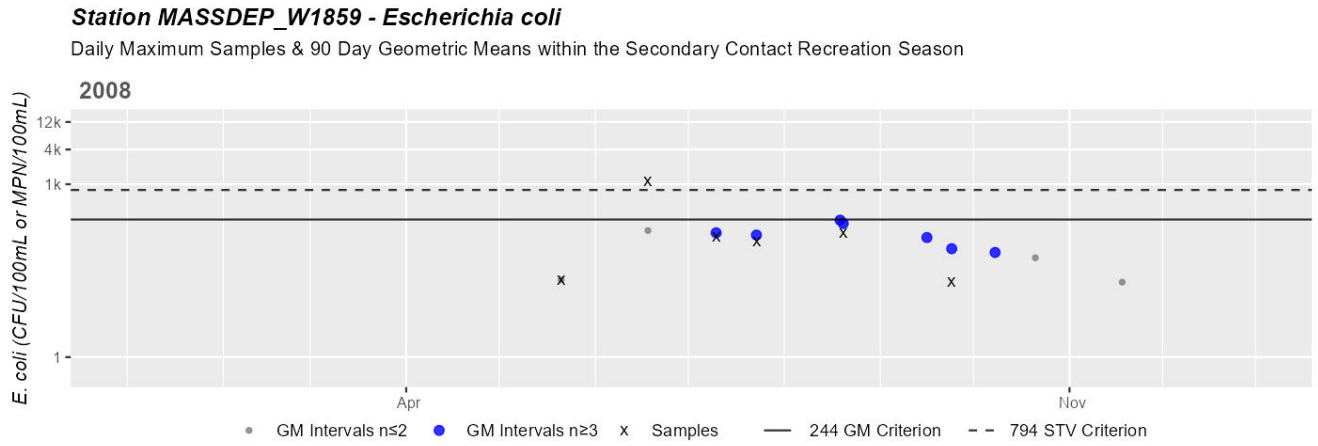
Bacteria Data

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

(MassDEP Undated 6) (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
W1859	MassDEP	E. coli	05/20/08	09/23/08	6	20	1120	96
W1874	MassDEP	E. coli	05/20/08	09/23/08	6	20	740	102



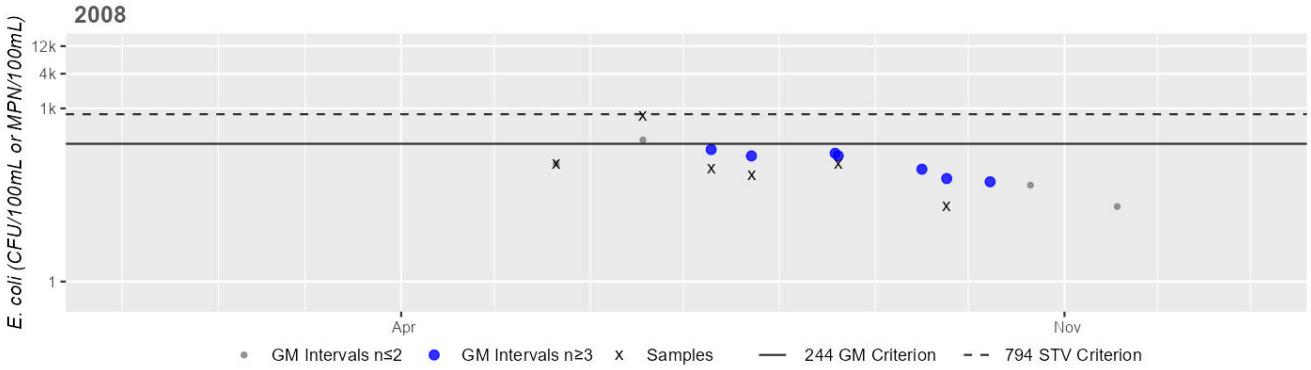
Variable*	Result
Samples	6
SeasGM	96
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1874 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	102
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Jabish Brook (MA36-73)

Location:	From Jabish Canal, Belchertown to mouth at confluence with Swift River, Belchertown (formerly part of 2016 segment: Jabish Brook MA36-43).
AU Type:	RIVER
AU Size:	6.5 MILES
Classification/Qualifier:	B

No usable data were available for Jabish Brook (MA36-73) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Joslin Brook (MA36-44)

Location:	Headwaters, outlet Lovewell Pond, Hubbardston to mouth at confluence with Mason Brook, Hubbardston.
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Joslin Brook (MA36-44)

Watershed Area: 5.87 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.87	5.10	3.81	3.47
Agriculture	1%	1.1%	1.4%	1.4%
Developed	4.9%	4.9%	4.1%	4.3%
Natural	80.8%	81%	75.1%	75.8%
Wetland	13.2%	13%	19.5%	18.5%
Impervious	1.9%	1.9%	1.6%	1.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Joslin Brook (MA36-44) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Joslin Brook AU (MA36-44), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Joslin Brook (MA36-44) continues to be assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Joslin Brook (MA36-44) at DCRWS_128 [Lovewell Pond Outlet, Joslin Brook] from 2014 and 2018 (n=15-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_128 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_128 meet 2024 CALM guidance.

Monitoring Stations

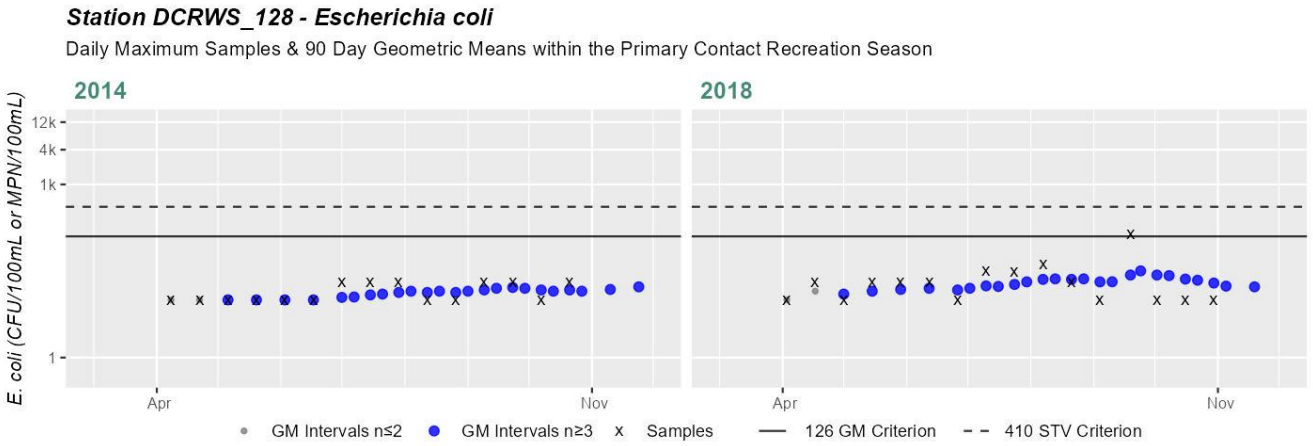
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_128	MA DCR Division of Water Supply Protection	Water Quality	Joslin Brook	Lovewell Pond Outlet, Joslin Brook	42.506980	-71.963261

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_128	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	20	13
DCRWS_128	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	135	18



Variable*	Result
Samples	15
SeasGM	13
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	18
#GMI	27
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Joslin Brook (MA36-44) continues to be assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Joslin Brook (MA36-44) from 2008-2018 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_128 [Lovewell Pond Outlet, Joslin Brook] from Jan-Dec 2010 (historic n=26) and 2014 and 2018 (current n=26/yr), W1861 [New Westminster Rd crossing, Hubbardston] from May-Sep 2008 (n=6). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_128 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_128 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_128	MA DCR Division of Water Supply Protection	Water Quality	Joslin Brook	Lovewell Pond Outlet, Joslin Brook	42.506980	-71.963261
W1861	MassDEP	Water Quality	Joslin Brook	[New Westminster Road crossing, Hubbardston]	42.480975	-71.975805

Bacteria Data

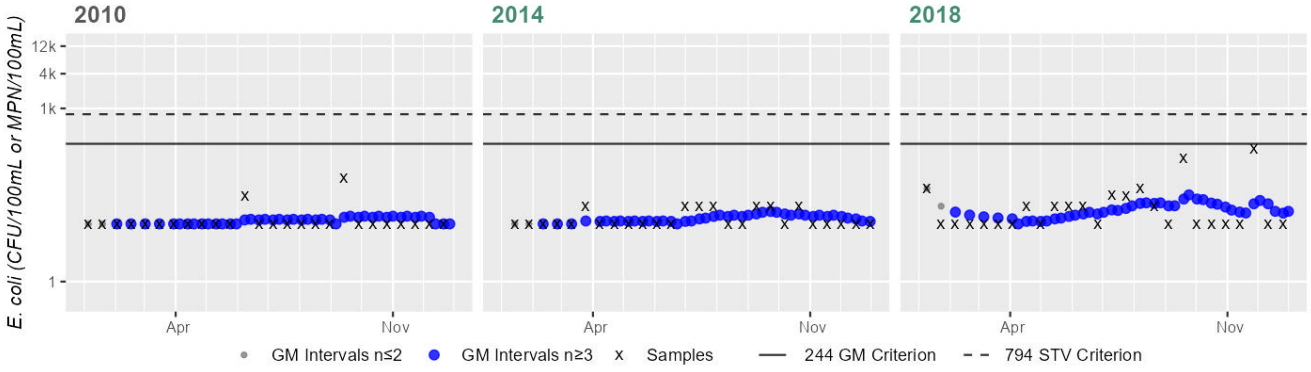
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
DCRWS_128	MA DCR Division of Water Supply Protection	E. coli	01/05/10	12/21/10	26	10	63	11
DCRWS_128	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	20	12
DCRWS_128	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	26	10	201	17
W1861	MassDEP	E. coli	05/20/08	09/23/08	6	8	70	24

Station DCRWS_128 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	11
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	12
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

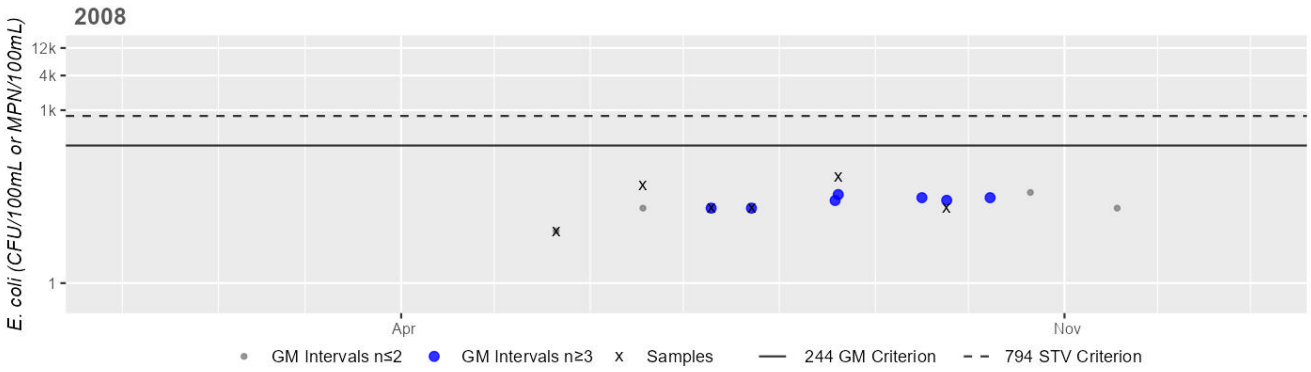
Cumulative %GMI Exceedance Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1861 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	24
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

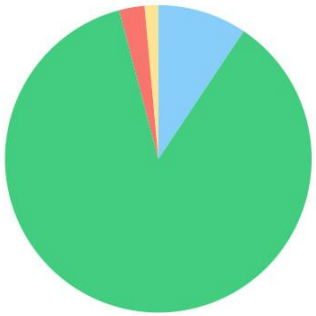
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Kings Brook (MA36-48)

Location:	Headwaters, west of Saint John Street, Palmer to mouth at confluence with Quaboag River, Palmer.
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

Kings Brook (MA36-48)

Watershed Area: 3.97 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.97	2.69	0.66	0.59
Agriculture	1.4%	1.3%	2.2%	2.5%
Developed	2.7%	3.6%	2.1%	2.4%
Natural	86.5%	86.9%	75.9%	75%
Wetland	9.4%	8.3%	19.7%	20.1%
Impervious	1.5%	2%	1.5%	1.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Temperature	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Temperature	Dam or Impoundment (Y)	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 recently, so the Fish Consumption Use for Kings Brook (MA36-48) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Kings Brook (MA36-48) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station half-way down this Kings Brook AU at the Rt. 67 crossing, Palmer (W1864) in summer 2015 (n=4) and summer 2016 (n=4). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1864	MassDEP	Water Quality	Kings Brook	[Route 67 crossing, Palmer]	42.161712	-72.268460

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
W1864	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W1864 on Kings Brook (MA36-48) during 4 site visits between May 2015 and Aug 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W1864	2016	4	Aesthetic observations were made by MassDEP field sampling crews at Station W1864 on Kings Brook (MA36-48) during 4 site visits between May 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1864	2015	4	4	0
W1864	2016	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1864	Kings Brook	2015	Aesthetics Impaired?	No	4	4
W1864	Kings Brook	2015	Aquatic Plant Density, Overall	None	4	4
W1864	Kings Brook	2015	Color	Light Yellow/Tan	2	4
W1864	Kings Brook	2015	Color	None	2	4
W1864	Kings Brook	2015	Objectionable Deposits	No	4	4
W1864	Kings Brook	2015	Odor	None	4	4
W1864	Kings Brook	2015	Periphyton Density, Filamentous	None	4	4
W1864	Kings Brook	2015	Periphyton Density, Film	Moderate	1	4
W1864	Kings Brook	2015	Periphyton Density, Film	None	2	4
W1864	Kings Brook	2015	Periphyton Density, Film	Sparse	1	4
W1864	Kings Brook	2015	Scum	No	4	4
W1864	Kings Brook	2015	Turbidity	None	4	4
W1864	Kings Brook	2016	Aesthetics Impaired?	No	4	4
W1864	Kings Brook	2016	Aquatic Plant Density, Overall	None	4	4
W1864	Kings Brook	2016	Color	Light Yellow/Tan	2	4
W1864	Kings Brook	2016	Color	None	1	4
W1864	Kings Brook	2016	Color	NR	1	4
W1864	Kings Brook	2016	Objectionable Deposits	No	4	4
W1864	Kings Brook	2016	Odor	None	4	4
W1864	Kings Brook	2016	Periphyton Density, Filamentous	None	4	4
W1864	Kings Brook	2016	Periphyton Density, Film	None	4	4
W1864	Kings Brook	2016	Scum	No	4	4
W1864	Kings Brook	2016	Turbidity	None	4	4

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 Kings Brook (MA36-48) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information.

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 Kings Brook (MA36-48) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Kings Brook (MA36-48) at W1864 [Rt. 67 crossing, Palmer] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1864 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 31 CFU/100ml. Historic *E. coli* data from W1864 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1864	MassDEP	Water Quality	Kings Brook	[Route 67 crossing, Palmer]	42.161712	-72.268460

Bacteria Data

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

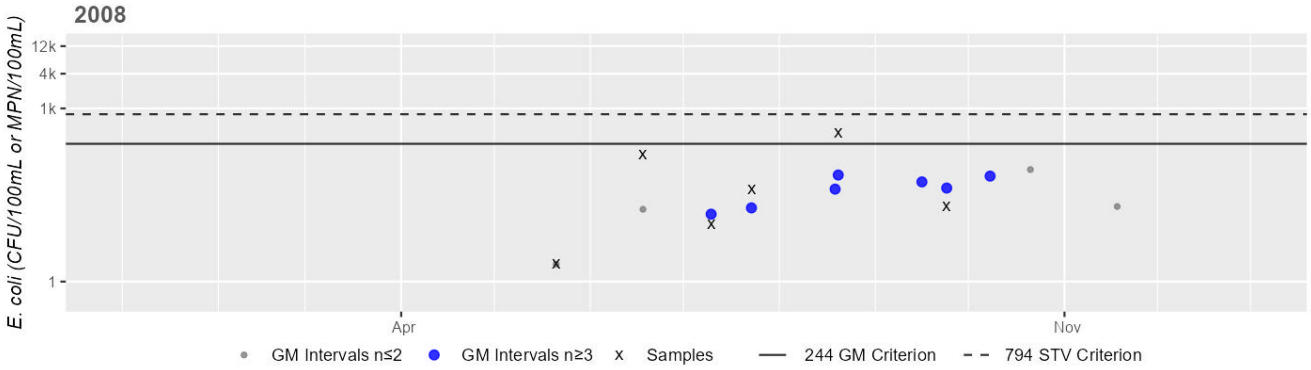
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1864	MassDEP	E. coli	05/20/08	09/23/08	6	2	380	31

Station MASSDEP_W1864 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	31
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Knights Pond (MA36077)

Location:	Belchertown.
AU Type:	FRESHWATER LAKE
AU Size:	36 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Knights Pond (MA36077) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Lake Lashaway (MA36079)

Location:	North Brookfield/East Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	274 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fanwort*)	--	Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	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 Lake Lashaway (MA36079) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. Fish toxics sampling was conducted in Lake Lashaway (MA36079) at station F0366 in 2019 and 2023 as part of the MassDEP Office of Research and Standards Mercury Initiative. MDPH included a site-specific advisory for Lake Lashaway (referred to by MDPH as ''Lashaway, 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.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP Undated 5)

Summary Statement
Fish toxics sampling was conducted in Lake Lashaway (MA36079) at station F0366 in 2019 and 2023 as part of the MassDEP Office of Research and Standards Mercury Initiative. MDPH retained the existing site-specific fish consumption advisories for Mercury associated with Lake Lashaway (referred to by MDPH as Lashaway, Lake) in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for Mercury in Fish Tissue for Lake Lashaway (MA36079).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Lake Lashaway (MA36079) 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 Lake Lashaway (MA36079) 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 Lake Lashaway (MA36079) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

Lake Lorraine (MA36084)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	28 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Enterococcus	--	Unchanged
5	5	Mercury in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Enterococcus	Source Unknown (N)	--	--	--	X	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--

Recommendations

2024/26 Recommendations
2024 IR [E. COLI, MEDIUM] Additional monitoring is recommended because the only sampled collected at {NARS_WQX-NLA_MA-10021} from Aug 2017 (n=1) exceeded the 410 CFU/100ml STV (2419 CFU/100ml).

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Lake Lorraine (MA36084) is assessed as Not Supporting with a new impairment being added for Mercury in Fish Tissue. Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Lake Lorraine (MA36084) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). MDPH issued a site-specific advisory for Mercury in Lake Lorraine (referred to by MDPH as ''Lorraine, 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. The likely source of Mercury, although not confirmed, is atmospheric deposition.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP Undated 5)

Summary Statement
Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Lake Lorraine (MA36084) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). Because of elevated Mercury measured in fish filets, MDPH issued site-specific fish consumption advisories for Lake Lorraine (referred to by MDPH as Lorraine, Lake) in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for Mercury in Fish Tissue for Lake Lorraine (MA36084).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

There are no data available to assess the status of the Aesthetics Use for this Lake Lorraine AU (MA36084), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Lake Lorraine (MA36084) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward. An Alert is being identified for *Escherichia coli (E. coli)* and additional sampling is recommended for this AU. In Lake Lorraine (MA36084), EPA (NARS_WQX) collected Secchi and cyanotoxin data at NARS_WQX-NLA_MA-10021 (2017) and Secchi, cyanobacteria cell count, and cyanotoxin data at NARS_WQX-NLA12_MA-109 [42.144804, -72.512914, NLA12_MA-109] (2012). Secchi depth data were too limited (n <3 or missing station depth) to evaluate water clarity using data from NARS_WQX-NLA12_MA-109 in 2012 (n=1, 5.95m) and NARS_WQX-NLA_MA-10021 in 2017 (n=1, 4.45m). The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 (n=1). Analysis of microcystins and cylindrospermopsin samples from NARS_WQX-NLA12_MA-109 in 2012 (n=1) and NARS_WQX-NLA_MA-10021 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS_WQX) staff/volunteers collected *E. coli* bacteria samples in Lake Lorraine (MA36084) at NARS_WQX-NLA_MA-10021 [Lake Lorraine] from Aug 2017 (n=1). Note that samples exceeded the 410 CFU/100ml STV in 2017 (n=1). *E. coli* data from NARS_WQX-NLA_MA-10021 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use; however, an Alert is being identified for *Escherichia coli* due to high concentrations at this location.

Monitoring Stations

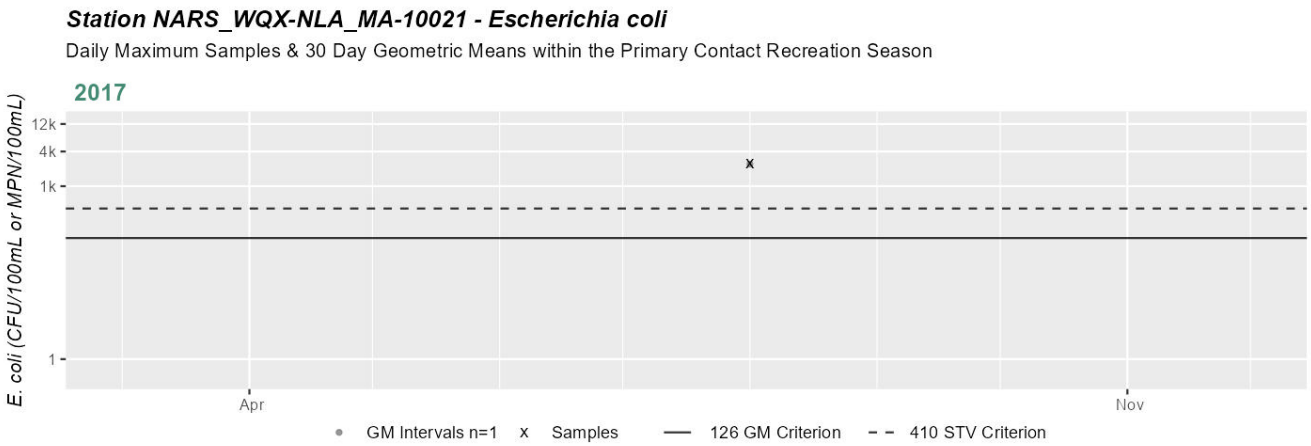
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
NARS_WQX-NLA_MA-10021	EPA National Aquatic Resources Survey (NARS)	Water Quality	Lake Lorraine	Lake Lorraine	42.145740	-72.513680

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (EPA 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
NARS_WQX-NLA_MA-10021	EPA National Aquatic Resources Survey (NARS)	E. coli	08/01/17	08/01/17	1	2419	2419	2419



Variable*	Result
Samples	1
SeasGM	2419
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
(NWQMC 2025) (MassDEP Undated 2)

Data Year(s)	Summary
2012, 2017	In Lake Lorraine (MA36084), EPA (NARS) collected Secchi and cyanotoxin data at NARS_WQX-NLA_MA-10021 in 2017, and Secchi, cyanobacteria cell count, and cyanotoxin data at NARS_WQX-NLA12_MA-109 [42.144804, -72.512914, NLA12_MA-109] in 2012. At station NARS_WQX-NLA12_MA-109 (station depth=not recorded) the Secchi depth (n=1) was measured to be 5.95 m on Sep 13, 2012 indicating water clarity meeting the 1.2 m (4 ft) threshold. At station NARS_WQX-NLA_MA-10021 (station depth=10.2 m) the Secchi depth (n=1) was measured to be 4.45 m on Jul 31, 2017 indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 at NARS_WQX-NLA12_MA-109 (n=1). Analysis of microcystins and cylindrospermopsin samples from NARS_WQX-NLA12_MA-109 in 2012 (n=1) and NARS_WQX-NLA_MA-10021 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L.

Secondary Contact Recreation

2024/26 Use Attainment	Alert

Insufficient Information	NO

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Lake Lorraine (MA36084) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Lake Lorraine (MA36084), EPA (NARS_WQX) collected cyanobacteria cell count and cyanotoxin data at NARS_WQX-NLA12_MA-109 [42.144804, -72.512914, NLA12_MA-109] (2012) and cyanotoxin data at NARS_WQX-NLA_MA-10021 (2017). The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 (n=1). Analysis of microcystins and cylindrospermopsin samples from NARS_WQX-NLA12_MA-109 in 2012 (n=1) and NARS_WQX-NLA_MA-10021 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS_WQX) staff collected *E. coli* bacteria samples in Lake Lorraine (MA36084) at NARS_WQX-NLA_MA-10021 [Lake Lorraine] from Aug 2017 (n=1). The available *E. coli* data at NARS_WQX-NLA_MA-10021 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 794 CFU/100ml STV in 2017 (n=1).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
NARS_WQX-NLA_MA-10021	EPA National Aquatic Resources Survey (NARS)	Water Quality	Lake Lorraine	Lake Lorraine	42.145740	-72.513680

Bacteria Data

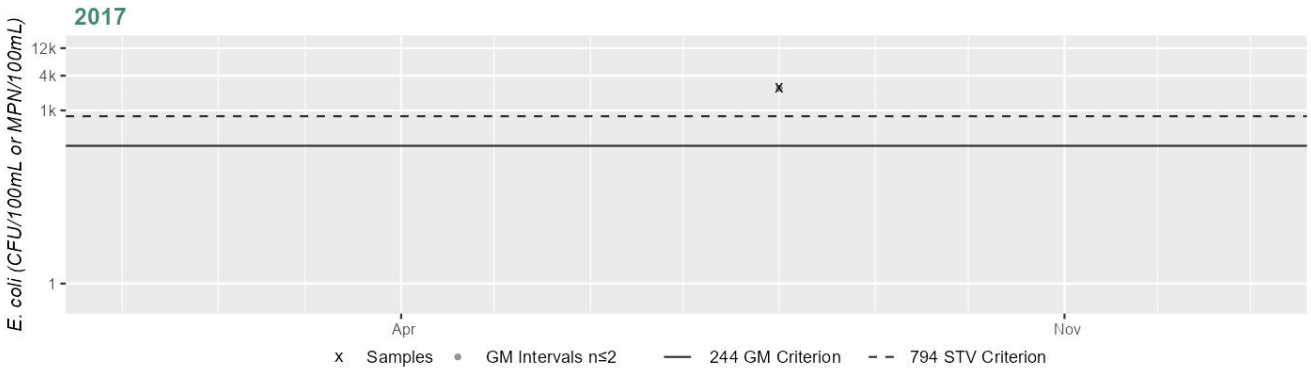
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2024) (MassDEP Undated 1)

[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
NARS_WQX-NLA_MA-10021	EPA National Aquatic Resources Survey (NARS)	E. coli	08/01/17	08/01/17	1	2419	2419	2419

Station NARS_WQX-NLA_MA-10021 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	2419
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Lake Whittemore (MA36165)

Location:	Spencer.
AU Type:	FRESHWATER LAKE
AU Size:	52 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Turbidity	Source Unknown (N)	--	--	X	X	X

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Insufficient Information	No

2024/26 Use Attainment Summary
There is Insufficient Information to assess the Fish Consumption Use for Lake Whittemore (MA36165). Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Lake Whittemore (MA36165) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). However, no site-specific fish consumption advisory was issued by MDPH.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MassDEP Undated 5)

Summary Statement
Fish toxics sampling for metals (mercury, arsenic, cadmium, and selenium) was performed by MassDEP WPP biologists in Lake Whittemore (MA36165) in 2023 as part of the MassDEP WPP targeted assessment monitoring (TAM). No site-specific fish consumption advisory was issued by MDPH.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Lake Whittemore (MA36165) continues to be assessed as Not Supporting with the Turbidity impairment being carried forward. No new data are available to evaluate the Aesthetics Use for this Lake Whittemore AU.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Lake Whittemore (MA36165) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity 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 Lake Whittemore (MA36165) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity impairment (from the Aesthetics Use) is being carried forward.

Long Pond (MA36082)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	167 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Mercury in Fish Tissue	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	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 Long Pond (MA36082) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Long 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
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Long Pond (MA36082) is assessed as Fully Supporting. MassDEP staff surveyed this Long Pond AU at a shoreline station south off the Long Pond boat launch parking area, west off Rt. 122 (Barre Paxton Rd), Rutland W2596 (MAP2L-028S) and at the deep hole index station in the southern most portion of pond, Rutland W2631 (MAP2L-028); both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2596 (n=5) and W2631 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1). During the MAP2 macrophyte mapping survey in Jul 2016 (n=1), less than 25% (16.5%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2596	MassDEP	Water Quality	Long Pond	[south off the Long Pond boat launch parking area, west off Route 122 (Barre Paxton Road), Rutland]	42.358149	-71.992825
W2631	MassDEP	Water Quality	Long Pond	[index site, in southern most portion of pond, Rutland]	42.350642	-71.992409

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
W2596	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2596 (MAP2L-028S) on Long Pond (MA36082) during 5 site visits between May 2016 and Aug 2016. 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.

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2631	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2631 (MAP2L-028) on Long Pond (MA36082) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Jul 2016, less than 25% (16.5%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2596	Long Pond	2016	Aesthetics Impaired?	No	5	5
W2596	Long Pond	2016	Color	Light Yellow/Tan	3	5
W2596	Long Pond	2016	Color	None	2	5
W2596	Long Pond	2016	Objectionable Deposits	No	5	5
W2596	Long Pond	2016	Odor	None	5	5
W2596	Long Pond	2016	Scum	No	5	5
W2596	Long Pond	2016	Turbidity	None	4	5
W2596	Long Pond	2016	Turbidity	Slightly Turbid	1	5
W2631	Long Pond	2016	Aesthetics Impaired?	No	2	3
W2631	Long Pond	2016	Aesthetics Impaired?	NR	1	3
W2631	Long Pond	2016	Aquatic Plant Density, Overall	None	3	3
W2631	Long Pond	2016	Color	Light Yellow/Tan	3	3
W2631	Long Pond	2016	Objectionable Deposits	No	3	3
W2631	Long Pond	2016	Odor	None	3	3
W2631	Long Pond	2016	Scum	No	2	3
W2631	Long Pond	2016	Scum	Yes	1	3
W2631	Long Pond	2016	Turbidity	None	1	3
W2631	Long Pond	2016	Turbidity	Slightly Turbid	2	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Long Pond (MA36082) is assessed as Fully Supporting. In Long Pond (MA36082), MassDEP collected Secchi and cyanobacteria cell count data at W2631 [MAP2L-028, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2596 [MAP2L-028S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2631 in 2016 (n=3, 3.5-6.7m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2596 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Long Pond (MA36082) at W2596 [S off the Long Pond boat launch parking area, W off Rt. 122 (Barre Paxton Rd), Rutland] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2596 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 6 CFU/100ml. *E. coli* data from W2596 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2596	MassDEP	Water Quality	Long Pond	[south off the Long Pond boat launch parking area, west off Route 122 (Barre Paxton Road), Rutland]	42.358149	-71.992825
W2631	MassDEP	Water Quality	Long Pond	[index site, in southern most portion of pond, Rutland]	42.350642	-71.992409

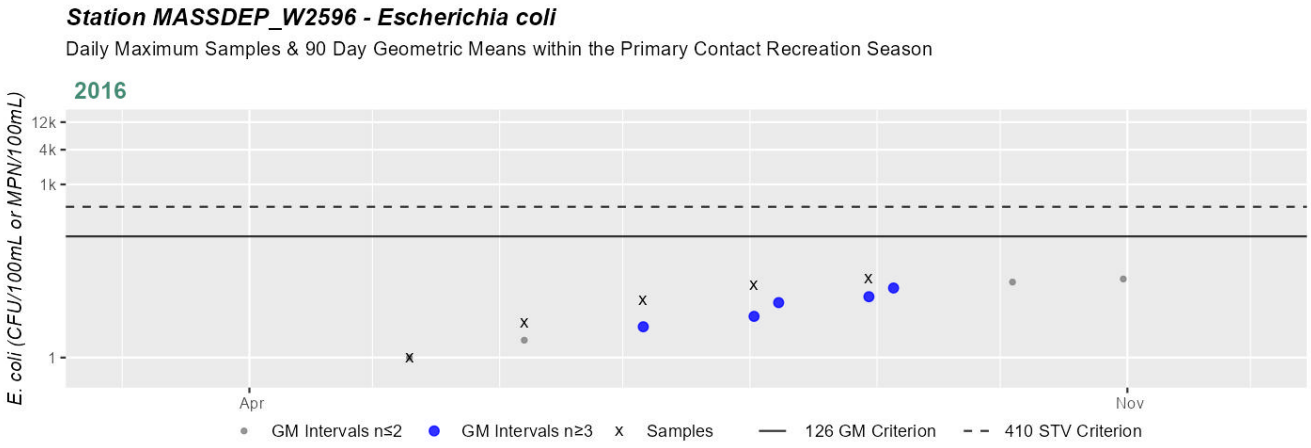
Bacteria Data

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

(MassDEP Undated 6) (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
W2596	MassDEP	E. coli	05/09/16	08/29/16	5	1	23	6



Variable*	Result
Samples	5
SeasGM	6
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In this Long Pond AU (MA36082) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2631 [MAP2L-028, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2596 [MAP2L-028S, Shoreline]. At station W2631 (station depth=7.3 m) the Secchi depth measurements ranged from 3.5-6.7 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 W2596 (n=4) 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 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2596	Long Pond	Shoreline	2016	3	0	NA
W2631	Long Pond	Index	2016	3	0	NA

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Long Pond (MA36082) is assessed as Fully Supporting. In Long Pond (MA36082), MassDEP collected cyanobacteria cell count data at W2631 [MAP2L-028, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2596 [MAP2L-028S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2596 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Long Pond (MA36082) at W2596 [S off the Long Pond boat launch parking area, W off Rt. 122 (Barre Paxton Rd), Rutland] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2596 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 6 CFU/100ml. *E. coli* data from W2596 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2596	MassDEP	Water Quality	Long Pond	[south off the Long Pond boat launch parking area, west off Route 122 (Barre Paxton Road), Rutland]	42.358149	-71.992825

Bacteria Data

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

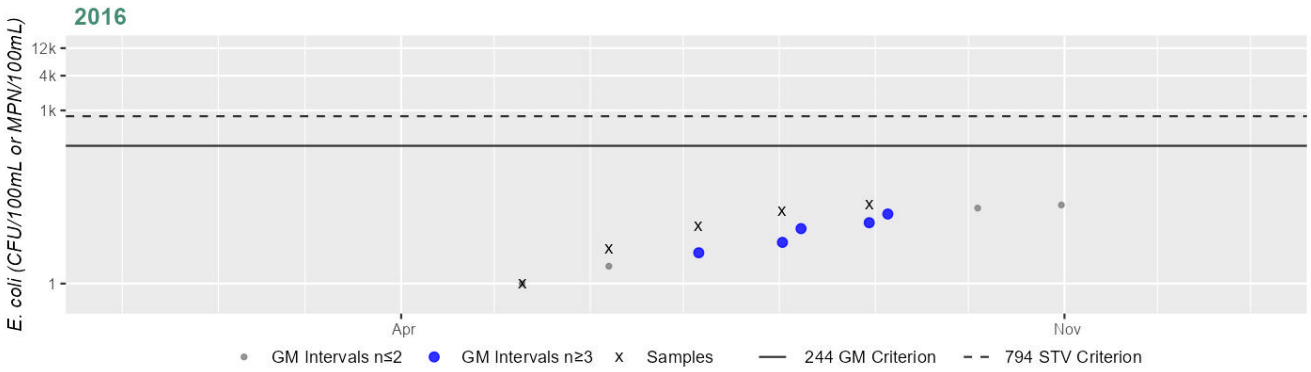
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2596	MassDEP	E. coli	05/09/16	08/29/16	5	1	23	6

Station MASSDEP_W2596 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	6
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Long Pond (MA36083)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	14 ACRES
Classification/Qualifier:	B

No usable data were available for Long Pond (MA36083) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Nutrient/Eutrophication Biological Indicators	722	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (Y)	--	--	X	X	X

Lovewell Pond (MA36085)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	82 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Lovewell Pond (MA36085) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Mare Meadow Reservoir (MA36090)

Location:	Westminster/Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	240 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Mare Meadow Reservoir (MA36090) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Mare Meadow Reservoir North (MA36178)

Location:	Westminster.
AU Type:	FRESHWATER LAKE
AU Size:	38 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Mare Meadow Reservoir North (MA36178) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Meadow Brook (MA36-91)

Location:	Headwaters, perennial portion north of Waite Corner Road, North Brookfield to mouth at confluence with Mill Brook, New Braintree.
AU Type:	RIVER
AU Size:	3.4 MILES
Classification/Qualifier:	B

No usable data were available for Meadow Brook (MA36-91) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Middle Branch Swift River (MA36-33)

Location:	Headwaters just north of portions of Wendell and New Salem State Forests (south of the Swift River School), Wendell to mouth at inlet Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	6.9 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Middle Branch Swift River (MA36-33)

Watershed Area: 9.14 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	9.14	8.15	2.11	1.86
Agriculture	2.3%	2.3%	1.3%	1.4%
Developed	5.1%	5.3%	6.8%	6.7%
Natural	86.6%	86.1%	77.3%	76%
Wetland	6%	6.4%	14.6%	15.8%
Impervious	2.3%	2.3%	3.2%	3.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	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 recently, so the Fish Consumption Use for Middle Branch Swift River (MA36-33) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Middle Branch Swift River (MA36-33) 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 the Middle Branch Swift River (MA36-33) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at DCRWS_213A. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the Middle Branch Swift River (MA36-33) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_213B [Elm St] from 2011-2012, 2016, and 2021 (n=15-16/yr), DCRWS_213A [M Br Swift R & Fay Rd] from 2011-2012, 2016, and 2021 (n=15-18/yr), DCRWS_213 [Middle Branch Swift River] from 2011-2022 (n=10-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_213B indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_213A indicated 3 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2011-2012 and 2016, 44-74%), 3 yrs had >10% of samples exceed the 410 CFU/100ml STV (2011-2012 and 2016, 13-22%), and cumulatively across years 48% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_213 indicated 1 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2018, 11%), 2 yrs had >10% of samples exceed the 410 CFU/100ml STV (2018 and 2020, 18 & 10%), and cumulatively across years 3% of intervals had GMs >126 CFU/100ml. While *E. coli* data from DCRWS_213B and DCRWS_213 meet 2024 CALM guidance, *E. coli* data from DCRWS_213A are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_213	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	Middle Branch Swift River	42.534132	-72.302682
DCRWS_213A	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	M Br Swift R & Fay Rd	42.546825	-72.312334
DCRWS_213B	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	Elm St	42.545865	-72.319130

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

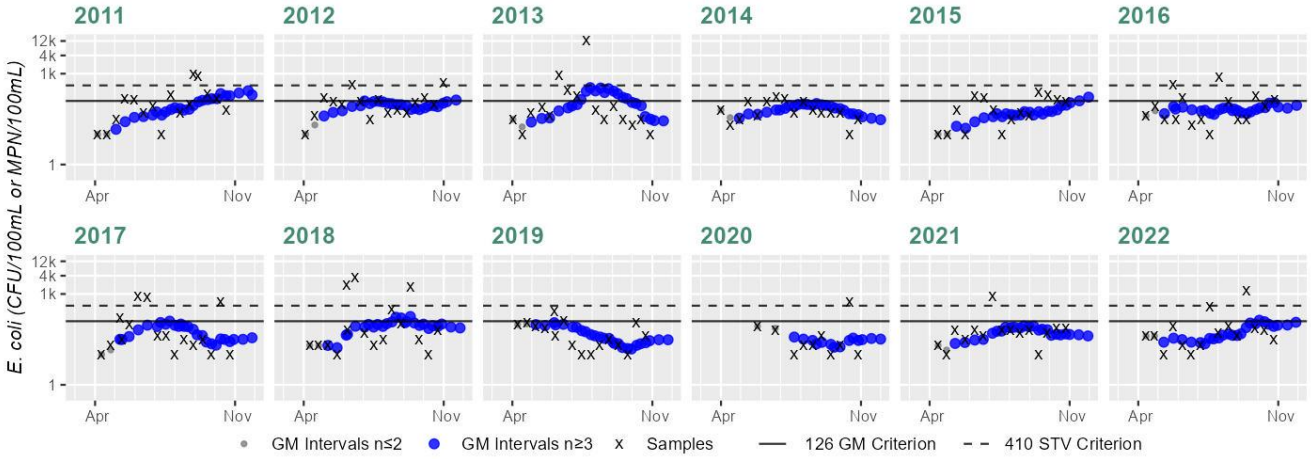
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	16	10	959	82
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	504	91
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	12000	74
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	175	56
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	15	10	246	52
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	16	10	780	69
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	16	10	836	48
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	16	10	3450	75
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	16	10	272	42

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	546	31
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	820	49
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	15	10	1310	52
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	2010	96
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	759	130
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	18	10	3450	130
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	650	61
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	464	40
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	345	40
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	15	10	798	36
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	1200	37

Station DCRWS_213 - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	82
#GMI	26
#GMI Ex	10
%GMI Ex	38%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	91
#GMI	27
#GMI Ex	3
%GMI Ex	11%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	74
#GMI	27
#GMI Ex	11
%GMI Ex	40%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	56
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	52
#GMI	25
#GMI Ex	3
%GMI Ex	12%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	69
#GMI	27
#GMI Ex	1
%GMI Ex	3%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	48
#GMI	27
#GMI Ex	1
%GMI Ex	3%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	16
SeasGM	75
#GMI	27
#GMI Ex	3
%GMI Ex	11%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	16
SeasGM	42
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	31
#GMI	15
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	10%

Variable*	Result
Samples	15
SeasGM	49
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	52
#GMI	25
#GMI Ex	1
%GMI Ex	4%
n>STV	1
%n>STV	6%

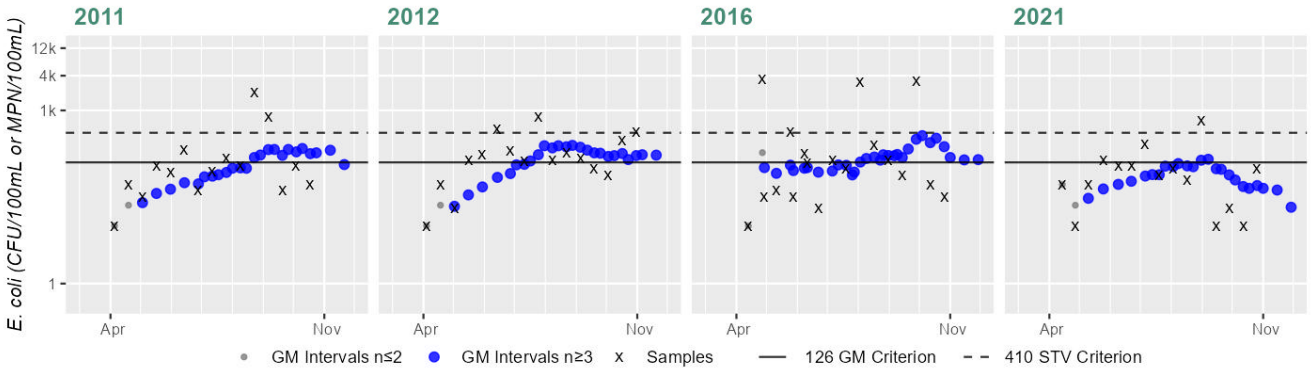
Cumulative %GMI Exceedance Current (2011-2022)
10%

Cumulative %GMI Exceedance Current (Recent 5 Years)
3%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_213A - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	96
#GMI	25
#GMI Ex	11
%GMI Ex	44%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	16
SeasGM	130
#GMI	27
#GMI Ex	20
%GMI Ex	74%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	18
SeasGM	130
#GMI	31
#GMI Ex	19
%GMI Ex	61%
n>STV	4
%n>STV	22%

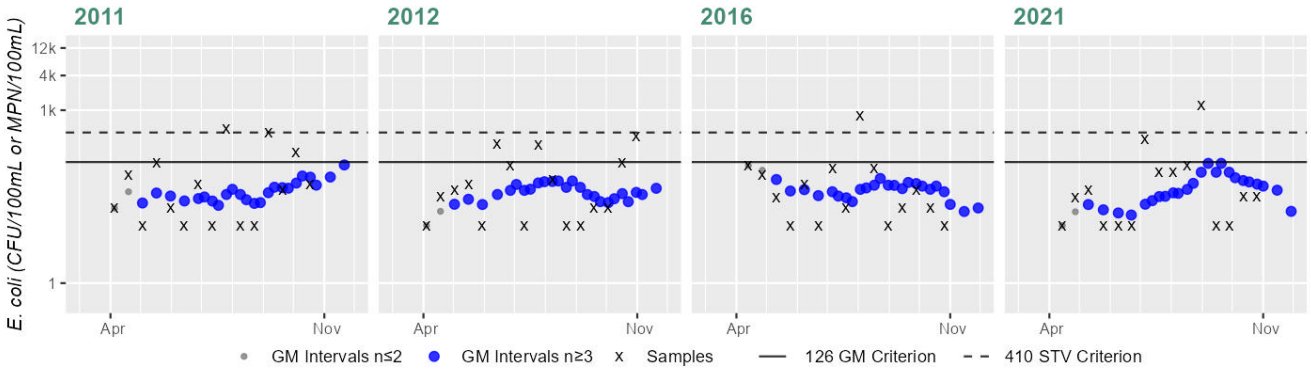
Variable*	Result
Samples	15
SeasGM	61
#GMI	25
#GMI Ex	2
%GMI Ex	8%
n>STV	1
%n>STV	6%

Cumulative %GMI Exceedance
Current (2011-2022)
48%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_213B - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	40
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	40
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	37
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Middle Branch Swift River (MA36-33) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Middle Branch Swift River (MA36-33) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_213B [Elm St] from 2011-2012, 2016, and 2021 (n=26/yr), DCRWS_213A [M Br Swift R & Fay Rd] from 2011-2012, 2016, and 2021 (n=26-29/yr), DCRWS_213 [Middle Branch Swift River] from 2008-2010 (historic n=26-27/yr) and 2011-2022 (current n=19-28/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_213B indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_213A indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 1 yr had >10% of samples exceed the 794 CFU/100ml STV (2016, 10%), and cumulatively across years 3% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_213 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 1 yr had >10% of samples exceed the 794 CFU/100ml STV (2018, 11%), and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_213B, DCRWS_213A, and DCRWS_213 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_213	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	Middle Branch Swift River	42.534132	-72.302682
DCRWS_213A	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	M Br Swift R & Fay Rd	42.546825	-72.312334
DCRWS_213B	MA DCR Division of Water Supply Protection	Water Quality	Middle Branch Swift River	Elm St	42.545865	-72.319130

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1)

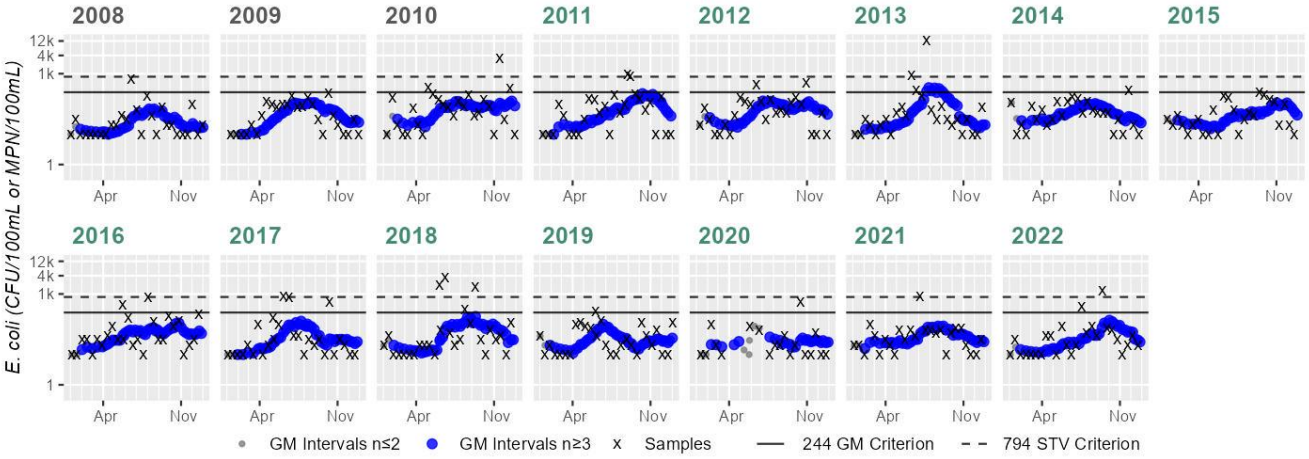
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	27	10	677	22
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	226	35
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	3260	60
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	27	10	959	48
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	504	49
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	12000	42
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	288	43
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	26	10	246	37
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	27	10	780	43
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	27	10	836	30
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	27	10	3450	43
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/31/19	28	10	272	29
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	546	23
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	820	34
DCRWS_213	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	26	10	1310	30

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	26	10	2010	50
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	759	60
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	29	10	3450	69
DCRWS_213A	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	650	34
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	26	10	487	31
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	345	26
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	26	10	798	26
DCRWS_213B	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	1200	28

Station DCRWS_213 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	22
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	35
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	60
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	27
SeasGM	48
#GMI	48
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	26
SeasGM	49
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	42
#GMI	47
#GMI Ex	6
%GMI Ex	12%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	26
SeasGM	43
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	37
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	43
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	30
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	27
SeasGM	43
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	3
%n>STV	11%

Variable*	Result
Samples	28
SeasGM	29
#GMI	51
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	23
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	34
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	30
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

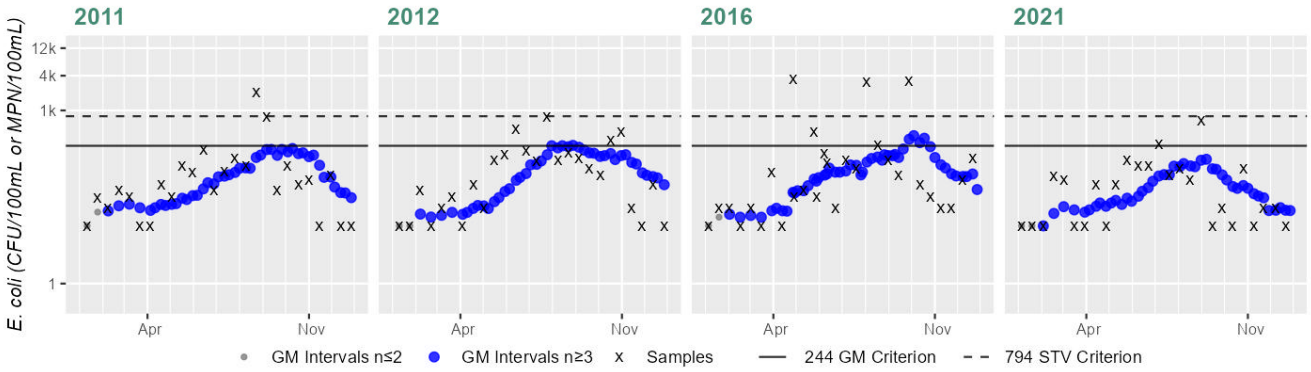
Cumulative %GMI Exceedance
Current (2011-2022)
1%

Cumulative %GMI Exceedance
Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_213A - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	50
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	60
#GMI	47
#GMI Ex	3
%GMI Ex	6%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	29
SeasGM	69
#GMI	53
#GMI Ex	4
%GMI Ex	7%
n>STV	3
%n>STV	10%

Variable*	Result
Samples	26
SeasGM	34
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

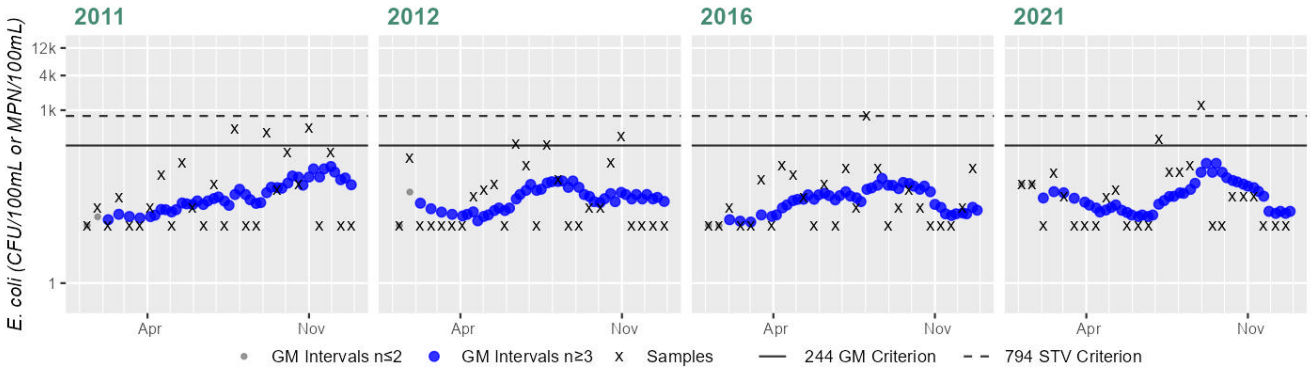
Current (2011-2022)

3%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_213B - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	31
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	26
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	26
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	28
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Minechoag Pond (MA36093)

Location:	Ludlow.
AU Type:	FRESHWATER LAKE
AU Size:	21 ACRES
Classification/Qualifier:	B

No usable data were available for Minechoag Pond (MA36093) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Nutrient/Eutrophication Biological Indicators	3629	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Golf Courses (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (Y)	--	--	X	X	X

Mona Lake (MA36094)

Location:	Springfield.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	B

No usable data were available for Mona Lake (MA36094) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Nutrient/Eutrophication Biological Indicators	3630	Unchanged

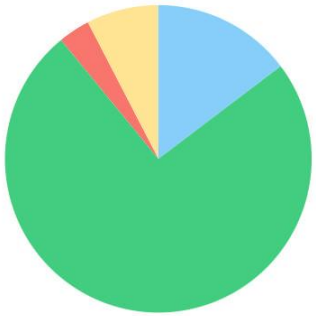
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (Y)	--	--	X	X	X

Moose Brook (MA36-51)

Location:	Headwaters, outlet small unnamed pond north of Route 32, Barre to mouth at confluence with Ware River, Hardwick.
AU Type:	RIVER
AU Size:	8 MILES
Classification/Qualifier:	B

Moose Brook (MA36-51)

Watershed Area: 10.05 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	10.05	3.02	2.04	0.92
Agriculture	7.6%	9.7%	5.2%	7.2%
Developed	3.3%	2.6%	2%	1.1%
Natural	74.4%	80.8%	65.8%	77.1%
Wetland	14.7%	7%	27%	14.6%
Impervious	1.3%	1%	0.9%	0.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Moose Brook (MA36-51) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Moose Brook AU (MA36-51), so it 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 Moose Brook (MA36-51) 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 Moose Brook (MA36-51) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Moose Brook (MA36-51) at W1851 [~1800 ft S (downstream) of Taylor Hill Rd, Hardwick (due E of Brook Rd)] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1851 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 30 CFU/100ml. Historic *E. coli* data from W1851 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1851	MassDEP	Water Quality	Moose Brook	[approximately 1800 feet south (downstream) of Taylor Hill Road, Hardwick (due east of Brook Road)]	42.372348	-72.162227

Bacteria Data

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

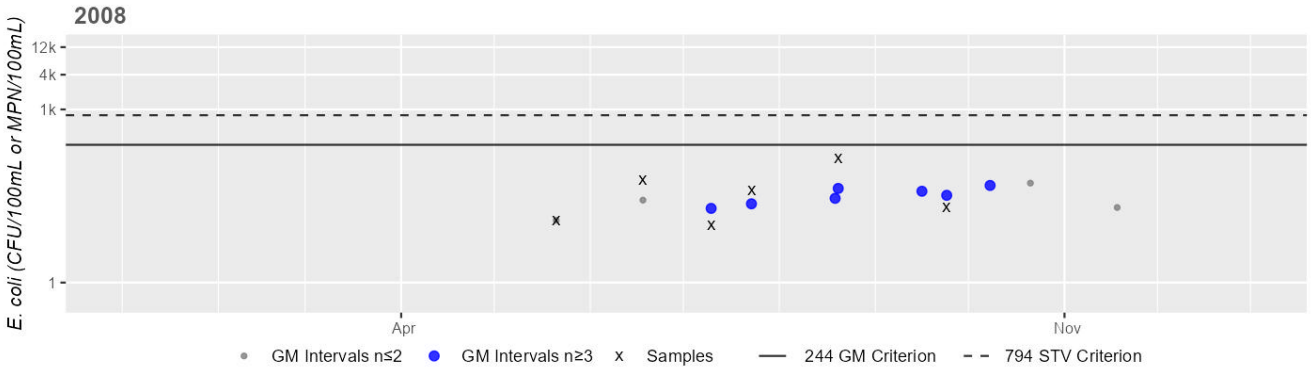
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1851	MassDEP	E. coli	05/20/08	09/23/08	6	10	140	30

Station MASSDEP_W1851 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	30
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Moose Hill Reservoir (MA36179)

Location:	Spencer/Leicester.
AU Type:	FRESHWATER LAKE
AU Size:	52 ACRES
Classification/Qualifier:	B

No usable data were available for Moose Hill Reservoir (MA36179) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Moosehorn Brook (MA36-66)

Location:	Headwaters, east of Daniel Shays Highway (Route 202), New Salem to mouth at inlet Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Moosehorn Brook (MA36-66) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Moosehorn Pond (MA36097)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	67 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Moosehorn Pond (MA36097) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Moulton Pond (MA36098)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	65 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Moulton Pond (MA36098) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

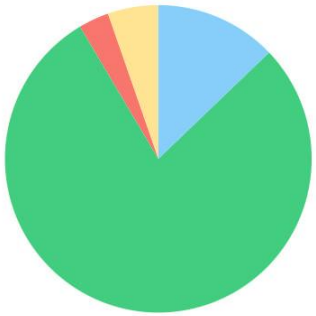
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None	--	Unchanged

Muddy Brook (MA36-77)

Location:	Headwaters, outlet wetland east of Petersham Road, Hardwick to inlet Hardwick Pond, Hardwick.
AU Type:	RIVER
AU Size:	7.5 MILES
Classification/Qualifier:	B

Muddy Brook (MA36-77)

Watershed Area: 11.05 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	11.05	5.51	3.10	1.94
Agriculture	5.3%	5.1%	3.2%	2.9%
Developed	3.2%	2.5%	1.9%	1.6%
Natural	78.6%	83.3%	73.5%	76.3%
Wetland	12.8%	9.2%	21.4%	19.1%
Impervious	1.3%	0.8%	0.8%	0.6%

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 recently, so the Fish Consumption Use for Muddy Brook (MA36-77) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Muddy Brook (MA36-77) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations half-way down this Muddy Brook AU ~2200 feet upstream/north from Muddy Brook Road, Hardwick (W1892) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1892	MassDEP	Water Quality	Muddy Brook	[approximately 2200 feet upstream/north from Muddy Brook Road, Hardwick]	42.360918	-72.230114

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
W1892	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1892 on Muddy Brook (MA36-77) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1892	2014	5	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1892	Muddy Brook	2014	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1892	Muddy Brook	2014	Aquatic Plant Density, Overall	None	1	5
W1892	Muddy Brook	2014	Aquatic Plant Density, Overall	Sparse	4	5
W1892	Muddy Brook	2014	Color	Brownish	1	5
W1892	Muddy Brook	2014	Color	Light Yellow/Tan	3	5
W1892	Muddy Brook	2014	Color	Reddish	1	5
W1892	Muddy Brook	2014	Objectionable Deposits	No	5	5
W1892	Muddy Brook	2014	Odor	None	5	5
W1892	Muddy Brook	2014	Periphyton Density, Filamentous	None	3	5
W1892	Muddy Brook	2014	Periphyton Density, Filamentous	NR	1	5
W1892	Muddy Brook	2014	Periphyton Density, Filamentous	Sparse	1	5
W1892	Muddy Brook	2014	Periphyton Density, Film	None	4	5
W1892	Muddy Brook	2014	Periphyton Density, Film	NR	1	5
W1892	Muddy Brook	2014	Scum	No	4	5
W1892	Muddy Brook	2014	Scum	Yes	1	5
W1892	Muddy Brook	2014	Turbidity	Moderately Turbid	1	5
W1892	Muddy Brook	2014	Turbidity	None	1	5
W1892	Muddy Brook	2014	Turbidity	Slightly Turbid	3	5

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 Muddy Brook (MA36-77) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Muddy Brook (MA36-77) at W1892 [~2200 ft upstream/N from Muddy Brook Rd, Hardwick] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1892 indicated 40% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 124 CFU/100ml. *E. coli* data from W1892 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1892	MassDEP	Water Quality	Muddy Brook	[approximately 2200 feet upstream/north from Muddy Brook Road, Hardwick]	42.360918	-72.230114

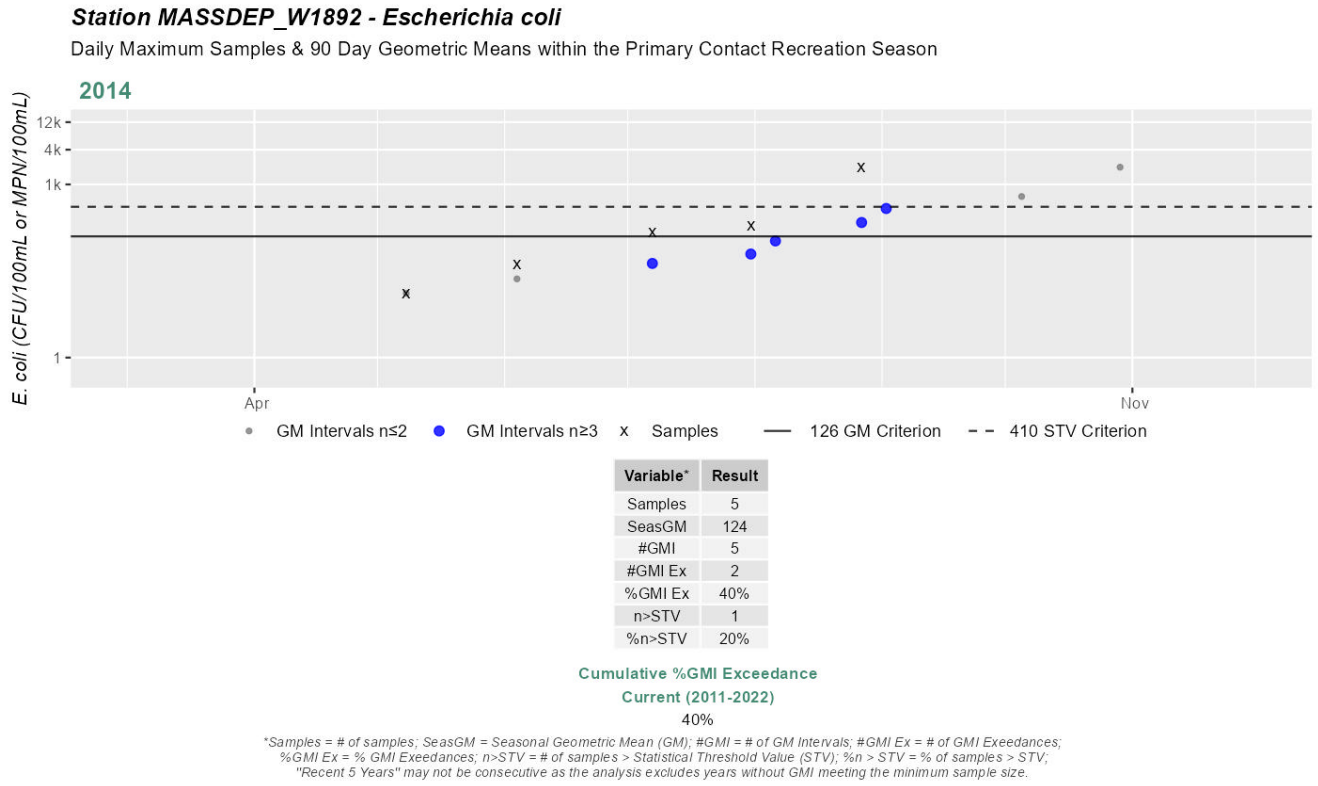
Bacteria Data

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

(MassDEP Undated 6) (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
W1892	MassDEP	E. coli	05/08/14	08/27/14	5	13	1990	124



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Muddy Brook (MA36-77) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Muddy Brook (MA36-77) at W1892 [~2200 ft upstream/N from Muddy Brook Rd, Hardwick] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1892 indicated 20% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 124 CFU/100ml. *E. coli* data from W1892 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1892	MassDEP	Water Quality	Muddy Brook	[approximately 2200 feet upstream/north from Muddy Brook Road, Hardwick]	42.360918	-72.230114

Bacteria Data

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

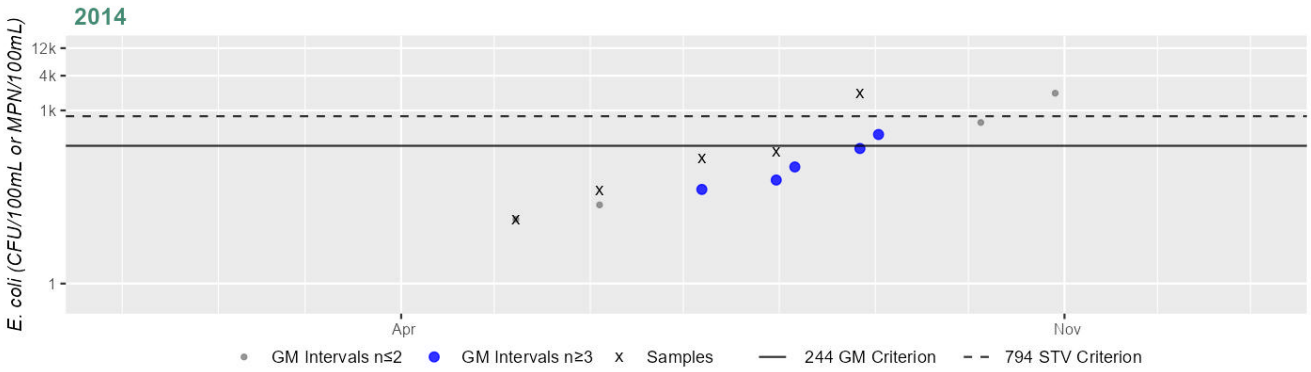
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1892	MassDEP	E. coli	05/08/14	08/27/14	5	13	1990	124

Station MASSDEP_W1892 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	124
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
20%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Muddy Pond (MA36102)

Location:	Oakham/Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Muddy Pond (MA36102) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Murphy Pond (MA36103)

Location:	Ludlow.
AU Type:	FRESHWATER LAKE
AU Size:	6 ACRES
Classification/Qualifier:	B

No usable data were available for Murphy Pond (MA36103) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Natty Pond Brook (MA36-95)

Location:	Headwaters south of Cross Road, Hubbardston to mouth at confluence with Canesto Brook, Hubbardston.
AU Type:	RIVER
AU Size:	7.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Natty Pond Brook (MA36-95)

Watershed Area: 5.83 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.83	4.30	3.75	2.87
Agriculture	3.5%	4.6%	1.9%	2.3%
Developed	8.5%	8.9%	5.7%	5.6%
Natural	77.5%	72.9%	77.1%	72.9%
Wetland	10.4%	13.6%	15.3%	19.1%
Impervious	3.2%	3.3%	2.1%	1.9%

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 recently, so the Fish Consumption Use for Natty Pond Brook (MA36-95) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Natty Pond Brook (MA36-95) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Natty Pond Brook (MA36-95) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Natty Pond Brook (MA36-95) at DCRWS_N1 from Apr-Oct 2022 (n=15). Analysis of the single year high frequency *E. coli* dataset from DCRWS_N1 indicated 0% of intervals had GMs >126 CFU/100ml and 6% of samples exceeded the 410 CFU/100ml STV. *E. coli* data from DCRWS_N1 meet 2024 CALM guidance.

Monitoring Stations

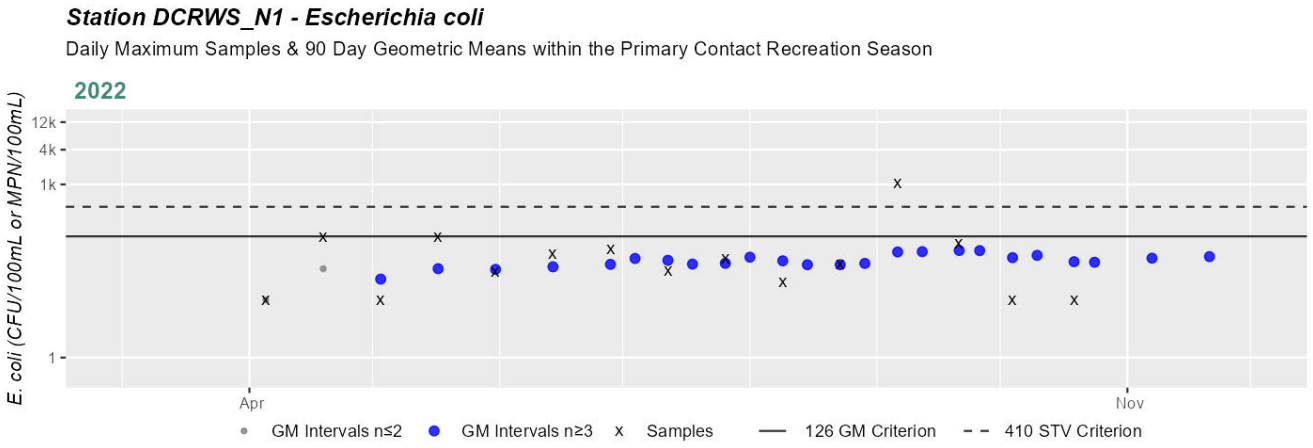
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_N1	MA DCR Division of Water Supply Protection	Water Quality	Natty Pond Brook	--	42.451878	-72.029151

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_N1	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	1050	42



Variable*	Result
Samples	15
SeasGM	42
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

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

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Natty Pond Brook (MA36-95) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Natty Pond Brook (MA36-95) at DCRWS_N1 from Jan-Dec 2022 (n=26). Analysis of the single year high frequency *E. coli* dataset from DCRWS_N1 indicated 0% of intervals had GMs >244 CFU/100ml and 3% of samples exceeded the 794 CFU/100ml STV. *E. coli* data from DCRWS_N1 meet 2024 CALM guidance.

Monitoring Stations

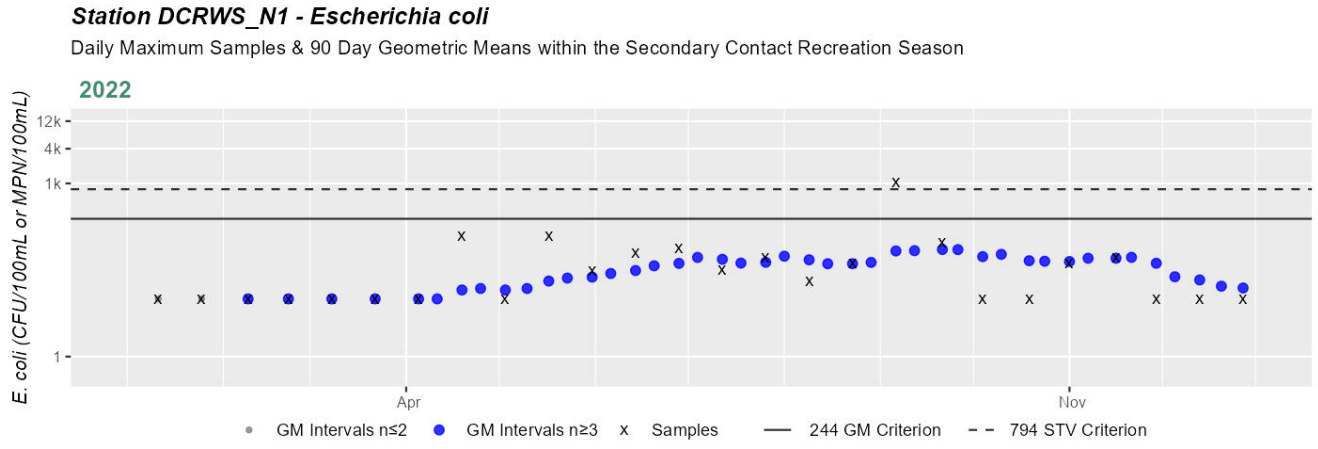
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_N1	MA DCR Division of Water Supply Protection	Water Quality	Natty Pond Brook	--	42.451878	-72.029151

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_N1	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	1050	25



Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Old Reservoir (MA36114)

Location:	Barre.
AU Type:	FRESHWATER LAKE
AU Size:	37 ACRES
Classification/Qualifier:	B: HQW (overlaps B/CWF/HQW)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Flow Regime Modification*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Flow Regime Modification*)	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 recently, so the Fish Consumption Use for Old Reservoir (MA36114) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert

Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited data are available to evaluate the Aesthetics Use of Old Reservoir (MA36114), so it is assessed as having Insufficient Information. Since the prior Flow Regime Modification impairment was redundantly duplicated across multiple uses for this waterbody, the Flow Regime Modification impairment is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use.

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 Old Reservoir (MA36114) so it is assessed as having Insufficient Information. Since the Flow Regime Modification 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
Insufficient Information	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Secondary Contact Recreation Use for Old Reservoir (MA36114) so it is assessed as having Insufficient Information. Since the Flow Regime Modification impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

O'Neil Brook (MA36-88)

Location:	Headwaters in wetland in northeastern tip of Palmer, north of Town Farm Drive, Warren to mouth at confluence with Quaboag River, Warren.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B

No usable data were available for O'Neil Brook (MA36-88) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Palmer Reservoir (MA36115)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Palmer Reservoir (MA36115) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Paradise Lake (MA36116)

Location:	Monson.
AU Type:	FRESHWATER LAKE
AU Size:	17 ACRES
Classification/Qualifier:	B

No usable data were available for Paradise Lake (MA36116) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Pattaquattic Pond (MA36117)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

No usable data were available for Pattaquattic Pond (MA36117) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Peppers Mill Pond (MA36121)

Location:	Ware.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	B

No usable data were available for Peppers Mill Pond (MA36121) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Perry Hill Pond (MA36122)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Perry Hill Pond (MA36122) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Pinnacle Creek (MA36-55)

Location:	Headwaters, outlet unnamed pond north of Peck Road, Monson to mouth at confluence with Twelvemile Brook, Monson.
AU Type:	RIVER
AU Size:	1 MILES
Classification/Qualifier:	B: CWF

No usable data were available for Pinnacle Creek (MA36-55) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Pleasant Brook (MA36-68)

Location:	Headwaters, east of Williamsville Road, Barre to mouth at confluence with Prince River, Barre.
AU Type:	RIVER
AU Size:	3.4 MILES
Classification/Qualifier:	B

No usable data were available for Pleasant Brook (MA36-68) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Popple Camp Brook (MA36-67)

Location:	Headwaters, perennial portion north of Lincoln Road, Phillipston to mouth at confluence with Shattuck Brook (forming headwaters East Branch Swift River), Phillipston.
AU Type:	RIVER
AU Size:	1.7 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

No usable data were available for Popple Camp Brook (MA36-67) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Pottapaug Pond (MA36125)

Location:	Petersham/Hardwick.
AU Type:	FRESHWATER LAKE
AU Size:	568 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (Y)	--	X	--	--	--
Mercury in Fish Tissue	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 Pottapaug Pond (MA36125) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Pottapaug Pond (referred to by MDPH as "Quabbin & Wachusett Reservoirs") 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 Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Pottapaug Pond (MA36125) 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 Pottapaug Pond (MA36125) 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 Pottapaug Pond (MA36125) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

Prescott Brook (MA36-84)

Location:	Headwaters outlet unnamed pond northwest of Mt. Pleasant in New Salem to mouth at inlet to Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Prescott Brook (MA36-84) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

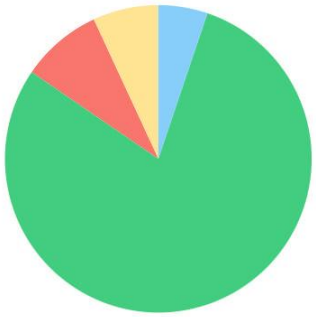
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	3	None	--	Unchanged

Prince River (MA36-08)

Location:	Headwaters, outlet Hemingway Pond, Barre to mouth at confluence with Ware River, Barre (excluding approximately 0.6 miles through Old Reservoir, segment MA36114).
AU Type:	RIVER
AU Size:	7.1 MILES
Classification/Qualifier:	B: CWF, HQW

Prince River (MA36-08)

Watershed Area: 14.03 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	14.03	4.85	3.21	1.10
Agriculture	6.9%	8.1%	2.8%	3.9%
Developed	8.5%	16.3%	6.9%	13.8%
Natural	79.3%	68%	79.6%	67.3%
Wetland	5.2%	7.7%	10.8%	15.1%
Impervious	3.1%	5.8%	2.7%	5.4%

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)	Source Unknown (N)	--	--	--	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 recently, so the Fish Consumption Use for Prince River (MA36-08) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for Prince River (MA36-08), 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 the Prince River (MA36-08) 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 Assessed	NO

2024/26 Use Attainment Summary

No bacteria or other indicator data for the Prince River (MA36-08) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the Prince River (MA36-08) at W1850 [Rt. 122 (upstream of Galloway Brook confluence), Barre] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1850 indicated 28% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 172 CFU/100ml. Historic *E. coli* data from W1850 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1850	MassDEP	Water Quality	Prince River	[Route 122 (upstream of Galloway Brook confluence), Barre]	42.408509	-72.096684

Bacteria Data

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

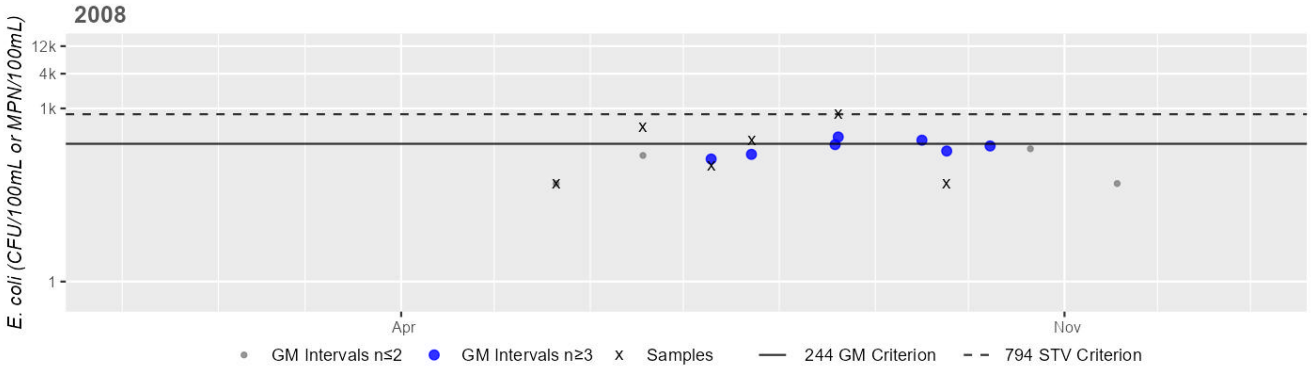
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1850	MassDEP	E. coli	05/20/08	09/23/08	6	50	800	172

Station MASSDEP_W1850 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	172
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
28%

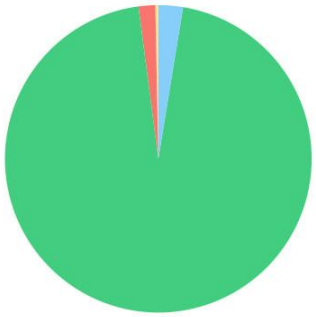
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Purgee Brook (MA36-81)

Location:	Headwaters north of Bohmer Road, Pelham to mouth at inlet to Quabbin Reservoir, at western edge of western lobe, north of Pelham Hollow Road, Pelham.
AU Type:	RIVER
AU Size:	2.1 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Purgee Brook (MA36-81)

Watershed Area: 2.87 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.87	2.87	0.96	0.96
Agriculture	0.3%	0.3%	0.7%	0.7%
Developed	1.8%	1.8%	2.4%	2.4%
Natural	95.3%	95.3%	92.4%	92.4%
Wetland	2.6%	2.6%	4.4%	4.4%
Impervious	1.1%	1.1%	1.4%	1.4%

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 recently, so the Fish Consumption Use for Purgee Brook (MA36-81) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Purgee Brook (MA36-81) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at the downstream end of this Purgee Brook AU ~200 feet upstream of confluence with Quabbin Reservoir, Pelham (W2462) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2462	MassDEP	Water Quality	Purgee Brook	[approximately 200 feet upstream of confluence with Quabbin Reservoir, Pelham]	42.387326	-72.373514

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
W2462	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2462 on Purgee Brook (MA36-81) during 5 site visits between May 2014 and Sep 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2462	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2462	Purgee Brook	2014	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2462	Purgee Brook	2014	Aquatic Plant Density, Overall	None	5	5
W2462	Purgee Brook	2014	Color	None	5	5
W2462	Purgee Brook	2014	Objectionable Deposits	No	5	5
W2462	Purgee Brook	2014	Odor	None	5	5
W2462	Purgee Brook	2014	Periphyton Density, Filamentous	Moderate	1	5
W2462	Purgee Brook	2014	Periphyton Density, Filamentous	None	3	5
W2462	Purgee Brook	2014	Periphyton Density, Filamentous	Sparse	1	5
W2462	Purgee Brook	2014	Periphyton Density, Film	None	4	5
W2462	Purgee Brook	2014	Periphyton Density, Film	Sparse	1	5
W2462	Purgee Brook	2014	Scum	No	5	5
W2462	Purgee Brook	2014	Turbidity	None	4	5
W2462	Purgee Brook	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Purgee Brook (MA36-81) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Purgee Brook (MA36-81) at W2462 [~200 ft upstream of confluence with Quabbin Reservoir, Pelham] from May-Sep 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2462 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 16 CFU/100ml. *E. coli* data from W2462 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2462	MassDEP	Water Quality	Purgee Brook	[approximately 200 feet upstream of confluence with Quabbin Reservoir, Pelham]	42.387326	-72.373514

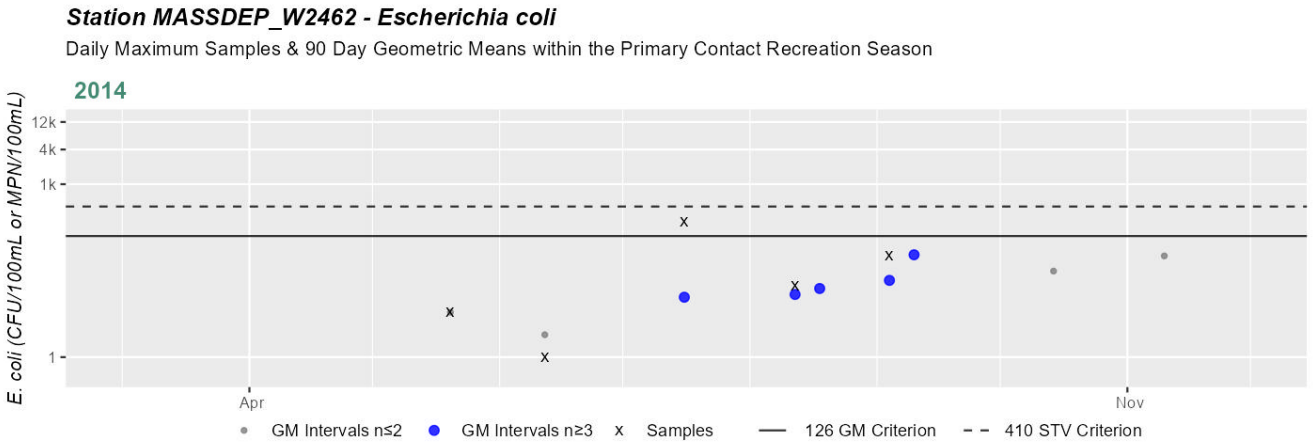
Bacteria Data

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

(MassDEP Undated 6) (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
W2462	MassDEP	E. coli	05/20/14	09/04/14	5	1	219	16



Variable*	Result
Samples	5
SeasGM	16
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Purgee Brook (MA36-81) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Purgee Brook (MA36-81) at W2462 [~200 ft upstream of confluence with Quabbin Reservoir, Pelham] from May-Sep 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2462 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 16 CFU/100ml. *E. coli* data from W2462 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2462	MassDEP	Water Quality	Purgee Brook	[approximately 200 feet upstream of confluence with Quabbin Reservoir, Pelham]	42.387326	-72.373514

Bacteria Data

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

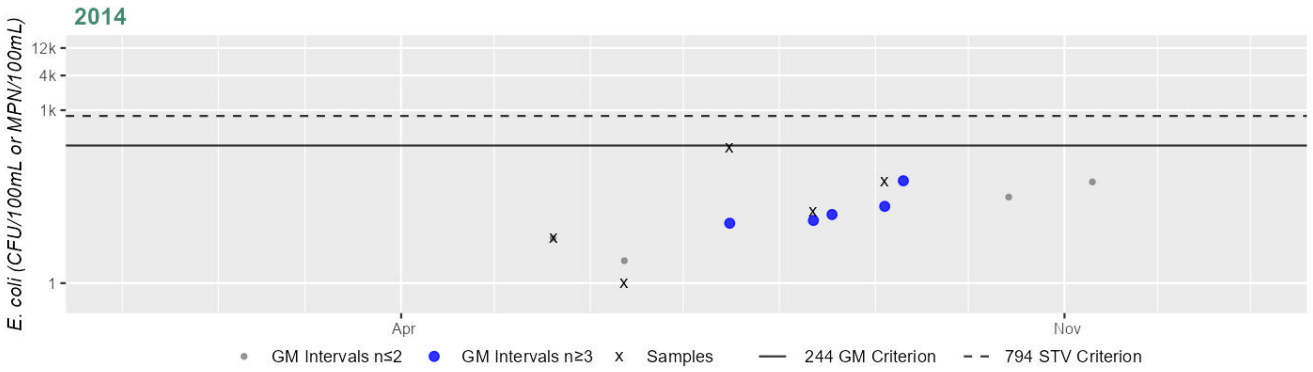
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2462	MassDEP	E. coli	05/20/14	09/04/14	5	1	219	16

Station MASSDEP_W2462 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	16
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quabbin Reservoir (MA36129)

Location:	Petersham/Pelham/Ware/Hardwick/Shutesbury/Belchertown/New Salem.
AU Type:	FRESHWATER LAKE
AU Size:	24010 ACRES
Classification/Qualifier:	A: PWS, ORW

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	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 Quabbin Reservoir (MA36129) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Quabbin Reservoir (referred to by MDPH as ''Quabbin & Wachusett Reservoirs'') 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 Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Quabbin Reservoir (MA36129) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Quabbin Reservoir (MA36129) is assessed as Fully Supporting. In Quabbin Reservoir (MA36129), MA DCR (DCRWS) collected Secchi data at DCRWS_202 (2011-2018 and 2021-2022) and DCRWS_206 (2011-2018 and 2021-2022) and DCRWS_DEN (2011-2018 and 2021-2022). The most recent five years of data with >2 Secchi measurements were used for assessment. Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at DCRWS_202 in 2016 (n=16, 8-14.3m), 2017 (n=13, 7.1-11.9m), 2018 (n=7, 8.3-12.6m), 2021 (n=16, 10.7-15m), and 2022 (n=16, 10.74-17m), DCRWS_206 in 2016 (n=15, 7.4-14.6m), 2017 (n=13, 6.3-26.2m), 2018 (n=7, 8.6-13.1m), 2021 (n=9, 9-14m), and 2022 (n=8, 10.5-18.25m), and DCRWS_DEN in 2016 (n=8, 4.9-9m), 2017 (n=7, 3.5-15.7m), 2018 (n=5, 5.1-10.5m), 2021 (n=7, 6.2-9.2m), and 2022 (n=7, 6.8-12.5m). MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Quabbin Reservoir (MA36129) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years: DCRWS_202 [Quabbin CVA Intake] from 2011-2022 (n=7/yr), DCRWS_206 [Shaft 12] from 2011-2022 (n=6-7/yr), DCRWS_DEN [Den Hill] from 2011-2022 (n=6-7/yr). Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_202 indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_206 indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_DEN indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_202, DCRWS_206, and DCRWS_DEN meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_202	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Quabbin CVA Intake	42.288228	-72.349887
DCRWS_206	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Shaft 12	42.370077	-72.285418
DCRWS_DEN	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Den Hill	42.388958	-72.266195

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

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

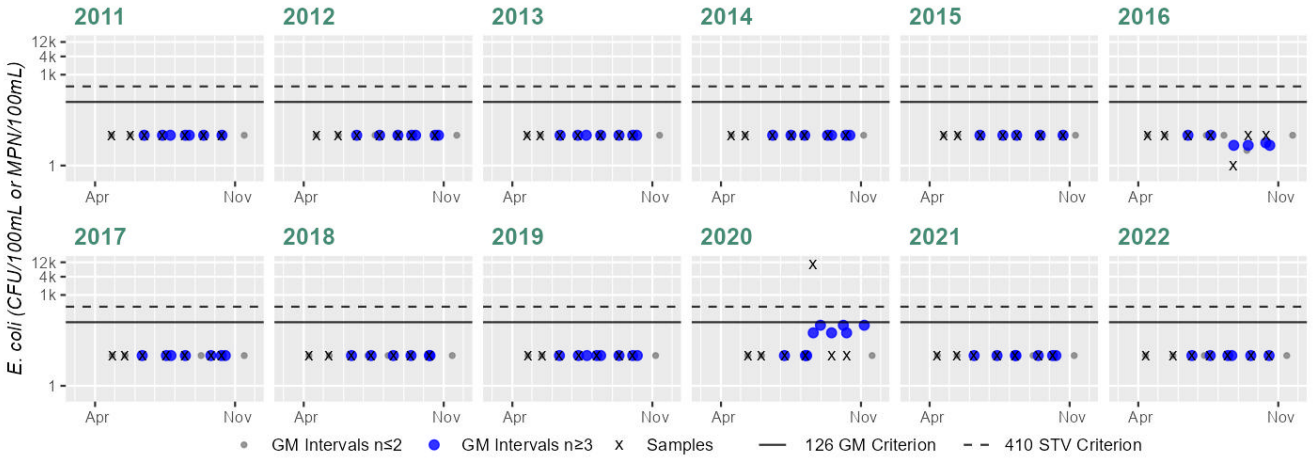
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/26/11	10/12/11	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/19/12	10/18/12	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/24/13	10/02/13	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/17/14	10/09/14	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/23/15	10/22/15	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/14/16	10/12/16	7	1	10	7
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/27/17	10/11/17	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/09/18	10/10/18	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/25/19	10/02/19	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	05/11/20	10/09/20	7	10	10000	26
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/13/21	10/06/21	7	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/12/22	10/18/22	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/26/11	10/12/11	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/19/12	10/18/12	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/24/13	10/02/13	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/17/14	10/09/14	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/23/15	10/22/15	7	10	10	10

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/14/16	10/12/16	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/27/17	10/11/17	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/09/18	10/17/18	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/25/19	10/02/19	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	05/11/20	12/16/20	6	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/13/21	10/06/21	7	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/12/22	10/18/22	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/29/11	10/12/11	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/19/12	10/18/12	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/24/13	10/02/13	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/17/14	10/09/14	6	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/23/15	10/22/15	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/14/16	10/12/16	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/27/17	10/11/17	7	10	20	11
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/09/18	10/17/18	7	10	20	11
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/25/19	10/02/19	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	05/11/20	12/16/20	6	10	10	10

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/13/21	10/06/21	7	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/12/22	10/18/22	7	10	10	10

Station DCRWS_202 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	7
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	26
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

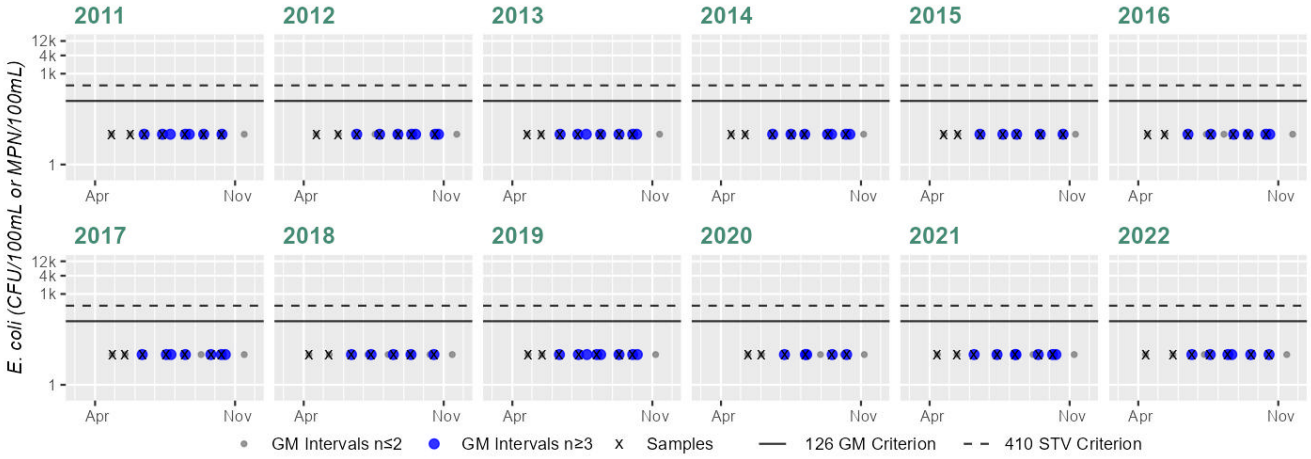
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_206 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Current (2011-2022)

0%

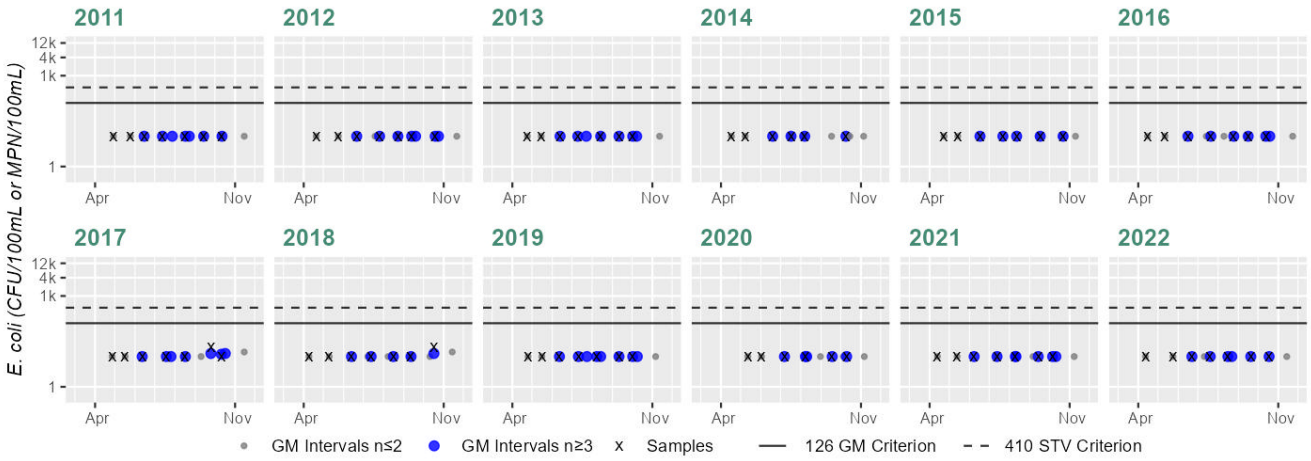
Cumulative %GMI Exceedance Current (Recent 5 Years)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_DEN - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	10
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	11
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	11
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 2)

Data Year(s)	Summary
2011-2018, 2021-2022	In Quabbin Reservoir (MA36129), the DCR Division of Water Supply Protection (DCRWS) collected Secchi data at DCRWS_202 (2011-2018 and 2021-2022) and DCRWS_206 (2011-2018 and 2021-2022) and DCRWS_DEN (2011-2018 and 2021-2022). The most recent five years of data with >2 Secchi measurements were used for assessment. At station DCRWS_202 (station depth=42 m) the Secchi depth measurements ranged from 8-14.3 m (n=16) in 2016, 7.1-11.9 m (n=13) in 2017, 8.3-12.6 m (n=7) in 2018, 10.7-15 m (n=16) in 2021, and 10.74-17 m (n=16) in 2020. At station DCRWS_206 (station depth=28 m) the Secchi depth measurements ranged from 7.4-14.6 m (n=15) in 2016, 6.3-26.2 m (n=13) in 2017, 8.6-13.1 m (n=7) in 2018, 9-14 m (n=9) in 2021, and 10.5-18.25 m (n=8) in 2020. At station DCRWS_DEN (station depth=19 m) the Secchi depth measurements ranged from 4.9-9 m (n=8) in 2016, 3.5-15.7 m (n=7) in 2017, 5.1-10.5 m (n=5) in 2018, 6.2-9.2 m (n=7) in 2021, and 6.8-12.5 m (n=7) in 2020. All Secchi depth measurements from all stations indicate water clarity meeting the 1.2 m (4 ft) threshold.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Quabbin Reservoir (MA36129) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Quabbin Reservoir (MA36129) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years: DCRWS_202 [Quabbin CVA Intake] from 2008-2010 (historic n=9/yr) and 2011-2022 (current n=9-10/yr), DCRWS_206 [Shaft 12] from 2008-2010 (historic n=9/yr) and 2011-2022 (current n=8-9/yr), DCRWS_DEN [Den Hill] from 2008-2010 (historic n=8-9/yr) and 2011-2022 (current n=8-9/yr). Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_202 indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_206 indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from DCRWS_DEN indicated 0 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_202, DCRWS_206, and DCRWS_DEN meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_202	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Quabbin CVA Intake	42.288228	-72.349887
DCRWS_206	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Shaft 12	42.370077	-72.285418
DCRWS_DEN	MA DCR Division of Water Supply Protection	Water Quality	Quabbin Reservoir	Den Hill	42.388958	-72.266195

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/23/08	12/18/08	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/16/09	12/15/09	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/08/10	12/16/10	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/26/11	12/07/11	9	10	20	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/19/12	12/12/12	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/24/13	12/04/13	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/17/14	12/03/14	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/23/15	12/02/15	9	10	10	10

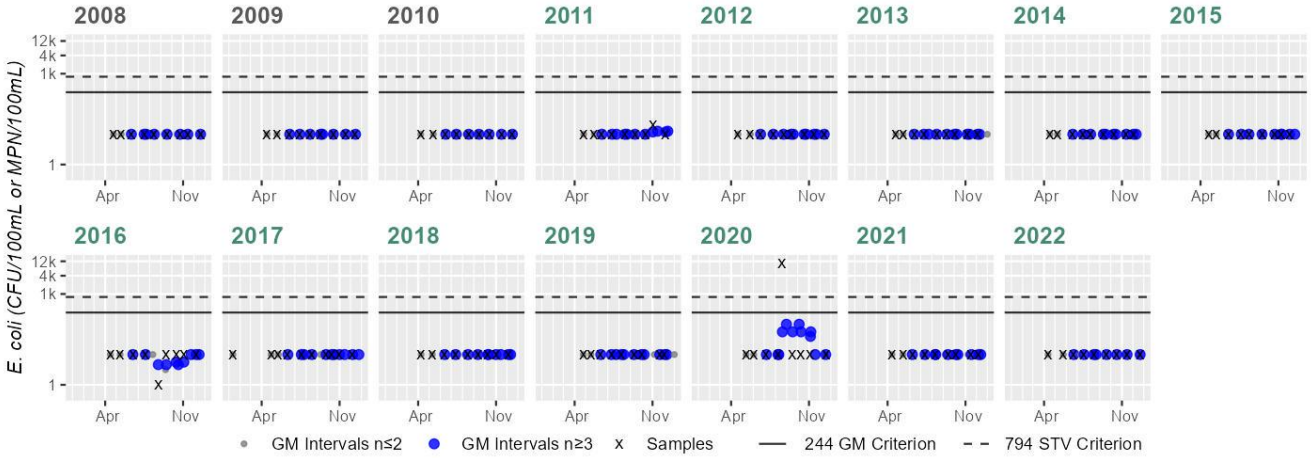
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/14/16	12/06/16	9	1	10	7
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	01/12/17	12/07/17	10	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/09/18	12/05/18	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/25/19	12/04/19	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	05/11/20	12/16/20	9	10	10000	21
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/13/21	12/07/21	9	10	10	10
DCRWS_202	MA DCR Division of Water Supply Protection	E. coli	04/12/22	12/21/22	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/23/08	12/18/08	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/16/09	12/15/09	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/08/10	12/16/10	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/26/11	12/07/11	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/19/12	12/12/12	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/24/13	12/04/13	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/17/14	12/03/14	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/23/15	12/02/15	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/14/16	12/06/16	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/27/17	12/07/17	9	10	10	10

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/09/18	12/05/18	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/25/19	12/04/19	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	05/11/20	12/16/20	8	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/13/21	12/07/21	9	10	10	10
DCRWS_206	MA DCR Division of Water Supply Protection	E. coli	04/12/22	12/21/22	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/23/08	11/13/08	8	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/16/09	12/15/09	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/08/10	11/16/10	8	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/29/11	12/07/11	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/19/12	12/12/12	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/24/13	12/04/13	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/17/14	12/03/14	8	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/23/15	12/02/15	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/14/16	12/06/16	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/27/17	12/07/17	9	10	20	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/09/18	12/05/18	9	10	20	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/25/19	12/04/19	9	10	10	10

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	05/11/20	12/16/20	8	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/13/21	12/07/21	9	10	10	10
DCRWS_DEN	MA DCR Division of Water Supply Protection	E. coli	04/12/22	12/21/22	9	10	10	10

Station DCRWS_202 - Escherichia coli

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



Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Variable*	Result
Samples	9
SeasGM	7
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	21
#GMI	12
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	11%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

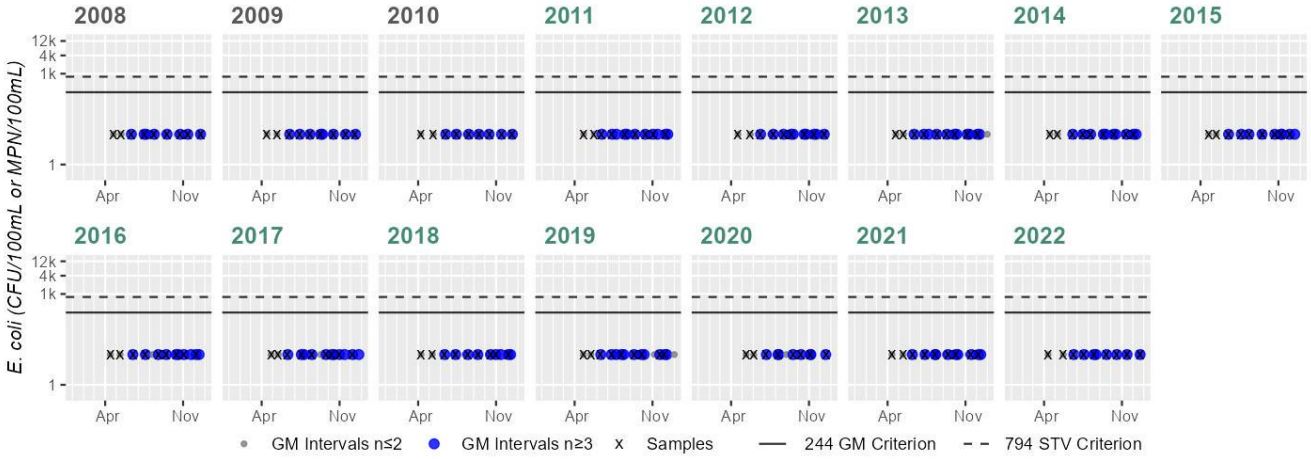
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_206 - Escherichia coli

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



Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	8
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

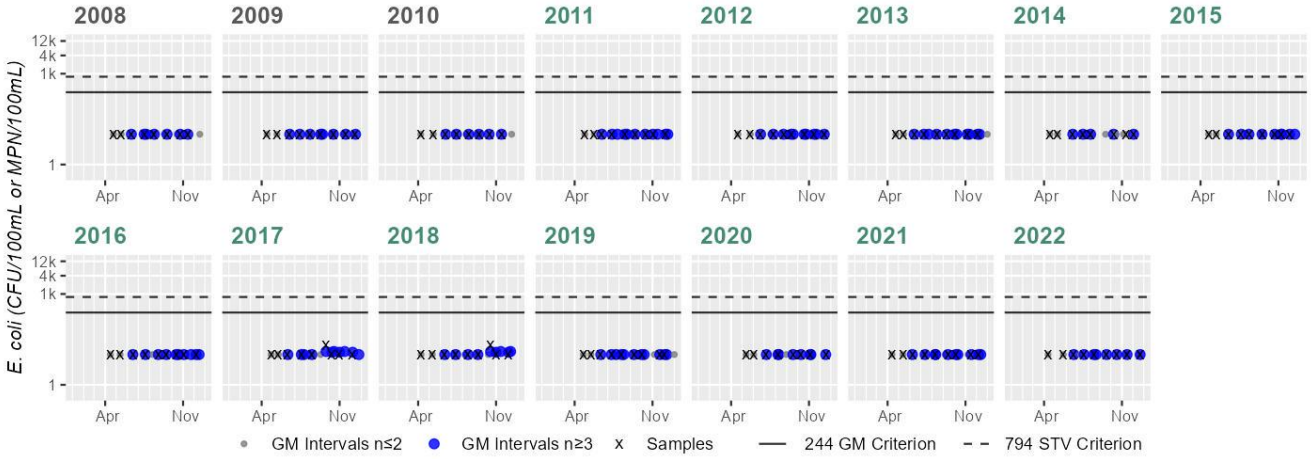
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_DEN - Escherichia coli

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



Variable*	Result
Samples	8
SeasGM	10
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	10
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	10
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	10
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	9
SeasGM	10
#GMI	8
#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%

Cumulative %GMI Exceedance
Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quaboag Pond (MA36130)

Location:	Brookfield/East Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	544 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
5	5	(Fanwort*)	--	Unchanged
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Algae	33846	Unchanged
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	Phosphorus, Total	33846	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Algae	Internal Nutrient Recycling (Y)	X	--	X	X	X
Algae	Municipal Point Source Discharges (Y)	X	--	X	X	X
Algae	Non-Point Source (Y)	X	--	X	X	X
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Phosphorus, Total	Internal Nutrient Recycling (Y)	X	--	--	--	--
Phosphorus, Total	Municipal Point Source Discharges (Y)	X	--	--	--	--
Phosphorus, Total	Non-Point Source (Y)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2016 IR [HARMFUL ALGAL BLOOMS, MEDIUM] Additional monitoring is recommended due to one substantial algal blooming being posted in the MDPH Algal Bloom Posting Database between 2009-2014.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Quaboag Pond (MA36130) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Quaboag 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	YES

2024/26 Use Attainment Summary
The Aesthetics Use for Quaboag Pond (MA36130) continues to be assessed as Not Supporting with the prior Algae impairment being carried forward. The prior Alert identified for Harmful Algal Blooms is also being carried forward. Since the Eurasian Water Milfoil, *Myriophyllum Spicatum* and Non-Native Aquatic Plants impairments were redundantly duplicated across multiple uses for this waterbody, these impairments are being removed from the Aesthetics Use, but will continue to be maintained under the Aquatic Life Use.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Quaboag Pond (MA36130) continues to be assessed as Not Supporting. The prior Algae impairment (from the Aesthetics Use) is being carried forward. Since the Eurasian Water Milfoil (*Myriophyllum spicatum*) and Non-Native Aquatic Plants impairments are being removed from the Aesthetics Use this cycle, these impairments are also being removed from the Primary Contact Recreation Use. The prior Alert identified for Harmful Algal Blooms is being carried forward. CRC staff/volunteers collected *E. coli* bacteria samples in Quaboag Pond (MA36130) at CRC_CQPd1 [Quaboag Pond access, Quaboag St, Brookfield] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQPd1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CQPd1 meet 2024 CALM guidance.

Monitoring Stations

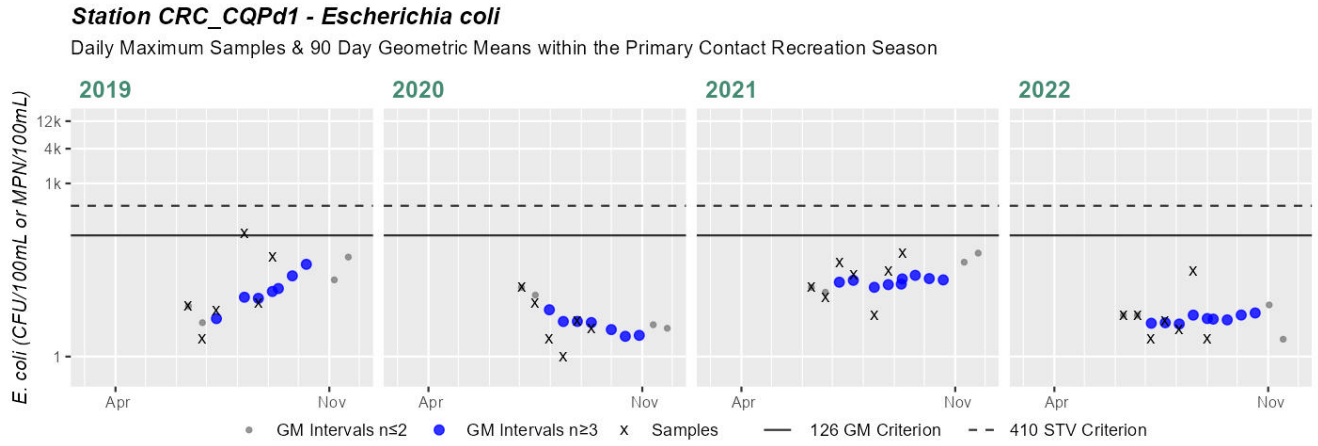
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQPd1	Connecticut River Conservancy	Water Quality	Quaboag Pond; Quaboag River	Quaboag Pond access, Quaboag Street, Brookfield	42.203383	-72.062830

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	6	2	137	13
CRC_CQPd1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	1	15	3
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	5	62	21
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	2	30	4



Variable*	Result
Samples	6
SeasGM	13
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	3
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	21
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	4
#GMI	9
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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	YES

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Quaboag Pond (MA36130) continues to be assessed as Not Supporting. The prior Algae impairment (from the Aesthetics Use) is being carried forward. Since the Eurasian Water Milfoil (*Myriophyllum spicatum*) and Non-Native Aquatic Plants impairments are being removed from the Aesthetics Use this cycle, these impairments are also being removed from the Secondary Contact Recreation Use. The prior Alert identified for Harmful Algal Blooms is being carried forward. CRC staff/volunteers collected *E. coli* bacteria samples in Quaboag Pond (MA36130) at CRC_CQPd1 [Quaboag Pond access, Quaboag St, Brookfield] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQPd1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC_CQPd1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQPd1	Connecticut River Conservancy	Water Quality	Quaboag Pond; Quaboag River	Quaboag Pond access, Quaboag Street, Brookfield	42.203383	-72.062830

Bacteria Data

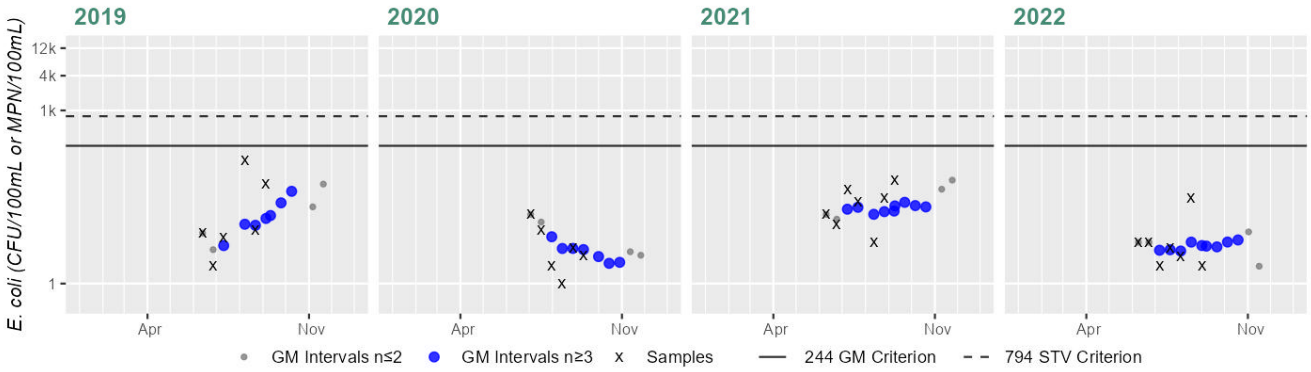
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1)

[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
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	6	2	137	13
CRC_CQPd1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	1	15	3
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	5	62	21
CRC_CQPd1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	2	30	4

Station CRC_CQPd1 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	13
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	3
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	21
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	4
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

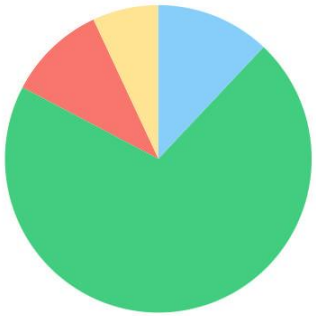
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Quaboag River (MA36-14)

Location:	Headwaters, outlet Quaboag Pond, Brookfield to Route 67 bridge, West Brookfield.
AU Type:	RIVER
AU Size:	6.1 MILES
Classification/Qualifier:	B: WWF

Quaboag River (MA36-14)

Watershed Area: 105.72 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	105.72	8.55	41.96	3.46
Agriculture	7%	10%	4.6%	10%
Developed	10.3%	8.8%	8.1%	4.8%
Natural	70.7%	62.9%	68%	54.1%
Wetland	12%	18.2%	19.3%	31.1%
Impervious	3.7%	3%	3%	1.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2016 IR [MACROPHYTES, LOW] Additional monitoring is recommended due to two dense and one very dense macrophytes observation (n=8).

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, so the Fish Consumption Use for Quaboag River (MA36-14) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	YES

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Quaboag River AU (MA36-14), so it is Not Assessed. The prior Alert identified for dense macrophytes is being carried forward. Since the Non-native (*Cabomba)* Alert was redundantly duplicated across multiple uses for this waterbody, the Non-native (*Cabomba*) Alert is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for the Quaboag River (MA36-14) are available, so the Primary Contact Recreation Use is Not Assessed. The prior Aquatic Plants (Macrophytes) and Non-Native (*Cabomba*) Alerts (from Aesthetics Use) are being removed and will be maintained under Aesthetics (Aquatic Plants (Macrophytes)) and Aquatic Life Use (Non-Native (*Cabomba*)).

Secondary Contact Recreation

2024/26 Use Attainment	Alert

Not Assessed	NO

2024/26 Use Attainment Summary

No bacteria or other indicator data for the Quaboag River (MA36-14) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the Quaboag River (MA36-14) from 2003-2008 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1041 [Rt. 148 (Fiskdale Rd), Brookfield] from Apr-Oct 2003 (n=6), W1010 [Long Hill Rd bridge, W Brookfield] from Apr-Oct 2003 (n=6), W1995 [Old Long Hill Rd, W Brookfield] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1041 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 9 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1010 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 19 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1995 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 29 CFU/100ml. Historic *E. coli* data from W1041, W1010, and W1995 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1010	MassDEP	Water Quality	Quaboag River	[Long Hill Road bridge, West Brookfield]	42.228320	-72.148880
W1041	MassDEP	Water Quality	Quaboag River	[Route 148 (Fiskdale Road), Brookfield]	42.207353	-72.102410
W1995	MassDEP	Water Quality	Quaboag River	[Old Long Hill Road, West Brookfield]	42.228701	-72.149374

Bacteria Data

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

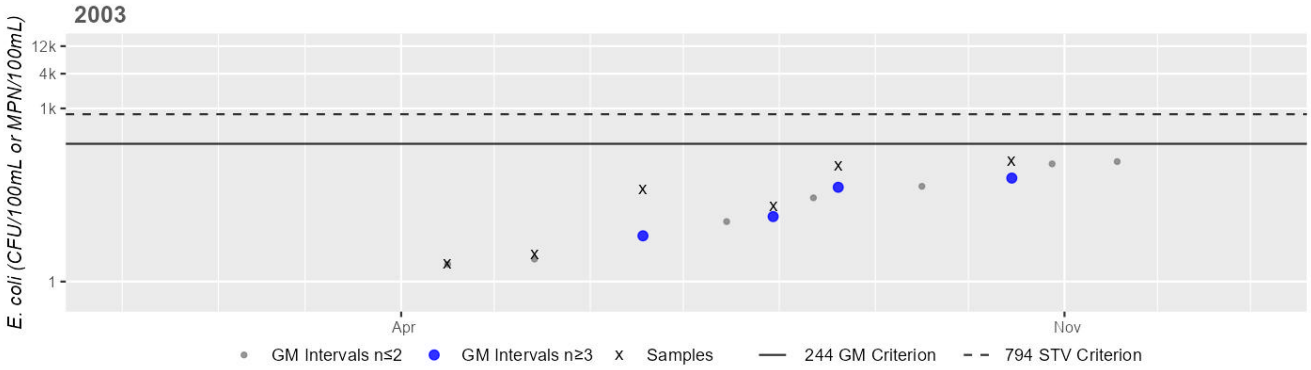
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1010	MassDEP	E. coli	04/16/03	10/15/03	6	2	120	19
W1041	MassDEP	E. coli	04/16/03	10/15/03	6	1	460	9
W1995	MassDEP	E. coli	05/20/08	09/23/08	6	10	150	29

Station MASSDEP_W1010 - Escherichia coli

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



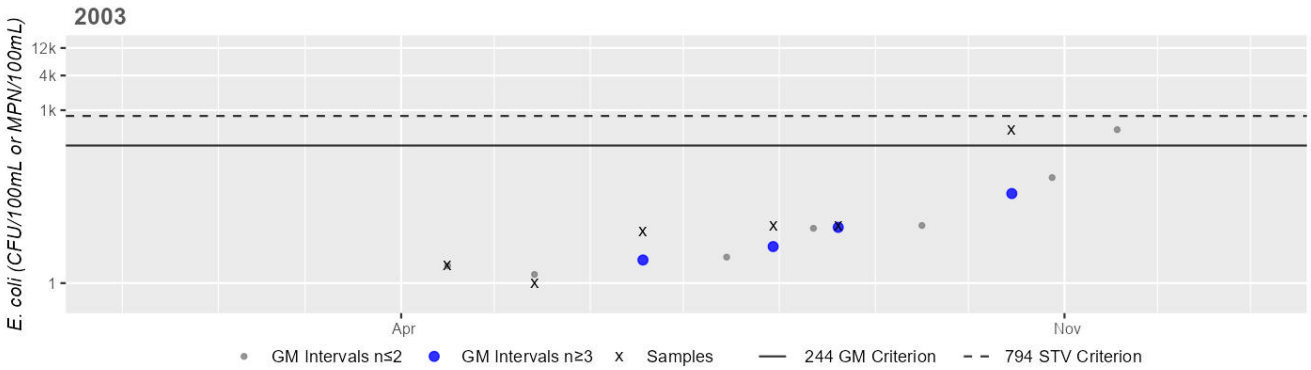
Variable*	Result
Samples	6
SeasGM	19
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1041 - Escherichia coli

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



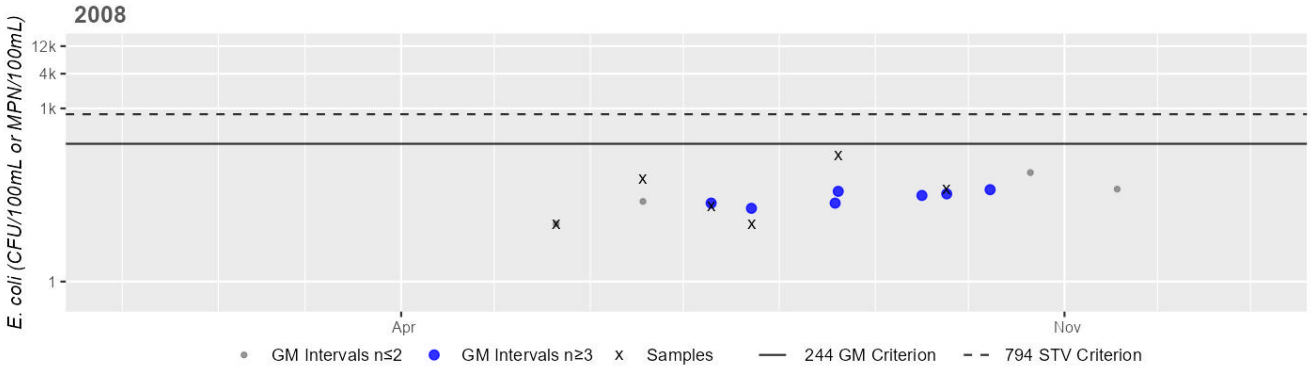
Variable*	Result
Samples	6
SeasGM	9
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1995 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	29
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quaboag River (MA36-15)

Location:	Route 67 bridge, West Brookfield to Warren WWTP discharge (NPDES: MA0101567), Warren.
AU Type:	RIVER
AU Size:	6.2 MILES
Classification/Qualifier:	B: WWF

Quaboag River (MA36-15)

Watershed Area: 146.46 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	146.46	10.42	56.97	3.65
Agriculture	7.3%	4%	5.6%	4.6%
Developed	9.6%	10%	7.8%	10.3%
Natural	72.6%	81%	69%	75.3%
Wetland	10.5%	5%	17.6%	9.8%
Impervious	3.5%	3.9%	2.9%	4.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	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)

Recommendations

2024/26 Recommendations
2024 IR [FIELD OBSERVATIONS, LOW] Additional monitoring is recommended due to dense/very dense filamentous algae and aquatic plants noted by MassDEP field staff in the upstream section of the brook, in the area of Old West Brookfield Rd in 2014 {W2165}.

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, so the Fish Consumption Use for Quaboag River (MA36-15) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary

The Aesthetics Use for Quaboag River (MA36-15) is assessed as Fully Supporting. However an Alert is identified due to the dense/very dense filamentous algae and aquatic plants noted by MassDEP field staff in the upstream section of the brook, in the area of Old West Brookfield Rd in 2014. MassDEP staff recorded aesthetics observations at two stations in Warren for this Quaboag River AU from up to downstream as follows: ~5550 feet upstream from Old West Brookfield Rd, ~500 feet downstream from the confluence of Sullivan Brook (W2165) in summer 2014 (n=5) and south of Main St (Rt. 67), ~1300 feet upstream from West Warren Mill Pond Dam (NAT ID: MA00902) (W1754/MAP2-489). While there were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either site, MassDEP field staff noted dense/very dense filamentous algae (n=2) and dense/very dense aquatic plants (n=3) at the upstream station (W2165).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1754	MassDEP	Water Quality	Quaboag River	[south of Main Street (Route 67), approximately 1300 feet upstream from West Warren Mill Pond Dam (NAT ID: MA00902), Warren]	42.212732	-72.228756
W2165	MassDEP	Water Quality	Quaboag River	[approximately 5550 feet upstream from Old West Brookfield Road, Warren (approximately 500 feet downstream from the confluence of Sullivan Brook)]	42.223378	-72.179651

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
W1754	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1754 on Quaboag River (MA36-15) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2165	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2165 on Quaboag River (MA36-15) during 5 site visits between May 2014 and Aug 2014. There were some objectionable conditions recorded, including dense/very dense filamentous algae (n=2). Field staff also noted dense/very dense aquatic plants (n=3). These conditions are indicative of an Alert status.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1754	2014	5	2	0
W2165	2014	5	4	2

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1754	Quaboag River	2014	Aesthetics Impaired?	No	5	5
W1754	Quaboag River	2014	Aquatic Plant Density, Overall	None	2	5
W1754	Quaboag River	2014	Aquatic Plant Density, Overall	Unobservable	3	5
W1754	Quaboag River	2014	Color	Light Yellow/Tan	4	5
W1754	Quaboag River	2014	Color	None	1	5
W1754	Quaboag River	2014	Objectionable Deposits	No	3	5
W1754	Quaboag River	2014	Objectionable Deposits	Unobservable	1	5
W1754	Quaboag River	2014	Objectionable Deposits	Yes	1	5
W1754	Quaboag River	2014	Odor	Musty (Basement)	2	5
W1754	Quaboag River	2014	Odor	None	3	5
W1754	Quaboag River	2014	Periphyton Density, Filamentous	None	1	5
W1754	Quaboag River	2014	Periphyton Density, Filamentous	Sparse	1	5
W1754	Quaboag River	2014	Periphyton Density, Filamentous	Unobservable	3	5
W1754	Quaboag River	2014	Periphyton Density, Film	None	2	5
W1754	Quaboag River	2014	Periphyton Density, Film	Unobservable	3	5
W1754	Quaboag River	2014	Scum	No	3	5
W1754	Quaboag River	2014	Scum	Yes	2	5
W1754	Quaboag River	2014	Turbidity	None	2	5
W1754	Quaboag River	2014	Turbidity	Slightly Turbid	3	5
W2165	Quaboag River	2014	Aesthetics Impaired?	No	5	5
W2165	Quaboag River	2014	Aquatic Plant Density, Overall	None	1	5
W2165	Quaboag River	2014	Aquatic Plant Density, Overall	Unobservable	1	5
W2165	Quaboag River	2014	Aquatic Plant Density, Overall	Very Dense	3	5
W2165	Quaboag River	2014	Color	Light Yellow/Tan	4	5
W2165	Quaboag River	2014	Color	None	1	5
W2165	Quaboag River	2014	Objectionable Deposits	No	4	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2165	Quaboag River	2014	Objectionable Deposits	Unobservable	1	5
W2165	Quaboag River	2014	Odor	None	5	5
W2165	Quaboag River	2014	Periphyton Density, Filamentous	Moderate	1	5
W2165	Quaboag River	2014	Periphyton Density, Filamentous	Sparse	1	5
W2165	Quaboag River	2014	Periphyton Density, Filamentous	Unobservable	1	5
W2165	Quaboag River	2014	Periphyton Density, Filamentous	Very Dense	2	5
W2165	Quaboag River	2014	Periphyton Density, Film	Moderate	1	5
W2165	Quaboag River	2014	Periphyton Density, Film	None	3	5
W2165	Quaboag River	2014	Periphyton Density, Film	Unobservable	1	5
W2165	Quaboag River	2014	Scum	No	4	5
W2165	Quaboag River	2014	Scum	Yes	1	5
W2165	Quaboag River	2014	Turbidity	None	4	5
W2165	Quaboag River	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Quaboag River (MA36-15) 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 W1754. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in the Quaboag River (MA36-15) from 2014-2022 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CQ67-9 [Rt 67/9, W Brookfield] from 2019-2022 (n=6-7/yr), W2165 [~5550 ft upstream from Old W Brookfield Rd, Warren (~500 ft downstream from the confluence of Sullivan Brook)] from May-Aug 2014 (n=5), CRC_CQLSP1 [Lucy Stone Park, Warren] from 2019-2022 (n=6-7/yr), W1754 [S of Main St (Rt. 67), ~1300 ft upstream from W Warren Mill Pond Dam (T ID: MA00902), Warren] from May-Aug 2014 (n=5). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ67-9 indicated 1 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2022, 88%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 23% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2165 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 77 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQLSP1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 5% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1754 indicated 100% of intervals had GMs >126 CFU/100ml, 2 samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 239 CFU/100ml. While *E. coli* data from CRC_CQ67-9, W2165, and CRC_CQLSP1 meet 2024 CALM guidance, *E. coli* data from W1754 are indicative of an *E. coli* impairment.

Monitoring Stations

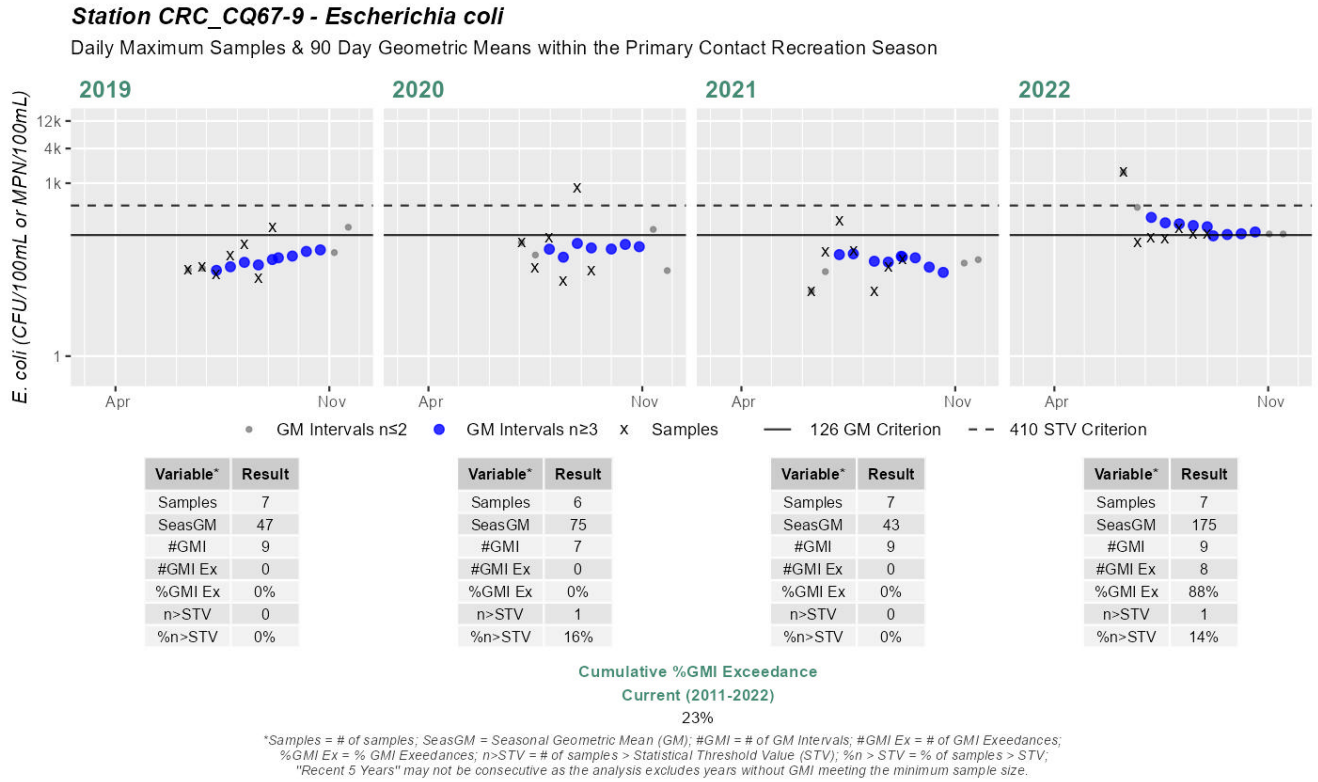
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ67-9	Connecticut River Conservancy	Water Quality	Quaboag River	Rt 67/9, West Brookfield	42.234850	-72.162030
CRC_CQLSP1	Connecticut River Conservancy	Water Quality	Quaboag River	Lucy Stone Park, Warren	42.217430	-72.192290
W1754	MassDEP	Water Quality	Quaboag River	[south of Main Street (Route 67), approximately 1300 feet upstream from West Warren Mill Pond Dam (NAT ID: MA00902), Warren]	42.212732	-72.228756
W2165	MassDEP	Water Quality	Quaboag River	[approximately 5550 feet upstream from Old West Brookfield Road, Warren (approximately 500 feet downstream from the confluence of Sullivan Brook)]	42.223378	-72.179651

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 2) (MassDEP Undated 6) (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
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	22	172	47
CRC_CQ67-9	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	19	816	75
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	13	224	43
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	93	1553	175
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	66	119	86
CRC_CQLSP1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	53	186	94
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	30	488	73
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	51	177	88
W1754	MassDEP	E. coli	05/13/14	08/28/14	5	30	2419	239
W2165	MassDEP	E. coli	05/13/14	08/28/14	5	25	285	77



Variable*	Result
Samples	7
SeasGM	47
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	75
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	43
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

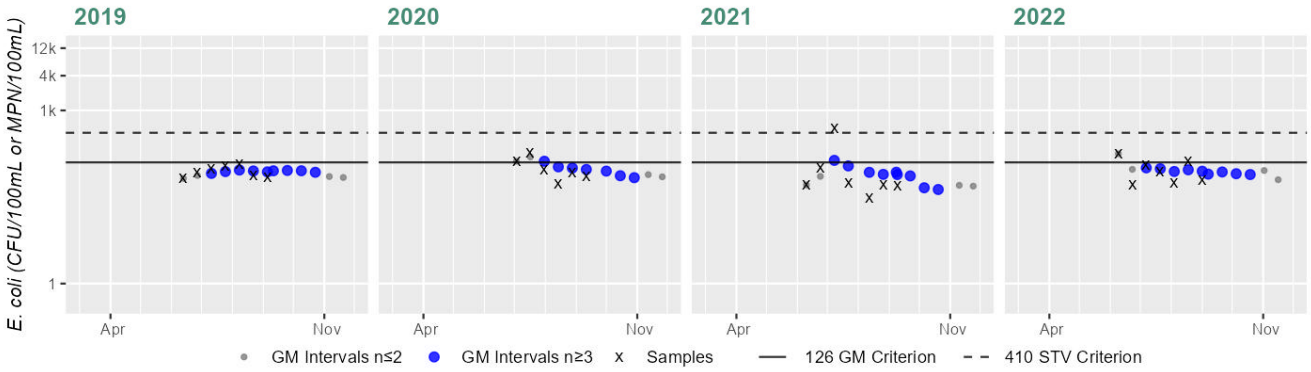
Variable*	Result
Samples	7
SeasGM	175
#GMI	9
#GMI Ex	8
%GMI Ex	88%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
23%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQLSP1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	86
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	94
#GMI	7
#GMI Ex	1
%GMI Ex	14%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	73
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	14%

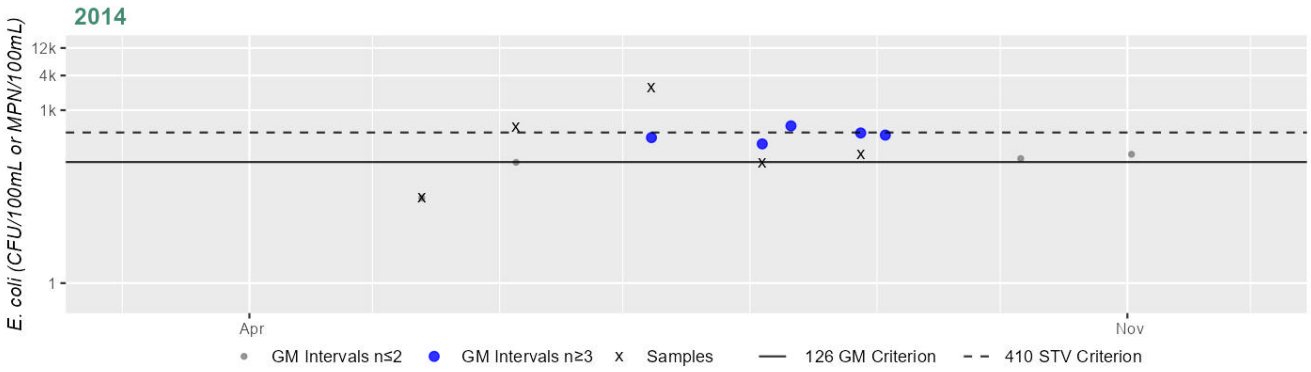
Variable*	Result
Samples	7
SeasGM	88
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
5%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1754 - Escherichia coli

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



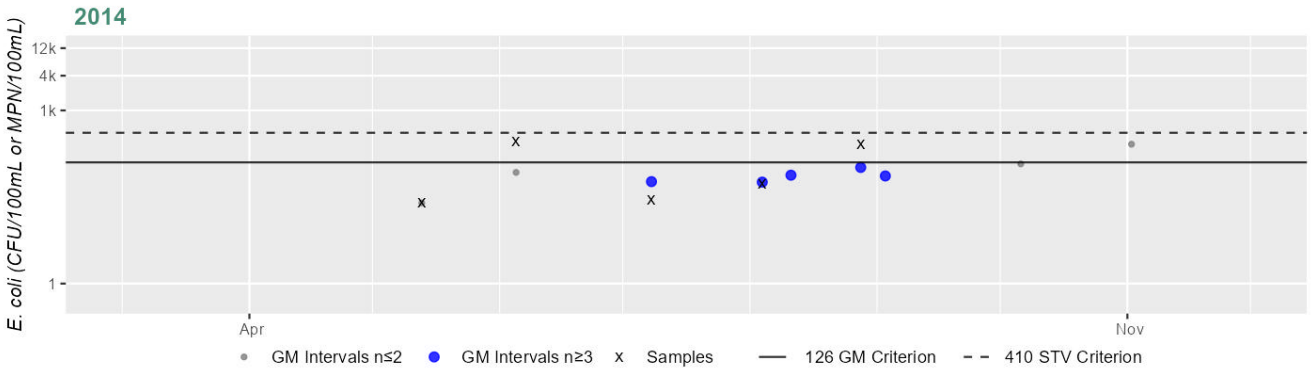
Variable*	Result
Samples	5
SeasGM	239
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	2
%n>STV	40%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2165 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	77
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 Quaboag River (MA36-15) 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 W1754. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Quaboag River (MA36-15) from 2003-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CQ67-9 [Rt 67/9, W Brookfield] from 2019-2022 (n=6-7/yr), W2165 [~5550 ft upstream from Old W Brookfield Rd, Warren (~500 ft downstream from the confluence of Sullivan Brook)] from May-Aug 2014 (n=5), CRC_CQLSP1 [Lucy Stone Park, Warren] from 2019-2022 (n=6-7/yr), W1754 [S of Main St (Rt. 67), ~1300 ft upstream from W Warren Mill Pond Dam (T ID: MA00902), Warren] from May-Aug 2014 (n=5), W1011 [Gilbert Rd bridge, Warren] from 2003 and 2008 (n=6/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ67-9 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 2% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2165 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 77 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQLSP1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1754 indicated 100% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 239 CFU/100ml. While *E. coli* data from CRC_CQ67-9, W2165, and CRC_CQLSP1 meet 2024 CALM guidance, *E. coli* data from W1754 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ67-9	Connecticut River Conservancy	Water Quality	Quaboag River	Rt 67/9, West Brookfield	42.234850	-72.162030
CRC_CQLSP1	Connecticut River Conservancy	Water Quality	Quaboag River	Lucy Stone Park, Warren	42.217430	-72.192290
W1011	MassDEP	Water Quality	Quaboag River	[Gilbert Road bridge, Warren]	42.210077	-72.245559
W1754	MassDEP	Water Quality	Quaboag River	[south of Main Street (Route 67), approximately 1300 feet upstream from West Warren Mill Pond Dam (NAT ID: MA00902), Warren]	42.212732	-72.228756
W2165	MassDEP	Water Quality	Quaboag River	[approximately 5550 feet upstream from Old West Brookfield Road, Warren (approximately 500 feet downstream from the confluence of Sullivan Brook)]	42.223378	-72.179651

Bacteria Data

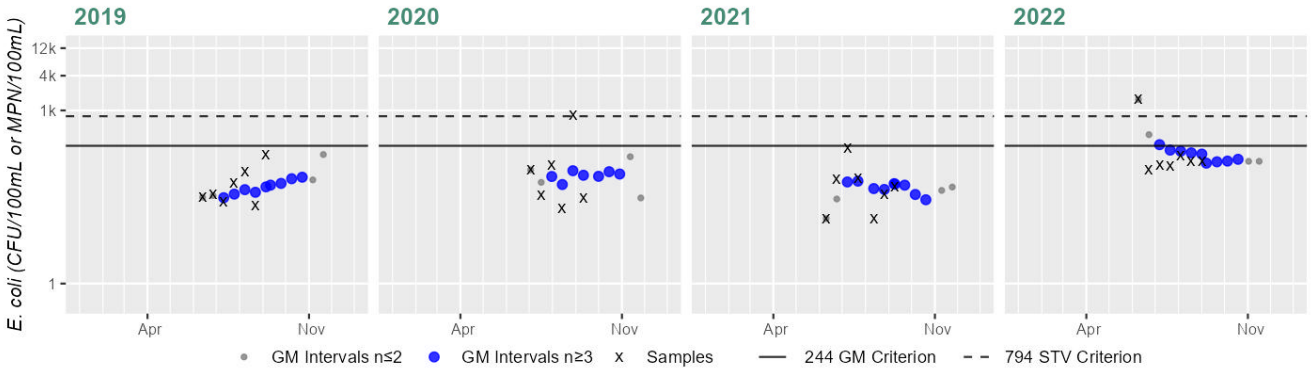
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	22	172	47
CRC_CQ67-9	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	19	816	75
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	13	224	43
CRC_CQ67-9	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	93	1553	175
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	66	119	86
CRC_CQLSP1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	53	186	94
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	30	488	73
CRC_CQLSP1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	51	177	88
W1011	MassDEP	E. coli	04/16/03	10/15/03	6	2	690	47
W1011	MassDEP	E. coli	05/20/08	09/23/08	6	22	850	249
W1754	MassDEP	E. coli	05/13/14	08/28/14	5	30	2419	239
W2165	MassDEP	E. coli	05/13/14	08/28/14	5	25	285	77

Station CRC_CQ67-9 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	47
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	75
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	43
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

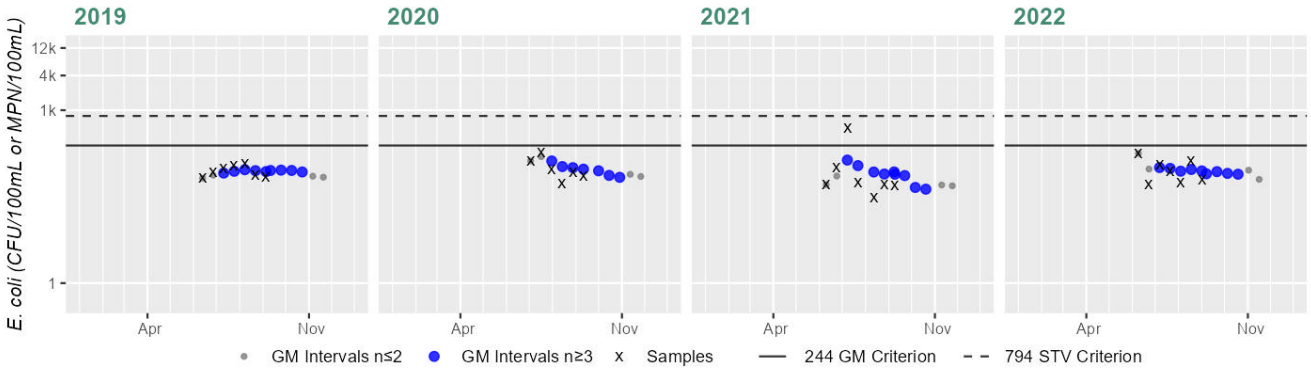
Variable*	Result
Samples	7
SeasGM	175
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
2%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQLSP1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	86
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	94
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	73
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

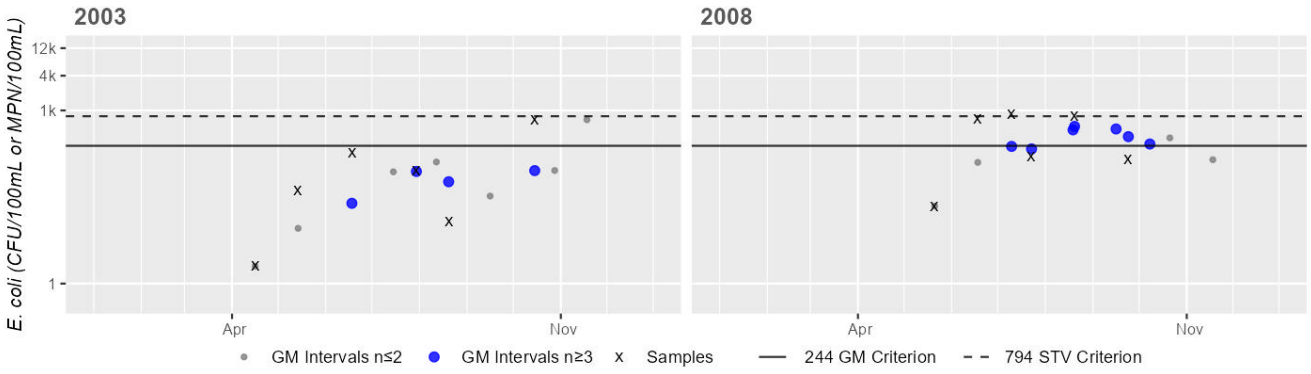
Variable*	Result
Samples	7
SeasGM	88
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1011 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	47
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

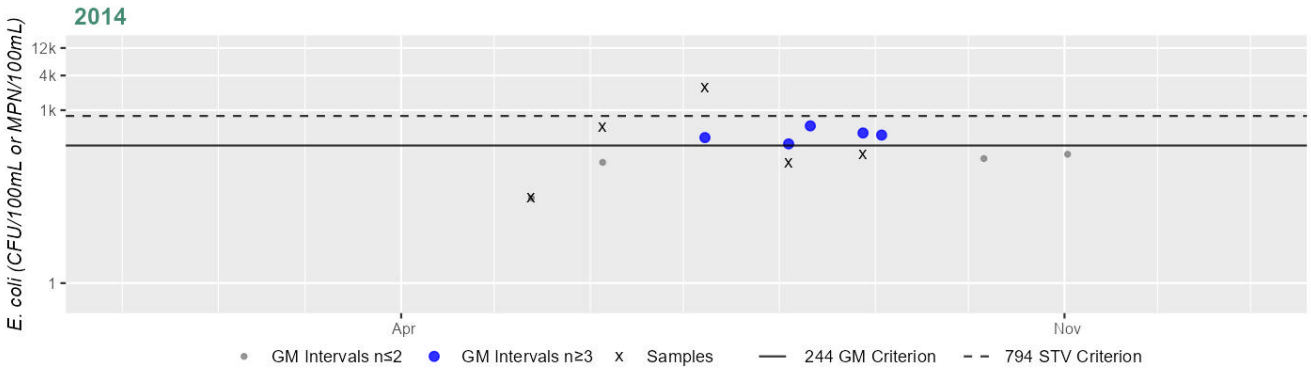
Variable*	Result
Samples	6
SeasGM	249
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Historic (1997-2010)
45%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1754 - Escherichia coli

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



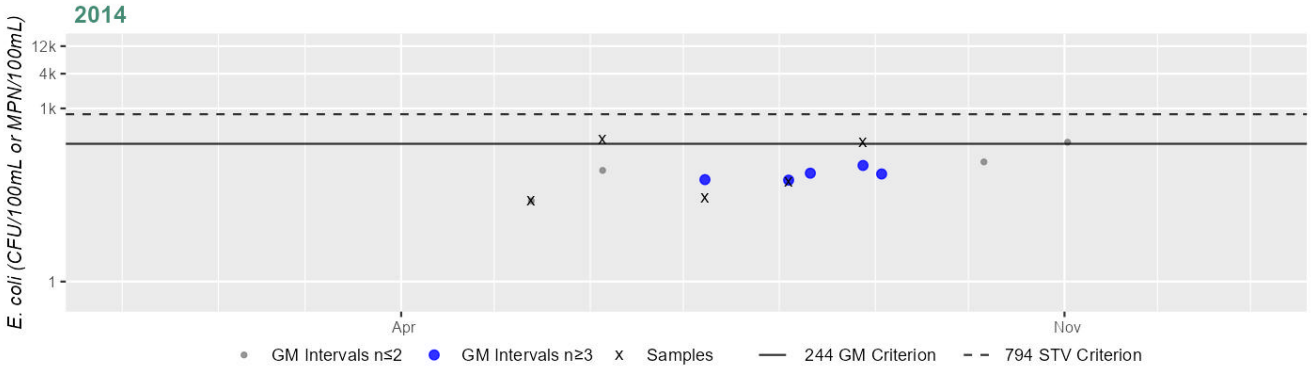
Variable*	Result
Samples	5
SeasGM	239
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	1
%n>STV	20%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2165 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	77
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quaboag River (MA36-16)

Location:	Warren WWTP discharge (NPDES: MA0101567), Warren to Route 32 bridge, Palmer/Monson (mileage includes length of braids).
AU Type:	RIVER
AU Size:	8.7 MILES
Classification/Qualifier:	B: WWF

Quaboag River (MA36-16)

Watershed Area: 179.61 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	179.61	8.97	66.64	2.36
Agriculture	6.4%	3.7%	5.2%	6.1%
Developed	9.2%	11.7%	7.8%	11.4%
Natural	74.9%	80.1%	70.4%	69.4%
Wetland	9.5%	4.5%	16.7%	13.1%
Impervious	3.4%	4.6%	3%	4.8%

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
5	4a	Fecal Coliform	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
Fecal Coliform	Source Unknown (N)	--	--	--	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)
Fecal Coliform	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 recently, so the Fish Consumption Use for Quaboag River (MA36-16) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Quaboag River (MA36-16) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Quaboag River AU east of Rt. 67, (near USGS flow gaging station #01176000), Palmer/Brimfield (W0491) between March and October 2011 (n=5), between January and November 2012 (n=6) and between February and April 2013 (n=2). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted minor trash deposits at the site on two occasions in both 2012 and 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0491	MassDEP	Water Quality	Quaboag River	[east of Route 67, (near USGS flow gaging station #01176000), Palmer/Brimfield]	42.181430	-72.263543

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
W0491	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0491 on Quaboag River (MA36-16) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0491	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0491 on Quaboag River (MA36-16) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=2).
W0491	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0491 on Quaboag River (MA36-16) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0491	2011	5	2	0
W0491	2012	6	5	2
W0491	2013	2	2	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0491	Quaboag River	2011	Aquatic Plant Density, Overall	None	1	5
W0491	Quaboag River	2011	Aquatic Plant Density, Overall	Sparse	1	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0491	Quaboag River	2011	Aquatic Plant Density, Overall	Unobservable	3	5
W0491	Quaboag River	2011	Color	Brownish	1	5
W0491	Quaboag River	2011	Color	None	1	5
W0491	Quaboag River	2011	Color	Reddish	3	5
W0491	Quaboag River	2011	Objectionable Deposits	No	1	5
W0491	Quaboag River	2011	Objectionable Deposits	Unobservable	3	5
W0491	Quaboag River	2011	Objectionable Deposits	Yes	1	5
W0491	Quaboag River	2011	Odor	None	5	5
W0491	Quaboag River	2011	Periphyton Density, Filamentous	None	2	5
W0491	Quaboag River	2011	Periphyton Density, Filamentous	Unobservable	3	5
W0491	Quaboag River	2011	Periphyton Density, Film	None	2	5
W0491	Quaboag River	2011	Periphyton Density, Film	Unobservable	3	5
W0491	Quaboag River	2011	Scum	Yes	5	5
W0491	Quaboag River	2011	Turbidity	Moderately Turbid	1	5
W0491	Quaboag River	2011	Turbidity	None	1	5
W0491	Quaboag River	2011	Turbidity	Slightly Turbid	1	5
W0491	Quaboag River	2011	Turbidity	Unobservable	2	5
W0491	Quaboag River	2012	Aquatic Plant Density, Overall	None	2	6
W0491	Quaboag River	2012	Aquatic Plant Density, Overall	Sparse	3	6
W0491	Quaboag River	2012	Aquatic Plant Density, Overall	Unobservable	1	6
W0491	Quaboag River	2012	Color	Light Yellow/Tan	2	6
W0491	Quaboag River	2012	Color	None	1	6
W0491	Quaboag River	2012	Color	Reddish	3	6
W0491	Quaboag River	2012	Objectionable Deposits	No	3	6
W0491	Quaboag River	2012	Objectionable Deposits	Unobservable	1	6
W0491	Quaboag River	2012	Objectionable Deposits	Yes	2	6
W0491	Quaboag River	2012	Odor	None	6	6
W0491	Quaboag River	2012	Periphyton Density, Filamentous	None	3	6
W0491	Quaboag River	2012	Periphyton Density, Filamentous	Sparse	1	6
W0491	Quaboag River	2012	Periphyton Density, Filamentous	Unobservable	1	6
W0491	Quaboag River	2012	Periphyton Density, Filamentous	Very Dense	1	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0491	Quaboag River	2012	Periphyton Density, Film	Dense	1	6
W0491	Quaboag River	2012	Periphyton Density, Film	None	4	6
W0491	Quaboag River	2012	Periphyton Density, Film	Unobservable	1	6
W0491	Quaboag River	2012	Scum	No	1	6
W0491	Quaboag River	2012	Scum	Yes	5	6
W0491	Quaboag River	2012	Turbidity	None	3	6
W0491	Quaboag River	2012	Turbidity	Slightly Turbid	2	6
W0491	Quaboag River	2012	Turbidity	Unobservable	1	6
W0491	Quaboag River	2013	Aesthetics Impaired?	NR	2	2
W0491	Quaboag River	2013	Aquatic Plant Density, Overall	None	1	2
W0491	Quaboag River	2013	Aquatic Plant Density, Overall	Sparse	1	2
W0491	Quaboag River	2013	Color	None	2	2
W0491	Quaboag River	2013	Objectionable Deposits	Yes	2	2
W0491	Quaboag River	2013	Odor	None	2	2
W0491	Quaboag River	2013	Periphyton Density, Filamentous	None	2	2
W0491	Quaboag River	2013	Periphyton Density, Film	None	2	2
W0491	Quaboag River	2013	Scum	No	1	2
W0491	Quaboag River	2013	Scum	Yes	1	2
W0491	Quaboag River	2013	Turbidity	None	2	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for the Quaboag River (MA36-16) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* and Fecal Coliform impairments are being carried forward. MassDEP staff collected *E. coli* bacteria samples in the Quaboag River (MA36-16) at W0491 [E of Rt. 67, (near USGS flow gaging station #01176000), Palmer/Brimfield] from 2011-2013 (n=1-4/yr). *E. coli* data from W0491 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
W0491	MassDEP	Water Quality	Quaboag River	[east of Route 67, (near USGS flow gaging station #01176000), Palmer/Brimfield]	42.181430	-72.263543

Bacteria Data

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

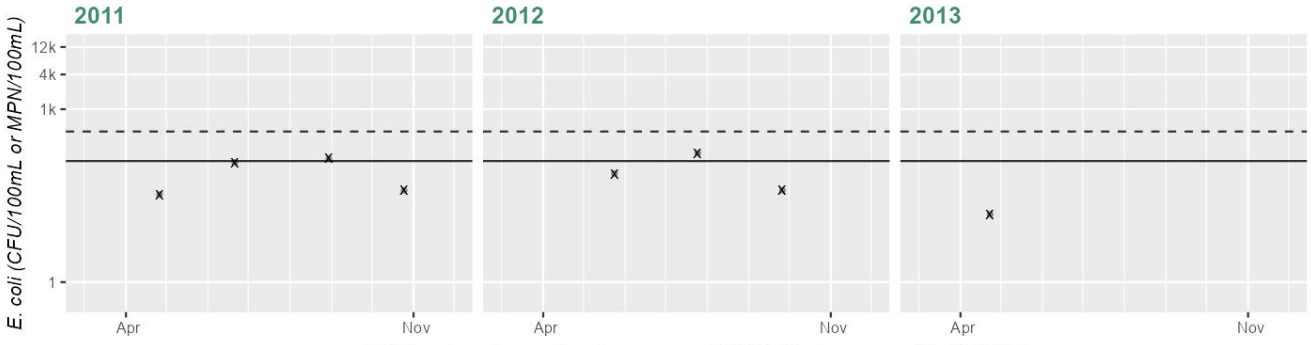
(MassDEP Undated 6) (MassDEP Undated 4)

[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
W0491	MassDEP	E. coli	04/26/11	10/25/11	4	33	140	68
W0491	MassDEP	E. coli	05/23/12	09/25/12	3	39	172	79
W0491	MassDEP	E. coli	04/23/13	04/23/13	1	15	15	15

Station MASSDEP_W0491 - Escherichia coli

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



Variable*	Result
Samples	4
SeasGM	68
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	79
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	15
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Insufficient Information	NO

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for the Quaboag River (MA36-16) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Quaboag River (MA36-16) from 1998-2013 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1868 [E off Rt. 67 on the Palmer/Warren border ~3600 ft S of the Rt. 67/Warren Rd junction, at Roadside park, Palmer] from May-Sep 2008 (n=6), W0491 [E of Rt. 67, (near USGS flow gaging station #01176000), Palmer/Brimfield] from 1998, 2003, and 2007-2010 (historic n=2-7/yr) and 2011-2013 (current n=2-6/yr). Analysis of this historic single year limited frequency *E. coli* dataset from W1868 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 165 CFU/100ml. Analysis of this historic single year moderate frequency *E. coli* dataset from W0491 indicated 0% of intervals had GMs >244 CFU/100ml and no samples exceeded the 794 CFU/100ml STV. *E. coli* data from W0491 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W1868 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Historic *E. coli* data from W0491 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, too limited bacteria data from the current IR window (2011-2022) are available to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0491	MassDEP	Water Quality	Quaboag River	[east of Route 67, (near USGS flow gaging station #01176000), Palmer/Brimfield]	42.181430	-72.263543
W1868	MassDEP	Water Quality	Quaboag River	[east off Route 67 on the Palmer/Warren border approximately 3600 feet south of the Route 67/Warren Road junction, at roadside park, Palmer]	42.193247	-72.263929

Bacteria Data

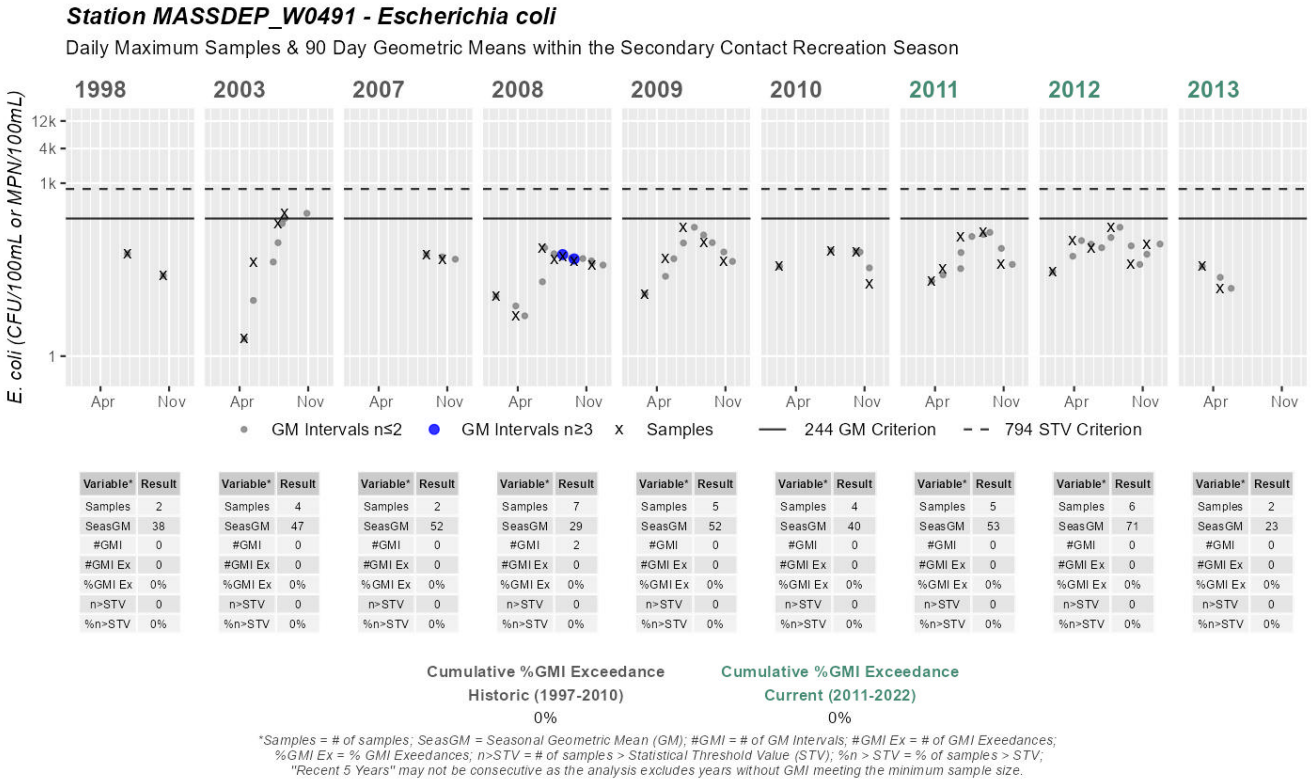
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 6) (MassDEP Undated 3)

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

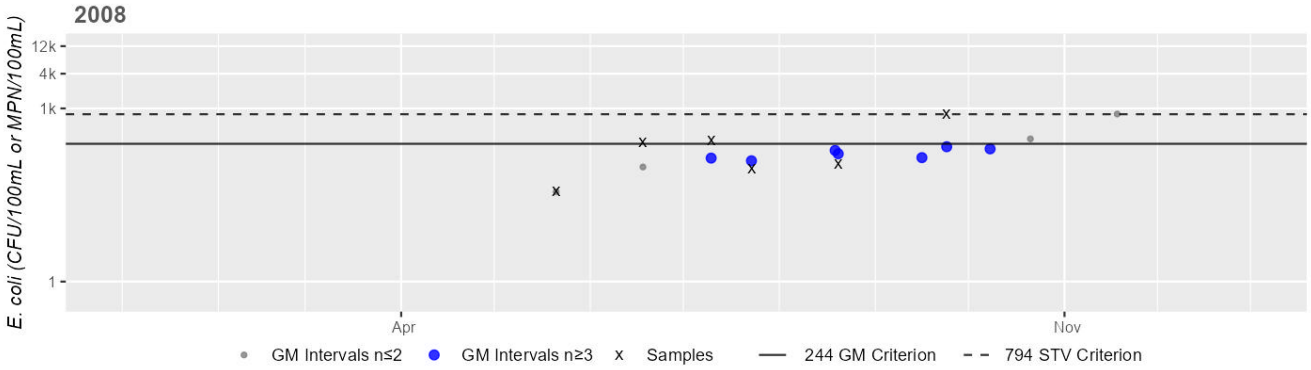
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0491	MassDEP	E. coli	06/24/98	10/14/98	2	25	60	38
W0491	MassDEP	E. coli	04/16/03	08/20/03	4	2	300	47
W0491	MassDEP	E. coli	08/28/07	10/16/07	2	48	58	52
W0491	MassDEP	E. coli	01/23/08	11/18/08	7	5	76	29
W0491	MassDEP	E. coli	02/23/09	10/27/09	5	12	172	52

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0491	MassDEP	E. coli	02/09/10	11/16/10	4	18	68	40
W0491	MassDEP	E. coli	03/22/11	10/25/11	5	20	140	53
W0491	MassDEP	E. coli	01/24/12	11/13/12	6	29	172	71
W0491	MassDEP	E. coli	02/26/13	04/23/13	2	15	36	23
W1868	MassDEP	E. coli	05/20/08	09/23/08	6	36	800	165



Station MASSDEP_W1868 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	165
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quaboag River (MA36-17)

Location:	Route 32 bridge, Palmer/Monson to mouth at confluence with Ware River (forming headwaters of Chicopee River), Palmer.
AU Type:	RIVER
AU Size:	5.3 MILES
Classification/Qualifier:	B: WWF

Quaboag River (MA36-17)

Watershed Area: 211.75 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	211.75	6.21	75.09	1.17
Agriculture	6%	1.7%	5%	2.1%
Developed	9.8%	23.5%	8.5%	22.6%
Natural	75.3%	70.1%	70.2%	59.9%
Wetland	8.9%	4.7%	16.2%	15.4%
Impervious	3.8%	13%	3.4%	13.1%

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) (Y)	--	--	--	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 recently, so the Fish Consumption Use for Quaboag River (MA36-17) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Quaboag River AU (MA36-17), so it 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 the Quaboag River (MA36-17) 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 CRC_CQ32-1, CRC_CQ20-1, and CRC_CQLF1. CRC staff/volunteers collected *E. coli* bacteria samples in the Quaboag River (MA36-17) from 2019-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CQ32-1 [Quaboag River, Rt 32 crossing, Monson] from 2019-2020 (n=5-7/yr), CRC_CQ20-1 [Quaboag River, Rt 20, Palmer] from 2019-2020 (n=6-7/yr), CRC_CQLF1 [Laviolette Field, Palmer] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ32-1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019 and 2020, 100 & 100%), 1 yr had ≥2 samples exceed the 410 CFU/100ml STV (2019, n=2), and cumulatively across years 100% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ20-1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019 and 2020, 100 & 100%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2019 and 2020, n=4 & 2), and cumulatively across years 100% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQLF1 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019-2022, 100%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2019 and 2022, n=5 & 3), and cumulatively across years 100% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CQ32-1, CRC_CQ20-1, and CRC_CQLF1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ20-1	Connecticut River Conservancy	Water Quality	Quaboag River	Quaboag River, Rt 20, Palmer	42.162000	-72.346000
CRC_CQ32-1	Connecticut River Conservancy	Water Quality	Quaboag River	Quaboag River, Rt 32 crossing, Monson	42.144500	-72.314500
CRC_CQLF1	Connecticut River Conservancy	Water Quality	Quaboag River	Laviolette Field, Palmer	42.178900	-72.361700

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 2)

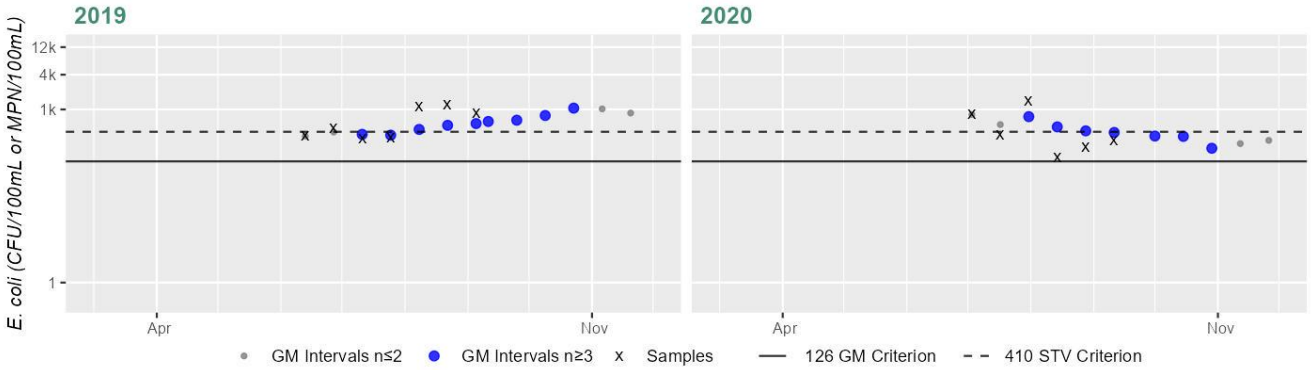
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
CRC_CQ20-1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	307	1203	568
CRC_CQ20-1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	146	1413	399

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
CRC_CQ32-1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	88	1119	291
CRC_CQ32-1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	105	365	200
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	224	1986	581
CRC_CQLF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	88	686	205
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	111	727	217
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	172	1732	413

Station CRC_CQ20-1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	568
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	6
SeasGM	399
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance

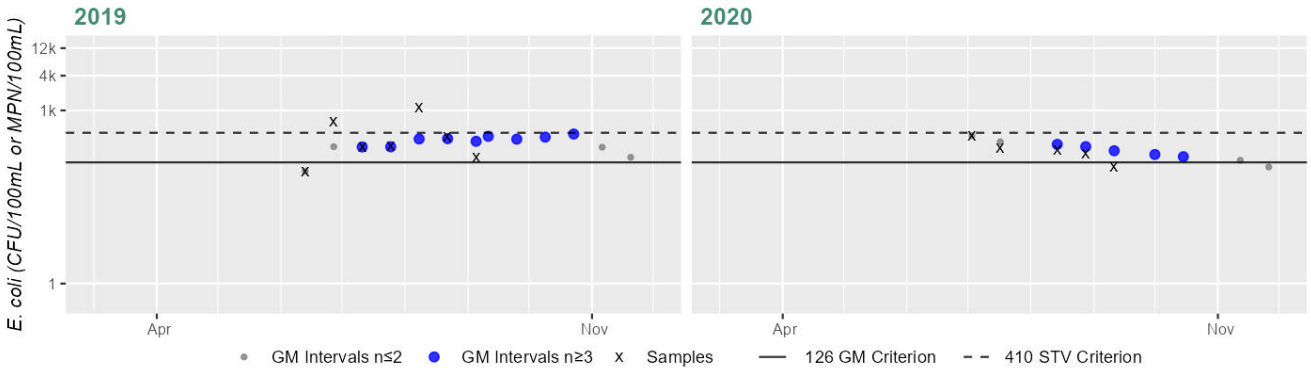
Current (2011-2022)

100%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQ32-1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	291
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	2
%n>STV	28%

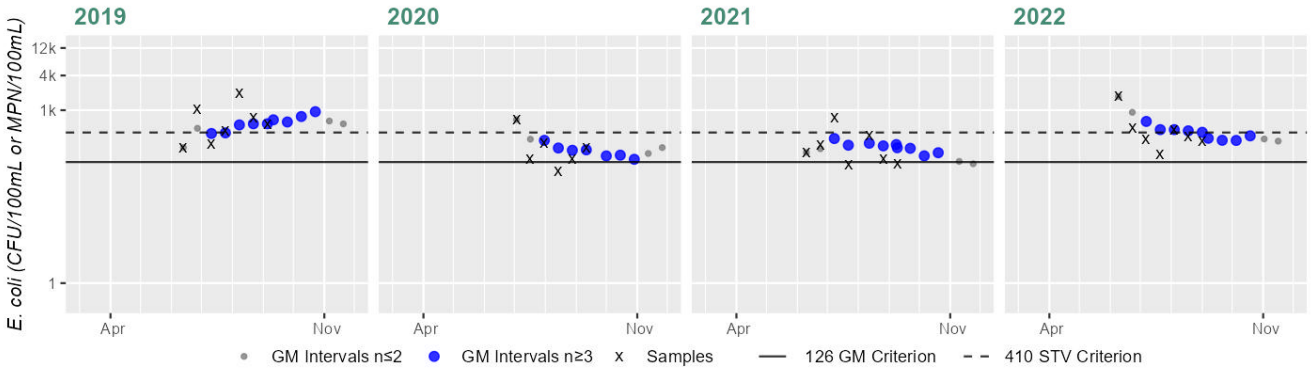
Variable*	Result
Samples	5
SeasGM	200
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQLF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	581
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	6
SeasGM	205
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	217
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	413
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Quaboag River (MA36-17) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CQ20-1 and CRC_CQLF1. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Quaboag River (MA36-17) from 2003-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CQ32-1 [Quaboag River, Rt 32 crossing, Monson] from 2019-2020 (n=5-7/yr), CRC_CQ20-1 [Quaboag River, Rt 20, Palmer] from 2019-2020 (n=6-7/yr), W1015 [Palmer St bridge, Palmer] from 2003 and 2008 (n=6/yr), CRC_CQLF1 [Laviolette Field, Palmer] from 2019-2022 (n=6-7/yr), W1875 [~170 ft upstream of Main St crossing, Palmer] from May-Sep 2008 (n=6). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ32-1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2019 and 2020, 77 & 20%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 57% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ20-1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2019 and 2020, 100 & 85%), 2 yrs had ≥2 samples exceed the 794 CFU/100ml STV (2019 and 2020, n=3 & 2), and cumulatively across years 93% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQLF1 indicated 3 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2019 and 2021-2022, 44-100%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2019, n=2), and cumulatively across years 67% of intervals had GMs >244 CFU/100ml. While *E. coli* data from CRC_CQ32-1 meets 2024 CALM guidance, *E. coli* data from CRC_CQ20-1 and CRC_CQLF1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ20-1	Connecticut River Conservancy	Water Quality	Quaboag River	Quaboag River, Rt 20, Palmer	42.162000	-72.346000
CRC_CQ32-1	Connecticut River Conservancy	Water Quality	Quaboag River	Quaboag River, Rt 32 crossing, Monson	42.144500	-72.314500
CRC_CQLF1	Connecticut River Conservancy	Water Quality	Quaboag River	Laviolette Field, Palmer	42.178900	-72.361700
W1015	MassDEP	Water Quality	Quaboag River	[Palmer Street bridge, Palmer]	42.173145	-72.346004

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1875	MassDEP	Water Quality	Quaboag River	[approximately 170 feet upstream of Main Street crossing, Palmer]	42.179819	-72.364007

Bacteria Data

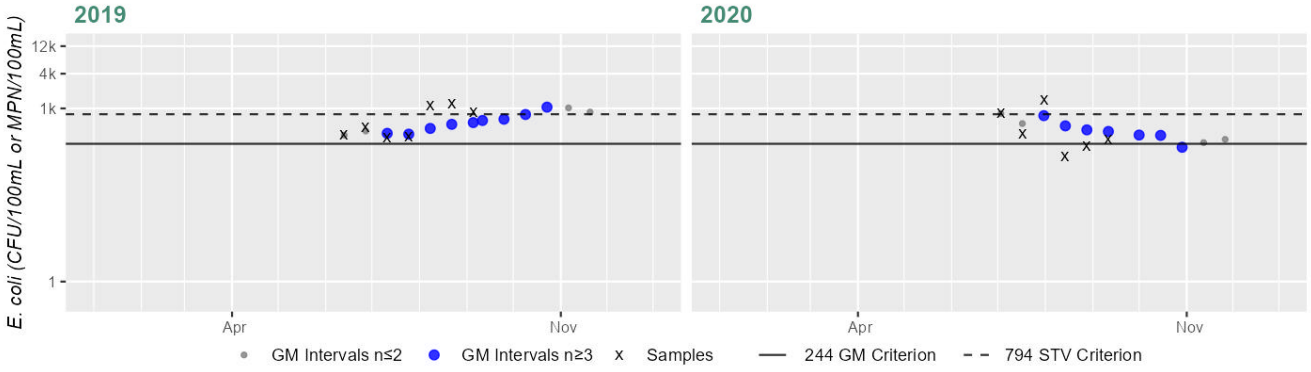
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CQ20-1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	307	1203	568
CRC_CQ20-1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	146	1413	399
CRC_CQ32-1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	88	1119	291
CRC_CQ32-1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	105	365	200
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	224	1986	581
CRC_CQLF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	88	686	205
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	111	727	217
CRC_CQLF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	172	1732	413
W1015	MassDEP	E. coli	04/16/03	10/15/03	6	2	2160	156
W1015	MassDEP	E. coli	05/20/08	09/23/08	6	64	830	199
W1875	MassDEP	E. coli	05/20/08	09/23/08	6	118	550	204

Station CRC_CQ20-1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	568
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

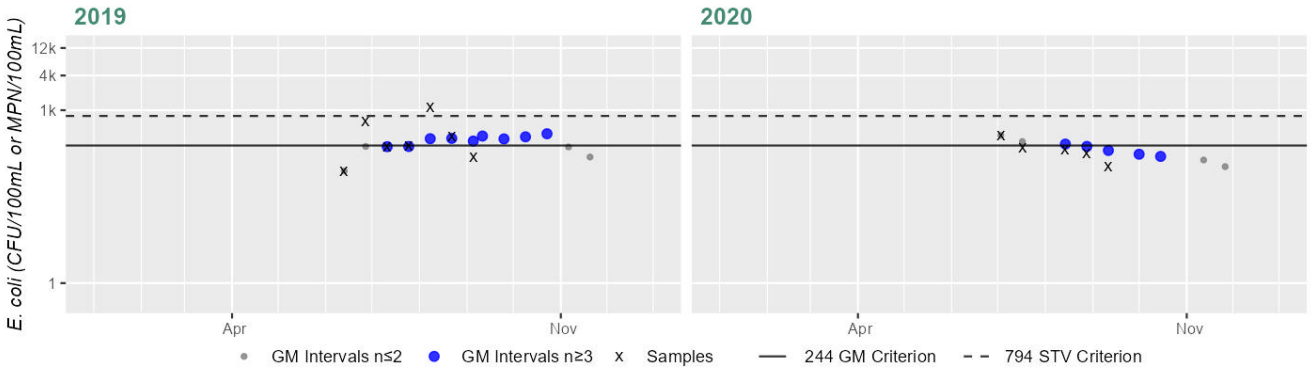
Variable*	Result
Samples	6
SeasGM	399
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Current (2011-2022)
93%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQ32-1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	291
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	14%

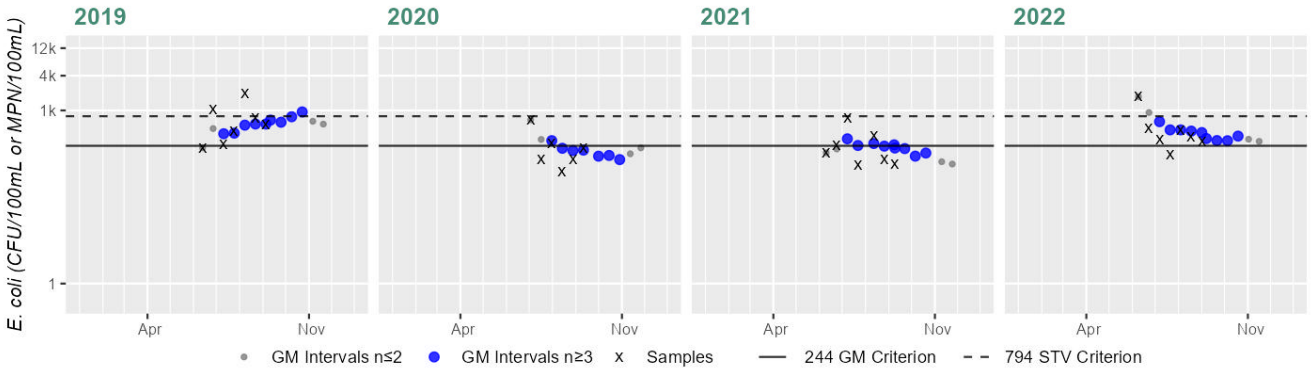
Variable*	Result
Samples	5
SeasGM	200
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
57%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CQLF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	581
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	2
%n>STV	28%

Variable*	Result
Samples	6
SeasGM	205
#GMI	7
#GMI Ex	1
%GMI Ex	14%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	217
#GMI	9
#GMI Ex	4
%GMI Ex	44%
n>STV	0
%n>STV	0%

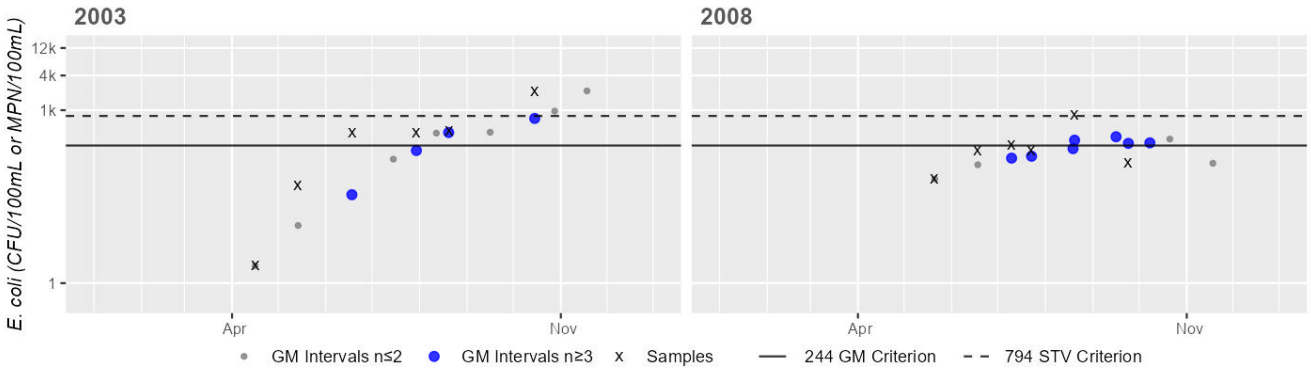
Variable*	Result
Samples	7
SeasGM	413
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
67%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1015 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	156
#GMI	4
#GMI Ex	2
%GMI Ex	50%
n>STV	1
%n>STV	16%

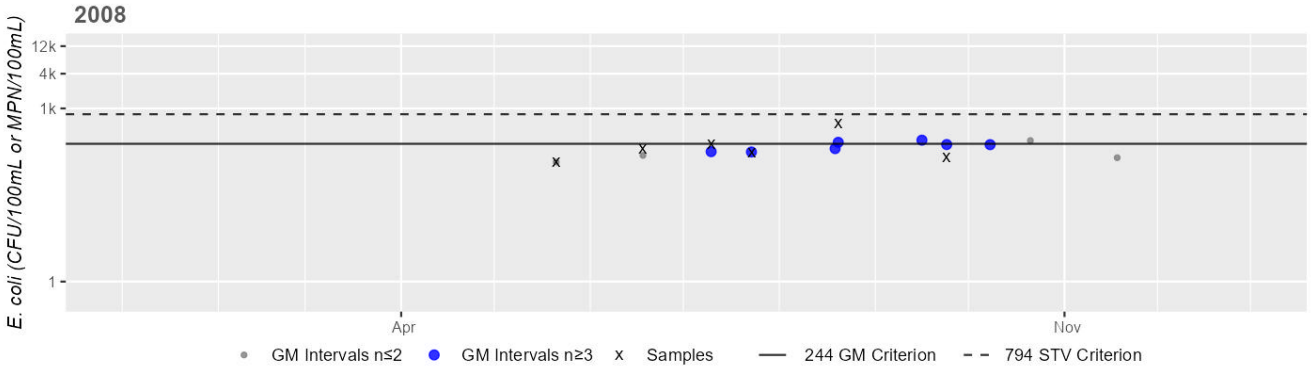
Variable*	Result
Samples	6
SeasGM	199
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
54%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1875 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	204
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Historic (1997-2010)
28%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Quacumquasit Pond (MA36131)

Location:	Brookfield/East Brookfield/Sturbridge. (also known as South Pond)
AU Type:	FRESHWATER LAKE
AU Size:	223 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
4a	4a	(Fanwort*)	--	Unchanged
4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	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 Quacumquasit Pond (MA36131) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Quacumquasit Pond (referred to by MDPH as ''South Pond (Quacumquasit 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Quacumquasit Pond (MA36131) is assessed as Fully Supporting. MassDEP staff surveyed this Quacumquasit Pond AU at a shoreline station at the northern end of pond, west of boat ramp, south of Lake Road, Brookfield W2598 (MAP2L-032S) and at the deep hole index station, East Brookfield W1005 (MAP2L-032); both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2598 (n=5) and W1005 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1). During the MAP2 macrophyte mapping survey in Aug 2016 (n=1), less than 25% (4%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1005	MassDEP	Water Quality	Quacumquasit Pond	[deep hole, East Brookfield]	42.173023	-72.071081
W2598	MassDEP	Water Quality	Quacumquasit Pond	[northern end of pond, west of boat ramp, south of Lake Road, Brookfield]	42.180895	-72.073740

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
W1005	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W1005 (MAP2L-032) on Quacumquasit Pond (MA36131) during 3 site visits between Jul 2016 and Sep 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Aug 2016, less than 25% (4%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.
W2598	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2598 (MAP2L-032S) on Quacumquasit Pond (MA36131) during 5 site visits between May 2016 and Sep 2016. 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 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1005	Quacumquasit Pond	2016	Aesthetics Impaired?	No	3	3
W1005	Quacumquasit Pond	2016	Aquatic Plant Density, Overall	None	1	3
W1005	Quacumquasit Pond	2016	Aquatic Plant Density, Overall	Unobservable	2	3
W1005	Quacumquasit Pond	2016	Aquatic Plant Density, Whole Lake	NR	1	1
W1005	Quacumquasit Pond	2016	Color	None	3	3
W1005	Quacumquasit Pond	2016	Duckweed Density, Whole Lake	None	1	1
W1005	Quacumquasit Pond	2016	Objectionable Deposits	No	3	3
W1005	Quacumquasit Pond	2016	Odor	None	3	3
W1005	Quacumquasit Pond	2016	Scum	No	3	3
W1005	Quacumquasit Pond	2016	Turbidity	None	2	3
W1005	Quacumquasit Pond	2016	Turbidity	Slightly Turbid	1	3
W2598	Quacumquasit Pond	2016	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2598	Quacumquasit Pond	2016	Color	Light Yellow/Tan	1	5
W2598	Quacumquasit Pond	2016	Color	None	4	5
W2598	Quacumquasit Pond	2016	Objectionable Deposits	No	5	5
W2598	Quacumquasit Pond	2016	Odor	None	5	5
W2598	Quacumquasit Pond	2016	Scum	No	5	5
W2598	Quacumquasit Pond	2016	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 Quacumquasit Pond (MA36131) is assessed as Fully Supporting. In Quacumquasit Pond (MA36131), MassDEP collected Secchi and cyanobacteria cell count data at W1005 [MAP2L-032, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2598 [MAP2L-032S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W1005 in 2016 (n=3, 3.85-5.4m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2598 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MassDEP staff collected *E. coli* bacteria samples in Quacumquasit Pond (MA36131) at W2598 [northern end of pond, W of boat ramp, S of Lake Rd, Brookfield] from May-Sep 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2598 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 1 CFU/100ml. *E. coli* data from W2598 meet 2024 CALM guidance.

Monitoring Stations

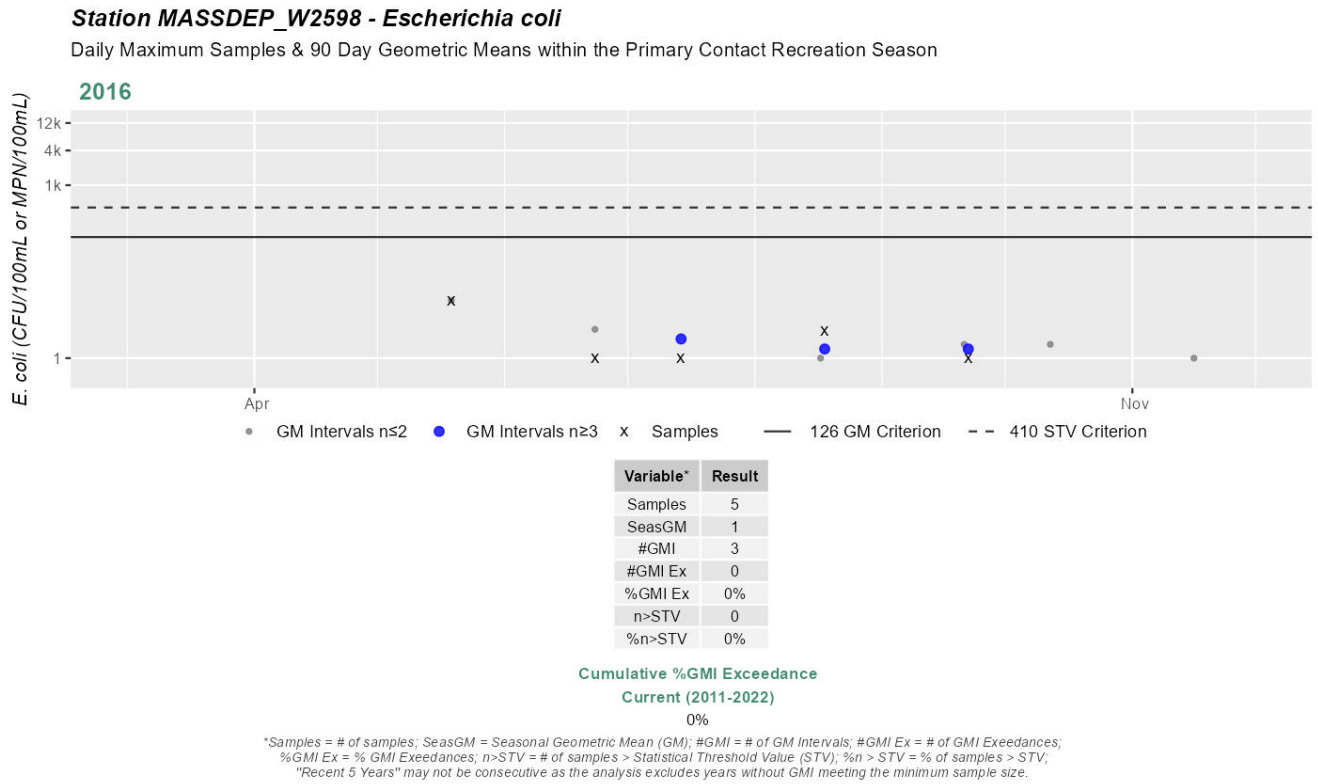
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1005	MassDEP	Water Quality	Quacumquasit Pond	[deep hole, East Brookfield]	42.173023	-72.071081

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2598	MassDEP	Water Quality	Quacumquasit Pond	[northern end of pond, west of boat ramp, south of Lake Road, Brookfield]	42.180895	-72.073740

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (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
W2598	MassDEP	E. coli	05/18/16	09/21/16	5	1	10	1



Other Indicators

Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data
(MassDEP Undated 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In Quacumquasit Pond (MA36131) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W1005 [MAP2L-032, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2598 [MAP2L-032S, Shoreline]. At station W1005 (station depth=20.7 m) the Secchi depth measurements ranged from 3.85-5.4 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 samples from the shoreline station W2598 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L.

MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W1005	Quacumquasit Pond	Index	2016	3	0	NA
W2598	Quacumquasit Pond	Shoreline	2016	3	0	NA

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Quacumquasit Pond (MA36131) is assessed as Fully Supporting. In Quacumquasit Pond (MA36131), MassDEP collected cyanobacteria cell count data at W1005 [MAP2L-032, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2598 [MAP2L-032S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2598 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MassDEP staff collected *E. coli* bacteria samples in Quacumquasit Pond (MA36131) at W2598 [northern end of pond, W of boat ramp, S of Lake Rd, Brookfield] from May-Sep 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2598 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 1 CFU/100ml. *E. coli* data from W2598 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2598	MassDEP	Water Quality	Quacumquasit Pond	[northern end of pond, west of boat ramp, south of Lake Road, Brookfield]	42.180895	-72.073740

Bacteria Data

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

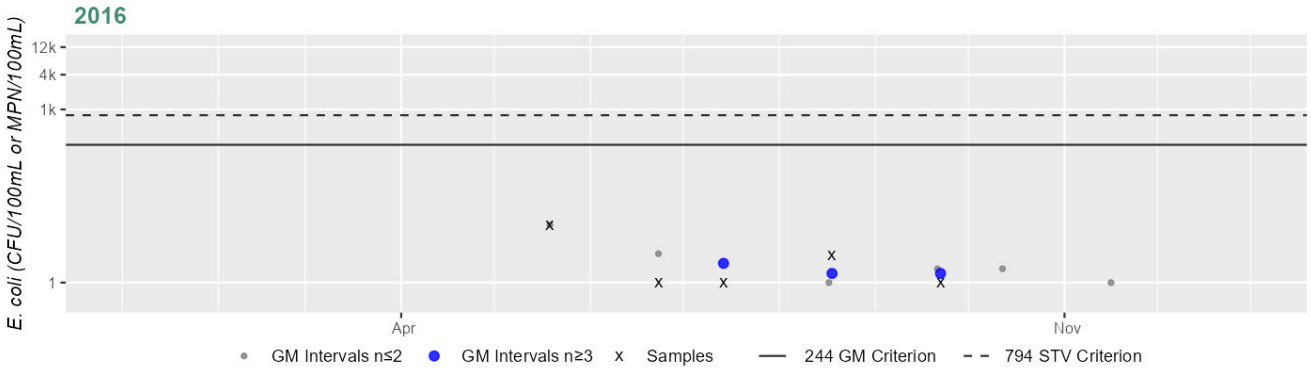
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2598	MassDEP	E. coli	05/18/16	09/21/16	5	1	10	1

Station MASSDEP_W2598 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	1
#GMI	3
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Queen Lake (MA36132)

Location:	Phillipston.
AU Type:	FRESHWATER LAKE
AU Size:	139 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	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 recently, so the Fish Consumption Use for Queen Lake (MA36132) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Queen Lake (MA36132) is assessed as Fully Supporting. MassDEP staff surveyed this Queen Lake AU at a shoreline station at the southern end of lake, east of boat ramp, north off Route 101 (Queen Lake Road), Phillipston W2599 (MAP2L-024S) and at the deep hole index station, approximate center of lake, Phillipston W2629 (MAP2L-024); both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2599 (n=5) and W2629 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1). During the MAP2 macrophyte mapping survey in Jul 2016 (n=1), less than 25% (1%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2599	MassDEP	Water Quality	Queen Lake	[southern end of lake, east of boat ramp, north off Route 101 (Queen Lake Road), Phillipston]	42.526031	-72.116341
W2629	MassDEP	Water Quality	Queen Lake	[index site, approximate center of lake, Phillipston]	42.535388	-72.114015

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
W2599	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2599 (MAP2L-024S) on Queen Lake (MA36132) during 5 site visits between May 2016 and Aug 2016. 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.
W2629	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2629 (MAP2L-024) on Queen Lake (MA36132) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Jul 2016, less than 25% (1%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2599	Queen Lake	2016	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2599	Queen Lake	2016	Color	Brownish	1	5
W2599	Queen Lake	2016	Color	Light Yellow/Tan	2	5
W2599	Queen Lake	2016	Color	None	1	5
W2599	Queen Lake	2016	Color	NR	1	5
W2599	Queen Lake	2016	Objectionable Deposits	No	5	5
W2599	Queen Lake	2016	Odor	None	5	5
W2599	Queen Lake	2016	Scum	No	5	5
W2599	Queen Lake	2016	Turbidity	None	4	5
W2599	Queen Lake	2016	Turbidity	Slightly Turbid	1	5
W2629	Queen Lake	2016	Aesthetics Impaired?	No	3	3
W2629	Queen Lake	2016	Aquatic Plant Density, Overall	None	2	3
W2629	Queen Lake	2016	Aquatic Plant Density, Overall	Unobservable	1	3
W2629	Queen Lake	2016	Aquatic Plant Density, Whole Lake	NR	1	1
W2629	Queen Lake	2016	Color	Dark Tan	1	3
W2629	Queen Lake	2016	Color	Light Yellow/Tan	1	3
W2629	Queen Lake	2016	Color	None	1	3
W2629	Queen Lake	2016	Duckweed Density, Whole Lake	None	1	1
W2629	Queen Lake	2016	Objectionable Deposits	No	3	3
W2629	Queen Lake	2016	Odor	None	3	3
W2629	Queen Lake	2016	Scum	No	3	3
W2629	Queen Lake	2016	Turbidity	None	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Queen Lake (MA36132) is assessed as Fully Supporting. In Queen Lake (MA36132), MassDEP collected Secchi and cyanobacteria cell count data at W2629 [MAP2L-024, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2599 [MAP2L-024S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2629 in 2016 (n=3, 3.4-5.13m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2599 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MassDEP staff collected *E. coli* bacteria samples in Queen Lake (MA36132) at W2599 [southern end of lake, E of boat ramp, N off Rt. 101 (Queen Lake Rd), Phillipston] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2599 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 4 CFU/100ml. *E. coli* data from W2599 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2599	MassDEP	Water Quality	Queen Lake	[southern end of lake, east of boat ramp, north off Route 101 (Queen Lake Road), Phillipston]	42.526031	-72.116341
W2629	MassDEP	Water Quality	Queen Lake	[index site, approximate center of lake, Phillipston]	42.535388	-72.114015

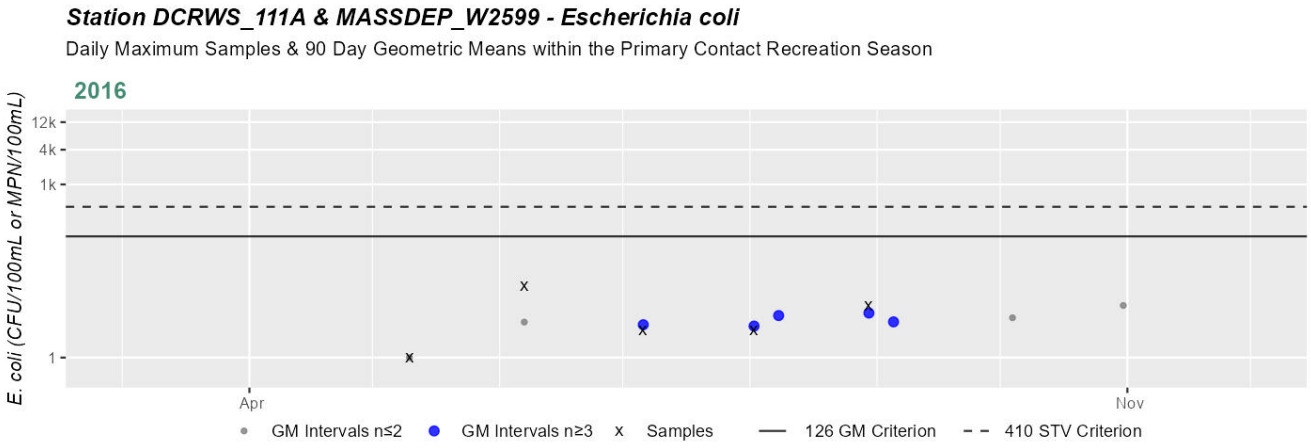
Bacteria Data

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

(MassDEP Undated 6) (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
W2599	MassDEP	E. coli	05/09/16	08/29/16	5	1	17	4



Variable*	Result
Samples	5
SeasGM	4
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In Queen Lake (MA36132) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2629 [MAP2L-024, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2599 [MAP2L-024S, Shoreline]. At station W2629 (station depth=7.3 m) the Secchi depth measurements ranged from 3.4-5.13 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 samples from the shoreline station W2599 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L.

MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2599	Queen Lake	Shoreline	2016	3	0	NA
W2629	Queen Lake	Index	2016	3	0	NA

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Queen Lake (MA36132) is assessed as Fully Supporting. In Queen Lake (MA36132), MassDEP collected cyanobacteria cell count data at W2629 [MAP2L-024, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2599 [MAP2L-024S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2599 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Queen Lake (MA36132) at DCRWS_111A & W2599 [southern end of lake, E of boat ramp, N off Rt. 101 (Queen Lake Rd), Phillipston & Queen Lake Beach Rt. 101, Phillipston] from Jan-Dec 2009 (historic n=26) and May-Aug 2016 (current n=5). Analysis of the single year limited frequency *E. coli* dataset from DCRWS_111A & W2599 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 4 CFU/100ml. *E. coli* data from DCRWS_111A & W2599 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_111A	MA DCR Division of Water Supply Protection	Water Quality	Queen Lake	Queen Lake Beach Rt. 101, Phillipston	42.526160	-72.116323
W2599	MassDEP	Water Quality	Queen Lake	[southern end of lake, east of boat ramp, north off Route 101 (Queen Lake Road), Phillipston]	42.526031	-72.116341

Bacteria Data

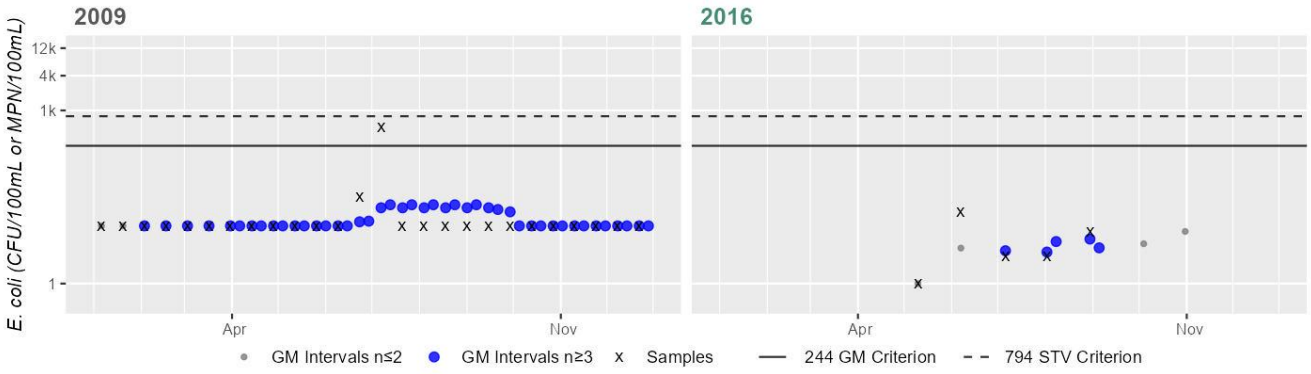
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
DCRWS_111A	MA DCR Division of Water Supply Protection	E. coli	01/06/09	12/22/09	26	10	504	12
W2599	MassDEP	E. coli	05/09/16	08/29/16	5	1	17	4

Station DCRWS_111A & MASSDEP_W2599 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	12
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	4
#GMI	5
#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%

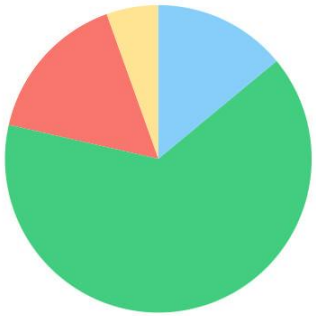
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Roaring Brook (MA36-56)

Location:	Headwaters, west of Summit Street, Belchertown to confluence with Broad Brook Canal/Jabish Canal, Belchertown.
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Roaring Brook (MA36-56)

Watershed Area: 2.92 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.92	2.92	0.78	0.78
Agriculture	5.5%	5.5%	9.1%	9.1%
Developed	16%	16%	15.1%	15.1%
Natural	64.5%	64.5%	52.4%	52.4%
Wetland	14%	14%	23.4%	23.4%
Impervious	4.9%	4.9%	3.1%	3.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Roaring Brook (MA36-56) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Roaring Brook (MA36-56) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station at the upstream end of this Roaring Brook AU ~800 feet upstream/west of Rockrimmon Street, Belchertown (W1900) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1900	MassDEP	Water Quality	Roaring Brook	[approximately 800 feet upstream/west of Rockrimmon Street, Belchertown]	42.250403	-72.426539

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
W1900	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1900 on Roaring Brook (MA36-56) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1900	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1900	Roaring Brook	2014	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1900	Roaring Brook	2014	Aquatic Plant Density, Overall	None	5	5
W1900	Roaring Brook	2014	Color	Light Yellow/Tan	1	5
W1900	Roaring Brook	2014	Color	None	4	5
W1900	Roaring Brook	2014	Objectionable Deposits	No	5	5
W1900	Roaring Brook	2014	Odor	None	5	5
W1900	Roaring Brook	2014	Periphyton Density, Filamentous	None	4	5
W1900	Roaring Brook	2014	Periphyton Density, Filamentous	Sparse	1	5
W1900	Roaring Brook	2014	Periphyton Density, Film	None	5	5
W1900	Roaring Brook	2014	Scum	No	5	5
W1900	Roaring Brook	2014	Turbidity	None	4	5
W1900	Roaring Brook	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Roaring Brook (MA36-56) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Roaring Brook (MA36-56) at W1900 [~800 ft upstream/W of Rockrimmon St, Belchertown] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1900 indicated 20% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 57 CFU/100ml. *E. coli* data from W1900 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1900	MassDEP	Water Quality	Roaring Brook	[approximately 800 feet upstream/west of Rockrimmon Street, Belchertown]	42.250403	-72.426539

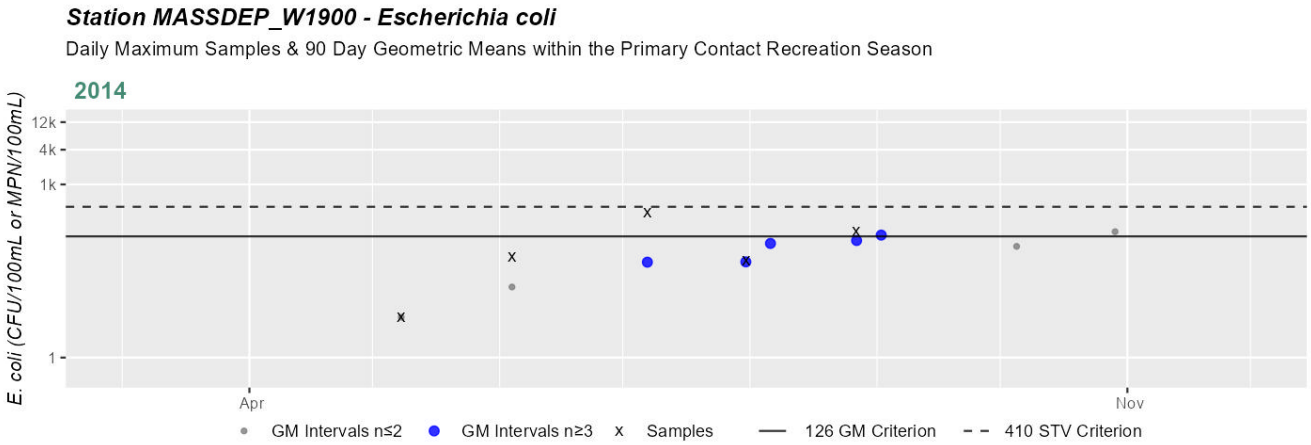
Bacteria Data

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

(MassDEP Undated 6) (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
W1900	MassDEP	E. coli	05/08/14	08/27/14	5	5	326	57



Variable*	Result
Samples	5
SeasGM	57
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
20%

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Roaring Brook (MA36-56) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Roaring Brook (MA36-56) at W1900 [~800 ft upstream/W of Rockrimmon St, Belchertown] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1900 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 57 CFU/100ml. *E. coli* data from W1900 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1900	MassDEP	Water Quality	Roaring Brook	[approximately 800 feet upstream/west of Rockrimmon Street, Belchertown]	42.250403	-72.426539

Bacteria Data

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

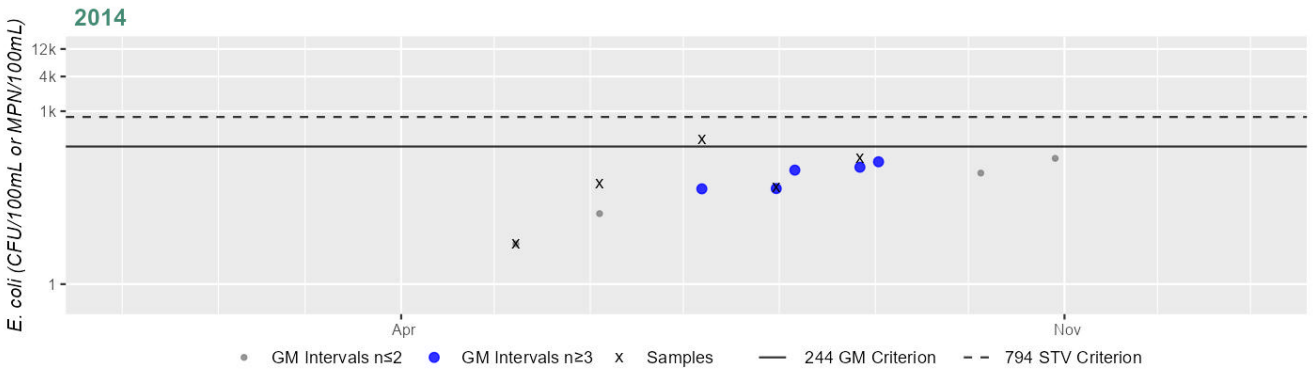
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1900	MassDEP	E. coli	05/08/14	08/27/14	5	5	326	57

Station MASSDEP_W1900 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	57
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Rocky Run (MA36-64)

Location:	Headwaters, north of Freeman Road, Shutesbury to mouth at confluence with West Branch Swift River, Shutesbury.
AU Type:	RIVER
AU Size:	1.7 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

No usable data were available for Rocky Run (MA36-64) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

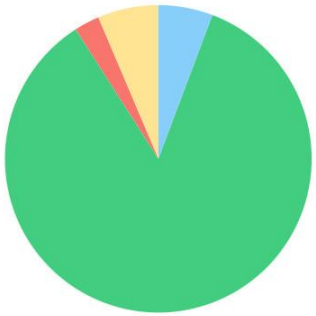
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Rutland Brook (MA36-97)

Location:	Headwaters outlet Gaston Pond, Barre to mouth at inlet Connor Pond, an impoundment of East Branch Swift River, Petersham.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Rutland Brook (MA36-97)

Watershed Area: 3.30 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.30	3.30	0.56	0.56
Agriculture	6.4%	6.4%	1.9%	1.9%
Developed	2.7%	2.7%	1.1%	1.1%
Natural	85.2%	85.2%	88.1%	88.1%
Wetland	5.7%	5.7%	8.9%	8.9%
Impervious	1.2%	1.2%	0.4%	0.4%

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 recently, so the Fish Consumption Use for Rutland Brook (MA36-97) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Rutland Brook (MA36-97) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations close to the downstream end of this Rutland Brook AU 1050 feet upstream of mouth at inlet to Connor Pond, Petersham (W2899) in summer 2019 (n=4). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2899	MassDEP	Water Quality	Rutland Brook	[approximately 1050 feet upstream of mouth at inlet to Connor Pond, Petersham]	42.467777	-72.156738

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
W2899	2019	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2899 on Rutland Brook (MA36-97) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2899	2019	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2899	Rutland Brook	2019	Aesthetics Impaired?	No	4	4

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2899	Rutland Brook	2019	Aquatic Plant Density, Overall	None	4	4
W2899	Rutland Brook	2019	Color	Light Yellow/Tan	1	4
W2899	Rutland Brook	2019	Color	None	3	4
W2899	Rutland Brook	2019	Objectionable Deposits	No	4	4
W2899	Rutland Brook	2019	Odor	None	4	4
W2899	Rutland Brook	2019	Periphyton Density, Filamentous	None	4	4
W2899	Rutland Brook	2019	Periphyton Density, Film	None	4	4
W2899	Rutland Brook	2019	Scum	No	4	4
W2899	Rutland Brook	2019	Turbidity	None	4	4

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 Rutland Brook (MA36-97) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

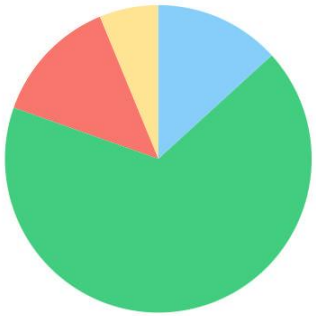
2024/26 Use Attainment Summary
No bacteria data are available to assess the Secondary Contact Recreation Use for Rutland Brook (MA36-97) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information.

Sevenmile River (MA36-11)

Location:	Headwaters, outlet Browning Pond, Spencer to confluence with Cranberry River, Spencer.
AU Type:	RIVER
AU Size:	7.3 MILES
Classification/Qualifier:	B: WWF, HQW

Sevenmile River (MA36-11)

Watershed Area: 31.47 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	31.47	6.18	11.78	2.26
Agriculture	6.2%	8.5%	3.4%	5.8%
Developed	13.4%	24.7%	10.8%	20.3%
Natural	67.2%	56.9%	65.4%	53.4%
Wetland	13.2%	9.9%	20.3%	20.5%
Impervious	5.1%	10.9%	4.4%	9.3%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	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 recently, so the Fish Consumption Use for Sevenmile River (MA36-11) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Sevenmile River (MA36-11) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Sevenmile River AU at Cooney Road at USGS flow gaging station #01175670, Spencer (W0490) in 2011 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted grey water color on one occasion in 2011.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0490	MassDEP	Water Quality	Sevenmile River	[Cooney Road at USGS flow gaging station #01175670, Spencer]	42.264779	-72.004916

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
W0490	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0490 on Sevenmile River (MA36-11) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted grey water color (n=1).
W0490	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0490 on Sevenmile River (MA36-11) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0490	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0490 on Sevenmile River (MA36-11) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0490	2011	5	5	1
W0490	2012	6	6	5
W0490	2013	2	2	1

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0490	Sevenmile River	2011	Aquatic Plant Density, Overall	Sparse	5	5
W0490	Sevenmile River	2011	Color	Greyish	1	5
W0490	Sevenmile River	2011	Color	None	4	5
W0490	Sevenmile River	2011	Objectionable Deposits	No	5	5
W0490	Sevenmile River	2011	Odor	None	5	5
W0490	Sevenmile River	2011	Periphyton Density, Filamentous	Dense	1	5
W0490	Sevenmile River	2011	Periphyton Density, Filamentous	None	4	5
W0490	Sevenmile River	2011	Periphyton Density, Film	Moderate	1	5
W0490	Sevenmile River	2011	Periphyton Density, Film	None	4	5
W0490	Sevenmile River	2011	Scum	Yes	5	5
W0490	Sevenmile River	2011	Turbidity	None	4	5
W0490	Sevenmile River	2011	Turbidity	Slightly Turbid	1	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0490	Sevenmile River	2012	Aquatic Plant Density, Overall	None	2	6
W0490	Sevenmile River	2012	Aquatic Plant Density, Overall	Sparse	4	6
W0490	Sevenmile River	2012	Color	Light Yellow/Tan	2	6
W0490	Sevenmile River	2012	Color	None	3	6
W0490	Sevenmile River	2012	Color	Reddish	1	6
W0490	Sevenmile River	2012	Objectionable Deposits	No	6	6
W0490	Sevenmile River	2012	Odor	Musty (Basement)	1	6
W0490	Sevenmile River	2012	Odor	None	4	6
W0490	Sevenmile River	2012	Odor	Other (Eutrophic)	1	6
W0490	Sevenmile River	2012	Periphyton Density, Filamentous	Dense	1	6
W0490	Sevenmile River	2012	Periphyton Density, Filamentous	None	4	6
W0490	Sevenmile River	2012	Periphyton Density, Filamentous	Sparse	1	6
W0490	Sevenmile River	2012	Periphyton Density, Film	Dense	1	6
W0490	Sevenmile River	2012	Periphyton Density, Film	None	2	6
W0490	Sevenmile River	2012	Periphyton Density, Film	Very Dense	3	6
W0490	Sevenmile River	2012	Scum	No	1	6
W0490	Sevenmile River	2012	Scum	Yes	5	6
W0490	Sevenmile River	2012	Turbidity	None	5	6
W0490	Sevenmile River	2012	Turbidity	Slightly Turbid	1	6
W0490	Sevenmile River	2013	Aesthetics Impaired?	NR	2	2
W0490	Sevenmile River	2013	Aquatic Plant Density, Overall	Sparse	2	2
W0490	Sevenmile River	2013	Color	None	2	2
W0490	Sevenmile River	2013	Objectionable Deposits	No	2	2
W0490	Sevenmile River	2013	Odor	None	2	2
W0490	Sevenmile River	2013	Periphyton Density, Filamentous	Dense	1	2
W0490	Sevenmile River	2013	Periphyton Density, Filamentous	None	1	2
W0490	Sevenmile River	2013	Periphyton Density, Film	None	1	2
W0490	Sevenmile River	2013	Periphyton Density, Film	Sparse	1	2
W0490	Sevenmile River	2013	Scum	Yes	2	2
W0490	Sevenmile River	2013	Turbidity	None	2	2

Primary Contact Recreation

2024/26 Use Attainment	Alert

Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Sevenmile River (MA36-11) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. MassDEP staff collected *E. coli* bacteria samples in the Sevenmile River (MA36-11) at W0490 [Cooney Rd at USGS flow gaging station #01175670, Spencer] from 2011-2013 (n=1-4/yr). The available *E. coli* data at W0490 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 410 CFU/100ml STV in 2012 (n=1).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0490	MassDEP	Water Quality	Sevenmile River	[Cooney Road at USGS flow gaging station #01175670, Spencer]	42.264779	-72.004916

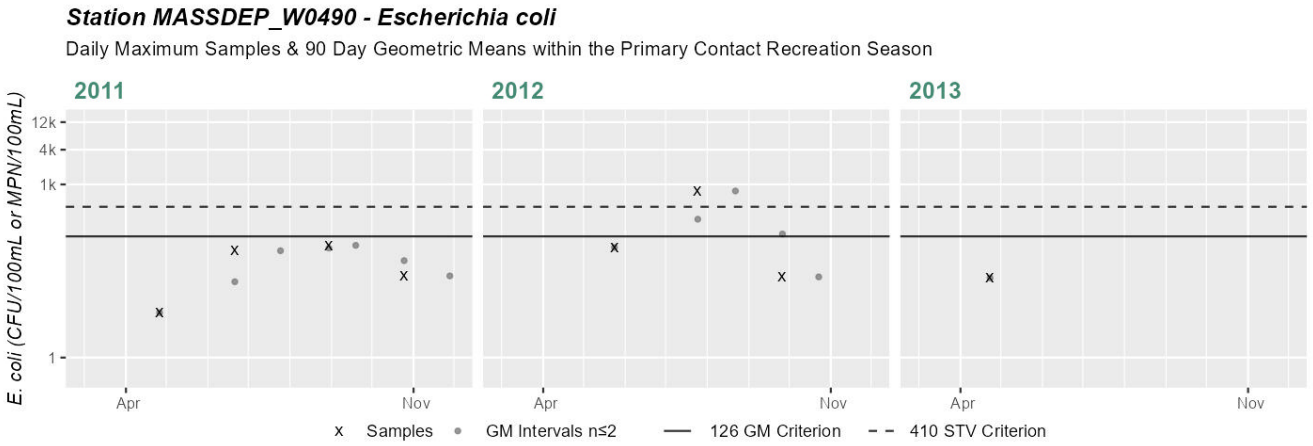
Bacteria Data

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

(MassDEP Undated 6) (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
W0490	MassDEP	E. coli	04/26/11	10/25/11	4	6	88	31
W0490	MassDEP	E. coli	05/23/12	09/25/12	3	25	770	115
W0490	MassDEP	E. coli	04/23/13	04/23/13	1	24	24	24



Variable*	Result
Samples	4
SeasGM	31
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	115
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	1
SeasGM	24
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 Sevenmile River (MA36-11) 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 W1876. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Sevenmile River (MA36-11) from 1998-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0490 [Cooney Rd at USGS flow gaging station #01175670, Spencer] from 1998, 2003, and 2007-2010 (historic n=2-7/yr) and 2011-2013 (current n=2-6/yr), W1876 [Smithville Rd crossing, Spencer] from May-Sep 2008 (n=6), W1036 [~200 ft upstream of Rt. 9 (W Main St) bridge, Spencer] from 2003 and 2008 (n=6/yr). The available *E. coli* data at W0490 are too limited to assess according to the 2024 CALM. Analysis of this historic single year limited frequency *E. coli* dataset from W1876 indicated 71% of intervals had GMs >244 CFU/100ml, 2 samples exceeded the 794 CFU/100ml STV, and the overall GM was 256 CFU/100ml. *E. coli* data from W0490 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W1876 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0490	MassDEP	Water Quality	Sevenmile River	[Cooney Road at USGS flow gaging station #01175670, Spencer]	42.264779	-72.004916
W1036	MassDEP	Water Quality	Sevenmile River	[approximately 200 feet upstream of Route 9 (West Main Street) bridge, Spencer]	42.232465	-72.016383
W1876	MassDEP	Water Quality	Sevenmile River	[Smithville Road crossing, Spencer]	42.249995	-72.008446

Bacteria Data

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

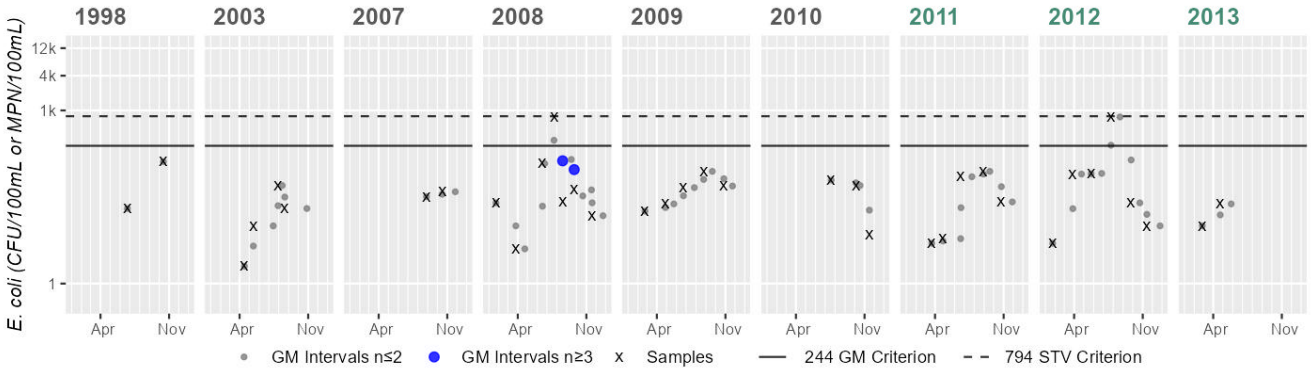
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W0490	MassDEP	E. coli	06/24/98	10/14/98	2	20	130	50
W0490	MassDEP	E. coli	04/16/03	08/20/03	4	2	50	11
W0490	MassDEP	E. coli	08/28/07	10/16/07	2	32	39	35
W0490	MassDEP	E. coli	01/23/08	11/18/08	7	4	770	39
W0490	MassDEP	E. coli	02/23/09	10/27/09	5	18	88	38
W0490	MassDEP	E. coli	07/20/10	11/16/10	3	7	62	27
W0490	MassDEP	E. coli	03/22/11	10/25/11	5	5	88	21
W0490	MassDEP	E. coli	01/24/12	11/13/12	6	5	770	42
W0490	MassDEP	E. coli	02/26/13	04/23/13	2	10	24	15
W1036	MassDEP	E. coli	04/16/03	10/15/03	6	2	1000	51
W1036	MassDEP	E. coli	05/20/08	09/23/08	6	52	1360	260
W1876	MassDEP	E. coli	05/20/08	09/23/08	6	90	940	256

Station MASSDEP_W0490 - Escherichia coli

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



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

Variable*	Result
Samples	4
SeasGM	11
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	35
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	39
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	38
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	27
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	42
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	15
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

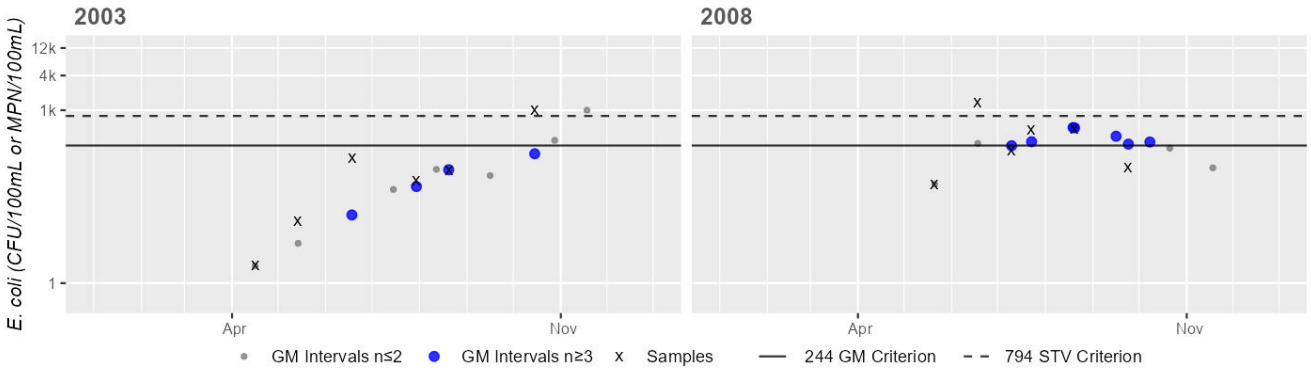
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1036 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	51
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

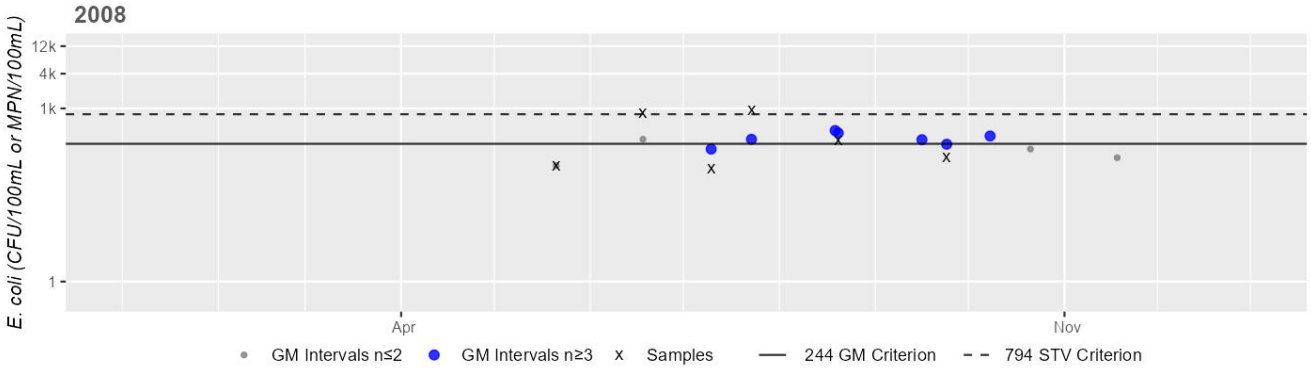
Variable*	Result
Samples	6
SeasGM	260
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
54%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1876 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	256
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Historic (1997-2010)
71%

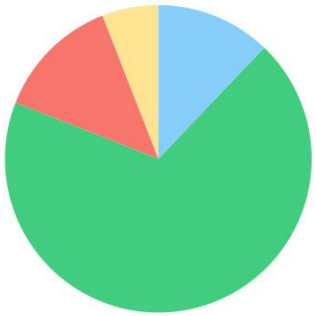
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Sevenmile River (MA36-12)

Location:	Confluence with Cranberry River, Spencer to mouth at confluence with East Brookfield River, East Brookfield.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B: WWF

Sevenmile River (MA36-12)

Watershed Area: 41.15 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	41.15	8.04	15.69	3.26
Agriculture	5.9%	6.2%	3.5%	5%
Developed	13.1%	14.8%	10.7%	12.2%
Natural	68.8%	68.6%	66.8%	62.7%
Wetland	12.1%	10.4%	19%	20.1%
Impervious	5%	6.2%	4.2%	4.8%

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)	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 recently, so the Fish Consumption Use for Sevenmile River (MA36-12) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Sevenmile River AU (MA36-12), so it 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 the Sevenmile River (MA36-12) 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 CRC_CQ7S1. CRC staff/volunteers collected *E. coli* bacteria samples in the Sevenmile River (MA36-12) at CRC_CQ7S1 [Stevens Rd, E Brookfield] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ7S1 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019-2022, 77-100%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2020 and 2022, n=2 & 2), and cumulatively across years 95% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CQ7S1 are indicative of an *E. coli* impairment.

Monitoring Stations

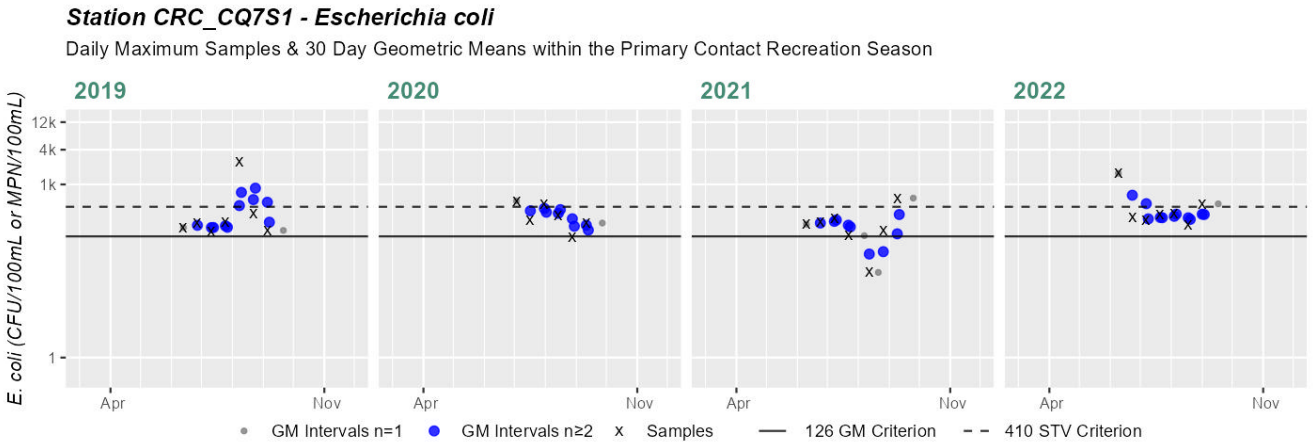
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ7S1	Connecticut River Conservancy	Water Quality	Sevenmile River; Seven mile River	Stevens Rd, East Brookfield	42.223870	-72.045380

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (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
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	150	2419	284
CRC_CQ7S1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	122	517	274
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	29	579	170
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	196	1553	363



Variable*	Result
Samples	7
SeasGM	284
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	6
SeasGM	274
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	2
%n>STV	33%

Variable*	Result
Samples	7
SeasGM	170
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	363
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	2
%n>STV	28%

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

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Sevenmile River (MA36-12) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CQ7S1. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Sevenmile River (MA36-12) from 2003-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1037 [Rt. 49 (Podunk Pike) bridge, Spencer] from Apr-Oct 2003 (n=6), W1870 [Bridge St crossing, E Brookfield] from May-Sep 2008 (n=6), CRC_CQ7S1 [Stevens Rd, E Brookfield] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CQ7S1 indicated 3 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2019-2020 and 2022, 57-100%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 58% of intervals had GMs >244 CFU/100ml. E. coli data from CRC_CQ7S1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CQ7S1	Connecticut River Conservancy	Water Quality	Sevenmile River; Seven mile River	Stevens Rd, East Brookfield	42.223870	-72.045380
W1037	MassDEP	Water Quality	Sevenmile River	[Route 49 (Podunk Pike) bridge, Spencer]	42.227775	-72.019927
W1870	MassDEP	Water Quality	Sevenmile River	[Bridge Street crossing, East Brookfield]	42.223881	-72.044705

Bacteria Data

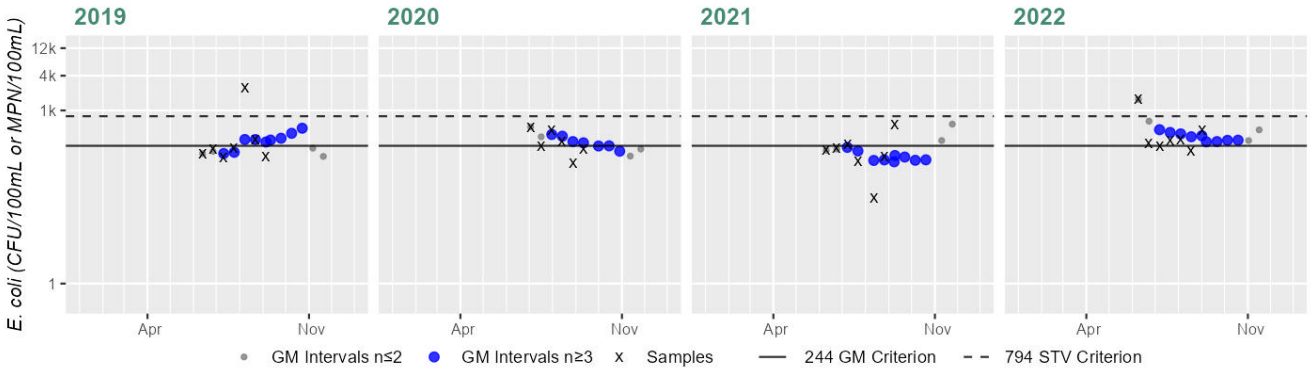
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	150	2419	284
CRC_CQ7S1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	122	517	274
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	29	579	170
CRC_CQ7S1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	196	1553	363
W1037	MassDEP	E. coli	04/16/03	10/15/03	6	2	440	41
W1870	MassDEP	E. coli	05/20/08	09/23/08	6	40	1440	206

Station CRC_CQ7S1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	284
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	6
SeasGM	274
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	170
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

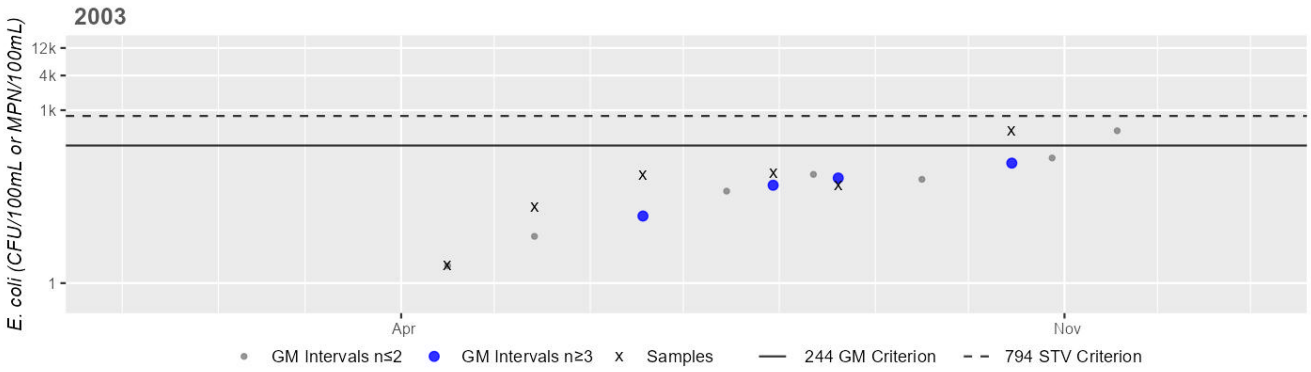
Variable*	Result
Samples	7
SeasGM	363
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
58%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1037 - Escherichia coli

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



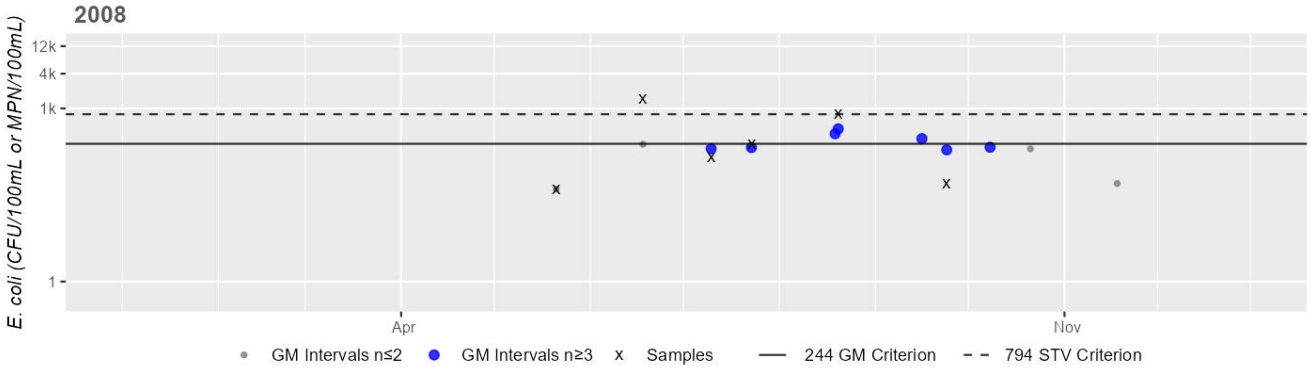
Variable*	Result
Samples	6
SeasGM	41
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1870 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	206
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Historic (1997-2010)
42%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Shaw Pond (MA36138)

Location:	Leicester.
AU Type:	FRESHWATER LAKE
AU Size:	64 ACRES
Classification/Qualifier:	A: PWS, 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 recently, so the Fish Consumption Use for Shaw Pond (MA36138) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Shaw Pond (MA36138) is Not Assessed.

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 Shaw Pond (MA36138) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Shaw Pond (MA36138), EPA (NARS_WQX) collected Secchi, cyanobacteria cell count, and cyanotoxin data at NARS_WQX-NLA12_MA-106 [42.258915, -71.93931, NLA12_MA-106] (2012). Secchi depth data were too limited (n <3 or missing station depth) to evaluate water clarity using data from NARS_WQX-NLA12_MA-106 in 2012 (n=1, 3.25m). The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 (n=1). Analysis of microcystins samples from NARS_WQX-NLA12_MA-106 in 2012 (n=1) indicated that the concentrations did not exceed the threshold of 8 µg/L.

Other Indicators

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

Data Year(s)	Summary
2012	In Shaw Pond (MA36138), US Environmental Protection Agency (EPA (NARS_WQX)) collected Secchi, cyanobacteria cell count, and cyanotoxin data at NARS_WQX-NLA12_MA-106 [42.258915, -71.93931, NLA12_MA-106] (2012). In 2012 at station NARS_WQX-NLA12_MA-106 (station depth=not recorded) the Secchi depth (n=1) was measured to be 3.25 m on Sep 13, 2012 indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 (n=1). Analysis of microcystins samples from NARS_WQX-NLA12_MA-106 in 2012 (n=1) indicated that the concentrations did not exceed the threshold of 8 µg/L.

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 Shaw Pond (MA36138) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Shaw Pond (MA36138), EPA (NARS_WQX) collected cyanobacteria cell count and cyanotoxin data at NARS_WQX-NLA12_MA-106 [42.258915, -71.93931, NLA12_MA-106] (2012). The cyanobacteria cell count did not exceed 70,000 cells/ml in the single water sample in 2012 (n=1). Analysis of microcystins samples from NARS_WQX-NLA12_MA-106 in 2012 (n=1) indicated that the concentrations did not exceed the threshold of 8 µg/L.

Silver Brook (MA36-72)

Location:	Headwaters, perennial portion east of Spring Hill Road, Barre to mouth at confluence with East Branch Swift River, Petersham (excluding the approximately 0.5 mile through Carter Pond, Petersham).
AU Type:	RIVER
AU Size:	2 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Silver Brook (MA36-72)

Watershed Area: 2.44 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.44	2.44	0.60	0.60
Agriculture	1.2%	1.2%	0.5%	0.5%
Developed	6%	6%	1.3%	1.3%
Natural	86.2%	86.2%	84.6%	84.6%
Wetland	6.5%	6.5%	13.5%	13.5%
Impervious	1.7%	1.7%	0.5%	0.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Temperature	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Temperature	Dam or Impoundment (Y)	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 recently, so the Fish Consumption Use for Silver Brook (MA36-72) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Silver Brook (MA36-72) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Silver Brook (MA36-72) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Silver Brook (MA36-72) at DCRWS_216C [Carter P Outlet/Glen Valley Rd] from 2014-2015, 2018, and 2020 (n=10-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_216C indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_216C meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_216C	MA DCR Division of Water Supply Protection	Water Quality	Silver Brook	Carter P Outlet/Glen Valley Rd	42.445353	-72.181243

Bacteria Data

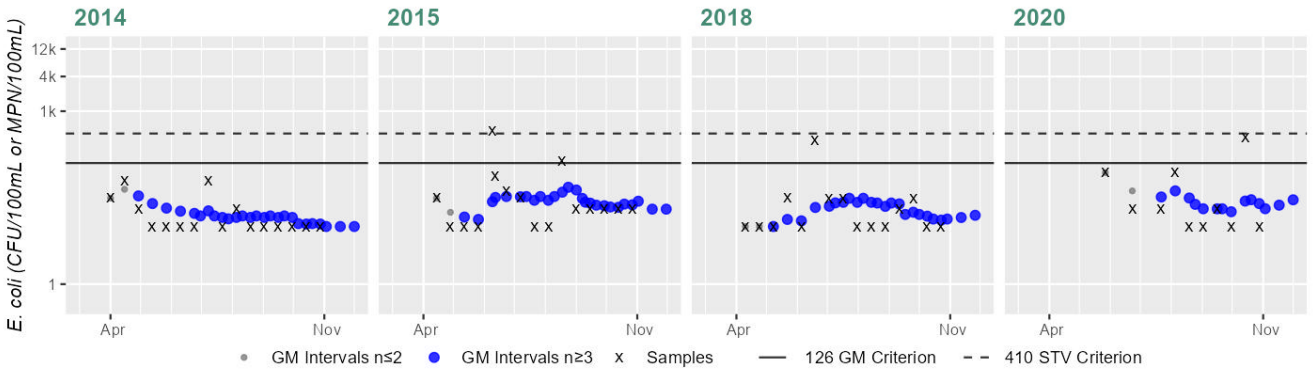
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

[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
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	63	14
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	16	10	457	26
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	15	10	309	17
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	355	27

Station DCRWS_216C - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	14
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	26
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	17
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	27
#GMI	15
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Silver Brook (MA36-72) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Silver Brook (MA36-72) at DCRWS_216C [Carter P Outlet/Glen Valley Rd] from Jan-Dec 2010 (historic n=26) and 2014-2015, 2018, and 2020 (current n=19-27/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_216C indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_216C meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_216C	MA DCR Division of Water Supply Protection	Water Quality	Silver Brook	Carter P Outlet/Glen Valley Rd	42.445353	-72.181243

Bacteria Data

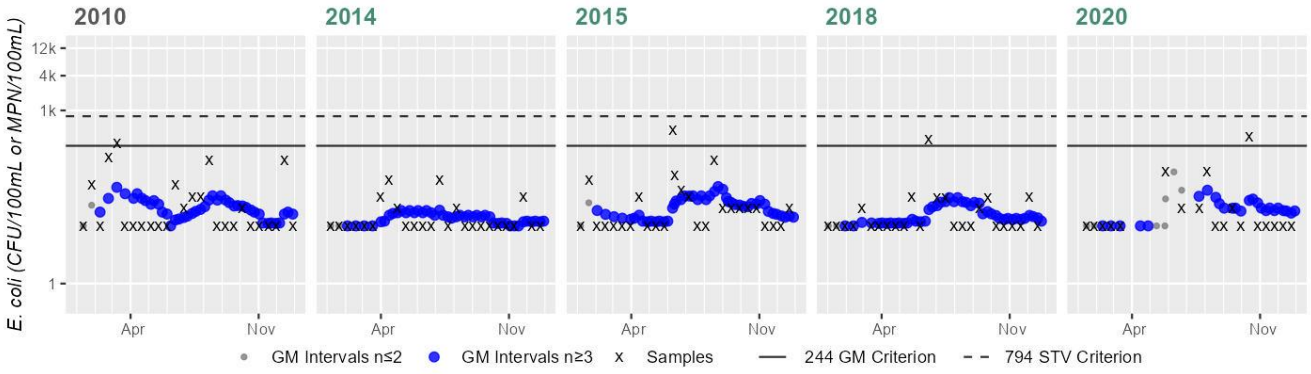
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1)

[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
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	272	20
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	63	13
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	27	10	457	19
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	26	10	309	14
DCRWS_216C	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	355	16

Station DCRWS_216C - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	20
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	13
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	19
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	14
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	16
#GMI	28
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Spectacle Pond (MA36142)

Location:	Wilbraham.
AU Type:	FRESHWATER LAKE
AU Size:	9 ACRES
Classification/Qualifier:	B

No usable data were available for Spectacle Pond (MA36142) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Nutrient/Eutrophication Biological Indicators	3631	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Commercial Districts (Shopping/Office Complexes) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (Y)	--	--	X	X	X

Springfield Reservoir (MA36145)

Location:	Ludlow.
AU Type:	FRESHWATER LAKE
AU Size:	393 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Springfield Reservoir (MA36145) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Stone Bridge Pond (MA36148)

Location:	Templeton.
AU Type:	FRESHWATER LAKE
AU Size:	32 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	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 recently, so the Fish Consumption Use for Stone Bridge Pond (MA36148) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Stone Bridge Pond (MA36148) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Stone Bridge Pond (MA36148) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Stone Bridge Pond (MA36148) at DCRWS_B4 [Burnshirt R. at Stone Bridge Pond] from 2013 and 2017 (n=15-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_B4 indicated 1 out of 2 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2013, 12%), 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 5% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_B4 meet 2024 CALM guidance.

Monitoring Stations

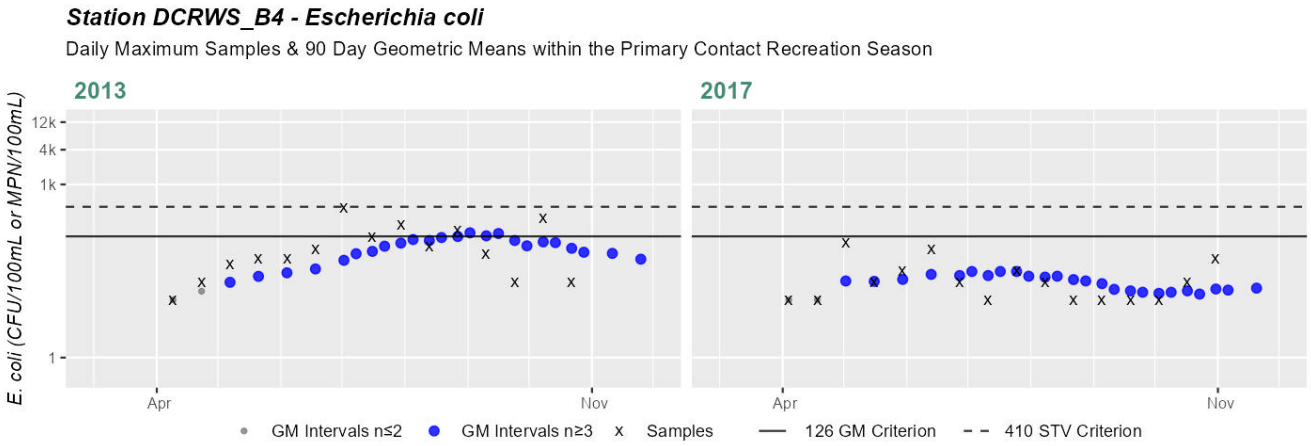
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_B4	MA DCR Division of Water Supply Protection	Water Quality	Stone Bridge Pond	Burnshirt R. @ Stone Bridge	42.531123	-72.089431

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_B4	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	384	64
DCRWS_B4	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	96	19



Variable*	Result
Samples	15
SeasGM	64
#GMI	25
#GMI Ex	3
%GMI Ex	12%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	19
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
5%

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Stone Bridge Pond (MA36148) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Stone Bridge Pond (MA36148) at DCRWS_B4 [Burnshirt R. at Stone Bridge Pond] from 2013 and 2017 (n=26-27/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_B4 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_B4 meet 2024 CALM guidance.

Monitoring Stations

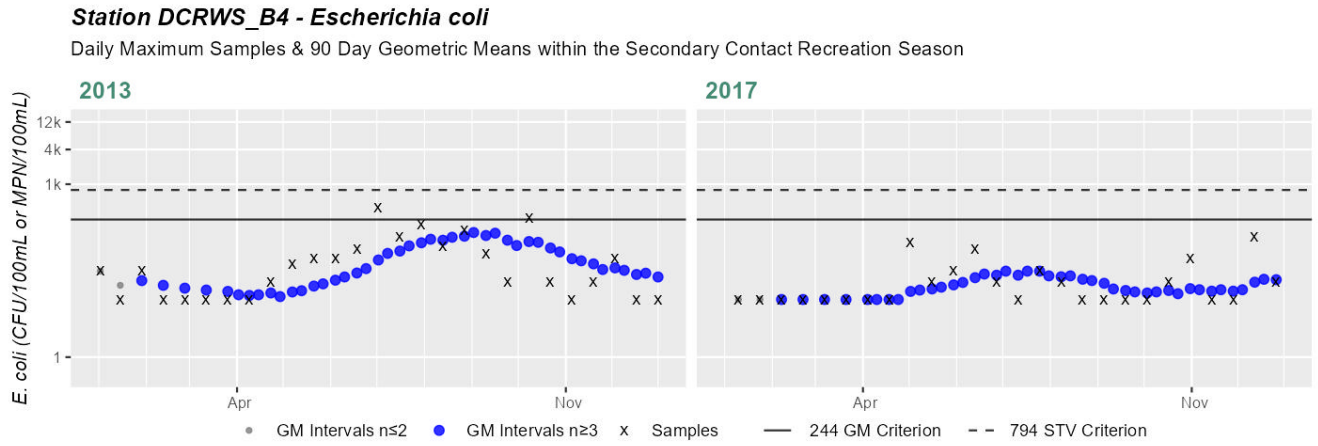
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_B4	MA DCR Division of Water Supply Protection	Water Quality	Stone Bridge Pond	Burnshirt R. @ Stone Bridge	42.531123	-72.089431

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_B4	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	27	10	384	33
DCRWS_B4	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	122	17



Variable*	Result
Samples	27
SeasGM	33
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.

Sucker Brook (MA36-90)

Location:	Headwaters, outlet Cusky Pond, New Braintree to mouth at confluence with Meadow Brook north of Waite Corner Road, North Brookfield.
AU Type:	RIVER
AU Size:	4.1 MILES
Classification/Qualifier:	B

No usable data were available for Sucker Brook (MA36-90) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Sugden Reservoir (MA36150)

Location:	Spencer.
AU Type:	FRESHWATER LAKE
AU Size:	85 ACRES
Classification/Qualifier:	B

No usable data were available for Sugden Reservoir (MA36150) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Nutrient/Eutrophication Biological Indicators	3633	Unchanged

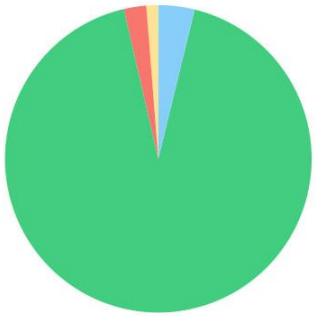
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Nutrient/Eutrophication Biological Indicators	Agriculture (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (Y)	--	--	X	X	X

Swift River (MA36-09)

Location:	Outlet Winsor Dam (NATID: MA00588), Belchertown to Upper Bondsville Mill Dam (NATID: MA00560), Belchertown/Palmer.
AU Type:	RIVER
AU Size:	5.6 MILES
Classification/Qualifier:	B: CWF

Swift River (MA36-09)

Watershed Area: 194.55 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	194.55	4.83	78.04	1.01
Agriculture	1.3%	4%	0.4%	4.4%
Developed	2.4%	5.4%	2.4%	7.2%
Natural	92.6%	84.4%	92.4%	75.6%
Wetland	3.8%	6.3%	4.8%	12.8%
Impervious	0.8%	1.8%	0.5%	2.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2016 IR [MACROPHYTES, LOW] Investigate whether macrophyte coverages are natural or symptomatic of nutrient enrichment.

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, so the Fish Consumption Use for Swift River (MA36-09) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for Swift River (MA36-09) is assessed as Fully Supporting. The prior Alert identified for dense macrophytes is being carried forward. MassDEP staff recorded aesthetics observations at one station in the upstream half of this Swift River AU at USGS flow gaging station #01175500 west of River Rd, Ware/Belchertown (W0493) in 2011 (n=5), 2012 (n=6) and 2013 (n=1). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0493	MassDEP	Water Quality	Swift River	[at USGS flow gaging station #01175500 west of River Road, Ware/Belchertown]	42.267975	-72.332761

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
W0493	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0493 on Swift River (MA36-09) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0493	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0493 on Swift River (MA36-09) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0493	2013	1	Aesthetic observations were made by MassDEP field sampling crews at Station W0493 on Swift River (MA36-09) during 1 site visit on Apr 23, 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0493	2011	5	5	0
W0493	2012	6	5	1
W0493	2013	1	1	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0493	Swift River	2011	Aquatic Plant Density, Overall	Moderate	1	5
W0493	Swift River	2011	Aquatic Plant Density, Overall	None	1	5
W0493	Swift River	2011	Aquatic Plant Density, Overall	Sparse	3	5
W0493	Swift River	2011	Color	None	5	5
W0493	Swift River	2011	Objectionable Deposits	No	5	5
W0493	Swift River	2011	Odor	None	5	5
W0493	Swift River	2011	Periphyton Density, Filamentous	None	5	5
W0493	Swift River	2011	Periphyton Density, Film	None	5	5
W0493	Swift River	2011	Scum	No	5	5
W0493	Swift River	2011	Turbidity	None	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0493	Swift River	2012	Aquatic Plant Density, Overall	Dense	1	6
W0493	Swift River	2012	Aquatic Plant Density, Overall	Moderate	3	6
W0493	Swift River	2012	Aquatic Plant Density, Overall	Sparse	1	6
W0493	Swift River	2012	Aquatic Plant Density, Overall	Unobservable	1	6
W0493	Swift River	2012	Color	None	6	6
W0493	Swift River	2012	Objectionable Deposits	No	6	6
W0493	Swift River	2012	Odor	None	6	6
W0493	Swift River	2012	Periphyton Density, Filamentous	None	5	6
W0493	Swift River	2012	Periphyton Density, Filamentous	Unobservable	1	6
W0493	Swift River	2012	Periphyton Density, Film	None	4	6
W0493	Swift River	2012	Periphyton Density, Film	Unobservable	1	6
W0493	Swift River	2012	Periphyton Density, Film	Very Dense	1	6
W0493	Swift River	2012	Scum	No	6	6
W0493	Swift River	2012	Turbidity	None	6	6
W0493	Swift River	2013	Aesthetics Impaired?	NR	1	1
W0493	Swift River	2013	Aquatic Plant Density, Overall	Sparse	1	1
W0493	Swift River	2013	Color	None	1	1
W0493	Swift River	2013	Objectionable Deposits	No	1	1
W0493	Swift River	2013	Odor	None	1	1
W0493	Swift River	2013	Periphyton Density, Filamentous	None	1	1
W0493	Swift River	2013	Periphyton Density, Film	None	1	1
W0493	Swift River	2013	Scum	No	1	1
W0493	Swift River	2013	Turbidity	None	1	1

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 the Swift River (MA36-09) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. The prior Alert identified for dense macrophytes is being removed and will be carried forward under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples in the Swift River (MA36-09) at W0493 [at USGS flow gaging station #01175500 W of River Rd, Ware/Belchertown] from 2011-2013 (n=1-4/yr). *E. coli* data from W0493 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
W0493	MassDEP	Water Quality	Swift River	[at USGS flow gaging station #01175500 west of River Road, Ware/Belchertown]	42.267975	-72.332761

Bacteria Data

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

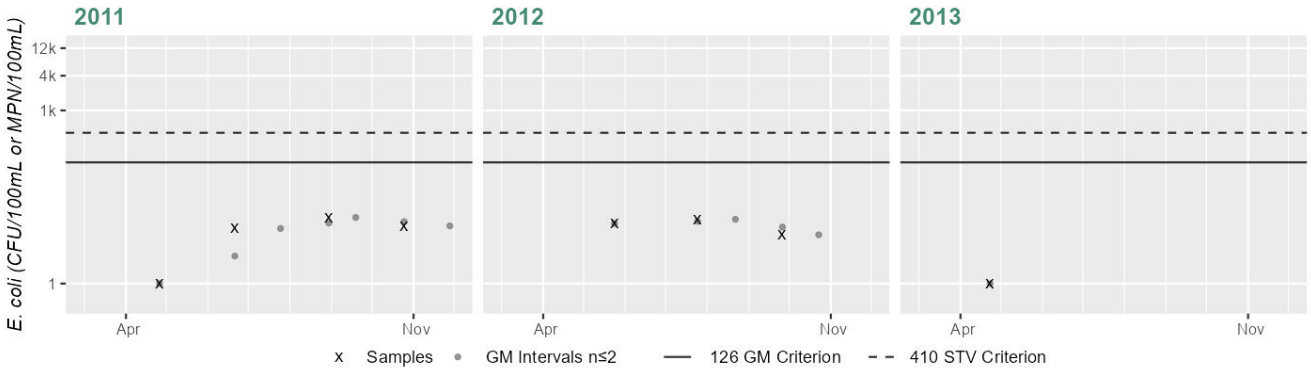
(MassDEP Undated 6) (MassDEP Undated 4)

[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
W0493	MassDEP	E. coli	04/26/11	10/25/11	4	1	14	5
W0493	MassDEP	E. coli	05/23/12	09/25/12	3	7	13	10
W0493	MassDEP	E. coli	04/23/13	04/23/13	1	1	1	1

Station MASSDEP_W0493 - Escherichia coli

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



Variable*	Result
Samples	4
SeasGM	5
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	10
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	1
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Insufficient Information	NO

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for the Swift River (MA36-09) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. The prior Alert identified for dense macrophytes is being removed and will be carried forward under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Swift River (MA36-09) from 1998-2013 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0493 [at USGS flow gaging station #01175500 W of River Rd, Ware/Belchertown] from 1998, 2003, and 2007-2010 (historic n=2-7/yr) and 2011-2013 (current n=1-6/yr), W1012 [Cold Spring Rd/Old Belchertown Rd, Belchertown/Ware (bridge under repair in 2003)] from 2003 and 2008 (n=5-6/yr). Analysis of this historic single year moderate frequency *E. coli* dataset from W0493 indicated 0% of intervals had GMs >244 CFU/100ml and no samples exceeded the 794 CFU/100ml STV. Analysis of this historic multi-year limited frequency *E. coli* dataset from W1012 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from W0493 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W0493 and W1012 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, too limited bacteria data from the current IR window (2011-2022) are available to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0493	MassDEP	Water Quality	Swift River	[at USGS flow gaging station #01175500 west of River Road, Ware/Belchertown]	42.267975	-72.332761
W1012	MassDEP	Water Quality	Swift River	[Cold Spring Road/Old Belchertown Road, Belchertown/Ware (bridge under repair in 2003)]	42.243266	-72.334760

Bacteria Data

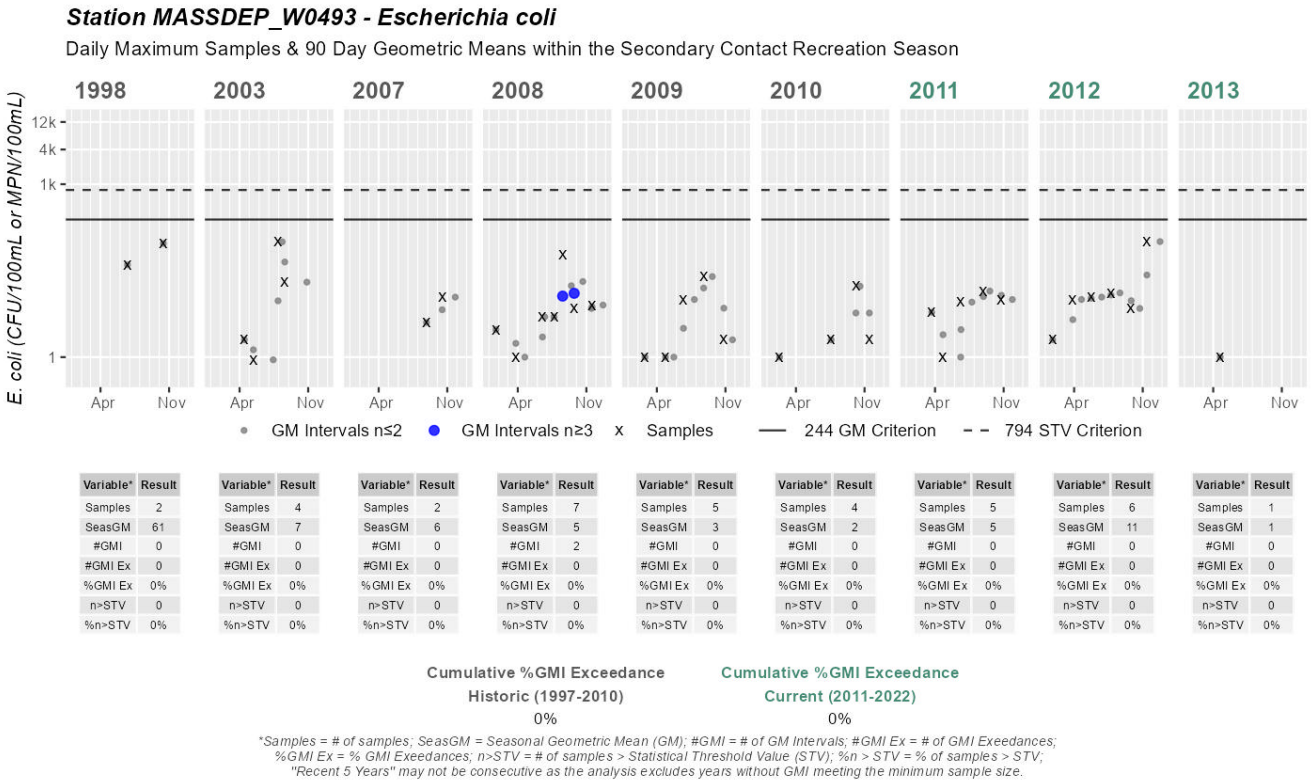
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 6) (MassDEP Undated 3)

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

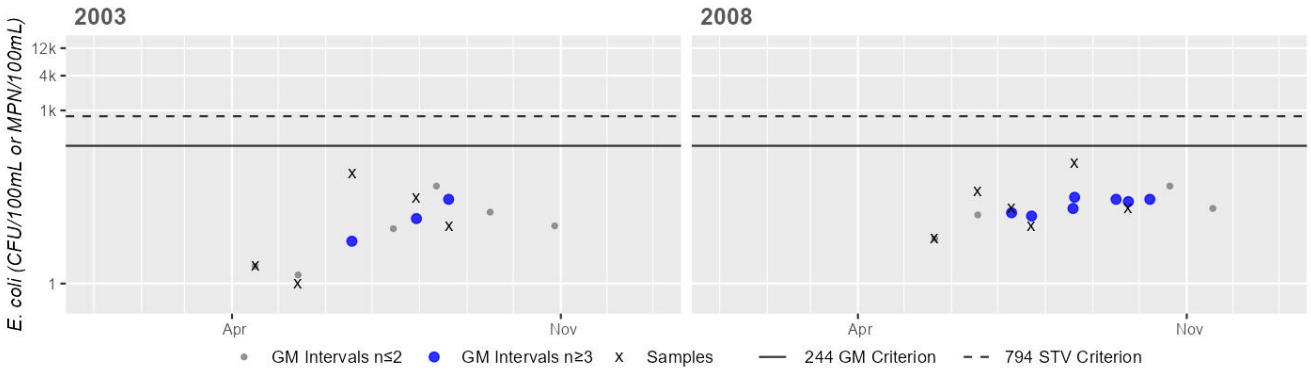
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0493	MassDEP	E. coli	06/24/98	10/14/98	2	40	94	61
W0493	MassDEP	E. coli	04/16/03	08/20/03	4	0	100	7
W0493	MassDEP	E. coli	08/28/07	10/16/07	2	4	11	6
W0493	MassDEP	E. coli	01/23/08	11/18/08	7	1	60	5
W0493	MassDEP	E. coli	02/23/09	10/27/09	5	1	25	3
W0493	MassDEP	E. coli	02/09/10	11/16/10	4	1	17	2
W0493	MassDEP	E. coli	03/22/11	10/25/11	5	1	14	5
W0493	MassDEP	E. coli	01/24/12	11/13/12	6	2	101	11

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0493	MassDEP	E. coli	04/23/13	04/23/13	1	1	1	1
W1012	MassDEP	E. coli	04/16/03	08/20/03	5	1	80	8
W1012	MassDEP	E. coli	05/20/08	09/23/08	6	6	120	22



Station MASSDEP_W1012 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	8
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	22
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

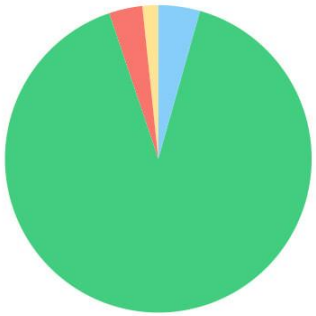
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Swift River (MA36-10)

Location:	Upper Bondsville Mill Dam (NATID: MA00560), Belchertown/Palmer to mouth at confluence with Ware River, Palmer.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B: CWF

Swift River (MA36-10)

Watershed Area: 215.83 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	215.83	6.62	83.46	1.99
Agriculture	1.7%	8.2%	0.7%	6.6%
Developed	3.5%	18.2%	3%	16.4%
Natural	90.4%	61.4%	90.7%	59%
Wetland	4.4%	12.2%	5.7%	18.1%
Impervious	1.2%	6.3%	0.8%	6.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	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 recently, so the Fish Consumption Use for Swift River (MA36-10) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for Swift River (MA36-10), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for the Swift River (MA36-10) continues to be assessed as Fully Supporting. CRC staff/volunteers collected *E. coli* bacteria samples in the Swift River (MA36-10) at CRC_CSFS1 [First St, Bondsville] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CSFS1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CSFS1 meet 2024 CALM guidance.

Monitoring Stations

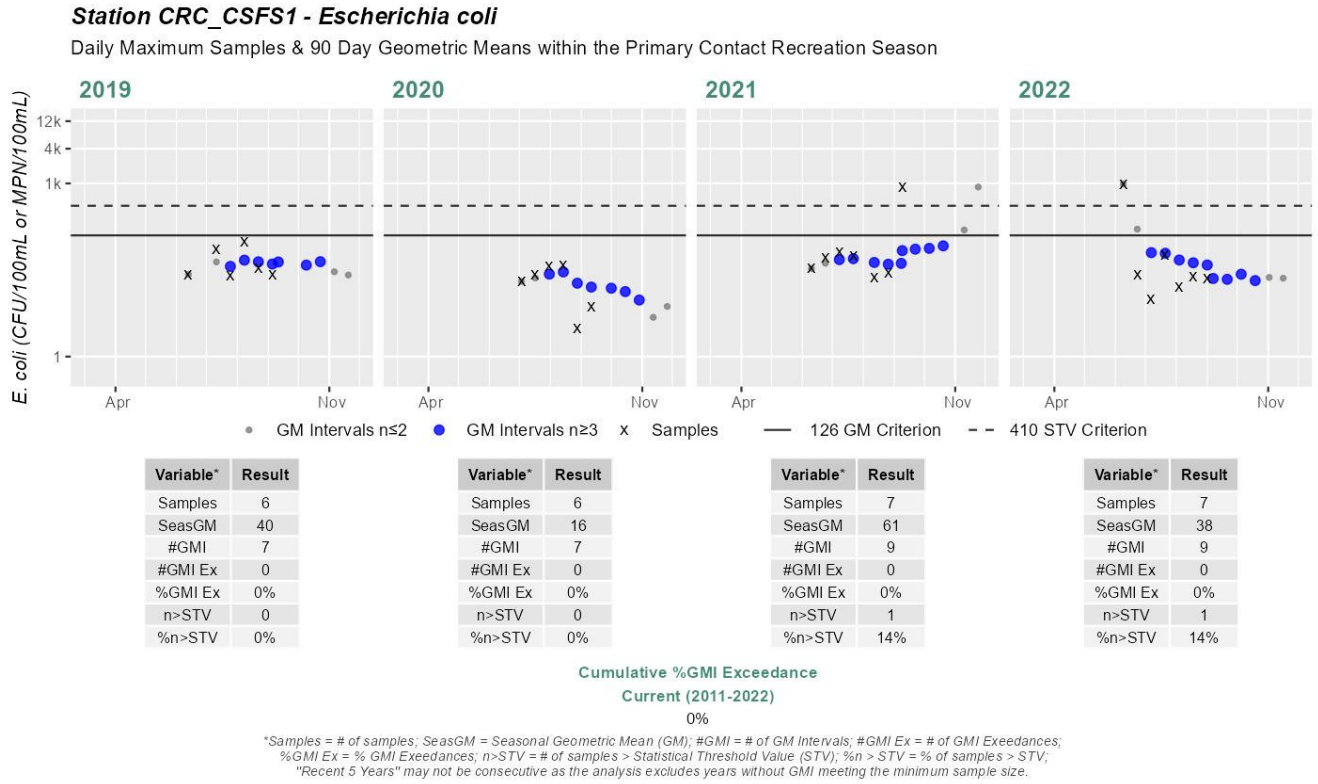
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CSFS1	Connecticut River Conservancy	Water Quality	Swift River	First Street, Bondsville	42.208500	-72.350080

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	6	25	98	40
CRC_CSFS1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	3	37	16
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	23	866	61
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	9	980	38



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Swift River (MA36-10) continues to be assessed as Fully Supporting. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Swift River (MA36-10) from 2003-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1013 [Rt. 181, Belchertown/Palmer] from 2003 and 2008 (n=6/yr), CRC_CSFS1 [First St, Bondsville] from 2019-2022 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CSFS1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC_CSFS1 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CSFS1	Connecticut River Conservancy	Water Quality	Swift River	First Street, Bondsville	42.208500	-72.350080
W1013	MassDEP	Water Quality	Swift River	[Route 181, Belchertown/Palmer]	42.210707	-72.346422

Bacteria Data

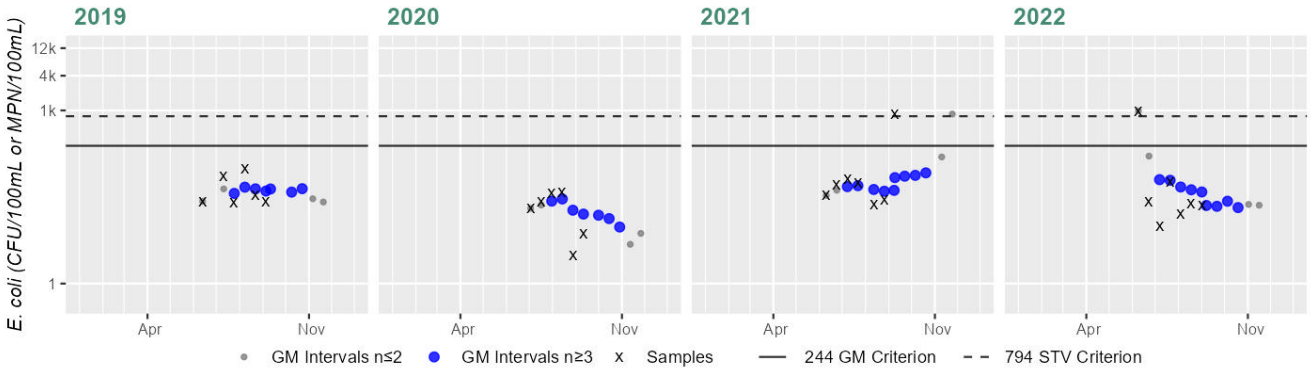
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	6	25	98	40
CRC_CSFS1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	3	37	16
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	23	866	61
CRC_CSFS1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	9	980	38
W1013	MassDEP	E. coli	04/16/03	10/15/03	6	2	120	34
W1013	MassDEP	E. coli	05/20/08	09/23/08	6	8	140	23

Station CRC_CSFS1 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	40
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	16
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	61
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

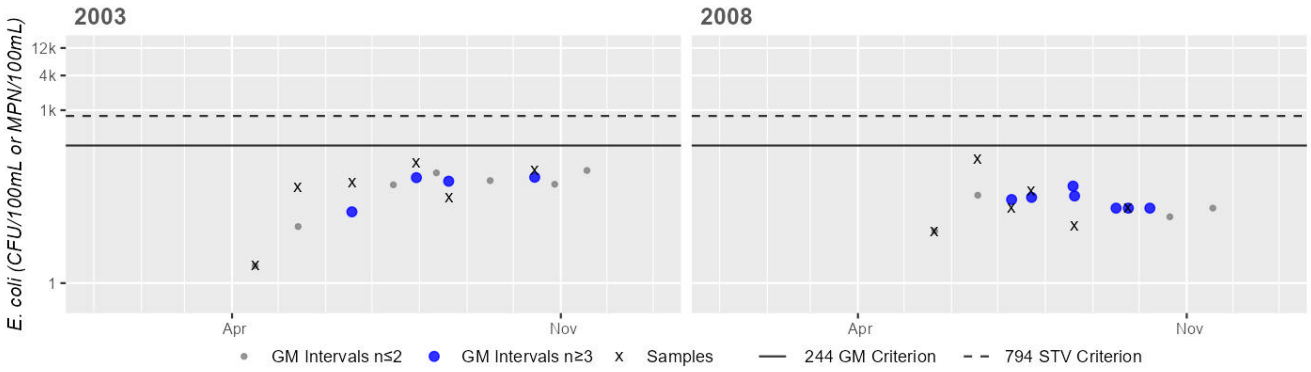
Variable*	Result
Samples	7
SeasGM	38
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1013 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	34
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	23
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Thayer Pond (MA36181)

Location:	Rutland.
AU Type:	FRESHWATER LAKE
AU Size:	46 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Thayer Pond (MA36181) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Thompson Lake (MA36154)

Location:	Palmer.
AU Type:	FRESHWATER LAKE
AU Size:	34 ACRES
Classification/Qualifier:	B

No usable data were available for Thompson Lake (MA36154) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Thompsons Pond (MA36155)

Location:	Spencer.
AU Type:	FRESHWATER LAKE
AU Size:	116 ACRES
Classification/Qualifier:	B

No usable data were available for Thompsons Pond (MA36155) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Town Barn Beaver Pond (MA36156)

Location:	Petersham.
AU Type:	FRESHWATER LAKE
AU Size:	20 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Town Barn Beaver Pond (MA36156) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Turkey Hill Brook (MA36-49)

Location:	Outlet Thompsons Pond, Spencer to mouth at confluence with Sevenmile River, Spencer.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B

Turkey Hill Brook (MA36-49)

Watershed Area: 17.48 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	17.48	4.87	6.58	1.89
Agriculture	5.4%	10.6%	3.3%	6.5%
Developed	12.2%	9.4%	9.5%	7.8%
Natural	66.5%	72.8%	65.5%	74.6%
Wetland	15.9%	7.2%	21.7%	11.1%
Impervious	4.3%	3.5%	3.7%	3.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Turkey Hill Brook (MA36-49) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Turkey Hill Brook AU (MA36-49), so it 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 Turkey Hill Brook (MA36-49) 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 Turkey Hill Brook (MA36-49) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Turkey Hill Brook (MA36-49) at W1856 [Wire Village Rd/Hastings Rd crossing, Spencer] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1856 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 45 CFU/100ml. Historic *E. coli* data from W1856 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1856	MassDEP	Water Quality	Turkey Hill Brook	[Wire Village Road/Hastings Road crossing, Spencer]	42.262978	-71.993183

Bacteria Data

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

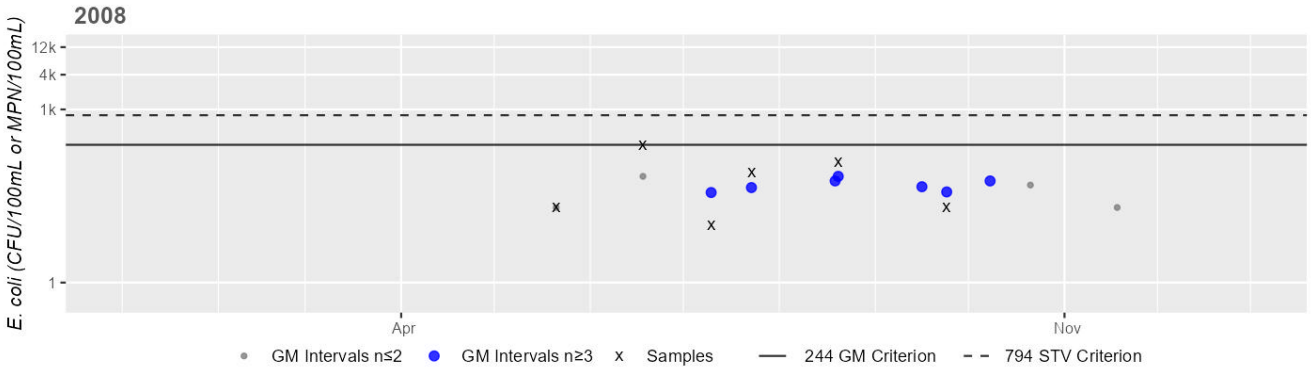
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1856	MassDEP	E. coli	05/20/08	09/23/08	6	10	240	45

Station MASSDEP_W1856 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	45
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Turkey Hill Pond (MA36157)

Location:	Rutland/Paxton.
AU Type:	FRESHWATER LAKE
AU Size:	90 ACRES
Classification/Qualifier:	B

No usable data were available for Turkey Hill Pond (MA36157) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Twelvemile Brook (MA36-53)

Location:	Headwaters, perennial portion west of Zuell Hill Road, Monson to mouth at confluence with Chicopee River, Wilbraham (excluding the approximately 0.25 miles through Pulpit Rock Pond, Monson).
AU Type:	RIVER
AU Size:	7.2 MILES
Classification/Qualifier:	B

Twelvemile Brook (MA36-53)

Watershed Area: 14.41 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	14.41	9.09	3.50	2.44
Agriculture	2.3%	2%	1.4%	1.3%
Developed	9.5%	10.4%	9%	8.8%
Natural	79.4%	77.7%	70.8%	69.4%
Wetland	8.8%	9.9%	18.8%	20.4%
Impervious	3.8%	4.4%	4.1%	4.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Temperature	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Temperature	Dam or Impoundment (Y)	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 recently, so the Fish Consumption Use for Twelvemile Brook (MA36-53) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Twelvemile Brook (MA36-53) 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 Twelvemile Brook (MA36-53) 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 Twelvemile Brook (MA36-53) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Twelvemile Brook (MA36-53) at W1858 [~75 ft downstream from Crane Hill Rd, Wilbraham (Calkin Brook confluence just upstream of Rd)] from May-Sep 2008 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1858 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 69 CFU/100ml. Historic *E. coli* data from W1858 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1858	MassDEP	Water Quality	Twelvemile Brook	[approximately 75 feet downstream from Crane Hill Road, Wilbraham (Calkin Brook confluence just upstream of road)]	42.148091	-72.400093

Bacteria Data

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

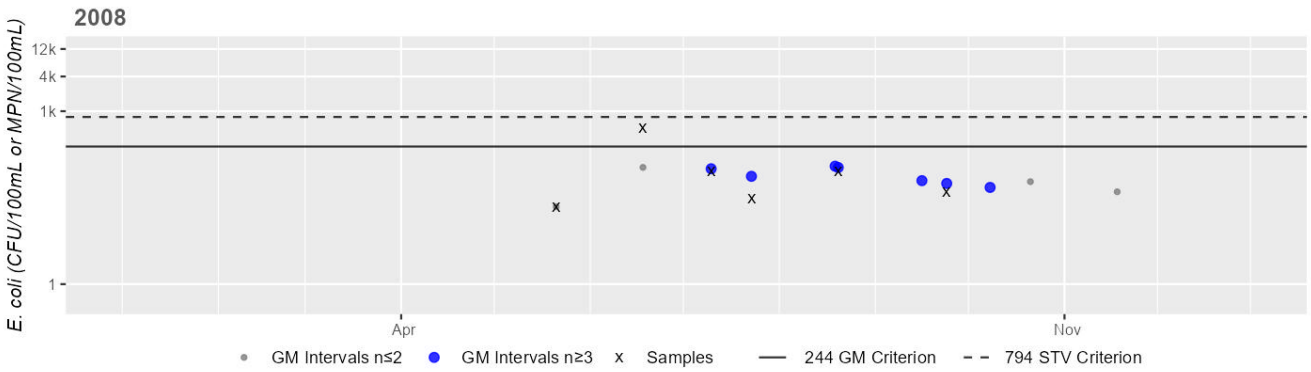
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1858	MassDEP	E. coli	05/20/08	09/23/08	6	22	510	69

Station MASSDEP_W1858 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	69
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Underhill Brook (MA36-65)

Location:	From outlet of unnamed pond south of Osborne Road, New Salem to mouth at inlet Quabbin Reservoir, New Salem.
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	A: PWS, ORW, CWF (Tributary)

No usable data were available for Underhill Brook (MA36-65) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

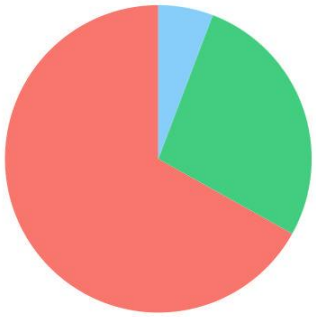
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-39)

Location:	Unnamed tributary to the Chicopee River locally known as "Poor Brook" from headwaters near the Conrail tracks, Springfield to mouth at confluence with the Chicopee River, Chicopee.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA36-39)

Watershed Area: 1.68 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.68	1.68	0.31	0.31
Agriculture	0%	0%	0%	0%
Developed	66.9%	66.9%	38.1%	38.1%
Natural	27.3%	27.3%	48.7%	48.7%
Wetland	5.8%	5.8%	13.2%	13.2%
Impervious	41.9%	41.9%	21.1%	21.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Bacterial Slimes*)	--	Unchanged
5	5	(Debris*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Trash	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Bacterial Slimes*)	Source Unknown (N)	--	--	X	X	X

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (N)	--	--	X	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	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
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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-39) is Not Assessed.

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 this Unnamed Tributary AU (MA36-39). The Aesthetics Use continues to be assessed as Not Supporting with the prior Trash, Debris and Bacterial Slimes impairments being carried forward.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Unnamed Tributary (MA36-39) 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 CRC_CPoB1. The prior Bacterial Slimes, Debris, and Trash impairments (from the Aesthetics Use) are being carried forward. CRC staff/volunteers collected *E. coli* bacteria samples in Unnamed Tributary (MA36-39) at CRC_CPoB1 [Poor Brook] from Jun-Sep 2021 (n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CPoB1 indicated 100% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. *E. coli* data from CRC_CPoB1 are indicative of an *E. coli* impairment.

Monitoring Stations

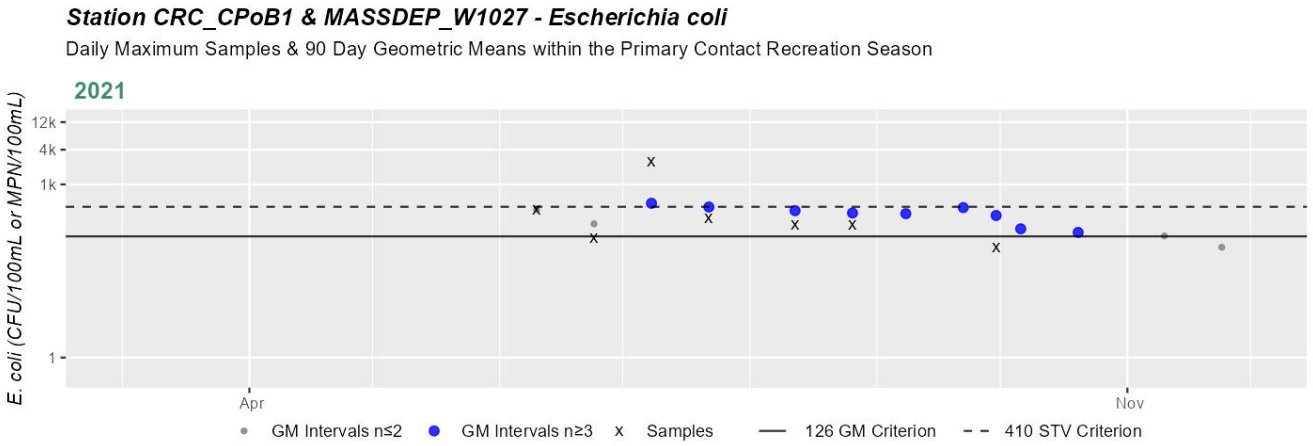
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CPoB1	Connecticut River Conservancy	Water Quality	Poor Brook	Poor Brook	42.156000	-72.557650

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (CRC 2023) (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
CRC_CPoB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	81	2419	263



Variable*	Result
Samples	7
SeasGM	263
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 Unnamed Tributary (MA36-39) continues to be assessed as Not Supporting. The prior Bacterial Slimes, Debris, and Trash impairments (from the Aesthetics Use) are being carried forward. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CPoB1 & W1027 and the prior Alert is being removed. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Unnamed Tributary (MA36-39) from 2003-2021 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1865 [unnamed tributary to the Chicopee River locally known as 'Poor Brook', ~50 ft from emergence from culvert downstream from Cottage St, Springfield] from May-Sep 2008 (n=6), CRC_CPoB1 & W1027 [unnamed tributary to the Chicopee River (locally known as Poor Brook), Rt. 141 (E Main St) bridge, Chicopee & Poor Brook] from Apr-Oct 2003 (historic n=6) and Jun-Sep 2021 (current n=7). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CPoB1 & W1027 indicated 77% of intervals had GMs >244 CFU/100ml and 1 sample exceeded the 794 CFU/100ml STV. *E. coli* data from CRC_CPoB1 & W1027 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CPoB1	Connecticut River Conservancy	Water Quality	Poor Brook	Poor Brook	42.156000	-72.557650
W1027	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Chicopee River (locally known as Poor Brook), Route 141 (East Main Street) bridge, Chicopee]	42.155931	-72.557518
W1865	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Chicopee River locally known as 'Poor Brook', approximately 50 feet from emergence from culvert downstream from Cottage Street, Springfield]	42.144566	-72.545198

Bacteria Data

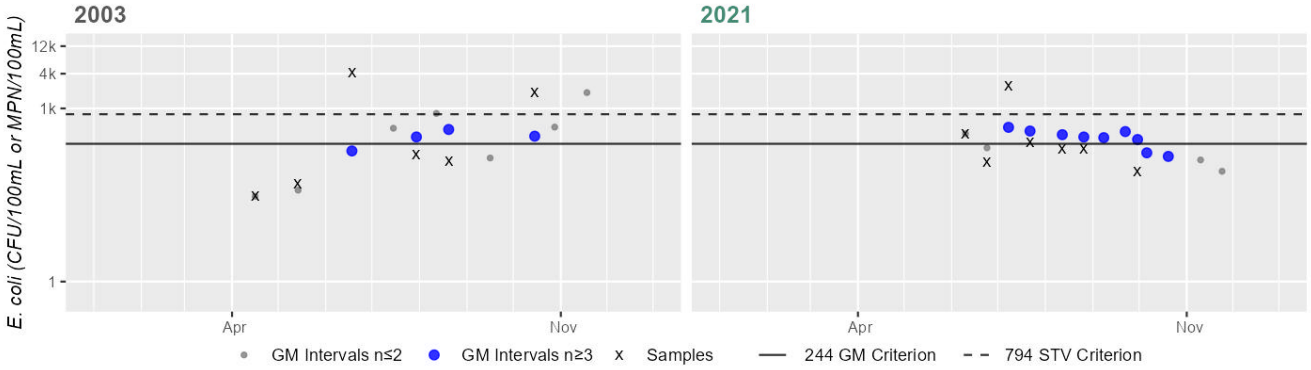
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CPoB1	Connecticut River Conservancy	E. coli	06/10/21	09/30/21	7	81	2419	263
W1027	MassDEP	E. coli	04/16/03	10/15/03	6	30	4200	246
W1865	MassDEP	E. coli	05/20/08	09/23/08	6	96	200	135

Station CRC_CPoB1 & MASSDEP_W1027 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	246
#GMI	4
#GMI Ex	3
%GMI Ex	75%
n>STV	2
%n>STV	33%

Variable*	Result
Samples	7
SeasGM	263
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	14%

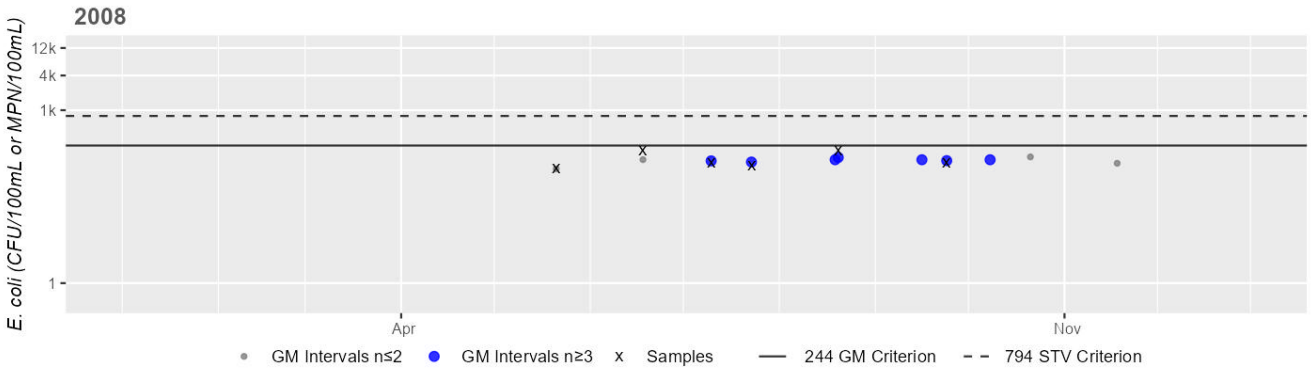
Cumulative %GMI Exceedance Historic (1997-2010)
75%

Cumulative %GMI Exceedance Current (2011-2022)
77%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1865 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	135
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 (MA36-52)

Location:	Unnamed tributary to Higher Brook, headwaters north of Route 21, Ludlow to mouth at confluence with Higher Brook, Ludlow.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-52) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-57)

Location:	Unnamed tributary to Foskett Mill Stream, perennial portion, east of Route 20, Brimfield to mouth at confluence with Foskett Mill Stream, Brimfield.
AU Type:	RIVER
AU Size:	0.5 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-57) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-59)

Location:	Unnamed tributary to Fivemile River, headwaters north of Moore Road, New Braintree to mouth at confluence with Fivemile River south of Robinson Road, Oakham.
AU Type:	RIVER
AU Size:	2 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-59) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-60)

Location:	Unnamed tributary to Jabish Brook, headwaters, perennial portion south of Cold Spring Road, Belchertown to mouth at confluence with Jabish Brook, Belchertown.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-60) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-70)

Location:	Unnamed tributary to the Ware River, perennial portion, west of Tucker Road, West Brookfield to mouth at confluence with the Ware River, New Braintree.
AU Type:	RIVER
AU Size:	0.9 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-70) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

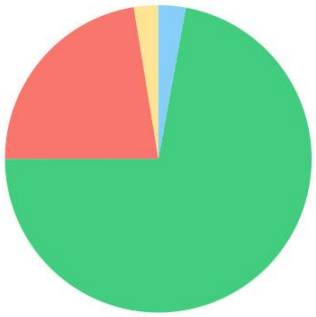
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

Unnamed Tributary (MA36-71)

Location:	Unnamed tributary to the Ware River, headwaters, outlet small unnamed pond west of Dugan Road, Ware to mouth at confluence with the Ware River, Ware.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA36-71)

Watershed Area: 0.62 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	0.62	0.62	0.18	0.18
Agriculture	2.6%	2.6%	4.4%	4.4%
Developed	22.4%	22.4%	26.9%	26.9%
Natural	72.1%	72.1%	62.7%	62.7%
Wetland	2.9%	2.9%	6%	6%
Impervious	7.9%	7.9%	10.6%	10.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-71) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Unnamed Tributary (MA36-71) 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 Unnamed Tributary (MA36-71) 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 Unnamed Tributary (MA36-71) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-71) from 2006 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1669 [unnamed tributary to the Ware River, locally known as “King Brook’, Palmer Rd (Rt. 32), Ware] from Jul-Aug 2006 (n=2), W1668 [unnamed tributary locally known as ‘King Brook’, W of Susan Drive, ~450 ft from the confluence with the Ware River, Ware] from Jul-Aug 2006 (n=2). Historic *E. coli* data from W1669 and W1668 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1668	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary locally known as 'King Brook', west of Susan Drive, approximately 450 feet from the confluence with the Ware River, Ware]	42.237375	-72.272086
W1669	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Ware River, locally known as "King Brook', Palmer Road (Route 32), Ware]	42.242376	-72.274750

Bacteria Data

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

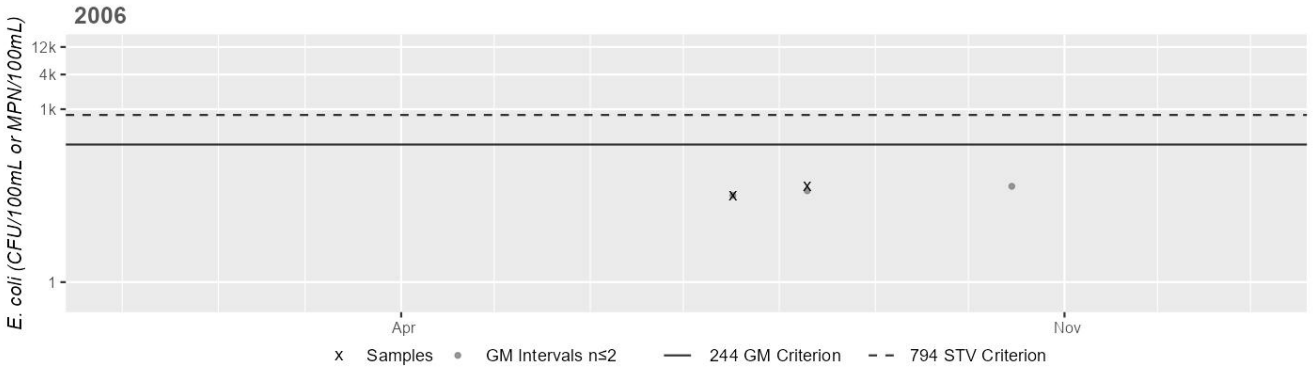
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1668	MassDEP	E. coli	07/17/06	08/10/06	2	32	46	38
W1669	MassDEP	E. coli	07/17/06	08/10/06	2	43	127	73

Station MASSDEP_W1668 - Escherichia coli

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



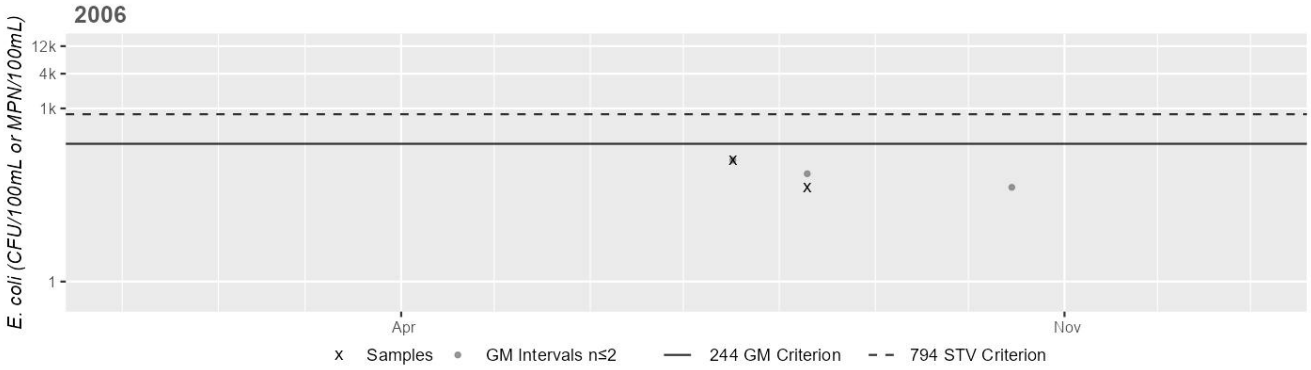
Variable*	Result
Samples	2
SeasGM	38
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1669 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	73
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

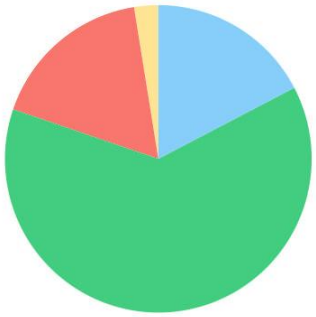
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA36-74)

Location:	Unnamed tributary to East Branch Ware River, headwaters outlet Cloverdale Street Pond, Rutland to mouth at confluence with East Branch Ware River, Rutland.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Unnamed Tributary (MA36-74)

Watershed Area: 1.10 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.10	1.10	0.66	0.66
Agriculture	2.5%	2.5%	2.4%	2.4%
Developed	17.2%	17.2%	9.3%	9.3%
Natural	62.9%	62.9%	61.7%	61.7%
Wetland	17.4%	17.4%	26.5%	26.5%
Impervious	5.9%	5.9%	3.3%	3.3%

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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-74) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Unnamed Tributary (MA36-74) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the downstream end of this Unnamed Tributary AU to East Branch Ware River ~2000 feet upstream of confluence, north of Cloverdale Lane, Rutland (W1828), in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1828	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to East Branch Ware River approximately 2000 feet upstream of confluence, north of Cloverdale Lane, Rutland]	42.408864	-71.981793

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
W1828	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1828 on Unnamed Tributary (MA36-74) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1828	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1828	Unnamed Tributary	2014	Aesthetics Impaired?	No	5	5
W1828	Unnamed Tributary	2014	Aquatic Plant Density, Overall	None	5	5
W1828	Unnamed Tributary	2014	Color	Light Yellow/Tan	3	5
W1828	Unnamed Tributary	2014	Color	None	2	5
W1828	Unnamed Tributary	2014	Objectionable Deposits	No	5	5
W1828	Unnamed Tributary	2014	Odor	None	5	5
W1828	Unnamed Tributary	2014	Periphyton Density, Filamentous	None	5	5
W1828	Unnamed Tributary	2014	Periphyton Density, Film	None	5	5
W1828	Unnamed Tributary	2014	Scum	No	3	5
W1828	Unnamed Tributary	2014	Scum	Yes	2	5
W1828	Unnamed Tributary	2014	Turbidity	None	4	5
W1828	Unnamed Tributary	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Unnamed Tributary (MA36-74) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-74) at W1828 [unnamed tributary to E Branch Ware River ~2000 ft upstream of confluence, N of Cloverdale Lane, Rutland] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1828 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 24 CFU/100ml. *E. coli* data from W1828 meet 2024 CALM guidance.

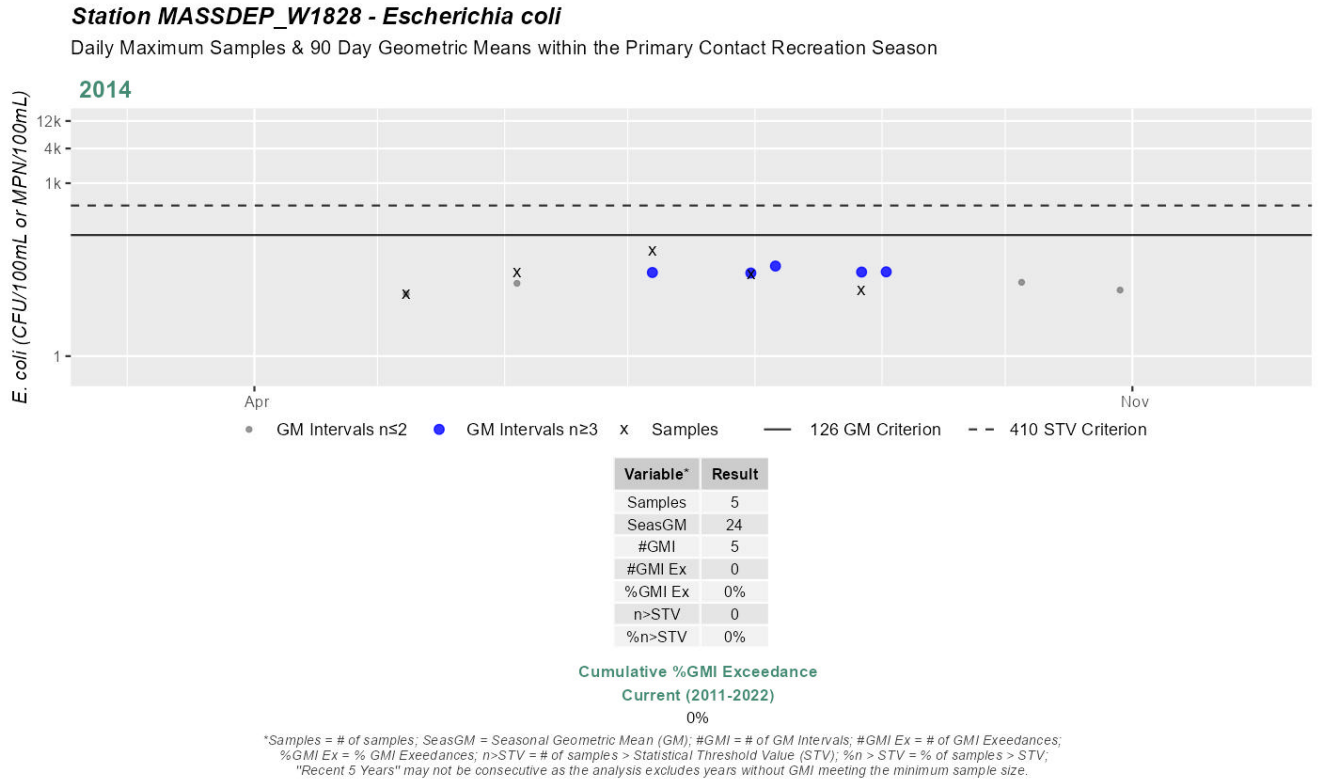
Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1828	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to East Branch Ware River approximately 2000 feet upstream of confluence, north of Cloverdale Lane, Rutland]	42.408864	-71.981793

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (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
W1828	MassDEP	E. coli	05/08/14	08/27/14	5	12	67	24



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Unnamed Tributary (MA36-74) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-74) at W1828 [unnamed tributary to E Branch Ware River ~2000 ft upstream of confluence, N of Cloverdale Lane, Rutland] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W1828 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 24 CFU/100ml. *E. coli* data from W1828 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1828	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to East Branch Ware River approximately 2000 feet upstream of confluence, north of Cloverdale Lane, Rutland]	42.408864	-71.981793

Bacteria Data

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

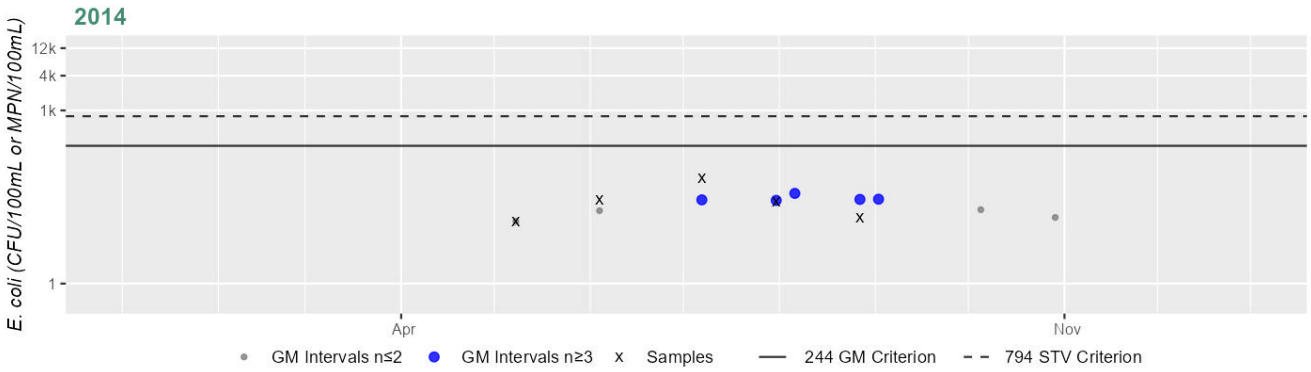
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1828	MassDEP	E. coli	05/08/14	08/27/14	5	12	67	24

Station MASSDEP_W1828 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	24
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

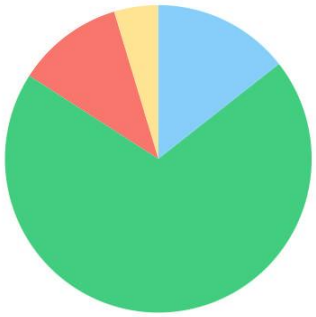
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA36-75)

Location:	Unnamed tributary to Turkey Hill Brook, headwaters outlet Sugden Reservoir, Spencer to mouth at confluence with Turkey Hill Brook, Spencer.
AU Type:	RIVER
AU Size:	0.3 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA36-75)

Watershed Area: 6.03 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	6.03	6.00	2.07	2.07
Agriculture	4.7%	4.7%	3.6%	3.6%
Developed	11.3%	11.3%	8%	8%
Natural	69.7%	69.6%	68.5%	68.5%
Wetland	14.4%	14.4%	19.9%	20%
Impervious	3.2%	3.2%	2.6%	2.6%

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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-75) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Unnamed Tributary (MA36-75) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one site half-way down this Unnamed Tributary AU ~170 feet downstream/west from Paxton Road, Spencer (W2041) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted deposits of minor trash on 5 occasions.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2041	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Turkey Hill Brook, approximately 170 feet downstream/west from Paxton Road, Spencer]	42.273174	-71.974994

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
W2041	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2041 on Unnamed Tributary (MA36-75) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=5).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2041	2014	5	5	3

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2041	Unnamed Tributary	2014	Aesthetics Impaired?	No	5	5
W2041	Unnamed Tributary	2014	Aquatic Plant Density, Overall	None	5	5
W2041	Unnamed Tributary	2014	Color	Brownish	1	5
W2041	Unnamed Tributary	2014	Color	Light Yellow/Tan	1	5
W2041	Unnamed Tributary	2014	Color	None	3	5
W2041	Unnamed Tributary	2014	Objectionable Deposits	Yes	5	5
W2041	Unnamed Tributary	2014	Odor	None	5	5
W2041	Unnamed Tributary	2014	Periphyton Density, Filamentous	None	3	5
W2041	Unnamed Tributary	2014	Periphyton Density, Filamentous	Sparse	2	5
W2041	Unnamed Tributary	2014	Periphyton Density, Film	Dense	2	5
W2041	Unnamed Tributary	2014	Periphyton Density, Film	None	1	5
W2041	Unnamed Tributary	2014	Periphyton Density, Film	Sparse	1	5
W2041	Unnamed Tributary	2014	Periphyton Density, Film	Very Dense	1	5
W2041	Unnamed Tributary	2014	Scum	No	4	5
W2041	Unnamed Tributary	2014	Scum	Yes	1	5
W2041	Unnamed Tributary	2014	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 Unnamed Tributary (MA36-75) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-75) at W2041 [unnamed tributary to Turkey Hill Brook, ~170 ft downstream/W from Paxton Rd, Spencer] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2041 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 13 CFU/100ml. *E. coli* data from W2041 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2041	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Turkey Hill Brook, approximately 170 feet downstream/west from Paxton Road, Spencer]	42.273174	-71.974994

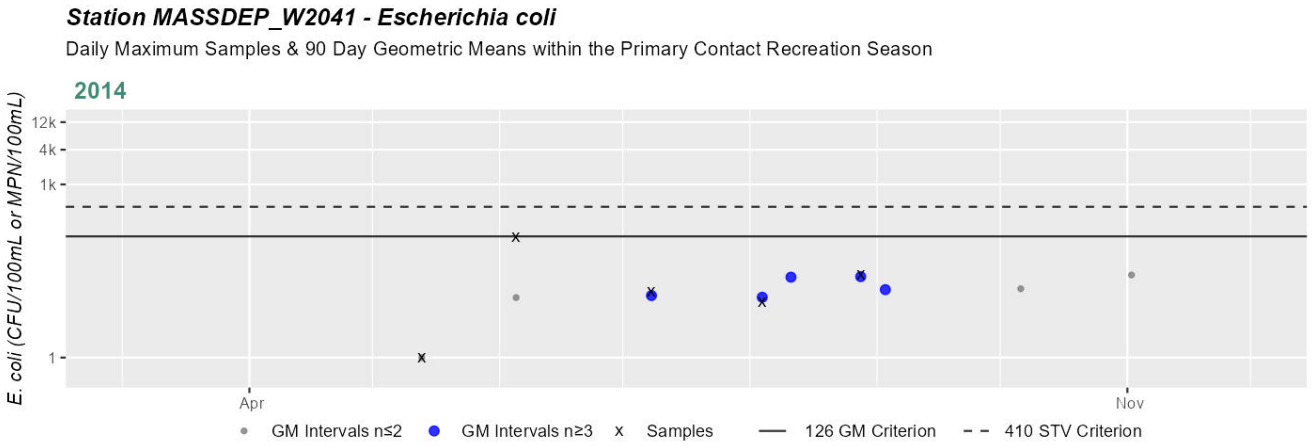
Bacteria Data

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

(MassDEP Undated 6) (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
W2041	MassDEP	E. coli	05/13/14	08/28/14	5	1	120	13



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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Unnamed Tributary (MA36-75) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-75) at W2041 [unnamed tributary to Turkey Hill Brook, ~170 ft downstream/W from Paxton Rd, Spencer] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2041 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 13 CFU/100ml. *E. coli* data from W2041 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2041	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Turkey Hill Brook, approximately 170 feet downstream/west from Paxton Road, Spencer]	42.273174	-71.974994

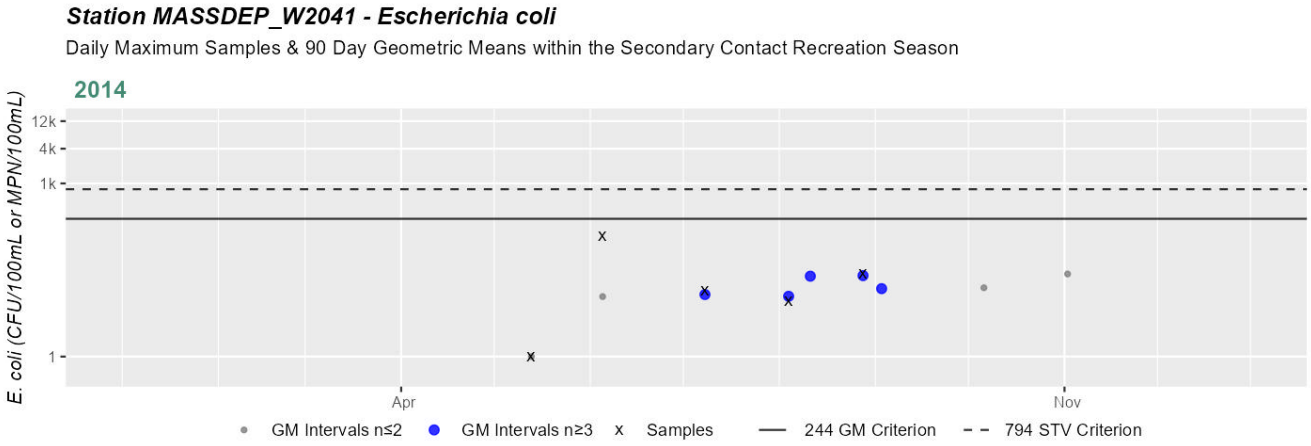
Bacteria Data

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

(MassDEP Undated 6) (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
W2041	MassDEP	E. coli	05/13/14	08/28/14	5	1	120	13



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%

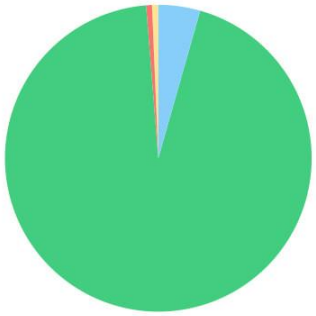
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA36-76)

Location:	Unnamed tributary (locally Dickey Brook) to Quabbin Reservoir, from wetland east of North Prescott and Barnes roads, New Salem to mouth at inlet to Quabbin Reservoir at the northern tip of the western lobe, west of Cooleyville Road, New Salem.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Unnamed Tributary (MA36-76)

Watershed Area: 4.32 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.32	4.32	1.61	1.61
Agriculture	0.7%	0.7%	0.9%	0.9%
Developed	0.6%	0.6%	0.7%	0.7%
Natural	94.3%	94.3%	87.6%	87.6%
Wetland	4.4%	4.4%	10.8%	10.8%
Impervious	0.4%	0.4%	0.6%	0.6%

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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-76) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Unnamed Tributary (MA36-76) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations in the downstream half of this Unnamed Tributary AU ~1200 feet upstream/east from Cooleyville Road (and ~500 feet downstream/northwest from Hunt Road), New Salem (W2324), in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2324	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Quabbin Reservoir, approximately 1200 feet upstream/east from Cooleyville Road (and approximately 500 feet downstream/northwest from Hunt Road), New Salem]	42.442071	-72.368693

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
W2324	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2324 on Unnamed Tributary (MA36-76) during 5 site visits between May 2014 and Sep 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2324	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2324	Unnamed Tributary	2014	Aesthetics Impaired?	No	5	5
W2324	Unnamed Tributary	2014	Aquatic Plant Density, Overall	None	5	5
W2324	Unnamed Tributary	2014	Color	Light Yellow/Tan	3	5
W2324	Unnamed Tributary	2014	Color	None	2	5
W2324	Unnamed Tributary	2014	Objectionable Deposits	No	4	5
W2324	Unnamed Tributary	2014	Objectionable Deposits	NR	1	5
W2324	Unnamed Tributary	2014	Odor	None	5	5
W2324	Unnamed Tributary	2014	Periphyton Density, Filamentous	None	3	5
W2324	Unnamed Tributary	2014	Periphyton Density, Filamentous	Sparse	2	5
W2324	Unnamed Tributary	2014	Periphyton Density, Film	None	3	5
W2324	Unnamed Tributary	2014	Periphyton Density, Film	Sparse	2	5
W2324	Unnamed Tributary	2014	Scum	No	3	5
W2324	Unnamed Tributary	2014	Scum	Yes	2	5
W2324	Unnamed Tributary	2014	Turbidity	Moderately Turbid	1	5
W2324	Unnamed Tributary	2014	Turbidity	None	4	5

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 Unnamed Tributary (MA36-76) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-76) at W2324 [unnamed tributary to Quabbin Reservoir, ~1200 ft upstream/E from Cooleyville Rd (and ~500 ft downstream/NW from Hunt Rd), New Salem] from May-Sep 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2324 indicated 0% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 62 CFU/100ml. *E. coli* data from W2324 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2324	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Quabbin Reservoir, approximately 1200 feet upstream/east from Cooleyville Road (and approximately 500 feet downstream/northwest from Hunt Road), New Salem]	42.442071	-72.368693

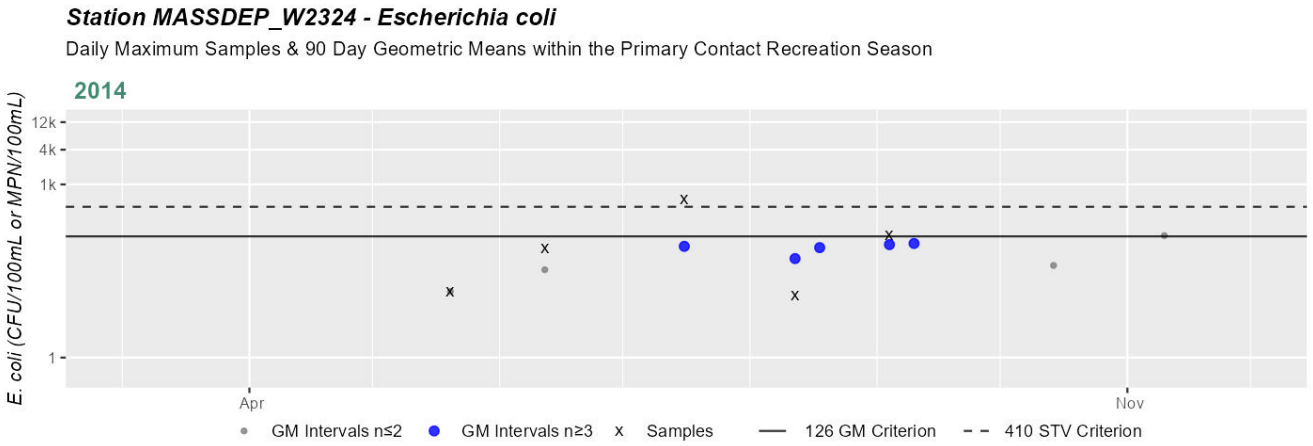
Bacteria Data

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

(MassDEP Undated 6) (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
W2324	MassDEP	E. coli	05/20/14	09/04/14	5	12	548	62



Variable*	Result
Samples	5
SeasGM	62
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Unnamed Tributary (MA36-76) is assessed as Fully Supporting. MassDEP and MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-76) from 2014-2021 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2324 [unnamed tributary to Quabbin Reservoir, ~1200 ft upstream/E from Cooleyville Rd (and ~500 ft downstream/NW from Hunt Rd), New Salem] from May-Sep 2014 (n=5), DCRWS_LDB from Jan 2021 (n=1). Analysis of the single year limited frequency *E. coli* dataset from W2324 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 62 CFU/100ml. *E. coli* data from DCRWS_LDB are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. *E. coli* data from W2324 meet 2024 CALM guidance.

Monitoring Stations

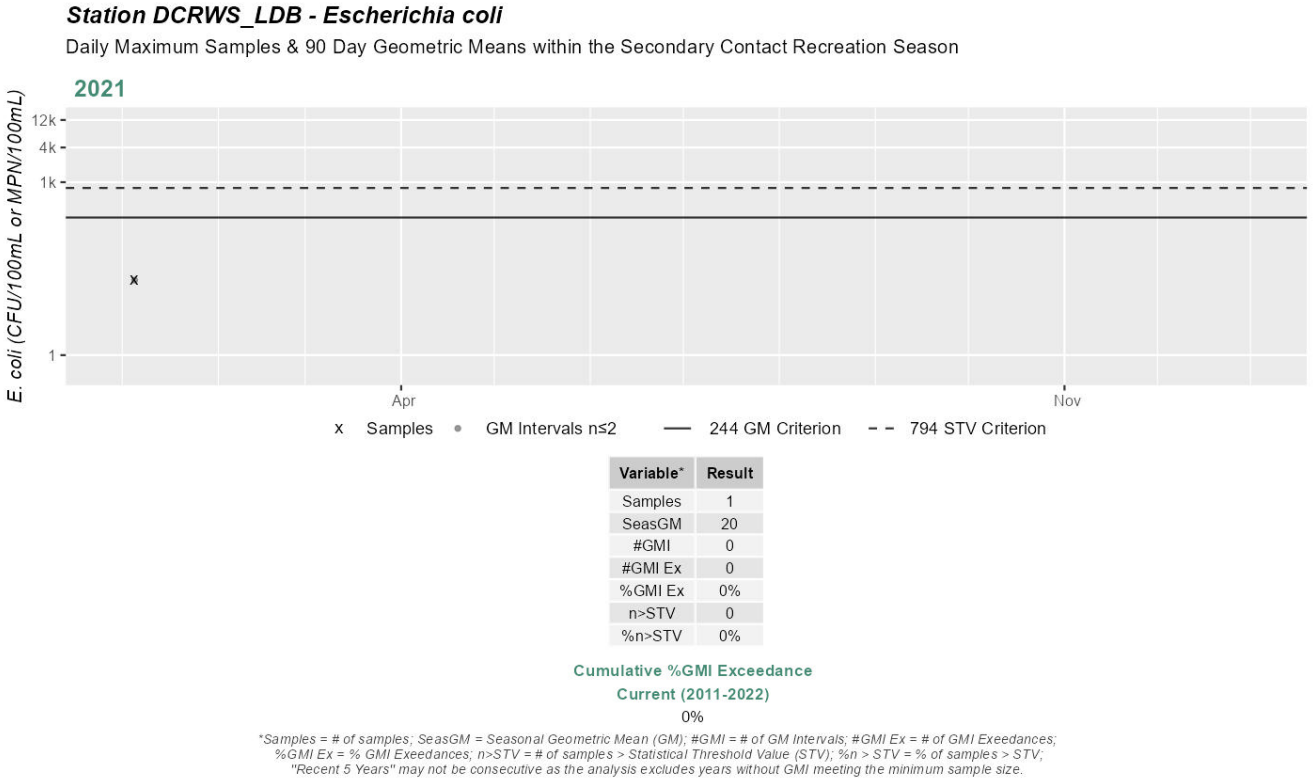
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_LDB	MA DCR Division of Water Supply Protection	Water Quality	Lower Dickey Brook	--	42.444245	-72.371602
W2324	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Quabbin Reservoir, approximately 1200 feet upstream/east from Cooleyville Road (and approximately 500 feet downstream/northwest from Hunt Road), New Salem]	42.442071	-72.368693

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

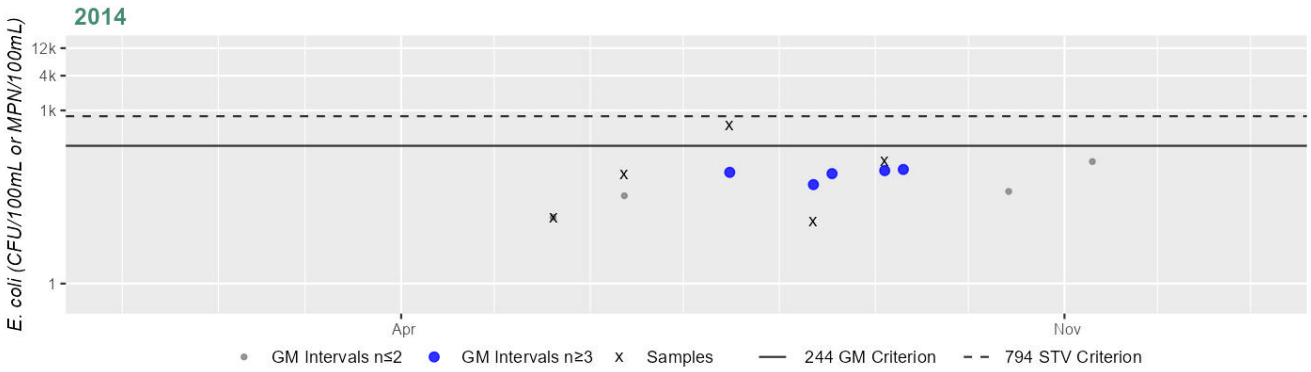
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_LDB	MA DCR Division of Water Supply Protection	E. coli	01/05/21	01/05/21	1	20	20	19
W2324	MassDEP	E. coli	05/20/14	09/04/14	5	12	548	62



Station MASSDEP_W2324 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	62
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

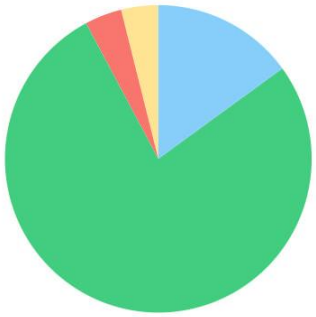
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA36-80)

Location:	Unnamed tributary to Cranberry River, headwaters east of South Spencer Road, Spencer to mouth at confluence with Cranberry River, Spencer.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA36-80)

Watershed Area: 0.63 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	0.63	0.63	0.19	0.19
Agriculture	3.9%	3.9%	0.7%	0.7%
Developed	3.9%	3.9%	4.2%	4.2%
Natural	77.2%	77.2%	74.6%	74.6%
Wetland	15%	15%	20.4%	20.4%
Impervious	1.7%	1.7%	2.2%	2.2%

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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-80) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Unnamed Tributary (MA36-80) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations in the downstream half of this Unnamed Tributary AU ~300 feet upstream from Cranberry Meadow Rd, Spencer (W2459) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2459	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Cranberry River, approximately 300 feet upstream from Cranberry Meadow Road, Spencer]	42.203624	-72.004269

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
W2459	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2459 on Unnamed Tributary (MA36-80) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2459	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2459	Unnamed Tributary	2014	Aesthetics Impaired?	No	5	5
W2459	Unnamed Tributary	2014	Aquatic Plant Density, Overall	None	5	5
W2459	Unnamed Tributary	2014	Color	Light Yellow/Tan	5	5
W2459	Unnamed Tributary	2014	Objectionable Deposits	No	4	5
W2459	Unnamed Tributary	2014	Objectionable Deposits	Yes	1	5
W2459	Unnamed Tributary	2014	Odor	None	4	5
W2459	Unnamed Tributary	2014	Odor	Other (Soil)	1	5
W2459	Unnamed Tributary	2014	Periphyton Density, Filamentous	None	4	5
W2459	Unnamed Tributary	2014	Periphyton Density, Filamentous	Sparse	1	5
W2459	Unnamed Tributary	2014	Periphyton Density, Film	None	5	5
W2459	Unnamed Tributary	2014	Scum	No	5	5
W2459	Unnamed Tributary	2014	Turbidity	None	3	5
W2459	Unnamed Tributary	2014	Turbidity	Slightly Turbid	2	5

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 Unnamed Tributary (MA36-80) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-80) at W2459 [unnamed tributary to the Cranberry River, ~300 ft upstream from Cranberry Meadow Rd, Spencer] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2459 indicated 60% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 118 CFU/100ml. *E. coli* data from W2459 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2459	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Cranberry River, approximately 300 feet upstream from Cranberry Meadow Road, Spencer]	42.203624	-72.004269

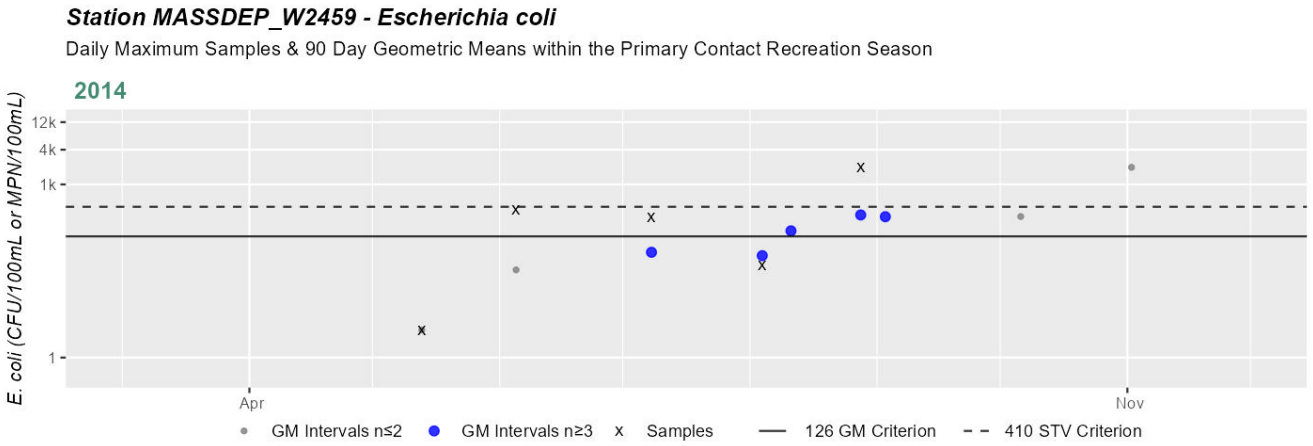
Bacteria Data

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

(MassDEP Undated 6) (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
W2459	MassDEP	E. coli	05/13/14	08/28/14	5	3	1980	118



Variable*	Result
Samples	5
SeasGM	118
#GMI	5
#GMI Ex	3
%GMI Ex	60%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
60%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Unnamed Tributary (MA36-80) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-80) at W2459 [unnamed tributary to the Cranberry River, ~300 ft upstream from Cranberry Meadow Rd, Spencer] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2459 indicated 40% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 118 CFU/100ml. *E. coli* data from W2459 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2459	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to the Cranberry River, approximately 300 feet upstream from Cranberry Meadow Road, Spencer]	42.203624	-72.004269

Bacteria Data

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

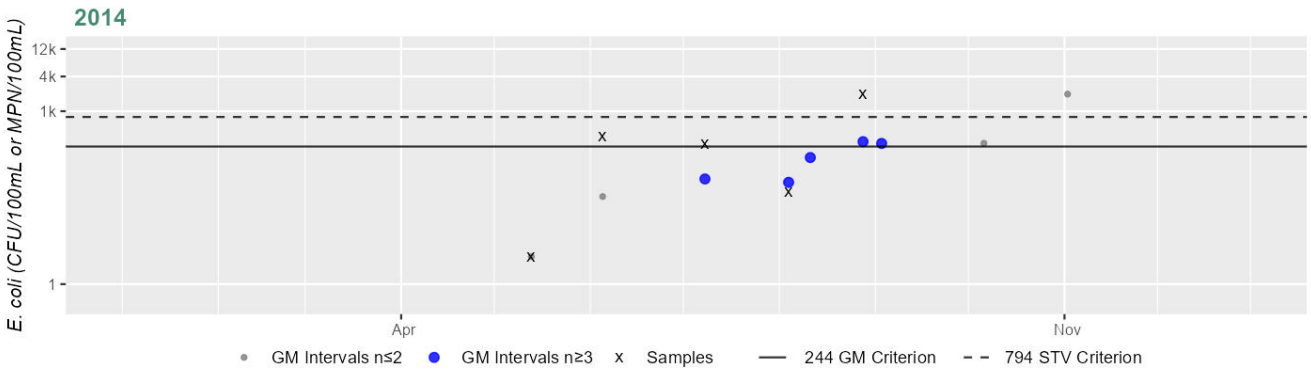
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2459	MassDEP	E. coli	05/13/14	08/28/14	5	3	1980	118

Station MASSDEP_W2459 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	118
#GMI	5
#GMI Ex	2
%GMI Ex	40%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance

Current (2011-2022)

40%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 (MA36-82)

Location:	Unnamed tributary to Ware River, locally 'Parkers Brook', headwaters east of Midstate Trail, Rutland to mouth at confluene with the Ware River, south of Route 122, Oakham.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Unnamed Tributary (MA36-82)

Watershed Area: 5.54 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.54	5.16	3.33	3.12
Agriculture	0.4%	0%	0.2%	0%
Developed	2.7%	2.4%	2.7%	2.5%
Natural	86.9%	87.3%	82.2%	82.1%
Wetland	10%	10.3%	14.9%	15.4%
Impervious	1.5%	1.4%	1.7%	1.7%

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 recently, so the Fish Consumption Use for Unnamed Tributary (MA36-82) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Unnamed Tributary (MA36-82) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Unnamed Tributary (MA36-82) is assessed as Fully Supporting. MassDEP and MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-82) at DCRWS_102 from 2021-2022 (n=15/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_102 indicated 1 out of 2 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2022, 12%), 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2022, 13%), and cumulatively across years 8% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_102 meet 2024 CALM guidance.

Monitoring Stations

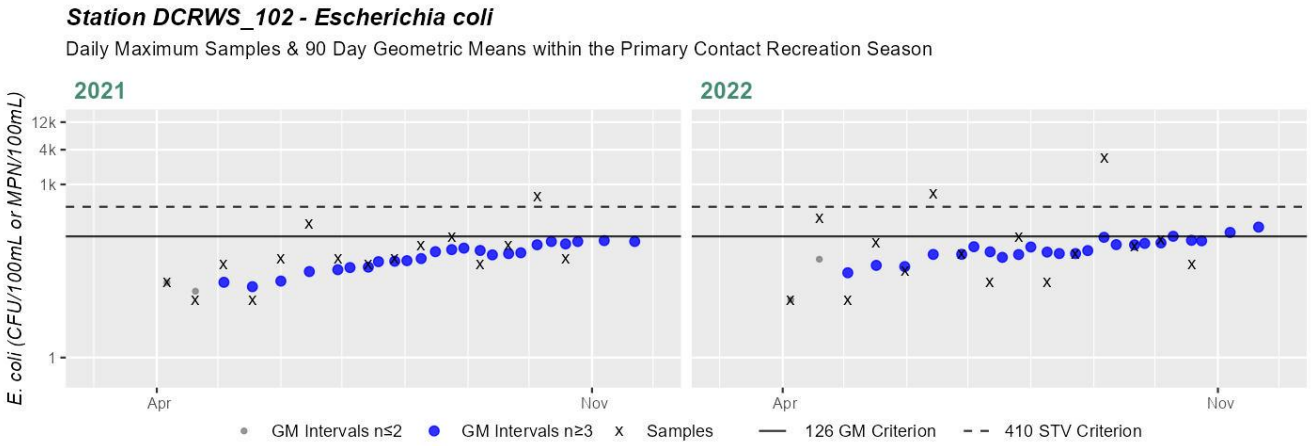
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_102	MA DCR Division of Water Supply Protection	Water Quality	Parkers Brook	--	42.394406	-72.047300

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_102	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	609	54
DCRWS_102	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	2910	74



Variable*	Result
Samples	15
SeasGM	54
#GMI	25
#GMI Ex	1
%GMI Ex	4%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	74
#GMI	25
#GMI Ex	3
%GMI Ex	12%
n>STV	2
%n>STV	13%

Cumulative %GMI Exceedance
Current (2011-2022)
8%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Unnamed Tributary (MA36-82) is assessed as Fully Supporting. MassDEP and MA DCR (DCRWS) staff collected *E. coli* bacteria samples in Unnamed Tributary (MA36-82) at DCRWS_102 from 2021-2022 (n=26/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_102 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_102 meet 2024 CALM guidance.

Monitoring Stations

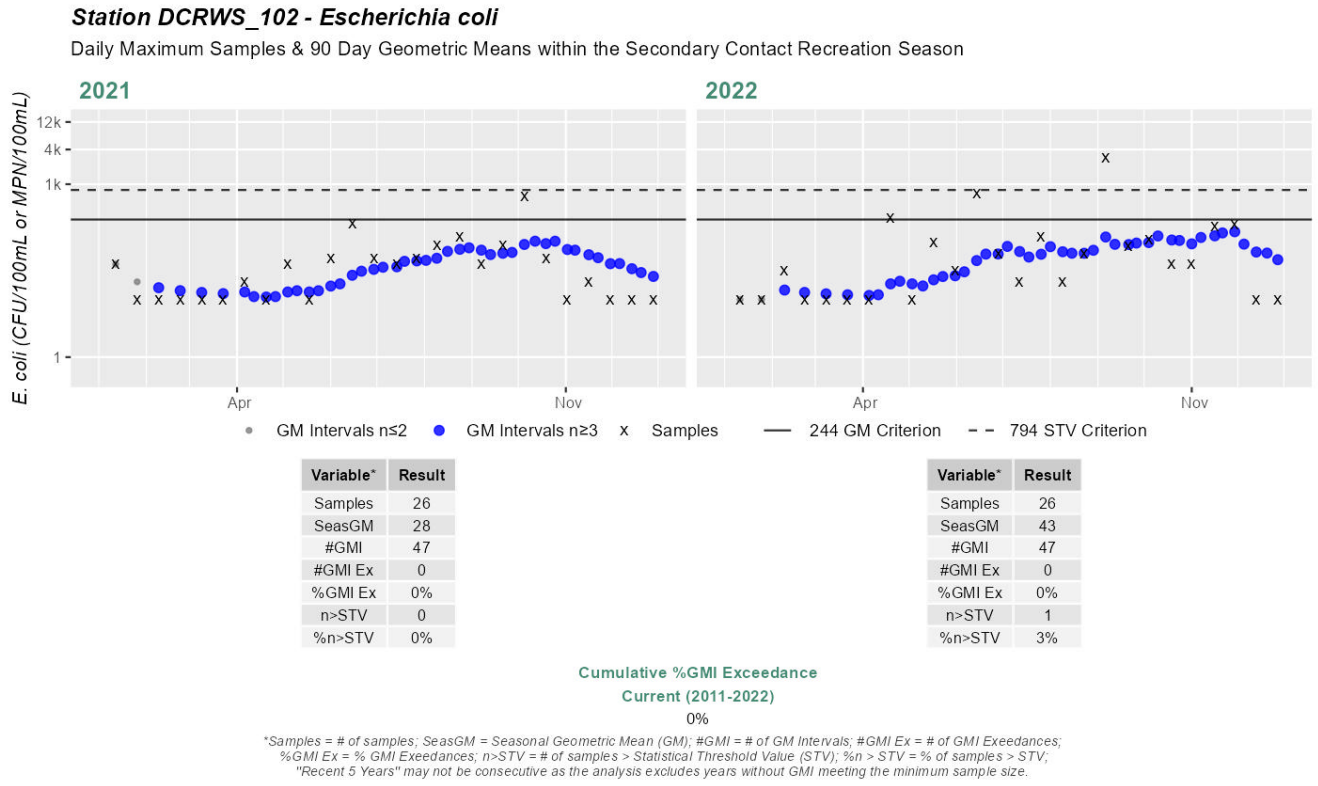
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_102	MA DCR Division of Water Supply Protection	Water Quality	Parkers Brook	--	42.394406	-72.047300

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (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
DCRWS_102	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	609	28
DCRWS_102	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	2910	43



Unnamed Tributary (MA36-85)

Location:	Unnamed tributary to Jabish Brook, headwaters outlet wetland north of Barrett Road, Belchertown to mouth at confluence with Jabish Brook, Belchertown.
AU Type:	RIVER
AU Size:	1.1 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA36-85) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Unnamed Tributary (MA36-96)

Location:	Unnamed tributary to East Branch Swift River, headwaters east of Route 32 near the Petersham/Barre border to mouth at confluence with East Branch Swift River, Petersham.
AU Type:	RIVER
AU Size:	0.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Unnamed Tributary (MA36-96) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

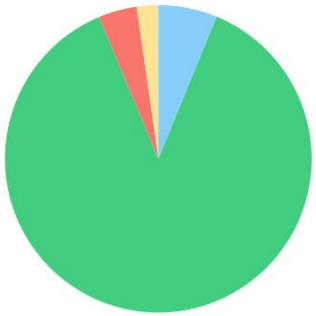
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	3	None	--	Unchanged

Vinica Brook (MA36-79)

Location:	Headwaters outlet Vinica Pond, Wales to mouth at inlet Conant Brook Reservoir (flood control area), Monson.
AU Type:	RIVER
AU Size:	3.5 MILES
Classification/Qualifier:	B

Vinica Brook (MA36-79)

Watershed Area: 5.55 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.55	5.55	1.92	1.92
Agriculture	2.3%	2.3%	2.8%	2.8%
Developed	4%	4%	4%	4%
Natural	87.5%	87.5%	81.8%	81.8%
Wetland	6.2%	6.2%	11.3%	11.3%
Impervious	1.7%	1.7%	1.7%	1.7%

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 recently, so the Fish Consumption Use for Vinica Brook (MA36-79) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Vinica Brook (MA36-79) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations in the downstream half of this Vinica Brook AU ~5000 feet upstream from Moulton Hill Rd, Monson (W2457) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2457	MassDEP	Water Quality	Vinica Brook	[approximately 5000 feet upstream from Moulton Hill Road, Monson]	42.059330	-72.271605

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
W2457	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2457 on Vinica Brook (MA36-79) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2457	2014	5	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2457	Vinica Brook	2014	Aesthetics Impaired?	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2457	Vinica Brook	2014	Aquatic Plant Density, Overall	None	3	5
W2457	Vinica Brook	2014	Aquatic Plant Density, Overall	Sparse	1	5
W2457	Vinica Brook	2014	Aquatic Plant Density, Overall	Unobservable	1	5
W2457	Vinica Brook	2014	Color	Light Yellow/Tan	2	5
W2457	Vinica Brook	2014	Color	None	3	5
W2457	Vinica Brook	2014	Objectionable Deposits	No	5	5
W2457	Vinica Brook	2014	Odor	None	5	5
W2457	Vinica Brook	2014	Periphyton Density, Filamentous	None	3	5
W2457	Vinica Brook	2014	Periphyton Density, Filamentous	Sparse	1	5
W2457	Vinica Brook	2014	Periphyton Density, Filamentous	Unobservable	1	5
W2457	Vinica Brook	2014	Periphyton Density, Film	None	3	5
W2457	Vinica Brook	2014	Periphyton Density, Film	Sparse	1	5
W2457	Vinica Brook	2014	Periphyton Density, Film	Unobservable	1	5
W2457	Vinica Brook	2014	Scum	No	4	5
W2457	Vinica Brook	2014	Scum	Yes	1	5
W2457	Vinica Brook	2014	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 Vinica Brook (MA36-79) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Vinica Brook (MA36-79) at W2457 [~5000 ft upstream from Moulton Hill Rd, Monson] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2457 indicated 20% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 44 CFU/100ml. *E. coli* data from W2457 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2457	MassDEP	Water Quality	Vinica Brook	[approximately 5000 feet upstream from Moulton Hill Road, Monson]	42.059330	-72.271605

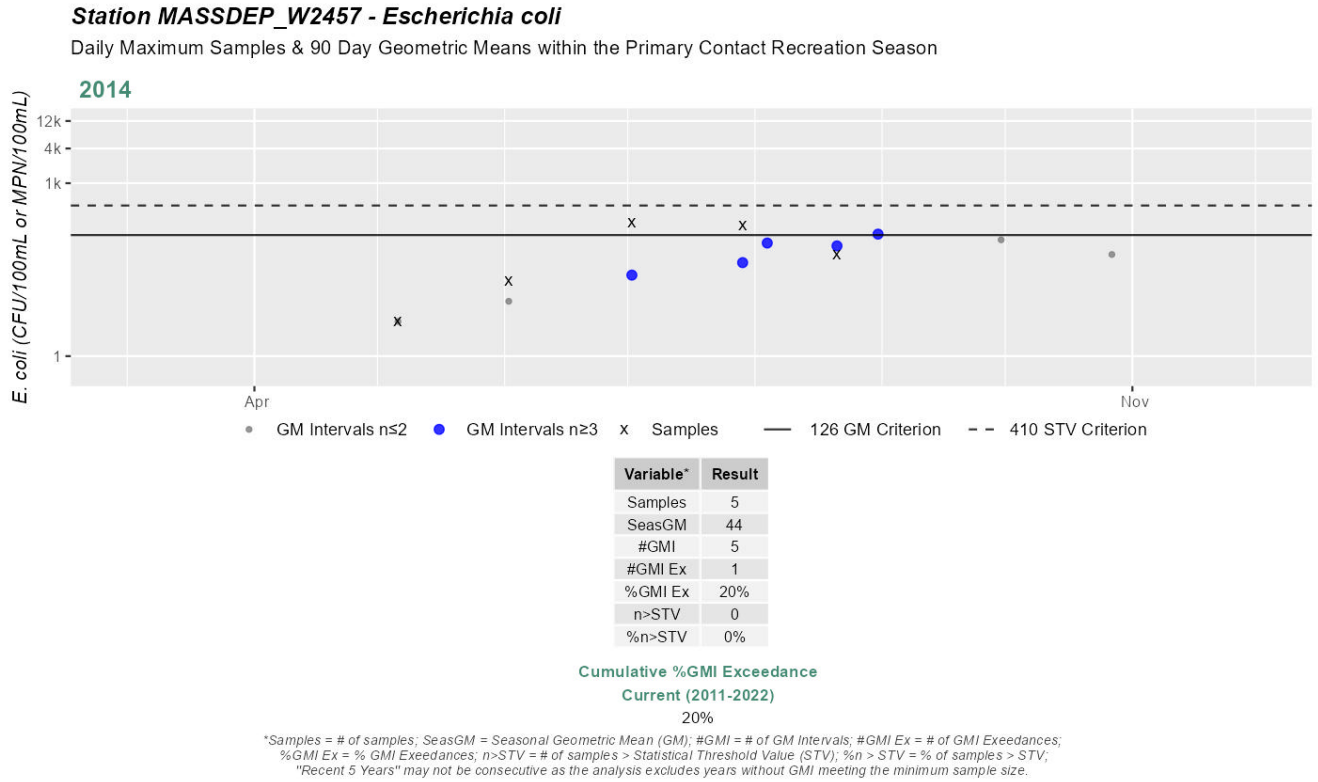
Bacteria Data

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

(MassDEP Undated 6) (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
W2457	MassDEP	E. coli	05/06/14	08/21/14	5	4	206	44



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Vinica Brook (MA36-79) is assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Vinica Brook (MA36-79) at W2457 [~5000 ft upstream from Moulton Hill Rd, Monson] from May-Aug 2014 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2457 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 44 CFU/100ml. *E. coli* data from W2457 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2457	MassDEP	Water Quality	Vinica Brook	[approximately 5000 feet upstream from Moulton Hill Road, Monson]	42.059330	-72.271605

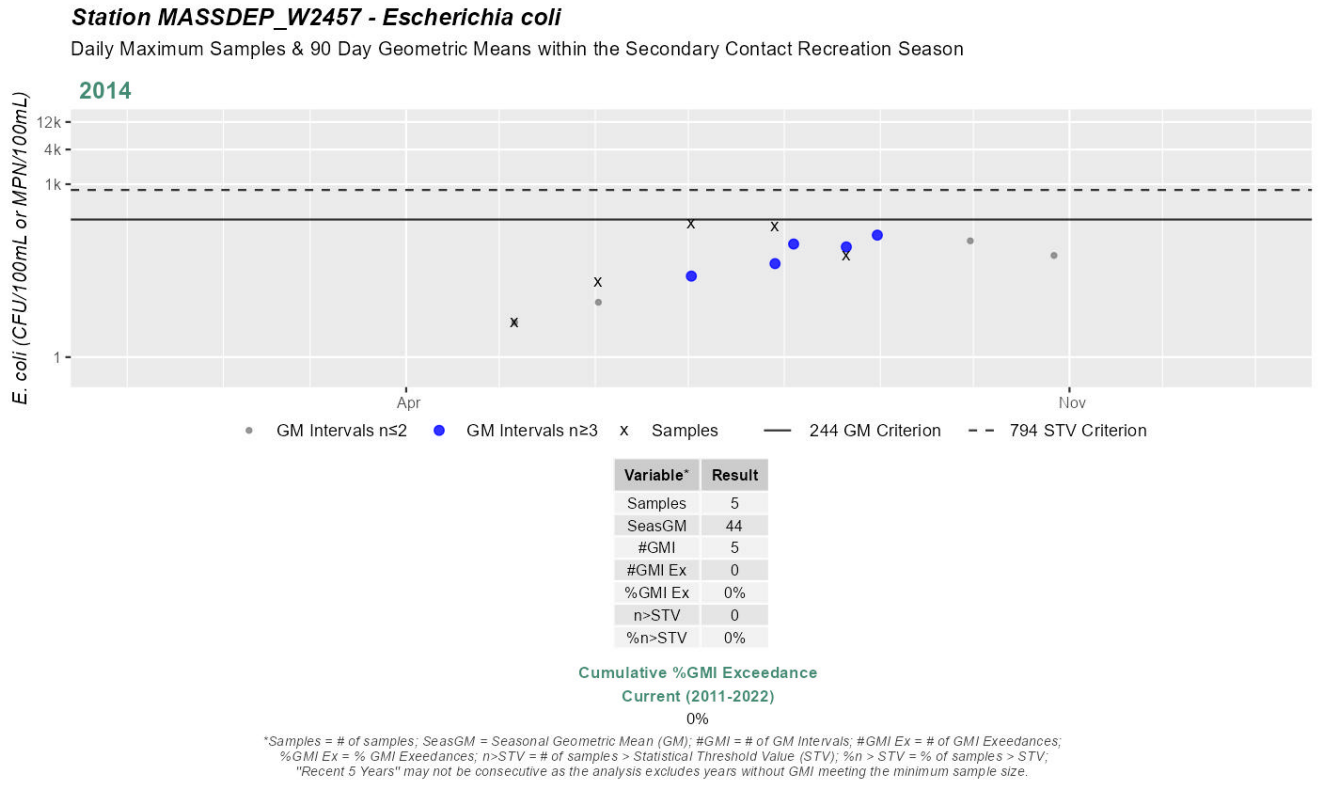
Bacteria Data

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

(MassDEP Undated 6) (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
W2457	MassDEP	E. coli	05/06/14	08/21/14	5	4	206	44



Vinica Pond (MA36160)

Location:	Wales.
AU Type:	FRESHWATER LAKE
AU Size:	10 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Aquatic Plants (Macrophytes)*)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Aquatic Plants (Macrophytes)*)	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 recently, so the Fish Consumption Use for Vinica Pond (MA36160) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Vinica Pond (MA36160) is assessed as Not Supporting based on observations made by MassDEP staff during the MAP2 macrophyte mapping survey in September 2016, with an Aquatic Plants (Macrophytes) non-pollutant impairment being added. MassDEP staff surveyed this Vinica Pond AU at a shoreline station at the southern end of pond, in the Norcross Wildlife Sanctuary, south of Monson Road, Wales W2618 (MAP2L-041S) and at the deep hole index station, Wales W2637 (MAP2L-041); both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2618 (n=5) and W2637 (n=3) or littoral zone duckweed recorded in ten shoreline plots (n=1). However, during the MAP2 macrophyte mapping survey in Sep 2016 (n=1), greater than 25% (84.4%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2618	MassDEP	Water Quality	Vinica Pond	[southern end of pond, in the Norcross Wildlife Sanctuary, south of Monson Road, Wales]	42.049718	-72.246850
W2637	MassDEP	Water Quality	Vinica Pond	[index site, Wales]	42.050257	-72.246620

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
W2618	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2618 (MAP2L-041S) on Vinica Pond (MA36160) during 5 site visits between May 2016 and Sep 2016. 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.
W2637	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2637 (MAP2L-041) on Vinica Pond (MA36160) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Sep 2016, greater than 25% (84.4%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%. The observations from the MAP2 survey are indicative of an Aesthetics Use impairment.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2618	Vinica Pond	2016	Aesthetics Impaired?	No	5	5
W2618	Vinica Pond	2016	Color	Light Yellow/Tan	5	5
W2618	Vinica Pond	2016	Objectionable Deposits	No	5	5
W2618	Vinica Pond	2016	Odor	None	5	5
W2618	Vinica Pond	2016	Scum	No	4	5
W2618	Vinica Pond	2016	Scum	Yes	1	5
W2618	Vinica Pond	2016	Turbidity	None	5	5
W2637	Vinica Pond	2016	Aesthetics Impaired?	No	3	3
W2637	Vinica Pond	2016	Aquatic Plant Density, Overall	None	1	3
W2637	Vinica Pond	2016	Aquatic Plant Density, Overall	NR	1	3
W2637	Vinica Pond	2016	Aquatic Plant Density, Overall	Sparse	1	3
W2637	Vinica Pond	2016	Aquatic Plant Density, Whole Lake	Moderate	1	1
W2637	Vinica Pond	2016	Color	Brownish	1	3
W2637	Vinica Pond	2016	Color	Light Yellow/Tan	2	3
W2637	Vinica Pond	2016	Duckweed Density, Whole Lake	None	1	1
W2637	Vinica Pond	2016	Objectionable Deposits	No	3	3
W2637	Vinica Pond	2016	Odor	None	3	3
W2637	Vinica Pond	2016	Scum	No	3	3
W2637	Vinica Pond	2016	Turbidity	None	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Vinica Pond (MA36160) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Vinica Pond (MA36160), MassDEP collected Secchi and cyanobacteria cell count data at W2637 [MAP2L-041, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2618 [MAP2L-041S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2637 in 2016 (n=3, 1.22-1.9m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2618 in 2016 (n=5) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Vinica Pond (MA36160) at W2618 [southern end of pond, in the Norcross Wildlife Sanctuary, S of Monson Rd, Wales] from May-Sep 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2618 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 13 CFU/100ml. *E. coli* data from W2618 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2618	MassDEP	Water Quality	Vinica Pond	[southern end of pond, in the Norcross Wildlife Sanctuary, south of Monson Road, Wales]	42.049718	-72.246850
W2637	MassDEP	Water Quality	Vinica Pond	[index site, Wales]	42.050257	-72.246620

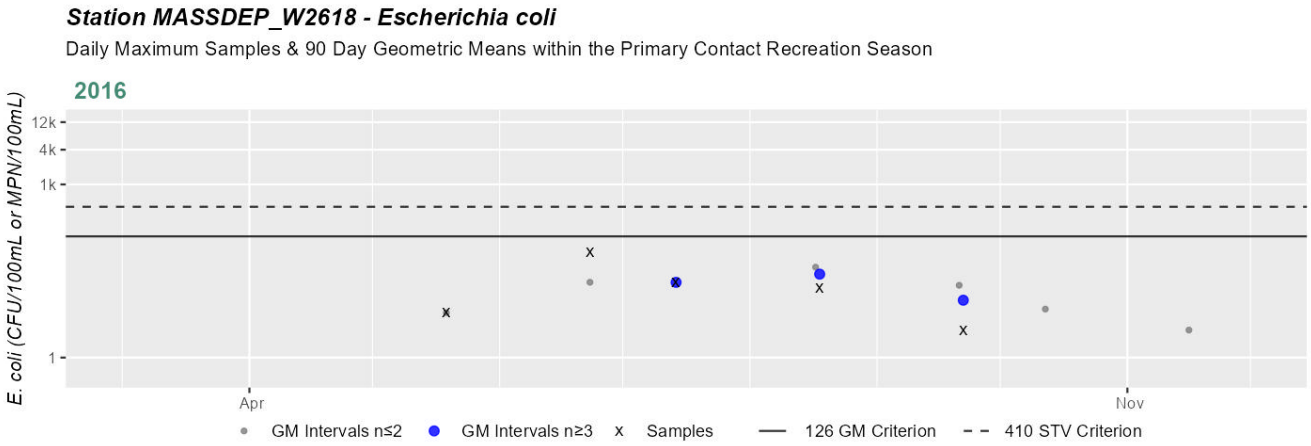
Bacteria Data

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

(MassDEP Undated 6) (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
W2618	MassDEP	E. coli	05/18/16	09/21/16	5	3	68	13



Variable*	Result
Samples	5
SeasGM	13
#GMI	3
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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 6) (MassDEP Undated 4)

Data Year(s)	Summary
2016	In Vinica Pond (MA36160) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2637 [MAP2L-041, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2618 [MAP2L-041S, Shoreline]. At station W2637 (station depth=2.7 m) the Secchi depth measurements ranged from 1.22-1.9 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 W2618 (n=5) 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 6) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2618	Vinica Pond	Shoreline	2016	3	0	NA
W2637	Vinica Pond	Index	2016	3	0	NA

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Vinica Pond (MA36160) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Vinica Pond (MA36160), MassDEP collected cyanobacteria cell count data at W2637 [MAP2L-041, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxin data at W2618 [MAP2L-041S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2618 in 2016 (n=5) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Vinica Pond (MA36160) at W2618 [southern end of pond, in the Norcross Wildlife Sanctuary, S of Monson Rd, Wales] from May-Sep 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2618 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 13 CFU/100ml. *E. coli* data from W2618 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2618	MassDEP	Water Quality	Vinica Pond	[southern end of pond, in the Norcross Wildlife Sanctuary, south of Monson Road, Wales]	42.049718	-72.246850

Bacteria Data

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

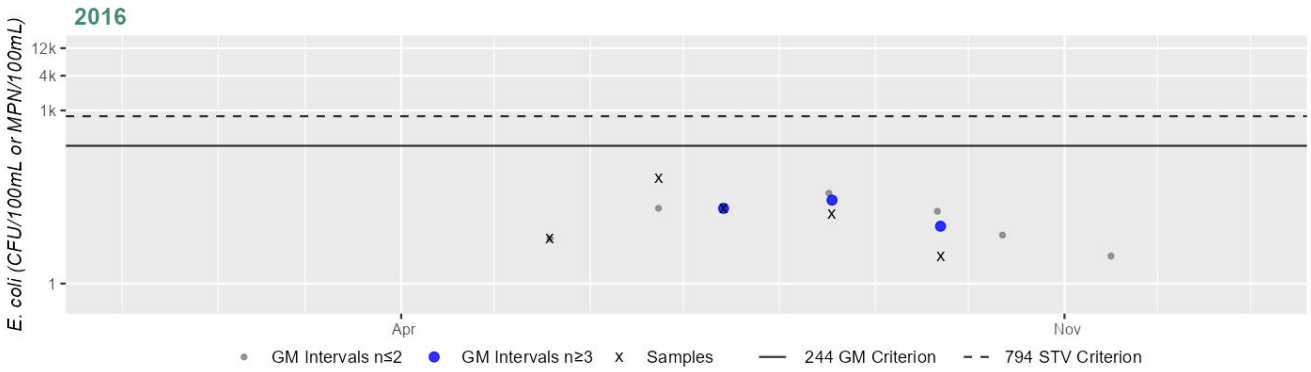
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W2618	MassDEP	E. coli	05/18/16	09/21/16	5	3	68	13

Station MASSDEP_W2618 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	13
#GMI	3
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Waite Pond (MA36161)

Location:	Hubbardston.
AU Type:	FRESHWATER LAKE
AU Size:	35 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Waite Pond (MA36161) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Ware River (MA36-03)

Location:	MDC intake, Barre to dam at South Barre Reservoir (NATID: MA00091), Barre (through former 2008 segments: Powder Mill Pond MA36126 and South Barre Reservoir MA36141).
AU Type:	RIVER
AU Size:	2.1 MILES
Classification/Qualifier:	B: CWF, HQW

Ware River (MA36-03)

Watershed Area: 99.83 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	99.83	8.22	61.10	4.19
Agriculture	2.4%	2.5%	1.6%	0.7%
Developed	5.6%	5.1%	4.7%	4%
Natural	80.9%	84.3%	77.5%	84%
Wetland	11.1%	8.1%	16.2%	11.3%
Impervious	2.3%	2%	2.1%	2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Escherichia Coli (E. Coli)	--	Added
5	5	Lack of a Coldwater Assemblage	--	Unchanged
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	PFAS in Fish Tissue	--	Added
5	5	Temperature	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Lack of a Coldwater Assemblage	Dam or Impoundment (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
PFAS in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Temperature	Dam or Impoundment (Y)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2024 IR [TURBIDITY, LOW] Additional monitoring is recommended due to two high turbidity observations in 2012 south of Rt. 122 at weir downstream of shaft #8 water supply intake {W0494}.

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 Ware River AU (MA36-03) continues to be assessed as Not Supporting. The prior Mercury in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in a downstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River (referred to by MDPH as ''Powder Mill Pond'' or ''Ware River'') in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing Mercury advisory in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted downstream in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. Additionally, MDPH retained the existing site-specific fish consumption advisories for Mercury associated with the Ware River (referred to by MDPH as Powder Mill Pond) in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and Mercury in Fish Tissue for this Ware River AU (MA36-03).

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for Ware River (MA36-03) is assessed as Fully Supporting. An Alert is being identified due to the highly turbid conditions noted in 2012. MassDEP staff recorded aesthetics observations at one station at the upstream end of this Ware River AU; south of Rt. 122 at weir downstream of Shaft #8 water supply intake, Barre (W0494) in 2011 (n=5), 2012 (n=6) and 2013 (n=2). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded except high turbidity was noted twice in 2012 downstream of shaft #8 water supply intake.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0494	MassDEP	Water Quality	Ware River	[south of Route 122 at weir downstream of Shaft #8 water supply intake, Barre]	42.391214	-72.064555

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
W0494	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0494 on Ware River (MA36-03) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0494	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0494 on Ware River (MA36-03) during 6 site visits between Jan 2012 and Nov 2012. There were some objectionable conditions recorded, including high turbidity (n=2). These conditions are indicative of an Alert status.
W0494	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0494 on Ware River (MA36-03) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0494	2011	5	2	0
W0494	2012	6	1	0
W0494	2013	2	2	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0494	Ware River	2011	Aquatic Plant Density, Overall	None	1	5
W0494	Ware River	2011	Aquatic Plant Density, Overall	Unobservable	4	5
W0494	Ware River	2011	Color	None	1	5
W0494	Ware River	2011	Color	Reddish	4	5
W0494	Ware River	2011	Objectionable Deposits	No	1	5
W0494	Ware River	2011	Objectionable Deposits	Unobservable	4	5
W0494	Ware River	2011	Odor	None	5	5
W0494	Ware River	2011	Periphyton Density, Filamentous	None	2	5
W0494	Ware River	2011	Periphyton Density, Filamentous	Unobservable	3	5
W0494	Ware River	2011	Periphyton Density, Film	None	2	5
W0494	Ware River	2011	Periphyton Density, Film	Unobservable	3	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0494	Ware River	2011	Scum	Yes	5	5
W0494	Ware River	2011	Turbidity	Moderately Turbid	1	5
W0494	Ware River	2011	Turbidity	None	1	5
W0494	Ware River	2011	Turbidity	Unobservable	3	5
W0494	Ware River	2012	Aquatic Plant Density, Overall	None	1	6
W0494	Ware River	2012	Aquatic Plant Density, Overall	Unobservable	5	6
W0494	Ware River	2012	Color	Brownish	2	6
W0494	Ware River	2012	Color	Reddish	4	6
W0494	Ware River	2012	Objectionable Deposits	No	1	6
W0494	Ware River	2012	Objectionable Deposits	Unobservable	5	6
W0494	Ware River	2012	Odor	Musty (Basement)	1	6
W0494	Ware River	2012	Odor	None	5	6
W0494	Ware River	2012	Periphyton Density, Filamentous	None	1	6
W0494	Ware River	2012	Periphyton Density, Filamentous	Unobservable	5	6
W0494	Ware River	2012	Periphyton Density, Film	None	1	6
W0494	Ware River	2012	Periphyton Density, Film	Unobservable	5	6
W0494	Ware River	2012	Scum	Yes	6	6
W0494	Ware River	2012	Turbidity	Highly Turbid	2	6
W0494	Ware River	2012	Turbidity	Slightly Turbid	1	6
W0494	Ware River	2012	Turbidity	Unobservable	3	6
W0494	Ware River	2013	Aesthetics Impaired?	NR	2	2
W0494	Ware River	2013	Aquatic Plant Density, Overall	None	1	2
W0494	Ware River	2013	Aquatic Plant Density, Overall	Unobservable	1	2
W0494	Ware River	2013	Color	Reddish	2	2
W0494	Ware River	2013	Objectionable Deposits	No	1	2
W0494	Ware River	2013	Objectionable Deposits	Unobservable	1	2
W0494	Ware River	2013	Odor	None	2	2
W0494	Ware River	2013	Periphyton Density, Filamentous	None	2	2
W0494	Ware River	2013	Periphyton Density, Film	None	2	2
W0494	Ware River	2013	Scum	Yes	2	2
W0494	Ware River	2013	Turbidity	None	2	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for the Ware River (MA36-03) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at DCRWS_101 & W0494. MassDEP and MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the Ware River (MA36-03) at DCRWS_101 & W0494 [shaft 8 & S of Rt. 122 at weir downstream of Shaft #8 water supply intake, Barre] from 2011-2022 (n=4-17/yr). Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_101 & W0494 indicated 2 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2018 and 2020, 40 & 15%), 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2018, 12%), and cumulatively across years 11% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_101 & W0494 are indicative of an E. coli impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0494	MassDEP	Water Quality	Ware River	[south of Route 122 at weir downstream of Shaft #8 water supply intake, Barre]	42.391214	-72.064555
DCRWS_101	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Ware River at Shaft 8	42.391300	-72.064600

Bacteria Data

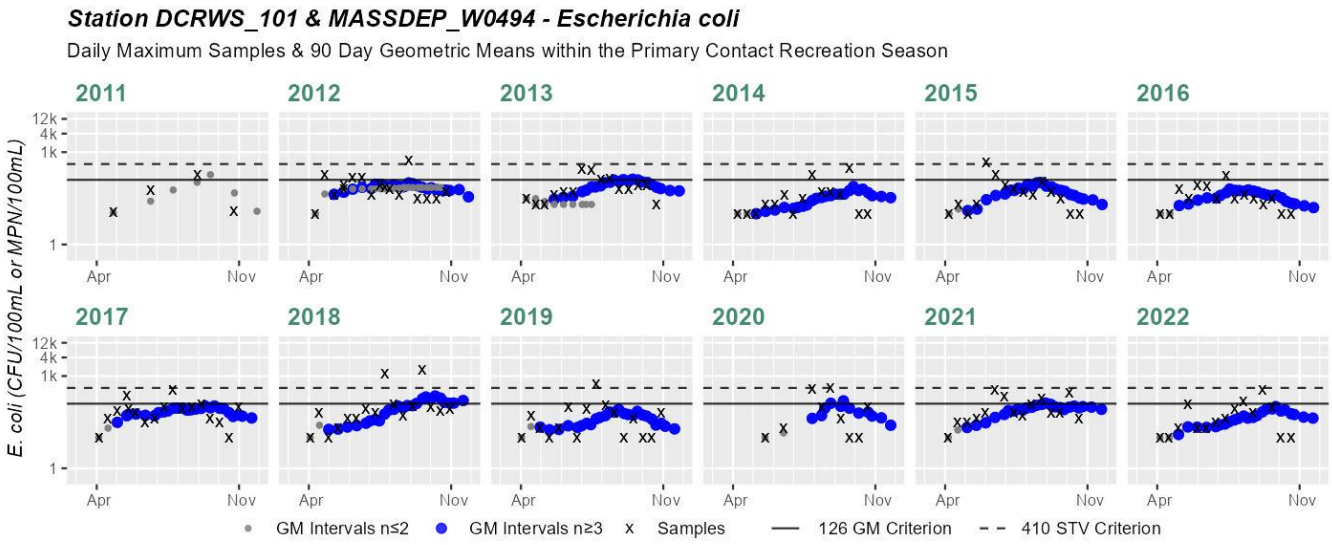
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MassDEP Undated 6) (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
W0494	MassDEP	E. coli	04/26/11	10/25/11	4	11	186	34
W0494	MassDEP	E. coli	05/23/12	09/25/12	3	64	71	67
W0494	MassDEP	E. coli	04/23/13	04/23/13	1	20	20	19
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	529	63
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	14	20	288	68
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	295	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	473	38
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	173	30
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	17	10	345	60
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	1550	74
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	538	32
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	10	395	47
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	341	71
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	345	36



Variable*	Result
Samples	4
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	17
SeasGM	63
#GMI	29
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	15
SeasGM	63
#GMI	24
#GMI Ex	2
%GMI Ex	8%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	27
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	38
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	30
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	17
SeasGM	60
#GMI	29
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	74
#GMI	27
#GMI Ex	11
%GMI Ex	40%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	32
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	9
SeasGM	47
#GMI	13
#GMI Ex	2
%GMI Ex	15%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	71
#GMI	25
#GMI Ex	1
%GMI Ex	4%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Current (2011-2022)	Cumulative %GMI Exceedance Current (Recent 5 Years)
5%	11%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Ware River (MA36-03) continues to be assessed as Fully Supporting. MassDEP and MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Ware River (MA36-03) from 1998-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MASSDEP_W1006 [~150 ft upstream of Vernon Avenue, Barre] from Apr-Aug 2003 (n=5), MASSDEP_W1847 [~20 ft downstream of Vernon Avenue, Barre] from May-Sep 2008 (n=6), DCRWS_101 & MASSDEP_W0494 [shaft 8 & S of Rt. 122 at weir downstream of Shaft #8 water supply intake, Barre] from 1998, 2003, and 2007-2010 (historic n=2-8/yr) and 2011-2022 (current n=2-30/yr). Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_101 & W0494 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_101 & W0494 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0494	MassDEP	Water Quality	Ware River	[south of Route 122 at weir downstream of Shaft #8 water supply intake, Barre]	42.391214	-72.064555
W1006	MassDEP	Water Quality	Ware River	[approximately 150 feet upstream of Vernon Avenue, Barre]	42.390050	-72.079641
W1847	MassDEP	Water Quality	Ware River	[approximately 20 feet downstream of Vernon Avenue, Barre]	42.390419	-72.080271
DCRWS_101	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Ware River at Shaft 8	42.391300	-72.064600

Bacteria Data

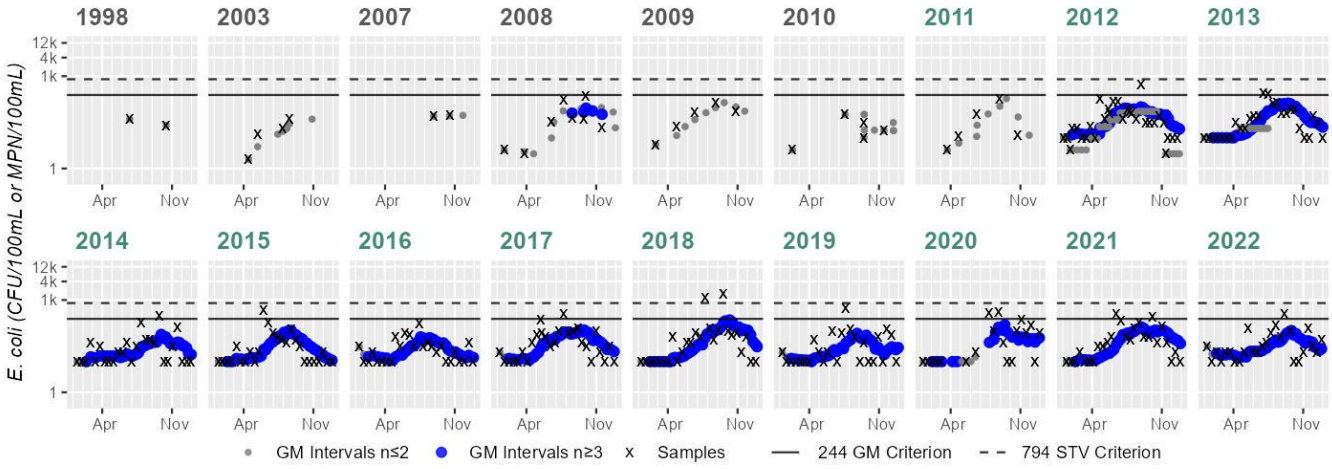
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0494	MassDEP	E. coli	06/24/98	10/14/98	2	25	40	31
W0494	MassDEP	E. coli	04/16/03	08/20/03	4	2	40	12
W0494	MassDEP	E. coli	08/28/07	10/16/07	2	50	53	51
W0494	MassDEP	E. coli	01/23/08	11/18/08	8	3	220	29
W0494	MassDEP	E. coli	02/23/09	10/27/09	5	6	138	39
W0494	MassDEP	E. coli	02/09/10	11/16/10	3	4	57	15
W0494	MassDEP	E. coli	03/22/11	10/25/11	5	4	186	22
W0494	MassDEP	E. coli	01/24/12	11/13/12	5	3	71	16
W0494	MassDEP	E. coli	02/26/13	04/23/13	1	20	20	19

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1006	MassDEP	E. coli	04/16/03	08/20/03	5	2	70	12
W1847	MassDEP	E. coli	05/20/08	09/23/08	6	20	80	42
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	09/16/10	09/17/10	2	10	31	17
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	25	10	529	33
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	26	10	288	31
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	295	22
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	26	10	473	23
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	173	21
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	27	10	345	35
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	26	10	1550	37
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	26	10	538	25
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	395	35
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	341	38
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	345	31

Station DCRWS_101 & MASSDEP_W0494 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	31
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	51
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	29
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	39
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	16
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	22
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	30
SeasGM	29
#GMI	54
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	30
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	35
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	37
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	35
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	38
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	31
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

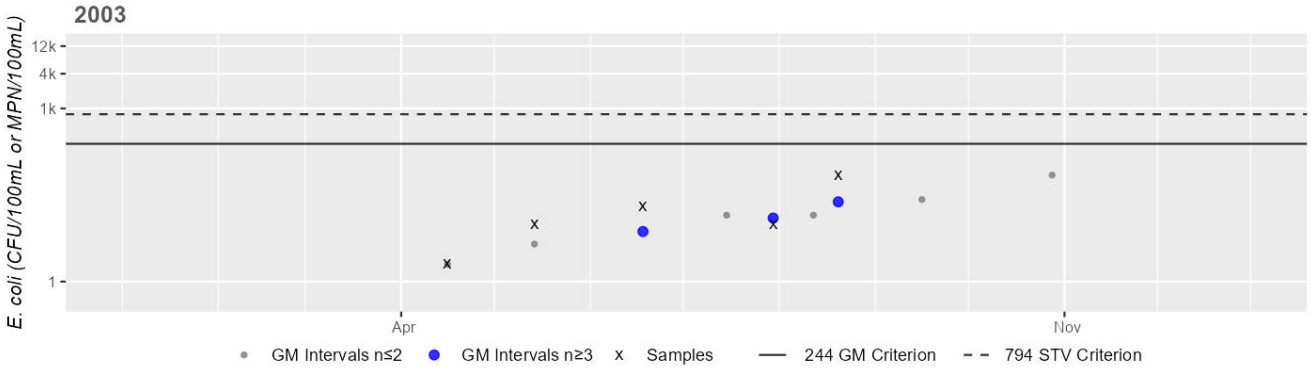
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1006 - Escherichia coli

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



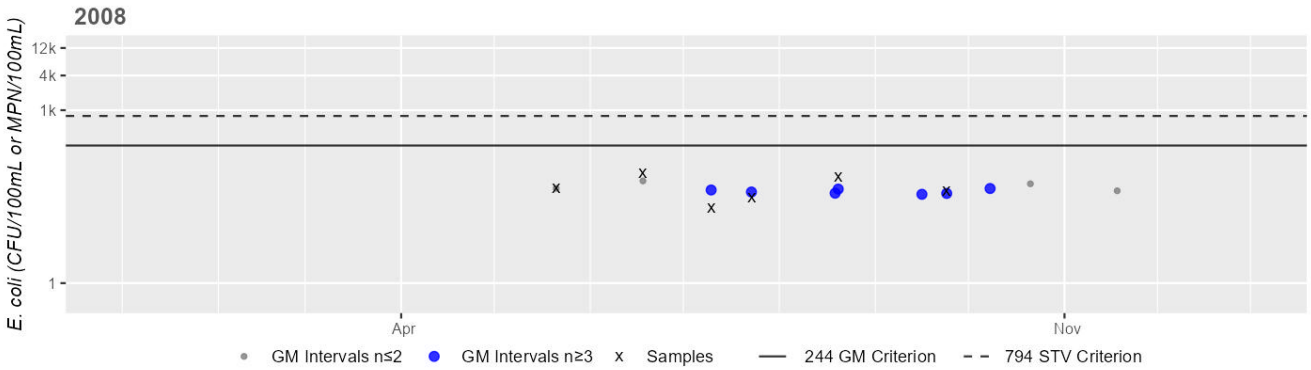
Variable*	Result
Samples	5
SeasGM	12
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1847 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	42
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Ware River (MA36-04)

Location:	Dam at South Barre Reservoir (NATID: MA00091), Barre to Wheelwright Pond Dam (NATID: MA00616), New Braintree/Hardwick (mileage includes length of braids).
AU Type:	RIVER
AU Size:	4.9 MILES
Classification/Qualifier:	B: WWF

Ware River (MA36-04)

Watershed Area: 128.97 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	128.97	11.20	69.96	4.62
Agriculture	3.6%	10%	2%	6.2%
Developed	6.5%	10.3%	5.1%	8.8%
Natural	79.9%	72.5%	77.2%	71.9%
Wetland	10.1%	7.2%	15.7%	13.1%
Impervious	2.5%	2.9%	2.2%	2.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Non-Native Aquatic Plants*)	--	Unchanged
4c	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
PFAS in Fish Tissue	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 this Ware River AU (MA36-04) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the next downstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the next downstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Ware River AU (MA36-04).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for Ware River (MA36-04), so it 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 the Ware River (MA36-04) 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 the Ware River (MA36-04) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the Ware River (MA36-04) from 2003-2008 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1869 [Rt. 32 (Wheelwright Rd) crossing in the locality of Barre Plains, Barre] from May-Sep 2008 (n=6), W1007 [between the confluence of Pine Hill Brook and Broadmeadow Brook, Hardwick] from Apr-Oct 2003 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset from W1869 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 65 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1007 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 47 CFU/100ml. Historic *E. coli* data from W1869 and W1007 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1007	MassDEP	Water Quality	Ware River	[between the confluence of Pine Hill Brook and Broadmeadow Brook, Hardwick]	42.358373	-72.133544
W1869	MassDEP	Water Quality	Ware River	[Route 32 (Wheelwright Road) crossing in the locality of Barre Plains, Barre]	42.380363	-72.114099

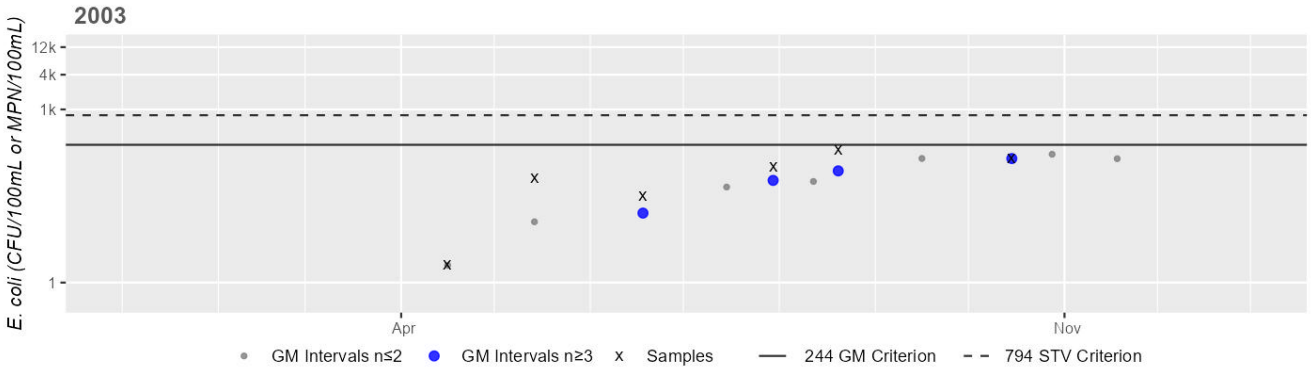
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 6) (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
W1007	MassDEP	E. coli	04/16/03	10/15/03	6	2	200	47
W1869	MassDEP	E. coli	05/20/08	09/23/08	6	20	150	65

Station MASSDEP_W1007 - Escherichia coli

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



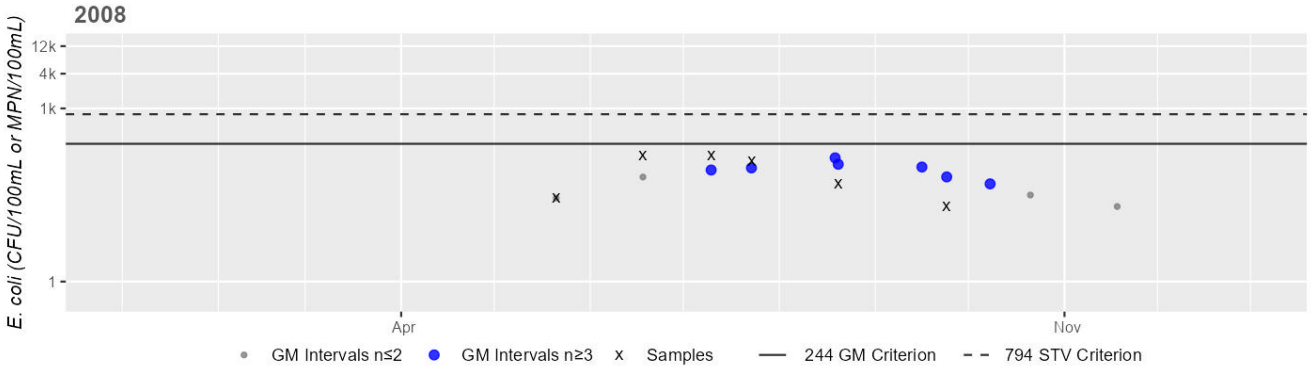
Variable*	Result
Samples	6
SeasGM	47
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1869 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	65
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

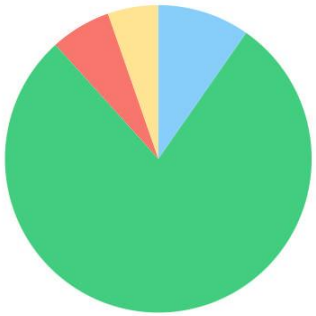
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Ware River (MA36-05)

Location:	Wheelwright Pond Dam (NATID: MA00616), New Braintree/Hardwick to Ware Impoundment dam (NATID: MA00594), Ware.
AU Type:	RIVER
AU Size:	11.5 MILES
Classification/Qualifier:	B: WWF

Ware River (MA36-05)

Watershed Area: 165.86 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	165.86	6.42	81.96	2.41
Agriculture	5.3%	5.7%	3.4%	8.2%
Developed	6.4%	7.9%	5.2%	8.2%
Natural	78.6%	82.8%	75.9%	76.8%
Wetland	9.7%	3.6%	15.5%	6.8%
Impervious	2.4%	2.9%	2.2%	3.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
PFAS in Fish Tissue	Source Unknown (N)	--	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 Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for this Ware River AU (MA36-05) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in this Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
F0490	MassDEP	Fish Toxics	Ware River/Ware Impoundment	[on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware]	42.266202	-72.226855

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in this Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Ware River AU (MA36-05).

MassDEP 2022 PFAS in Fish Tissue Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 5) (MA DPH 2023c)

[ng/g = ppb. All PFBA, PFBS, and HFPO-DA (Genx) concentrations <MDL. ND indicates that the PFAS analyte was not detected in any of the composite samples (i.e., it was <MDL). Means weighted by the number of fish in the contributing composites were calculated for any PFAS analyte – waterbody – species combination where an analyte was detected in at least one sample; if a sample did not have the analyte detected, the concentration for that sample was set to ½*MDL for the purposes of calculating a mean. Data are highlighted red per the fish consumption advisory thresholds summarized in Table 4.2 of MDPH's 2023 Technical Support Document for the evaluation of PFAS in recreational waterbodies.]

[Species List: LMB = largemouth bass, YP = yellow perch]

Station Code	PFAS Study ID	Sample Date	Species	Mean PFHxS ng/g	Mean PFNA ng/g	Mean PFOA ng/g	Mean PFOS ng/g	Analytes with ≥ 1 Sample Qualified
F0490	50	11/03/2022	LMB	ND	ND	ND	3.55	
F0490	50	11/03/2022	YP	ND	0.15	ND	2.80	PFNA

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for this Ware River AU (MA36-05) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the upstream end of this Ware River AU at ~1400 feet downstream from Red Bridge/Hardwick roads, Hardwick/New Braintree (W1717/MAP2-488) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted dense/very dense aquatic plants (n=3).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1717	MassDEP	Water Quality	Ware River	[approximately 1400 feet downstream from Red Bridge/Hardwick roads, Hardwick/New Braintree]	42.340072	-72.159534

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
W1717	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1717 on Ware River (MA36-05) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted dense/very dense aquatic plants (n=3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1717	2014	5	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1717	Ware River	2014	Aesthetics Impaired?	No	5	5
W1717	Ware River	2014	Aquatic Plant Density, Overall	Dense	3	5
W1717	Ware River	2014	Aquatic Plant Density, Overall	Moderate	1	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1717	Ware River	2014	Aquatic Plant Density, Overall	Sparse	1	5
W1717	Ware River	2014	Color	Light Yellow/Tan	4	5
W1717	Ware River	2014	Color	NR	1	5
W1717	Ware River	2014	Objectionable Deposits	No	5	5
W1717	Ware River	2014	Odor	None	5	5
W1717	Ware River	2014	Periphyton Density, Filamentous	Moderate	1	5
W1717	Ware River	2014	Periphyton Density, Filamentous	None	3	5
W1717	Ware River	2014	Periphyton Density, Filamentous	Unobservable	1	5
W1717	Ware River	2014	Periphyton Density, Film	None	4	5
W1717	Ware River	2014	Periphyton Density, Film	Unobservable	1	5
W1717	Ware River	2014	Scum	No	3	5
W1717	Ware River	2014	Scum	Yes	2	5
W1717	Ware River	2014	Turbidity	None	3	5
W1717	Ware River	2014	Turbidity	Slightly Turbid	2	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Ware River (MA36-05) 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 CRC_CWOF1, CRC_CWNF1, and CRC_CWGP1. Surface water sampling was conducted in Ware River (MA36-05) at station W3315 (PFAS Study ID 50) on 11/03/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in the Ware River (MA36-05) from 2014-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CWOF1 [Ware- Old Furnace] from 2021-2022 (n=6/yr), W1717 [~1400 ft downstream from Red Bridge/Hardwick Rds, Hardwick/New Braintree] from May-Aug 2014 (n=5), CRC_CWaDB [New Furnace above Danforth] from Aug 2021 (n=1), CRC_CWNF1 [New Furnace, Gilbertville] from 2019-2022 (n=5-7/yr), CRC_CWGP1 [Grenville Park, Ware] from 2019-2022 (n=6-7/yr). Analysis of the multi-year limited frequency *E. coli* dataset from CRC_CWOF1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2021 and 2022, 50 & 100%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 76% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1717 indicated 33% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 77 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWNF1 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019-2022, 54-100%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2021 and 2022, n=3 & 2), and cumulatively across years 83% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWGP1 indicated 2 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019 and 2021, 54 & 100%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 40% of intervals had GMs >126 CFU/100ml. *E. coli* data from CRC_CWaDB are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. While *E. coli* data from W1717 meet 2024 CALM guidance, *E. coli* data from CRC_CWOF1, CRC_CWNF1, and CRC_CWGP1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWaDB	Connecticut River Conservancy	Water Quality	Ware River	New Furnace above Danforth	42.311640	-72.206280
CRC_CWGP1	Connecticut River Conservancy	Water Quality	Ware River	Grenville Park, Ware	42.266720	-72.227550
CRC_CWNF1	Connecticut River Conservancy	Water Quality	Ware River	New Furnace, Gilbertville	42.311680	-72.206730
CRC_CWOF1	Connecticut River Conservancy	Water Quality	Ware River	Ware- Old Furnace	42.343680	-72.157680

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1717	MassDEP	Water Quality	Ware River	[approximately 1400 feet downstream from Red Bridge/Hardwick roads, Hardwick/New Braintree]	42.340072	-72.159534
W3315	MassDEP	Water Quality	Ware River/Ware Impoundment	[the default location representing co-located water/fish PFAS sampling, on Ware River in Ware Impoundment, east of Greenville Park, Ware]	42.266202	-72.226855

Bacteria Data

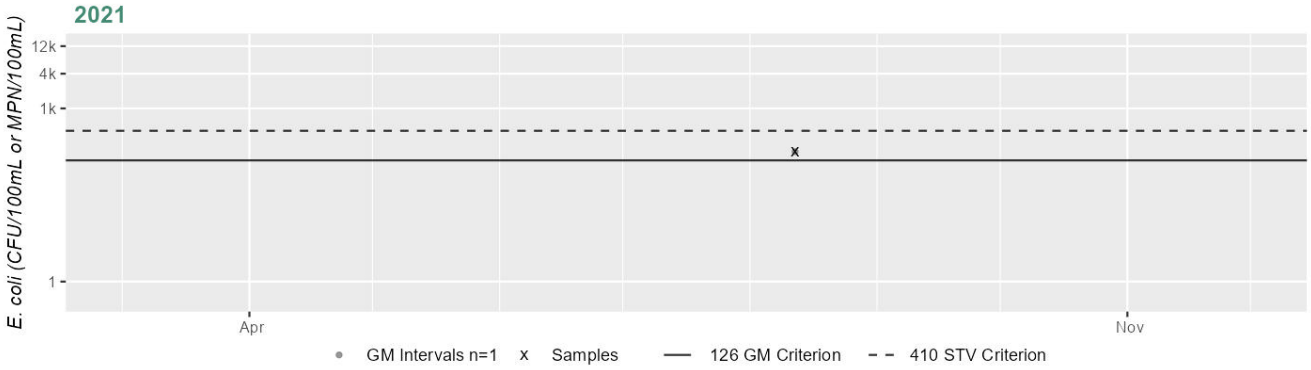
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (MassDEP Undated 2) (MassDEP Undated 6) (MassDEP Undated 4)

[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
CRC_CWaDB	Connecticut River Conservancy	E. coli	08/12/21	08/12/21	1	178	178	178
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	24	770	113
CRC_CWGP1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	16	613	53
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	135	344	180
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	18	214	68
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	96	2419	306
CRC_CWNF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	108	2419	300
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	186	2419	557
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	46	1732	163
CRC_CWOF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	6	90	307	134
CRC_CWOF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	6	156	579	243
W1717	MassDEP	E. coli	05/08/14	08/27/14	5	33	166	77

Station CRC_CWaDB - Escherichia coli

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



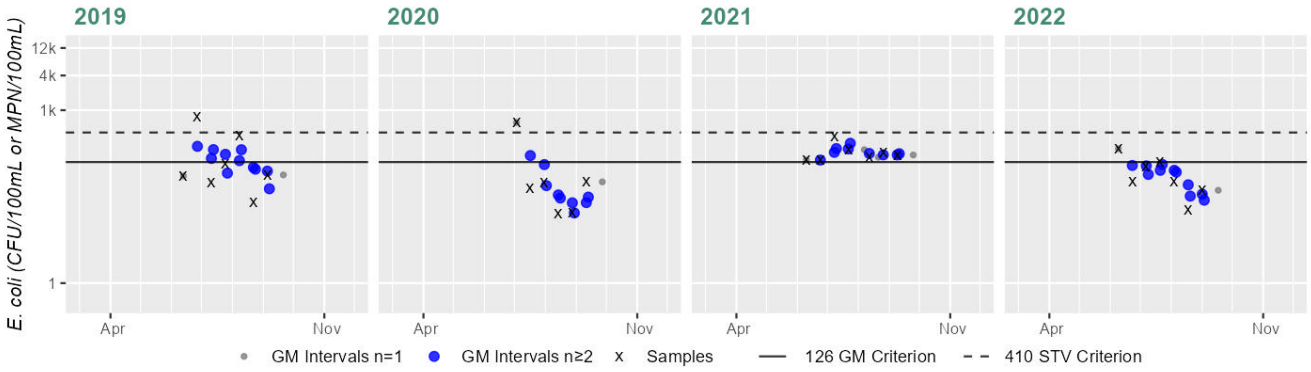
Variable*	Result
Samples	1
SeasGM	178
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWGP1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	113
#GMI	11
#GMI Ex	6
%GMI Ex	54%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	6
SeasGM	53
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	7
SeasGM	180
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	0
%n>STV	0%

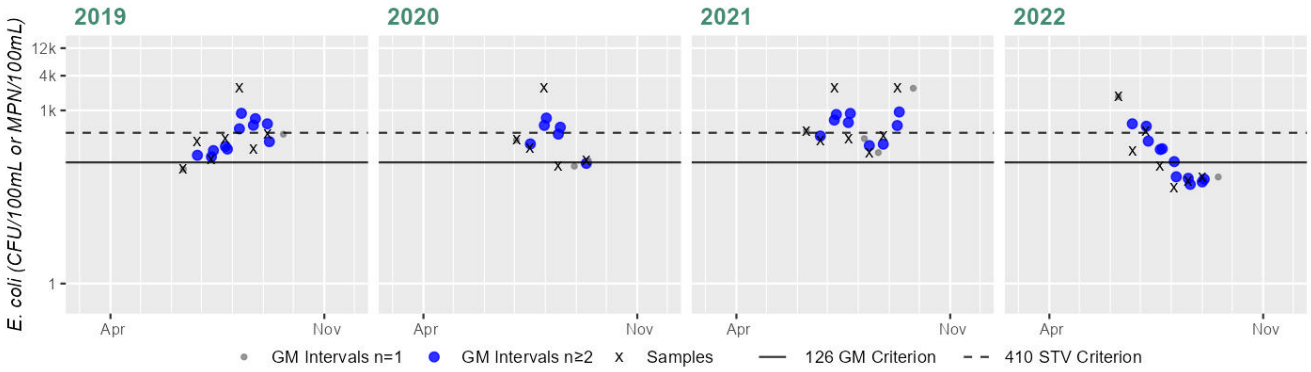
Variable*	Result
Samples	7
SeasGM	68
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
40%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWNF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	306
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	5
SeasGM	300
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	1
%n>STV	20%

Variable*	Result
Samples	7
SeasGM	557
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

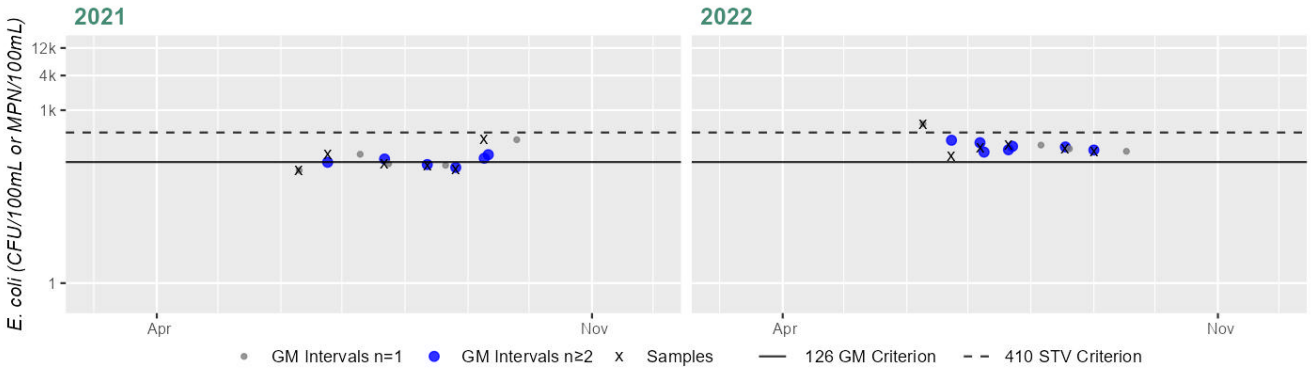
Variable*	Result
Samples	7
SeasGM	163
#GMI	11
#GMI Ex	6
%GMI Ex	54%
n>STV	2
%n>STV	28%

Cumulative %GMI Exceedance
Current (2011-2022)
83%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWOF1 - Escherichia coli

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

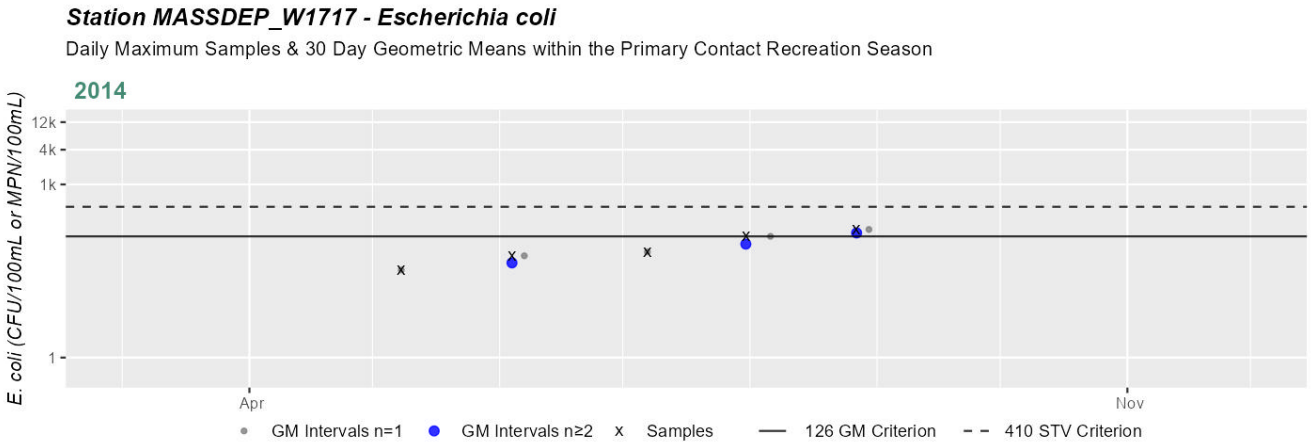


Variable*	Result
Samples	6
SeasGM	134
#GMI	6
#GMI Ex	3
%GMI Ex	50%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	243
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Current (2011-2022)
76%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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	5
SeasGM	77
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
33%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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(s) for MassDEP 2022 PFAS in Water Column Data (MassDEP 2023) (MassDEP Undated 4)

Summary
Surface water sampling was conducted in Ware River (MA36-05) at station W3315 (PFAS Study ID 50) on 11/03/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value.

MassDEP 2022 PFAS in Water Column Data for Massachusetts Surface Waters (MassDEP 2023) (MassDEP Undated 4)

[HFPO-DA is also known as GenX; the ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here); * indicates the ∑PFAS6 concentration was qualified since data for one or more individual PFAS6 analytes were qualified; b = blank contamination qualifier, d = qualifier indicating precision of field duplicates did not meet project data quality objectives; j = 'estimated' value qualifier; ## = censored data.]

Station Code	PFAS Study ID	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	HFPO-DA ng/L	∑PFAS6 ng/L
W3315	50	11/03/2022	4.6	3.8d	0.67j	1.1j	2.2j	1.7j	<2.1	13.3*

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Ware River (MA36-05) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at CRC_CWNF1. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Ware River (MA36-05) from 2003-2022 at 9 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2011 [~200 ft upstream from Red Bridge Rd/Hardwick Rd, Hardwick/New Braintree] from Sep 2008 (n=1), CRC_CWOF1 [Ware-Old Furnace] from 2021-2022 (n=6/yr), W1717 [~1400 ft downstream from Red Bridge/Hardwick Rds, Hardwick/New Braintree] from May-Aug 2014 (n=5), W1008 [Creamery Rd/Unitas Rd, Hardwick/New Braintree] from 2003 and 2008 (n=6/yr), CRC_CWaDB [New Furnace above Danforth] from Aug 2021 (n=1), CRC_CWNF1 [New Furnace, Gilbertville] from 2019-2022 (n=5-7/yr), W1866 [Ware-Hardwick Covered Bridge (Old Gilbertville Rd/Bridge St), Ware/Hardwick] from May-Sep 2008 (n=6), W1009 [Upper Church St, Ware] from 2003 and 2008 (n=6/yr), CRC_CWGP1 [Grenville Park, Ware] from 2019-2022 (n=6-7/yr). Analysis of the multi-year limited frequency *E. coli* dataset from CRC_CWOF1 indicated 1 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2022, 42%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 21% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W1717 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 77 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWNF1 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2019-2022, 22-100%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2021, n=2), and cumulatively across years 71% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWGP1 indicated 0 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from CRC_CWaDB are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. While E. coli data from CRC_CWOF1, W1717, and CRC_CWGP1 meet 2024 CALM guidance, *E. coli* data from CRC_CWNF1 are indicative of an E. coli impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWaDB	Connecticut River Conservancy	Water Quality	Ware River	New Furnace above Danforth	42.311640	-72.206280

CRC_CWGP1	Connecticut River Conservancy	Water Quality	Ware River	Grenville Park, Ware	42.266720	-72.227550
CRC_CWNF1	Connecticut River Conservancy	Water Quality	Ware River	New Furnace, Gilbertville	42.311680	-72.206730
CRC_CWOF1	Connecticut River Conservancy	Water Quality	Ware River	Ware- Old Furnace	42.343680	-72.157680
W1008	MassDEP	Water Quality	Ware River	[Creamery Road/Unitas Road, Hardwick/New Braintree]	42.320979	-72.174694
W1009	MassDEP	Water Quality	Ware River	[Upper Church Street, Ware]	42.284852	-72.215900
W1717	MassDEP	Water Quality	Ware River	[approximately 1400 feet downstream from Red Bridge/Hardwick roads, Hardwick/New Braintree]	42.340072	-72.159534
W1866	MassDEP	Water Quality	Ware River	[Ware-Hardwick Covered Bridge (Old Gilbertville Road/Bridge Street), Ware/Hardwick]	42.310109	-72.211955
W2011	MassDEP	Water Quality	Ware River	[approximately 200 feet upstream from Red Bridge Road/Hardwick Road, Hardwick/New Braintree]	42.343550	-72.157140

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

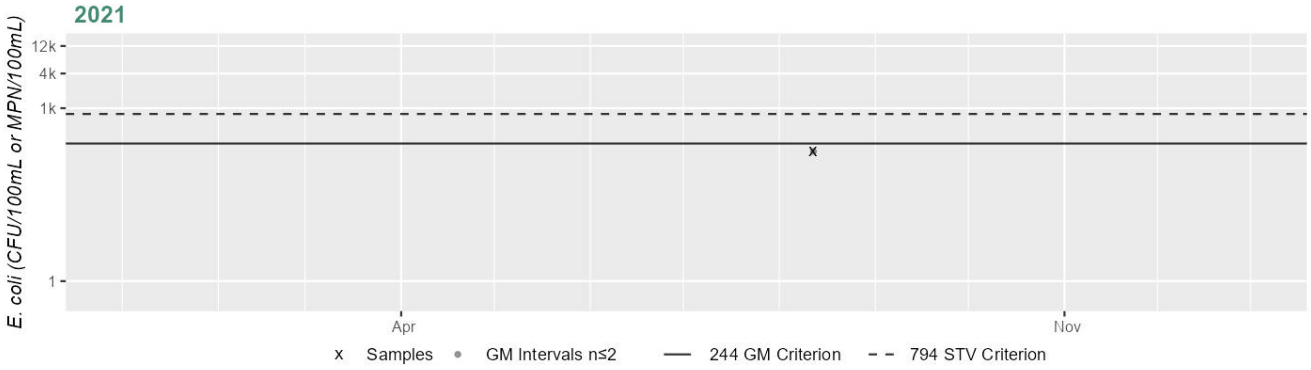
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
CRC_CWaDB	Connecticut River Conservancy	E. coli	08/12/21	08/12/21	1	178	178	178
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	24	770	113
CRC_CWGP1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	16	613	53
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	135	344	180
CRC_CWGP1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	18	214	68
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	96	2419	306
CRC_CWNF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	108	2419	300
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	186	2419	557
CRC_CWNF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	46	1732	163
CRC_CWOF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	6	90	307	134
CRC_CWOF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	6	156	579	243
W1008	MassDEP	E. coli	04/16/03	10/15/03	6	2	880	88
W1008	MassDEP	E. coli	05/20/08	09/23/08	6	30	800	89
W1009	MassDEP	E. coli	04/16/03	10/15/03	6	2	1100	143

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1009	MassDEP	E. coli	05/20/08	09/23/08	6	40	900	211
W1717	MassDEP	E. coli	05/08/14	08/27/14	5	33	166	77
W1866	MassDEP	E. coli	05/20/08	09/23/08	6	22	330	101
W2011	MassDEP	E. coli	09/23/08	09/23/08	1	20	20	19

Station CRC_CWaDB - Escherichia coli

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



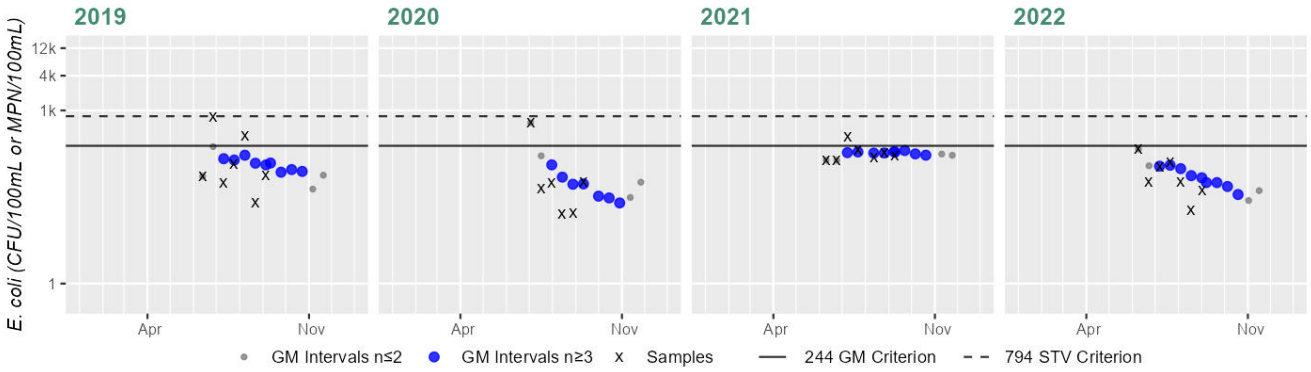
Variable*	Result
Samples	1
SeasGM	178
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWGP1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	113
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	53
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	180
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

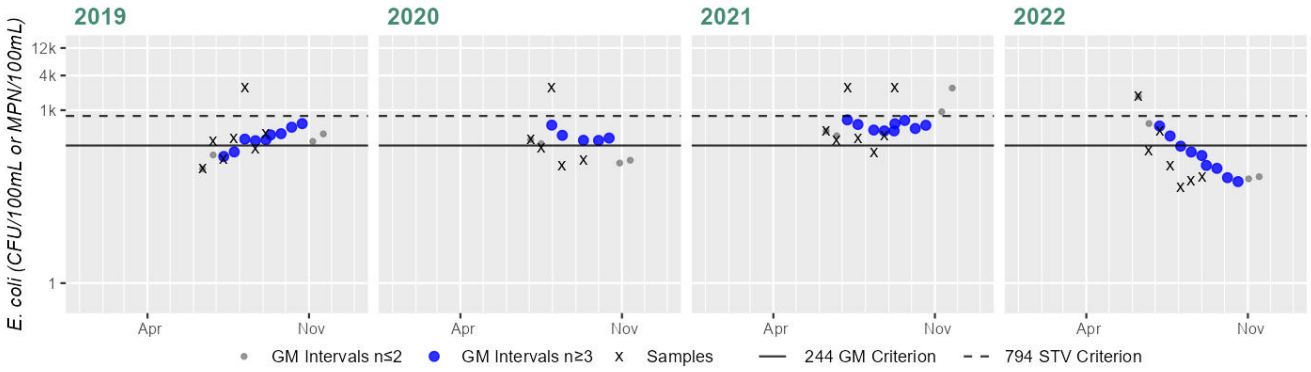
Variable*	Result
Samples	7
SeasGM	68
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWNF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	306
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	5
SeasGM	300
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	1
%n>STV	20%

Variable*	Result
Samples	7
SeasGM	557
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	2
%n>STV	28%

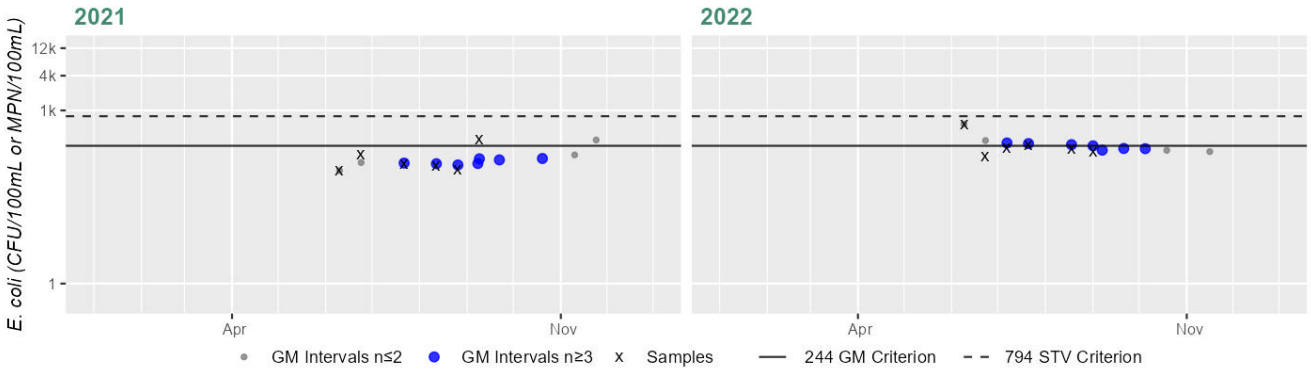
Variable*	Result
Samples	7
SeasGM	163
#GMI	9
#GMI Ex	2
%GMI Ex	22%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
71%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWOF1 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	134
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

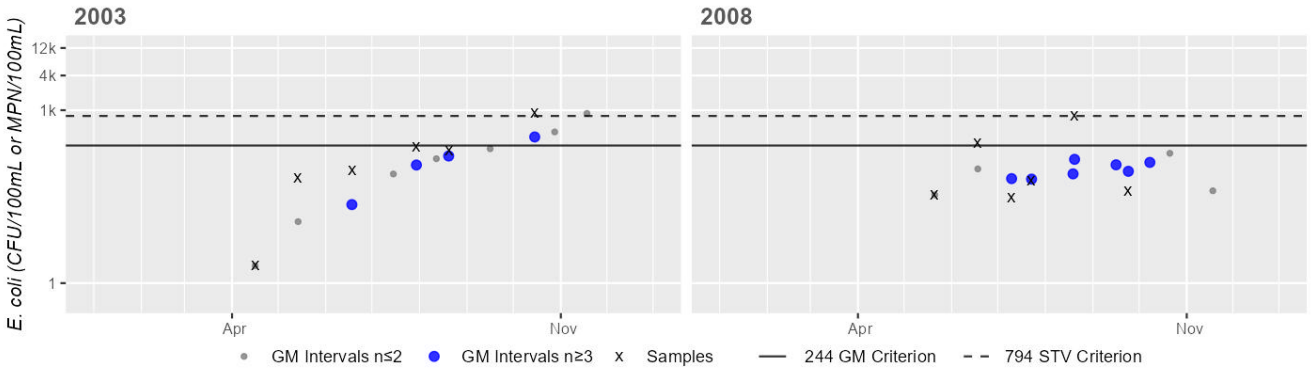
Variable*	Result
Samples	6
SeasGM	243
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
21%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1008 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	88
#GMI	4
#GMI Ex	1
%GMI Ex	25%
n>STV	1
%n>STV	16%

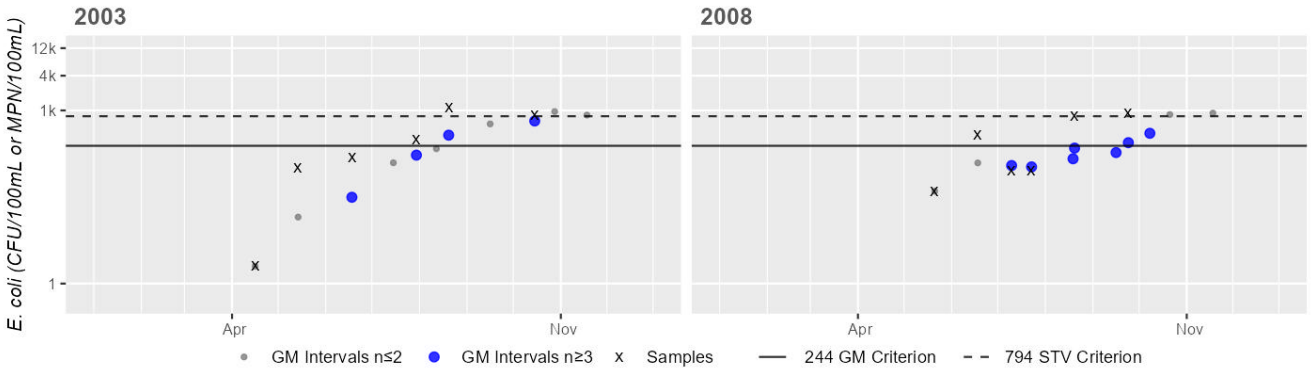
Variable*	Result
Samples	6
SeasGM	89
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
9%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1009 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	143
#GMI	4
#GMI Ex	2
%GMI Ex	50%
n>STV	2
%n>STV	33%

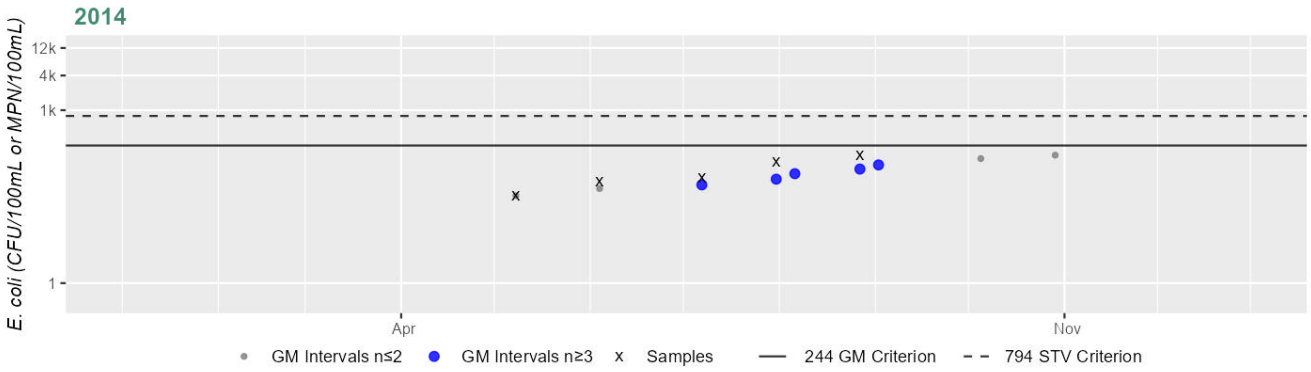
Variable*	Result
Samples	6
SeasGM	211
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Historic (1997-2010)
36%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1717 - Escherichia coli

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



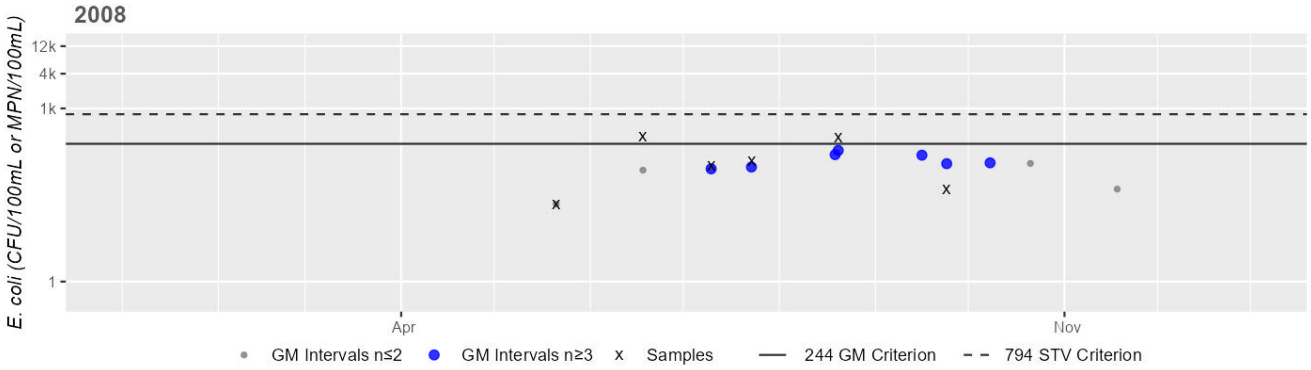
Variable*	Result
Samples	5
SeasGM	77
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W1866 - Escherichia coli

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



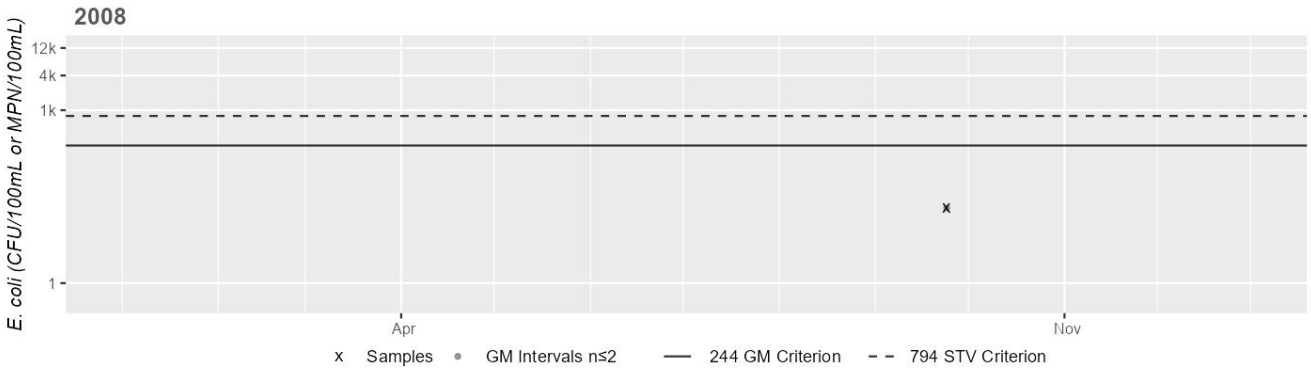
Variable*	Result
Samples	6
SeasGM	101
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2011 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	20
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

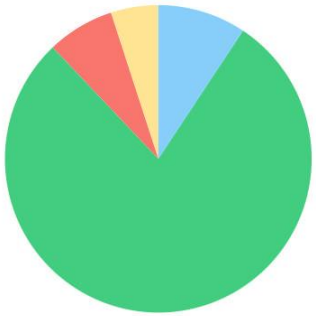
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Ware River (MA36-06)

Location:	Ware Impoundment dam (NATID: MA00594), Ware to Thorndike Dam (NATID: MA00563), Palmer.
AU Type:	RIVER
AU Size:	10.1 MILES
Classification/Qualifier:	B: WWF

Ware River (MA36-06)

Watershed Area: 214.73 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	214.73	7.73	95.46	2.14
Agriculture	5%	2.1%	3.5%	0.9%
Developed	7.1%	13%	5.7%	12.9%
Natural	78.6%	78.8%	75.3%	73%
Wetland	9.3%	6.1%	15.4%	13.1%
Impervious	2.7%	4.6%	2.4%	5.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Fecal Coliform	R1_MA_2024_04	Changed
5	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Municipal Point Source Discharges (N)	--	--	--	X	--
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
Fecal Coliform	Source Unknown (N)	--	--	--	X	--
PFAS in Fish Tissue	Source Unknown (N)	--	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)
Fecal Coliform	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 Supporting	No

2024/26 Use Attainment Summary

The Fish Consumption Use for this Ware River AU (MA36-06) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the immediate upstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in the next upstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Ware River AU (MA36-06).

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Ware River (MA36-06) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at two stations approximately halfway down this Ware River AU as follows: ~2250 feet upstream from Palmer Rd (Rt. 32), Ware (W2164/MAP2-520) in summer 2014 (n=5) and just a little further downstream at Rt. 32 at Gibbs Crossing, Ware (W0492) in 2011 (n=5), 2012 (n=6) and 2013 (n=3). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either site, though field staff noted “minor trash” on five occasions at Gibbs Crossing in 2012.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0492	MassDEP	Water Quality	Ware River	[Route 32 at Gibbs Crossing, Ware]	42.238726	-72.285755
W2164	MassDEP	Water Quality	Ware River	[approximately 2250 feet upstream from Palmer Road (Route 32), Ware]	42.235461	-72.278995

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
W0492	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0492 on Ware River (MA36-06) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0492	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0492 on Ware River (MA36-06) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=5).
W0492	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0492 on Ware River (MA36-06) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2164	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2164 on Ware River (MA36-06) during 5 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0492	2011	5	2	1
W0492	2012	6	5	3
W0492	2013	2	0	0
W2164	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0492	Ware River	2011	Aquatic Plant Density, Overall	None	2	5
W0492	Ware River	2011	Aquatic Plant Density, Overall	Sparse	1	5
W0492	Ware River	2011	Aquatic Plant Density, Overall	Unobservable	2	5
W0492	Ware River	2011	Color	Light Yellow/Tan	1	5
W0492	Ware River	2011	Color	Reddish	4	5
W0492	Ware River	2011	Objectionable Deposits	No	2	5
W0492	Ware River	2011	Objectionable Deposits	Unobservable	3	5
W0492	Ware River	2011	Odor	None	5	5
W0492	Ware River	2011	Periphyton Density, Filamentous	Dense	1	5
W0492	Ware River	2011	Periphyton Density, Filamentous	None	1	5
W0492	Ware River	2011	Periphyton Density, Filamentous	Unobservable	3	5
W0492	Ware River	2011	Periphyton Density, Film	None	2	5
W0492	Ware River	2011	Periphyton Density, Film	Unobservable	3	5
W0492	Ware River	2011	Scum	Yes	5	5
W0492	Ware River	2011	Turbidity	None	2	5
W0492	Ware River	2011	Turbidity	Slightly Turbid	2	5
W0492	Ware River	2011	Turbidity	Unobservable	1	5
W0492	Ware River	2012	Aquatic Plant Density, Overall	None	3	6
W0492	Ware River	2012	Aquatic Plant Density, Overall	Sparse	2	6
W0492	Ware River	2012	Aquatic Plant Density, Overall	Unobservable	1	6
W0492	Ware River	2012	Color	Light Yellow/Tan	1	6
W0492	Ware River	2012	Color	None	1	6
W0492	Ware River	2012	Color	Reddish	4	6
W0492	Ware River	2012	Objectionable Deposits	Unobservable	1	6
W0492	Ware River	2012	Objectionable Deposits	Yes	5	6
W0492	Ware River	2012	Odor	None	6	6
W0492	Ware River	2012	Periphyton Density, Filamentous	None	3	6
W0492	Ware River	2012	Periphyton Density, Filamentous	Sparse	1	6
W0492	Ware River	2012	Periphyton Density, Filamentous	Unobservable	1	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0492	Ware River	2012	Periphyton Density, Filamentous	Very Dense	1	6
W0492	Ware River	2012	Periphyton Density, Film	Moderate	1	6
W0492	Ware River	2012	Periphyton Density, Film	None	1	6
W0492	Ware River	2012	Periphyton Density, Film	Sparse	1	6
W0492	Ware River	2012	Periphyton Density, Film	Unobservable	1	6
W0492	Ware River	2012	Periphyton Density, Film	Very Dense	2	6
W0492	Ware River	2012	Scum	No	1	6
W0492	Ware River	2012	Scum	Yes	5	6
W0492	Ware River	2012	Turbidity	None	4	6
W0492	Ware River	2012	Turbidity	Slightly Turbid	1	6
W0492	Ware River	2012	Turbidity	Unobservable	1	6
W0492	Ware River	2013	Aesthetics Impaired?	NR	2	2
W0492	Ware River	2013	Aquatic Plant Density, Overall	Unobservable	2	2
W0492	Ware River	2013	Color	Light Yellow/Tan	1	2
W0492	Ware River	2013	Color	None	1	2
W0492	Ware River	2013	Objectionable Deposits	Unobservable	2	2
W0492	Ware River	2013	Odor	None	2	2
W0492	Ware River	2013	Periphyton Density, Filamentous	Unobservable	2	2
W0492	Ware River	2013	Periphyton Density, Film	Unobservable	2	2
W0492	Ware River	2013	Scum	No	1	2
W0492	Ware River	2013	Scum	Yes	1	2
W0492	Ware River	2013	Turbidity	None	2	2
W2164	Ware River	2014	Aesthetics Impaired?	No	5	5
W2164	Ware River	2014	Aquatic Plant Density, Overall	None	2	5
W2164	Ware River	2014	Aquatic Plant Density, Overall	Sparse	3	5
W2164	Ware River	2014	Color	Light Yellow/Tan	4	5
W2164	Ware River	2014	Color	None	1	5
W2164	Ware River	2014	Objectionable Deposits	No	3	5
W2164	Ware River	2014	Objectionable Deposits	Yes	2	5
W2164	Ware River	2014	Odor	Effluent (Treated)	1	5
W2164	Ware River	2014	Odor	None	4	5
W2164	Ware River	2014	Periphyton Density, Filamentous	None	5	5
W2164	Ware River	2014	Periphyton Density, Film	Moderate	1	5
W2164	Ware River	2014	Periphyton Density, Film	None	4	5
W2164	Ware River	2014	Scum	No	3	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2164	Ware River	2014	Scum	Yes	2	5
W2164	Ware River	2014	Turbidity	None	4	5
W2164	Ware River	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Ware River (MA36-06) 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 multiple stations. The prior Fecal Coliform impairment is being carried forward. Surface water sampling was conducted by the USGS on the Ware River (MA36-06) at station USGS_01173515 near Palmer, MA on three dates during August to October 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study).
CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in the Ware River (MA36-06) from 2011-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CWBF1 [Banas Farm, Ware] from 2019-2022 (n=5-7/yr), W2164 [~2250 ft upstream from Palmer Rd (Rt. 32), Ware] from May-Aug 2014 (n=5), W0492 [Rt. 32 at Gibbs Crossing, Ware] from 2011-2013 (n=1-4/yr), CRC_CWB1 [Ware River, Bennett St, Palmer] from Jun-Sep 2019 (n=7), CRC_CWSS1 [State St/Summer St, Palmer] from 2020-2022 (n=5-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWBF1 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019-2022, 54-100%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2020 and 2022, n=2 & 2), and cumulatively across years 79% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2164 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 48 CFU/100ml. The available *E. coli* data at W0492 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 410 CFU/100ml STV in 2012 (n=1), and 2011 (n=1). Analysis of the single year moderate frequency *E. coli* dataset from CRC_CWB1 indicated 81% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. Analysis of the multi-year limited frequency *E. coli* dataset from CRC_CWSS1 indicated 2 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2021 and 2022, 88 & 40%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 43% of intervals had GMs >126 CFU/100ml. While *E. coli* data from W2164 meet 2024 CALM guidance, *E. coli* data from CRC_CWBF1, CRC_CWB1, and CRC_CWSS1 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWB1	Connecticut River Conservancy	Water Quality	Ware River	Ware River, Bennett St, Palmer	42.208350	-72.314783
CRC_CWBF1	Connecticut River Conservancy	Water Quality	Ware River	Banas Farm, Ware	42.244233	-72.254383
CRC_CWSS1	Connecticut River Conservancy	Water Quality	Ware River	State Street/Summer St, Palmer	42.204700	-72.318900
W0492	MassDEP	Water Quality	Ware River	[Route 32 at Gibbs Crossing, Ware]	42.238726	-72.285755

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2164	MassDEP	Water Quality	Ware River	[approximately 2250 feet upstream from Palmer Road (Route 32), Ware]	42.235461	-72.278995
USGS-01173515	USGS Massachusetts Water Science Center	Water Quality	Ware River	WARE RIVER NEAR PALMER, MA; no WWTF	42.205000	-72.319000

Bacteria Data

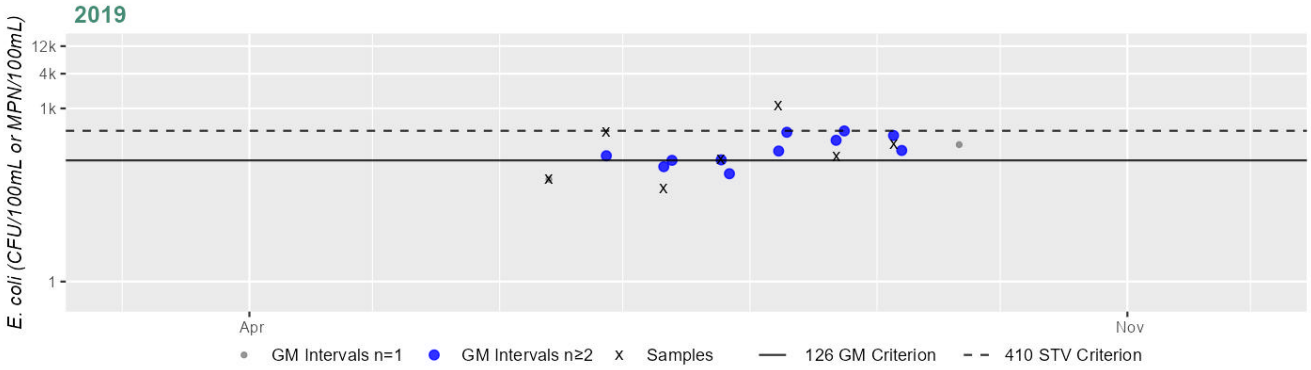
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis) (CRC 2023) (MassDEP Undated 2) (MassDEP Undated 6) (MassDEP Undated 4)

[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
CRC_CWB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	41	1119	174
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	77	410	161
CRC_CWBF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	167	517	307
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	6	93	365	171
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	107	1986	228
CRC_CWSS1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	32	90	62
CRC_CWSS1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	82	648	169
CRC_CWSS1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	5	50	365	110
W0492	MassDEP	E. coli	04/26/11	10/25/11	4	22	488	93
W0492	MassDEP	E. coli	05/23/12	09/25/12	3	49	517	116
W0492	MassDEP	E. coli	04/23/13	04/23/13	1	40	40	40
W2164	MassDEP	E. coli	05/08/14	08/27/14	5	19	102	48

Station CRC_CWB1 - Escherichia coli

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



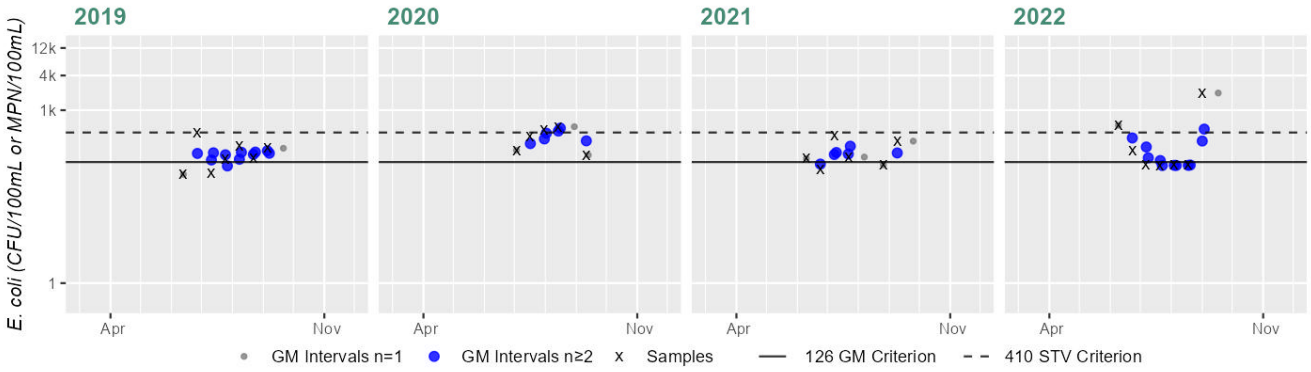
Variable*	Result
Samples	7
SeasGM	174
#GMI	11
#GMI Ex	9
%GMI Ex	81%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
81%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWBF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	161
#GMI	11
#GMI Ex	10
%GMI Ex	90%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	5
SeasGM	307
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	40%

Variable*	Result
Samples	6
SeasGM	171
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	0
%n>STV	0%

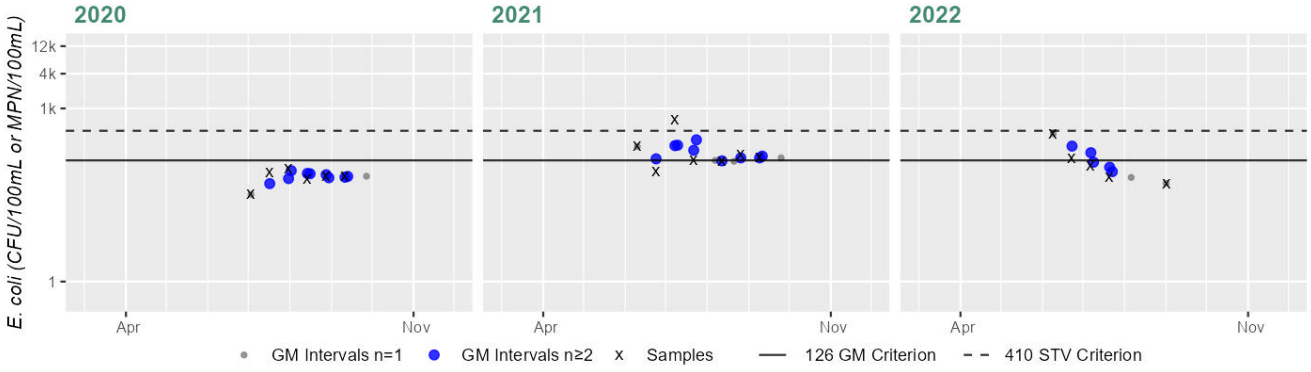
Variable*	Result
Samples	7
SeasGM	228
#GMI	11
#GMI Ex	6
%GMI Ex	54%
n>STV	2
%n>STV	28%

Cumulative %GMI Exceedance
Current (2011-2022)
79%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWSS1 & MASSDEP_W1872 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	62
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	169
#GMI	9
#GMI Ex	8
%GMI Ex	88%
n>STV	1
%n>STV	14%

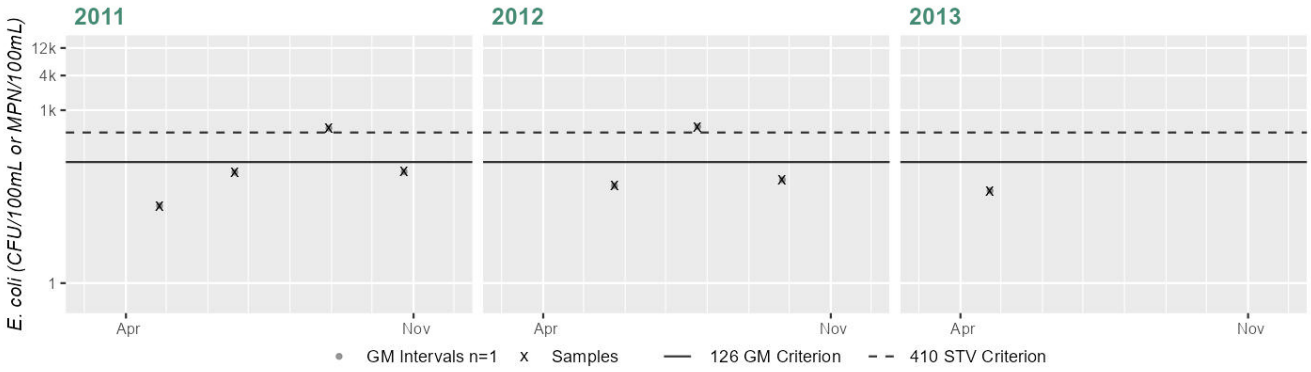
Variable*	Result
Samples	5
SeasGM	110
#GMI	5
#GMI Ex	2
%GMI Ex	40%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
43%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W0492 - Escherichia coli

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



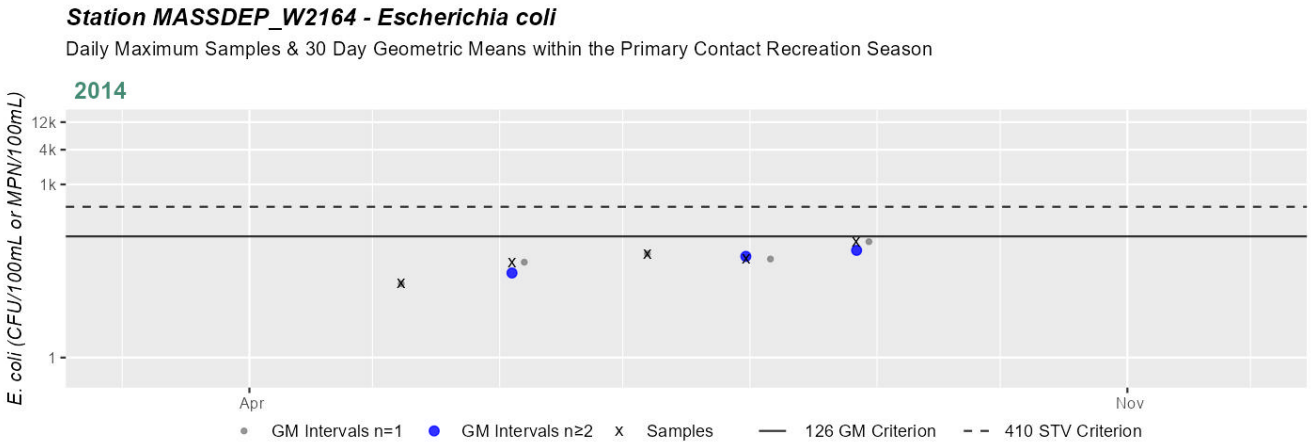
Variable*	Result
Samples	4
SeasGM	93
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	25%

Variable*	Result
Samples	3
SeasGM	116
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	1
SeasGM	40
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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	5
SeasGM	48
#GMI	3
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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(s) for USGS 2020 PFAS in Water Column Data (Savoie and Argue 2023) (MassDEP Undated 2)

Summary
Surface water sampling was conducted by the USGS on the Ware River (MA36-06) at station USGS_01173515 near Palmer, MA on three dates during August to October 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study).

USGS 2020 PFAS in Water Column Data Collected Upstream and Downstream of Wastewater Treatment Facilities (Savoie and Argue 2023) (MassDEP Undated 2)

[The ∑PFAS6 equals the sum of PFOA, PFOS, PFNA, PFHxS, PFDA, PFHpA (not all shown individually here). * indicates the ∑PFAS6 concentration is qualified since data for one or more individual PFAS6 analytes were qualified. A concentration with a "<" was less than the reporting detection limit (RDL) and the RDL was used to calculate the ΣPFAS6. E = qualifier "value is estimated"; V = qualifier "value affected by field or laboratory contamination"]

Station Code	Sample Date	PFOA ng/L	PFOS ng/L	PFNA ng/L	PFHxS ng/L	PFBA ng/L	PFBS ng/L	ΣPFAS6 ng/L
USGS-01173515	8/19/2020	5.86	E1.61	E0.653	E0.672	3.01	E1.71	13.8*
USGS-01173515	9/14/2020	4.81	E1.29	E0.647	E0.57	2.1	E1.24	11.7*
USGS-01173515	10/15/2020	E5.04	E1.28	E0.633	E0.52	2.53	E1.52	12.0*

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Ware River (MA36-06) continues to be assessed as Fully Supporting. CRC and MassDEP staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Ware River (MA36-06) from 1998-2022 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: CRC_CWBF1 [Banas Farm, Ware] from 2019-2022 (n=5-7/yr), W2164 [~2250 ft upstream from Palmer Rd (Rt. 32), Ware] from May-Aug 2014 (n=5), W0492 [Rt. 32 at Gibbs Crossing, Ware] from 1998, 2003, and 2007-2010 (historic n=2-7/yr) and 2011-2013 (current n=2-6/yr), CRC_CWB1 [Ware River, Bennett St, Palmer] from Jun-Sep 2019 (n=7), CRC_CWSS1 & W1872 [Summer St crossing, Palmer & State St/Summer St, Palmer] from May-Sep 2008 (historic n=6) and 2020-2022 (current n=5-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from CRC_CWBF1 indicated 1 out of 4 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2020, 100%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 20% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2164 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 48 CFU/100ml. Analysis of the single year moderate frequency *E. coli* dataset from CRC_CWB1 indicated 22% of intervals had GMs >244 CFU/100ml and 1 sample exceeded the 794 CFU/100ml STV. Analysis of the multi-year limited frequency *E. coli* dataset from CRC_CWSS1 & W1872 indicated 0 out of 3 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from W0492 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. *E. coli* data from CRC_CWBF1, W2164, CRC_CWB1, and CRC_CWSS1 & W1872 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
CRC_CWB1	Connecticut River Conservancy	Water Quality	Ware River	Ware River, Bennett St, Palmer	42.208350	-72.314783
CRC_CWBF1	Connecticut River Conservancy	Water Quality	Ware River	Banas Farm, Ware	42.244233	-72.254383
CRC_CWSS1	Connecticut River Conservancy	Water Quality	Ware River	State Street/Summer St, Palmer	42.204700	-72.318900

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0492	MassDEP	Water Quality	Ware River	[Route 32 at Gibbs Crossing, Ware]	42.238726	-72.285755
W1872	MassDEP	Water Quality	Ware River	[Summer Street crossing, Palmer]	42.204551	-72.318650
W2164	MassDEP	Water Quality	Ware River	[approximately 2250 feet upstream from Palmer Road (Route 32), Ware]	42.235461	-72.278995

Bacteria Data

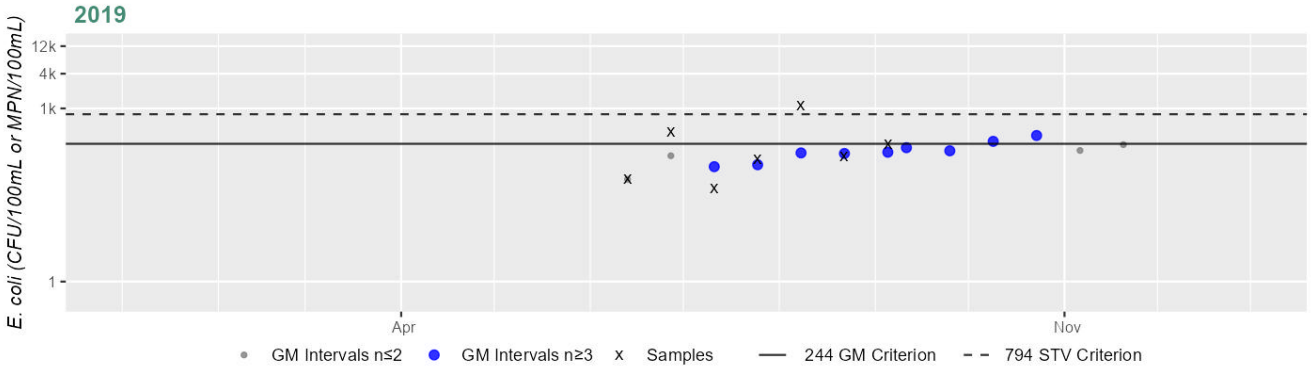
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (CRC 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

[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
CRC_CWB1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	41	1119	174
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/13/19	09/05/19	7	77	410	161
CRC_CWBF1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	5	167	517	307
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	6	93	365	171
CRC_CWBF1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	7	107	1986	228
CRC_CWSS1	Connecticut River Conservancy	E. coli	07/02/20	09/10/20	6	32	90	62
CRC_CWSS1	Connecticut River Conservancy	E. coli	06/10/21	09/09/21	7	82	648	169
CRC_CWSS1	Connecticut River Conservancy	E. coli	06/09/22	09/01/22	5	50	365	110
W0492	MassDEP	E. coli	06/24/98	10/14/98	2	150	180	164
W0492	MassDEP	E. coli	04/16/03	08/20/03	4	2	150	26
W0492	MassDEP	E. coli	08/28/07	10/16/07	2	86	118	100
W0492	MassDEP	E. coli	01/23/08	11/18/08	7	74	1050	203
W0492	MassDEP	E. coli	02/23/09	10/27/09	5	84	156	124
W0492	MassDEP	E. coli	02/09/10	11/16/10	4	78	411	146
W0492	MassDEP	E. coli	03/22/11	10/25/11	5	22	488	82
W0492	MassDEP	E. coli	01/24/12	11/13/12	6	49	517	107
W0492	MassDEP	E. coli	02/26/13	04/23/13	2	40	249	99
W1872	MassDEP	E. coli	05/20/08	09/23/08	6	40	550	134
W2164	MassDEP	E. coli	05/08/14	08/27/14	5	19	102	48

Station CRC_CWB1 - Escherichia coli

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



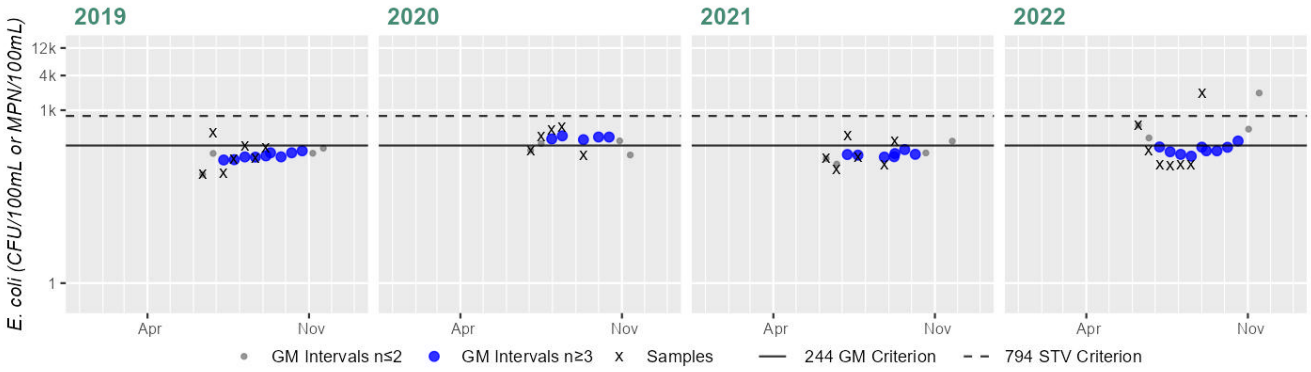
Variable*	Result
Samples	7
SeasGM	174
#GMI	9
#GMI Ex	2
%GMI Ex	22%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
22%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWBF1 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	161
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	307
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	171
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

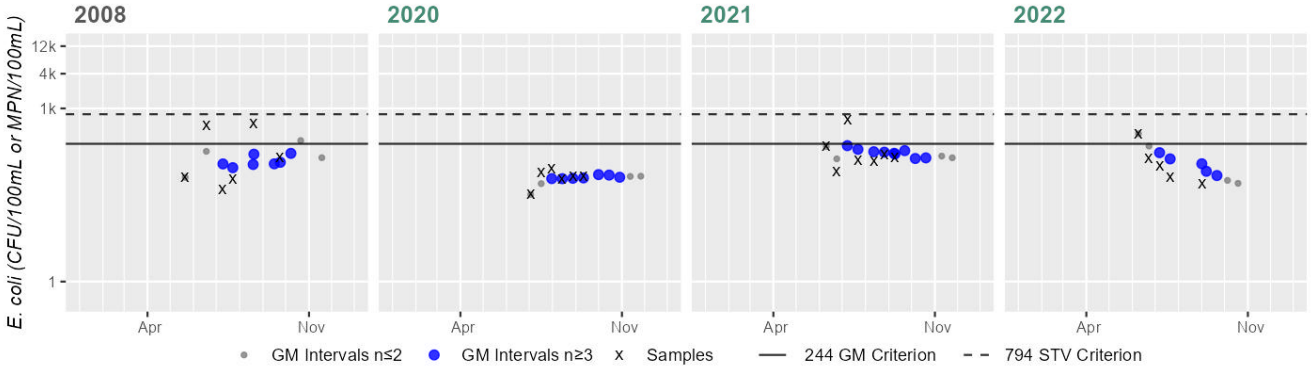
Variable*	Result
Samples	7
SeasGM	228
#GMI	9
#GMI Ex	1
%GMI Ex	11%
n>STV	1
%n>STV	14%

Cumulative %GMI Exceedance
Current (2011-2022)
20%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 CRC_CWSS1 & MASSDEP_W1872 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	134
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	62
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	169
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	110
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

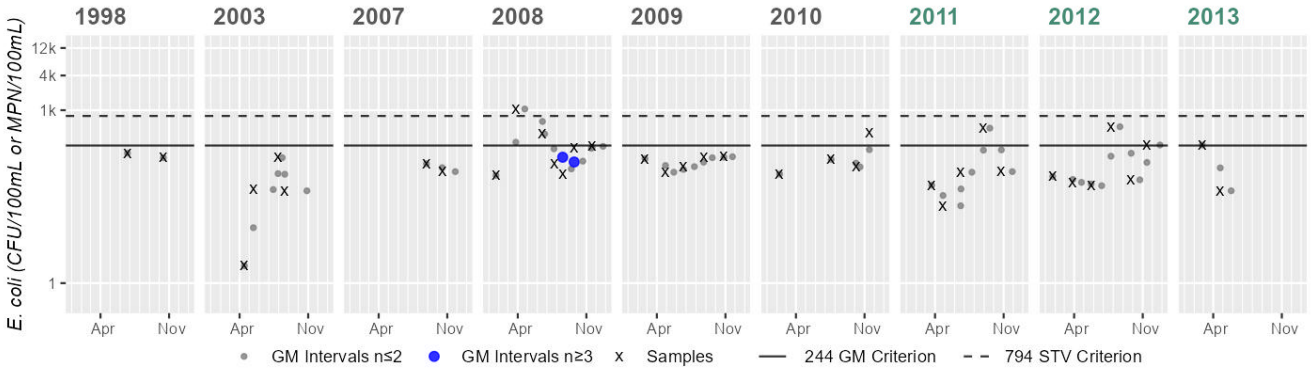
Cumulative %GMI Exceedance Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W0492 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	164
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	26
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	7
SeasGM	203
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	5
SeasGM	124
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	146
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	82
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	107
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	99
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

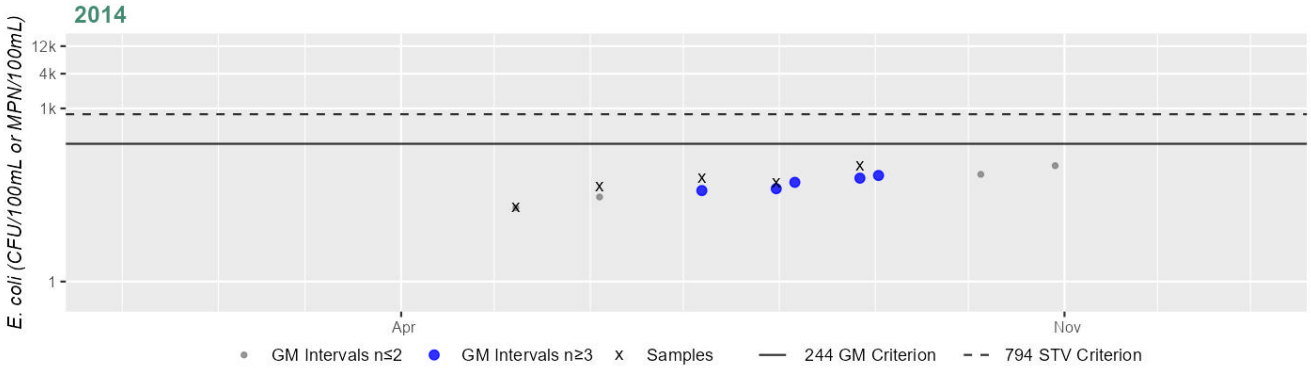
Cumulative %GMI Exceedance Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2164 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	48
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Ware River (MA36-07)

Location:	Thorndike Dam (NATID: MA00563), Palmer to mouth at confluence with Quaboag River (forming headwaters of Chicopee River), Palmer.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B: WWF

Ware River (MA36-07)

Watershed Area: 433.81 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	433.81	10.37	179.94	3.06
Agriculture	3.4%	6.3%	2.2%	6%
Developed	5.4%	20%	4.5%	17.5%
Natural	84.4%	64.3%	82.4%	60.5%
Wetland	6.9%	9.3%	10.9%	16%
Impervious	2%	7.5%	1.7%	7.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
PFAS in Fish Tissue	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 this Ware River AU (MA36-07) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in an upstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted in an upstream Ware River AU (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Ware River AU (MA36-07).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for Ware River (MA36-07), so it 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 the Ware River (MA36-07) 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 the Ware River (MA36-07) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the Ware River (MA36-07) at W1014 [Rt. 181, Palmer] from 2003 and 2008 (n=6/yr). Analysis of this historic multi-year limited frequency *E. coli* dataset from W1014 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Historic *E. coli* data from W1014 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1014	MassDEP	Water Quality	Ware River	[Route 181, Palmer]	42.191558	-72.349834

Bacteria Data

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

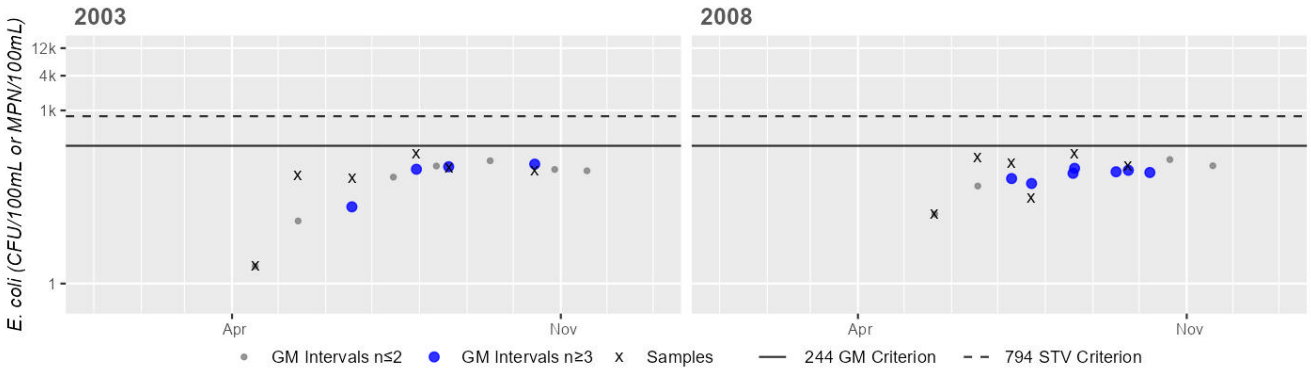
(MassDEP Undated 6) (MassDEP Undated 3)

[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
W1014	MassDEP	E. coli	04/16/03	10/15/03	6	2	180	50
W1014	MassDEP	E. coli	05/20/08	09/23/08	6	16	180	74

Station MASSDEP_W1014 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	50
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	74
#GMI	7
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Ware River (MA36-27)

Location:	Confluence of East Branch Ware and West Branch Ware rivers, Barre to MDC intake, Barre.
AU Type:	RIVER
AU Size:	4.9 MILES
Classification/Qualifier:	A: PWS, ORW

Ware River (MA36-27)

Watershed Area: 96.29 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	96.29	13.93	60.20	8.51
Agriculture	2.3%	0.6%	1.5%	0.4%
Developed	5.5%	1.7%	4.6%	1.7%
Natural	81%	83.7%	77.6%	77.8%
Wetland	11.3%	14.1%	16.3%	20.1%
Impervious	2.3%	1%	2.1%	1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)	--	Added
2	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
PFAS in Fish Tissue	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 this Ware River AU (MA36-27) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted downstream in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted downstream in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Ware River in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for this Ware River AU (MA36-27).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for this Ware River AU (MA36-27), so it 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 the Ware River (MA36-27) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added due to bacteria data not meeting the threshold at DCRWS_103A. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the Ware River (MA36-27) from 2011-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_105 [Ware River, Barre Falls] from 2012, 2016, and 2021 (n=15/yr), DCRWS_103A [Ware River downstream of confluence with CANESTO RIVER at Riverside Cemetery] from 2011-2022 (n=9-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_105 indicated 1 out of 3 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2021, 12%), 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 4% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_103A indicated 5 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2018-2022, 32-52%), 3 yrs had >10% of samples exceed the 410 CFU/100ml STV (2018 and 2020-2021, 11-13%), and cumulatively across years 44% of intervals had GMs >126 CFU/100ml. While *E. coli* data from DCRWS_105 meet 2024 CALM guidance, *E. coli* data from DCRWS_103A are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_101	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Shaft #8	42.390871	-72.059887
DCRWS_103A	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Riverside Cemetery	42.419982	-72.048636
DCRWS_105	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Ware River, Barre Falls	42.428497	-72.025105

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

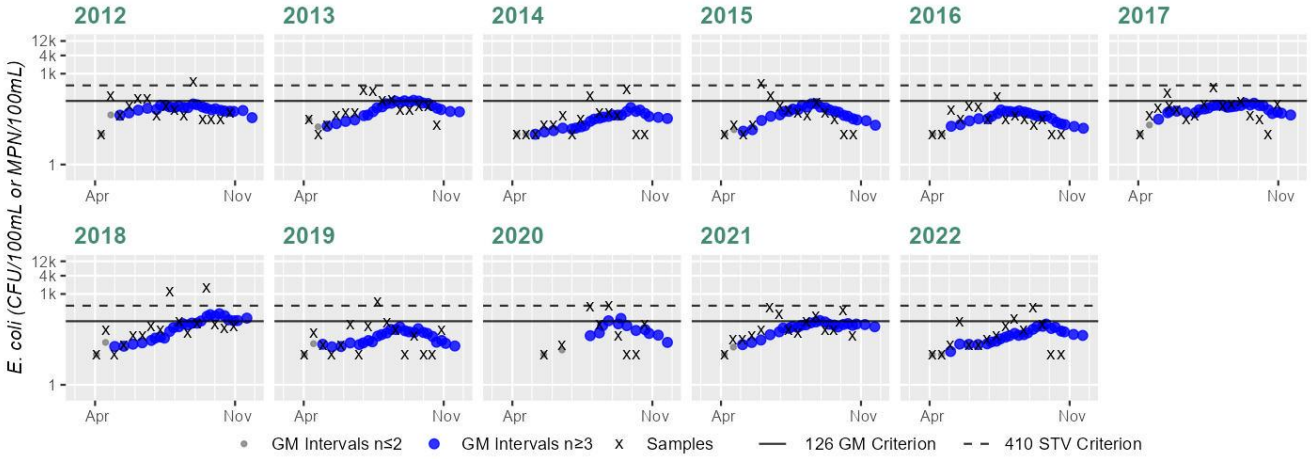
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	529	63
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	288	60
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	295	27
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	473	38
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	173	30
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	17	10	345	60
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	1550	74
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	538	32
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	10	395	47
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	341	71
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	345	36
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	10	1010	43
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	450	45
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	262	50
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	708	62
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	1420	76
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	563	104

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	275	63
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	749	96
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	644	76
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	31	556	87
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	663	74
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	1940	94
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	122	28
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	386	22
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	884	62

Station DCRWS_101 - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	63
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	60
#GMI	25
#GMI Ex	2
%GMI Ex	8%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	27
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	38
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	30
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	17
SeasGM	60
#GMI	29
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	74
#GMI	27
#GMI Ex	11
%GMI Ex	40%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	32
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	9
SeasGM	47
#GMI	13
#GMI Ex	2
%GMI Ex	15%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	71
#GMI	25
#GMI Ex	1
%GMI Ex	4%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Current (2011-2022)

5%

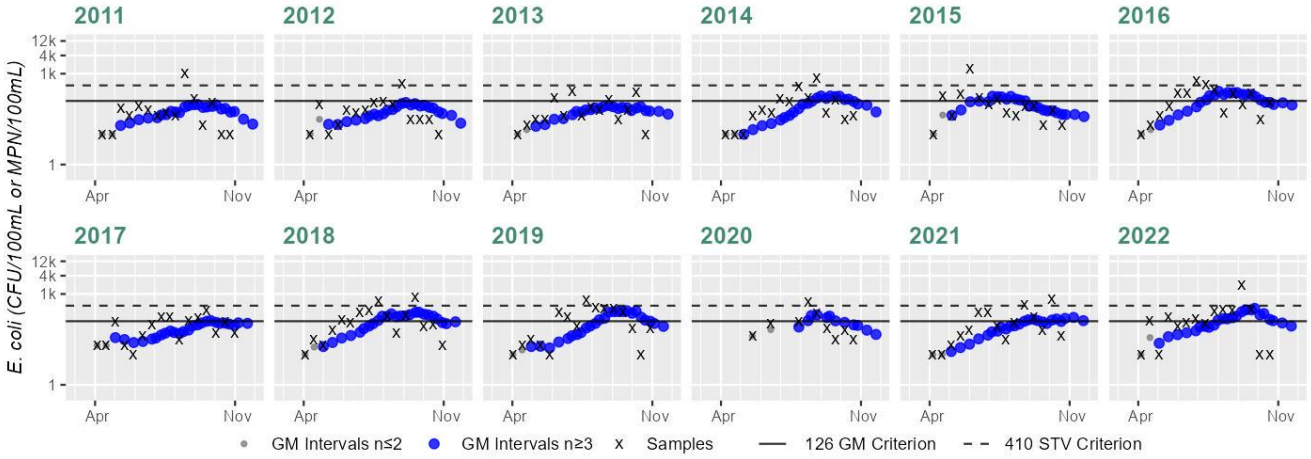
Cumulative %GMI Exceedance Current (Recent 5 Years)

11%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_103A - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	43
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	45
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	50
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	62
#GMI	25
#GMI Ex	8
%GMI Ex	32%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	76
#GMI	25
#GMI Ex	8
%GMI Ex	32%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	104
#GMI	25
#GMI Ex	13
%GMI Ex	52%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	16
SeasGM	63
#GMI	27
#GMI Ex	1
%GMI Ex	3%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	96
#GMI	27
#GMI Ex	14
%GMI Ex	51%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	76
#GMI	27
#GMI Ex	11
%GMI Ex	40%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	9
SeasGM	87
#GMI	13
#GMI Ex	6
%GMI Ex	46%
n>STV	1
%n>STV	11%

Variable*	Result
Samples	15
SeasGM	74
#GMI	25
#GMI Ex	8
%GMI Ex	32%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	94
#GMI	25
#GMI Ex	13
%GMI Ex	52%
n>STV	1
%n>STV	6%

Cumulative %GMI Exceedance Current (2011-2022)

27%

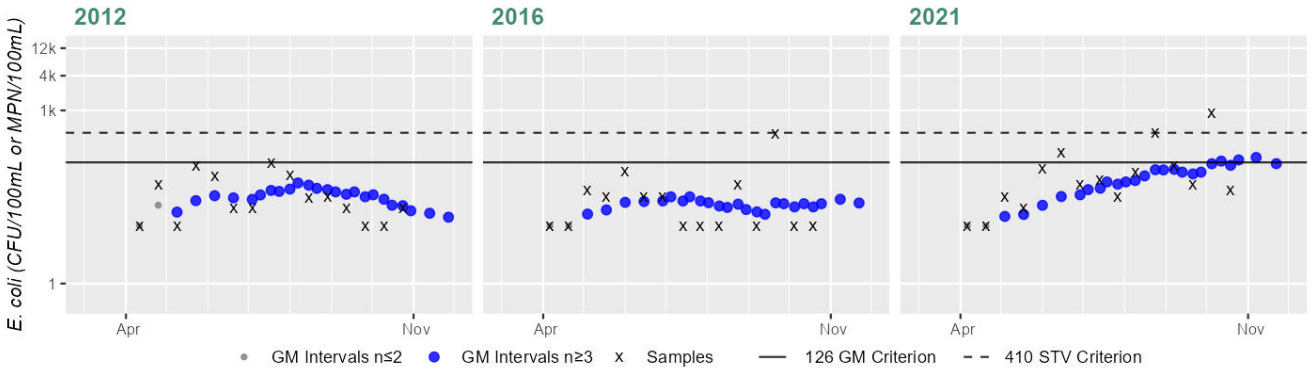
Cumulative %GMI Exceedance Current (Recent 5 Years)

44%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_105 - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	28
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	22
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	62
#GMI	25
#GMI Ex	3
%GMI Ex	12%
n>STV	1
%n>STV	6%

Cumulative %GMI Exceedance
Current (2011-2022)
4%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Ware River (MA36-27) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Ware River (MA36-27) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2016 [near the storm debris collector ("log boom") upstream of the Barre Falls Dam, Barre] from Sep 2008 (n=1), DCRWS_105 [Ware River, Barre Falls] from Jan-Dec 2008 (historic n=25) and 2012, 2016, and 2021 (current n=23-26/yr), DCRWS_103A [Ware River downstream of confluence with CANESTO RIVER at Riverside Cemetery] from 2008-2010 (historic n=22-26/yr) and 2011-2022 (current n=19-26/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_105 indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_103A indicated 1 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml (2019, 13%), 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 5% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_105 and DCRWS_103A meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_101	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Shaft #8	42.390871	-72.059887
DCRWS_103A	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Riverside Cemetery	42.419982	-72.048636
DCRWS_105	MA DCR Division of Water Supply Protection	Water Quality	Ware River	Ware River, Barre Falls	42.428497	-72.025105
W2016	MassDEP	Water Quality	Ware River	[near the storm debris collector ("log boom") upstream of the Barre Falls Dam, Barre]	42.428839	-72.025020

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

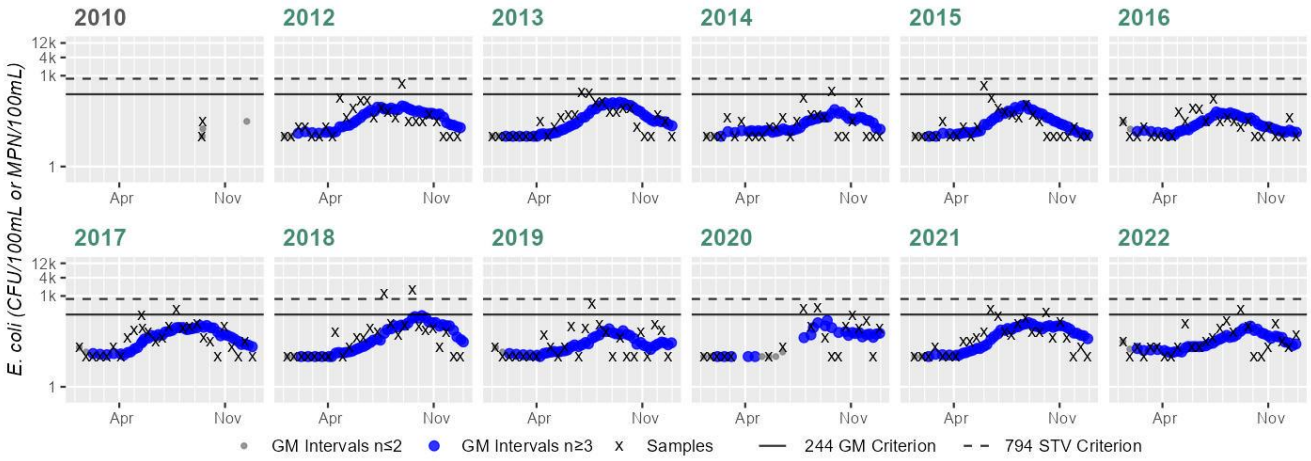
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	09/16/10	09/17/10	2	10	31	17
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	26	10	529	32
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	27	10	288	30
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	295	22
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	26	10	473	23
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	173	21
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	27	10	345	35
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	26	10	1550	37
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	26	10	538	25
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	395	35
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	341	38
DCRWS_101	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	345	31
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/08/08	12/09/08	25	10	809	43
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/06/09	12/22/09	22	10	148	23
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/05/10	12/21/10	26	10	1040	39
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	21	10	1010	28
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	26	10	450	25

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	24	10	262	28
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	24	10	708	39
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	23	10	1420	37
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	563	42
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	275	39
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	23	10	749	58
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	25	10	644	41
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	556	47
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	663	37
DCRWS_103A	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	1940	44
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	01/08/08	12/09/08	25	10	627	43
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	26	10	122	19
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	386	19
DCRWS_105	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	23	10	884	39
W2016	MassDEP	E. coli	09/30/08	09/30/08	1	60	60	59

Station DCRWS_101 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	17
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	32
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	30
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	35
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	37
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	7%

Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	35
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	38
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

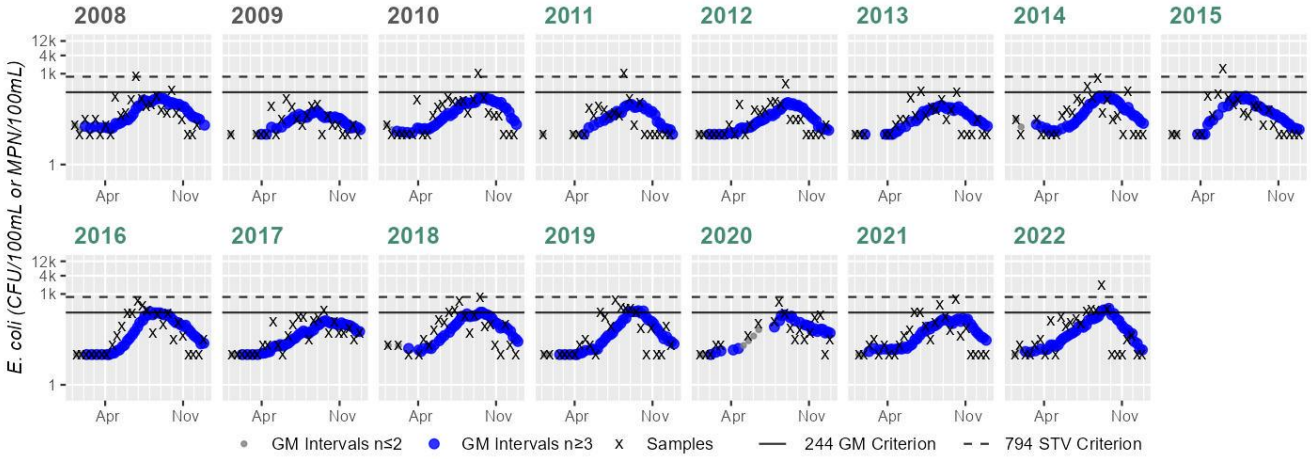
Variable*	Result
Samples	26
SeasGM	31
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)	Cumulative %GMI Exceedance Current (2011-2022)	Cumulative %GMI Exceedance Current (Recent 5 Years)
0%	0%	0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_103A - Escherichia coli

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



Variable*	Result
Samples	25
SeasGM	43
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	22
SeasGM	23
#GMI	38
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	39
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	21
SeasGM	28
#GMI	35
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	26
SeasGM	25
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	24
SeasGM	28
#GMI	43
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	24
SeasGM	39
#GMI	43
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	23
SeasGM	37
#GMI	41
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	26
SeasGM	42
#GMI	47
#GMI Ex	1
%GMI Ex	2%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	39
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	23
SeasGM	58
#GMI	41
#GMI Ex	2
%GMI Ex	4%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	41
#GMI	45
#GMI Ex	6
%GMI Ex	13%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	47
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	37
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	44
#GMI	47
#GMI Ex	4
%GMI Ex	8%
n>STV	1
%n>STV	3%

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

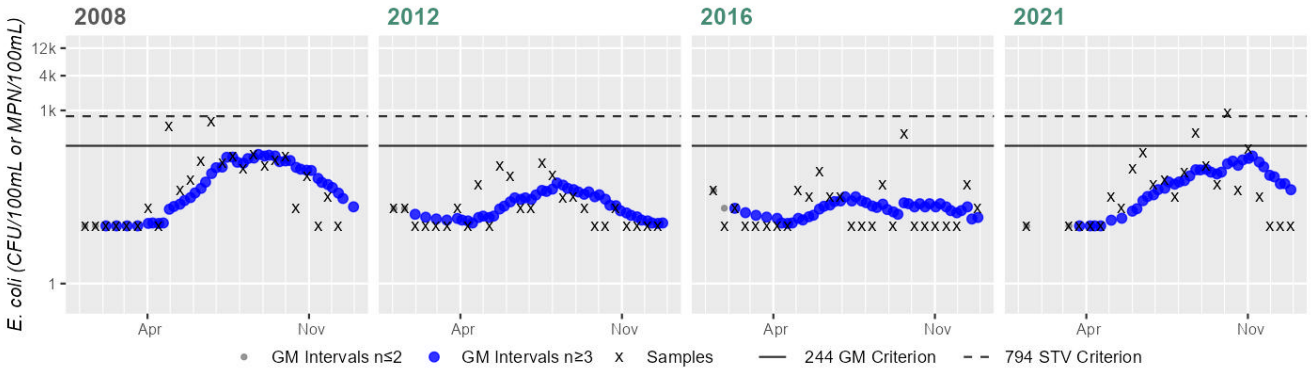
Cumulative %GMI Exceedance
Current (2011-2022)
2%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_105 - Escherichia coli

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



Variable*	Result
Samples	25
SeasGM	43
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	23
SeasGM	39
#GMI	41
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

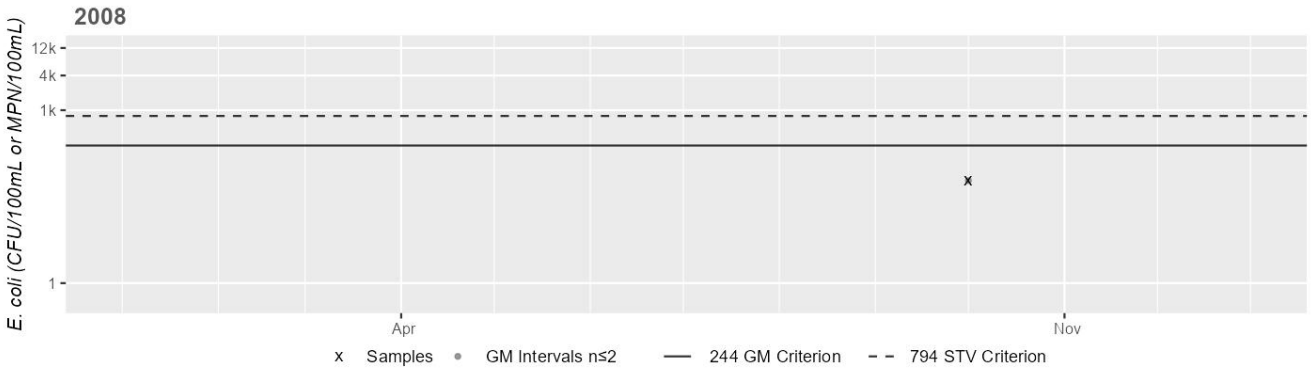
Cumulative %GMI Exceedance Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2016 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	60
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

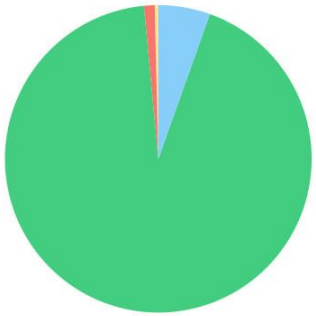
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

West Branch Fever Brook (MA36-34)

Location:	Headwaters, perennial portion, just north (upstream) of Route 122, Petersham to mouth at inlet Quabbin Reservoir, Petersham.
AU Type:	RIVER
AU Size:	3.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

West Branch Fever Brook (MA36-34)

Watershed Area: 4.46 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.46	3.73	0.92	0.86
Agriculture	0.4%	0.4%	0.4%	0.4%
Developed	1.1%	1.1%	0.8%	0.8%
Natural	93%	92.4%	82.9%	81.9%
Wetland	5.5%	6.1%	15.9%	16.9%
Impervious	0.7%	0.7%	0.5%	0.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for West Branch Fever Brook (MA36-34) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for West Branch Fever Brook (MA36-34) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the downstream end of this West Branch Fever Brook AU ~2000 feet upstream of road crossing of the restricted portion of Monson Turnpike, Petersham (W2456/MAP2-540) in summer 2014 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2456	MassDEP	Water Quality	West Branch Fever Brook	[approximately 2000 feet upstream of road crossing of the restricted portion of Monson Turnpike, Petersham]	42.472170	-72.256802

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
W2456	2014	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2456 on West Branch Fever Brook (MA36-34) during 5 site visits between May 2014 and Sep 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2456	2014	5	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2456	West Branch Fever Brook	2014	Aesthetics Impaired?	No	5	5
W2456	West Branch Fever Brook	2014	Aquatic Plant Density, Overall	Sparse	5	5
W2456	West Branch Fever Brook	2014	Color	Light Yellow/Tan	3	5
W2456	West Branch Fever Brook	2014	Color	Reddish	1	5
W2456	West Branch Fever Brook	2014	Color	Yellowish	1	5
W2456	West Branch Fever Brook	2014	Objectionable Deposits	No	5	5
W2456	West Branch Fever Brook	2014	Odor	None	5	5
W2456	West Branch Fever Brook	2014	Periphyton Density, Filamentous	Moderate	1	5
W2456	West Branch Fever Brook	2014	Periphyton Density, Filamentous	None	3	5
W2456	West Branch Fever Brook	2014	Periphyton Density, Filamentous	Sparse	1	5
W2456	West Branch Fever Brook	2014	Periphyton Density, Film	None	3	5
W2456	West Branch Fever Brook	2014	Periphyton Density, Film	Sparse	2	5
W2456	West Branch Fever Brook	2014	Scum	No	3	5
W2456	West Branch Fever Brook	2014	Scum	Yes	2	5
W2456	West Branch Fever Brook	2014	Turbidity	None	4	5
W2456	West Branch Fever Brook	2014	Turbidity	Slightly Turbid	1	5

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for West Branch Fever Brook (MA36-34) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in West Branch Fever Brook (MA36-34) from 2013-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2456 [~2000 ft upstream of Rd crossing of the restricted portion of Monson Turnpike, Petersham] from May-Sep 2014 (n=5), DCRWS_215B [W Br Fever Brook Mouth] from 2013, 2017, and 2022 (n=14-16/yr). Analysis of the single year limited frequency *E. coli* dataset from W2456 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 14 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215B indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from W2456 and DCRWS_215B meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_215B	MA DCR Division of Water Supply Protection	Water Quality	West Branch Fever Brook	W Br Fever Brook Mouth	42.467984	-72.259120
W2456	MassDEP	Water Quality	West Branch Fever Brook	[approximately 2000 feet upstream of road crossing of the restricted portion of Monson Turnpike, Petersham]	42.472170	-72.256802

Bacteria Data

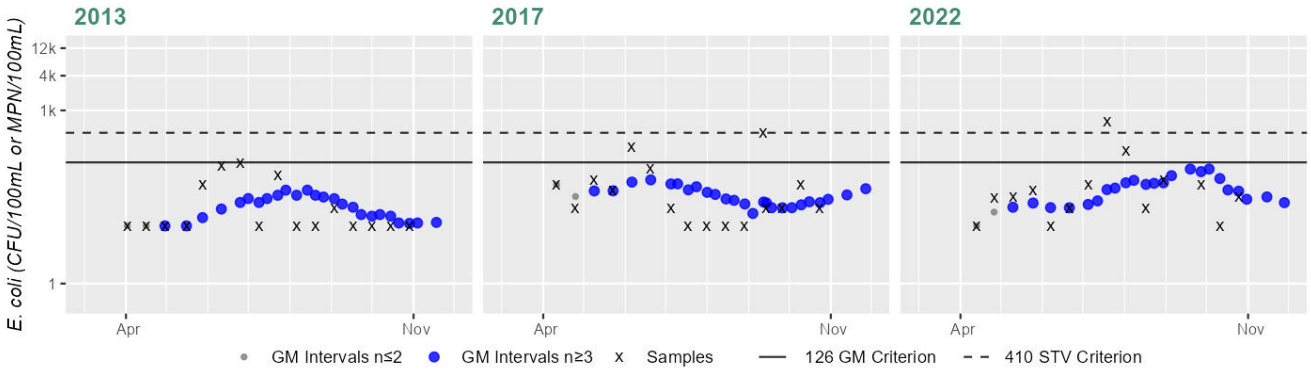
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2) (MassDEP Undated 6) (MassDEP Undated 4)

[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
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	122	17
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	16	10	399	33
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	14	10	638	37
W2456	MassDEP	E. coli	05/20/14	09/04/14	5	4	51	14

Station DCRWS_215B - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	17
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	33
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

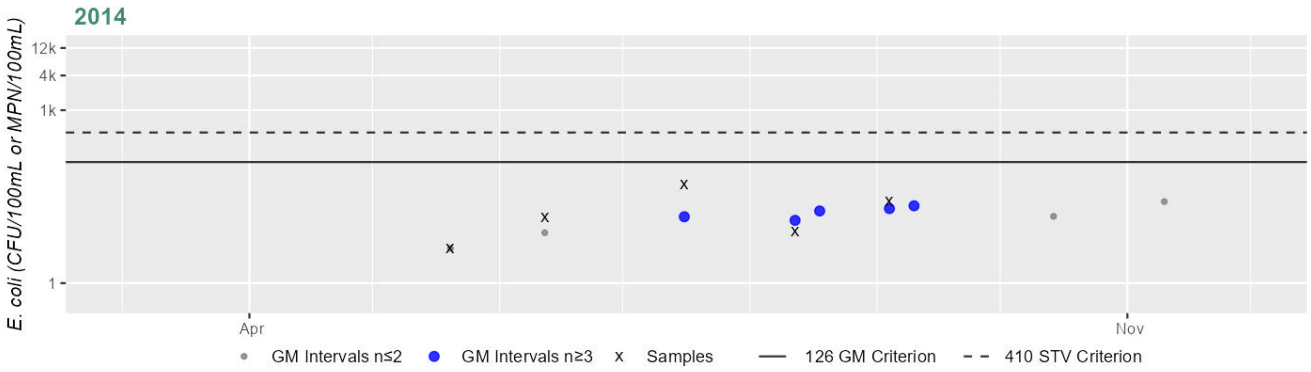
Variable*	Result
Samples	14
SeasGM	37
#GMI	23
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	7%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2456 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	14
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for West Branch Fever Brook (MA36-34) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in West Branch Fever Brook (MA36-34) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2456 [~2000 ft upstream of Rd crossing of the restricted portion of Monson Turnpike, Petersham] from May-Sep 2014 (n=5), W2021 [~200 ft upstream of Rd crossing of the restricted portion of Monson Turnpike, Petersham] from Jul-Dec 2008 (n=2), DCRWS_215B [W Br Fever Brook Mouth] from Jan-Dec 2008 (historic n=27) and 2013, 2017, and 2022 (current n=25-26/yr). Analysis of the single year limited frequency *E. coli* dataset from W2456 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 14 CFU/100ml. Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_215B indicated 0 out of 3 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from W2456 and DCRWS_215B meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_215B	MA DCR Division of Water Supply Protection	Water Quality	West Branch Fever Brook	W Br Fever Brook Mouth	42.467984	-72.259120
W2021	MassDEP	Water Quality	West Branch Fever Brook	[approximately 200 feet upstream of road crossing of the restricted portion of Monson Turnpike, Petersham]	42.468435	-72.258848
W2456	MassDEP	Water Quality	West Branch Fever Brook	[approximately 2000 feet upstream of road crossing of the restricted portion of Monson Turnpike, Petersham]	42.472170	-72.256802

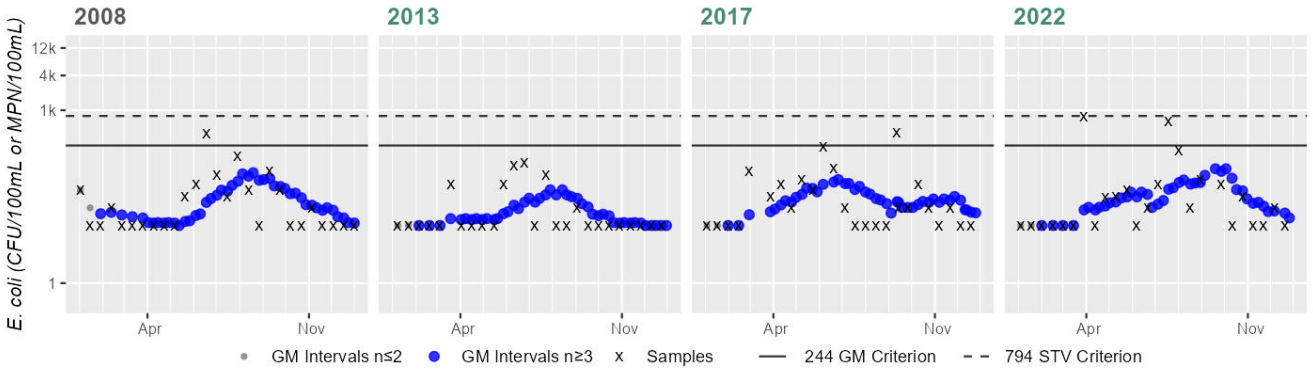
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (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
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	27	10	395	21
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	122	15
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	26	10	399	24
DCRWS_215B	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	25	10	780	25
W2021	MassDEP	E. coli	07/01/08	12/02/08	2	10	20	14
W2456	MassDEP	E. coli	05/20/14	09/04/14	5	4	51	14

Station DCRWS_215B - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	21
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	15
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	25
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

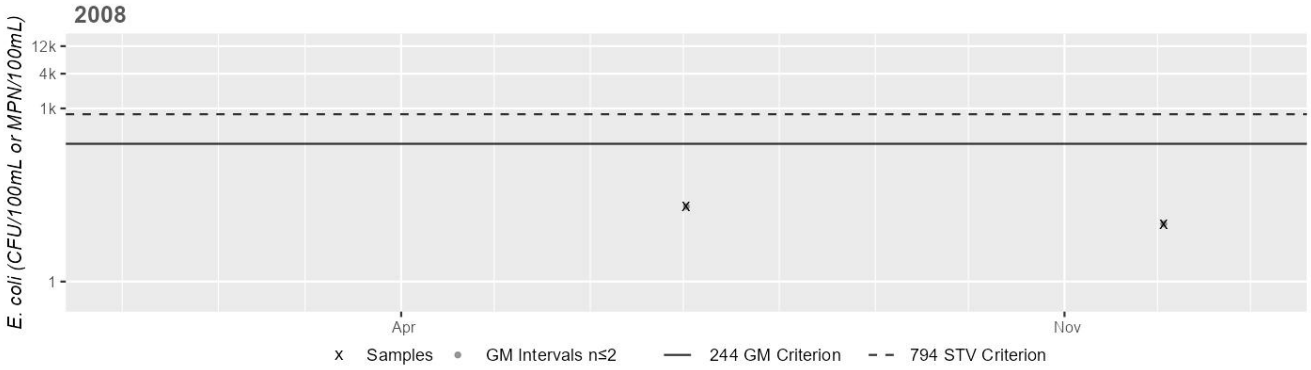
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2021 - Escherichia coli

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



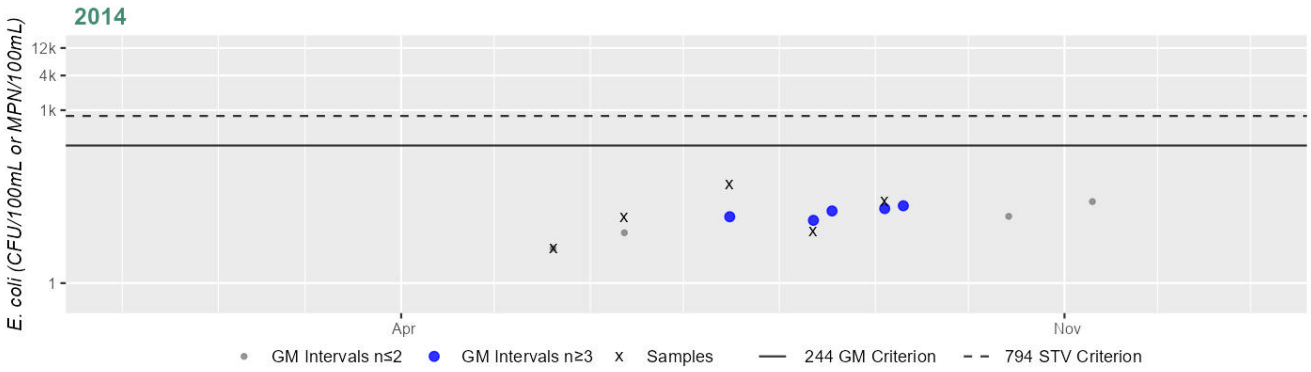
Variable*	Result
Samples	2
SeasGM	14
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2456 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	14
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

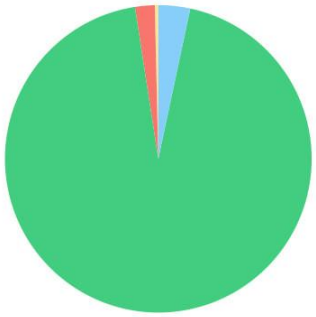
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

West Branch Swift River (MA36-31)

Location:	Headwaters, outlet of small unnamed impoundment east of Cooleyville Road (in Wendell State Forest), Wendell to mouth at inlet Quabbin Reservoir, Shutesbury/New Salem.
AU Type:	RIVER
AU Size:	6.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

West Branch Swift River (MA36-31)

Watershed Area: 14.01 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	14.01	7.37	3.36	2.13
Agriculture	0.4%	0.4%	0%	0%
Developed	2.1%	2.1%	1.4%	1.3%
Natural	94.2%	95.3%	89%	93.4%
Wetland	3.3%	2.2%	9.5%	5.3%
Impervious	1%	0.9%	0.8%	0.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	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 recently, so the Fish Consumption Use for West Branch Swift River (MA36-31) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for West Branch Swift River (MA36-31) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the downstream half of this West Branch Swift River AU ~640 feet upstream from Cooleyville Road Extension, Shutesbury (W2218) in 2011 (n=3), 2012 (n=5), 2013 (n=5), 2014 (n=4), 2015 (n=4), 2017 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2218	MassDEP	Water Quality	West Branch Swift River	[approximately 640 feet upstream from Cooleyville Road Extension, Shutesbury]	42.464706	-72.384545

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
W2218	2011	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 3 site visits between Jun 2011 and Aug 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2218	2012	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 5 site visits between May 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2218	2013	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 5 site visits between May 2013 and Oct 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2218	2014	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 4 site visits between Jun 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2218	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 4 site visits between May 2015 and Aug 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2218	2017	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2218 on West Branch Swift River (MA36-31) during 5 site visits between May 2017 and Sep 2017. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 6) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2218	2011	3	3	0
W2218	2012	5	5	1
W2218	2013	5	4	1
W2218	2014	4	4	0
W2218	2015	4	4	1
W2218	2017	5	5	1

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 6)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2218	West Branch Swift River	2011	Aquatic Plant Density, Overall	None	3	3
W2218	West Branch Swift River	2011	Color	Light Yellow/Tan	1	3
W2218	West Branch Swift River	2011	Color	None	2	3
W2218	West Branch Swift River	2011	Objectionable Deposits	No	3	3
W2218	West Branch Swift River	2011	Odor	None	3	3
W2218	West Branch Swift River	2011	Periphyton Density, Filamentous	None	3	3
W2218	West Branch Swift River	2011	Periphyton Density, Film	None	2	3
W2218	West Branch Swift River	2011	Periphyton Density, Film	Sparse	1	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2218	West Branch Swift River	2011	Scum	No	2	3
W2218	West Branch Swift River	2011	Scum	Yes	1	3
W2218	West Branch Swift River	2011	Turbidity	None	3	3
W2218	West Branch Swift River	2012	Aquatic Plant Density, Overall	None	5	5
W2218	West Branch Swift River	2012	Color	Light Yellow/Tan	2	5
W2218	West Branch Swift River	2012	Color	None	3	5
W2218	West Branch Swift River	2012	Objectionable Deposits	No	5	5
W2218	West Branch Swift River	2012	Odor	None	5	5
W2218	West Branch Swift River	2012	Periphyton Density, Filamentous	None	5	5
W2218	West Branch Swift River	2012	Periphyton Density, Film	Dense	1	5
W2218	West Branch Swift River	2012	Periphyton Density, Film	None	3	5
W2218	West Branch Swift River	2012	Periphyton Density, Film	Sparse	1	5
W2218	West Branch Swift River	2012	Scum	No	5	5
W2218	West Branch Swift River	2012	Turbidity	None	5	5
W2218	West Branch Swift River	2013	Aesthetics Impaired?	No	4	5
W2218	West Branch Swift River	2013	Aesthetics Impaired?	NR	1	5
W2218	West Branch Swift River	2013	Aquatic Plant Density, Overall	None	4	5
W2218	West Branch Swift River	2013	Aquatic Plant Density, Overall	NR	1	5
W2218	West Branch Swift River	2013	Color	Dark Tan	1	5
W2218	West Branch Swift River	2013	Color	Light Yellow/Tan	2	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2218	West Branch Swift River	2013	Color	None	2	5
W2218	West Branch Swift River	2013	Objectionable Deposits	No	5	5
W2218	West Branch Swift River	2013	Odor	None	5	5
W2218	West Branch Swift River	2013	Periphyton Density, Filamentous	Dense	1	5
W2218	West Branch Swift River	2013	Periphyton Density, Filamentous	None	2	5
W2218	West Branch Swift River	2013	Periphyton Density, Filamentous	NR	2	5
W2218	West Branch Swift River	2013	Periphyton Density, Film	Moderate	1	5
W2218	West Branch Swift River	2013	Periphyton Density, Film	None	1	5
W2218	West Branch Swift River	2013	Periphyton Density, Film	NR	1	5
W2218	West Branch Swift River	2013	Periphyton Density, Film	Sparse	2	5
W2218	West Branch Swift River	2013	Scum	No	3	5
W2218	West Branch Swift River	2013	Scum	Yes	2	5
W2218	West Branch Swift River	2013	Turbidity	None	5	5
W2218	West Branch Swift River	2014	Aesthetics Impaired?	No	4	4
W2218	West Branch Swift River	2014	Aquatic Plant Density, Overall	None	4	4
W2218	West Branch Swift River	2014	Color	None	4	4
W2218	West Branch Swift River	2014	Objectionable Deposits	No	4	4
W2218	West Branch Swift River	2014	Odor	None	4	4
W2218	West Branch Swift River	2014	Periphyton Density, Filamentous	None	3	4
W2218	West Branch Swift River	2014	Periphyton Density, Filamentous	Sparse	1	4

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2218	West Branch Swift River	2014	Periphyton Density, Film	None	3	4
W2218	West Branch Swift River	2014	Periphyton Density, Film	Sparse	1	4
W2218	West Branch Swift River	2014	Scum	No	1	4
W2218	West Branch Swift River	2014	Scum	Yes	3	4
W2218	West Branch Swift River	2014	Turbidity	None	4	4
W2218	West Branch Swift River	2015	Aesthetics Impaired?	No	4	4
W2218	West Branch Swift River	2015	Aquatic Plant Density, Overall	None	4	4
W2218	West Branch Swift River	2015	Color	Light Yellow/Tan	1	4
W2218	West Branch Swift River	2015	Color	None	3	4
W2218	West Branch Swift River	2015	Objectionable Deposits	No	4	4
W2218	West Branch Swift River	2015	Odor	None	4	4
W2218	West Branch Swift River	2015	Periphyton Density, Filamentous	None	3	4
W2218	West Branch Swift River	2015	Periphyton Density, Filamentous	Very Dense	1	4
W2218	West Branch Swift River	2015	Periphyton Density, Film	None	3	4
W2218	West Branch Swift River	2015	Periphyton Density, Film	Sparse	1	4
W2218	West Branch Swift River	2015	Scum	No	4	4
W2218	West Branch Swift River	2015	Turbidity	None	4	4
W2218	West Branch Swift River	2017	Aesthetics Impaired?	No	5	5
W2218	West Branch Swift River	2017	Aquatic Plant Density, Overall	None	5	5
W2218	West Branch Swift River	2017	Color	Light Yellow/Tan	2	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2218	West Branch Swift River	2017	Color	None	2	5
W2218	West Branch Swift River	2017	Color	Reddish	1	5
W2218	West Branch Swift River	2017	Objectionable Deposits	No	5	5
W2218	West Branch Swift River	2017	Odor	None	5	5
W2218	West Branch Swift River	2017	Periphyton Density, Filamentous	Moderate	1	5
W2218	West Branch Swift River	2017	Periphyton Density, Filamentous	None	4	5
W2218	West Branch Swift River	2017	Periphyton Density, Film	Moderate	1	5
W2218	West Branch Swift River	2017	Periphyton Density, Film	None	2	5
W2218	West Branch Swift River	2017	Periphyton Density, Film	Sparse	1	5
W2218	West Branch Swift River	2017	Periphyton Density, Film	Very Dense	1	5
W2218	West Branch Swift River	2017	Scum	No	5	5
W2218	West Branch Swift River	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 the West Branch Swift River (MA36-31) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the West Branch Swift River (MA36-31) from 2011-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_211F [W Br Swift R & Cooleyville Rd] from 2011-2012, 2016, and 2021 (n=15-16/yr), DCRWS_211 from 2011-2022 (n=10-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_211F indicated 1 out of 4 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml (2016, 32%), 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2016, 13%), and cumulatively across years 7% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_211 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 1 yr had >10% of samples exceed the 410 CFU/100ml STV (2018, 13%), and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_211F and DCRWS_211 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211	MA DCR Division of Water Supply Protection	Water Quality	West Branch Swift River	--	42.458538	-72.380738
DCRWS_211F	MA DCR Division of Water Supply Protection	Water Quality	West Branch Swift River	W Br Swift R & Cooleyville Rd	42.464206	-72.382796

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

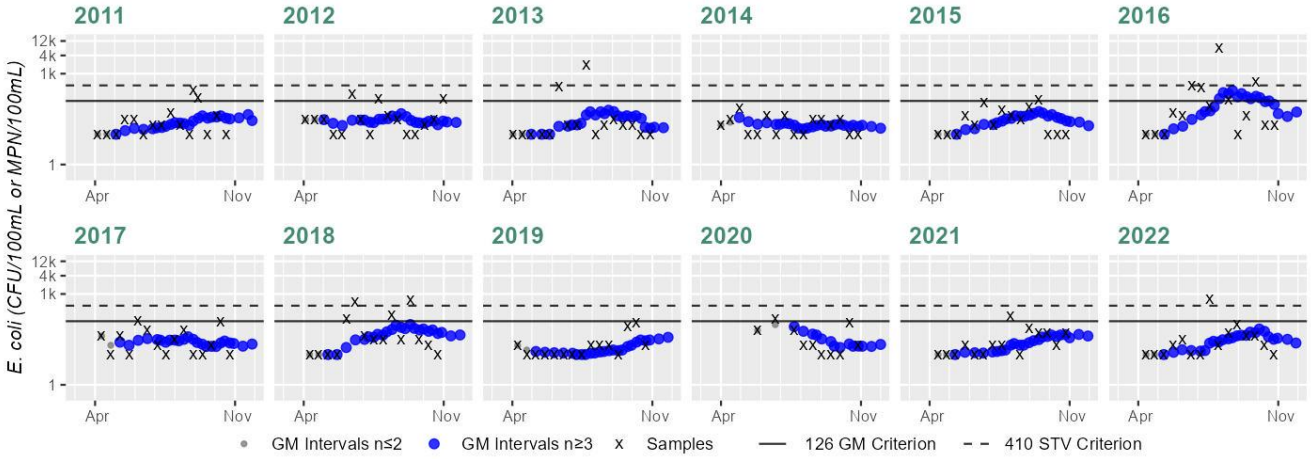
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	16	10	272	23
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	216	29
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/02/13	10/29/13	16	10	1940	23
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/01/14	10/28/14	16	10	74	19
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/14/15	10/27/15	15	10	134	25

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	15	10	6870	66
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/11/17	10/24/17	15	10	134	25
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/10/18	10/23/18	15	10	644	39
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/09/19	10/22/19	15	10	110	17
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	05/26/20	10/27/20	10	10	148	29
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	187	23
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	04/13/22	10/25/22	15	10	677	25
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	04/05/11	10/18/11	15	10	75	19
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	04/03/12	10/30/12	16	10	350	21
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	04/12/16	10/25/16	15	10	1350	57
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	04/14/21	10/26/21	15	10	86	18

Station DCRWS_211 - Escherichia coli

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



Variable*	Result
Samples	16
SeasGM	23
#GMI	26
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	29
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	23
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	19
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	25
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	66
#GMI	25
#GMI Ex	11
%GMI Ex	44%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	25
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	39
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	17
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	29
#GMI	15
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	23
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	25
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

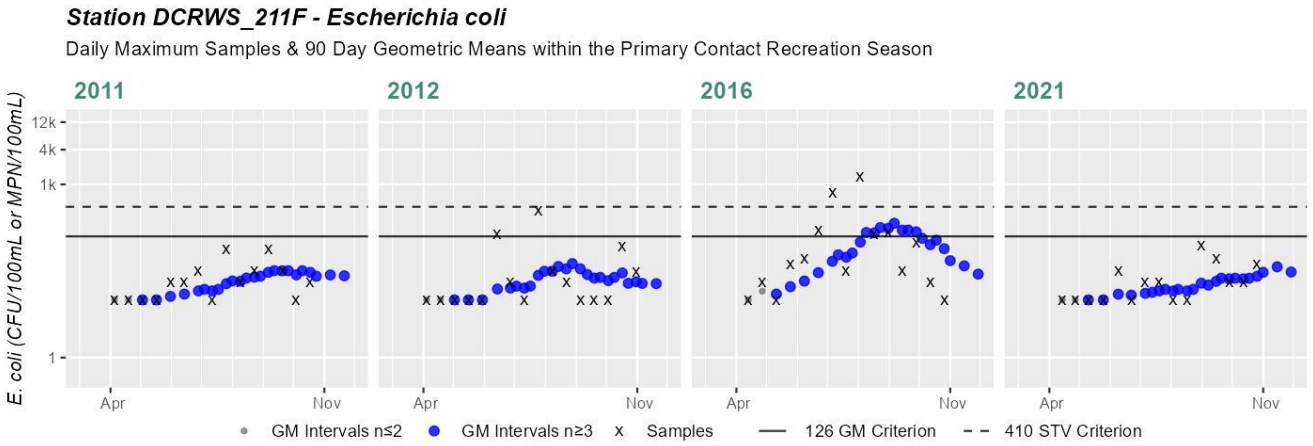
Cumulative %GMI Exceedance Current (2011-2022)

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 Exeedances; %GMI Ex = % GMI Exeedances; 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	15
SeasGM	19
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	21
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	57
#GMI	25
#GMI Ex	8
%GMI Ex	32%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	18
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
7%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the West Branch Swift River (MA36-31) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the West Branch Swift River (MA36-31) from 2008-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_211F [W Br Swift R & Cooleyville Rd] from 2011-2012, 2016, and 2021 (n=26/yr), DCRWS_211 from 2008-2010 (historic n=26-27/yr) and 2011-2022 (current n=19-27/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_211F indicated 0 out of 4 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_211 indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_211F and DCRWS_211 meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_211	MA DCR Division of Water Supply Protection	Water Quality	West Branch Swift River	--	42.458538	-72.380738
DCRWS_211F	MA DCR Division of Water Supply Protection	Water Quality	West Branch Swift River	W Br Swift R & Cooleyville Rd	42.464206	-72.382796

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1)

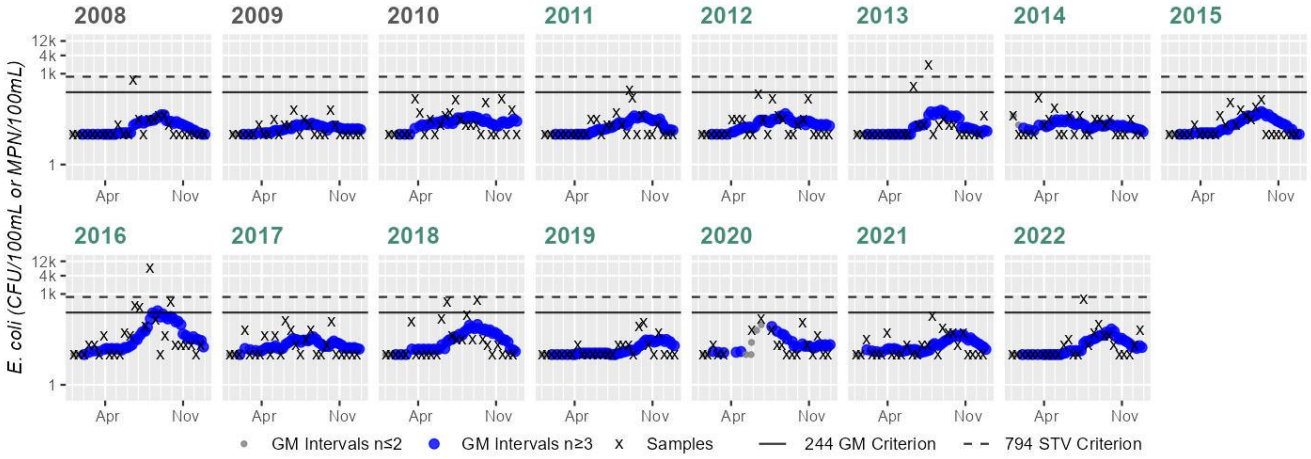
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/02/08	12/30/08	27	10	609	15
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/13/09	12/29/09	26	10	63	14
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/12/10	12/28/10	26	10	148	23
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	27	10	272	16
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	216	19
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/08/13	12/23/13	26	10	1940	17
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/07/14	12/23/14	26	10	156	18
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/06/15	12/21/15	26	10	134	17
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	26	10	6870	35

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/03/17	12/19/17	26	10	134	18
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/02/18	12/18/18	26	10	644	24
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/02/19	12/31/19	27	10	110	14
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/15/20	12/22/20	19	10	148	19
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	187	18
DCRWS_211	MA DCR Division of Water Supply Protection	E. coli	01/04/22	12/20/22	26	10	677	19
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	01/11/11	12/27/11	26	10	75	15
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	01/10/12	12/26/12	26	10	350	15
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	01/05/16	12/20/16	26	10	1350	30
DCRWS_211F	MA DCR Division of Water Supply Protection	E. coli	01/05/21	12/21/21	26	10	86	14

Station DCRWS_211 - Escherichia coli

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



Variable*	Result
Samples	27
SeasGM	15
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	14
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	23
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	16
#GMI	48
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	17
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	35
#GMI	47
#GMI Ex	1
%GMI Ex	2%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	27
SeasGM	14
#GMI	49
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	19
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	18
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

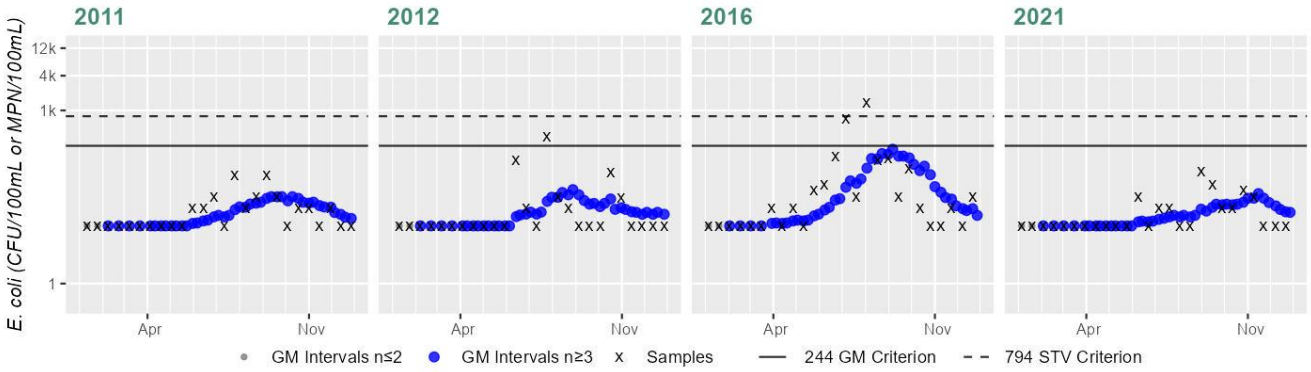
Cumulative %GMI Exceedance Current (2011-2022)
0%

Cumulative %GMI Exceedance Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_211F - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	15
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	15
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	30
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	14
#GMI	47
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

West Branch Ware River (MA36-02)

Location:	Headwaters, outlet Brigham Pond, Hubbardston to mouth at confluence with East Branch Ware River (forming headwaters of Ware River), Barre.
AU Type:	RIVER
AU Size:	4.5 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

West Branch Ware River (MA36-02)

Watershed Area: 16.63 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	16.63	5.26	10.74	3.18
Agriculture	2%	2%	1.7%	1.5%
Developed	5.3%	4.6%	4.4%	3.5%
Natural	77.8%	73.8%	72.4%	65.5%
Wetland	14.8%	19.6%	21.5%	29.5%
Impervious	2.2%	2%	1.9%	1.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	PFAS in Fish Tissue	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
PFAS in Fish Tissue	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 the West Branch Ware River (MA36-02) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted downstream in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the West Branch Ware River (referred to by MDPH as ''Ware River'') in their May 2024 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. No source of PFAS has been identified at this time.

Fish Tissue Data

Summary of Fish Tissue Data and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP 2023) (MassDEP Undated 5)

Summary
Fish toxics sampling was conducted downstream in the Ware River (MA36-05) at station F0490 (PFAS Study ID 50) [on Ware River in Ware Impoundment east of Greenville Park, (impounded by Ware Industries-Upper NAT ID: MA00594), Ware] on 11/03/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for West Branch Ware River (referred to by MDPH as Ware River) in their May 2024 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for the West Branch Ware River (MA36-02).

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
There are no data available to assess the status of the Aesthetics Use for West Branch Ware River (MA36-02), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the West Branch Ware River (MA36-02) is assessed as Fully Supporting. MA DCR (DCRWS) staff collected *E. coli* bacteria samples in the West Branch Ware River (MA36-02) from 2011-2022 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_115 [Brigham Pond outlet] from 2014 and 2018 (n=15-16/yr), DCRWS_107A [Brigham Rd] from 2011-2022 (n=9-16/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_115 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_107A indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >126 CFU/100ml, 0 yrs had >10% of samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. *E. coli* data from DCRWS_115 and DCRWS_107A meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_107A	MA DCR Division of Water Supply Protection	Water Quality	West Branch Ware River	Brigham Rd	42.435204	-72.017186
DCRWS_115	MA DCR Division of Water Supply Protection	Water Quality	West Branch Ware River	Brigham Pond outlet	42.468227	-71.999756

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 2)

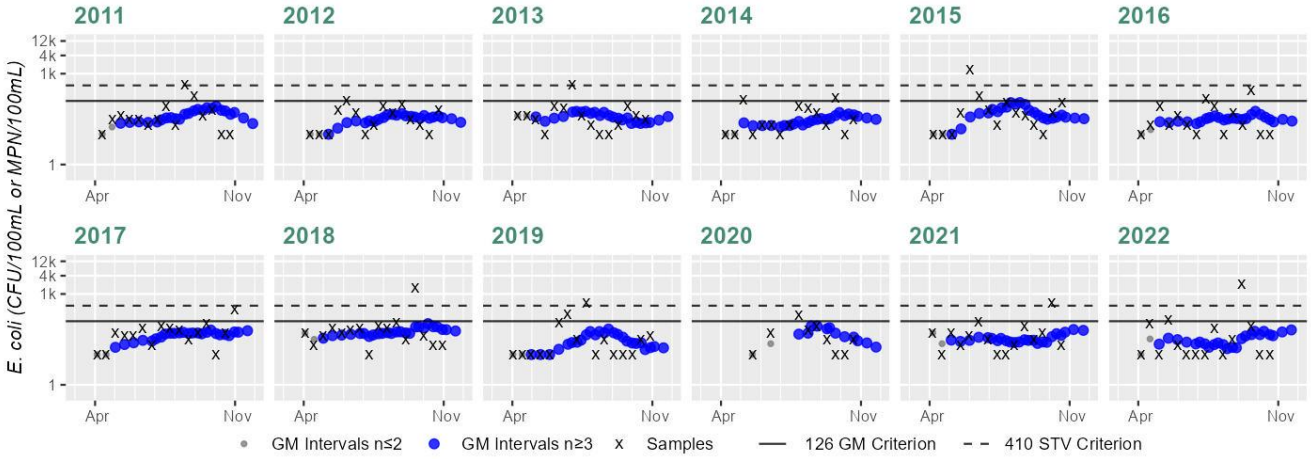
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/12/11	10/25/11	15	10	426	36
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/10/12	10/23/12	15	10	132	29
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/09/13	10/22/13	15	10	422	36
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	156	27
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/07/15	10/20/15	15	10	1400	43

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/05/16	10/18/16	15	10	275	29
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/04/17	10/31/17	16	10	295	43
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	1530	53
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/02/19	10/29/19	16	10	504	24
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	05/18/20	10/20/20	9	10	203	33
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/06/21	10/19/21	15	10	504	36
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	04/05/22	10/19/22	15	10	2100	29
DCRWS_115	MA DCR Division of Water Supply Protection	E. coli	04/08/14	10/21/14	15	10	52	13
DCRWS_115	MA DCR Division of Water Supply Protection	E. coli	04/03/18	10/30/18	16	10	1170	28

Station DCRWS_107A - Escherichia coli

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



Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	29
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	27
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	43
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	29
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	43
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	53
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	24
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	9
SeasGM	33
#GMI	13
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	36
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	29
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

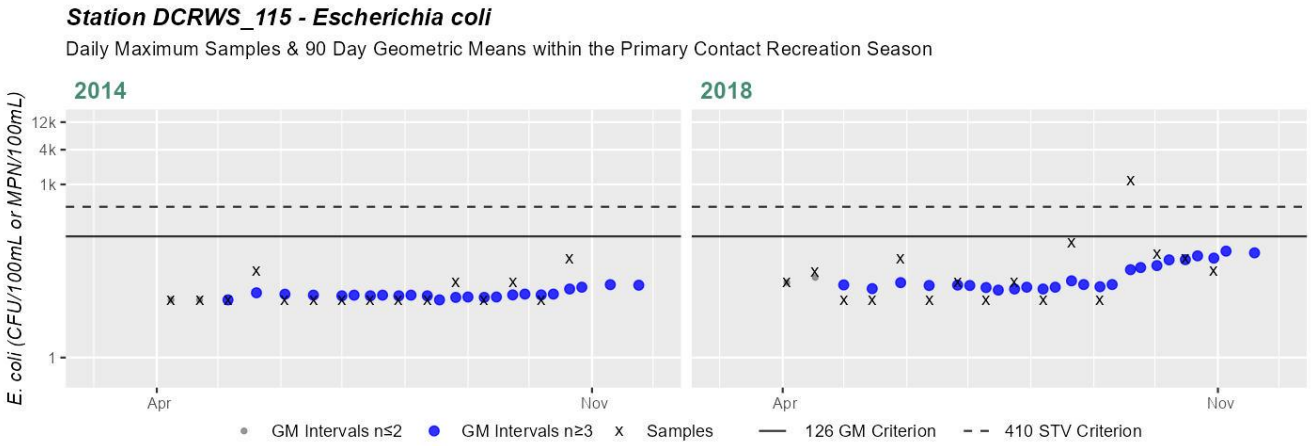
Cumulative %GMI Exceedance Current (2011-2022)

0%

Cumulative %GMI Exceedance Current (Recent 5 Years)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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	15
SeasGM	13
#GMI	25
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	28
#GMI	27
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

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

*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the West Branch Ware River (MA36-02) is assessed as Fully Supporting. MA DCR (DCRWS) and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the West Branch Ware River (MA36-02) from 2008-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: DCRWS_115 [Brigham Pond outlet] from Jan-Dec 2010 (historic n=26) and 2014 and 2018 (current n=26/yr), W2017 [Brigham Rd, Hubbardson] from Sep 2008 (n=1), DCRWS_107A [Brigham Rd] from 2008-2010 (historic n=20-26/yr) and 2011-2022 (current n=19-26/yr). Analysis of the multi-year high frequency *E. coli* dataset from DCRWS_115 indicated 0 out of 2 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the recent five years of this multi-year high frequency *E. coli* dataset from DCRWS_107A indicated 0 out of 5 sufficient data yrs had intervals where >10% of the GMs were >244 CFU/100ml, 0 yrs had >10% of samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from DCRWS_115 and DCRWS_107A meet 2024 CALM guidance.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
DCRWS_107A	MA DCR Division of Water Supply Protection	Water Quality	West Branch Ware River	Brigham Rd	42.435204	-72.017186
DCRWS_115	MA DCR Division of Water Supply Protection	Water Quality	West Branch Ware River	Brigham Pond outlet	42.468227	-71.999756
W2017	MassDEP	Water Quality	West Branch Ware River	[Brigham Road, Hubbardson]	42.435682	-72.017218

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (MA DCR 2023) (MassDEP Undated 1) (MassDEP Undated 6) (MassDEP Undated 3)

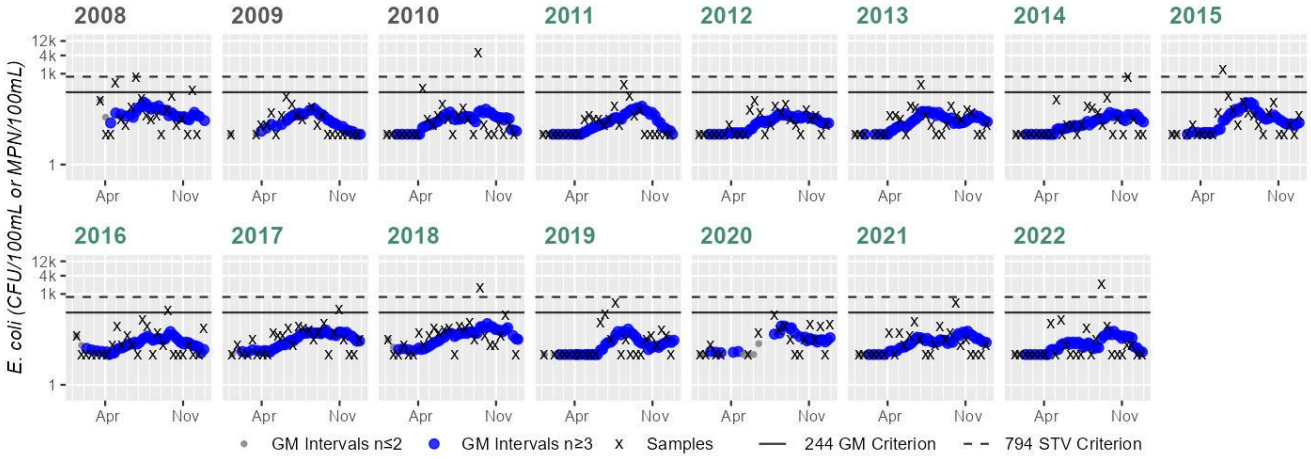
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	03/18/08	12/09/08	20	10	738	47
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/06/09	12/22/09	21	10	175	21
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/05/10	12/21/10	26	10	4880	24
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/04/11	12/20/11	26	10	426	21
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/03/12	12/18/12	26	10	132	21
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/02/13	12/31/13	26	10	422	24
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	744	21
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/13/15	12/28/15	25	10	1400	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/12/16	12/27/16	26	10	275	21
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/10/17	12/26/17	26	10	295	28
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	25	10	1530	37
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/08/19	12/23/19	25	10	504	20
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/07/20	12/28/20	19	10	203	27
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/12/21	12/28/21	26	10	504	22
DCRWS_107A	MA DCR Division of Water Supply Protection	E. coli	01/11/22	12/27/22	26	10	2100	19
DCRWS_115	MA DCR Division of Water Supply Protection	E. coli	01/05/10	12/21/10	26	10	131	14
DCRWS_115	MA DCR Division of Water Supply Protection	E. coli	01/14/14	12/30/14	26	10	52	11
DCRWS_115	MA DCR Division of Water Supply Protection	E. coli	01/09/18	12/26/18	26	10	1170	19
W2017	MassDEP	E. coli	09/30/08	09/30/08	1	150	150	149

Station DCRWS_107A - Escherichia coli

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



Variable*	Result
Samples	20
SeasGM	47
#GMI	35
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	21
SeasGM	21
#GMI	36
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	24
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	27
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	26
SeasGM	21
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	28
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	25
SeasGM	37
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	25
SeasGM	20
#GMI	45
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	19
SeasGM	27
#GMI	28
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	22
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

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

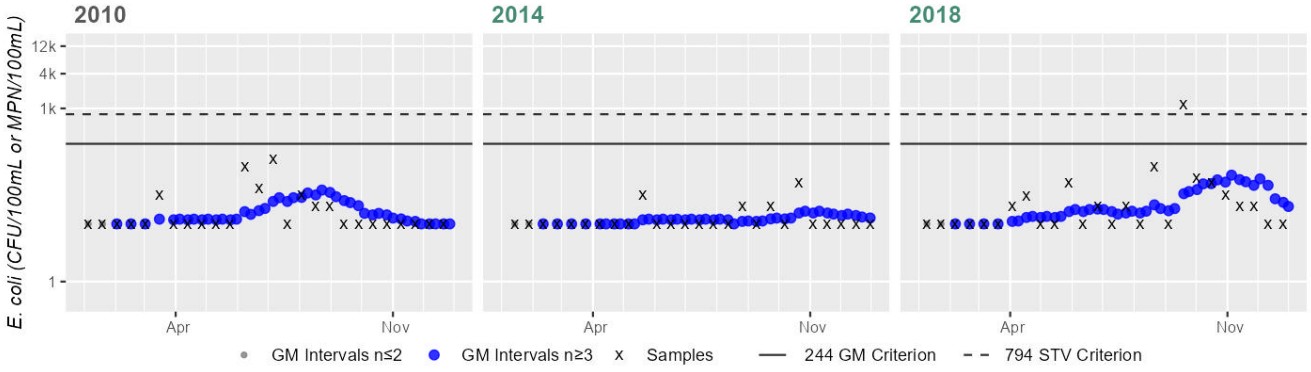
Cumulative %GMI Exceedance
Current (2011-2022)
0%

Cumulative %GMI Exceedance
Current (Recent 5 Years)
0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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 DCRWS_115 - Escherichia coli

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



Variable*	Result
Samples	26
SeasGM	14
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	11
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	26
SeasGM	19
#GMI	47
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

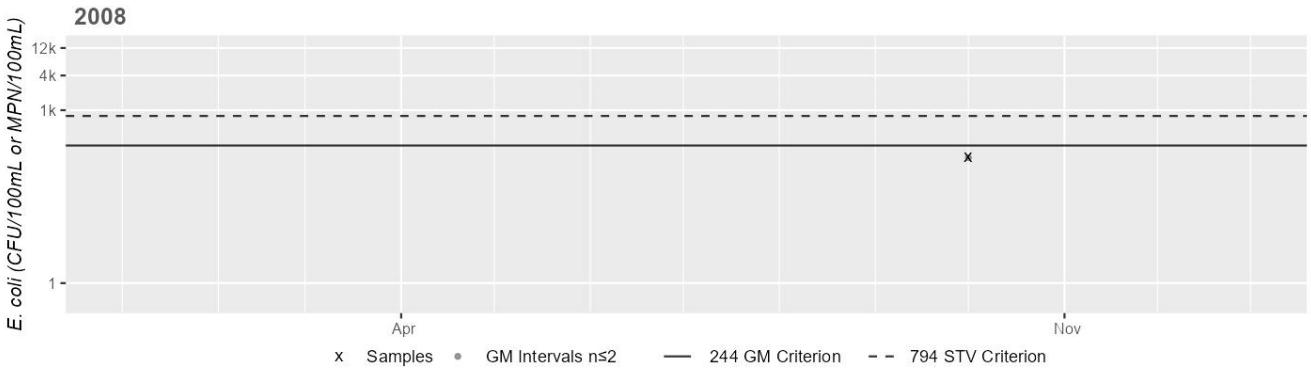
Cumulative %GMI Exceedance Historic (1997-2010)
0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; 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_W2017 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	150
#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 Exeedances; %GMI Ex = % GMI Exeedances; 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.*

Wickaboag Pond (MA36166)

Location:	West Brookfield.
AU Type:	FRESHWATER LAKE
AU Size:	316 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Mercury in Fish Tissue	33880	Added
4a	4a	Turbidity	1332	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Turbidity	Agriculture (Y)	--	--	X	X	X
Turbidity	Rural (Residential Areas) (Y)	--	--	X	X	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 Wickaboag Pond (MA36166) is assessed as Not Supporting with a new impairment being added for Mercury in Fish Tissue. Fish toxics sampling was conducted in Wickaboag Pond (MA36166) at station F0393 in 2021 as part of the MassDEP Office of Research and Standards Mercury Initiative. MDPH issued a site-specific advisory for Mercury in Wickaboag Pond (referred to by MDPH as ''Wickaboag, Lake'') in their July 2022 Freshwater Fish Consumption Advisory List and retained it in the January 2025 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. The likely source of Mercury, although not confirmed, is atmospheric deposition.

Fish Consumption Advisories

Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories (MA DPH 2025) (MassDEP Undated 5)

Summary Statement
Fish toxics sampling was conducted in Wickaboag Pond (MA36166) at station F0393 in 2021 as part of the MassDEP Office of Research and Standards Mercury Initiative. Because of elevated Mercury measured in fish filets, MDPH issued site-specific fish consumption advisories for Wickaboag Pond (referred to by MDPH as Wickaboag, Lake) in their July 2022 Freshwater Fish Consumption Advisory List and retained them in the January 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for Mercury in Fish Tissue for Wickaboag Pond (MA36166).

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Wickaboag Pond (MA36166) continues to be assessed as Not Supporting with the prior Turbidity impairment being carried forward. No new data are available to evaluate the Aesthetics Use for this Wickaboag Pond AU.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Wickaboag Pond (MA36166) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity 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 Wickaboag Pond (MA36166) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity impairment (from the Aesthetics Use) is being carried forward.

Winimusset Brook (MA36-69)

Location:	Headwaters, west of Padre Road, New Braintree to mouth at confluence with the Ware River, New Braintree.
AU Type:	RIVER
AU Size:	3.2 MILES
Classification/Qualifier:	B

No usable data were available for Winimusset Brook (MA36-69) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None	--	Unchanged

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.

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CRC. "2012-2022 bacteria data downloaded from WQX (last download 1/18/2023)." Connecticut River Conservancy, Greenfield, MA, 2023.

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MassDEP. "Integrated Listing History 1992-2020 (Excel file)." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2022.

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 files of fish toxicity testing data, metadata, and GIS datalayers in development." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 5.

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 6.

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