Final Massachusetts Integrated List of Waters for the Clean Water Act 2022 Reporting Cycle

Appendix 24
Taunton River Basin
Assessment and Listing Decision Summary

Prepared by:
Watershed Planning Program
Division of Watershed Management, Bureau of Water Resources
Massachusetts Department of Environmental Protection

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
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Massachusetts Department of Environmental Protection

MassDEP's mission is to protect and enhance the Commonwealth's natural resources – air, water, and land – to provide for the health, safety, and welfare of all people, and to ensure a clean and safe environment for future generations. In carrying out this mission MassDEP commits to address and advance environmental justice and equity for all people of the Commonwealth; provide meaningful, inclusive opportunities for people to participate in agency decisions that affect their lives; and ensure a diverse workforce that reflects the communities we serve.

Watershed Planning Program

The Watershed Planning Program is a statewide program in the Division of Watershed Management, Bureau of Water Resources, at MassDEP. We are stewards of the water resources of Massachusetts. Together with other state environmental agencies, we share in the duty and responsibility to protect, enhance, and restore the quality and value of the waters of the Commonwealth. We are guided by the federal Clean Water Act and work to secure the environmental, recreational, and public health benefits of clean water for the residents of Massachusetts. The Watershed Planning Program is organized into five Sections that each have a different technical focus under the Clean Water Act: (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 Pollution.

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: https://www.mass.gov/lists/integrated-lists-of-waters-related-reports.

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2022 Cycle Impairment Changes

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Ames Long Pond	MA62001	5	5	(Aquatic Plants (Macrophytes)*)		Changed
Ames Long Pond	MA62001	5	5	(Fanwort*)		Unchanged
Ames Long Pond	MA62001	5	5	(Non-Native Aquatic Plants*)		Unchanged
Ames Long Pond	MA62001	5	5	Nutrient/Eutrophication Biological Indicators		Added
Ames Long Pond	MA62001	5	5	Turbidity		Unchanged
Assawompset Pond	MA62003	3	3	None		Unchanged
Assonet River	MA62-19	4c	4c	(Fish Passage Barrier*)		Unchanged
Assonet River	MA62-20	4a	5	Enterococcus		Added
Assonet River	MA62-20	4a	5	Fecal Coliform	40309	Unchanged
Barrowsville Pond	MA62007	4c	4c	(Water Chestnut*)		Unchanged
Beaumont Pond	MA62009	3	3	None		Unchanged
Beaver Brook	MA62-09	4a	4a	Escherichia Coli (E. Coli)	40308	Unchanged
Beaver Brook	MA62-09	4a	4a	Fecal Coliform	40308	Unchanged
Beaver Brook	MA62-30	3	3	None		Unchanged
Big Bearhole Pond	MA62011	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Big Bearhole Pond	MA62011	5	5	(Fanwort*)		Unchanged
Big Bearhole Pond	MA62011	5	5	Dissolved Oxygen		Unchanged
Briggs Pond	MA62021	3	3	None		Unchanged
Broad Cove	MA62-50	4a	4a	Fecal Coliform	40309	Unchanged
Brockton Reservoir	MA62023	4c	4c	(Fanwort*)		Unchanged
Cain Pond	MA62030	5	5	Dissolved Oxygen		Unchanged
Cain Pond	MA62030	5	5	Turbidity		Unchanged
Canoe River	MA62-64	2	2	None		Unchanged
Canoe River	MA62-65	3	3	None		Unchanged
Canoe River	MA62-66	2	2	None		Unchanged
Carpenter Pond	MA62032	3	3	None		Unchanged
Carver Pond	MA62033	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Cedar Swamp River	MA62-44	3	3	None		Unchanged
Chaffin Reservoir	MA62035	3	3	None		Unchanged
Chartley Pond	MA62038	3	3	None		Unchanged
Clear Pond	MA62041	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Cleveland Pond	MA62042	4c	5	(Fanwort*)		Unchanged
Cleveland Pond	MA62042	4c	5	Mercury in Fish Tissue		Added
Cobb Brook	MA62-43	3	3	None		Unchanged
Cocasset Lake	MA62043	3	3	None		Unchanged
Cooper Pond	MA62046	3	3	None		Unchanged
Cotley River	MA62-41	3	5	Enterococcus		Added
Coweeset Brook	MA62-22	3	2	None		Unchanged
Crocker Pond	MA62051	4c	4c	(Curly-leaf Pondweed*)		Unchanged
Cross Pond	MA62052	3	3	None		Unchanged
Cross Street Pond	MA62053	3	3	None		Unchanged

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Cushing Pond	MA62056	4c	4c	(Fanwort*)		Unchanged
Elm Street Pond	MA62066	3	3	None		Unchanged
Fall Brook	MA62-72	4c	4c	(Fish Passage Barrier*)		Unchanged
Fall Brook	MA62-81	--	5	(Non-Native Aquatic Plants*)		Unchanged
Fall Brook	MA62-81	--	5	Benthic Macroinvertebrates		Added
Forge River	MA62-37	4c	5	(Fish Passage Barrier*)		Unchanged
Forge River	MA62-37	4c	5	Enterococcus		Added
Fuller Street Pond	MA62234	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Furnace Brook	MA62-73	4c	5	(Fish Passage Barrier*)		Unchanged
Furnace Brook	MA62-73	4c	5	Enterococcus		Added
Furnace Lake	MA62076	3	3	None		Unchanged
Gavins Pond	MA62077	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Glue Factory Pond	MA62078	3	3	None		Unchanged
Great Quittacas Pond	MA62083	3	3	None		Unchanged
Gushee Pond	MA62084	4c	4c	(Fanwort*)		Unchanged
Gushee Pond	MA62084	4c	4c	(Fish Passage Barrier*)		Unchanged
Gushee Pond	MA62084	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Hartwell School Pond	MA62086	3	3	None		Unchanged
Hockomock River	MA62-35	2	5	Benthic Macroinvertebrates		Added
Island Grove Pond	MA62094	5	5	(Fanwort*)		Unchanged
Island Grove Pond	MA62094	5	5	Algae		Unchanged
Island Grove Pond	MA62094	5	5	Turbidity		Unchanged
Johns Pond	MA62096	3	3	None		Unchanged
Kings Pond	MA62101	4c	4c	(Fish Passage Barrier*)		Unchanged
Lake Mirimichi	MA62118	4c	4c	(Fanwort*)		Unchanged
Lake Nippenicket	MA62131	4a	4a	(Fanwort*)		Unchanged
Lake Nippenicket	MA62131	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Lake Rico	MA62148	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Lake Rico	MA62148	4c	4c	(Fanwort*)		Unchanged
Lake Rico	MA62148	4c	4c	(Fish Passage Barrier*)		Unchanged
Lake Sabbatia	MA62166	5	5	(Fanwort*)		Unchanged
Lake Sabbatia	MA62166	5	5	(Non-Native Aquatic Plants*)		Unchanged
Lake Sabbatia	MA62166	5	5	Dissolved Oxygen		Unchanged
Leach Pond	MA62103	3	3	None		Unchanged
Little Cedar Swamp	MA62106	3	3	None		Unchanged
Little Quittacas Pond	MA62107	3	3	None		Unchanged
Long Pond	MA62108	4c	4c	(Fanwort*)		Unchanged
Long Pond	MA62108	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Long Pond River	MA62-74	3	3	None		Unchanged
Longwater Pond	MA62109	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Lovett Brook	MA62-46	3	3	None		Unchanged
Lower Porter Pond	MA62111	4c	4c	(Fanwort*)		Unchanged
Matfield River	MA62-32	5	5	Algae		Unchanged
Matfield River	MA62-32	5	5	Benthic Macroinvertebrates		Unchanged

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Matfield River	MA62-32	5	5	Dissolved Oxygen		Unchanged
Matfield River	MA62-32	5	5	Enterococcus		Added
Matfield River	MA62-32	5	5	Escherichia Coli (E. Coli)	40308	Unchanged
Matfield River	MA62-32	5	5	Fecal Coliform	40308	Unchanged
Matfield River	MA62-32	5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
Matfield River	MA62-32	5	5	Odor		Unchanged
Matfield River	MA62-32	5	5	Phosphorus, Total		Unchanged
Meadow Brook	MA62-38	4a	4a	(Fish Passage Barrier*)		Unchanged
Meadow Brook	MA62-38	4a	4a	Escherichia Coli (E. Coli)	40308	Unchanged
Meadow Brook	MA62-38	4a	4a	Fecal Coliform	40308	Unchanged
Meadow Brook Pond	MA62113	3	3	None		Unchanged
Middle Pond	MA62115	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Middle Pond	MA62115	4c	4c	(Fanwort*)		Unchanged
Mill River	MA62-29	5	5	(Fanwort*)		Unchanged
Mill River	MA62-29	5	5	Benthic Macroinvertebrates		Added
Mill River	MA62-29	5	5	Enterococcus		Added
Mill River	MA62-29	5	5	Escherichia Coli (E. Coli)		Added
Mill River	MA62-29	5	5	Temperature		Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	(Curly-leaf Pondweed*)		Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	(Fanwort*)		Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	(Non-Native Aquatic Plants*)		Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	Chlorophyll-a	R1_MA_2022_01	Changed
Monponsett Pond, East Basin	MA62218	5	4a	Harmful Algal Blooms	R1_MA_2022_01	Changed
Monponsett Pond, East Basin	MA62218	5	4a	Mercury in Fish Tissue	33880	Unchanged
Monponsett Pond, East Basin	MA62218	5	4a	Phosphorus, Total	R1_MA_2022_01	Changed
Monponsett Pond, West Basin	MA62119	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Monponsett Pond, West Basin	MA62119	5	5	(Fanwort*)		Unchanged
Monponsett Pond, West Basin	MA62119	5	5	Chlorophyll-a	R1_MA_2022_01	Changed
Monponsett Pond, West Basin	MA62119	5	5	Harmful Algal Blooms	R1_MA_2022_01	Changed
Monponsett Pond, West Basin	MA62119	5	5	Mercury in Fish Tissue		Added
Monponsett Pond, West Basin	MA62119	5	5	Phosphorus, Total	R1_MA_2022_01	Changed

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Monponsett Pond, West Basin	MA62119	5	5	Transparency / Clarity	R1_MA_2022_01	Changed
Mount Hope Mill Pond	MA62122	4c	4c	(Fanwort*)		Unchanged
Mount Hope Mill Pond	MA62122	4c	4c	(Fish Passage Barrier*)		Removed
Muddy Cove Brook	MA62-51	4a	4a	(Fish Passage Barrier*)		Unchanged
Muddy Cove Brook	MA62-51	4a	4a	Fecal Coliform	40309	Unchanged
Muddy Cove Brook	MA62-58	3	3	None		Unchanged
Muddy Cove Brook	MA62-59	4c	4c	(Fish Passage Barrier*)		Unchanged
Muddy Cove Brook Pond	MA62124	5	5	(Fish Passage Barrier*)		Unchanged
Muddy Cove Brook Pond	MA62124	5	5	Algae		Unchanged
Muddy Cove Brook Pond	MA62124	5	5	Turbidity		Unchanged
Muddy Pond	MA62125	4c	4c	(Fanwort*)		Unchanged
Muddy Pond	MA62126	3	3	None		Unchanged
Muddy Pond	MA62233	3	3	None		Unchanged
Mulberry Meadow Brook	MA62-31	3	3	None		Unchanged
Mullein Hill Chapel Pond	MA62127	3	3	None		Unchanged
Nemasket River	MA62-25	5	5	Ambient Bioassays - Chronic Aquatic Toxicity		Unchanged
Nemasket River	MA62-25	5	5	Benthic Macroinvertebrates		Added
Nemasket River	MA62-25	5	5	Dissolved Oxygen		Unchanged
Nemasket River	MA62-25	5	5	Temperature		Unchanged
Nemasket River	MA62-26	2	5	Enterococcus		Added
New Pond	MA62130	4c	4c	(Fanwort*)		Unchanged
North Center Street Pond	MA62132	3	3	None		Unchanged
Norton Reservoir	MA62134	5	5	(Fanwort*)		Unchanged
Norton Reservoir	MA62134	5	5	(Non-Native Aquatic Plants*)		Unchanged
Norton Reservoir	MA62134	5	5	Algae		Unchanged
Norton Reservoir	MA62134	5	5	Dioxin (including 2,3,7,8-TCDD)		Unchanged
Norton Reservoir	MA62134	5	5	Pentachlorophenol (PCP)		Unchanged
Norton Reservoir	MA62134	5	5	Phosphorus, Total		Unchanged
Norton Reservoir	MA62134	5	5	Turbidity		Unchanged
Oakland Pond	MA62136	4c	4c	(Fish Passage Barrier*)		Unchanged
Pine Swamp Brook	MA62-77	--	5	Benthic Macroinvertebrates		Added
Pine Swamp Brook	MA62-77	--	5	Dissolved Oxygen		Added

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Pine Swamp Brook	MA62-77	--	5	Escherichia Coli (E. Coli)		Added
Plymouth Street Pond	MA62141	3	4c	(Fish Passage Barrier*)		Added
Pocksha Pond	MA62145	3	3	None		Unchanged
Poor Meadow Brook	MA62-34	2	5	Escherichia Coli (E. Coli)		Added
Poquoy Brook	MA62-71	4c	4c	(Fish Passage Barrier*)		Unchanged
Poquoy Brook Pond	MA62146	4c	4c	(Fish Passage Barrier*)		Unchanged
Poquoy Pond	MA62147	3	3	None		Unchanged
Prospect Hill Pond	MA62149	3	3	None		Unchanged
Puddingshear Brook	MA62-75	--	5	Benthic Macroinvertebrates		Added
Puddingshear Brook	MA62-75	--	5	Escherichia Coli (E. Coli)		Added
Puddingshear Brook	MA62-75	--	5	Temperature		Added
Puds Pond	MA62151	3	3	None		Unchanged
Queset Brook	MA62-67	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Queset Brook	MA62-68	3	3	None		Unchanged
Rattlesnake Brook	MA62-45	2	2	None		Unchanged
Reservoir (White Oak Reservoir)	MA62157	5	5	(Fanwort*)		Unchanged
Reservoir (White Oak Reservoir)	MA62157	5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
Reservoir (White Oak Reservoir)	MA62157	5	5	Phosphorus, Total		Unchanged
Richmond Pond	MA62159	4c	4c	(Fanwort*)		Unchanged
Robbins Pond	MA62162	3	3	None		Unchanged
Robinson Brook	MA62-14	5	5	(Physical Substrate Habitat Alterations*)		Unchanged
Robinson Brook	MA62-14	5	5	Benthic Macroinvertebrates		Unchanged
Route One Pond, West	MA62165	3	3	None		Unchanged
Rumford River	MA62-40	2	2	None		Unchanged
Rumford River	MA62-62	4c	5	(Non-Native Aquatic Plants*)		Unchanged
Rumford River	MA62-62	4c	5	Benthic Macroinvertebrates		Added
Rumford River	MA62-63	5	5	(Curly-leaf Pondweed*)		Unchanged
Rumford River	MA62-63	5	5	Benthic Macroinvertebrates		Unchanged
Rumford River	MA62-63	5	5	Dioxin (including 2,3,7,8-TCDD)		Unchanged
Rumford River	MA62-63	5	5	Fish Bioassessments		Removed
Rumford River	MA62-63	5	5	Pentachlorophenol (PCP)		Unchanged
Salisbury Brook	MA62-08	5	5	(Debris*)		Unchanged
Salisbury Brook	MA62-08	5	5	(Non-Native Aquatic Plants*)		Unchanged
Salisbury Brook	MA62-08	5	5	(Physical Substrate Habitat Alterations*)		Unchanged
Salisbury Brook	MA62-08	5	5	Algae		Unchanged
Salisbury Brook	MA62-08	5	5	Benthic Macroinvertebrates		Unchanged

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Salisbury Brook	MA62-08	5	5	Escherichia Coli (E. Coli)	40308	Unchanged
Salisbury Brook	MA62-08	5	5	Fecal Coliform	40308	Unchanged
Salisbury Brook	MA62-08	5	5	Sedimentation/Siltation		Unchanged
Salisbury Brook	MA62-08	5	5	Trash		Unchanged
Salisbury Plain River	MA62-05	5	5	(Debris*)		Unchanged
Salisbury Plain River	MA62-05	5	5	(Physical Substrate Habitat Alterations*)		Unchanged
Salisbury Plain River	MA62-05	5	5	Benthic Macroinvertebrates		Added
Salisbury Plain River	MA62-05	5	5	Dissolved Oxygen		Unchanged
Salisbury Plain River	MA62-05	5	5	Escherichia Coli (E. Coli)	40308	Unchanged
Salisbury Plain River	MA62-05	5	5	Fecal Coliform	40308	Unchanged
Salisbury Plain River	MA62-05	5	5	Sedimentation/Siltation		Unchanged
Salisbury Plain River	MA62-05	5	5	Trash		Unchanged
Salisbury Plain River	MA62-06	5	5	Algae		Unchanged
Salisbury Plain River	MA62-06	5	5	Benthic Macroinvertebrates		Unchanged
Salisbury Plain River	MA62-06	5	5	Dissolved Oxygen		Unchanged
Salisbury Plain River	MA62-06	5	5	Escherichia Coli (E. Coli)	40308	Unchanged
Salisbury Plain River	MA62-06	5	5	Fecal Coliform	40308	Unchanged
Salisbury Plain River	MA62-06	5	5	Odor		Unchanged
Salisbury Plain River	MA62-06	5	5	Phosphorus, Total		Unchanged
Salisbury Plain River	MA62-06	5	5	Turbidity		Unchanged
Sassaquin Pond	MA62232	5	5	(Curly-leaf Pondweed*)		Unchanged
Sassaquin Pond	MA62232	5	5	Algae		Unchanged
Sassaquin Pond	MA62232	5	5	Fecal Coliform		Unchanged
Sassaquin Pond	MA62232	5	5	Harmful Algal Blooms		Unchanged
Sassaquin Pond	MA62232	5	5	Odor		Unchanged
Satucket River	MA62-10	5	5	(Non-Native Aquatic Plants*)		Unchanged
Satucket River	MA62-10	5	5	Dissolved Oxygen		Added
Satucket River	MA62-10	5	5	Lead		Added
Satucket River	MA62-10	5	5	Temperature		Unchanged
Savery Pond	MA62167	4c	4c	(Fanwort*)		Unchanged
Sawmill Brook	MA62-36	2	2	None		Unchanged
Segreganset River	MA62-53	4c	5	(Dewatering*)		Unchanged
Segreganset River	MA62-53	4c	5	(Fish Passage Barrier*)		Unchanged
Segreganset River	MA62-53	4c	5	Enterococcus		Added

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Segreganset River	MA62-54	4c	4c	(Dewatering*)		Unchanged
Segreganset River	MA62-54	4c	4c	(Fish Passage Barrier*)		Unchanged
Segreganset River	MA62-55	4a	4a	Fecal Coliform	40309	Unchanged
Shumatuscacant River	MA62-33	5	5	(Non-Native Aquatic Plants*)		Unchanged
Shumatuscacant River	MA62-33	5	5	(Physical Substrate Habitat Alterations*)		Unchanged
Shumatuscacant River	MA62-33	5	5	Benthic Macroinvertebrates		Added
Shumatuscacant River	MA62-33	5	5	Dissolved Oxygen		Unchanged
Shumatuscacant River	MA62-33	5	5	Escherichia Coli (E. Coli)		Added
Shumatuscacant River	MA62-33	5	5	Fecal Coliform	40308	Unchanged
Shumatuscacant River	MA62-33	5	5	Sedimentation/Siltation		Unchanged
Snake River	MA62-28	3	3	None		Unchanged
Somerset Reservoir	MA62174	4a	4a	Mercury in Fish Tissue	33880	Unchanged
Stetson Pond	MA62182	5	5	(Curly-leaf Pondweed*)		Unchanged
Stetson Pond	MA62182	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
Stetson Pond	MA62182	5	5	(Fanwort*)		Unchanged
Stetson Pond	MA62182	5	5	(Water Chestnut*)		Unchanged
Stetson Pond	MA62182	5	5	Dissolved Oxygen		Unchanged
Stetson Pond	MA62182	5	5	Harmful Algal Blooms		Unchanged
Stetson Pond	MA62182	5	5	Phosphorus, Total		Unchanged
Sunset Lake	MA62184	3	3	None		Unchanged
Taunton River	MA62-01	5	5	Dissolved Oxygen		Unchanged
Taunton River	MA62-01	5	5	Enterococcus		Added
Taunton River	MA62-01	5	5	Escherichia Coli (E. Coli)		Unchanged
Taunton River	MA62-02	5	5	Chlorophyll-a		Unchanged
Taunton River	MA62-02	5	5	Enterococcus	40310	Unchanged
Taunton River	MA62-02	5	5	Fecal Coliform	40310	Unchanged
Taunton River	MA62-02	5	5	Nitrogen, Total		Unchanged
Taunton River	MA62-02	5	5	Phosphorus, Total		Unchanged
Taunton River	MA62-03	5	5	Dissolved Oxygen		Unchanged
Taunton River	MA62-03	5	5	Enterococcus		Added
Taunton River	MA62-03	5	5	Fecal Coliform	40310	Unchanged
Taunton River	MA62-03	5	5	Nitrogen, Total		Unchanged
Taunton River	MA62-04	5	5	Dissolved Oxygen		Unchanged
Taunton River	MA62-04	5	5	Enterococcus	40310	Unchanged
Taunton River	MA62-04	5	5	Fecal Coliform	40310	Unchanged
Taunton River	MA62-04	5	5	Fish Bioassessments		Unchanged
Taunton River	MA62-04	5	5	Nitrogen, Total		Unchanged
The Creek	MA62-76	--	5	Fecal Coliform		Added
The Reservoir	MA62189	3	3	None		Unchanged
Thirtyacre Pond	MA62190	4c	4c	(Fanwort*)		Unchanged
Threemile River	MA62-56	4c	5	(Fish Passage Barrier*)		Unchanged

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Threemile River	MA62-56	4c	5	Enterococcus		Added
Threemile River	MA62-57	4a	5	Enterococcus		Added
Threemile River	MA62-57	4a	5	Fecal Coliform	40310	Unchanged
Thurston Street Pond	MA62192	3	3	None		Unchanged
Tispaquin Pond	MA62195	3	3	None		Unchanged
Town River	MA62-11	4c	4c	(Fish Passage Barrier*)		Unchanged
Town River	MA62-12	4c	4c	(Fish Passage Barrier*)		Unchanged
Town River	MA62-13	4c	5	(Non-Native Aquatic Plants*)		Unchanged
Town River	MA62-13	4c	5	Benthic Macroinvertebrates		Added
Town River	MA62-13	4c	5	Enterococcus		Added
Trout Brook	MA62-07	5	5	(Habitat Assessment*)		Unchanged
Trout Brook	MA62-07	5	5	Benthic Macroinvertebrates		Unchanged
Trout Brook	MA62-07	5	5	Dissolved Oxygen		Unchanged
Trout Brook	MA62-07	5	5	Escherichia Coli (E. Coli)	40308	Unchanged
Trout Brook	MA62-07	5	5	Fecal Coliform	40308	Unchanged
Turnpike Lake	MA62198	4c	4c	(Fanwort*)		Unchanged
Turnpike Lake	MA62198	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Unnamed Tributary	MA62-42	5	5	Benthic Macroinvertebrates		Unchanged
Unnamed Tributary	MA62-42	5	5	Fish Bioassessments		Unchanged
Unnamed Tributary	MA62-48	5	5	(Flow Regime Modification*)		Unchanged
Unnamed Tributary	MA62-48	5	5	(Physical Substrate Habitat Alterations*)		Unchanged
Unnamed Tributary	MA62-48	5	5	Benthic Macroinvertebrates		Unchanged
Unnamed Tributary	MA62-48	5	5	Fish Bioassessments		Unchanged
Unnamed Tributary	MA62-48	5	5	Temperature		Unchanged
Unnamed Tributary	MA62-69	2	2	None		Unchanged
Unnamed Tributary	MA62-70	4c	4c	(Fanwort*)		Unchanged
Unnamed Tributary	MA62-70	4c	4c	(Fish Passage Barrier*)		Unchanged
Unnamed Tributary	MA62-78	--	5	Benthic Macroinvertebrates		Added
Unnamed Tributary	MA62-80	--	4c	(Fish Passage Barrier*)		Added
Upper Leach Pond	MA62123	3	3	None		Unchanged
Upper Porter Pond	MA62200	4c	4c	(Fanwort*)		Unchanged
Wading River	MA62-47	5	5	Algae		Unchanged
Wading River	MA62-60	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
Wading River	MA62-61	2	5	Benthic Macroinvertebrates		Added
Waldo Lake	MA62201	4c	4c	(Fanwort*)		Unchanged
Watson Pond	MA62205	5	5	(Fanwort*)		Unchanged

Waterbody	AU_ID	2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Watson Pond	MA62205	5	5	Algae		Unchanged
Watson Pond	MA62205	5	5	Dissolved Oxygen		Unchanged
Watson Pond	MA62205	5	5	Enterococcus		Unchanged
Watson Pond	MA62205	5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
Watson Pond	MA62205	5	5	Phosphorus, Total		Unchanged
Watson Pond	MA62205	5	5	Transparency / Clarity		Unchanged
Weir Village North Pond	MA62206	4c	4c	(Fish Passage Barrier*)		Unchanged
Weir Village South Pond	MA62207	3	3	None		Unchanged
West Meadow Pond	MA62208	4c	4c	(Non-Native Aquatic Plants*)		Unchanged
White Oak Brook	MA62-79	--	2	None		Unchanged
Whiteville Pond	MA62211	3	3	None		Unchanged
Winnecunnet Pond	MA62213	4c	4c	(Fanwort*)		Unchanged
Winnetuxet River	MA62-24	3	3	None		Unchanged
Wolomolopoag Pond	MA62216	3	3	None		Unchanged
Woods Pond	MA62220	5	5	(Fanwort*)		Unchanged
Woods Pond	MA62220	5	5	Turbidity		Unchanged

Ames Long Pond (MA62001)

Location:	Stoughton/Easton.
AU Type:	FRESHWATER LAKE
AU Size:	88 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Aquatic Plants (Macrophytes)*)		Changed
5	5	(Fanwort*)		Unchanged
5	5	(Non-Native Aquatic Plants*)		Unchanged
5	5	Nutrient/Eutrophication Biological Indicators		Added
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Aquatic Plants (Macrophytes)*)	Source Unknown (N)			X	X	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		X	X	X
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)			X	X	X
Turbidity	Source Unknown (N)			X	X	X

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Aquatic Plants (Macrophytes)	Not caused by a pollutant (4c)	As described in detail in the 2022 CALM guidance document (MassDEP 2021), the mapping of Aquatic Plants (Macrophytes) impairments as a pollutant is being reevaluated. Ames Long Pond (MA62001) was first listed as impaired for Noxious Aquatic Plants in 1992 and this cause was remapped to Aquatic Plants (Macrophytes) during the 2010 IR cycle (MassDEP 2015). It is not clear on what data the original impairment was based, but during an August 1996 synoptic survey, MassDEP staff noted that the north basin of the pond and roughly 40% of the south basin were covered in very dense (100%) floating and submerged vegetation, including the non-rooted, floating species, *Utricularia* sp. (MassDEP 1996, MassDEP 2002). Google Earth images from July 2008, August 2013, and September 2014 show that half or more of the pond was covered in very dense vegetation (Google Earth Pro Undated). Nutrient/Eutrophication Biological Indicators is being added as an impairment based on the presence of a non-rooted, floating, aquatic macrophyte species (*Utricularia* sp.). Additionally, Aquatic Plants (Macrophytes) is being delisted as a pollutant and added again as a non-pollutant since more than 25% of the pond was covered in aquatic macrophytes in recent years.

Aquatic Plants (Macrophytes)

<u>1998 WBS Coding Sheet (MassDEP 2002):</u>

OWRSM

WBID: MA 62001
NAME: Ames Long Pond
CODE:

WATERSHED: Taunton
TYPE: Lake/Pond
SIZE: 65.0 acres

(Printed 08/01/96)

CLASS: B
ORW?: Yes or No
Water Supply?: Yes or No

LATITUDE: 420500
LONGITUDE: 710702
Lake/Pond Name:
Ecoregion Name:
Description: Ames Long Pond, Stoughton/Easton

Assessment Date: 9708
Cycle: ~~98~~ 98
Begin Sampling: 9608
End Sampling: 9608
Water Quality Limited?: YES or NO
303(d) List?: YES or NO

Lake Specific Information

	1996 7
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			20.0	45.0		
ALUS			65.0			
FISH CONSUMPTION					65.0	
PRIMARY CONTACT			20.0	45.0		
SECONDARY CONTACT			20.0	45.0		
Aesthetics			20.0	45.0		
ALUS Bio						
ALUS Chem/Phys						
ALUS Toxicity						

Nonattainment Causes

Code	Size	Magnitude	1996 7 Code	Size	Magnitude
			2200	45.0	M
			2500	65.0	M
			2600	65.0	M

Nonattainment Sources

Code	Size	Magnitude	1996 7 Code	Size	Magnitude
			9000	65.0	H

Assessment Type

B28, B35

1996 Assessment Category => M E NA

B25, R35

Media/Pollutants Assessed

1996 Toxics Monitoring => YES or NO

Comments:

1998: 6 August 1996 synoptic survey indicated that the northern basin and about 40% of the southern basin (to bathing area) covered with very dense floating and submergent vegetation, including two non-native aquatic species (Cabomba caroliniana and Myriophyllum heterophyllum). Also ~~[illegible]~~ [illegible] Secchi disk).

1996 Synoptic Survey Field Sheet (MassDEP 1996):

Page 1 of 2

Lake/Pond Ames Long Pond Date 6 Aug 96

Town/City Stoughton/Easton Observers Langley/McVoy

River Basin Taunton

USGS Topo Brockton PALIS NO. 6200/

Location/type of access (be specific, e.g., public boat ramp at west cove area off Simpson Street):

Causeway on West Street
(1) North basin
(2) South basin

Ownership of Location/Access (specify public or private, name of owner(s), and any use restrictions):

Rock ROW

Posted signs (re aquatic plants, fish advisories, access, etc.):

None

Water quality observations (clarity, dissolved organic staining, blooms, et cetera):

(1) Sl. stain, mod. turbidity
brown mucky bottom + organic debris.

(2) Sl. stain, mod. turbidity, powdery scum
(SD 0.9m) off culvert

Record of aquatic plant "species" observed (see note below):

(1) Myriophyllum heterophyllum (swollen stems), Cabomba, Lythrum, Utricularia, Brasenia, Nymphaea, Sparganium, Nuphar.

(2) Nymphaea, Brasenia, Cabomba, Myriophyllum heterophyllum, Lythrum, filamentous algae

Observed aquatic plant density (at observation site and across lake or pond, if practicable):

(1) 100% floating + submergent vegetation

(2) 100% floating + submergent in north end of basin (~40%) to bathing area, south end open (~60%)

Other notes (e.g., overt pollution, construction, and water uses:

Trophic - Eutrophic

ALUS - 65.0 acres - Partial support

1° Contact - 45.0 acres - Non-support ; 20.0 acres Partial support

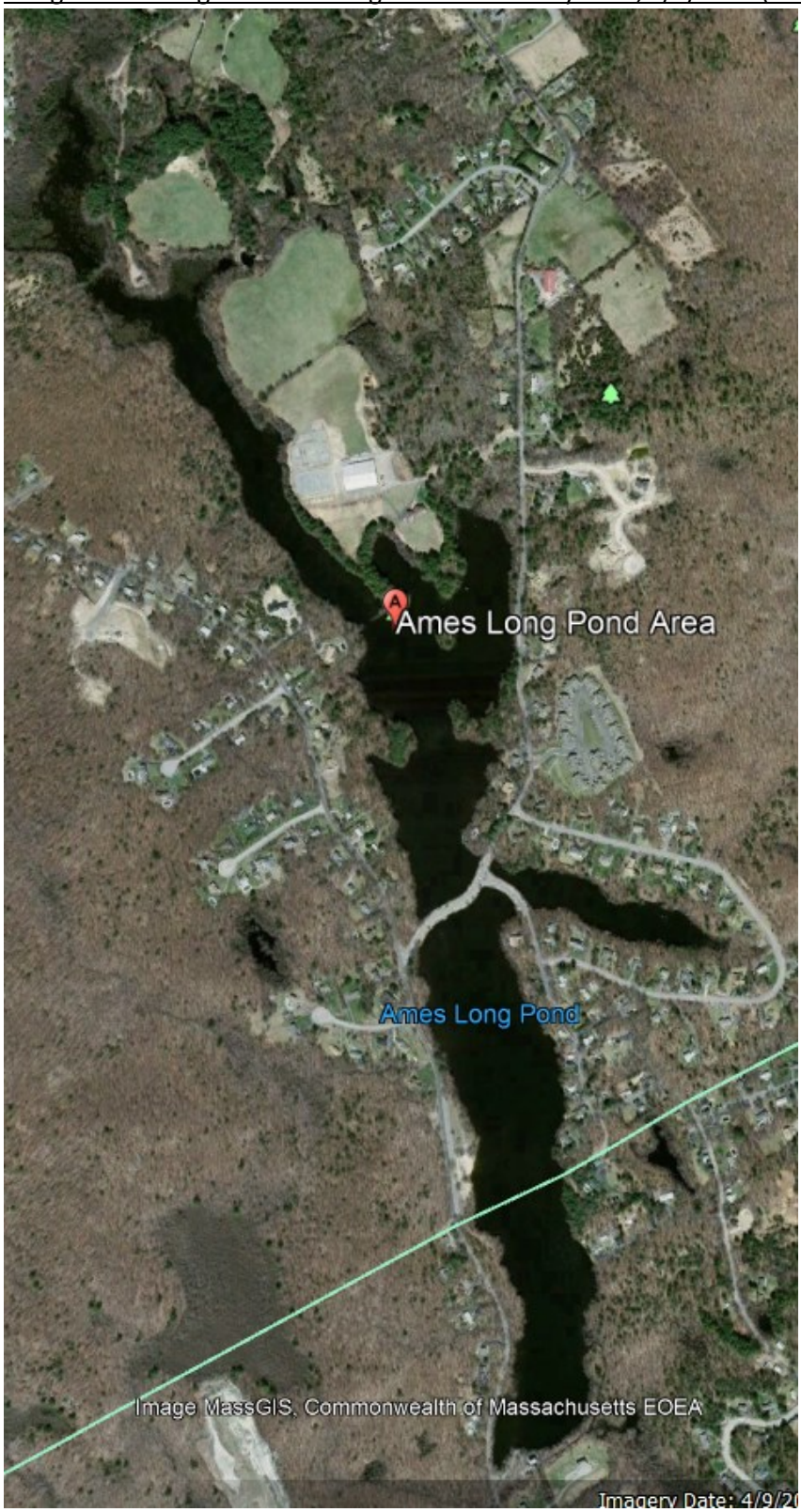
2° Contact - 45.0 acres - " " ; 20.0 acres Partial Support

Aesthetics 45.0 acres - " " ; 20.0 acres partial Support

Causes - Turbidity 65 acres (M); Exotics 65 acres (M); Noxious Plant 45 acres (M)

Note: record suspect *M. heterophyllum* plants that may require confirmation once emergent flowering stalks are evident.

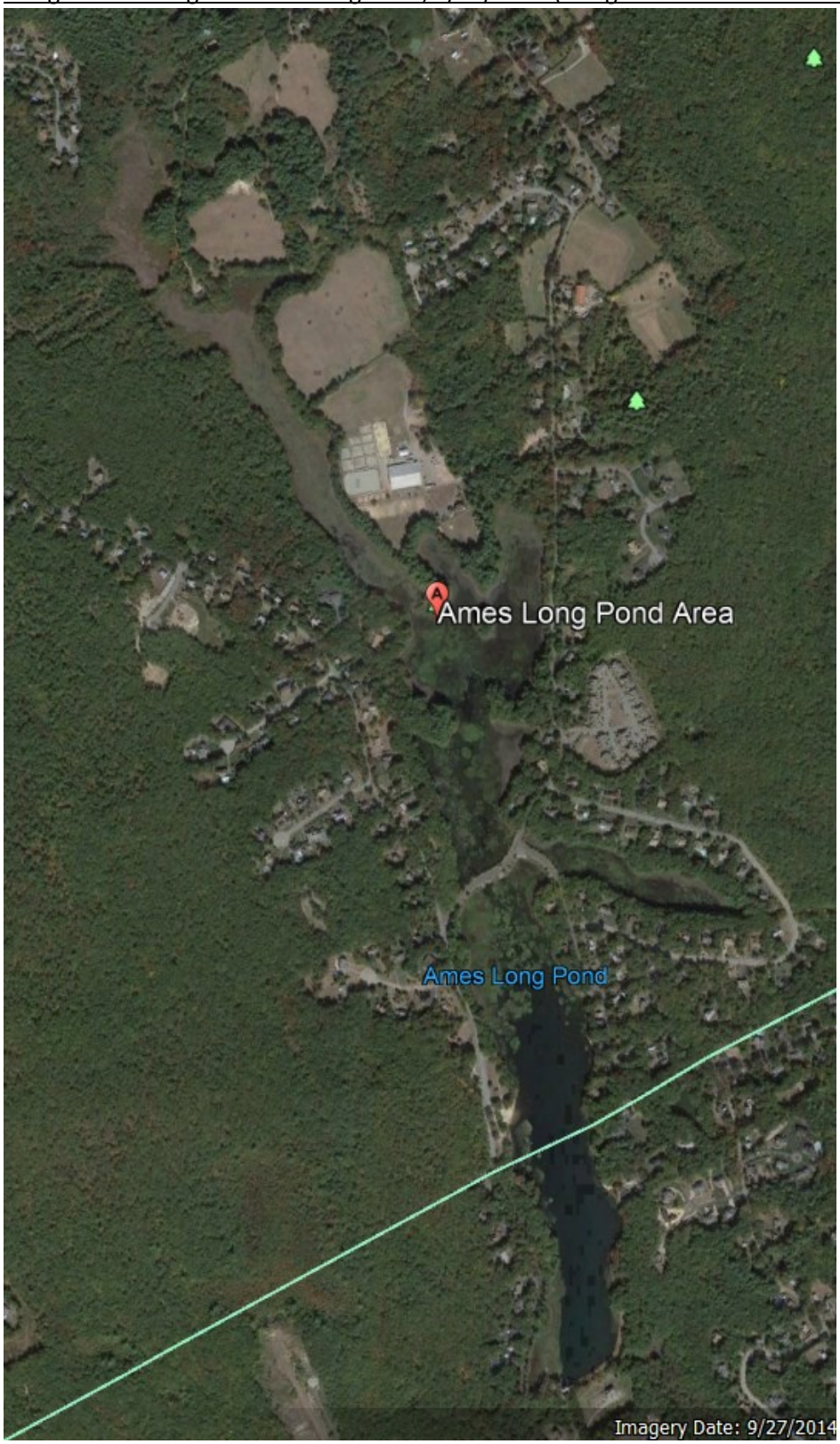
Google Earth image of Ames Long Pond while fairly clear, 4/9/2008 (Google Earth Pro Undated):



Google Earth image of Ames Long Pond, 7/2/2008 (Google Earth Pro Undated):

Google Earth image of Ames Long Pond, 8/24/2013 (Google Earth Pro Undated):

Google Earth image of Ames Long Pond, 9/27/2014 (Google Earth Pro Undated):



Recommendations

2022 Recommendations
ALU: Once validated, the water quality data collected by MassDEP biologists in the summer of 2018 as part of lake probabilistic surveys can be used to assess the status of the Aquatic Life Use for Ames Long Pond.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for Ames Long Pond (MA62001), so it will continue to be assessed as Not Supporting, with the Fanwort and Non-Native Aquatic Plants impairments being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
Fish toxics sampling was performed by MassDEP WPP biologists at Ames Long Pond (MA62001) in Stoughton/Easton in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals, and organochlorine pesticides. Since no site-specific fish consumption advisory was issued by MassDPH, the Fish Consumption Use for Ames Long Pond (MA62001) continues to be Not Assessed.	

MassDEP fish toxics sampling information (2018-2020) and MassDPH Fish Consumption Advisory information (2019-2021) Data Sources: (MassDEP 2018, MassDEP Undated7)

Fish toxics sampling was performed by MassDEP WPP biologists at Ames Long Pond (MA62001) in Stoughton/Easton in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals, and organochlorine pesticides. No site-specific fish consumption advisory was issued by MassDPH.

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Ames Long Pond (MA62001), so it will continue to be assessed as Not Supporting, with the Non-Native Aquatic Plants and Turbidity impairments being carried forwards. Based on the reevaluation of the Aquatic Plants (Macrophytes) impairment (see Supporting Information for Removed Impairments), the Aquatic Plants (Macrophytes) impairment is also being carried forward, though it is being removed as a pollutant and added back as a non-pollutant, and a new impairment is being added for Nutrient/Eutrophication Biological Indicators.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for Ames Long Pond (MA62001), so it will continue to be assessed as Not Supporting, with the Non-Native Aquatic Plants and Turbidity impairments being carried forwards. Based on the reevaluation of the Aquatic Plants (Macrophytes) impairment (see Supporting Information for Removed Impairments), the Aquatic Plants (Macrophytes) impairment is also being carried forward, though it is being removed as a pollutant and added back as a non-pollutant, and a new impairment is being added for Nutrient/Eutrophication Biological Indicators.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for Ames Long Pond (MA62001), so it will continue to be assessed as Not Supporting, with the Non-Native Aquatic Plants and Turbidity impairments being carried forwards. Based on the reevaluation of the Aquatic Plants (Macrophytes) impairment (see Supporting Information for Removed Impairments), the Aquatic Plants (Macrophytes) impairment is also being carried forward, though it is being removed as a pollutant and added back as a non-pollutant, and a new impairment is being added for Nutrient/Eutrophication Biological Indicators.	

Assawompset Pond (MA62003)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	2034 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Assawompset Pond (MA62003) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Assonet River (MA62-19)

Location:	From Lakeville/Freetown corporate boundary to Tisdale Pond Dam (NATID: MA03049) (north of Route 79/Elm Street intersection), Freetown (through former 2016 segment: Forge Pond MA62072) (stream name changes from Cedar Swamp River at Lakeville/Freetown corporate boundary).
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

No usable data were available for Assonet River (MA62-19) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Assonet River (MA62-20)

Location:	From Tisdale Pond Dam (NATID: MA03049) (north of Route 79/Elm Street intersection), Freetown to mouth at confluence with the Taunton River, Freetown/Berkley.
AU Type:	ESTUARY
AU Size:	0.82 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	5	Enterococcus		Added
4a	5	Fecal Coliform	40309	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Enterococcus	Source Unknown (N)					X	
Fecal Coliform	Source Unknown (N)			X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for this Assonet River AU (MA62-20), so it is Not Assessed.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Assonet River AU (MA62-19); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Assonet River (MA62-20): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.7813 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). The Shellfish Harvesting Use is assessed as not supporting because the growing area (normalized to the AU area) is <100% approved. Based on the new growing area classifications and the prior classifications, the existing fecal coliform impairment is being retained.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.0	Taunton River	Restricted	0.01916	2.3%
MHB2.2	Taunton River	Prohibited	0.76210	93.4%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Assonet River AU (MA62-20), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples near the upstream end of this Assonet River AU (MA62-20) at the Assonet River Bridge on Rt. 79 (TRWA_ASO-01) between May and October 2019 (n=6). Data analysis indicated that 100% of intervals had GMs >35 CFU/100mL and one sample exceeded the 130 CFU/100mL STV. The seasonal GM was 74 CFU/100mL. Since the TRWA *Enterococci* data collected during summer 2019 exceeded the use attainment impairment threshold for this limited frequency single year dataset, the Primary Contact Recreation Use for this Assonet River AU (MA62-20) is assessed as Not Supporting. An Enterococcus impairment is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_ASO-01	Taunton River Watershed Association	Water Quality	Assonet River	Assonet R. Bridge, Rt 79	41.793861	-71.067667

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

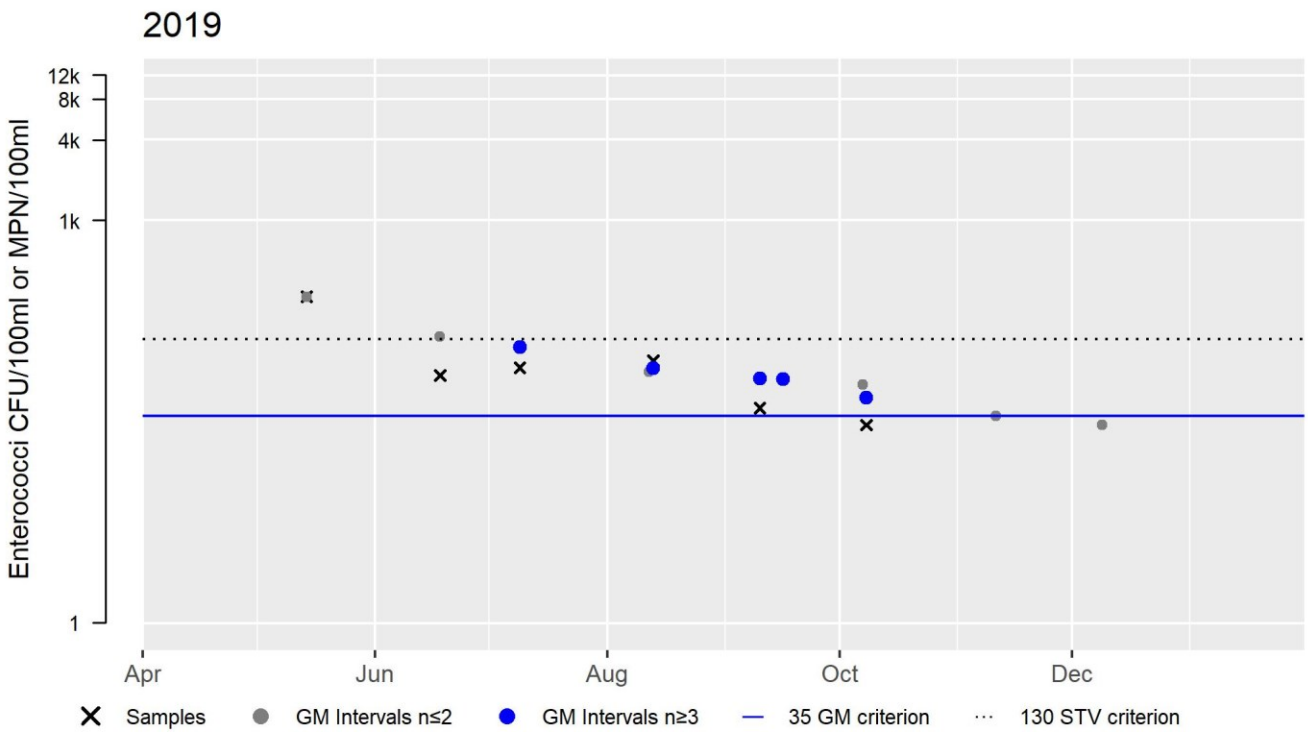
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_ASO-01	Taunton River Watershed Association	Enterococci	05/14/19	10/08/19	6	30	270	74

TRWA_ASO-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	74
#GMI	5
#GMI Ex	5
%GMI Ex	100
n>STV	1
%n>STV	17

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Assonet River (MA62-20): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.7813 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Fully Supporting	NO

2022 Use Attainment Summary
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples near the upstream end of this Assonet River AU (MA62-20) at the Assonet River Bridge on Rt. 79 (TRWA_ASO-01) between May and October 2019 (n=6). Data analysis indicated that none of the intervals had GMs >175 CFU/100mL and no samples exceeded the 350 CFU/100mL STV. The seasonal GM was 74 CFU/100mL. Since the TRWA *Enterococci* data collected during summer 2019 did not exceed the use attainment impairment threshold for this limited frequency single year dataset, the Secondary Contact Recreation Use for this Assonet River AU (MA62-20) is assessed as Fully Supporting.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_ASO-01	Taunton River Watershed Association	Water Quality	Assonet River	Assonet R. Bridge, Rt 79	41.793861	-71.067667

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

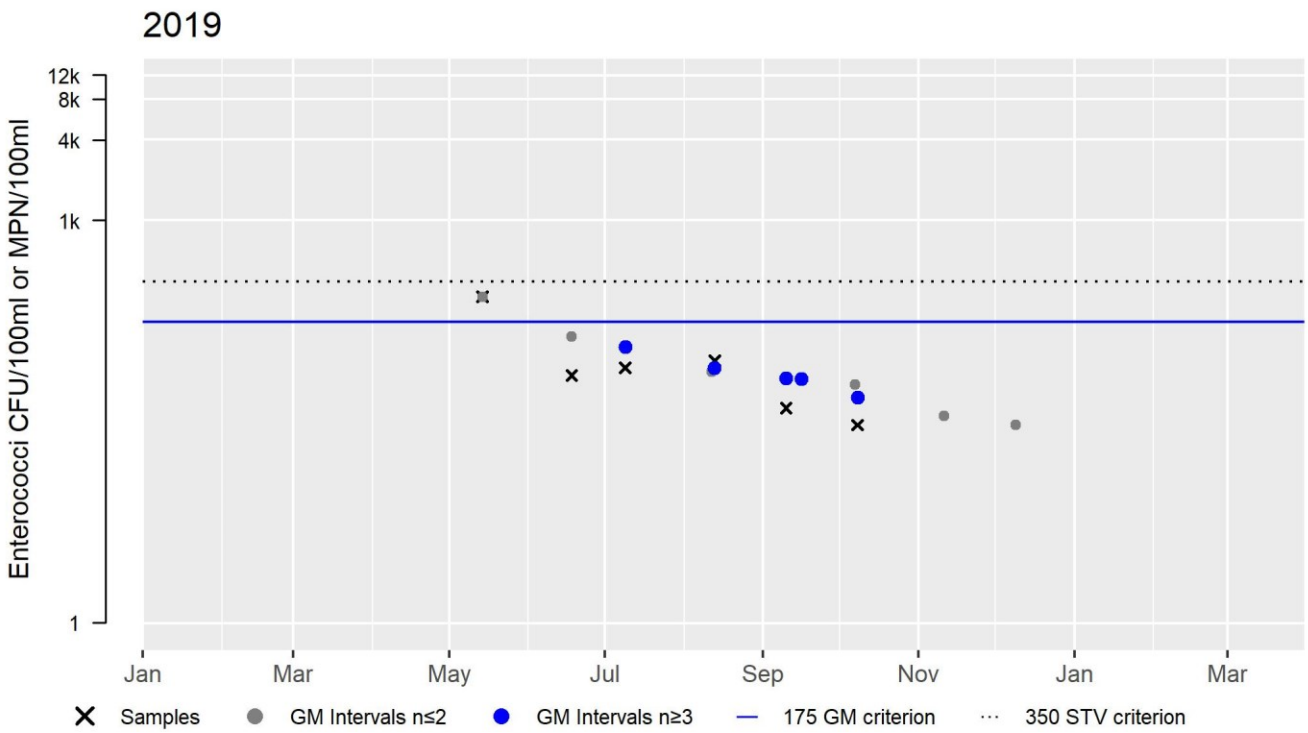
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
TRWA_ASO-01	Taunton River Watershed Association	Enterococci	05/14/19	10/08/19	6	30	270	74

TRWA_ASO-01 Enterococci (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	74
#GMI	5
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Assonet River (MA62-20): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.7813 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Barrowsville Pond (MA62007)

Location:	Norton.
AU Type:	FRESHWATER LAKE
AU Size:	31 ACRES
Classification/Qualifier:	B: WWF

No usable data were available for Barrowsville Pond (MA62007) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Water Chestnut*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Beaumont Pond (MA62009)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	24 ACRES
Classification/Qualifier:	B

No usable data were available for Beaumont Pond (MA62009) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

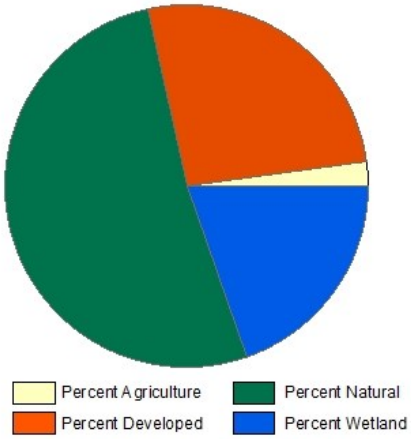
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Beaver Brook (MA62-09)

Location:	Outlet Cleveland Pond, Abington to mouth at confluence with Salisbury Plain River forming headwaters Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	6.8 MILES
Classification/Qualifier:	B

Beaver Brook - MA62-09

Watershed Area: 9.66 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.66	3.49	2.14	0.99
Agriculture	2.1%	5.2%	2.2%	4.7%
Developed	26.3%	26.8%	13.2%	15.4%
Natural	52.1%	48.4%	48.4%	43.8%
Wetland	19.6%	19.5%	36.3%	36%
Impervious Cover	13.4%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Escherichia Coli (E. Coli)	40308	Unchanged
4a	4a	Fecal Coliform	40308	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	
Escherichia Coli (E. Coli)	Source Unknown (N)				X	
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	
Fecal Coliform	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Conduct water quality monitoring to determine if low dissolved oxygen is naturally occurring (due to influence from wetlands) or due to anthropogenic influence and do a complete survey of habitat conditions upstream from Rt. 27 in Brockton to clarify the nature and extent of potential sediment deposition impairments to this Beaver Brook AU (MA62-09).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	YES
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing at two sites near the upstream end of this Beaver Brook AU (MA62-09) in low gradient habitat, from up to downstream as follows: downstream Cleveland Pond in Ames-Nowell State Park, Abington (SampleID 5903) and downstream Hunts Pond, above and below Court and Mill St., Abington/Brockton (SampleID 5902) in July 2016. The sample below Hunts Pond (SampleID 5902) contained fluvial specialist/dependent species (comprising 40% of the sample), but both samples were also well represented by macrohabitat generalists intolerant/moderately tolerant to environmental perturbations, comprising 23 and 36% of the samples respectively (most commonly redfin pickerel). MassDEP staff did not observe any dense film or filamentous algae at three sampling sites along the brook during surveys in summer 2014, as part of the MassDEP Bacteria Source Tracking (BST) project: on Summer Street in East Bridgewater (W2471, n=2), farther downstream on Elm Street in East Bridgewater (W2469, n=3), and farthest downstream at the Belmont Street bridge in East Bridgewater (W1497, n=3). The Aquatic Life Use for this Beaver Brook AU (MA62-09) will continue to be assessed as Fully Supporting based on the fish community data collected by MassDFG biologists in July 2016 which are indicative of good conditions. The Alerts for low dissolved oxygen and habitat degradation resulting from sediment deposition in the brook upstream from Crescent Street (Route 27) bridge in Brockton are being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5902	MassDFG	Fish Community	Beaver Brook	Below Hunts Pond, Above and below Court and Mill St., Abington/Brockton	42.09442	-70.97520
5903	MassDFG	Fish Community	Beaver Brook	Below Cleveland Pond in Ames-Nowell State Park, Abington	42.11340	-70.97865
W1497	MassDEP	Water Quality	Beaver Brook	[Belmont Street bridge, East Bridgewater]	42.045506	-70.970740
W2469	MassDEP	Water Quality	Beaver Brook	[Elm Street, East Bridgewater]	42.051225	-70.970350
W2471	MassDEP	Water Quality	Beaver Brook	[Summer Street, East Bridgewater]	42.061672	-70.971889

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]
[Species List: AE = American Eel, B = Bluegill, BB = Brown Bullhead, CCS = Creek Chubsucker, CP = Chain Pickerel, GS = Golden Shiner, P = Pumpkinseed, RP = Redfin Pickerel, SD = Swamp Darter, TD = Tessellated Darter, WS = White Sucker, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5902	07/14/16	BP	TP	L	10	111	0%	3	40%	26%	4	36%	No	No	AE, B, BB, CCS, CP, P, RP, SD, TD, WS,
5903	07/14/16	BP	TP	L	6	84	0%	0	0%	0%	2	23%	No	No	AE, B, BB, GS, RP, YP,

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W1497	2014	--	--	--	--	--	--	--	--	3	0
W2469	2014	--	--	--	--	--	--	--	--	3	0
W2471	2014	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Beaver Brook AU (MA62-09); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	YES
2022 Use Attainment Summary	
MassDEP staff conducted sampling of this Beaver Brook AU (MA62-09) at three sites during the summer of 2014, as part the MassDEP Bacteria Source Tracking (BST) project. From up to downstream these sites are as follows: at Summer Street in East Bridgewater (W2471), at Elm Street in East Bridgewater (W2469), and at the Belmont Street bridge in East Bridgewater (W1497). There were generally no noted objectionable conditions (odors, growths, or deposits) recorded by MassDEP field sampling crews at any site (n=3). However, moderate turbidity was observed on all three visits in the brook at site W1497. The Aesthetics Use for this Beaver Brook AU (MA62-09) will continue to be assessed as Fully Supporting based on the observations made at three sites during summer of 2014. An Alert for turbidity is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1497	MassDEP	Water Quality	Beaver Brook	[Belmont Street bridge, East Bridgewater]	42.045506	-70.970740
W2469	MassDEP	Water Quality	Beaver Brook	[Elm Street, East Bridgewater]	42.051225	-70.970350
W2471	MassDEP	Water Quality	Beaver Brook	[Summer Street, East Bridgewater]	42.061672	-70.971889

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1497	Beaver Brook	2014	3	The Aesthetics use for Beaver Brook is assessed as Fully Supporting based on observations (generally no odors, growths, or deposits) by MassDEP staff during field surveys at station W1497 in summer 2014. However, the use is identified with an Alert status since there was moderate turbidity on all 3 visits.
W2469	Beaver Brook	2014	3	MassDEP aesthetics observations for station W2469 on Beaver Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.
W2471	Beaver Brook	2014	3	MassDEP aesthetics observations for station W2471 on Beaver Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1497	2014	3	3	0
W2469	2014	3	3	0
W2471	2014	3	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1497	Beaver Brook	2014	Color	Light Yellow/Tan	1	3
W1497	Beaver Brook	2014	Color	None	2	3
W1497	Beaver Brook	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W1497	Beaver Brook	2014	Odor	Musty (Basement)	1	3
W1497	Beaver Brook	2014	Odor	None	2	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1497	Beaver Brook	2014	Scum	Not Applicable (N/A)	3	3
W1497	Beaver Brook	2014	Turbidity	Moderately Turbid	3	3
W2469	Beaver Brook	2014	Color	Light Yellow/Tan	1	3
W2469	Beaver Brook	2014	Color	None	2	3
W2469	Beaver Brook	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W2469	Beaver Brook	2014	Odor	None	3	3
W2469	Beaver Brook	2014	Scum	Not Applicable (N/A)	3	3
W2469	Beaver Brook	2014	Turbidity	Moderately Turbid	2	3
W2469	Beaver Brook	2014	Turbidity	Slightly Turbid	1	3
W2471	Beaver Brook	2014	Color	Light Yellow/Tan	1	3
W2471	Beaver Brook	2014	Color	None	2	3
W2471	Beaver Brook	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W2471	Beaver Brook	2014	Odor	None	3	3
W2471	Beaver Brook	2014	Scum	Not Applicable (N/A)	2	3
W2471	Beaver Brook	2014	Scum	Yes	1	3
W2471	Beaver Brook	2014	Turbidity	Moderately Turbid	1	3
W2471	Beaver Brook	2014	Turbidity	Slightly Turbid	2	3

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria (three samples at each of three sites) along this Beaver Brook AU (MA62-09) as part of the MassDEP Bacteria Source Tracking (BST) project between June and September 2014. From up to downstream these stations can be described as follows: at Summer Street in East Bridgewater (W2471), at Elm Street in East Bridgewater (W2469) , and at the Belmont Street bridge in East Bridgewater (W1497). Data analysis at the most upstream station at Summer Street (W2471) indicated 0% of intervals had GMs >126, with a seasonal GM of 32 CFU/100ml) while data analysis indicated that at two downstream sites (Elm St-W2469 and Belmont St-W1497) 100% of intervals (only one able to be calculated) had GMs >126 CFU/100mL with one STV exceedance at Elm Street (W2469). The seasonal GMs at these sites were 184 and 158 CFU/100mL, respectively. Additional intermittent BST efforts conducted in 2011 and 2014 in this Beaver Brook subwatershed (it should be noted that all BST data are not in the MassDEP WPP Monitoring database, so are not presented in bacteria tables below) concluded that the data did not suggest the presence of a human source of bacteria.
Too limited bacteria data have been collected in this Beaver Brook AU (MA62-09) so the Primary Contact Recreation Use will continue to be assessed as Not Supporting. The *E. coli* and Fecal coliform impairments are both being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1497	MassDEP	Water Quality	Beaver Brook	[Belmont Street bridge, East Bridgewater]	42.045506	-70.970740
W2469	MassDEP	Water Quality	Beaver Brook	[Elm Street, East Bridgewater]	42.051225	-70.970350

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2471	MassDEP	Water Quality	Beaver Brook	[Summer Street, East Bridgewater]	42.061672	-70.971889

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

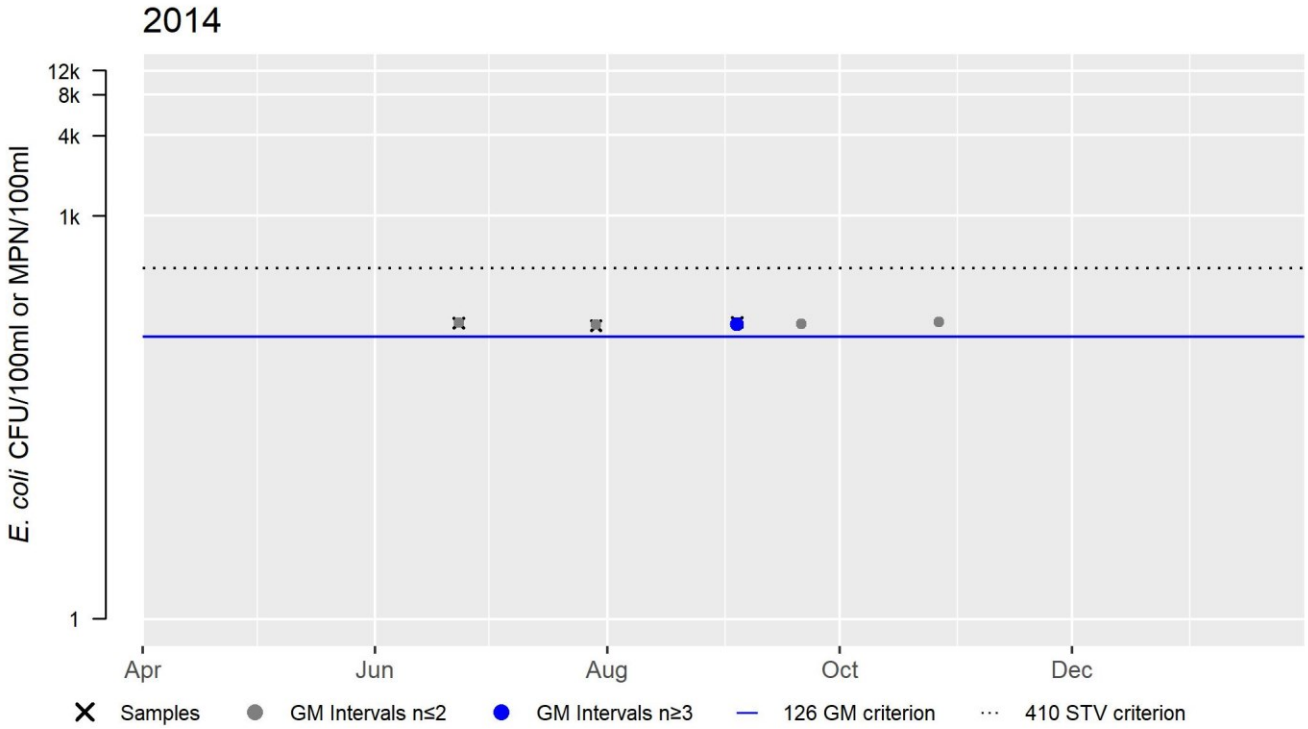
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1497	MassDEP	E. coli	06/23/14	09/04/14	3	153	162	158
W2469	MassDEP	E. coli	06/23/14	09/04/14	3	16	2420	184
W2471	MassDEP	E. coli	06/23/14	09/04/14	3	6	84	32

W1497 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	158
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	0
%n>STV	0

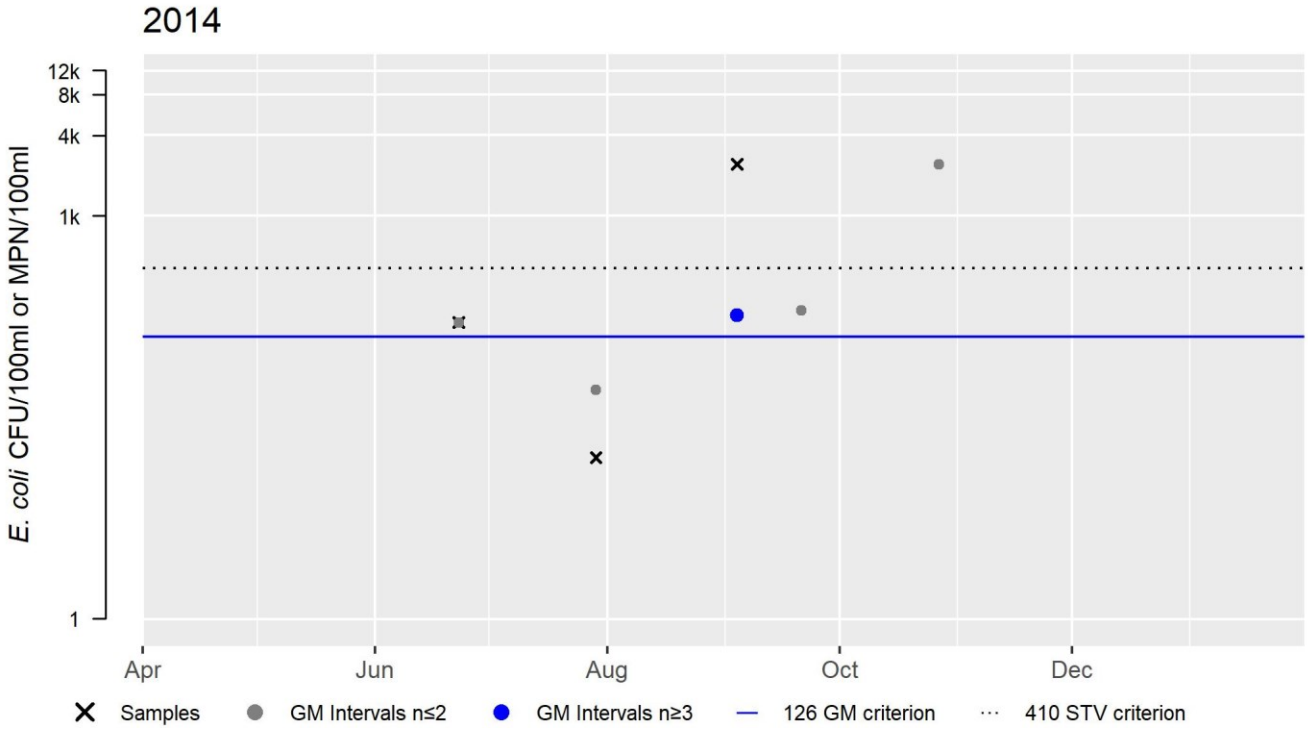
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2469 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	184
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

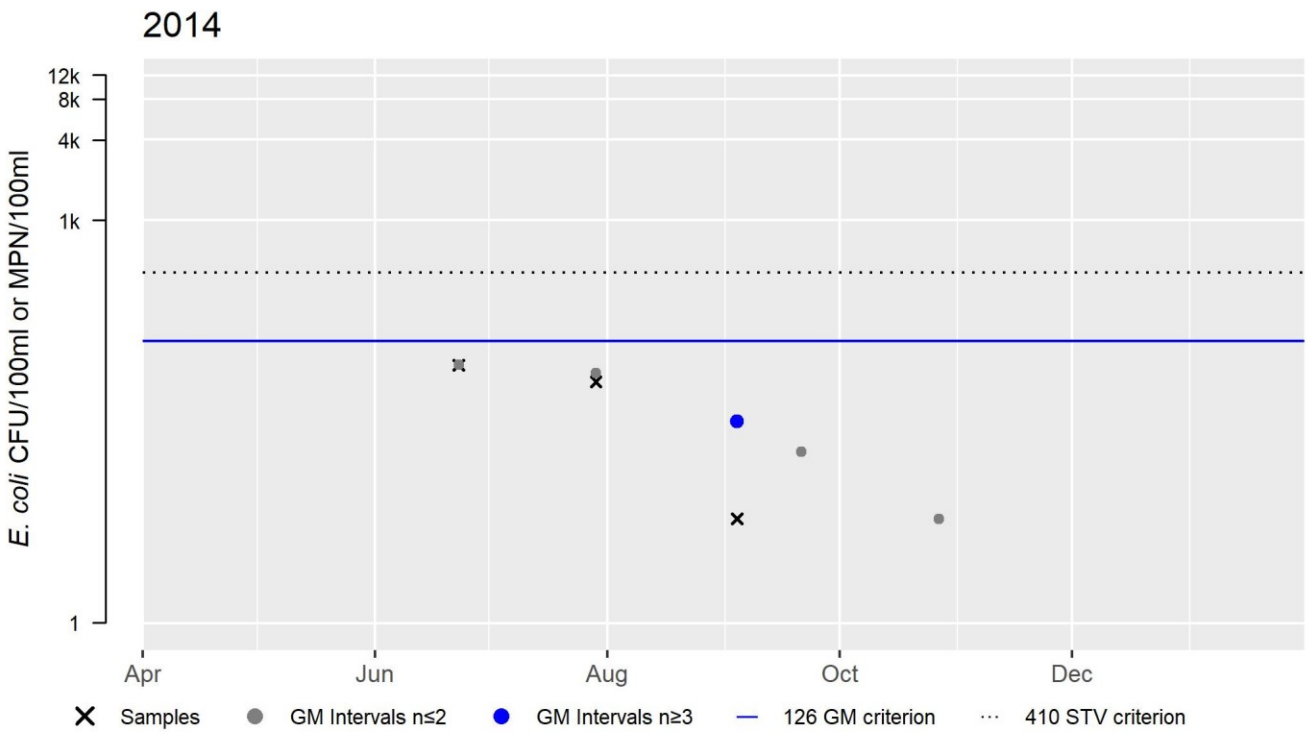
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2471 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	32
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted in 2011 & 2014 at 3 sites along the Beaver Brook AU (MA62-09) with E. coli concentrations ranging 6 to 2,419.6 MPN. BST work was also conducted in 1 unnamed tributary in 2014, with a max E. coli concentration of >2419.6 MPN. It was noted that the incidences of elevated bacteria concentrations coincided with episodes of very low flow in 2014. Overall, it was concluded that the data collected did not suggest the presence of a human source of bacteria in this watershed.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples (three samples at each of three sites) along this Beaver Brook AU (MA62-09) as part of the MassDEP Bacteria Source Tracking (BST) project between June and September 2014. From up to downstream these stations can be described as follows: at Summer Street in East Bridgewater (W2471) (n=3), at Elm Street in East Bridgewater (W2469) (n=3), and at the Belmont Street bridge in East Bridgewater (W1497) (n=3). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and only one sample exceeded the 1260 CFU/100mL STV at one site. The seasonal GMs were 32, 184, and 158 CFU/100mL from upstream to downstream, respectively.
The Secondary Contact Recreation Use for this Beaver Brook AU (MA62-09) is assessed as Fully Supporting since the *E. coli* data collected by MassDEP staff during summer 2014 did not exceed the use attainment impairment thresholds for single year low frequency datasets at any site.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1497	MassDEP	Water Quality	Beaver Brook	[Belmont Street bridge, East Bridgewater]	42.045506	-70.970740
W2469	MassDEP	Water Quality	Beaver Brook	[Elm Street, East Bridgewater]	42.051225	-70.970350
W2471	MassDEP	Water Quality	Beaver Brook	[Summer Street, East Bridgewater]	42.061672	-70.971889

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

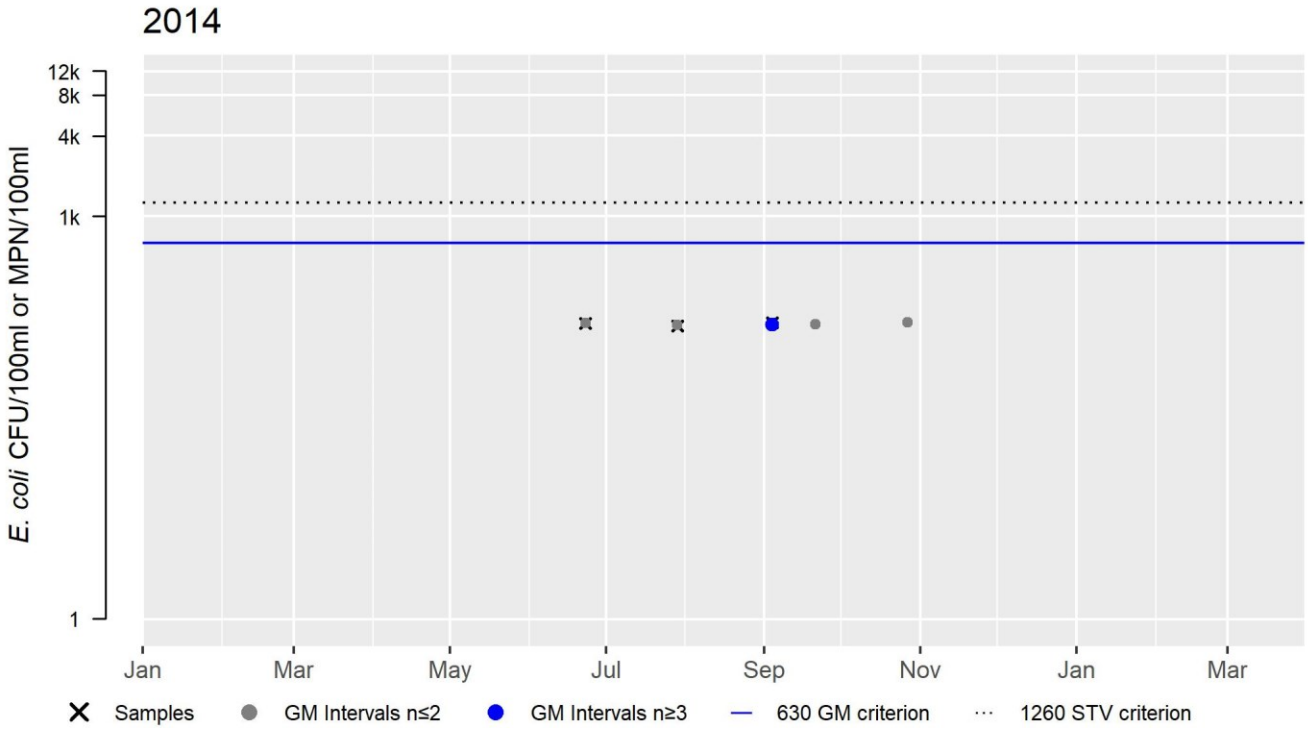
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W1497	MassDEP	E. coli	06/23/14	09/04/14	3	153	162	158
W2469	MassDEP	E. coli	06/23/14	09/04/14	3	16	2420	184
W2471	MassDEP	E. coli	06/23/14	09/04/14	3	6	84	32

W1497 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	158
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

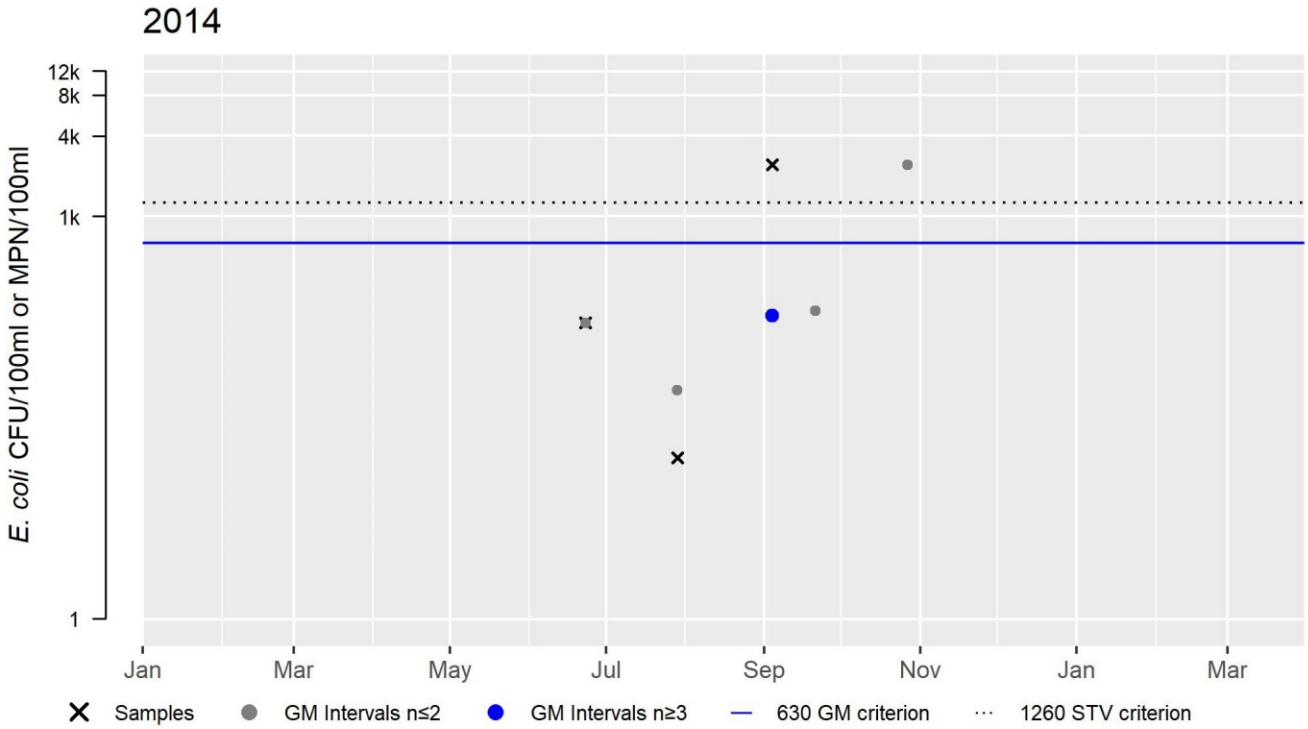
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2469 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	184
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	33

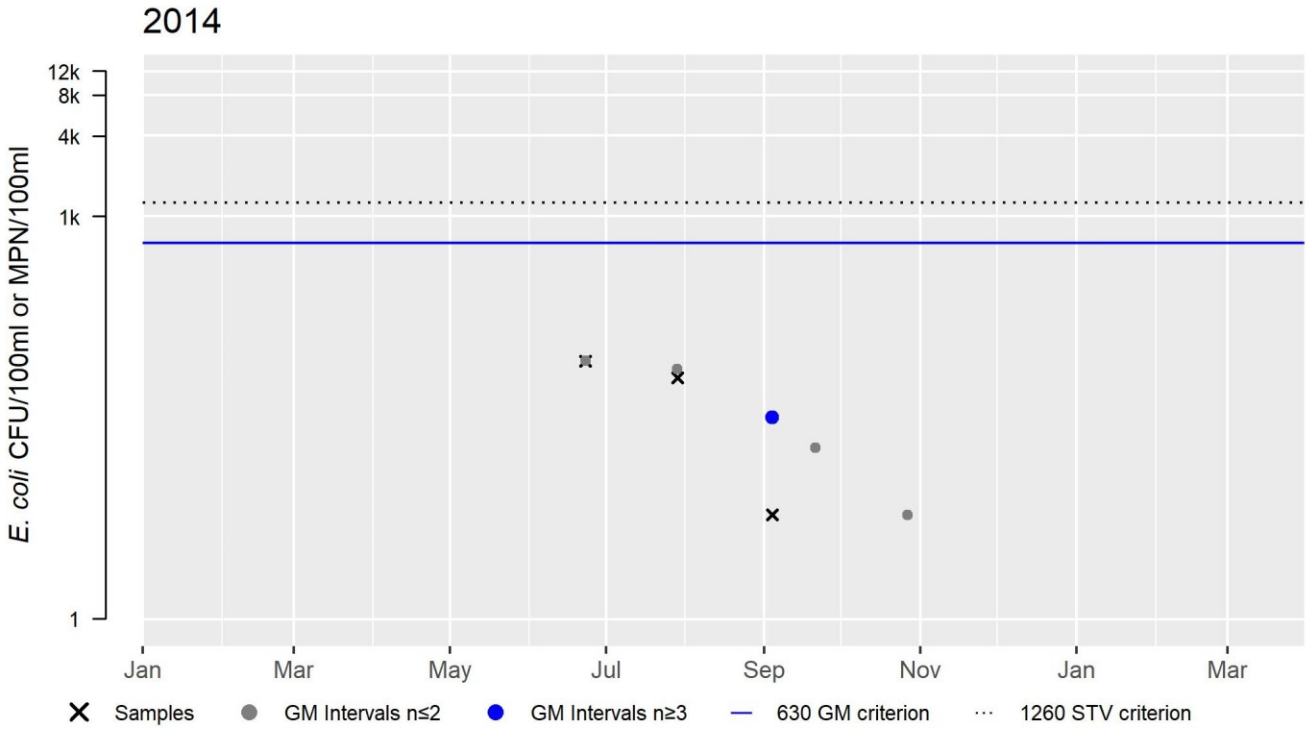
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2471 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	32
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

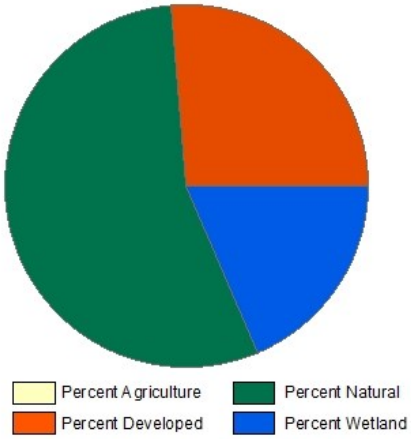


Beaver Brook (MA62-30)

Location:	Headwaters, perennial portion, just west of Bay Road, Easton to mouth at inlet of Old Pond, Easton.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

Beaver Brook - MA62-30

Watershed Area: 2.18 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.18	2.18	0.8	0.8
Agriculture	0.7%	0.7%	1%	1%
Developed	26.2%	26.2%	18.1%	18.1%
Natural	54.6%	54.6%	48%	48%
Wetland	18.4%	18.4%	32.9%	32.9%
Impervious Cover	11.9%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Recommendations

2022 Recommendations
ALU: Conduct paired water quality and biotic surveys (benthic, fish) in this Beaver Brook AU (MA62-30) to reevaluate the status of the Aquatic Life Use.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDFG biologists conducted backpack electrofishing in July 2014 at one site in the middle of this Beaver Brook AU (MA62-30) downstream of Buttonbush Drive (south side road crossing), Easton (SampleID 5277). The small sample (n=8) from this low gradient stream reach was dominated by macrohabitat generalists that are intolerant/moderately tolerant to environmental perturbations (three taxa comprising 88% of the sample). The Aquatic Life Use for this Beaver Brook AU (MA62-30) is assessed as having Insufficient Information since the one fish sample collected in 2014 was relatively small (although indicative of generally good conditions for a low gradient warm water stream) and no water quality data were available.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5277	MassDFG	Fish Community	Beaver Brook	Buttonbush Dr (south side road crossing) DS, Easton	42.03998	-71.12640

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, CP = Chain Pickerel, P = Pumpkinseed, RP = Redfin Pickerel]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5277	07/08/14	BP	TP	L	4	8	0%	0	0%	0%	3	88%	No	No	AE, CP, P, RP,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Beaver Brook AU (MA62-30); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Beaver Brook AU (MA62-30), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for this Beaver Brook AU (MA62-30), so it is Not Assessed.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for this Beaver Brook AU (MA62-30), so it is Not Assessed.	

Big Bearhole Pond (MA62011)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	38 ACRES
Classification/Qualifier:	B

No usable data were available for Big Bearhole Pond (MA62011) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
5	5	(Fanwort*)		Unchanged
5	5	Dissolved Oxygen		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				
Dissolved Oxygen	Source Unknown (N)	X				

Briggs Pond (MA62021)

Location:	Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	B

No usable data were available for Briggs Pond (MA62021) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Broad Cove (MA62-50)

Location:	Dighton/Somerset (formerly reported as 2004 lake segment: Broad Cove MA62022).
AU Type:	ESTUARY
AU Size:	0.13 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Fecal Coliform	40309	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Fecal Coliform	Source Unknown (N)			X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for Broad Cove (MA62-50), so it is Not Assessed.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Broad Cove (MA62-50); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Broad Cove (MA62-50): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.1176 sq mi (93%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.1175 sq mi (93%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.0	Taunton River	Restricted	0.00012	0.1%
MHB2.7	Broad Cove	Prohibited	0.11751	93.3%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Broad Cove (MA62-50), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* data are available to assess the Primary Contact Recreation Use for Unnamed Tributary (MA62-50), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Broad Cove (MA62-50): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.1176 sq mi (93%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* data are available to assess the Secondary Contact Recreation Use for Unnamed Tributary (MA62-50), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Broad Cove (MA62-50): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.1176 sq mi (93%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Brockton Reservoir (MA62023)

Location:	Avon.
AU Type:	FRESHWATER LAKE
AU Size:	89 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Brockton Reservoir (MA62023) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Cain Pond (MA62030)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	3 ACRES
Classification/Qualifier:	B

No usable data were available for Cain Pond (MA62030) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Unchanged
5	5	Turbidity		Unchanged

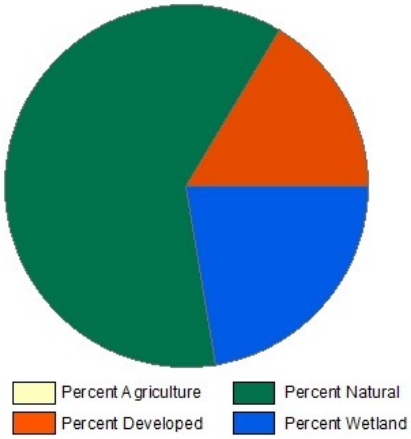
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Dissolved Oxygen	Source Unknown (N)	X				
Turbidity	Source Unknown (N)			X	X	X

Canoe River (MA62-64)

Location:	Headwaters in wetland east of Cow Hill, Sharon to inlet Beaumont Pond, Foxborough (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	3.1 MILES
Classification/Qualifier:	B

Canoe River - MA62-64

Watershed Area: 2.56 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.56	2.56	0.94	0.94
Agriculture	0.4%	0.4%	0%	0%
Developed	16.4%	16.4%	13.6%	13.6%
Natural	61%	61%	48.9%	48.9%
Wetland	22.3%	22.3%	37.5%	37.5%
Impervious Cover	7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Recommendations

2022 Recommendations
ALU: Conduct follow-up fish community sampling in the vicinity of East St and Willow Rd in Foxborough and note whether low flow continues to be a problem during non-drought conditions.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	YES
2022 Use Attainment Summary	

MassDFG biologists conducted backpack electrofishing in August 2016 (during a regional drought, (Drought Management Task Force 2021)) at two sites in the downstream half of this Canoe River AU (MA62-64) from upstream to downstream as follows: downstream of Willow Rd, Foxborough (SampleID 5995) and North of East St., Foxborough (SampleID 5994). Both samples (n=79 & 74) were collected in low gradient stream reaches and were dominated (95 and 96% of the samples, respectively) by macrohabitat generalist species intolerant/moderately tolerant to environmental perturbations, but did not contain any fluvial species. Field notes indicated both sample reaches had "No flow", and that the reach was limited to "isolated stretches" or had a "dry" feeder stream (MassDFG 2020). It should be noted that this entire Canoe River AU lies within a Zone II wellhead protection area for municipal water supply wells owned by the Towns of Sharon and Easton.
The Aquatic Life Use of this Canoe River AU (MA62-64) will continue to be assessed as Fully Supporting based on two fish community samples collected in 2016 which met 2022 use attainment thresholds (MassDEP 2022) for a low gradient warm water stream (both samples were dominated by intolerant/moderately tolerant macrohabitat generalists). While samples were collected during a regional drought, an Alert is being identified due to the lack of flow noted by DFG biologists which may have been exacerbated by groundwater withdrawals. A recommendation will be made to conduct follow-up fish community sampling).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5994	MassDFG	Fish Community	Canoe River	East St. North, Foxborough	42.06063	-71.19646
5995	MassDFG	Fish Community	Canoe River	Willow Rd DS., Foxborough	42.06134	-71.19636

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: BS = Banded Sunfish, GS = Golden Shiner, P = Pumpkinseed, RP = Redfin Pickerel, SD = Swamp Darter]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5994	08/25/16	BP	TP	L	3	74	0%	0	0%	8%	2	96%	Yes*	No	GS, RP, SD,
5995	08/25/16	BP	TP	L	4	79	0%	0	0%	1%	3	95%	Yes†	No	BS, GS, P, RP,

* Field Notes: *2 isolated stretches of water for sample, no flow. Sand bottom with some cobble, and larger stones*.

† Field Notes: *Feeder stream flow from N.E. dry. Full 100m sample. Softer muddier bottom to DS. No flow*.

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

No fish toxics monitoring has been conducted in this Canoe River AU (MA62-64); therefore, the Fish Consumption Use is Not Assessed.

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No recent data are available to assess the status of the Aesthetic Use for this Canoe River AU (MA62-64), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No recent *E. coli* or *Enterococci* bacteria data are available to assess the Primary Contact Recreation Use for this Canoe River AU (MA62-64), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No recent *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for this Canoe River AU (MA62-64), so it is Not Assessed.	

Canoe River (MA62-65)

Location:	From outlet of Beaumont Pond, Foxborough to inlet of Hartwell School Pond, Mansfield (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	3.8 MILES
Classification/Qualifier:	B

No usable data were available for Canoe River (MA62-65) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Canoe River (MA62-66)

Location:	From outlet of Hartwell School Pond, Mansfield to mouth at inlet Winnecunnet Pond, Norton (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	6.9 MILES
Classification/Qualifier:	B

No usable data were available for Canoe River (MA62-66) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Carpenter Pond (MA62032)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	29 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Carpenter Pond (MA62032) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Carver Pond (MA62033)

Location:	Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	29 ACRES
Classification/Qualifier:	B

No usable data were available for Carver Pond (MA62033) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Cedar Swamp River (MA62-44)

Location:	Headwaters south of Freetown Street, Lakeville to Lakeville/Freetown corporate boundary (stream name changes to Assonet River at Lakeville/Freetown corporate boundary).
AU Type:	RIVER
AU Size:	5.3 MILES
Classification/Qualifier:	B

No usable data were available for Cedar Swamp River (MA62-44) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Chaffin Reservoir (MA62035)

Location:	Pembroke.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Chaffin Reservoir (MA62035) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Chartley Pond (MA62038)

Location:	Norton/Attleboro.
AU Type:	FRESHWATER LAKE
AU Size:	57 ACRES
Classification/Qualifier:	B

No usable data were available for Chartley Pond (MA62038) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Clear Pond (MA62041)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

No usable data were available for Clear Pond (MA62041) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Cleveland Pond (MA62042)

Location:	Abington.
AU Type:	FRESHWATER LAKE
AU Size:	98 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Fanwort*)		Unchanged
4c	5	Mercury in Fish Tissue		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Mercury in Fish Tissue	Atmospheric Deposition (N)		X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
No recent data are available to assess the status of the Aquatic Life Use for Cleveland Pond (MA62042) so it will continue to be assessed as Not Supporting with the Fanwort impairment being carried forward. The Alert identified because of an unconfirmed species of *Myriophyllum* is also being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
MassDEP biologists conducted fish toxics sampling at Cleveland Pond in Abington in May 2018 as part of the probabilistic lake surveys (MAP2). Because of elevated mercury measured in black crappie fillets, MassDPH issued the following fish consumption advisories: "*Children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant, and nursing mothers should not eat any of the affected fish species (black crappie) from this water body*." and "*The general public should limit consumption of affected fish species (black crappie) to two meals per month*." Since there is a site specific DPH advisory for Cleveland Pond (MA62042) because of elevated mercury in fish tissue, the Fish Consumption Use is assessed as Not Supporting. A Mercury in Fish Tissue impairment is being added. The likely source, although not confirmed, is atmospheric deposition.	

MassDEP fish toxics sampling information (2018-2020) and MassDPH Fish Consumption Advisory information (2019-2021) Data Sources: (MassDPH 2021, MassDEP 2018, MassDEP Undated7)

MassDEP biologists conducted fish toxics sampling at Cleveland Pond in Abington in May 2018 as part of the probabilistic lake surveys (MAP2). Because of elevated mercury measured in black crappie fillets, MassDPH issued the following fish consumption advisories:

- *"Children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant, and nursing mothers should not eat any of the affected fish species (black crappie) from this water body."*
- *"The general public should limit consumption of affected fish species (black crappie) to two meals per month."*

Since there is a site specific DPH advisory for elevated mercury in fish tissue, the Fish Consumption Use for Cleveland Pond (MA62042) is assessed as Not Supporting. The likely source, although not confirmed, is atmospheric deposition.

Aesthetic

2022 Use Attainment	**Alert**
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Cleveland Pond (MA62042), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	**Alert**
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the Primary Contact Recreation Use for Cleveland Pond (MA62042), so it is Not Assessed.	

Secondary Contact Recreation

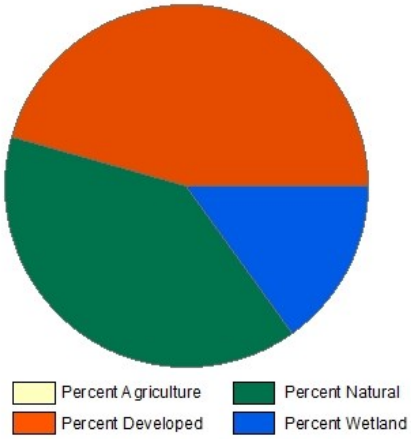
2022 Use Attainment	**Alert**
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for Cleveland Pond (MA62042), so it is Not Assessed.	

Cobb Brook (MA62-43)

Location:	Headwaters south of Dunbar Street (in Crapo Bog), Taunton to mouth at confluence with the Taunton River, Taunton (approximately 0.1mile culverted at mouth).
AU Type:	RIVER
AU Size:	3.5 MILES
Classification/Qualifier:	B

Cobb Brook - MA62-43

Watershed Area: 2.47 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.47	2.47	0.49	0.49
Agriculture	0%	0%	0%	0%
Developed	45.7%	45.7%	36.6%	36.6%
Natural	39.3%	39.3%	36.9%	36.9%
Wetland	15.1%	15.1%	26.5%	26.5%
Impervious Cover	24.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Recommendations

2022 Recommendations
REC: Collect *E. coli* samples from Cobb Brook (MA62-43) of sufficient frequency to effectively assess the primary and secondary Recreation uses.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDEP staff conducted field surveys in Cobb Brook (MA62-43) at two sites in Taunton during the summers of 2012 and 2015 as part of the MassDEP Bacteria Source Tracking (BST) project. The site descriptions from upstream to downstream are as follows: on Somerset Avenue (Route 138) in Taunton (W2351 in 2012 and 2015, n= 2/yr) and several hundred feet upstream of the confluence with the Taunton River at the culvert entrance (headwall) approximately 30ft west of West Water Street in Taunton (W2353 in 2012, n=2). Field crews did not observe dense/very dense film or filamentous algae at either of the two sites. The Aquatic Life Use of Cobb Brook (MA62-43) is assessed as having Insufficient Information since only extremely limited observational data were available.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2351	MassDEP	Water Quality	Cobb Brook	[Somerset Avenue (Route 138), Taunton]	41.881394	-71.096811
W2353	MassDEP	Water Quality	Cobb Brook	[at culvert entrance (headwall) approximately 30 feet west of West Water Street, Taunton (headwall not visible on USGS 1987 Taunton quadrangle)]	41.881504	-71.092943

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2351	2012	--	--	--	--	--	--	--	--	2	0
W2351	2015	--	--	--	--	--	--	--	--	2	0
W2353	2012	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Cobb Brook (MA62-43); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDEP staff conducted field surveys at two sites on this Cobb Brook AU (MA62-43) during the summers of 2012 and 2015 (as part of the Bacteria Source Tracking (BST) project). The site descriptions are as follows: on Somerset Avenue (Route 138) in Taunton (W2351) and several hundred feet upstream of the confluence with the Taunton River at the culvert entrance (headwall) approximately 30ft west of West Water Street in Taunton (W2353). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during surveys at either site (n= 2/station/yr). Too limited data were available to evaluate the Aesthetics Use for Cobb Brook (MA62-43) so it is assessed as having Insufficient Information.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2351	MassDEP	Water Quality	Cobb Brook	[Somerset Avenue (Route 138), Taunton]	41.881394	-71.096811
W2353	MassDEP	Water Quality	Cobb Brook	[at culvert entrance (headwall) approximately 30 feet west of West Water Street, Taunton (headwall not visible on USGS 1987 Taunton quadrangle)]	41.881504	-71.092943

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2351	Cobb Brook	2012	2	MassDEP aesthetics observations for station W2351 on Cobb Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2012. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2351	Cobb Brook	2015	2	MassDEP aesthetics observations for station W2351 on Cobb Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2353	Cobb Brook	2012	2	MassDEP aesthetics observations for station W2353 on Cobb Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2012. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2353	Cobb Brook	2015	2	MassDEP aesthetics observations for station W2353 on Cobb Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2351	2012	2	2	0
W2351	2015	2	2	0
W2353	2012	2	2	0
W2353	2015	2	0	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2351	Cobb Brook	2012	Color	None	2	2
W2351	Cobb Brook	2012	Objectionable Deposits	Not Applicable (N/A)	2	2
W2351	Cobb Brook	2012	Odor	None	2	2
W2351	Cobb Brook	2012	Scum	Not Applicable (N/A)	2	2
W2351	Cobb Brook	2012	Turbidity	Moderately Turbid	1	2
W2351	Cobb Brook	2012	Turbidity	Slightly Turbid	1	2
W2351	Cobb Brook	2015	Color	None	2	2
W2351	Cobb Brook	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2351	Cobb Brook	2015	Odor	None	2	2
W2351	Cobb Brook	2015	Scum	Not Applicable (N/A)	2	2
W2351	Cobb Brook	2015	Turbidity	Moderately Turbid	2	2
W2353	Cobb Brook	2012	Color	None	2	2
W2353	Cobb Brook	2012	Objectionable Deposits	Not Applicable (N/A)	2	2
W2353	Cobb Brook	2012	Odor	None	2	2
W2353	Cobb Brook	2012	Scum	Not Applicable (N/A)	2	2
W2353	Cobb Brook	2012	Turbidity	Moderately Turbid	1	2
W2353	Cobb Brook	2012	Turbidity	Slightly Turbid	1	2
W2353	Cobb Brook	2015	Color	None	2	2
W2353	Cobb Brook	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2353	Cobb Brook	2015	Odor	None	2	2
W2353	Cobb Brook	2015	Scum	Not Applicable (N/A)	2	2
W2353	Cobb Brook	2015	Turbidity	Moderately Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from two sites along Cobb Brook (MA62-43) as part of the Bacteria Source Tracking (BST) project in 2012 and 2015. From up to downstream the stations were at Somerset Avenue (Route 138), Taunton (W2351) and several hundred feet upstream of the confluence with the Taunton River at the culvert entrance (headwall) approximately 30ft west of West Water Street, Taunton (W2353). Samples were collected in June 2012 (n=1) and in September and October 2015 (n=2) at both sites. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP staff during surveys at either site. Additional intermittent BST project efforts with the City of Taunton between 2011 and 2015 to locate human sources of bacteria were also conducted. In 2014 an illicit connection was identified by the City (an infrequently used bathroom was connected to a manhole inside the building located directly over the brook). After the removal of the human source in 2015, *E. coli* concentrations in the brook ranged from 105 – 365 MPN, which was a significant improvement from the concentrations observed at the same sites in 2012 (586 and 1280 CFU/100mL, respectively) (it should be noted that all BST data are not in the MassDEP WPP Monitoring database, so are not present in the bacteria tables below).
Too limited *E. coli* data are available to assess the Primary Contact Recreation Use for Cobb Brook (MA62-43) according to the use attainment impairment guidance in the 2022 CALM (MassDEP 2022) so it is assessed as having Insufficient Information. Additional monitoring is being recommended to confirm whether a bacteria impairment is appropriate.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2351	MassDEP	Water Quality	Cobb Brook	[Somerset Avenue (Route 138), Taunton]	41.881394	-71.096811
W2353	MassDEP	Water Quality	Cobb Brook	[at culvert entrance (headwall) approximately 30 feet west of West Water Street, Taunton (headwall not visible on USGS 1987 Taunton quadrangle)]	41.881504	-71.092943

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

[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
W2351	MassDEP	E. coli	06/21/12	06/21/12	1	586	586	586
W2351	MassDEP	E. coli	09/17/15	10/07/15	2	120	365	209
W2353	MassDEP	E. coli	06/21/12	06/21/12	1	1280	1280	1280
W2353	MassDEP	E. coli	09/17/15	10/07/15	2	105	248	161

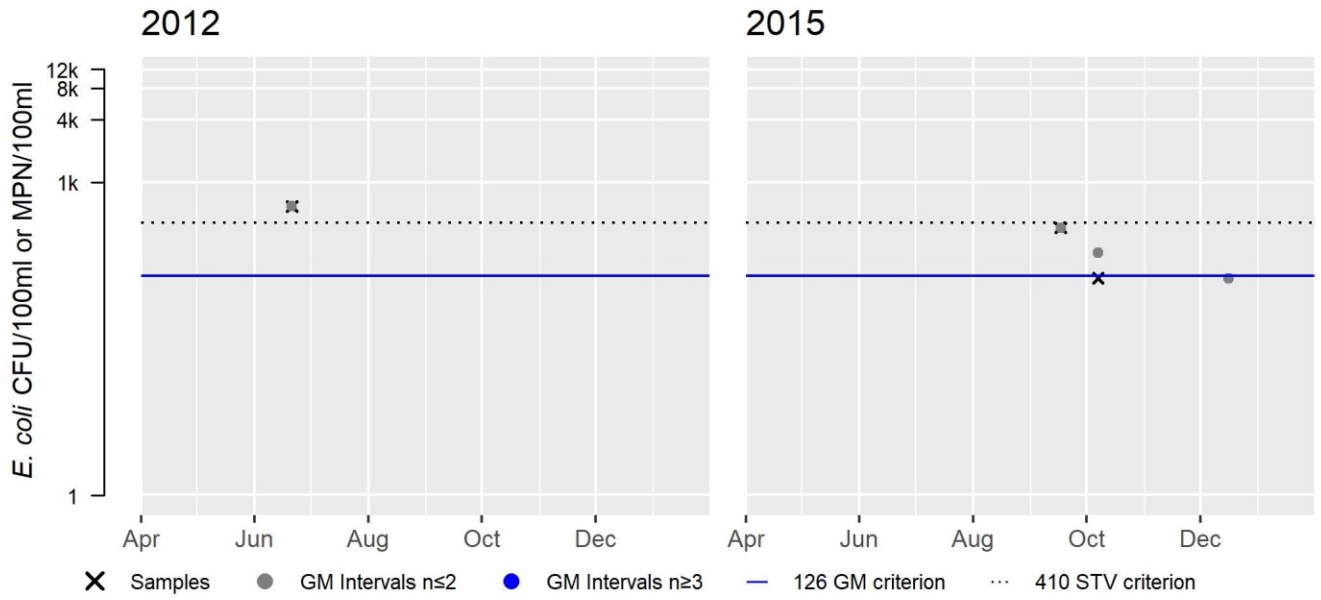
W2351 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	586
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Var	Res
Samples	2
SeasGM	209
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



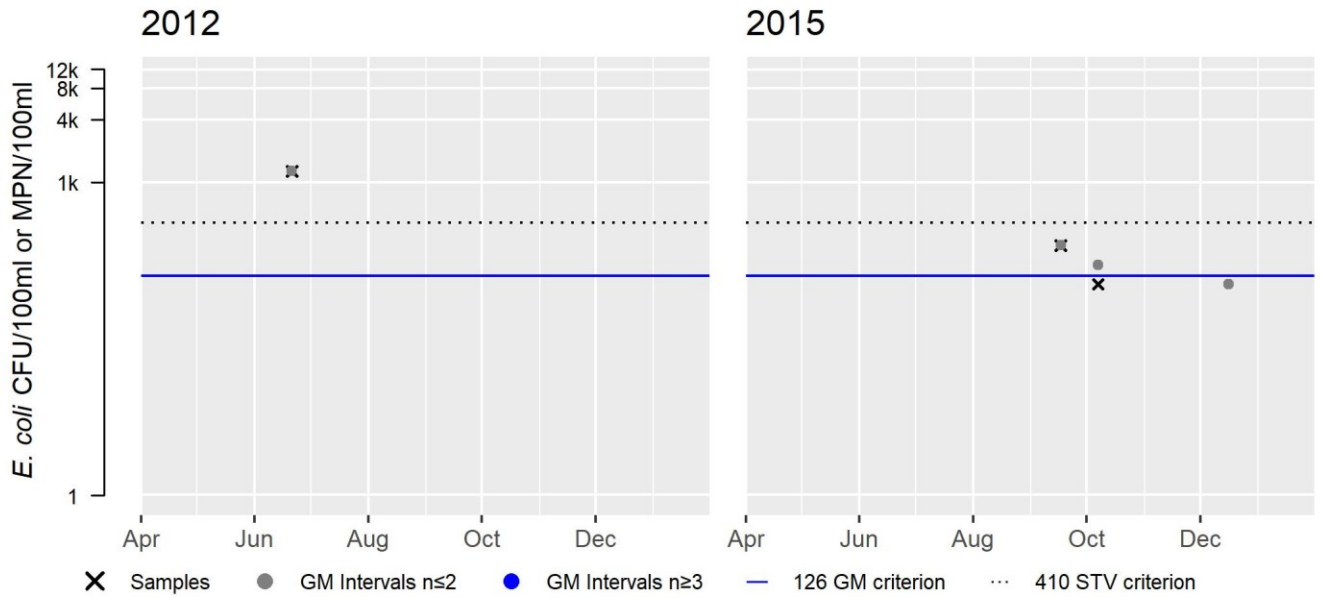
W2353 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	1280
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Var	Res
Samples	2
SeasGM	161
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
Prior to 2011, BST work was conducted on the Cobb Brook AU (MA62-43), with a max dry weather *E. coli* concentration of 2,419.6MPN. The City of Taunton made infrastructure corrections in the Godfrey Street and Knight Street areas in 2010, sucessfully removing a human source. Additional BST work was conducted in 2011-2012 & 2014-2015 at 7 sites along Cobb Brook. In 2011 a max dry weather *E. coli* concentration of >2,419.6MPN was recorded at West Water Street. In 2014 an illicit connection was identified by the City (an infrequently used bathroom was connected to a manhole inside the building located directly over the brook). After the removal of the human source in 2015, *E. coli* concentrations ranged 105 - 365MPN, which was a significant improvement from the concentrations observed at the same locations in 2012.

Secondary Contact Recreation

2022 Use Attainment	**Alert**

Insufficient Information	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples from two sites along Cobb Brook AU (MA62-43) as part of the Bacteria Source Tracking (BST) project in 2012 and 2015. From up to downstream the stations were at Somerset Avenue (Route 138), Taunton (W2351) and farther downstream at the culvert entrance (headwall) approximately 30ft west of West Water Street, Taunton (W2353). Samples were collected in June 2012 (n=1) and in September and October 2015 (n=2) at both sites. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP staff during surveys at either site. Additional intermittent BST project efforts with the City of Taunton between 2011 and 2015 to locate human sources of bacteria were also conducted. In 2014 an illicit connection was identified by the City (an infrequently used bathroom was connected to a manhole inside the building located directly over the brook). After the removal of the human source in 2015, *E. coli* concentrations in the brook ranged from 105 – 365 MPN, which was a significant improvement from the concentrations observed at the same sites in 2012 (586 and 1280 CFU/100mL, respectively) (it should be noted that all BST data are not in the MassDEP WPP Monitoring database, so are not present in the bacteria tables below). Too limited *E. coli* data are available to assess the Secondary Contact Recreation Use for Cobb Brook (MA62-43) according to the use attainment impairment guidance in the 2022 CALM (MassDEP 2022) so it is assessed as having Insufficient Information.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2351	MassDEP	Water Quality	Cobb Brook	[Somerset Avenue (Route 138), Taunton]	41.881394	-71.096811
W2353	MassDEP	Water Quality	Cobb Brook	[at culvert entrance (headwall) approximately 30 feet west of West Water Street, Taunton (headwall not visible on USGS 1987 Taunton quadrangle)]	41.881504	-71.092943

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2351	MassDEP	E. coli	06/21/12	06/21/12	1	586	586	586
W2351	MassDEP	E. coli	09/17/15	10/07/15	2	120	365	209
W2353	MassDEP	E. coli	06/21/12	06/21/12	1	1280	1280	1280
W2353	MassDEP	E. coli	09/17/15	10/07/15	2	105	248	161

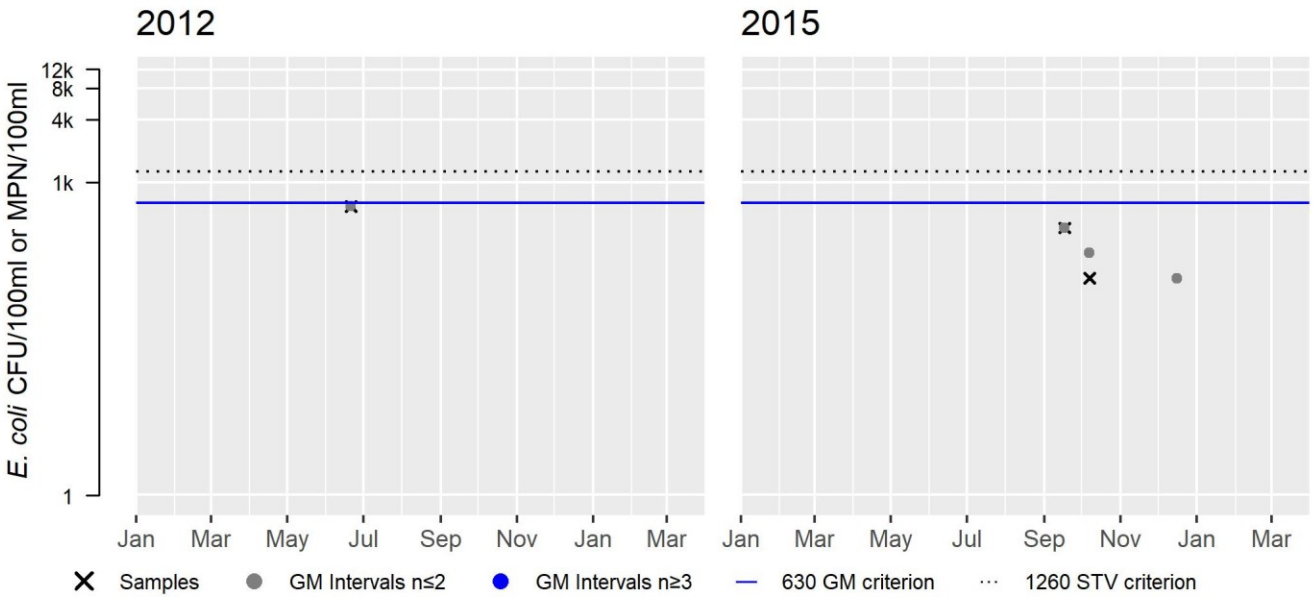
W2351 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	586
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Var	Res
Samples	2
SeasGM	209
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



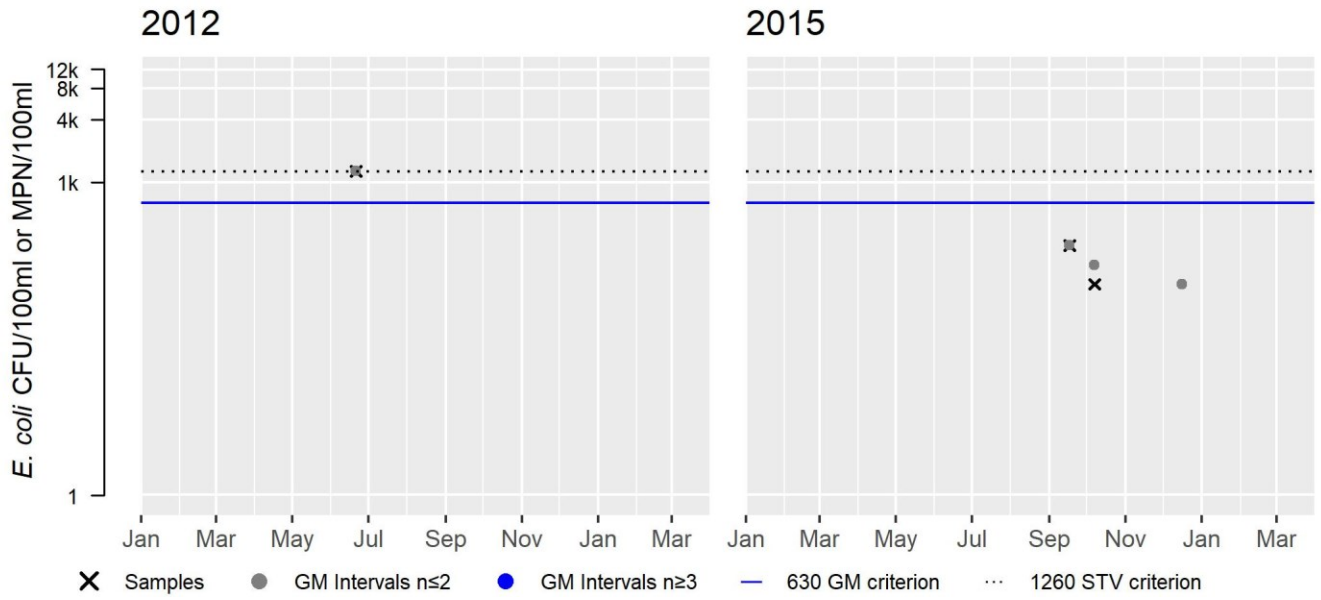
W2353 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	1280
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Var	Res
Samples	2
SeasGM	161
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



Cocasset Lake (MA62043)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	32 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Cocasset Lake (MA62043) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Cooper Pond (MA62046)

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

No usable data were available for Cooper Pond (MA62046) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

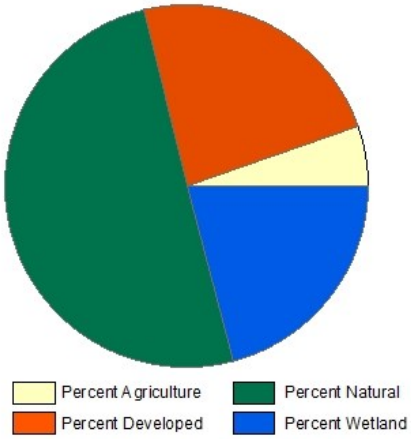
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Cotley River (MA62-41)

Location:	From outlet of cranberry bog south of Seekell Street, Taunton to mouth at confluence with the Taunton River, Taunton.
AU Type:	RIVER
AU Size:	5.7 MILES
Classification/Qualifier:	B

Cotley River - MA62-41

Watershed Area: 7.56 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	7.56	5.54	1.2	1.08
Agriculture	5.3%	2.9%	4%	4.8%
Developed	23.5%	25.8%	15.9%	17.4%
Natural	50.4%	52.5%	37.3%	37.9%
Wetland	20.9%	18.8%	42.7%	39.9%
Impervious Cover	10.8%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Enterococcus	Source Unknown (N)				X	

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDFG biologists conducted backpack electrofishing at six sites on Cotley River (MA62-41) in Berkley and Taunton from up to downstream as follows: Cotley St. (SampleID 6715) in July 2017, between Hart St/Middleboro Ave and Rt.140 (SampleID 7643) in August 2018, Old Barstow Pond dam (SampleID 8514) in July 2019, and Hart St/Middleboro Ave crossing, up and downstream reaches (SampleID's 8189, 7644) in July 2019 and August 2018, respectively. All samples were collected in low-moderate gradient stream and were indicative of good conditions for a warm water low gradient stream (well represented by a combination of macrohabitat generalists intolerant/moderately tolerant to environmental perturbations and fluvial fish comprising between 15 and 60% of the samples). According to MassDMF biologists, the remnants of the old Barstowe's Pond Dam on the river is now of minimal impact to the passage of the targeted species, river herring and American eel, though a population score of 0 was assigned. The remnants of the old Barstowe's Pond Dam located just upstream of Middleboro Ave, was given a passage score of 2 on a 0-10 scale, (minor obstruction to the passage of diadromous fish). The removal of the Barstowe's Pond Dam in April 2018 was an 8-year long effort by the Division of Ecological Restoration, Taunton Development Corporation, Mashpee Wampanoag Tribe, NOAA, US Fish and Wildlife Service, and Save the Bay. Funding was provided through Hurricane Sandy Disaster Relief-Coastal Resiliency Grants funds and NOAA. The Bartstowe's Pond Dam removal has opened 8 miles of Cotley River habitat to river herring, American eel, sea lamprey, and other native species (DER 2018). Students from UMass Amherst studied the effects of the Barstowe's Pond Dam on the Cotley River, monitoring both continuous and discrete water temperature, as well as dissolved oxygen (DO) levels between July 2015 and September 2017 (i.e., pre- dam removal) (UMass-Amherst 2018), at seven stations from up to downstream as follows: two sites upstream of the dam (800m upstream @UMassA_BARUS and in the impoundment 25m upstream @ UMassA_BARIMP), and five sites downstream of the dam (26, 55, 130, 250 & 350m downstream, respectively @ UMassA_BARDS1, BARDS2, BARDS3, BARDS4 & BARDS5). The DO was often low (discrete DO min was 0.6mg/L, in the impoundment at a depth of 0.5m; <4.0mg/L four times (at depths of 0.5m-surface) n=10); and during 20 short term deploys (5-8 days each) at UMassA_BARUS, BARIMP, and BARDS1) the 5-8DADMin was <5.0mg/L usually once per deploy (total of 15 times overall), with the 1-day min <4.0mg/L 52 times (most often in the impoundment). Temperature was high at times in the impoundment and downstream of the dam (during 21 deploys, 77 or 107 days in length), showing a consistent cooling trend with greater distance from the impoundment. The maximum temperature was 31.2°C at UMassA_BARIMP; the 7-DADM >27.7°C 50 times overall, with most of those exceedances occurring in the impoundment in 2016 and 2017. The acute maximum 24-hour average temperature was >28.3°C in the impoundment in 2016 (maximum 24-hr rolling average was 28.9°C) with 24-hr rolling averages <28.3°C for all the other deploys. Discrete pH and specific conductance (measured at UMassA_BARIMP and BARDS1) were indicative of generally good conditions, with pH ranging 6.4-7.0SU (n=26) and a maximum specific conductance of 510 (µs/cm).
While fish sample data collected by MassDFG biologists are indicative of generally good conditions for a warm water stream, the Aquatic Life Use for Cotley River (MA62-41) will continue to be assessed as having Insufficient Information. Although elevated temperatures and low DO in the river was documented by UMASS Amherst students (particularly in the impoundment of the Bartstowe's Pond Dam) between 2015 and 2017, these data were collected prior to the removal of the dam in April 2018 so no longer represent current conditions.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
6714	MassDFG	Fish Community	Cotley River	Below Barstow Pond, Taunton	41.88316	-71.04752
6715	MassDFG	Fish Community	Cotley River	Cotley St Above and Below, Berkley	41.85732	-71.04975
7643	MassDFG	Fish Community	Cotley River	Upstream Reach, Taunton	41.87690	-71.05220
7644	MassDFG	Fish Community	Cotley River	Downstream Reach , Taunton	41.88276	-71.04824
8189	MassDFG	Fish Community	Cotley River	Parked at Reservation Boundary Lot at Hart St/Middleboro Ave stream Xing, Taunton	41.88276	-71.04818
8514	MassDFG	Fish Community	Cotley River	Old Barstow Pond dam site, Taunton	41.88252	-71.04814

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
UMassA_BARDS1	UMass Amherst	Water Quality	Cotley River	26m downstream dam	41.882483	-71.0481
UMassA_BARDS2	UMass Amherst	Water Quality	Cotley River	55m downstream dam	41.882779	-71.047658
UMassA_BARDS3	UMass Amherst	Water Quality	Cotley River	130m downstream dam	41.882883	-71.046967
UMassA_BARDS4	UMass Amherst	Water Quality	Cotley River	250m downstream dam	41.883091	-71.045786
UMassA_BARDS5	UMass Amherst	Water Quality	Cotley River	350m downstream dam	41.883583	-71.044683
UMassA_BARIMP	UMass Amherst	Water Quality	Cotley River	25m upstream dam	41.882232	-71.048601
UMassA_BARUS	UMass Amherst	Water Quality	Cotley River	800m upstream dam	41.876633	-71.052533

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BB = Brown Bullhead, BS = Banded Sunfish, CCS = Creek Chubsucker, CP = Chain Pickerel, F = Fallfish, GS = Golden Shiner, GSF = Green Sunfish, H = Hogchoker, P = Pumpkinseed, RBS = Redbreast Sunfish, RP = Redfin Pickerel, SD = Swamp Darter, SL = Sea Lamprey, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
6714	07/11/17	BP	TP	L	11	105	0%	2	27%	0%	3	8%	No	No	AE, B, BB, CP, F, GS, GSF, P, RP, SL, TD,
6715	07/11/17	BP	TP	L	4	19	0%	2	42%	32%	0	0%	No	No	AE, CCS, GS, TD,
7643	08/03/18	BP	TP		9	47	0%	2	19%	15%	5	49%	No	No	AE, BB, BS, CCS, CP, P, RP, SD, TD,
7644	08/03/18	BP	TP		9	59	0%	1	15%	5%	5	19%	No	No	AE, BB, BS, CP, GS, P, RBS, SD, TD,
8189	07/19/19	BP	TP		8	111	0%	3	60%	0%	1	4%	No	No	AE, B, BB, F, H, RBS, TD, WS,
8514	07/02/19	BP	TP	L	10	102	0%	4	59%	5%	3	6%	No	No	AE, B, BS, CCS, F, GS, P, RP, TD, WS,

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary

According to DMF biologists, the remnants of an old dam on the Cotley River was noted to be of minimal impact to the passage of the targeted species, river herring and American eel, though a population score of 0 was assigned. The remnants of the old dam located just upstream of Middleboro Avenue, was given a passage score of "2" on a 0-10 scale (with 10 equating to no possible passage), indicating that the remnants are only a minor obstruction to the passage of diadromous fish. The wood dam was removed in 2018.

Status of MassDER habitat restoration priority projects as of 2021 (Wildman, N. April 15, 2021)
The Cotley River is an 8-mile long tributary of the Wild and Scenic portion of the Taunton River. In the 1800's, the Barstowe's Pond Dam was built, but since its development it has blocked the natural movement of water, sediment and fish on the Cotley River. After an 8-year long effort by the Division of Ecological Restoration, Taunton Development Corporation, the Mashpee Wampanoag Tribe, NOAA, US Fish and Wildlife Service, and Save the Bay, the dam was successfully removed in April 2018. Prior to removal, the dam was listed as a Significant Hazard by the Office of Dam Safety. Funding and implantation of the Cotley River Restoration Project was provided through Hurricane Sandy Disaster Relief-Coastal Resiliency Grants funds and NOAA. The Bartstowe's Pond Dam removal has opened eight miles of Cotley River habitat to river herring, American eel, sea lamprey, and other native species (DER 2018). Students from the University of Massachusetts Amherst studied the effects of the Barstowe's Pond Dam on the Cotley River. Investigators monitored both continuous and discrete water temperature, as well as dissolved oxygen levels between July 2015 and September 2017 (i.e., pre- dam removal) (UMass-Amherst 2018).

Physico-chemical Water Quality Information

DO, pH, Temperature

UMass Amherst Dam Study Short-term Continuous Dissolved Oxygen Data (2015-2017). (UMass-Amherst 2018) (MassDEP Undated3)
[Note: X= 7 (or # of deploy days if less than seven days); XDADMin= XDay Average of the Daily Minima, XDADA= XDay Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
UMassA_BARDS1	09/05/15	09/10/15	6	2.8	3.1	4.2	2.3	1	6	0	0	1	6
UMassA_BARDS1	07/01/16	07/05/16	5	4	4.2	6	4.8	1	5	1	5	1	0
UMassA_BARDS1	08/03/16	08/08/16	6	3.5	4.1	5.4	3.1	1	6	0	0	1	2
UMassA_BARDS1	08/31/16	09/04/16	5	4.5	4.8	5.2	1.4	1	3	0	0	1	0
UMassA_BARDS1	07/20/17	07/25/17	6	3.9	4.3	7	4.4	1	5	0	5	1	2
UMassA_BARDS1	08/12/17	08/16/17	5	3.6	3.9	5.3	3.9	1	5	0	0	1	3
UMassA_BARDS1	08/30/17	09/06/17	8	4.1	5.2	6.5	3	1	2	0	0	0	0
UMassA_BARIMP	09/05/15	09/10/15	6	0	0.4	1.5	3.6	1	6	0	0	1	6
UMassA_BARIMP	07/01/16	07/05/16	5	1.1	1.5	4.5	6.7	1	5	1	5	1	5
UMassA_BARIMP	08/03/16	08/08/16	6	0.5	1.1	3	5.1	1	6	0	0	1	6
UMassA_BARIMP	08/31/16	09/04/16	5	0.1	0.5	1.8	4.2	1	5	0	0	1	5
UMassA_BARIMP	07/20/17	07/25/17	6	0.2	0.8	4.4	9.8	1	6	1	6	1	6
UMassA_BARIMP	08/12/17	08/16/17	5	0.5	0.7	3.3	7	1	5	0	0	1	5
UMassA_BARUS	09/05/15	09/10/15	6	6.1	6.6	7.2	1.3	0	0	0	0	0	0

Station Code	Start Date	End Date	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
UMassA_BARUS	07/01/16	07/05/16	5	5.8	6.1	6.5	1.2	0	0	0	0	0	0
UMassA_BARUS	08/03/16	08/08/16	6	6	6.4	6.8	0.8	0	0	0	0	0	0
UMassA_BARUS	08/31/16	09/04/16	5	5.4	6.2	6.6	0.9	0	0	0	0	0	0
UMassA_BARUS	07/20/17	07/25/17	6	3.3	3.5	3.8	1	1	6	1	6	1	5
UMassA_BARUS	08/12/17	08/16/17	5	4.6	4.7	4.9	0.9	1	4	0	0	1	0
UMassA_BARUS	08/30/17	09/06/17	8	3.7	4.9	5.2	1	1	2	0	0	1	1

UMass Amherst Dam Study Discrete Dissolved Oxygen Data (2016-2017). (UMass-Amherst 2018) (MassDEP Undated3)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Sample Depth	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
UMassA_BARIMP	07/06/16	09/05/16	surface	3	1.6	5.2	1	1	1
UMassA_BARIMP	09/05/16	09/05/16	0.4m	1	4.9	4.9	1	1	0
UMassA_BARIMP	07/06/16	08/09/16	0.5m	2	0.6	2.7	2	2	1
UMassA_BARIMP	07/26/17	08/17/17	surface	2	2.6	6.3	1	1	1
UMassA_BARIMP	07/26/17	08/17/17	0.5m	2	1.7	5.2	1	1	1

UMass Amherst Dam Study Long-term Continuous Temperature Data (Summer Index 2014-2017). (UMass-Amherst 2018) (MassDEP Undated3)
[Summer Index is June 1 – Sept 15; 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Index Count	Max 24hr Rolling Avg Temp (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier2 7DADA >21	Count WW 7DADM >27.7
UMassA_BARDS1	07/01/15	12/31/15	77	26.2	28.4	26.7	25.4	69	69	0
UMassA_BARDS1	01/01/16	12/31/16	107	27.6	29.2	28.0	26.2	106	84	3
UMassA_BARDS1	01/01/17	10/21/17	107	25.8	29.7	27.8	24.3	90	65	1
UMassA_BARDS2	07/01/15	12/31/15	77	26.1	28.2	26.2	24.9	71	71	0
UMassA_BARDS2	01/01/16	12/31/16	107	27.5	29.1	27.9	26.2	106	86	3
UMassA_BARDS2	01/01/17	10/21/17	107	25.6	29.7	27.7	24.2	89	65	0
UMassA_BARDS3	07/01/15	12/31/15	77	25.9	28.0	26.1	24.8	71	70	0
UMassA_BARDS3	01/01/16	12/31/16	107	27.4	28.9	27.7	26.1	106	85	0
UMassA_BARDS3	01/01/17	10/21/17	107	25.9	29.8	27.9	24.5	89	68	2
UMassA_BARDS4	07/01/15	12/31/15	77	25.9	27.9	26.1	25.0	71	71	0
UMassA_BARDS4	01/01/16	12/31/16	107	27.3	28.8	27.5	26.0	106	85	0
UMassA_BARDS4	01/01/17	10/21/17	107	25.5	29.5	27.5	24.1	85	63	0
UMassA_BARDS5	07/01/15	12/31/15	77	25.0	26.6	24.4	24.3	71	71	0
UMassA_BARDS5	01/01/16	12/31/16	107	25.6	26.7	25.3	25.0	106	89	0
UMassA_BARDS5	01/01/17	10/21/17	107	24.3	27.5	24.5	24.3	76	58	0
UMassA_BARIMP	07/01/15	12/31/15	77	26.6	29.3	27.7	25.6	71	71	0

Station Code	Start Date	End Date	Index Count	Max 24hr Rolling Avg Temp (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier2 7DADA >21	Count WW 7DADM >27.7
UMassA_BARIMP	01/01/16	12/31/16	107	28.9	30.9	29.4	27.2	106	93	26
UMassA_BARIMP	01/01/17	10/21/17	107	26.4	31.2	29.0	24.8	97	72	15
UMassA_BARUS	07/01/15	12/31/15	77	24.3	26.9	25.8	23.4	71	49	0
UMassA_BARUS	01/01/16	12/31/16	107	25.7	27.9	26.6	24.7	98	60	0
UMassA_BARUS	01/01/17	10/21/17	107	23.5	24.0	23.1	22.4	72	15	0

UMass Amherst Dam Study Discrete Temperature Data (2016-2017). (UMass-Amherst 2018) (MassDEP Undated3)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Sample Depth	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
UMassA_BARIMP	07/06/16	09/05/16	surface	3	3	24	22	2	2	0	0
UMassA_BARIMP	09/05/16	09/05/16	0.4m	1	1	19	19	0	0	0	0
UMassA_BARIMP	07/06/16	08/09/16	0.5m	2	2	22	22	2	0	0	0
UMassA_BARIMP	07/26/17	08/17/17	surface	2	2	21	20.0	1	0	0	0
UMassA_BARIMP	07/26/17	08/17/17	0.5m	2	2	19	19	0	0	0	0

UMass Amherst Dam Study Discrete pH Data (2016-2017). (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
UMassA_BARDS1	06/30/16	09/05/16	Surface	6	6.4	6.7	1	0
UMassA_BARDS1	07/19/17	09/07/17	Surface	5	6.5	6.9	0	0
UMassA_BARIMP	06/30/16	09/05/16	Surface	6	6.4	6.7	1	0
UMassA_BARIMP	09/05/16	09/05/16	0.4m	1	6.6	6.6	0	0
UMassA_BARIMP	07/06/16	08/09/16	0.5m	2	6.4	6.6	1	0
UMassA_BARIMP	07/19/17	08/17/17	Surface	4	6.4	7.0	1	0
UMassA_BARIMP	07/26/17	08/17/17	0.5m	2	6.4	6.7	1	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

UMass Amherst Dam Study Discrete Specific Conductance Data (2016-2017) Compared to Estimated Chloride Criteria. (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
UMassA_BARDS1	06/30/16	09/05/16	surface	6	431	498	0	0	0	0	0	0
UMassA_BARDS1	07/19/17	09/07/17	surface	5	408	483	0	0	0	0	0	0
UMassA_BARIMP	09/05/16	09/05/16	surface	6	444	510	0	0	0	0	0	0
UMassA_BARIMP	06/30/16	09/05/16	0.5m	2	480	510	0	0	0	0	0	0
UMassA_BARIMP	07/06/16	08/09/16	0.4m	1	445	445	0	0	0	0	0	0
UMassA_BARIMP	07/19/17	08/17/17	surface	4	432	495	0	0	0	0	0	0

Station Code	Start Date	End Date	Sample Depth	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
UMassA_BARIMP	07/26/17	08/17/17	0.5m	2	436	501	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in the Cotley River (MA62-41); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for the Cotley River (MA62-41), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples close to the downstream end of the Cotley River (MA62-41), on Middleboro Ave in Taunton (TRWA_COT- 01), between April and October 2019 (n=7). Data analysis indicated that 100% of intervals had GMs >35 CFU/100mL and six samples exceeded the 130 CFU/100mL STV. The seasonal GM was 388 CFU/100mL. Since the TRWA *Enterococci* data collected during summer 2019 exceeded the use attainment impairment threshold for this single year moderate frequency dataset, the Primary Contact Recreation Use for the Cotley River (MA62-41) is assessed as Not Supporting. An Enterococcus impairment is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_COT-01	Taunton River Watershed Association	Water Quality	Cotley River	Cotley R., Middleboro Ave, Taunton	41.8826	-71.047937

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

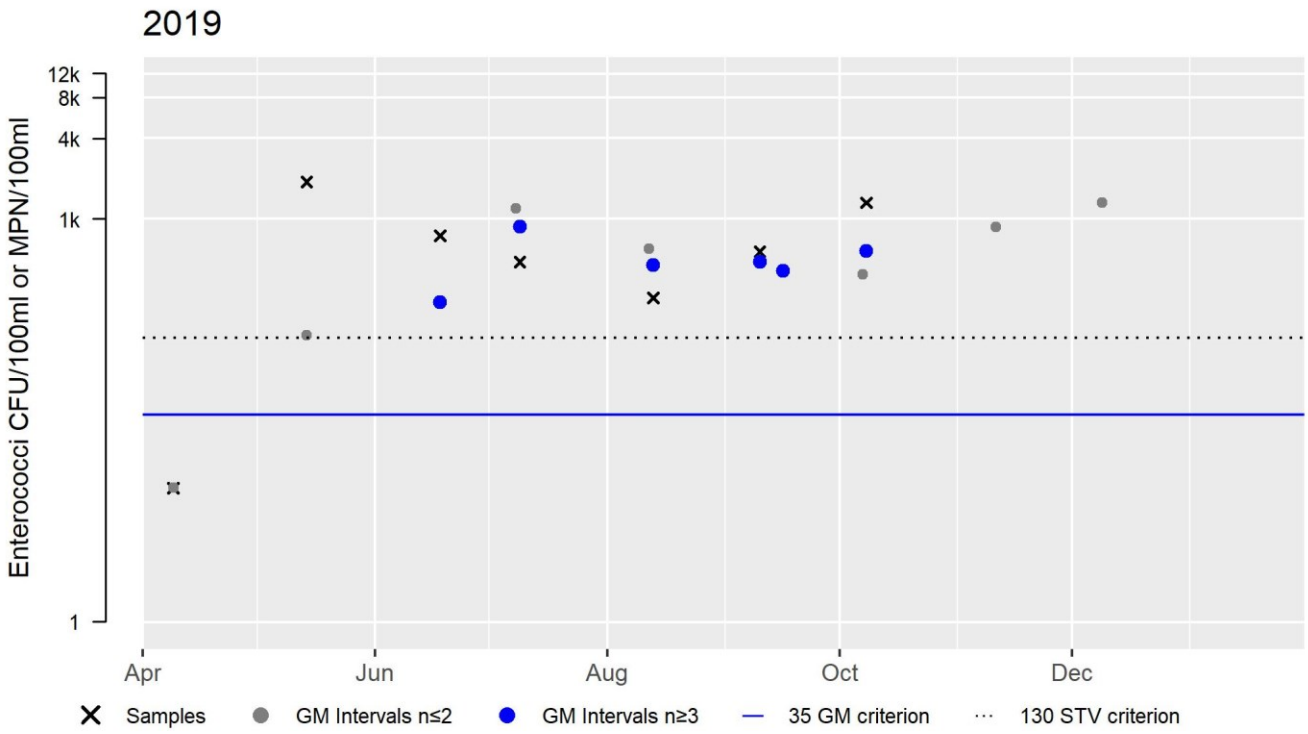
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_COT-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	1890	388

TRWA_COT-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	388
#GMI	6
#GMI Ex	6
%GMI Ex	100
n>STV	6
%n>STV	86

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

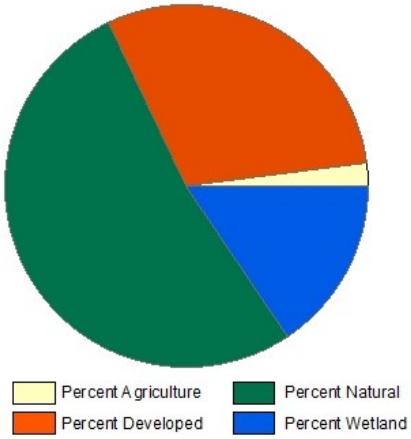
2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* data are available to assess the status of the Secondary Contact Recreation Use for Cotley River (MA62-41), so it is Not Assessed.	

Coweeset Brook (MA62-22)

Location:	Headwaters, perennial portion, southwest of Route24/Route 123 interchange (north of Mill Street), Brockton to mouth at confluence with Hockomock River, West Bridgewater.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B

Coweeset Brook - MA62-22

Watershed Area: 18.61 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	18.61	3.85	5.59	1.16
Agriculture	2%	3.4%	2.2%	3.2%
Developed	30.1%	44.4%	21.5%	35.4%
Natural	52.3%	36.3%	50.7%	30.8%
Wetland	15.6%	15.8%	25.5%	30.6%
Impervious Cover	16.2%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	2	None		Unchanged

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing at one site in the upper reach of Coweeset Brook (MA62-22), downstream of West Chestnut St., Brockton (SampleID 5282) in July 2014. While only 14 fish were collected, the sample was collected in a low gradient reach and was dominated by the fluvial taxon (tessellated darter), comprising 62% of the sample. Two macrohabitat generalist species intolerant/moderately tolerant to environmental perturbations (largemouth bass and chain pickerel) were also present. The Aquatic Life Use for Coweeset Brook is assessed as Fully Supporting based on the fish sample data collected by MassDFG biologists near West Chestnut Street in July 2014 which were indicative of generally good conditions for a low gradient warm water stream.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5282	MassDFG	Fish Community	Coweeset Brook	DS West Chestnut St, Brockton	42.05292	-71.06433

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, CP = Chain Pickerel, LMB = Largemouth Bass, TD = Tessellated Darter]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5282	07/22/14	BP	TP	L	4	13	0%	1	62%	0%	2	15%	No	No	AE, CP, LMB, TD,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Coweeset Brook (MA62-22); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Coweeset Brook (MA62-22), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the Primary Contact Recreation Use for Coweeset Brook (MA62-22), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for Coweeset Brook (MA62-22), so it is Not Assessed	

Crocker Pond (MA62051)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	17 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Crocker Pond (MA62051) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Curly-leaf Pondweed*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Cross Pond (MA62052)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	2 ACRES
Classification/Qualifier:	B

No usable data were available for Cross Pond (MA62052) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Cross Street Pond (MA62053)

Location:	Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	27 ACRES
Classification/Qualifier:	B

No usable data were available for Cross Street Pond (MA62053) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Cushing Pond (MA62056)

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

No usable data were available for Cushing Pond (MA62056) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Elm Street Pond (MA62066)

Location:	Halifax/Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	B

No usable data were available for Elm Street Pond (MA62066) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

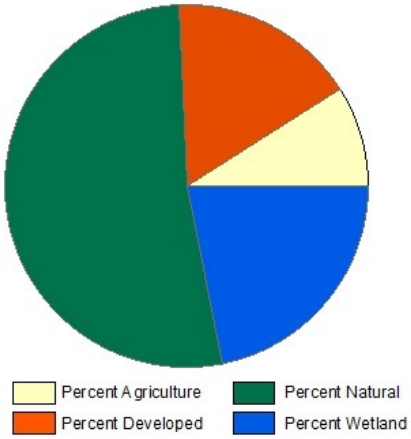
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Fall Brook (MA62-72)

Location:	Headwaters, outlet Tispaquin Pond, Middleborough to mouth at confluence with Nemasket River, Lakeville.
AU Type:	RIVER
AU Size:	3.8 MILES
Classification/Qualifier:	B

Fall Brook - MA62-72

Watershed Area: 9.39 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.39	6.13	2.27	1.53
Agriculture	9%	6.8%	11.7%	6.9%
Developed	16.6%	18.3%	9.3%	10.6%
Natural	52.6%	52.5%	33.8%	35.4%
Wetland	21.8%	22.4%	45.2%	47.1%
Impervious Cover	6.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Recommendations

2022 Recommendations
ALU: Additional sampling (fish sampling between July and mid-September as well as dissolved oxygen and temperature during the summer index period 1 June through mid-September) in this Fall Brook AU (MA62-72) should be conducted to better evaluate the Aquatic Life Use since MA DFG biologists map this brook as a CFR.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing at one site in the middle of this Fall Brook AU (MA62-72), downstream of Rt. 28 behind Comcast, Middleborough (SampleID 5615) in August 2015. It should be noted that Fall Brook is mapped as a Coldwater Fisheries Resource (CFR) by the MA DFW. The sample was collected in a low- gradient stream reach and was dominated by two fluvial specialist taxa (tessellated darter and creek chubsucker) comprising 60% of the sample. Macrohabitat generalist species intolerant/moderately tolerant to environmental perturbations (13% of the sample) were also present. No coldwater species were collected. The Fall Brook subwatershed is fairly developed (watershed area <80%/proximal stream buffer <90% natural/wetland, with an impervious cover of 6.1% and the fish sample was collected downstream of the two dams in the watershed (i.e., the Happy Hollow Dam ~350ft downstream of Wareham St. and the Route 28 Dam which are both identified by MassDMF biologists as allowing no diadromous fish passage for river herring and American eel (passage scores of 10) to Tispaquin Pond (MassDEP 2021)). The Aquatic Life Use for Fall Brook (MA62-72) is assessed as Not Supporting with the Fish Passage Barrier impairment being carried forward. Although the brook is mapped as a CFR and no cold water fish were collected by MassDFG biologists in the sample collected downstream of Rt. 28 in August 2015, an impairment for Lack of Coldwater Assemblage is not being made at this time but an Alert is being added. Additional sampling for both fish and water quality (dissolved oxygen and temperature) is being recommended.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5615	MassDFG	Fish Community	Fall Brook	Rt 28 DS behind Comcast, Middleborough	41.86803	-70.88235

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, CCS = Creek Chubsucker, LMB = Largemouth Bass, RP = Redfin Pickerel, TD = Tessellated Darter, YB = Yellow Bullhead]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5615	08/05/15	BP	TP	L	7	121	0%	2	60%	2%	2	13%	Yes	Yes	AE, B, CCS, LMB, RP, TD, YB,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Fall Brook AU (MA62-72); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Fall Brook AU (MA62-72), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the status of the Primary Contact Recreation Use for this Fall Brook AU (MA62-72), so it is Not Assessed.	

Secondary Contact Recreation

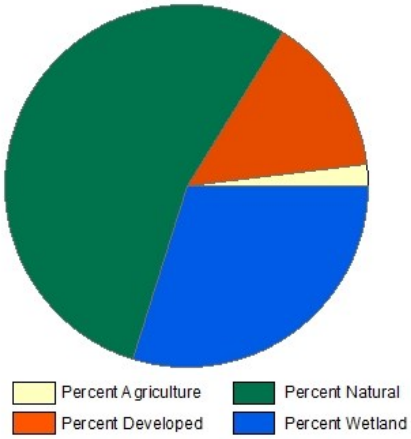
2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for this Fall Brook AU (MA62-72), so it is Not Assessed.	

Fall Brook (MA62-81)

Location:	Headwaters north of Chipaway Road, Freetown to mouth at inlet of Long Pond, Freetown (through former 2018/20 segment: East Freetown Pond MA62063).
AU Type:	RIVER
AU Size:	5.3 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fall Brook - MA62-81

Watershed Area: 13.21 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	13.21	10.2	6.55	5.63
Agriculture	1.9%	2.4%	2.3%	2.9%
Developed	14.2%	14.5%	10%	10.4%
Natural	54.1%	51.6%	45.5%	45.8%
Wetland	29.8%	31.5%	42.3%	40.9%
Impervious Cover	6%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	(Non-Native Aquatic Plants*)		Unchanged
--	5	Benthic Macroinvertebrates		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				

Recommendations

2022 Recommendations
ALU: Conduct additional long term deploys for dissolved oxygen in the lower sections of this Fall Brook AU (MA62-81), to confirm if low DO is a concern.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

MassDEP and MassDFG biologists conducted backpack electrofishing at three sites in the upstream half of this Fall Brook AU (MA62-81) in Freetown, from upstream to downstream as follows: ~5220 ft upstream of Chace Rd (SampleID 5061) in August 2013, below Chace Rd bogs (SampleID 5605) in July 2015, and above and below Chace Rd (SampleID 6717) in July 2017. The samples (collected in low-moderate to low gradient stream reaches) were well represented by macrohabitat generalist taxa that are intolerant/moderately tolerant to environmental perturbations (comprising 80, 40, and 10% of the samples respectively) with one fluvial specialist species (creek chubsucker) also being present at the upper and lower sites (comprising 13 and 30% of the samples, respectively). Benthic and water quality monitoring was conducted by MassDEP staff approximately 5220ft upstream from Chace Road, Freetown (B0840, W2382) during the summer of 2013 as part of the MAP2 Probabilistic Wadable Streams monitoring project. The benthic community sample IBI score (Statewide low gradient index) was indicative of moderately degraded conditions (54). Water quality sampling data including both deployed probe and discrete sampling efforts can be summarized as follows: the minimum dissolved oxygen (DO) was 2.3mg/L during one long term deploy (95 days), with the 7DADMin <5.0mg/L 76 times and the daily minimum <4.0mg/L 35 times, the maximum temperature was 29.7^{o}C, though the 7-DADM was >27.7^{o}C only four times and never exceeded the acute maximum 24-hour average of 28.3°C (the maximum 24-hr rolling average was 26.4^{o}C during the two 89 day deployments), the pH was low (range 5.5 to 5.7SU, n=3), and there were generally no physico-chemical indicators of nutrient enrichment (seasonal average total phosphorus concentration was 0.038mg/L (maximum 0.046mg/L, n=4), maximum diel DO shift 2.0mg/L, maximum DO saturation 54%, maximum pH only 5.7SU, and there was no observation of any dense/very dense filamentous algae during the one site visit when it was recorded). Specific conductance and chloride concentrations were both low (maximum 88µS/cm and 17mg/L, n=3 samples, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.06mg/L, n=3) with no toxicity estimated. Except for two chronic lead criteria exceedances (TUs 5.0 and 5.1), there were no other acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
The Aquatic Life Use for Fall Brook (MA62-81) will continue to be assessed as Not Supporting. The Non-Native Aquatic Plants impairment for the presence of the nonnative aquatic macrophyte *Myriophyllum heterophyllum* in the East Freetown Pond impoundment of the brook is being carried forward. An impairment for Benthic Macroinvertebrates is being added since the benthic IBI was indicative of moderately degraded conditions in summer 2013. The fish data collected in summers 2013, 2015, and 2017 and most water quality data collected in summer 2013 were indicative of generally good conditions. The low DO and pH are judged to be naturally occurring since the sample station (W2382) was up-gradient of most of the developed areas/impervious cover in the watershed and immediately downgradient of large tracts of marsh and swamp wetland although the watershed is 84% natural/wetland. An Alert for the chronic lead criteria exceedances is being added.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5061	MassDEP	Fish Community	Fall Brook	~5220 ft US/S of Chace rd	41.75570	-70.98313
5605	MassDFG	Fish Community	Fall Brook	Below Chace Rd bogs, Freetown	41.76666	-70.98160
6717	MassDFG	Fish Community	Fall Brook	Above and below Chace rd, Freetown	41.76734	-70.98151

B0840	MassDEP	Benthic	Fall Brook/	[approximately 1680 meters upstream/south from Chace Road, Freetown, MA]	41.755702	-70.983125
W2382	MassDEP	Water Quality	Fall Brook	[approximately 5220 feet upstream/south from Chace Road, Freetown]	41.755702	-70.983125

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0840	07/09/13	RBP multihab	Statewide_Low_Gradient	317	54	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BS = Banded Sunfish, CCS = Creek Chubsucker, CP = Chain Pickerel, GS = Golden Shiner, LMB = Largemouth Bass, P = Pumpkinseed, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5061	08/30/13	NS	TP		4	15	0%	1	13%	33%	2	80%	Yes	No	BS, CCS, GS, P,
5605	07/23/15	BP	TP	L	5	10	0%	0	0%	0%	3	40%	Yes	No	AE, CP, GS, LMB, YP,
6717	07/12/17	BP	TP	L	4	10	0%	1	30%	30%	1	10%	No	No	B, CCS, GS, P,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Long-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[7DADMin= 7-Day Average of the Daily Minima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Day Count	7day Count	30day Count	DO Min (mg/L)	Min 7DADMin (mg/L)	Min 7DADA (mg/L)	Delta DO Max (mg/L)	Count CW 7DADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages 7DADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages 7DADMin <5.0	Count WW Other Life Stages 1Day Min <4.0	Count CW 30DADA <8.0	Count WW Other Life Stages 30DADA <6.0
W2382	06/20/13	10/01/13	95	83	37	2.3	2.8	3.3	2	83	80	39	31	76	35	37	37

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2382	06/19/13	10/02/13	2	4.2	4.5	2	2	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2382	06/20/13	09/15/13	88	85	26.4	29.7	28.1	25.7	80	22	45	17	4	0
W2382	06/20/13	09/15/13	88	85	26.4	29.7	28.1	25.7	79	22	46	17	4	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2382	06/19/13	09/15/13	89	4205	26.4	1024	830	0
W2382	06/19/13	09/15/13	89	4205	26.4	1021	816	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2382	06/19/13	10/02/13	5	3	20.4	17.5	2	0	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2382	06/19/13	10/02/13	3	5.5	5.7	3	3

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2382	2013	4	0.028	0.046	0.038	2.0	0.8	54.1	5.7	1	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2382	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2382	2013	3	0	0	0	0	2	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2382	06/04/13	0.6	0.9	0.5	0.64	0.2	5.0
W2382	07/16/13	0.5	0.8	0.5	0.56	0.2	5.1
W2382	08/26/13	0.5	0.9	0.4	0.56	0.0	0.7

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2382	2013	3	0.041	0.18	0.117	0.6	0.9	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2382	2013	3	0.020	0.060	0.037	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2382	2013	3	14	17	16	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2382	06/19/13	10/02/13	3	75	88	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Fall Brook AU (MA62-81); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality monitoring in the upstream half of this Fall Brook AU (MA62-81), approximately 5220ft upstream/south from Chace Road in Freetown (W2382) during the summer of 2013. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during the site visits (n=8). The Aesthetics Use for this Fall Brook AU (MA62-81) is assessed as Fully Supporting based on the general lack of objectionable conditions noted by MassDEP staff during summer 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude

W2382	MassDEP	Water Quality	Fall Brook	[approximately 5220 feet upstream/south from Chace Road, Freetown]	41.755702	-70.983125

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2382	Fall Brook	2013	8	MassDEP aesthetics observations for station W2382/MAP2-360 on Fall Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2382	2013	8	1	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2382	Fall Brook	2013	Color	Brownish	2	8
W2382	Fall Brook	2013	Color	Light Yellow/Tan	2	8
W2382	Fall Brook	2013	Color	Other_____	1	8
W2382	Fall Brook	2013	Color	Reddish	3	8
W2382	Fall Brook	2013	Objectionable Deposits	No	6	8
W2382	Fall Brook	2013	Objectionable Deposits	NR	1	8
W2382	Fall Brook	2013	Objectionable Deposits	Unobservable	1	8
W2382	Fall Brook	2013	Odor	None	8	8
W2382	Fall Brook	2013	Scum	No	6	8
W2382	Fall Brook	2013	Scum	Unobservable	1	8
W2382	Fall Brook	2013	Scum	Yes	1	8
W2382	Fall Brook	2013	Turbidity	Moderately Turbid	2	8
W2382	Fall Brook	2013	Turbidity	None	3	8
W2382	Fall Brook	2013	Turbidity	Slightly Turbid	3	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples in the upstream half of this Fall Brook AU (MA62-81), approximately 5220ft upstream/south from Chace Road in Freetown (W2382), between May and September 2013 (n=5). Data analysis indicated that 25% of intervals had GMs >126 CFU/100mL and one sample exceeded the 410 CFU/100mL STV. The seasonal GM was 60 CFU/200mL. Since the *E. coli* data did not exceed the use attainment impairment threshold for this single year limited frequency dataset, the Primary Contact Recreation Use for this Fall Brook AU (MA62-81) is assessed as Fully Supporting.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2382	MassDEP	Water Quality	Fall Brook	[approximately 5220 feet upstream/south from Chace Road, Freetown]	41.755702	-70.983125

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

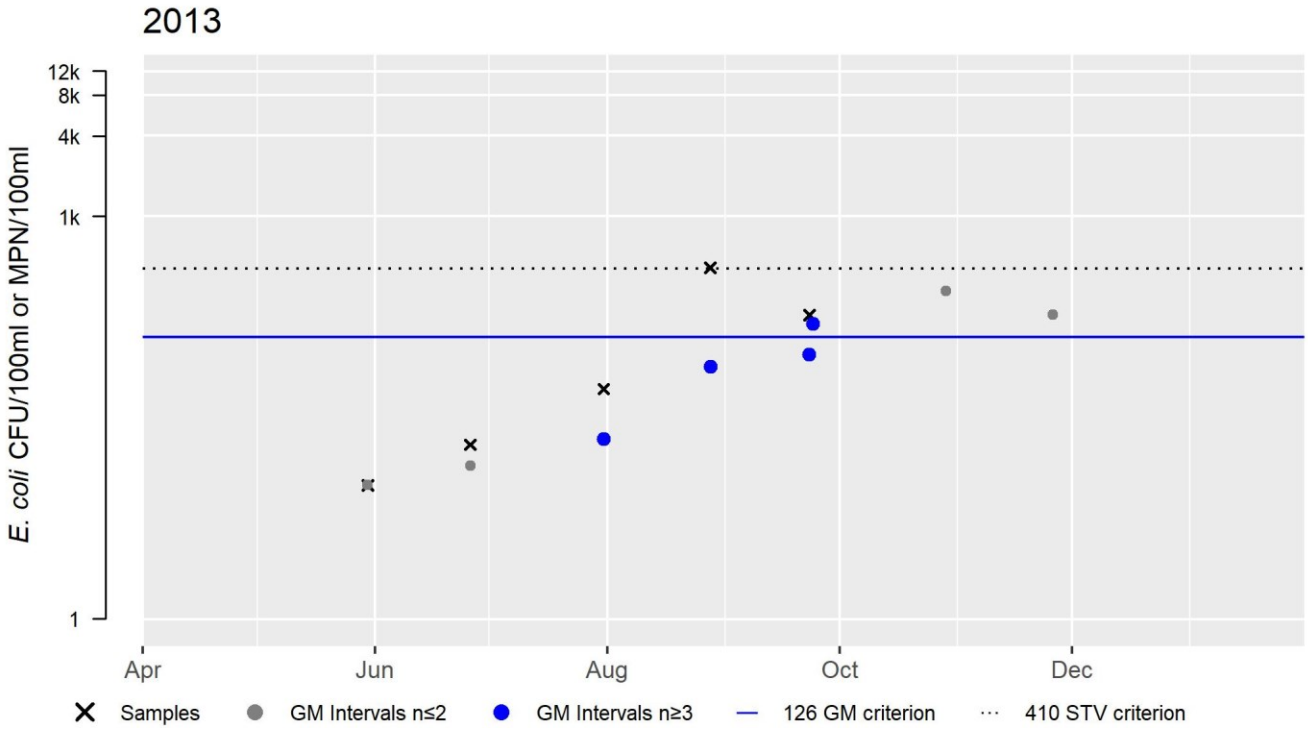
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2382	MassDEP	E. coli	05/30/13	09/23/13	5	10	414	60

W2382 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	60
#GMI	4
#GMI Ex	1
%GMI Ex	25
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples in the upstream half of this Fall Brook AU (MA62-81), approximately 5220ft upstream/south from Chace Road in Freetown (W2382), between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 60 CFU/200mL. Since the *E. coli* data did not exceed the use attainment impairment threshold for this single year limited frequency dataset, the Secondary Contact Recreation Use for this Fall Brook AU (MA62-81) is assessed as Fully Supporting.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2382	MassDEP	Water Quality	Fall Brook	[approximately 5220 feet upstream/south from Chace Road, Freetown]	41.755702	-70.983125

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

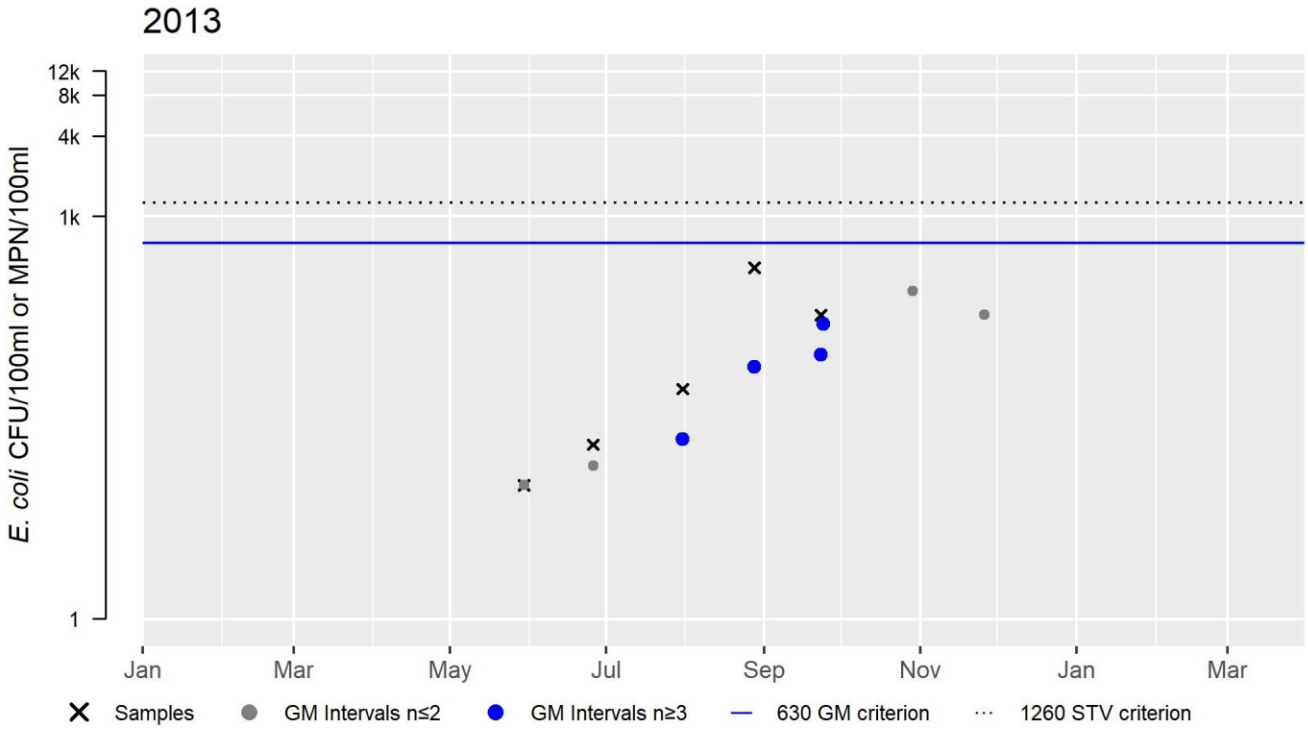
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2382	MassDEP	E. coli	05/30/13	09/23/13	5	10	414	60

W2382 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	60
#GMI	4
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

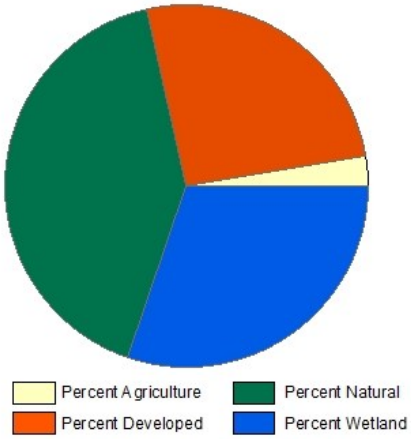


Forge River (MA62-37)

Location:	Headwaters, outlet Kings Pond, Raynham to mouth at confluence with the Taunton River, Raynham.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Forge River - MA62-37

Watershed Area: 9.28 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.28	5.75	1.7	1.25
Agriculture	2.6%	3.9%	1.6%	1.5%
Developed	25.9%	27.4%	14.9%	16.7%
Natural	41.2%	42.4%	44%	46%
Wetland	30.3%	26.3%	39.5%	35.8%
Impervious Cover	11.5%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Fish Passage Barrier*)		Unchanged
4c	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
Enterococcus	Source Unknown (N)				X	

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary
MassDFG biologists conducted backpack electrofishing at one site in this Forge River AU (MA62-37), downstream of S. Main St, adjacent to King Philip St, Raynham (SampleID 5303) in July 2014. The sample was collected in a low gradient stream reach and was well represented by fluvial specialist/dependent species (including tessellated darter, fallfish and common shiner), which comprised 37% of the sample. The Aquatic Life Use for the Forge River (MA62-31) will continue to be assessed as Not Supporting. While the July 2014 fish sample was indicative of good conditions, the Fish Passage Barrier impairment is being carried forward due to the impediments to fish passage at the Parks Department and Kings Pond dams (MassDEP 2021).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5303	MassDFG	Fish Community	Forge River	DS of S Main St, adj to King Philip St, Raynham	41.91379	-71.06197

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, CP = Chain Pickerel, CS = Common Shiner, F = Fallfish, GS = Golden Shiner, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5303	07/14/14	BP	TP	L	7	60	0%	4	37%	0%	1	2%	Yes*	No	AE, CP, CS, F, GS, TD, WS,

* Notes stated Cloudy stream

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Forge River (MA62-37); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Forge River (MA62-37), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TWRA) staff/volunteers collected *Enterococci* bacteria samples at the downstream end of Forge River (MA62-37), at the Forge River Bridge on Rt. 44 in Raynham (TRWA_FORGE), between April and October 2019 (n=7). Data analysis indicated that 100% of intervals had GMs >35 CFU/100mL and all six samples exceeded the STV of 130 CFU/100mL. Since the *Enterococci* data exceeded the use attainment impairment threshold for this single year moderate frequency dataset, the Primary Contact Recreation Use for this Forge River AU (MA62-37) is assessed as Not Supporting. An Enterococcus impairment is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_FORGE	Taunton River Watershed Association	Water Quality	Forge River	Forge R. Br, Rt 44, Raynham	41.905042	-71.05951

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

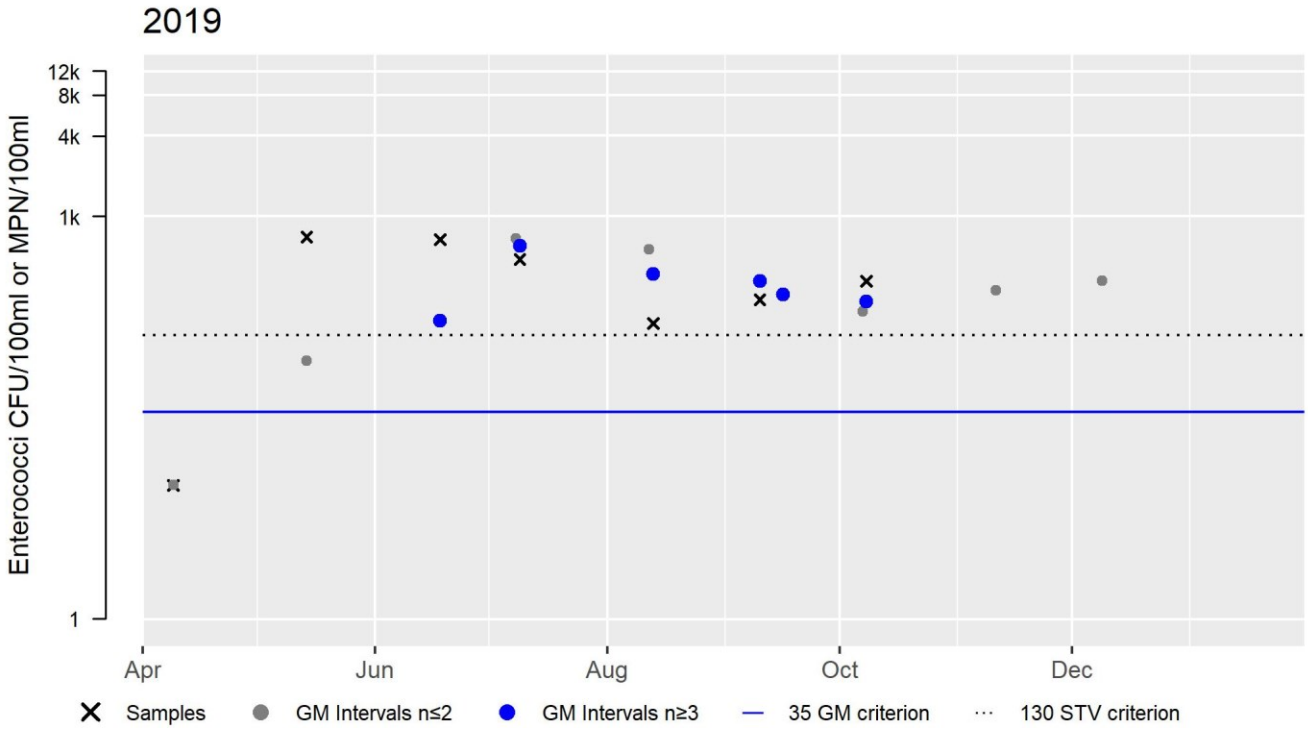
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_FORGE	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	700	224

TRWA_FORGE Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	224
#GMI	6
#GMI Ex	6
%GMI Ex	100
n>STV	6
%n>STV	86

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for Forge River (MA62-37), so it is Not Assessed.	

Fuller Street Pond (MA62234)

Location:	Middleborough/Carver (formerly reported as 2004 segment: Fuller Street Pond MA95058).
AU Type:	FRESHWATER LAKE
AU Size:	20 ACRES
Classification/Qualifier:	B

No usable data were available for Fuller Street Pond (MA62234) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

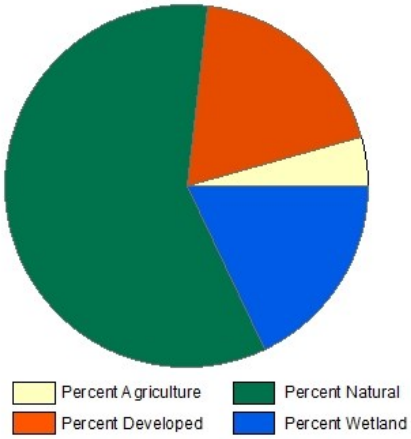
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Furnace Brook (MA62-73)

Location:	Headwaters outlet Lake Rico, Taunton to mouth at confluence with the Taunton River, Raynham.
AU Type:	RIVER
AU Size:	1.1 MILES
Classification/Qualifier:	B

Furnace Brook - MA62-73

Watershed Area: 4.14 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	4.14	3.99	1.18	1.18
Agriculture	4.3%	3.8%	5.3%	5.8%
Developed	18.8%	18.8%	9.5%	9.6%
Natural	59%	59.7%	59%	57.4%
Wetland	17.9%	17.8%	26.2%	27.2%
Impervious Cover	6%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Fish Passage Barrier*)		Unchanged
4c	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (N)	X				
Enterococcus	Source Unknown (N)				X	

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert

Not Supporting	NO
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing in July 2015 at two sites in the downstream reach of Furnace Brook (MA62-73), in Raynham. These sites from upstream to downstream can be described as follows: upstream the old impoundment above River St, parallel to Church St. (SampleID 5611) and below River St., just upstream of the Taunton River confluence (SampleID 5610). Both samples were collected in low-moderate gradient stream reaches; the upstream sample (5611) only contained four American eels, but a note indicated that overgrown brush and thick muck made it almost impossible to sample. The downstream sample (5610) was indicative of good conditions for a warm water low gradient stream, since fluvial specialist/dependent species (tessellated darter and white sucker), comprised 47% of the sample. The Aquatic Life Use for Furnace Brook (MA62-73) will continue to be assessed as Not Supporting. While the July 2015 fish sample downstream from River Street was indicative of good conditions, the Fish Passage Barrier impairment is being carried forward due to the impediment to fish passage at the Lake Rico Dam (MassDEP 2021).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5610	MassDFG	Fish Community	Furnace Brook	Below River St, US of Taunton R confluence, Raynham	41.89323	-71.00157
5611	MassDFG	Fish Community	Furnace Brook	Above old impoundment above River St, parallel to Church St, Raynham	41.89101	-71.00073

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, K = Banded Killifish, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5610	07/28/15	BP	TP		4	32	0%	2	47%	0%	0	0%	No	No	AE, K, TD, WS,
5611	07/28/15	BP	TP	L	1	4	0%	0	0%	0%	0	0%	Yes	No	AE,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Furnace Brook (MA62-73); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Furnace Brook (MA62-73), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples at the downstream end of Furnace Brook (MA62-73), on River Street in East Taunton (TRWA_FBR- 01) between April and October 2019 (n=7). Data analysis indicated that 100% of intervals had GMs >35 CFU/100mL and four samples exceeded the STV of 130 CFU/100mL. The seasonal GM was 100 CFU/100mL. The Primary Contact Recreation Use for Furnace Brook (MA62-73) is assessed as Not Supporting since the *Enterococci* data collected in summer 2019 exceeded the use attainment impairment threshold for this single year moderate frequency dataset. An Enterococcus impairment is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_FBR-01	Taunton River Watershed Association	Water Quality	Furnace River	Furnace Brk., River St., E. Taunton	41.893088	-71.00127

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

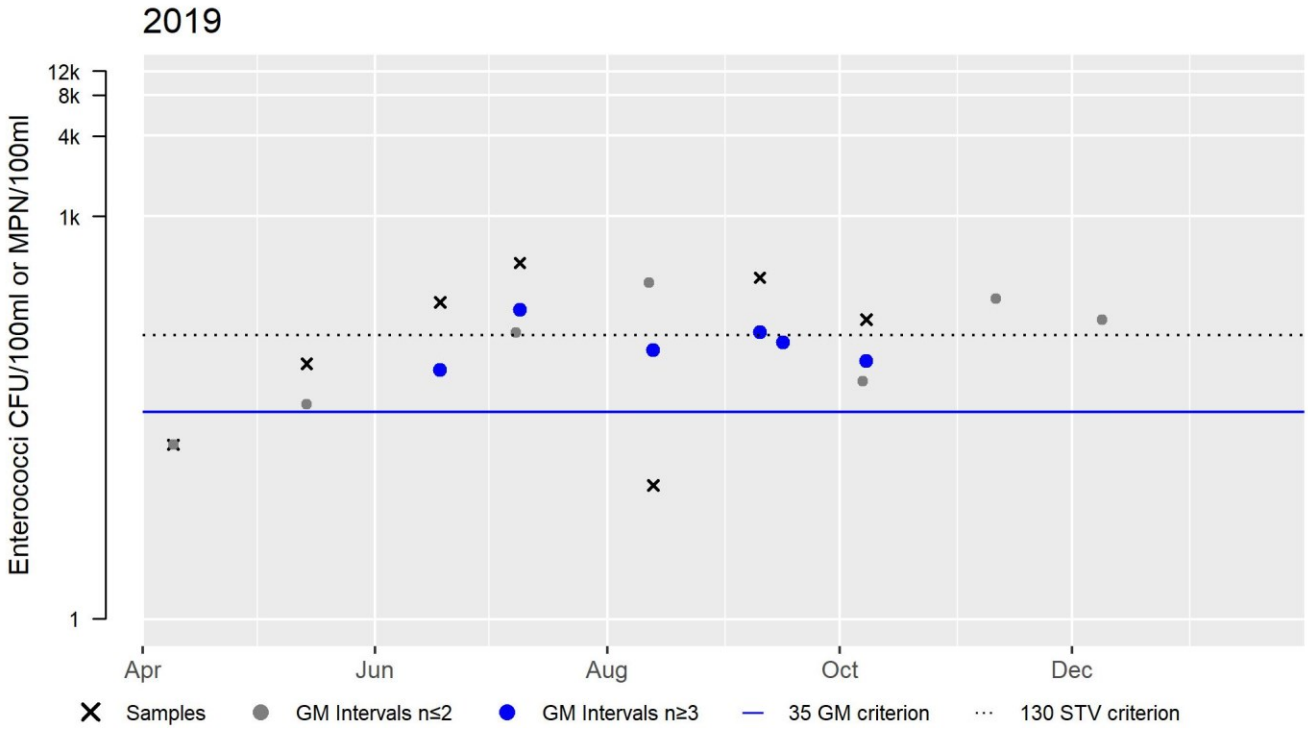
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_FBR-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	450	100

TRWA_FBR-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	100
#GMI	6
#GMI Ex	6
%GMI Ex	100
n>STV	4
%n>STV	57

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* data are available to assess the status of the Secondary Contact Recreation Use for Furnace Brook (MA62-73), so it is Not Assessed.	

Furnace Lake (MA62076)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	15 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Furnace Lake (MA62076) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Gavins Pond (MA62077)

Location:	Sharon/Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

No usable data were available for Gavins Pond (MA62077) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Glue Factory Pond (MA62078)

Location:	Foxborough (formerly part of 2014 segment: Rumford River MA62-39).
AU Type:	FRESHWATER LAKE
AU Size:	7 ACRES
Classification/Qualifier:	B

No usable data were available for Glue Factory Pond (MA62078) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Great Quittacas Pond (MA62083)

Location:	Lakeville/Middleborough/Rochester.
AU Type:	FRESHWATER LAKE
AU Size:	1125 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Great Quittacas Pond (MA62083) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Gushee Pond (MA62084)

Location:	Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	27 ACRES
Classification/Qualifier:	B

No usable data were available for Gushee Pond (MA62084) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Fish Passage Barrier*)		Unchanged
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Hartwell School Pond (MA62086)

Location:	Mansfield (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

No usable data were available for Hartwell School Pond (MA62086) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

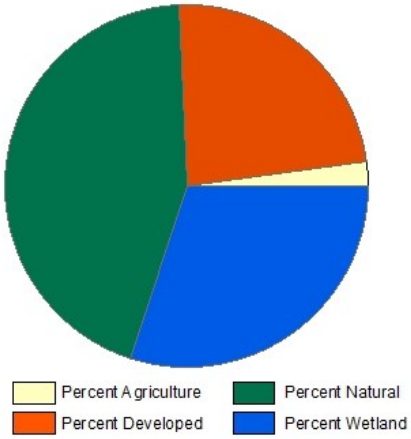
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Hockomock River (MA62-35)

Location:	Headwaters, perennial portion, west of Route 24, West Bridgewater to mouth at confluence with Town River, Bridgewater.
AU Type:	RIVER
AU Size:	4.3 MILES
Classification/Qualifier:	B

Hockomock River - MA62-35

Watershed Area: 34.49 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	34.49	8.67	8.5	1.84
Agriculture	2.2%	2.5%	2.7%	4.6%
Developed	23.5%	14.6%	18.1%	8.2%
Natural	44.3%	21.6%	41.7%	17.5%
Wetland	30%	61.3%	37.6%	69.7%
Impervious Cover	12.3%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Benthic Macroinvertebrates		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				

Recommendations

2022 Recommendations
ALU: The *Myriophyllum* species in the Hockomock River (MA62-35) needs to be identified, ideally when flowering heads are present. Additional dissolved oxygen data should also be collected to better evaluate whether low DO in this AU is naturally occurring.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

MassDEP biologists conducted backpack electrofishing as well as benthic and water quality monitoring as part of the MAP2 Probabilistic Wadable Streams monitoring project in the summer of 2013. These data (except for the benthic data) were previously reported on in the 2018/2020 IR (MassDEP 2021), but are being included here for the sake of completeness. Benthic monitoring was conducted by MassDEP staff ~770ft downstream/west from Manley Street (B0843) and ~600ft from the confluence with Town River (B0839) during the summer of 2013 as part of the MAP2 monitoring project. The benthic community sample IBI scores (compared to the Statewide low gradient index) were indicative of Moderately Degraded (56) and Severely Degraded (11) conditions, respectively. Electrofishing was conducted at two sites in the Hockomock River: Downstream from Manley Street in West Bridgewater (SampleID 5055) and ~600' upstream from the confluence with the Town River at the West Bridgewater/Bridgewater town line (SampleID 5056) in August 2013. Both American eel and redfin pickerel (a moderately tolerant macrohabitat generalist species) were collected at both sites in this low gradient river. Tessellated darter, a fluvial specialist, was also present in the most upstream sampling reach in moderate abundance. Water quality data collected during the summer of 2013 at the upstream sampling location (W2384) were indicative of good conditions (minimum dissolved oxygen (DO) 5.2 mg/L, maximum saturation 102%, maximum temperature 28.8°C (over 28.3°C for a total of only 6.9 hours), pH 6.6 to 6.9SU, total phosphorus concentration seasonal average 0.032mg/L and max 0.038mg/L. At the downstream sampling site (W2831) somewhat higher concentrations (~2X) of total phosphorus were found (seasonal average and maximum concentrations of 0.0645 and 0.088mg/L, respectively) during the summer of 2013. While instream temperature and pH were good (maximum temperature 28.0°C and 6.3/6.4SU) instream DO concentrations were very low (minimum DO 1.3mg/L). Although there was some evidence of enrichment with diel DO change as high as 4.2mg/L, the maximum saturation was low (only 69%). The species of *Myriophyllum* noted in the river at the downstream sampling location during the summer of 2013 needs to be identified.

The Aquatic Life Use for the Hockomock River (MA62-35) is assessed as Not Supporting. An impairment for Benthic Macroinvertebrates is being added based on the moderately and severely degraded benthic communities documented by MassDEP staff in the summer of 2013 downstream of Manley Street and just upstream from the Town River confluence, respectively. Alerts for low DO and the presence of an unidentified species of *Myriophyllum* which may be non-native are being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5055	MassDEP	Fish Community	Hockomock River	~770 ft DS/W of Manley St.	42.01559	-71.05266
5056	MassDEP	Fish Community	Hockomock River	~600 ft from Town R confluence	41.98837	-71.03545
B0839	MassDEP	Benthic	Hockomock River/	[at the West Bridgewater/Bridgewater border approximately 185 meters from the confluence with Town River, MA]	41.988368	-71.035453
B0843	MassDEP	Benthic	Hockomock River/	[approximately 235 meters downstream/west from Manley Street, West Bridgewater, MA]	42.015585	-71.052662
W2381	MassDEP	Water Quality	Hockomock River	[at the West Bridgewater/Bridgewater border approximately 600 feet from the confluence with Town River]	41.988368	-71.035453

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2384	MassDEP	Water Quality	Hockomock River	[approximately 770 feet downstream/west from Manley Street, West Bridgewater]	42.015585	-71.052662

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0839	07/22/13	RBP multihab	Statewide_Low_Gradient	292	11	SD
B0843	07/22/13	RBP multihab	Statewide_Low_Gradient	293	56	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, LMB = Largemouth Bass, RP = Redfin Pickerel, TD = Tessellated Darter, YB = Yellow Bullhead]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5055	08/23/13	NS	TP		6	26	0%	1	38%	0%	2	23%	No	No	AE, B, LMB, RP, TD, YB,
5056	08/23/13	NS	TP		4	51	0%	0	0%	0%	2	75%	No	No	AE, B, LMB, RP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2381	2013	2	8	1.5	1.7	2.2	4.2	2	8	1	4	2	8

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2384	2013	3	12	5.2	5.4	6.1	2	1	0	1	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2381	05/22/13	09/25/13	2	1.6	2	2	2	2
W2384	05/22/13	09/25/13	3	5.7	6.6	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2381	06/01/13	09/15/13	107	107	27.1	28.0	27.1	26.0	87	21	48	17	0	0
W2384	06/01/13	09/15/13	107	107	27.2	28.8	27.4	26.1	89	20	50	16	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2381	2013	2	8	21.9	22.7	21.9	20.9	2	0	0	0	0	0
W2384	2013	3	12	22.7	24.1	22.0	21.2	3	0	1	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2381	06/01/13	09/15/13	107	5136	27.1	1023	770	0
W2381	07/25/13	08/27/13	33	386	21.9	0	0	0
W2384	06/01/13	09/15/13	107	5136	27.3	992	777	0
W2384	06/20/13	08/27/13	68	577	23.4	0	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2381	05/22/13	09/25/13	4	2	21.1	18.2	2	0	0	0
W2384	05/22/13	09/25/13	5	3	23.2	19.3	3	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2381	05/22/13	09/25/13	2	6.3	6.4	2	0
W2384	05/22/13	09/25/13	3	6.6	6.9	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2381	2013	4	0.044	0.088	0.065	4.2	2.5	69.0	6.4	4	1
W2384	2013	5	0.024	0.038	0.032	2.0	1.4	102.2	6.9	8	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2381	2013	3	0	0	0	0	0	0	0	0
W2384	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2381	2013	3	0	0	0	0	0	0	0	0
W2384	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2384	05/31/13	0.2	0.5	0.5	0.67	0.0	0.8
W2384	07/12/13	0.2	0.4	0.4	0.53	0.0	0.2
W2384	08/23/13	0.2	0.4	0.2	0.32	0.0	0.2

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2381	2013	3	0.034	0.055	0.043	0.2	0.3	0	0
W2384	2013	3	0.007	0.043	0.020	0.1	0.2	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2381	2013	3	0.040	0.080	0.057	0	0
W2384	2013	4	0.040	0.100	0.055	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2381	2013	3	84	110	95	0	0
W2384	2013	4	58	110	95	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2381	05/22/13	09/25/13	2	315	379	0	0	0	0	0	0
W2384	05/22/13	09/25/13	3	315	471	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Hockomock River (MA62-35); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality sampling in the Hockomock River (MA62-35) at two sites during the summer of 2013. From up to downstream these site are as follows: approximately 770ft downstream/west from Manley Street in West Bridgewater (W2384) and at the West Bridgewater/Bridgewater border approximately 600ft from the confluence with Town River (W2381). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at either site (n=8). The Aesthetics Use for the Hockomock River (MA62-35) is assessed as Fully Supporting based on the general lack of any objectionable conditions noted by MassDEP staff during the summer of 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2381	MassDEP	Water Quality	Hockomock River	[at the West Bridgewater/Bridgewater border approximately 600 feet from the confluence with Town River]	41.988368	-71.035453
W2384	MassDEP	Water Quality	Hockomock River	[approximately 770 feet downstream/west from Manley Street, West Bridgewater]	42.015585	-71.052662

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2381	Hockomock River	2013	8	MassDEP aesthetics observations for station W2381/MAP2-349 on Hockomock River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013.

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2384	Hockomock River	2013	8	MassDEP aesthetics observations for station W2384/MAP2-365 on Hockomock River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2381	2013	8	4	1
W2384	2013	8	8	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2381	Hockomock River	2013	Color	Light Yellow/Tan	6	8
W2381	Hockomock River	2013	Color	None	1	8
W2381	Hockomock River	2013	Color	Unobservable	1	8
W2381	Hockomock River	2013	Objectionable Deposits	No	7	8
W2381	Hockomock River	2013	Objectionable Deposits	Unobservable	1	8
W2381	Hockomock River	2013	Odor	None	7	8
W2381	Hockomock River	2013	Odor	NR	1	8
W2381	Hockomock River	2013	Scum	No	6	8
W2381	Hockomock River	2013	Scum	Unobservable	1	8
W2381	Hockomock River	2013	Scum	Yes	1	8
W2381	Hockomock River	2013	Turbidity	None	6	8
W2381	Hockomock River	2013	Turbidity	Slightly Turbid	1	8
W2381	Hockomock River	2013	Turbidity	Unobservable	1	8
W2384	Hockomock River	2013	Color	Light Yellow/Tan	6	8
W2384	Hockomock River	2013	Color	None	2	8
W2384	Hockomock River	2013	Objectionable Deposits	No	6	8
W2384	Hockomock River	2013	Objectionable Deposits	Yes	2	8
W2384	Hockomock River	2013	Odor	None	8	8
W2384	Hockomock River	2013	Scum	No	8	8
W2384	Hockomock River	2013	Turbidity	None	7	8
W2384	Hockomock River	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from the Hockomock River (MA62-35) approximately 770ft downstream/west from Manley Street in West Bridgewater (W2384, n=5) and farther downstream at the West Bridgewater/Bridgewater border approximately 600ft from the confluence with Town River (W2381, n=4) between May and September 2013. Data analysis at Manley Street site indicated that 67% of the intervals had GMs >126 CFU/100mL, though no samples exceeded the 410 CFU/100mL STV and the seasonal GM was 111 CFU/100ml. Data analysis at the Town River confluence site indicated that none of the intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100mL STV, and the seasonal GM was just 41 CFU/100mL.
The Primary Contact Recreation Use for the Hockomock River (MA62-35) is assessed as Fully Supporting since the *E. coli* sampling data collected during summer 2013 at the two MassDEP sampling sites did not exceed the use attainment impairment threshold for these single year limited frequency datasets.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2381	MassDEP	Water Quality	Hockomock River	[at the West Bridgewater/Bridgewater border approximately 600 feet from the confluence with Town River]	41.988368	-71.035453
W2384	MassDEP	Water Quality	Hockomock River	[approximately 770 feet downstream/west from Manley Street, West Bridgewater]	42.015585	-71.052662

Bacteria Data

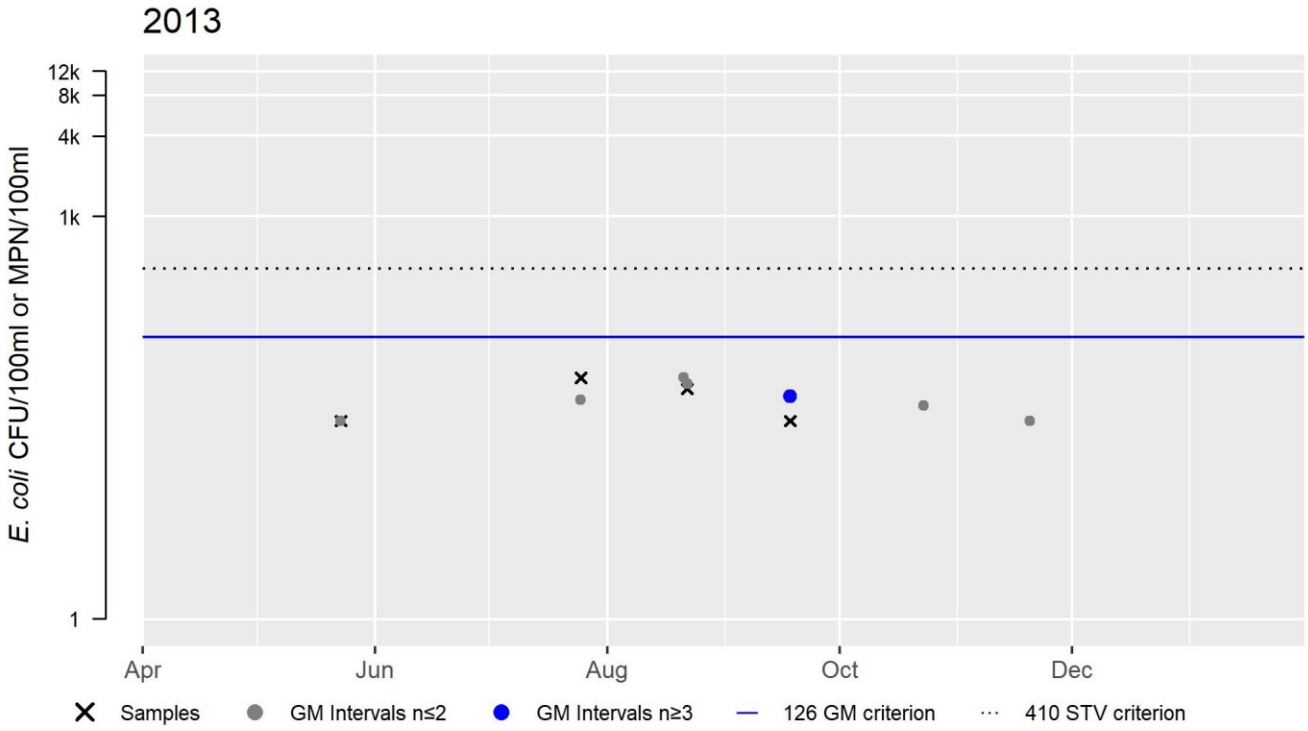
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2381	MassDEP	E. coli	05/23/13	09/18/13	4	30	63	41
W2384	MassDEP	E. coli	05/23/13	09/18/13	5	63	193	111

W2381 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	41
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

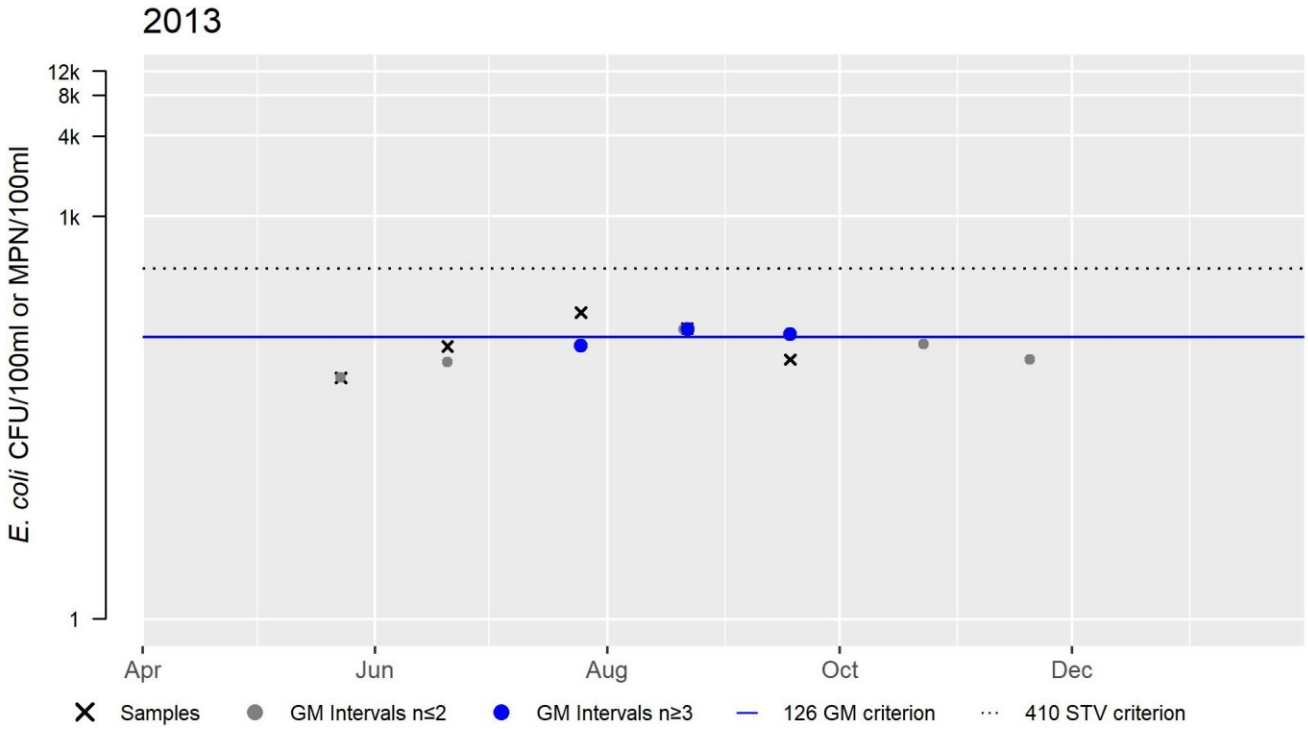
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2384 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	111
#GMI	3
#GMI Ex	2
%GMI Ex	67
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples from the Hockomock River (MA62-35) approximately 770ft downstream/west from Manley Street in West Bridgewater (W2384, n=5) and farther downstream at the West Bridgewater/Bridgewater border approximately 600ft from the confluence with Town River (W2381, n=4) between May and September 2013. Data analysis indicated that none of the intervals at either sampling location had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GMs were 111 and 41 CFU/100mL from upstream to downstream, respectively.

The Secondary Contact Recreation Use for the Hockomock River (MA62-35) is assessed as Fully Supporting since the *E. coli* data collected during summer 2013 at the two MassDEP sampling sites did not exceed the use attainment impairment threshold for these single year limited frequency datasets.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2381	MassDEP	Water Quality	Hockomock River	[at the West Bridgewater/Bridgewater border approximately 600 feet from the confluence with Town River]	41.988368	-71.035453
W2384	MassDEP	Water Quality	Hockomock River	[approximately 770 feet downstream/west from Manley Street, West Bridgewater]	42.015585	-71.052662

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

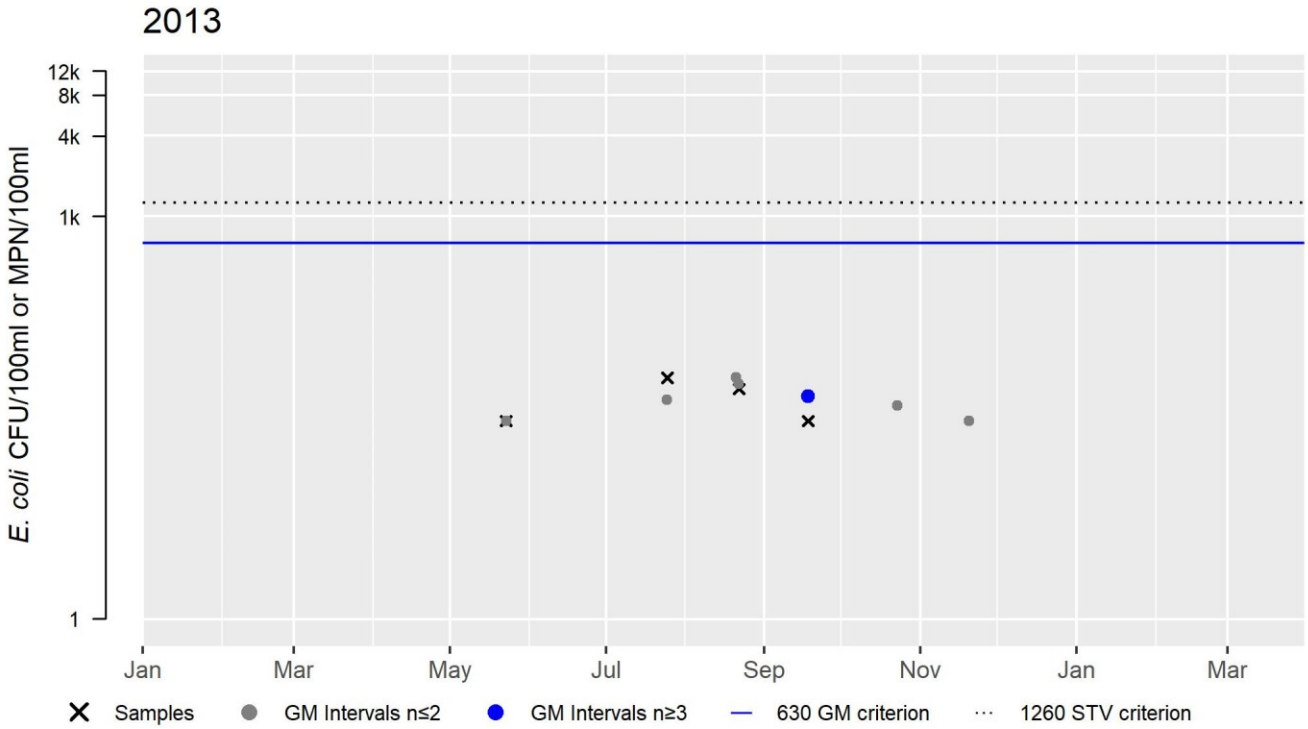
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2381	MassDEP	E. coli	05/23/13	09/18/13	4	30	63	41
W2384	MassDEP	E. coli	05/23/13	09/18/13	5	63	193	111

W2381 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	41
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

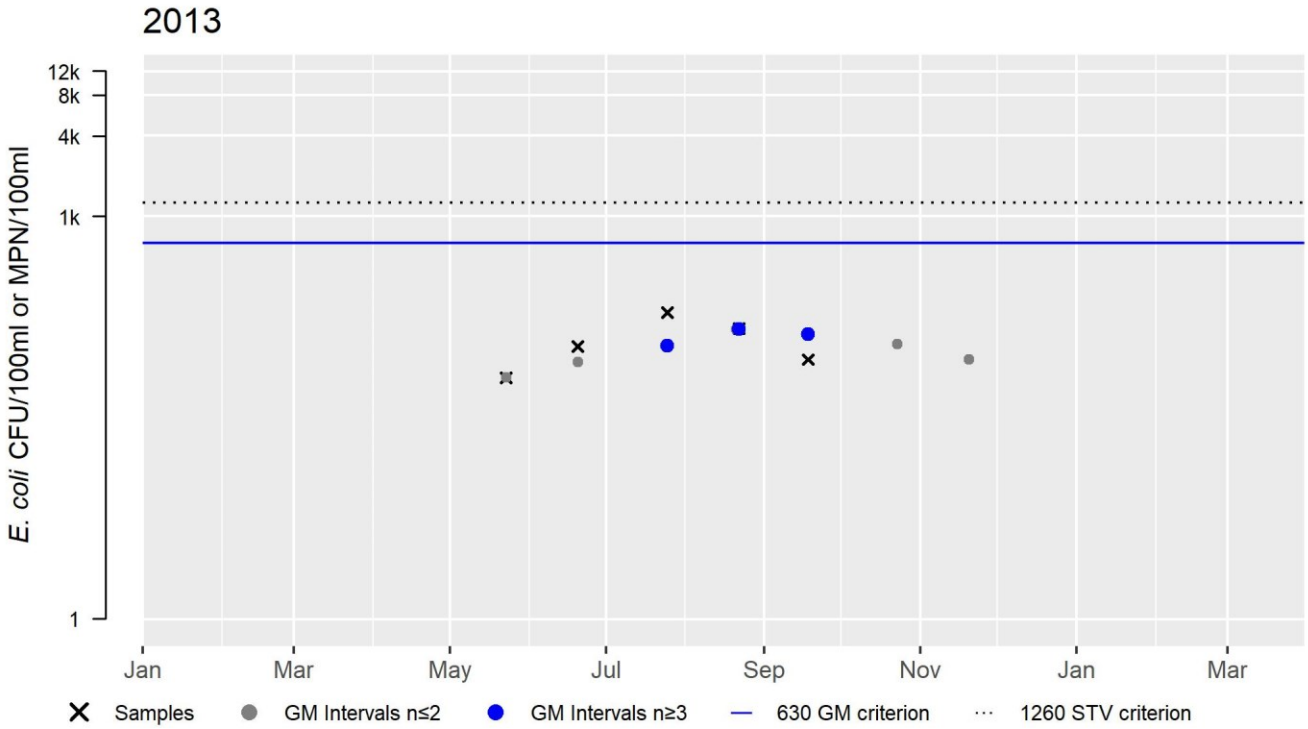
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2384 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	111
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Island Grove Pond (MA62094)

Location:	Abington.
AU Type:	FRESHWATER LAKE
AU Size:	31 ACRES
Classification/Qualifier:	B

No usable data were available for Island Grove Pond (MA62094) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	Algae		Unchanged
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Algae	Source Unknown (N)	X		X	X	X
Turbidity	Source Unknown (N)			X	X	X

Johns Pond (MA62096)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	21 ACRES
Classification/Qualifier:	B

No usable data were available for Johns Pond (MA62096) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Kings Pond (MA62101)

Location:	Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

No usable data were available for Kings Pond (MA62101) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Lake Mirimichi (MA62118)

Location:	Plainville/Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	175 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Lake Mirimichi (MA62118) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Lake Nippenicket (MA62131)

Location:	Bridgewater/Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	375 ACRES
Classification/Qualifier:	B

No usable data were available for Lake Nippenicket (MA62131) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fanwort*)		Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Mercury in Fish Tissue	Atmospheric Deposition - Toxics (Y)		X			
Mercury in Fish Tissue	Source Unknown (N)		X			

Lake Rico (MA62148)

Location:	Taunton (portion formerly reported as 2000 lake segment: King Pond MA62102).
AU Type:	FRESHWATER LAKE
AU Size:	188 ACRES
Classification/Qualifier:	B

No usable data were available for Lake Rico (MA62148) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Lake Sabbatia (MA62166)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	265 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	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)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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		X	X	X
Dissolved Oxygen	Source Unknown (N)	X				

Recommendations

2022 Recommendations
ALU: Confirm the presence of live specimens of the non-native aquatic invertebrate species, *Corbicula fluminea* (Asian clam), in Lake Sabbatia (confirmation should be made by a qualified state agency/taxonomist).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
According to MassDMF biologists, the Morey's Bridge Dam at the downstream end of Lake Sabbatia (MA62166) is not an obstruction to the passage of river herring and American eel between the Lake and the downstream Mill River AU (MA62-29). MassDMF biologists assigned a passage score of "2" (minor obstruction), following a DCR/DOT dam reconstruction project in 2012, when a fish ladder and eel ramp were installed. The population score in this area is "3". The Aquatic Life Use will continue to be assessed as Not Supporting with the Dissolved Oxygen, Fanwort and Non-Native Aquatic Plants impairments being carried forward. The Alert previously identified due to the potential infestation of the non-native mollusk species, *Corbicula fluminea*, is also being carried forward.	

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
According to DMF biologists, the Morey's Bridge Dam at the downstream end of Lake Sabbatia, is not an obstruction to the passage of river herring and American eel between the Lake and the downstream Mill River AU (MA62-29). DMF biologists assigned a passage score of "2" (minor obstruction), following a DCR/DOT dam reconstruction project in 2012, when a fish ladder and eel ramp were installed. The population score in this area is "3".

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Lake Sabbatia (MA62166); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Lake Sabbatia (MA62166), so it will continue to be Assessed as Not Supporting with the Non-Native Aquatic Plants impairment being carried forward.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the status of the Primary Contact Recreation Use for Lake Sabbatia (MA62166), so it will continue to be Assessed as Not Supporting with the Non-Native Aquatic Plants impairment being carried forward.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the status of the Secondary Contact Recreation Use for Lake Sabbatia (MA62166), so it will continue to be Assessed as Not Supporting with the Non-Native Aquatic Plants impairment being carried forward.	

Leach Pond (MA62103)

Location:	Easton/Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	111 ACRES
Classification/Qualifier:	B

No usable data were available for Leach Pond (MA62103) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Little Cedar Swamp (MA62106)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	91 ACRES
Classification/Qualifier:	B

No usable data were available for Little Cedar Swamp (MA62106) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Little Quittacas Pond (MA62107)

Location:	Lakeville/Rochester.
AU Type:	FRESHWATER LAKE
AU Size:	295 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Little Quittacas Pond (MA62107) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Long Pond (MA62108)

Location:	Lakeville/Freetown.
AU Type:	FRESHWATER LAKE
AU Size:	1728 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Long Pond (MA62108) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				

Long Pond River (MA62-74)

Location:	Headwaters outlet Long Pond, Lakeville to mouth at inlet Assawompsett Pond, Lakeville.
AU Type:	RIVER
AU Size:	0.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Long Pond River (MA62-74) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Longwater Pond (MA62109)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

No usable data were available for Longwater Pond (MA62109) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Lovett Brook (MA62-46)

Location:	Headwaters, perennial portion, north of Oak Street, Brockton to mouth at inlet Elis Brett Pond, Brockton.
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B

No usable data were available for Lovett Brook (MA62-46) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Lower Porter Pond (MA62111)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

No usable data were available for Lower Porter Pond (MA62111) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

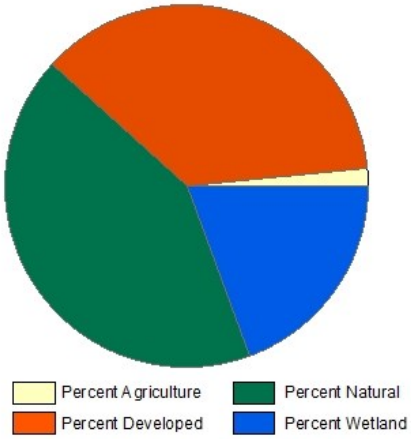
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Matfield River (MA62-32)

Location:	Headwaters, confluence Beaver Brook and Salisbury Plain River, East Bridgewater to mouth at confluence with Town River forming headwaters Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	6.3 MILES
Classification/Qualifier:	B: WWF

Matfield River - MA62-32

Watershed Area: 64.11 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	64.11	9.67	15.55	2.85
Agriculture	1.6%	4.2%	1.6%	4.2%
Developed	36.7%	26%	23.7%	17.4%
Natural	42.4%	43.9%	40%	44.6%
Wetland	19.3%	25.9%	34.7%	33.8%
Impervious Cover	20%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Algae		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Dissolved Oxygen		Unchanged
5	5	Enterococcus		Added
5	5	Escherichia Coli (E. Coli)	40308	Unchanged
5	5	Fecal Coliform	40308	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
5	5	Odor		Unchanged
5	5	Phosphorus, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Algae	Municipal Point Source Discharges (Y)			X	X	X
Benthic Macroinvertebrates	Municipal Point Source Discharges (Y)	X				
Dissolved Oxygen	Municipal Point Source Discharges (Y)	X				

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Enterococcus	Source Unknown (N)				X	
Escherichia Coli (E. Coli)	Source Unknown (N)				X	
Fecal Coliform	Municipal Point Source Discharges (Y)				X	
Nutrient/Eutrophication Biological Indicators	Municipal Point Source Discharges (Y)	X				
Odor	Municipal Point Source Discharges (Y)			X	X	X
Phosphorus, Total	Municipal Point Source Discharges (Y)	X				

Recommendations

2022 Recommendations
ALU: New limits for DO and total phosphorus were included in the Brockton Advanced Water Reclaimation Facility NPDES permit issued in January 2017. Water quality monitoring should be conducted in the Matfield River to evaluate whether there are improved conditions (benthic macroinvertebrate and algal sampling, deployed DO multiprobes, and nutrient sampling) since facility upgrades have been implemented to meet the permit limits. AES: Do a series of aesthetics surveys at West Union Street (W1500) & High St. Bridge (W1501) to confirm if impairments for Algae & Odor (effluent) are still warranted and if the Alert issue previously identified for High Phosphorus Concentrations still exist.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing at one site near the upstream end of the Matfield River (MA62-32), North Central St. DS @ Pleasant St. intersection, East Bridgewater (SampleID 5302) in July 2014. The sample was collected in a low gradient reach and contained only a small number of individuals (24) (with an associated note that fast flowing water & wide channel made thorough survey difficult) though two fluvial fish/taxa (tessellated darter and white sucker) comprised 16% of the sample. MassDEP staff also noted observations of dense film or filamentous algae once at West Union St. (W1500) and once at North Central St. (W2575) in the summer of 2015 (as part of the Bacteria Source Tracking (BST) project). The Aquatic Life Use for the Matfield River (MA62-32) will continue to be assessed as Not Supporting with the Benthic Macroinvertebrates, Dissolved Oxygen, Nutrient/Eutrophication Biological Indicators and Total Phosphorus impairments all being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5302	MassDFG	Fish Community	Matfield River	North Central St DS @ Pleasant St intersection, East Bridgewater	42.03362	-70.97254
W1500	MassDEP	Water Quality	Matfield River	[West Union Street, East Bridgewater]	42.031089	-70.970658
W2571	MassDEP	Water Quality	Matfield River	[Route 106, East Bridgewater]	42.015516	-70.961165

W2573	MassDEP	Water Quality	Matfield River	[Spring Street, East Bridgewater]	42.026371	-70.967307
W2575	MassDEP	Water Quality	Matfield River	[North Central Street, East Bridgewater]	42.033504	-70.972553

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5302	07/09/14	BP	TP	L	3	24	0%	2	13%	0%	0	0%	Yes	No	AE, TD, WS,

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W1500	2015	--	--	--	--	--	--	--	--	2	1
W2571	2015	--	--	--	--	--	--	--	--	3	0
W2573	2015	--	--	--	--	--	--	--	--	3	0
W2575	2015	--	--	--	--	--	--	--	--	2	1

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
Although fish toxics sampling in the Matfield River was done upstream of Bridge Street, Bridgewater in 1989, no site-specific fish consumption advisory was issued by MA DPH. The Fish Consumption Use for the Matfield River (MA62-32) is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
MassDEP staff conducted water quality sampling at three sites in East Bridgewater along the Matfield River (MA62-32) during the summer of 2015 (as part of the Bacteria Source Tracking (BST) project). The site descriptions from upstream to downstream are as follows: at North Central Street (W2575, n=2), at Spring Street (W2573, n=3), and at Rt. 106 (W2571, n=3). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at any of the sites. MassDEP staff noted observations of dense film or filamentous algae once at West Union St. (W1500) and once at North Central St. (W2575) in the summer of 2015 (as part of the Bacteria Source Tracking (BST) project) The Aesthetics Use for the Matfield River (MA62-32) will continue to be assessed as Not Supporting with the Algae and Odor impairments being carried forward. The Alert identified for elevated total phosphorus concentrations is also being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1500	MassDEP	Water Quality	Matfield River	[West Union Street, East Bridgewater]	42.031089	-70.970658
W2571	MassDEP	Water Quality	Matfield River	[Route 106, East Bridgewater]	42.015516	-70.961165
W2573	MassDEP	Water Quality	Matfield River	[Spring Street, East Bridgewater]	42.026371	-70.967307
W2575	MassDEP	Water Quality	Matfield River	[North Central Street, East Bridgewater]	42.033504	-70.972553

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2571	Matfield River	2015	3	MassDEP aesthetics observations for station W2571 on Matfield River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015.
W2573	Matfield River	2015	3	MassDEP aesthetics observations for station W2573 on Matfield River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015.
W2575	Matfield River	2015	2	MassDEP aesthetics observations for station W2575 on Matfield River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1500	2015	2	2	1
W2571	2015	3	3	0
W2573	2015	3	3	0
W2575	2015	2	2	1

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1500	Matfield River	2015	Color	None	2	2
W1500	Matfield River	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W1500	Matfield River	2015	Odor	Effluent (Treated)	1	2
W1500	Matfield River	2015	Odor	Other	1	2
W1500	Matfield River	2015	Scum	Not Applicable (N/A)	2	2
W1500	Matfield River	2015	Turbidity	None	1	2
W1500	Matfield River	2015	Turbidity	Slightly Turbid	1	2
W2571	Matfield River	2015	Color	None	3	3
W2571	Matfield River	2015	Objectionable Deposits	Not Applicable (N/A)	3	3
W2571	Matfield River	2015	Odor	None	3	3
W2571	Matfield River	2015	Scum	Not Applicable (N/A)	3	3
W2571	Matfield River	2015	Turbidity	Moderately Turbid	1	3
W2571	Matfield River	2015	Turbidity	Slightly Turbid	2	3
W2573	Matfield River	2015	Color	None	3	3
W2573	Matfield River	2015	Objectionable Deposits	Not Applicable (N/A)	3	3
W2573	Matfield River	2015	Odor	Effluent (Treated)	1	3
W2573	Matfield River	2015	Odor	None	1	3
W2573	Matfield River	2015	Odor	Other	1	3
W2573	Matfield River	2015	Scum	Not Applicable (N/A)	3	3
W2573	Matfield River	2015	Turbidity	Moderately Turbid	2	3
W2573	Matfield River	2015	Turbidity	Slightly Turbid	1	3
W2575	Matfield River	2015	Color	None	2	2
W2575	Matfield River	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2575	Matfield River	2015	Odor	Effluent (Treated)	1	2
W2575	Matfield River	2015	Odor	Other	1	2
W2575	Matfield River	2015	Scum	Not Applicable (N/A)	2	2
W2575	Matfield River	2015	Turbidity	Moderately Turbid	1	2
W2575	Matfield River	2015	Turbidity	Slightly Turbid	1	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples at four sites along the Matfield River (MA62-32) in East Bridgewater as part of the Bacteria Source Tracking (BST) project and the Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples at one site in Bridgewater. The site descriptions from upstream to downstream are as follows: North Central Street (W2575) August-September 2015 (n=2), West Union Street (W1500) August-September 2015 (n=2), Spring Street (W2573) July-September 2015 (n=3), Rt. 106 (W2571) July-September 2015 (n=3), and High Street (TRWA_MAT- 01) May-October 2019 (n=6). Data analysis indicated 100% of intervals had GMs >126 CFU/100mL for *E. coli* at W2573 and W2571 in summer 2015 and one sample exceeded the 410 CFU/100mL STV at both sites; also 100% of intervals had GMs >35 CFU/100ml for *Enterococci* with two samples exceeding the 130 CFU/100mL STV at TRWA_MAT-01 in summer 2019.
The Primary Contact Recreation Use for this Matfield River AU (MA62-32) will continue to be assessed as Not Supporting. An impairment for Enterococcus is being added based on TWRA data collected at High St. Bridgewater (TRWA_MAT-01) in summer 2019 which exceeded use attainment impairment thresholds for a single year limited frequency dataset. Impairments for Fecal Coliform, *E. coli*, Algae, and Odor will all be carried forward (the *E. coli* impairment remains warranted based on the limited data collected by MassDEP staff as part of the BST project during summer 2015). The Alert for elevated total phosphorus concentrations is also being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1500	MassDEP	Water Quality	Matfield River	[West Union Street, East Bridgewater]	42.031089	-70.970658
W2571	MassDEP	Water Quality	Matfield River	[Route 106, East Bridgewater]	42.015516	-70.961165
W2573	MassDEP	Water Quality	Matfield River	[Spring Street, East Bridgewater]	42.026371	-70.967307
W2575	MassDEP	Water Quality	Matfield River	[North Central Street, East Bridgewater]	42.033504	-70.972553
TRWA_MAT-01	Taunton River Watershed Association	Water Quality	Matfield River	Matfield R., Br, High St., Bridgewater	41.999439	-70.937804

Bacteria Data

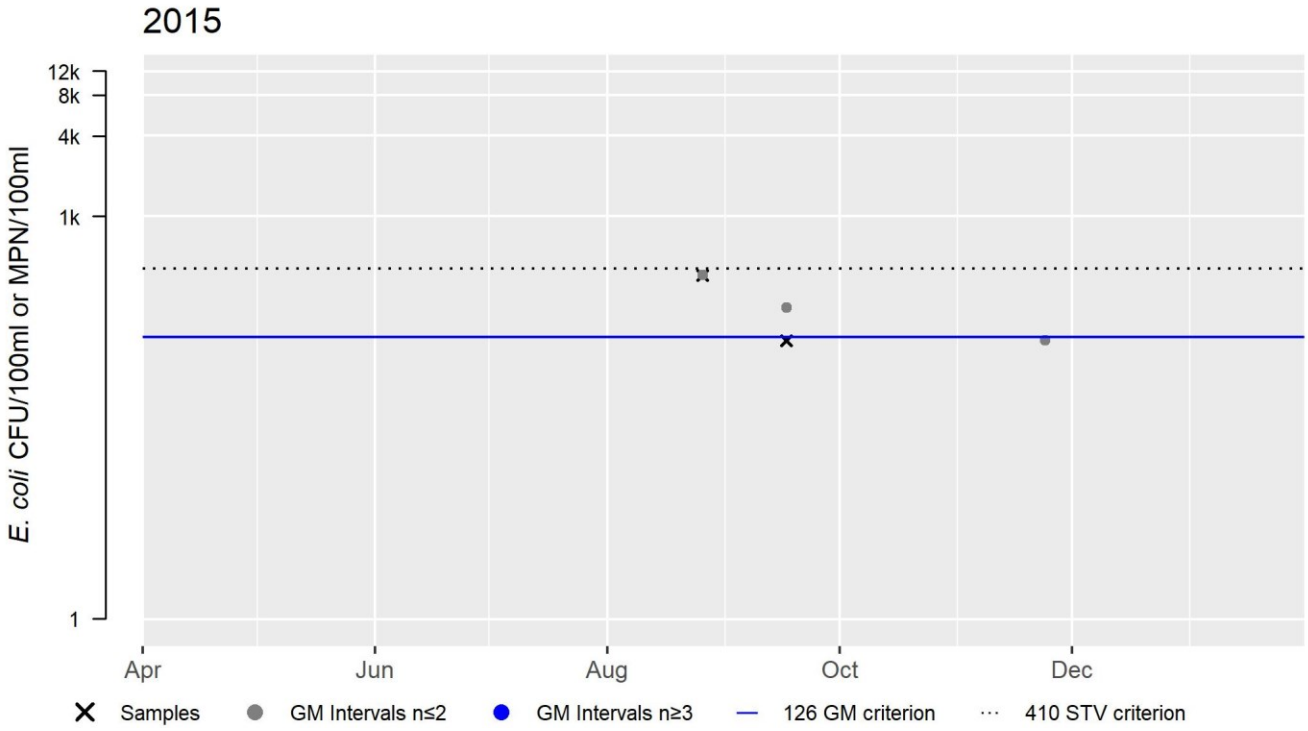
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5) (TRWA 2020) (MassDEP Undated3)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1500	MassDEP	E. coli	08/26/15	09/17/15	2	119	365	208
W2571	MassDEP	E. coli	07/22/15	09/17/15	3	86	435	156
W2573	MassDEP	E. coli	07/22/15	09/17/15	3	126	1200	345
W2575	MassDEP	E. coli	08/26/15	09/17/15	2	199	345	262
TRWA_MAT-01	Taunton River Watershed Association	Enterococci	05/14/19	10/08/19	6	50	1540	144

W1500 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	208
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

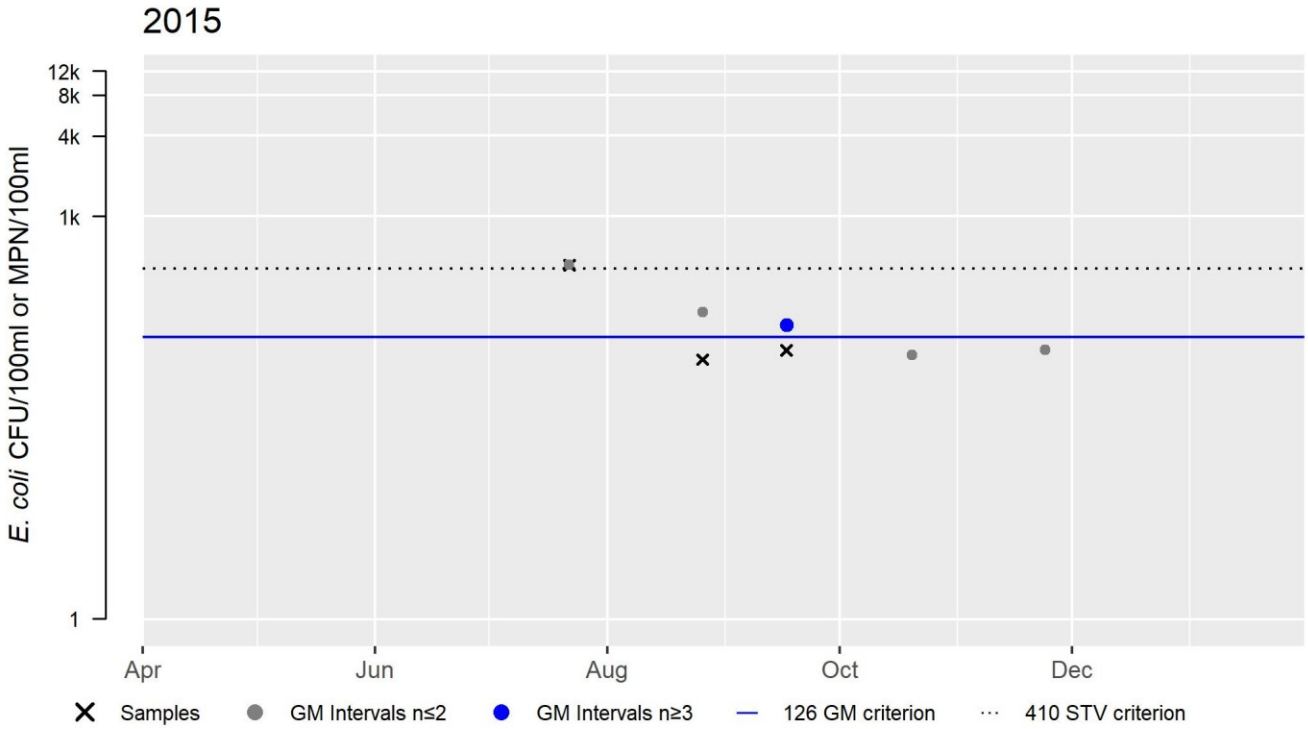
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2571 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	156
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

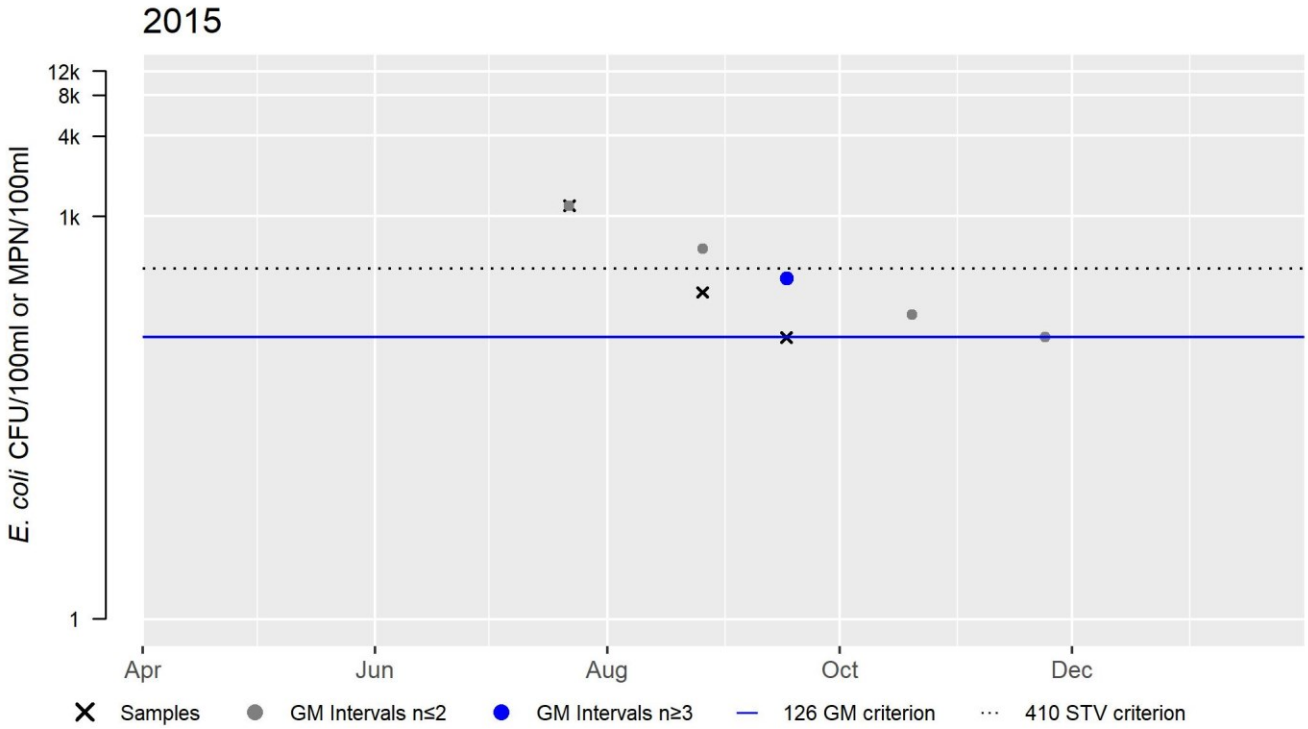
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2573 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	345
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

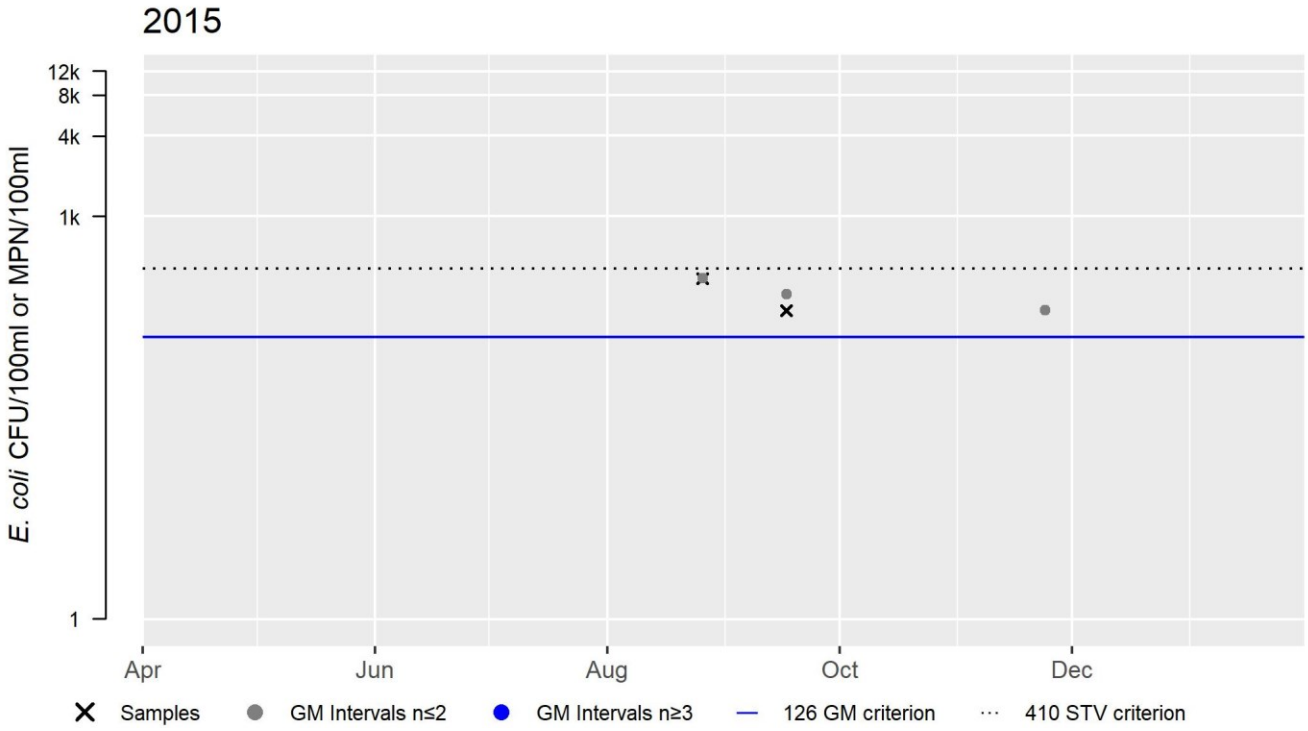
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2575 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	262
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

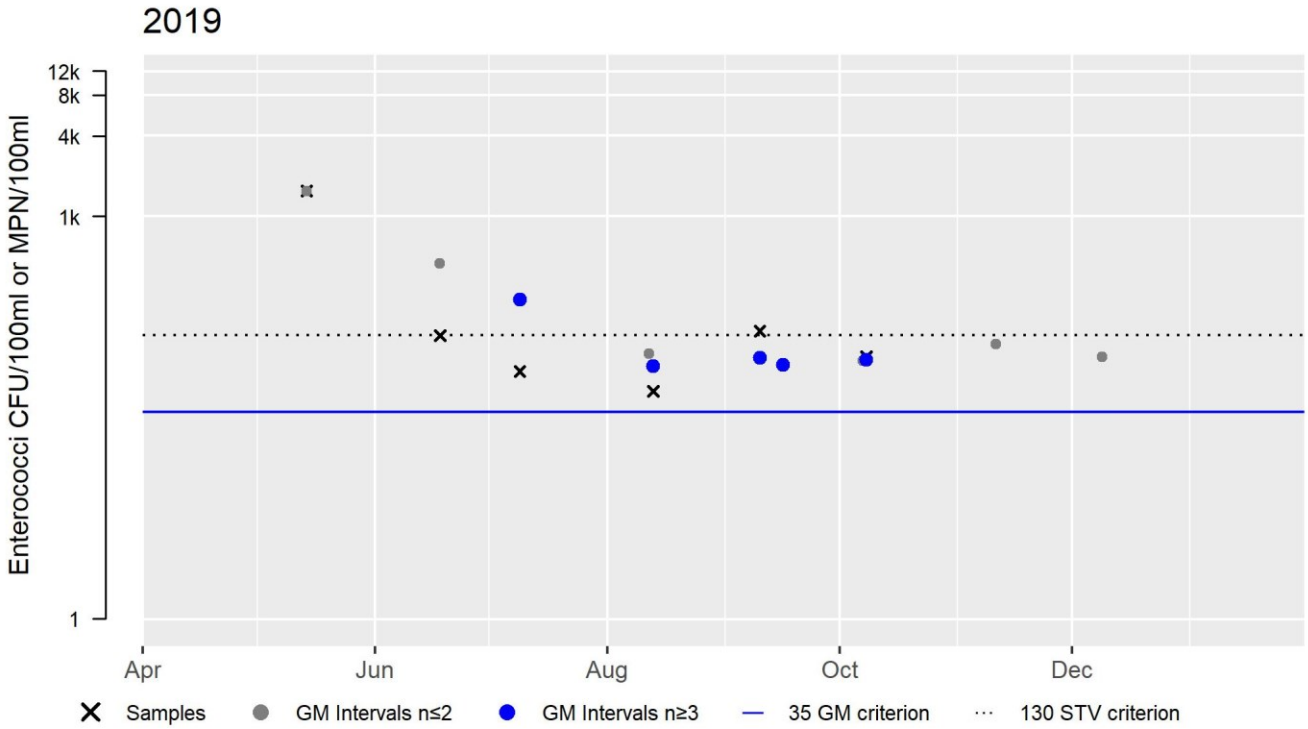
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_MAT-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	144
#GMI	5
#GMI Ex	5
%GMI Ex	100
n>STV	2
%n>STV	33

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples at four sites in East Bridgewater along the Matfield River AU (MA62-32) as part of the Bacteria Source Tracking (BST) project. The site descriptions from upstream to downstream are as follows: North Central Street (W2575) August-September 2015 (n=2), West Union Street (W1500) August-September 2015 (n=2), Spring Street (W2573) July-September 2015 (n=3), and Rt. 106 (W2571) July-September 2015 (n=3). Data analysis (for sites W2573 and W2571) indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV, with seasonal GMs of 345 and 156 CFU/100ml respectively. The data at the other two sites are too limited to assess according to the 2022 CALM guidance (MassDEP 2022).
The Secondary Contact Recreation Use for the Matfield River (MA62-32) will continue to be assessed as Not Supporting. While the *E. coli* data collected at Spring St. (W2573) and Rt. 106 (W2571) by MassDEP staff in summer 2015 did not exceed the use attainment impairment threshold for those single year limited frequency datasets, the Algae and Odor impairments are both being carried forward. The Alert for elevated total phosphorus concentrations is also being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1500	MassDEP	Water Quality	Matfield River	[West Union Street, East Bridgewater]	42.031089	-70.970658
W2571	MassDEP	Water Quality	Matfield River	[Route 106, East Bridgewater]	42.015516	-70.961165
W2573	MassDEP	Water Quality	Matfield River	[Spring Street, East Bridgewater]	42.026371	-70.967307
W2575	MassDEP	Water Quality	Matfield River	[North Central Street, East Bridgewater]	42.033504	-70.972553

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

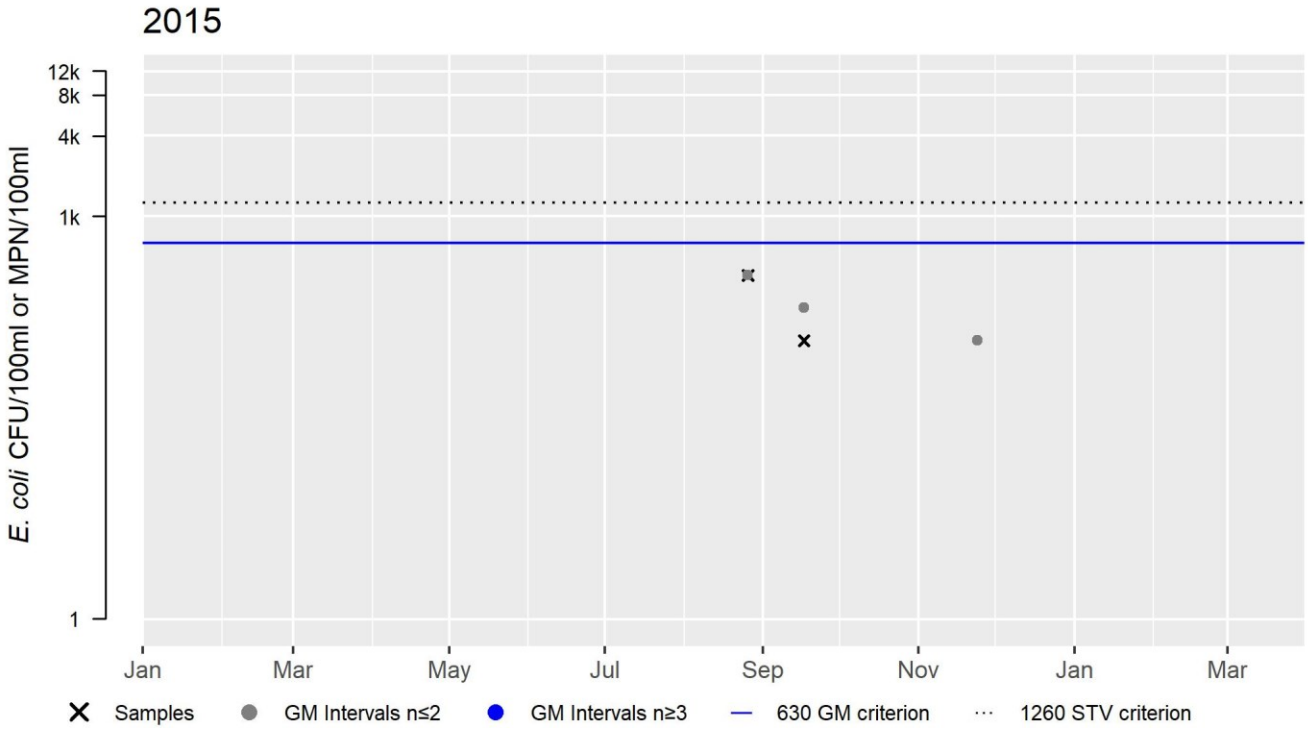
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W1500	MassDEP	E. coli	08/26/15	09/17/15	2	119	365	208
W2571	MassDEP	E. coli	07/22/15	09/17/15	3	86	435	156
W2573	MassDEP	E. coli	07/22/15	09/17/15	3	126	1200	345
W2575	MassDEP	E. coli	08/26/15	09/17/15	2	199	345	262

W1500 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	208
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

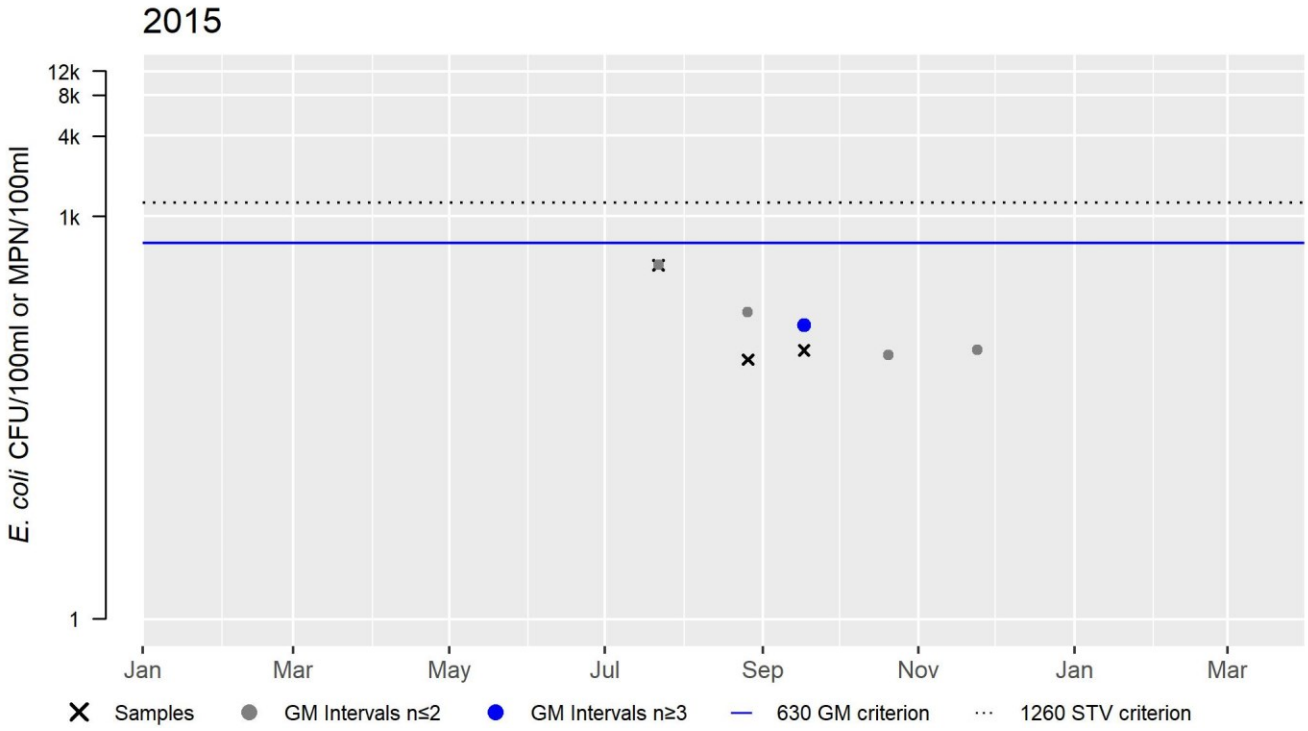
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2571 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	156
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

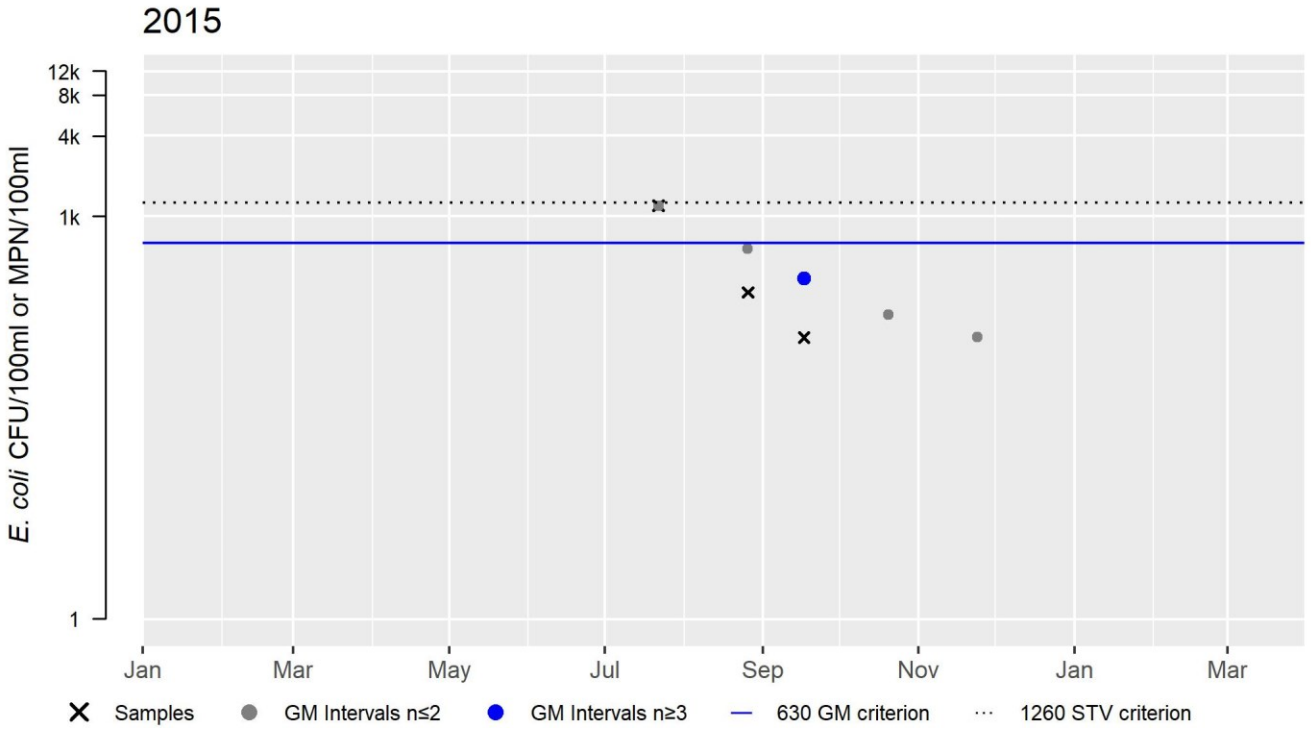
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2573 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	345
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

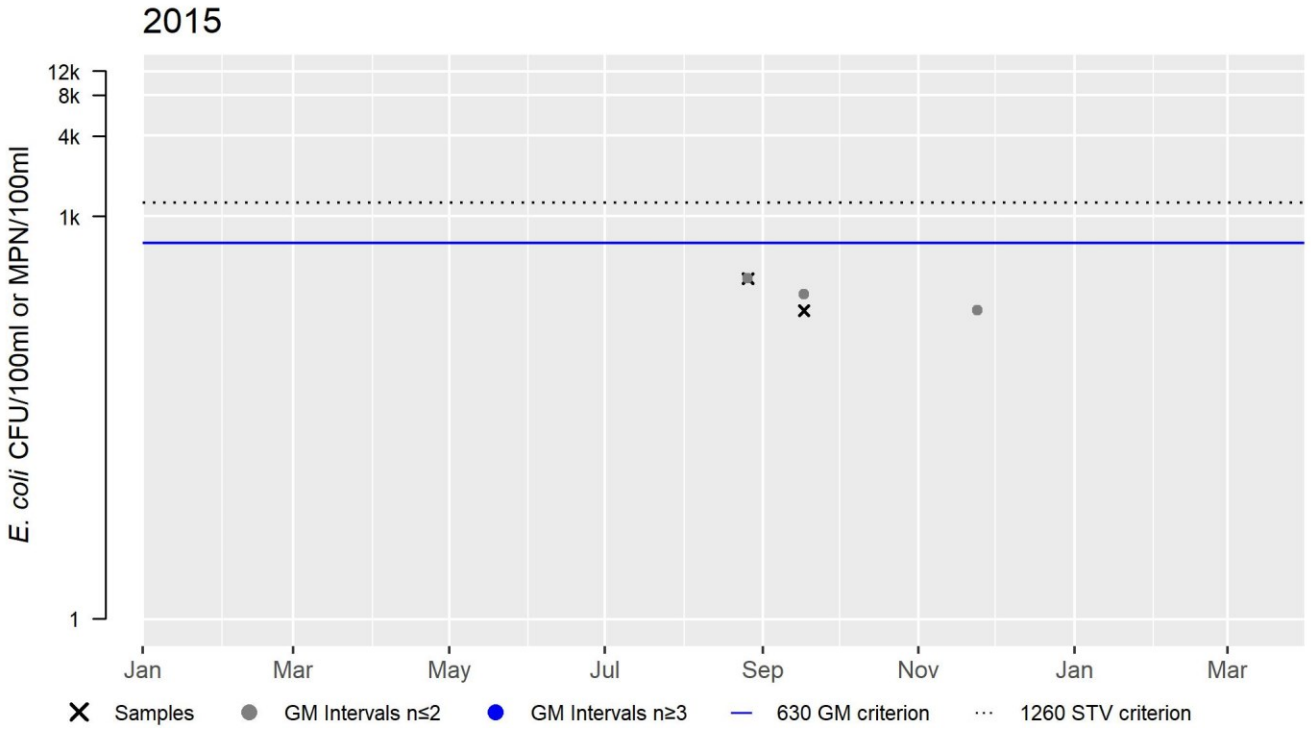
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2575 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	262
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Meadow Brook (MA62-38)

Location:	Headwaters north of Pine Street, Whitman (through Forge Pond, East Bridgewater) to the confluence with the Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	6 MILES
Classification/Qualifier:	B

No usable data were available for Meadow Brook (MA62-38) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fish Passage Barrier*)		Unchanged
4a	4a	Escherichia Coli (E. Coli)	40308	Unchanged
4a	4a	Fecal Coliform	40308	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	
Escherichia Coli (E. Coli)	Source Unknown (N)				X	
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	
Fecal Coliform	Source Unknown (N)				X	

Meadow Brook Pond (MA62113)

Location:	Norton.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

No usable data were available for Meadow Brook Pond (MA62113) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Middle Pond (MA62115)

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

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the Aquatic Life Use for Middle Pond (MA62115), so it will continue to be assessed as Not Supporting with the impairments for Eurasian Water Milfoil (*Myriophyllum Spicatum*) and Fanwort being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Middle Pond (MA62115); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Middle Pond (MA62115), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
There is one beach on Middle Pond (MA62115), at the North-east corner of the pond in Taunton; known as "Campers Beach" (ID 4906), which is run by the DCR. This beach was rarely, if ever, posted with any swimming advisories between 2014 and 2019, with the greatest number of occurring in 2019 (2% of the bathing season). The Primary Contact Recreation Use for Middle Pond (MA62115) will continue to be assessed as Fully Supporting, since there were very few, if any, swimming advisory postings at the Campers Beach between 2014 and 2019.	

Beach Postings

MassDPH Beach Posting Data Summary (% Bathing Season Posted 2014-2019) (Bailey, Logan Feb. 2, 2021) (MassDEP Undated3)

Beach ID	Beach Name/Town	Left Boundary (Latitude)	Left Boundary (Longitude)	Right Boundary (Latitude)	Right Boundary (Longitude)	2014	2015	2016	2017	2018	2019	# years> 10%
4906	Campers Beach / Middle Pond (DCR)/Taunton	41.86950	-70.98870	41.86878	-70.98810	0%	0%	0%	0%	0%	2%	0

Secondary Contact Recreation

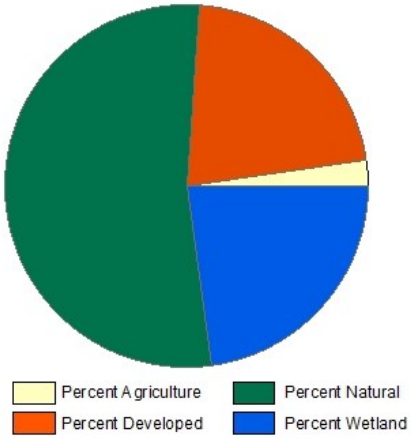
2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
There is one beach on Middle Pond (MA62115), at the North-east corner of the pond in Taunton; known as "Campers Beach" (ID 4906), which is run by the DCR. This beach was rarely, if ever, posted with any swimming advisories, with the greatest number of posts occurring in 2019 (2% of the bathing season posted). The Secondary Contact Recreation Use for Middle Pond (MA62115) will continue to be assessed as Fully Supporting, since there were very few if any swimming advisory postings at the Campers Beach between 2014 and 2019.	

Mill River (MA62-29)

Location:	Headwaters, outlet Lake Sabbatia, Taunton to mouth at confluence with the Taunton River, Taunton (through former 2014 segment: Whittenton Impoundment MA62228).
AU Type:	RIVER
AU Size:	4.2 MILES
Classification/Qualifier:	B: WWF

Mill River - MA62-29

Watershed Area: 43.62 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	43.62	3.01	13.57	0.59
Agriculture	2.3%	2.1%	3%	0.3%
Developed	21.5%	54.8%	14.1%	41%
Natural	53.3%	32.2%	48.8%	40.6%
Wetland	22.8%	10.9%	34%	18.2%
Impervious Cover	10.5%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	Benthic Macroinvertebrates		Added
5	5	Enterococcus		Added
5	5	Escherichia Coli (E. Coli)		Added
5	5	Temperature		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				
Enterococcus	Illicit Connections/Hook-ups to Storm Sewers (N)				X	
Enterococcus	Source Unknown (N)				X	

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Escherichia Coli (E. Coli)	Illicit Connections/Hook-ups to Storm Sewers (N)				X	X
Escherichia Coli (E. Coli)	Source Unknown (N)				X	X
Temperature	Dam or Impoundment (Y)	X				
Temperature	Removal Of Riparian Vegetation (Y)	X				

Recommendations

2022 Recommendations
ALU: Additional long-term temperature monitoring in the Mill River should be conducted since three dam removal projects have occurred between 2012 and 2018 so the thermal regime of the river has hopefully improved. Since 1996 DEP fieldsheets indicate the presence of an unconfirmed species of aquatic plant *Myriophyllum* (likely *heterophyllum*) as well as Fanwort in the former Whittendon dam impoundment, macrophyte surveys along this area of the river should be conducted to determine if these species are still present. Surveys should ideally be conducted when flowering heads of *M. heterophyllum* are present and confirmation of any non-native species should be made by a qualified state agency/taxonomist.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

MassDFG and MassDEP biologists conducted boat, barge, and backpack electrofishing at six sites along the Mill River (MA62-29) in Taunton, from up to downstream as follows: Behind Taunton State Hospital (SampleID 8532) in July 2019, Behind Mill Building above Whittenton St. (SampleID 8530) in July 2019, Below Danforth St. below Reed and Barton (SampleID 8515) in July 2019, 0.5 mi US/N of Rt. 140 (Washington St) (SampleID 5051) in August 2013, ~220 ft DS/SE of Rt 44 (Winthrop St) (SampleID 5080) in September 2013, and 1/4 mile from river mouth (SampleID 8185) in June 2019. Samples were collected in low-moderate gradient stream reaches and were generally indicative of good conditions for a warm water river (presence of macrohabitat generalists moderately tolerant to environmental perturbations comprising 13-50% of the samples) and in four of six samples one or two fluvial specialist/dependent species (white sucker, tessellated darter and/or fallfish) were also present. Several projects have been completed to improve diadromous fish passage (target species listed by MassDMF biologists are river herring and American eel) on the Mill River. In 2012 the Hopewell Mills Dam was removed and a fish ladder was constructed at Morey's Bridge Dam. The Whittenton Dam was removed in 2013 and the West Britannia Dam was removed in 2018. The three dam removals opened over 50 miles of mainstem and tributary habitat to river herring, American eel, sea lamprey, and other native species (Reback, et al. 2004), (MassDER 2017b), (MassDEP 2005). MassDMF is leading a 5-year project to track the restoration of river herring and other diadromous fish within the watershed (DER Undated). Benthic and water quality monitoring was conducted by MassDEP staff at two sites in summer 2013 as part of the MAP2 Probabilistic Wadable Streams monitoring project (note that the water quality data were previously reported for the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). These sites are upstream Rt. 140 (B0848, W2389) and downstream Rt. 44 (B0830, W2372), Taunton. The benthic sample IBI scores (using the Statewide low gradient and Central Hills high gradient indices, respectively) indicated Severely Degraded (37) and Moderately Degraded (36) conditions. While some of the water quality data were indicative of good conditions (min. DO 6.9mg/L, max. diel DO shift only 1.0mg/L, max. saturation 97%, pH 6.6 to 7.0SU, max. specific conductivity 215µS/cm, seasonal average total phosphorus concentrations 0.034 and 0.053mg/L, total ammonia-nitrogen (max 0.11 and 0.14mg/L, n=5 with no toxicity estimated) upstream and downstream, respectively), other data were not. The maximum temp during long term deploys (95 days) was 30.5 and 29.9°C, 7-DADM >27.7°C 16 and 13 times, >28.3°C (acute criteria) 6 and 3 times, (max 24hr rolling avg of 29.1°C & 28.7°C). Cu slightly exceeded acute and chronic criteria once at both sites (max. 1.6TU) and Pb exceeded chronic criteria twice (max. 2.6TUs), but there were no other acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). USGS staff conducted water quality sampling at their gage 01108410 at Spring St. and ~0.8 miles US from the river mouth between Jan. 2019 and Feb. 2020. These data were summarized for the 2018/2020 IR (MassDEP 2021) (USGS 2020) so were not re-published here, however it should be noted that there were no acute or chronic exceedances of any of the metals criteria evaluated.
The Aquatic Life Use for Mill River (MA62-29) will continue to be assessed as Not Supporting. Temperature and Fanwort impairments are being carried forward. Because of the moderately/severely degraded benthic samples a Benthic Macroinvertebrate impairment is being added. The Alert previously identified due to the potential infestation of *M. heterophyllum* is also being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5051	MassDEP	Fish Community	Mill River	.5 mi US/N of rt 140 (Washington St)	41.90938	-71.09812
5080	MassDEP	Fish Community	Mill River	~220 ft DS/SE of Rt 44 (Winthrop St)	41.90038	-71.09400
8185	MassDFG	Fish Community	Mill River	Started US in Mill up 1/4 mile and ended at mouth. Run 1 in Mill River. , Taunton	41.89614	-71.08228
8515	MassDFG	Fish Community	Mill River	Below Danforth Street Below Reed and Barton, Taunton	41.91632	-71.09869

8530	MassDFG	Fish Community	Mill River	Behind Mill Building above Whittenton Street, Taunton	41.92372	-71.10606
8532	MassDFG	Fish Community	Mill River	Behind Taunton State Hospital Buildings, Taunton	41.92454	-71.10658
B0830	MassDEP	Benthic	Mill River/	[approximately 65 meters downstream/southeast from Route 44 (Winthrop Street), Taunton, MA]	41.900378	-71.093999
B0848	MassDEP	Benthic	Mill River/	[approximately 855 meters upstream/north of Route 140 (Washington Street), Taunton, MA]	41.909381	-71.098124
W2372	MassDEP	Water Quality	Mill River	[approximately 220 feet downstream/southeast from Route 44 (Winthrop Street), Taunton]	41.900378	-71.093999
W2389	MassDEP	Water Quality	Mill River	[approximately 2800 feet upstream/north of Route 140 (Washington Street), Taunton]	41.909381	-71.098124
W2475	MassDEP	Water Quality	Mill River	[west of Hamilton Street at back of Hopewell Park (tennis court and pool), Taunton]	41.912373	-71.096167
W2476	MassDEP	Water Quality	Mill River	[Danforth Street, Taunton]	41.916773	-71.100772
W2477	MassDEP	Water Quality	Mill River	[Route 140 (Washington Street), Taunton]	41.903434	-71.097721
W2478	MassDEP	Water Quality	Mill River	[approximately 1400 feet upstream (north) of Route 140 crossing (at the site of the abandoned West Adams Street crossing), Taunton]	41.906631	-71.099730
W2479	MassDEP	Water Quality	Mill River	[the western most crossing at West Britannia Street, Taunton]	41.918798	-71.101752
W2480	MassDEP	Water Quality	Mill River	[the eastern most crossing at West Britannia Street, Taunton]	41.918803	-71.101059
W2481	MassDEP	Water Quality	Mill River	[Whittenton Street, Taunton]	41.923433	-71.106183
W2484	MassDEP	Water Quality	Mill River	[approximately 925 feet downstream (south) of Whittenton Street, at old railroad grade crossing, Taunton]	41.921806	-71.104869
W2576	MassDEP	Water Quality	Mill River	[Weir Street (Route 138), upstream of bridge and raised sewer manhole structure, Taunton]	41.900027	-71.092411
W2578	MassDEP	Water Quality	Mill River	[approximately 90 feet downstream of Weir Street (Route 138), Taunton]	41.900097	-71.091916
W2914	MassDEP	Water Quality	Mill River	[Ingell Street, Taunton]	41.896067	-71.082109
W2915	MassDEP	Water Quality	Mill River	[Spring Street, Taunton]	41.899632	-71.089864

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0830	07/18/13	RBP kicknet	Central_Hills_300ct_SE	303	36	MD
B0848	07/18/13	RBP multihab	Statewide_Low_Gradient	274	37	SD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BC = Black Crappie, F = Fallfish, GS = Golden Shiner, LMB = Largemouth Bass, P = Pumpkinseed, RBS = Redbreast Sunfish, TD = Tessellated Darter, WS = White Sucker, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5051	08/16/13	BG	TP		4	8	0%	0	0%	0%	2	50%	Yes	No	AE, B, RBS, YP,
5080	09/19/13	NS	TP		5	58	0%	2	24%	0%	1	41%	No	No	AE, B, RBS, TD, WS,
8185	06/17/19	BT	TP		9	30	0%	1	7%	0%	5	40%	No	No	AE, B, BC, GS, LMB, P, RBS, WS, YP,
8515	07/02/19	BP	TP	L	4	18	0%	2	28%	0%	1	28%	No	No	AE, RBS, TD, WS,
8530	07/29/19	BP	TP	L	7	41	0%	2	5%	0%	2	17%	Yes	No	AE, B, F, GS, P, RBS, TD,
8532	07/31/19	BP	TP	L	3	8	0%	0	0%	0%	1	13%	No	No	AE, B, YP,

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
Data Source: (Reback, et al. 2004), (MassDER 2017), (MassDEP 2005). There are a number of projects that have been completed to improve fish passage on the Mill River AU. The target species for passage at all of the locations are river herring and American eel, with a population score of 3. https://www.mass.gov/service-details/mill-river-restoration Mill River Restoration. The Division of Ecological Restoration (DER) is leading a federal, state, and local partnership to improve water quality and restore aquatic habitat on the Mill River in Taunton. "Currently the Mill River Restoration Project is underway. In 2012 the Hopewell Mills Dam was removed and a fish ladder was constructed at Morey's Bridge Dam. The Whittenton Dam was removed in 2013. The final dam, the West Britannia Dam, will be removed in the fall of 2017. When complete, the project will open up over 50 miles of mainstem and tributary habitat and 400 acres of pond habitat for river herring, American eel, and other migratory and resident fish. The project will also improve water quality and improve public safety." At Morey's Bridge Dam a fish ladder and eel ramp were installed in 2012 as a MassDOT/DCR dam reconstruction project. The project status listed for this location is completed and a passage score of "2" was given to the dam (minor obstruction). As of April 2018, there have been sightings by DMF underwater cameras of river herring using the fish ladders to gain passage to Sabbatia Lake. At the Whittenton Street Dam DER assessment led to a dam removal project designed during 2008-2011, and completed in 2013. Following the work a passage score of "0" was given to the dam (no obstruction). The State Hospital Dam (Hopewell Mills Dam) was removed in 2012 as part of the DER Mill River Watershed Restoration Project. Following the work a passage score of "0" was given to the dam (no obstruction). "Mill River flows from its source in Lake Sabbatia through the center of the City of Taunton to the Taunton River. This heavily industrialized river is obstructed by four impassable dams each of which presents difficult fishway installation problems. Although Lake Sabbatia's 266 acres offer considerable potential for river herring development, the lower impoundments are quite small and the cost of providing fish passage to Sabbatia keeps this stream a low priority for future work." (https://www.mass.gov/files/documents/2016/08/no/tr15-anad-p1-taunton.pdf). Classification: Class B, Warm Water Fishery (Taunton River Watershed 2001 Water Quality Assessment Report). Additional Articles about the Mill River Projects can be found below: http://www.tauntonriver.org/acrobatfiles/State%20Hospital%20Dam%20MAS%20Brochure.pdf https://americastransportationawards.org/ma-bay-street-bridge-moreys-dam-and-fish-passage-project/ http://www.tauntongazette.com/news/20180420/fishy-phenom-first-taunton-mill-river-herring-run-in-two-centuries-caught-on-camera http://www.tauntongazette.com/news/20180111/last-dam-comes-down-on-mill-river-in-taunton-in-wake-of-2005-crisis

Status of MassDER habitat restoration priority projects as of 2021 (Wildman, N. April 15, 2021)
The Mill River is a tributary of the dam-free Wild and Scenic Taunton River which flows into Narragansett Bay. In 2005, a near-failure of the Whittenton Mill Pond Dam occurred during heavy flooding. This catalyzed the City of Taunton, agencies and NGOs to examine the public safety benefits of removing three dams on the Mill River, from upstream to downstream, the Whittenton Dam, West Britannia Dam, and the Hopewell Mills Dam (DER Undated). In August 2013, the 8-foot high and 100-foot wide Whittenton Dam was removed. TNC and partners removed the West Britannia Dam in March 2018 (TNC 2020). In September of 2012, Hopewell Mills Dam (8-feet high and 350-foot long) was the first dam to be removed. Within the same year, a fish ladder was also built on Morey's Bridge Dam at the outlet of Lake Sabbatia (DER Undated). The primary goal of this dam removal project was to help restore the river's natural ecosystem to full health and ensure the safety of the public by improving the waterway's resilience to flooding (Deschenes 2018). With the project complete, the three dam removals opened over 50 miles of mainstem and tributary habitat to river herring, American eel, sea lamprey, and other native species. The Division of Marine Fisheries is leading a 5-year project to track the restoration of river herring and other diadromous fish within the Mill River watershed (DER Undated).

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2372	2013	3	12	7	7.2	7.5	1	0	0	0	0	0	0
W2389	2013	3	12	6.9	7.2	7.5	1	0	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2372	05/08/13	09/04/13	2	7.4	7.7	0	0	0
W2389	05/08/13	09/04/13	3	7.3	7.8	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2372	06/01/13	09/03/13	95	92	28.6	29.9	29.0	27.9	90	40	79	31	13	3
W2389	06/01/13	09/03/13	95	92	29.0	30.5	29.6	28.3	92	44	80	34	16	6

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2372	2013	3	12	27.2	28.7	26.7	25.6	3	4	2	4	0	0
W2389	2013	3	12	27.6	29.2	27.1	25.9	3	4	2	4	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2372	06/01/13	09/04/13	95	4584	28.7	1983	1514	147
W2372	06/06/13	08/13/13	68	583	27.6	198	189	0
W2389	06/01/13	09/04/13	96	4586	29.1	2141	1713	320
W2389	06/06/13	08/13/13	68	572	27.9	212	190	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2372	05/08/13	09/04/13	4	3	26.8	22.4	3	2	0	0
W2389	05/08/13	09/04/13	5	4	27.8	22.3	4	2	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2372	05/08/13	09/04/13	2	6.9	7	0	0
W2389	05/08/13	09/04/13	3	6.6	7	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2372	2013	5	0.022	0.160	0.053	1.0	0.6	96.6	7.0	6	0
W2389	2013	5	0.019	0.069	0.034	1.0	0.6	97.0	7.0	4	0
W2475	2014	--	--	--	--	--	--	--	--	3	0

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2476	2014	--	--	--	--	--	--	--	--	4	0
W2476	2016	--	--	--	--	--	--	--	--	1	0
W2476	2018	--	--	--	--	--	--	--	--	2	0
W2477	2014	--	--	--	--	--	--	--	--	2	0
W2478	2014	--	--	--	--	--	--	--	--	2	0
W2479	2014	--	--	--	--	--	--	--	--	3	0
W2480	2014	--	--	--	--	--	--	--	--	2	0
W2480	2018	--	--	--	--	--	--	--	--	2	0
W2481	2014	--	--	--	--	--	--	--	--	3	0
W2484	2014	--	--	--	--	--	--	--	--	2	0
W2576	2015	--	--	--	--	--	--	--	--	2	0
W2578	2015	--	--	--	--	--	--	--	--	2	0
W2578	2018	--	--	--	--	--	--	--	--	2	0
W2914	2018	--	--	--	--	--	--	--	--	1	0
W2915	2018	--	--	--	--	--	--	--	--	1	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2372	2013	3	0	0	0	1	0	0	0	0
W2389	2013	3	0	0	0	1	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2372	2013	3	0	0	0	1	2	0	0	0
W2389	2013	3	0	0	0	1	2	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2372	05/06/13	0.2	0.5	0.3	0.47	0.0	0.6
W2372	06/19/13	0.3	0.5	1.2	1.60	0.1	2.6
W2372	07/29/13	0.2	0.4	0.5	0.65	0.1	1.9
W2389	05/06/13	0.2	0.5	0.3	0.36	0.0	0.5

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2389	06/19/13	0.3	0.5	1.2	1.55	0.1	2.5
W2389	07/29/13	0.2	0.5	0.4	0.49	0.1	1.4

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2372	2013	3	0.021	0.12	0.063	0.4	0.6	0	0
W2389	2013	3	0.021	0.12	0.056	0.4	0.6	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2372	2013	5	0.030	0.140	0.062	0	0
W2389	2013	5	0.020	0.110	0.056	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2372	2013	5	25	60	48	0	0
W2389	2013	5	27	54	46	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2372	05/08/13	09/04/13	2	207	215	0	0	0	0	0	0
W2389	05/08/13	09/04/13	3	154	211	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in the Mill River (MA62-29); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	YES

2022 Use Attainment Summary

MassDEP staff conducted sampling at 14 sites in Taunton on this Mill River AU (MA62-29): at two sites during the summer of 2013 as part of the MAP2 Probabilistic Wadable Streams monitoring project and in generally summers 2014, 2015, 2016, and 2018 as part of the as part of the Bacteria Source Tracking (BST) project. The site descriptions from upstream to downstream are as follows: Whittenton St. (W2481, n=3 in 2014), ~ 925ft downstream (south) of Whittenton St. at the old railroad grade crossing (W2484, n=2 in 2014), at the eastern most crossing on W. Britannia St. (W2480, n=2 in 2014 and 2018), Danforth St. (W2476, n=4 in 2014, n=2 in 2016 and 2018), west of Hamilton St. at the back of Hopewell Park (tennis court and pool) (W2475, n=3 in 2014), ~2800 ft upstream/north of Rt. 140 (Washington St.) (W2389, n=8 in 2013), ~1400 ft upstream (north) of the Rt. 140 crossing (at the site of the abandoned West Adams St crossing) (W2478, n=2 in 2014), Rt. 140 (Washington St.) (W2477, n=2 in 2014), ~220 ft downstream/southeast from Rt. 44 (Winthrop St) (W2372, n=8 in 2013), on the western most crossing at West Britannia St. (W2479, n=3 in 2014), Weir St. (Rt. 138) upstream of the bridge and raised sewer manhole structure (W2576, n=2 in 2015), ~90 ft downstream of Weir St. (Rt. 138) (W2578, n=2 in 2015, n=3 in 2018), Spring St. (W2915, n=3 in 2018), and at Ingell St. (W2914, n=2 in 2018). There were generally no odors, growths, or turbidity observed by MassDEP field sampling crews at any site during any of the surveys.

The Aesthetics Use for Mill River (MA62-29) is assessed as Fully Supporting based on the general lack of objectionable conditions noted by MassDEP staff during surveys conducted at the 14 sites between 2013 and 2018. An Alert for objectionable deposits of trash, however, just downstream of Rt.44 (Winthrop St.) in Taunton (W2372) is being identified.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2372	MassDEP	Water Quality	Mill River	[approximately 220 feet downstream/southeast from Route 44 (Winthrop Street), Taunton]	41.900378	-71.093999
W2389	MassDEP	Water Quality	Mill River	[approximately 2800 feet upstream/north of Route 140 (Washington Street), Taunton]	41.909381	-71.098124
W2475	MassDEP	Water Quality	Mill River	[west of Hamilton Street at back of Hopewell Park (tennis court and pool), Taunton]	41.912373	-71.096167
W2476	MassDEP	Water Quality	Mill River	[Danforth Street, Taunton]	41.916773	-71.100772
W2477	MassDEP	Water Quality	Mill River	[Route 140 (Washington Street), Taunton]	41.903434	-71.097721
W2478	MassDEP	Water Quality	Mill River	[approximately 1400 feet upstream (north) of Route 140 crossing (at the site of the abandoned West Adams Street crossing), Taunton]	41.906631	-71.099730
W2479	MassDEP	Water Quality	Mill River	[the western most crossing at West Britannia Street, Taunton]	41.918798	-71.101752
W2480	MassDEP	Water Quality	Mill River	[the eastern most crossing at West Britannia Street, Taunton]	41.918803	-71.101059
W2481	MassDEP	Water Quality	Mill River	[Whittenton Street, Taunton]	41.923433	-71.106183
W2484	MassDEP	Water Quality	Mill River	[approximately 925 feet downstream (south) of Whittenton Street, at old railroad grade crossing, Taunton]	41.921806	-71.104869
W2576	MassDEP	Water Quality	Mill River	[Weir Street (Route 138), upstream of bridge and raised sewer manhole structure, Taunton]	41.900027	-71.092411

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2578	MassDEP	Water Quality	Mill River	[approximately 90 feet downstream of Weir Street (Route 138), Taunton]	41.900097	-71.091916
W2914	MassDEP	Water Quality	Mill River	[Ingell Street, Taunton]	41.896067	-71.082109
W2915	MassDEP	Water Quality	Mill River	[Spring Street, Taunton]	41.899632	-71.089864

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2372	Mill River	2013	8	The Aesthetics use for the Mill River is assessed as Fully Supporting based on observations (generally no odors, growths, or turbidity) by MassDEP staff during field surveys at station W2372/MAP2-322 in summer 2013 (n=8). However, the use is identified with an Alert status due to 8 observations of objectionable deposits (i.e., trash).
W2389	Mill River	2013	8	MassDEP aesthetics observations for station W2389/MAP2-381 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013.
W2475	Mill River	2014	3	MassDEP aesthetics observations for station W2475 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.
W2476	Mill River	2014	4	MassDEP aesthetics observations for station W2476 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.
W2476	Mill River	2016	2	MassDEP aesthetics observations for station W2476 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2016. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2476	Mill River	2018	2	MassDEP aesthetics observations for station W2476 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2477	Mill River	2014	2	MassDEP aesthetics observations for station W2477 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2478	Mill River	2014	2	MassDEP aesthetics observations for station W2478 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2479	Mill River	2014	3	MassDEP aesthetics observations for station W2479 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.
W2480	Mill River	2014	2	MassDEP aesthetics observations for station W2480 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2480	Mill River	2018	2	MassDEP aesthetics observations for station W2480 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2481	Mill River	2014	3	MassDEP aesthetics observations for station W2481 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014.
W2484	Mill River	2014	2	MassDEP aesthetics observations for station W2484 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2576	Mill River	2015	2	MassDEP aesthetics observations for station W2576 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2578	Mill River	2015	2	MassDEP aesthetics observations for station W2578 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2578	Mill River	2018	3	MassDEP aesthetics observations for station W2578 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2018.

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2914	Mill River	2018	2	MassDEP aesthetics observations for station W2914 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2915	Mill River	2018	3	MassDEP aesthetics observations for station W2915 on Mill River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2018.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2372	2013	8	6	0
W2389	2013	8	4	0
W2475	2014	3	3	0
W2476	2014	4	4	0
W2476	2016	2	1	0
W2476	2018	2	2	0
W2477	2014	2	2	0
W2478	2014	2	2	0
W2479	2014	3	3	0
W2480	2014	2	2	0
W2480	2018	2	2	0
W2481	2014	3	3	0
W2484	2014	2	2	0
W2576	2015	2	2	0
W2578	2015	2	2	0
W2578	2018	3	2	0
W2914	2018	2	1	0
W2915	2018	3	1	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2372	Mill River	2013	Color	Light Yellow/Tan	5	8
W2372	Mill River	2013	Color	Reddish	2	8
W2372	Mill River	2013	Color	Unobservable	1	8
W2372	Mill River	2013	Objectionable Deposits	Yes	8	8
W2372	Mill River	2013	Odor	None	7	8
W2372	Mill River	2013	Odor	Raw sewage	1	8
W2372	Mill River	2013	Scum	No	7	8
W2372	Mill River	2013	Scum	Yes	1	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2372	Mill River	2013	Turbidity	Highly Turbid	1	8
W2372	Mill River	2013	Turbidity	None	4	8
W2372	Mill River	2013	Turbidity	Slightly Turbid	3	8
W2389	Mill River	2013	Color	Light Yellow/Tan	7	8
W2389	Mill River	2013	Color	NR	1	8
W2389	Mill River	2013	Objectionable Deposits	No	2	8
W2389	Mill River	2013	Objectionable Deposits	Unobservable	1	8
W2389	Mill River	2013	Objectionable Deposits	Yes	5	8
W2389	Mill River	2013	Odor	None	8	8
W2389	Mill River	2013	Scum	No	7	8
W2389	Mill River	2013	Scum	Unobservable	1	8
W2389	Mill River	2013	Turbidity	Moderately Turbid	1	8
W2389	Mill River	2013	Turbidity	None	5	8
W2389	Mill River	2013	Turbidity	Slightly Turbid	2	8
W2475	Mill River	2014	Color	None	3	3
W2475	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W2475	Mill River	2014	Odor	None	3	3
W2475	Mill River	2014	Scum	Not Applicable (N/A)	3	3
W2475	Mill River	2014	Turbidity	Slightly Turbid	3	3
W2476	Mill River	2014	Color	None	4	4
W2476	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	4	4
W2476	Mill River	2014	Odor	None	4	4
W2476	Mill River	2014	Scum	Not Applicable (N/A)	4	4
W2476	Mill River	2014	Turbidity	Moderately Turbid	1	4
W2476	Mill River	2014	Turbidity	Slightly Turbid	3	4
W2476	Mill River	2016	Color	None	2	2
W2476	Mill River	2016	Objectionable Deposits	Not Applicable (N/A)	2	2
W2476	Mill River	2016	Odor	None	2	2
W2476	Mill River	2016	Scum	Not Applicable (N/A)	2	2
W2476	Mill River	2016	Turbidity	Moderately Turbid	2	2
W2476	Mill River	2018	Color	Light Yellow/Tan	1	2
W2476	Mill River	2018	Color	None	1	2
W2476	Mill River	2018	Objectionable Deposits	NA	2	2
W2476	Mill River	2018	Odor	None	2	2
W2476	Mill River	2018	Scum	NA	2	2
W2476	Mill River	2018	Turbidity	Slightly Turbid	2	2
W2477	Mill River	2014	Color	None	2	2
W2477	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2477	Mill River	2014	Odor	None	2	2
W2477	Mill River	2014	Scum	Not Applicable (N/A)	2	2
W2477	Mill River	2014	Turbidity	Moderately Turbid	2	2
W2478	Mill River	2014	Color	None	2	2
W2478	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2478	Mill River	2014	Odor	None	2	2
W2478	Mill River	2014	Scum	Not Applicable (N/A)	2	2
W2478	Mill River	2014	Turbidity	Moderately Turbid	1	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2478	Mill River	2014	Turbidity	Slightly Turbid	1	2
W2479	Mill River	2014	Color	None	3	3
W2479	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W2479	Mill River	2014	Odor	None	3	3
W2479	Mill River	2014	Scum	Not Applicable (N/A)	3	3
W2479	Mill River	2014	Turbidity	Moderately Turbid	2	3
W2479	Mill River	2014	Turbidity	Slightly Turbid	1	3
W2480	Mill River	2014	Color	None	2	2
W2480	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2480	Mill River	2014	Odor	None	2	2
W2480	Mill River	2014	Scum	Not Applicable (N/A)	2	2
W2480	Mill River	2014	Turbidity	Slightly Turbid	2	2
W2480	Mill River	2018	Color	Light Yellow/Tan	1	2
W2480	Mill River	2018	Color	None	1	2
W2480	Mill River	2018	Objectionable Deposits	NA	2	2
W2480	Mill River	2018	Odor	None	2	2
W2480	Mill River	2018	Scum	NA	2	2
W2480	Mill River	2018	Turbidity	Slightly Turbid	2	2
W2481	Mill River	2014	Color	None	3	3
W2481	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	3	3
W2481	Mill River	2014	Odor	None	3	3
W2481	Mill River	2014	Scum	Not Applicable (N/A)	3	3
W2481	Mill River	2014	Turbidity	Slightly Turbid	3	3
W2484	Mill River	2014	Color	None	2	2
W2484	Mill River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2484	Mill River	2014	Odor	None	2	2
W2484	Mill River	2014	Scum	Not Applicable (N/A)	2	2
W2484	Mill River	2014	Turbidity	Moderately Turbid	1	2
W2484	Mill River	2014	Turbidity	Slightly Turbid	1	2
W2576	Mill River	2015	Color	None	2	2
W2576	Mill River	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2576	Mill River	2015	Odor	None	2	2
W2576	Mill River	2015	Scum	Not Applicable (N/A)	2	2
W2576	Mill River	2015	Turbidity	Slightly Turbid	2	2
W2578	Mill River	2015	Color	None	2	2
W2578	Mill River	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2578	Mill River	2015	Odor	None	2	2
W2578	Mill River	2015	Scum	Not Applicable (N/A)	2	2
W2578	Mill River	2015	Turbidity	None	1	2
W2578	Mill River	2015	Turbidity	Slightly Turbid	1	2
W2578	Mill River	2018	Color	Brownish	1	3
W2578	Mill River	2018	Color	Light Yellow/Tan	1	3
W2578	Mill River	2018	Color	None	1	3
W2578	Mill River	2018	Objectionable Deposits	NA	3	3
W2578	Mill River	2018	Odor	Musty (Basement)	1	3
W2578	Mill River	2018	Odor	None	2	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2578	Mill River	2018	Scum	NA	3	3
W2578	Mill River	2018	Turbidity	Moderately Turbid	1	3
W2578	Mill River	2018	Turbidity	Slightly Turbid	2	3
W2914	Mill River	2018	Color	Brownish	1	2
W2914	Mill River	2018	Color	None	1	2
W2914	Mill River	2018	Objectionable Deposits	NA	2	2
W2914	Mill River	2018	Odor	None	2	2
W2914	Mill River	2018	Scum	NA	2	2
W2914	Mill River	2018	Turbidity	Moderately Turbid	1	2
W2914	Mill River	2018	Turbidity	Slightly Turbid	1	2
W2915	Mill River	2018	Color	Brownish	1	3
W2915	Mill River	2018	Color	Light Yellow/Tan	1	3
W2915	Mill River	2018	Color	None	1	3
W2915	Mill River	2018	Objectionable Deposits	NA	3	3
W2915	Mill River	2018	Odor	None	3	3
W2915	Mill River	2018	Scum	NA	3	3
W2915	Mill River	2018	Turbidity	Moderately Turbid	2	3
W2915	Mill River	2018	Turbidity	Slightly Turbid	1	3

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* and Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples at 14 sites along the Mill River (MA62-29) in Taunton from up to downstream as follows: Whittenton St. (W2481) September-October 2014 (n=3), further downstream of Whittendon St. (TRWA_MIL- 03) April-October 2019 (n=6), ~925ft DS of Whittenton St. at the old railroad grade crossing (W2484) September-October 2014 (n=2), western crossing at West Britannia St. (W2479) September 2014 (n=3), eastern crossing at West Britannia St. (W2480) September 2012 (n=2), July-August 2018 (n=2), Danforth St. (W2476) August-September 2014 (n=4), June-July 2016 (n=2), July-August 2018 (n=2), west of Hamilton St. at the back of Hopewell Park (tennis court and pool) (W2475) July-September 2014 (n=3), ~2800 ft US of Rt. 140 (Washington St.) (W2389) May-September 2013 (n=5), ~1400 ft US of Rt. 140 (at the abandoned West Adams St. crossing) (W2478) July-August 2014 (n=2), Rt. 140 (Washington St.) (W2477) July-August 2014 (n=2), (TRWA_MIL- 02) April-October 2019 (n=6), ~ 220 ft DS from Rt. 44 (Winthrop St.) (W2372) May-September 2013 (n=5), Danforth St. (W2476) August-September 2014 (n=4), June-July 2016 (n=2), July-August 2018 (n=2),~90 ft DS of Weir St. (Rt. 138) (W2578) July-October 2015 (n=2), July-October 2018 (n=3), Spring St. (W2915) July-October 2018 (n=3), Ingell Street (W2914) July-October 2018 (n=2), (TRWA_MIL- 01) April-October 2019 (n=6). Data analysis for *E. coli* sampling indicated that 100% of intervals had GMs >126 CFU/100mL at seven sites (W2479, W2476, W2475, W2389, W2372, W2578, and W2915) and two to four samples exceeded the 410 CFU/100mL STV at these sites. The *Enterococci* sampling also indicated 100% of intervals had GMs >35 CFU/100ml at all three TWRA sites with three to four samples exceeding the 130 CFU/100mL STV. The *E. coli* data at the rest of the sites (results ranged 130 to 2420 CFU/100mL) were too limited to evaluate according to the 2022 CALM guidance (MassDEP 2022). The only site where the *E. coli* data did not exceed use attainment impairment thresholds, was the most upstream site (W2481). As a result of MassDEP BST work in partnership with the City of Taunton, a number of bacteria sources were identified and corrected: 1) In 2014 the City identified an illicit connection from a sanitary sewer for a building on Warren St. into an unnamed tributary. Post-correction follow-up samples in the tributary indicated improved bacteria concentrations (<1000 MPN vs 8664 MPN prior); 2) Behind Hopewell Park a human source was narrowed down to a stormdrain outfall behind the park. The City made extensive corrections (in 2011 and 2012) to sewer and drain lines all the way up Broadway and Washington St. (a 1.5 mile stretch). Post-correction follow-up samples indicated improved bacteria concentrations (maximum 213 MPN at the pipe vs. >241,960 MPN prior); 3) The Weir St. bridge (illicit connections to numerous stormdrain outfalls under the bridge) so the City made extensive corrections and post correction follow-up samples downstream of the bridge indicated improved bacteria concentrations (maximum 613 MPN in 2018 vs. 1,986 MPN in 2015); 4) The Spring St. bridge had elevated bacteria concentrations at an outfall just upstream of the bridge (maximum 5,475 MPN) and human marker analysis in 2015/2016 indicated "strong evidence" of a human source. City investigation narrowed down hotspots within the drainage infrastructure, but no correctable source was ever found.
The Primary Contact Recreation Use for the Mill River (MA62-29) is assessed as Not Supporting based on elevated *E. coli* bacteria concentrations documented at seven sites along the river by MassDEP staff in 2013, 2014 and 2018 and the elevated *Enterococci* bacteria concentrations documented by TRWA staff at three sites (Whittendon St., Washington St., and Ingell St.) in 2019. Impairments for both *E. Coli* and Enterococcus are both being added.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2372	MassDEP	Water Quality	Mill River	[approximately 220 feet downstream/southeast from Route 44 (Winthrop Street), Taunton]	41.900378	-71.093999
W2389	MassDEP	Water Quality	Mill River	[approximately 2800 feet upstream/north of Route 140 (Washington Street), Taunton]	41.909381	-71.098124
W2475	MassDEP	Water Quality	Mill River	[west of Hamilton Street at back of Hopewell Park (tennis court and pool), Taunton]	41.912373	-71.096167
W2476	MassDEP	Water Quality	Mill River	[Danforth Street, Taunton]	41.916773	-71.100772
W2477	MassDEP	Water Quality	Mill River	[Route 140 (Washington Street), Taunton]	41.903434	-71.097721

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2478	MassDEP	Water Quality	Mill River	[approximately 1400 feet upstream (north) of Route 140 crossing (at the site of the abandoned West Adams Street crossing), Taunton]	41.906631	-71.099730
W2479	MassDEP	Water Quality	Mill River	[the western most crossing at West Britannia Street, Taunton]	41.918798	-71.101752
W2480	MassDEP	Water Quality	Mill River	[the eastern most crossing at West Britannia Street, Taunton]	41.918803	-71.101059
W2481	MassDEP	Water Quality	Mill River	[Whittenton Street, Taunton]	41.923433	-71.106183
W2484	MassDEP	Water Quality	Mill River	[approximately 925 feet downstream (south) of Whittenton Street, at old railroad grade crossing, Taunton]	41.921806	-71.104869
W2576	MassDEP	Water Quality	Mill River	[Weir Street (Route 138), upstream of bridge and raised sewer manhole structure, Taunton]	41.900027	-71.092411
W2578	MassDEP	Water Quality	Mill River	[approximately 90 feet downstream of Weir Street (Route 138), Taunton]	41.900097	-71.091916
W2914	MassDEP	Water Quality	Mill River	[Ingell Street, Taunton]	41.896067	-71.082109
W2915	MassDEP	Water Quality	Mill River	[Spring Street, Taunton]	41.899632	-71.089864
TRWA_MIL-01	Taunton River Watershed Association	Water Quality	Mill River	Mill R., Ingell St., Taunton	41.896101	-71.082054
TRWA_MIL-02	Taunton River Watershed Association	Water Quality	Mill River	Mill R., Washington St., Taunton	41.90325	-71.0975
TRWA_MIL-03	Taunton River Watershed Association	Water Quality	Mill River	Mill R., Whittendon St., Taunton	41.923333	-71.105972

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5) (TRWA 2020) (MassDEP Undated3)

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

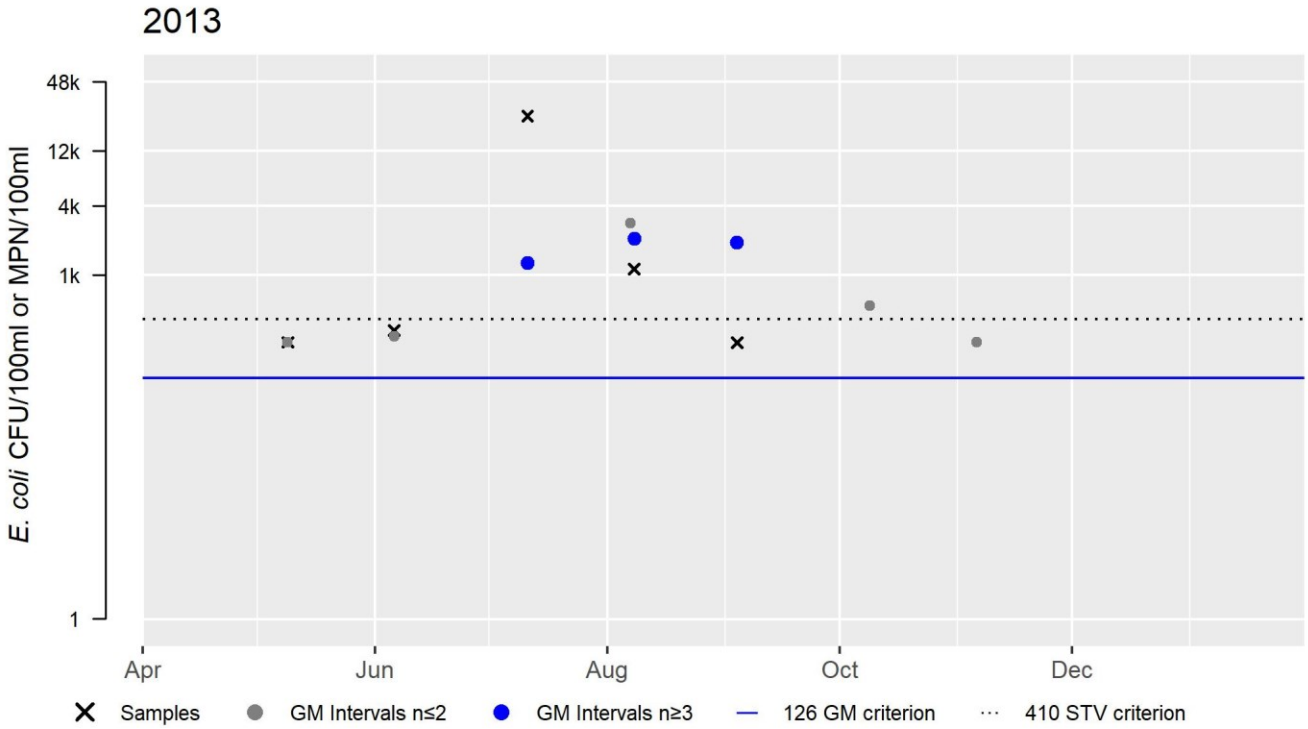
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2372	MassDEP	E. coli	05/09/13	09/04/13	5	259	24196	906
W2389	MassDEP	E. coli	05/09/13	09/04/13	5	243	15530	826
W2475	MassDEP	E. coli	07/10/14	09/16/14	3	248	921	571
W2476	MassDEP	E. coli	08/12/14	09/24/14	4	1300	2419.6	1924
W2476	MassDEP	E. coli	06/13/16	07/11/16	2	248	727	425
W2476	MassDEP	E. coli	07/12/18	08/02/18	2	124	249	176
W2477	MassDEP	E. coli	07/10/14	08/12/14	2	365	1730	795
W2478	MassDEP	E. coli	07/10/14	08/12/14	2	517	2420	1119
W2479	MassDEP	E. coli	09/04/14	09/24/14	3	548	4610	1283
W2480	MassDEP	E. coli	09/16/14	09/24/14	2	910	1990	1346
W2480	MassDEP	E. coli	07/12/18	08/02/18	2	179	201	190

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2481	MassDEP	E. coli	09/04/14	10/15/14	3	25	185	57
W2484	MassDEP	E. coli	09/24/14	10/15/14	2	133	2080	526
W2576	MassDEP	E. coli	07/21/15	10/07/15	2	130	687	299
W2578	MassDEP	E. coli	07/21/15	10/07/15	2	866	1990	1313
W2578	MassDEP	E. coli	07/12/18	10/01/18	3	411	613	500
W2914	MassDEP	E. coli	07/12/18	10/01/18	2	387	512	445
W2915	MassDEP	E. coli	07/12/18	10/01/18	3	461	770	573
TRWA_MIL-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	6	10	1980	171
TRWA_MIL-02	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	6	20	1530	256
TRWA_MIL-03	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	6	20	850	108

W2372 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	906
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	2
%n>STV	40

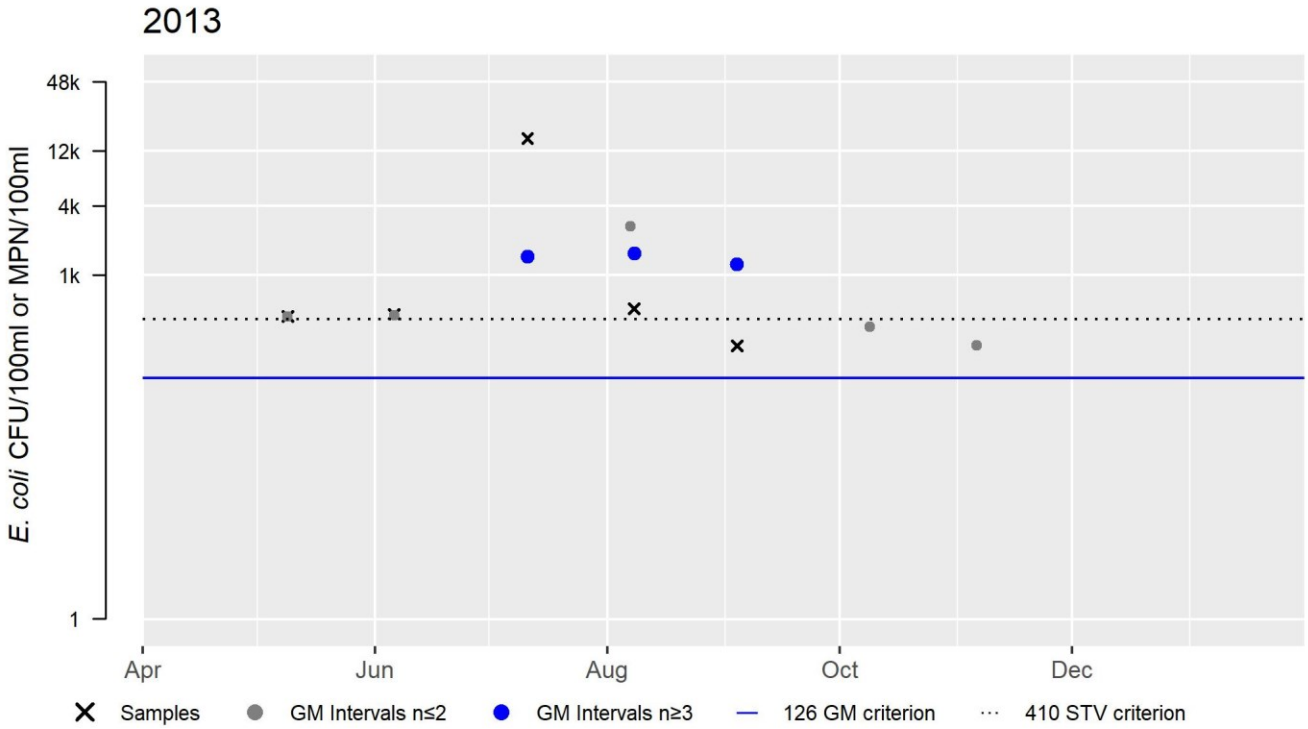
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2389 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	826
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	80

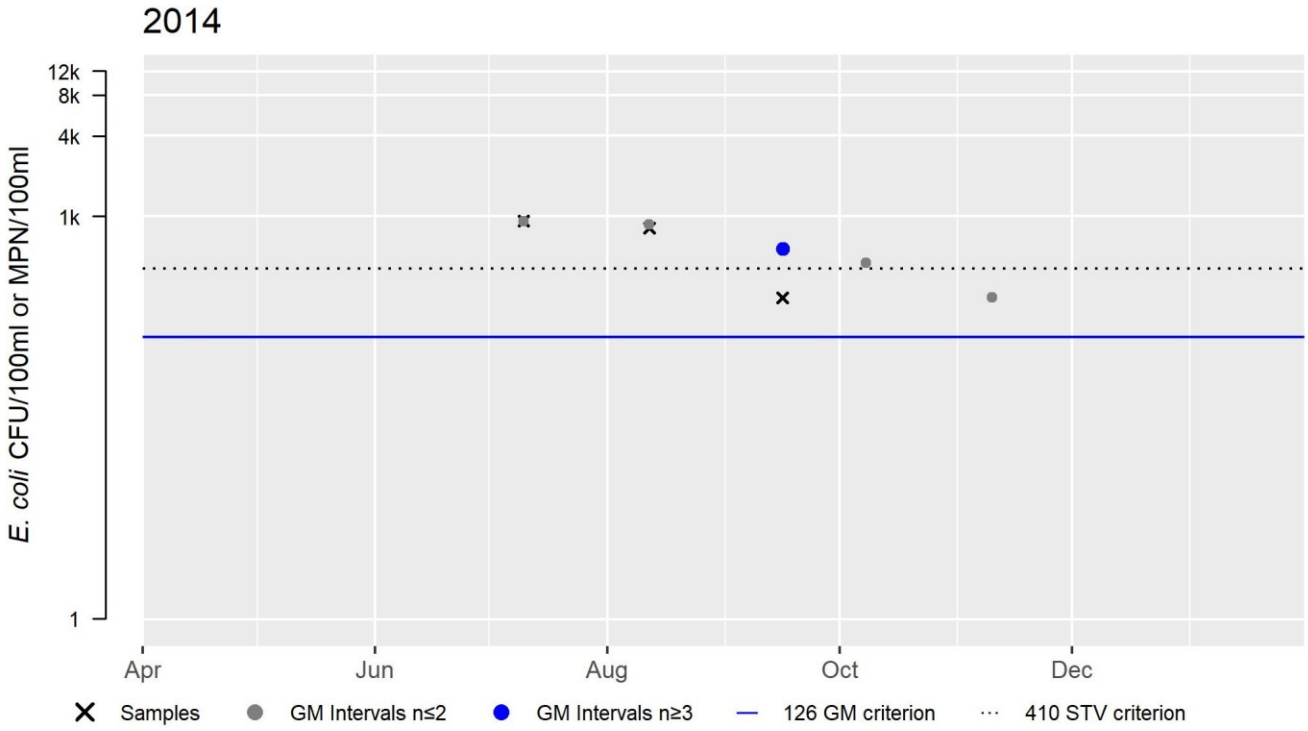
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2475 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	571
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	2
%n>STV	67

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2476 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

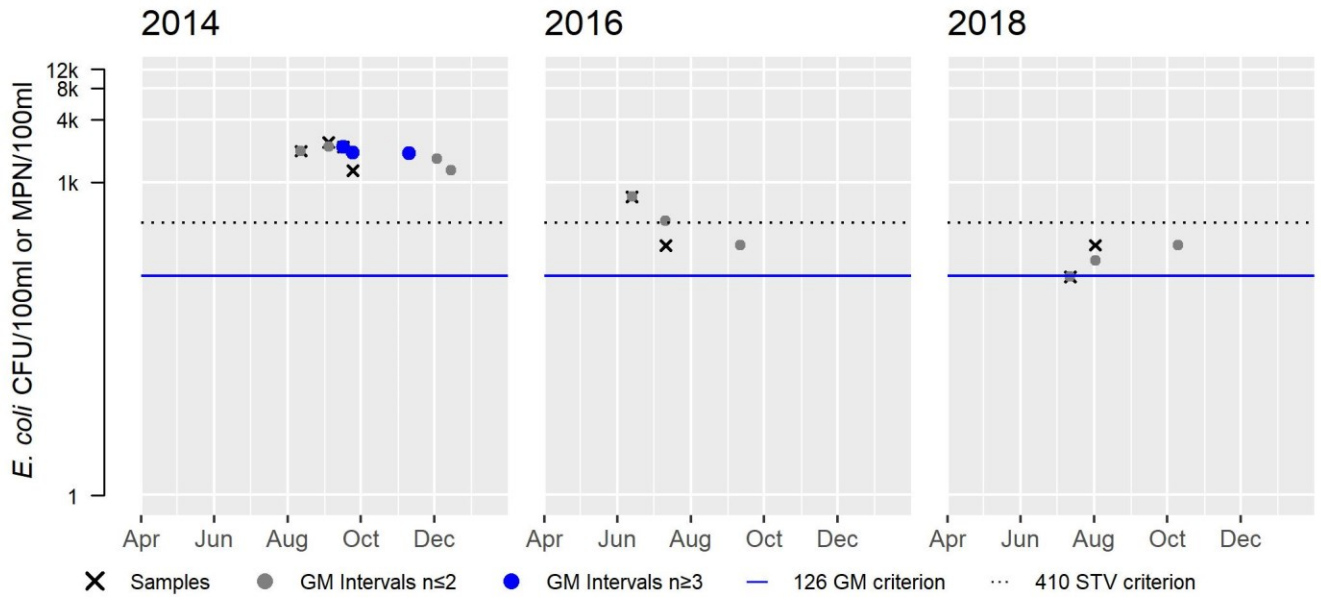
Var	Res
Samples	4
SeasGM	1924
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	100

Var	Res
Samples	2
SeasGM	425
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Var	Res
Samples	2
SeasGM	176
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

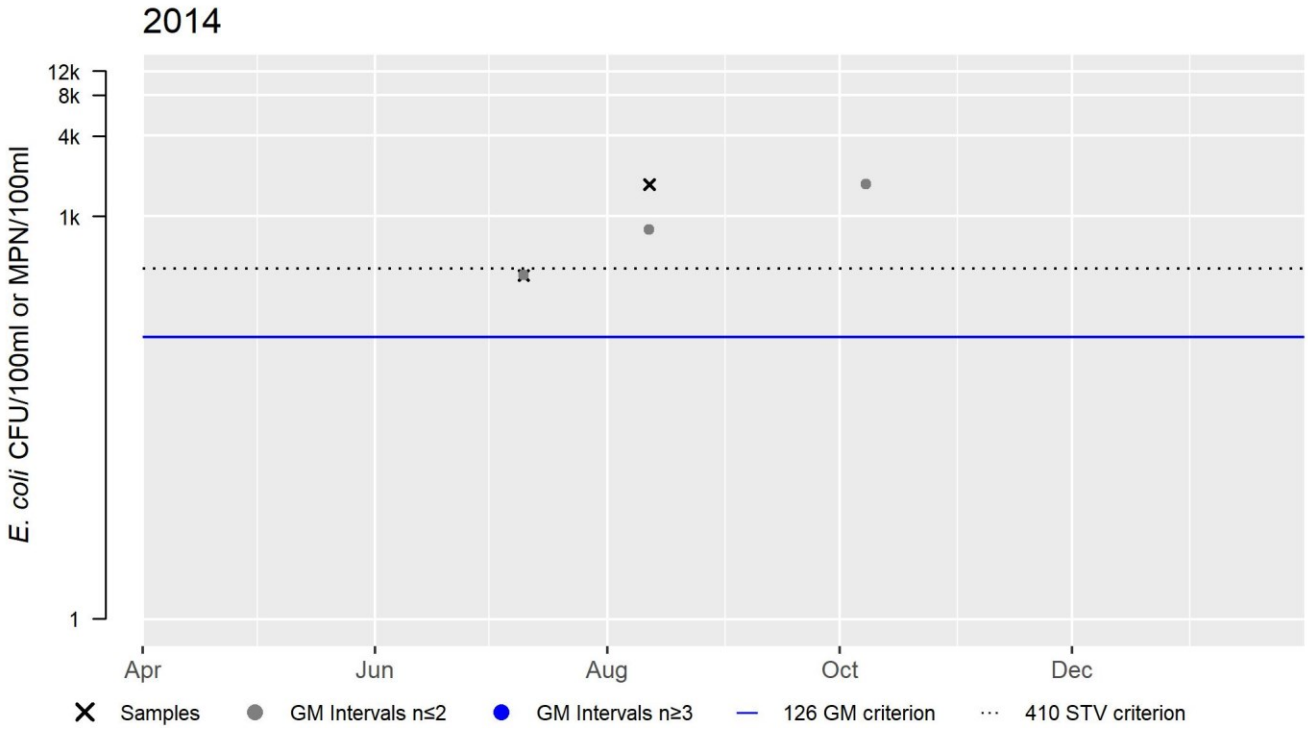
Variable	Cumulative %GMI Ex (all years)
Result	100



W2477 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	795
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

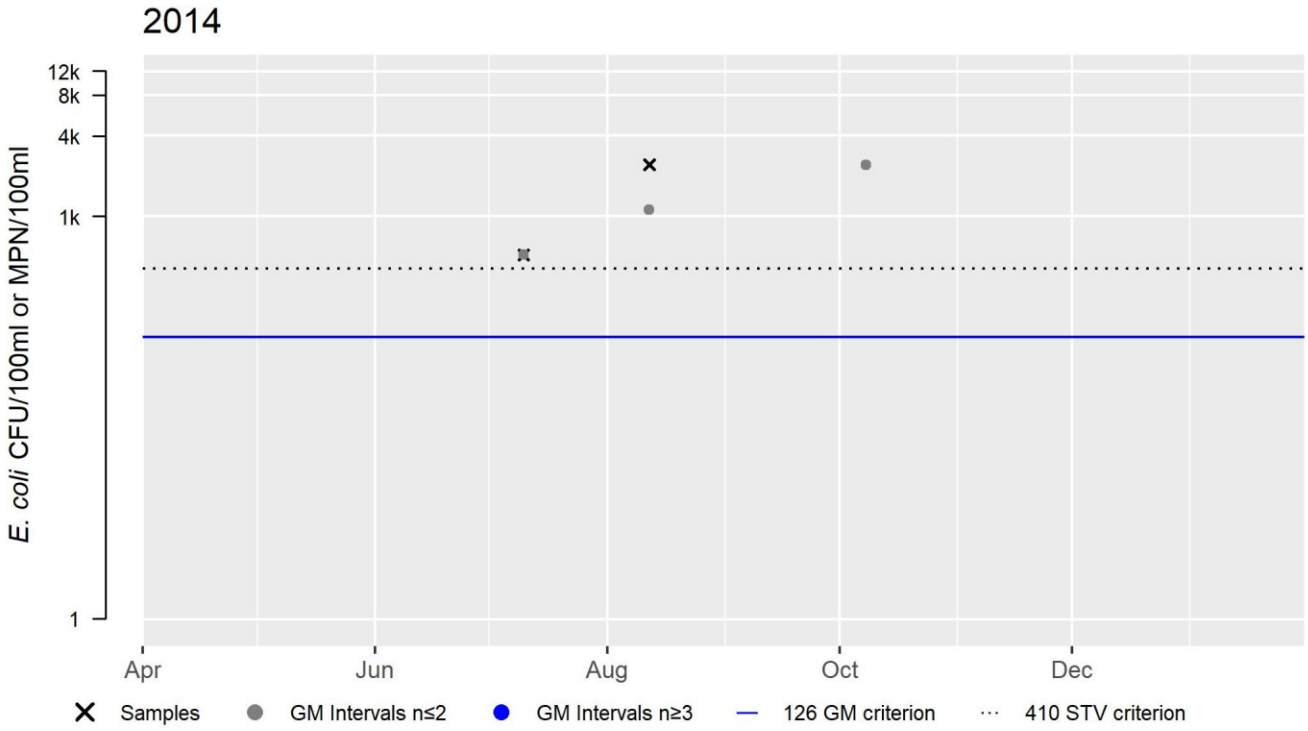
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2478 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1119
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

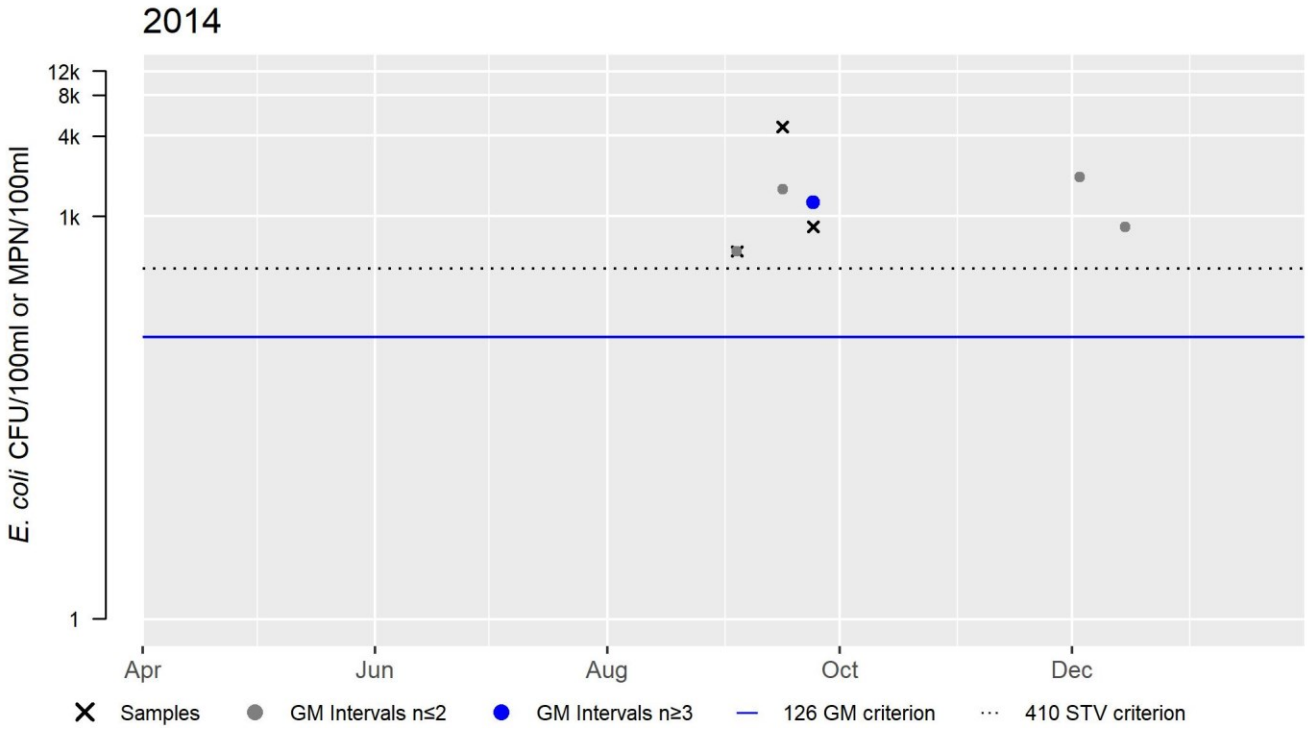
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2479 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1283
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



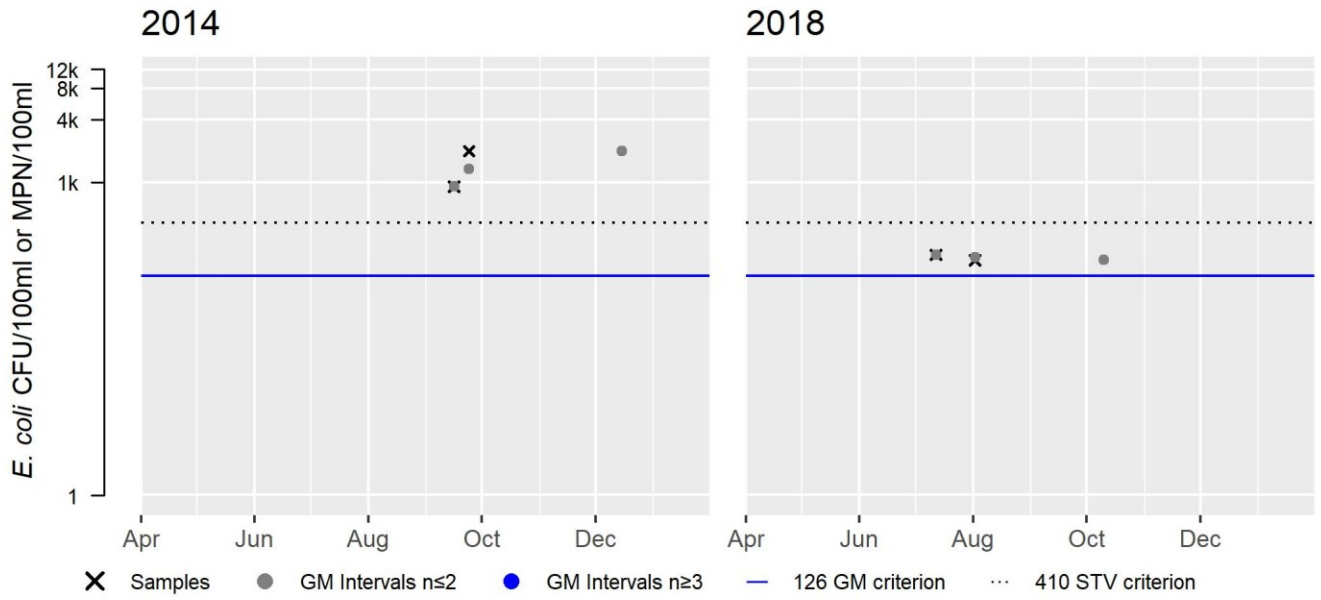
W2480 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1346
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	190
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

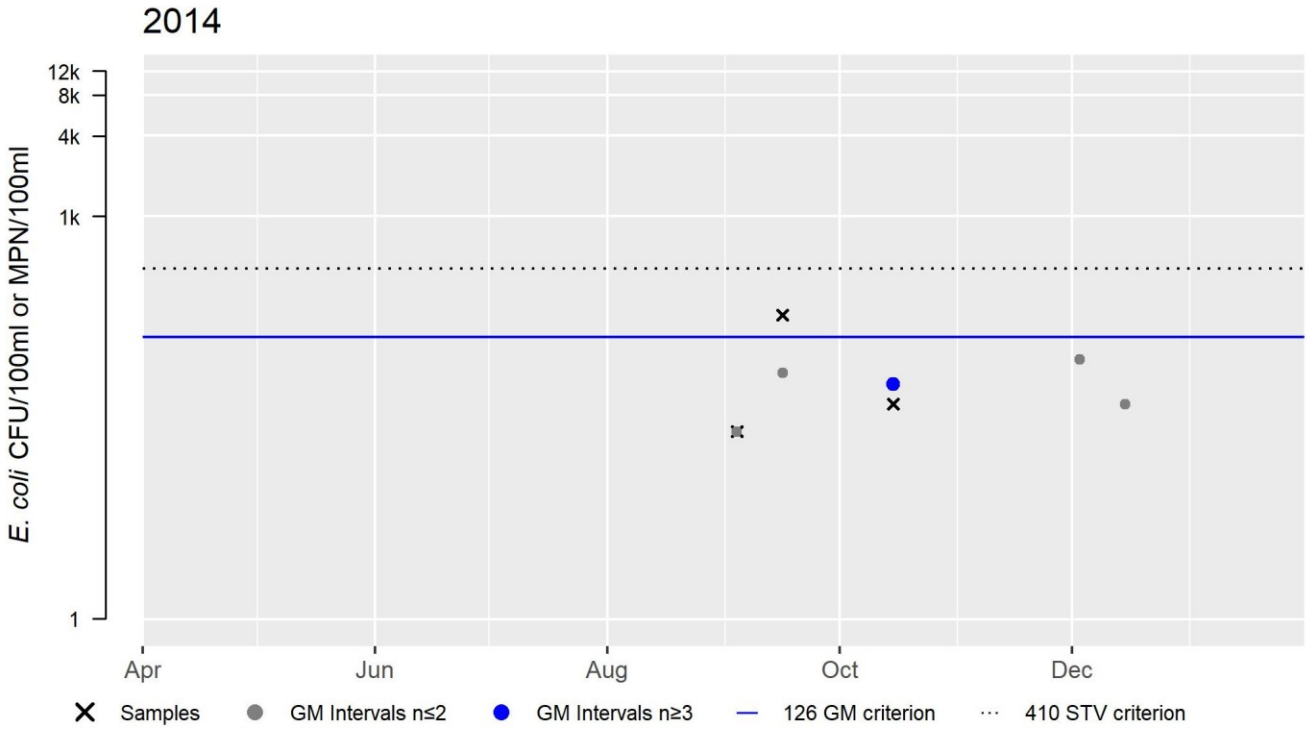
Variable	Cumulative %GMI Ex (all years)
Result	0



W2481 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	57
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

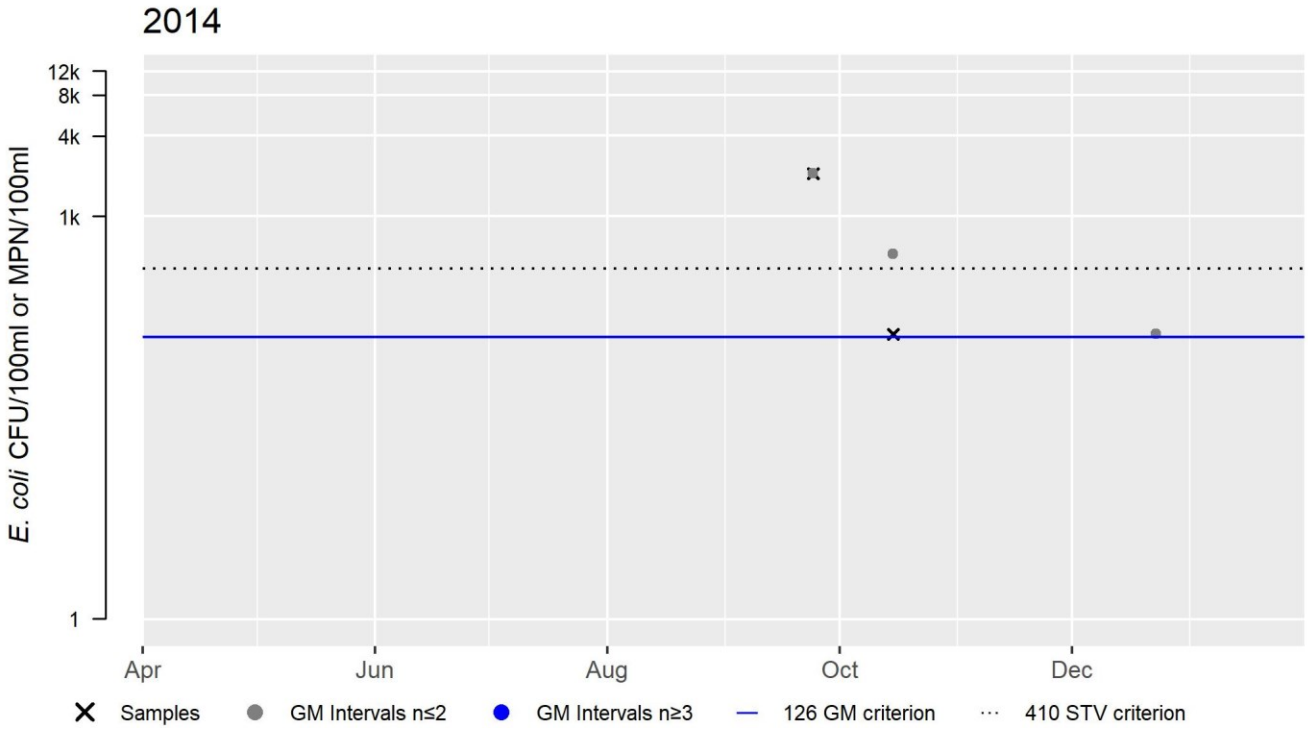
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2484 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	526
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

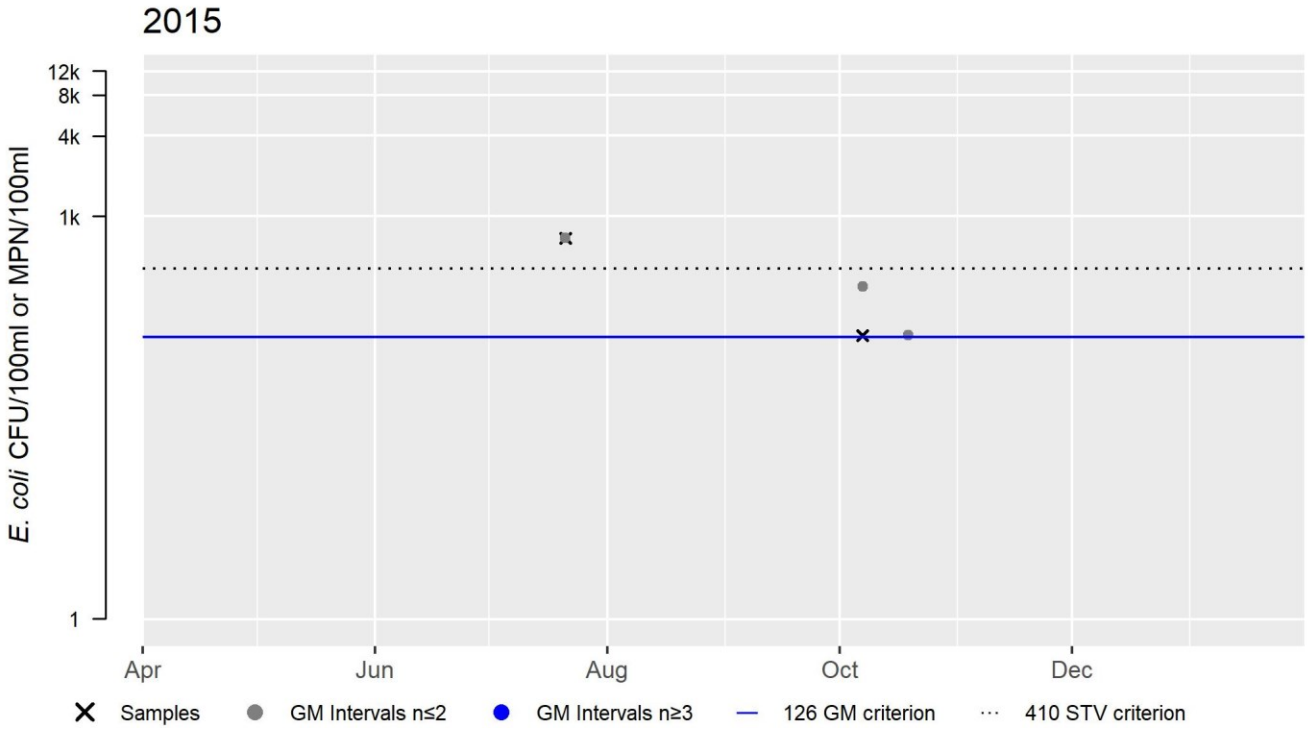
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2576 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	299
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



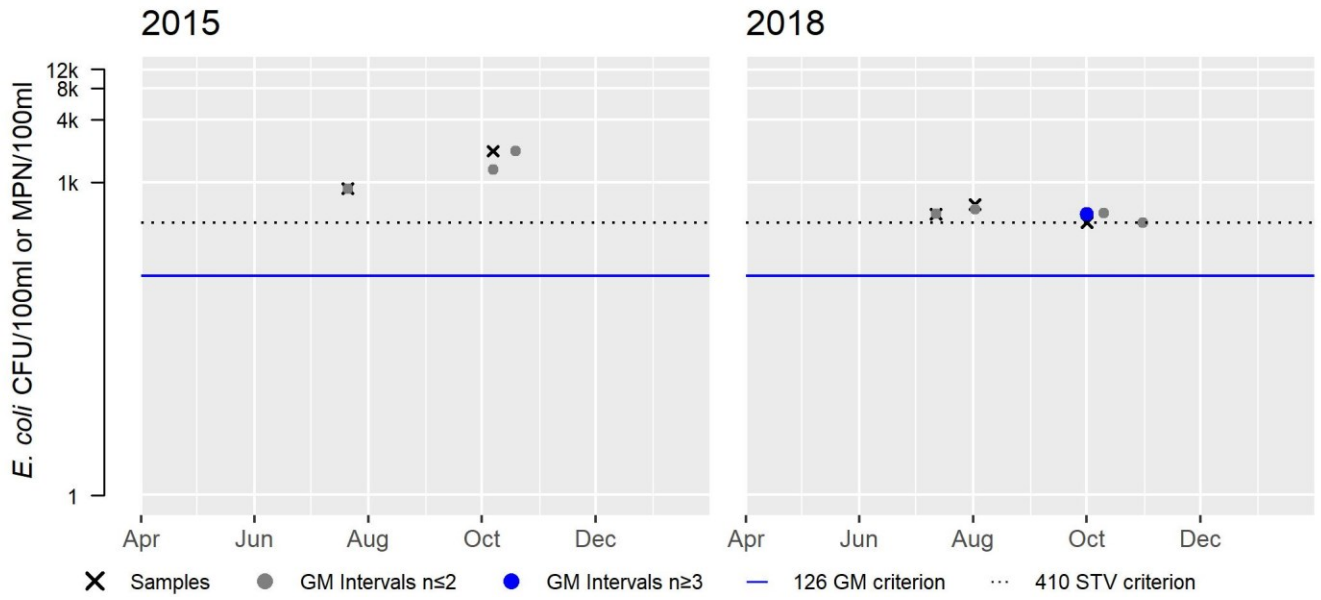
W2578 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1313
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	3
SeasGM	500
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

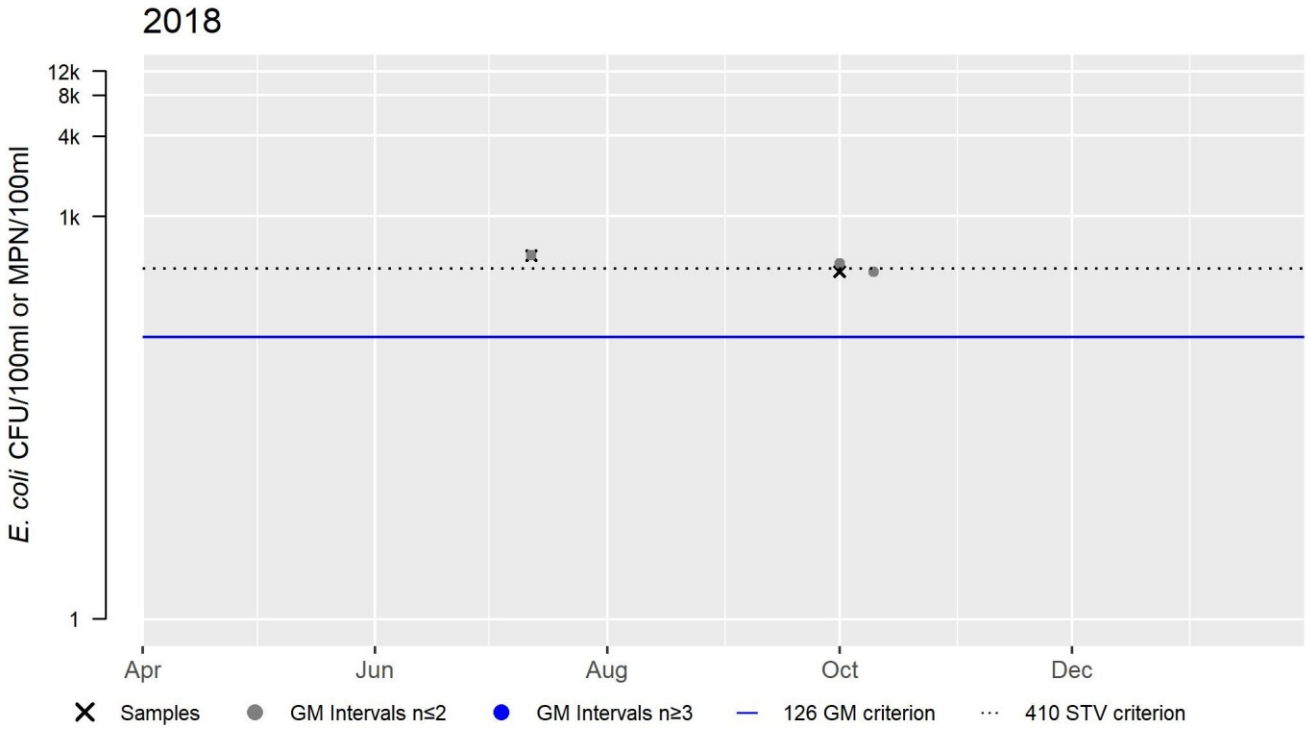
Variable	Cumulative %GMI Ex (all years)
Result	100



W2914 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	445
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

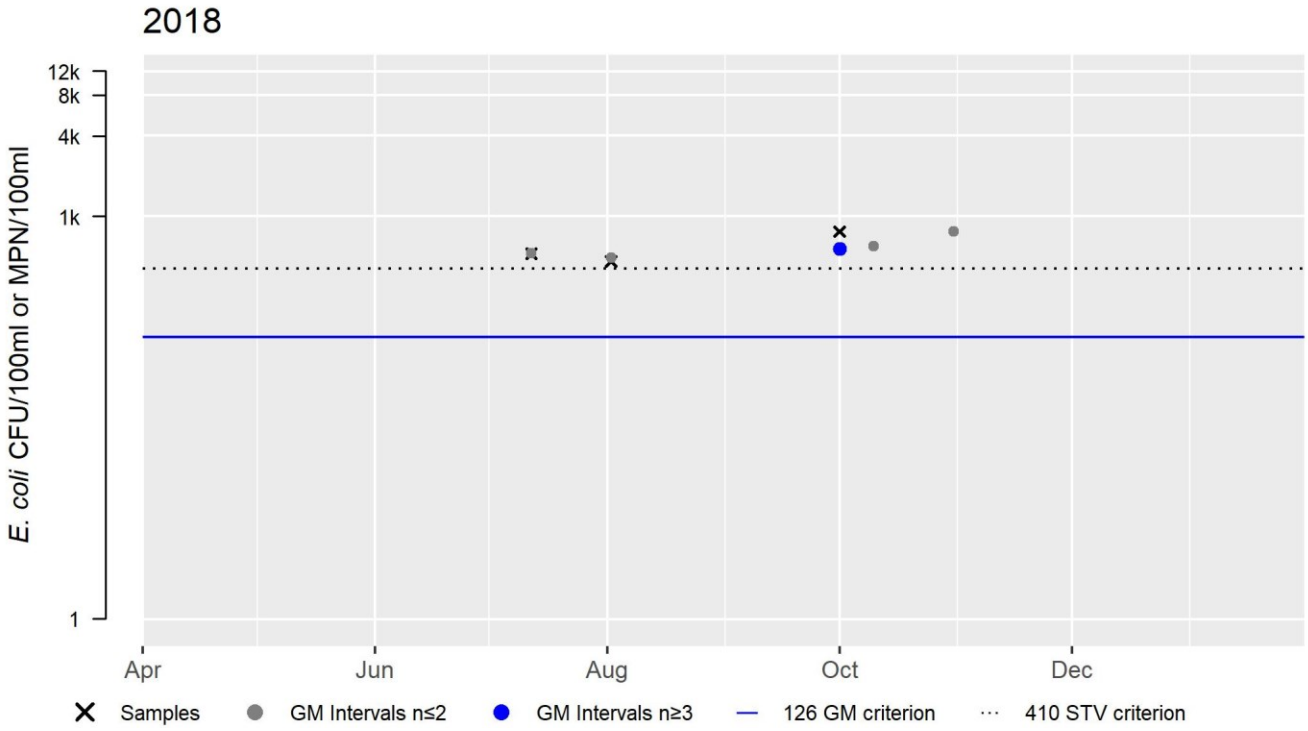
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2915 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	573
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

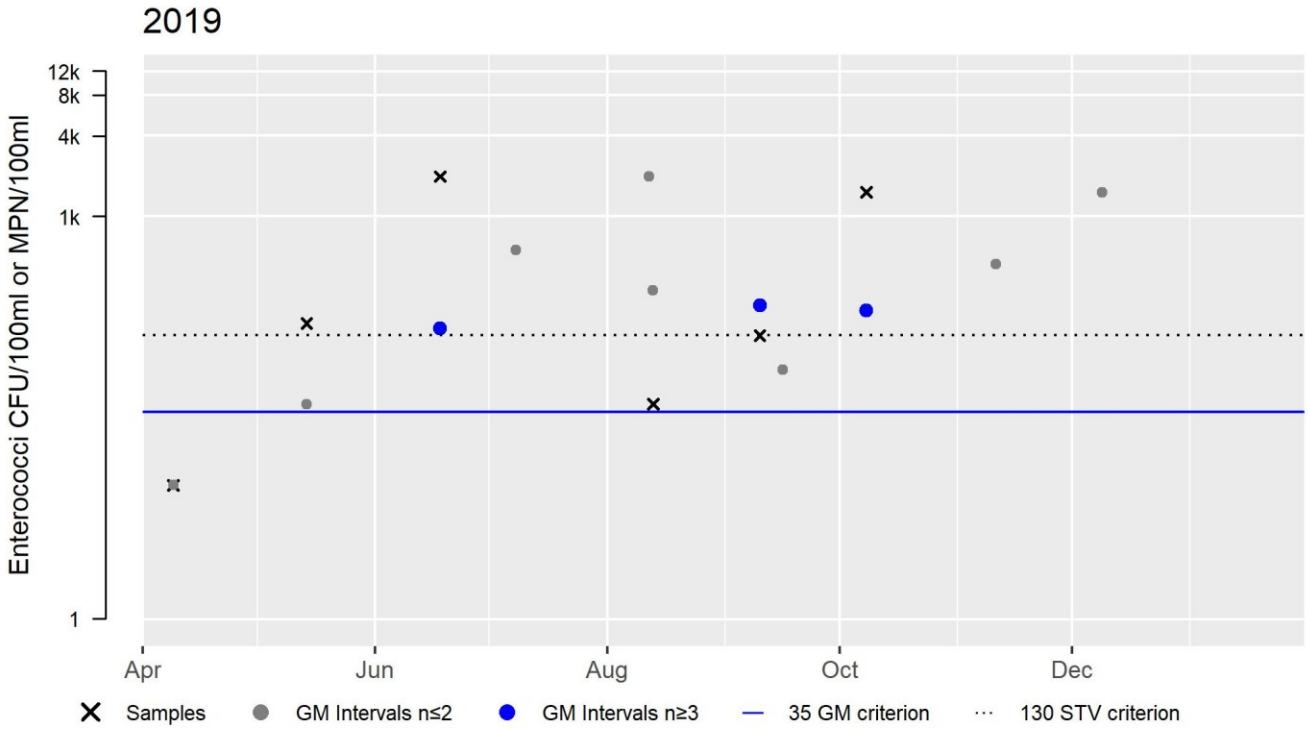
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_MIL-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	171
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	3
%n>STV	50

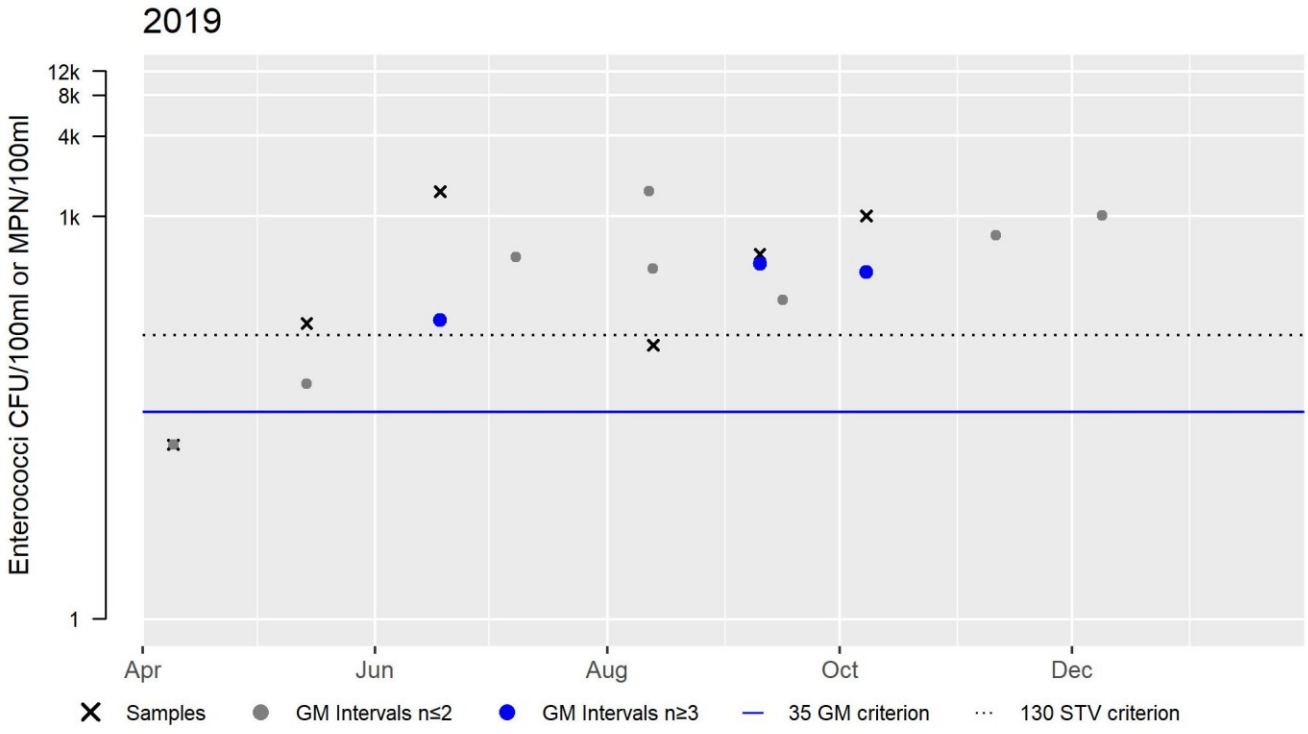
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_MIL-02 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	256
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	67

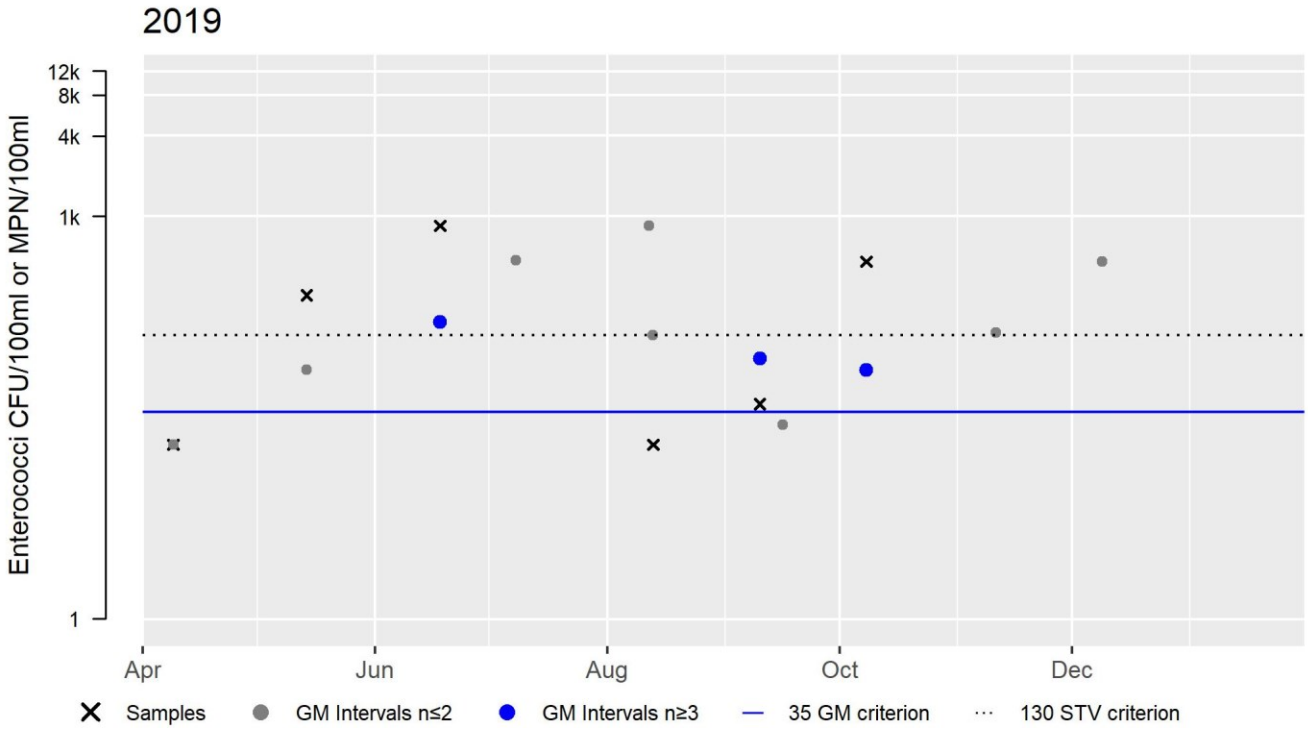
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_MIL-03 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	6
SeasGM	108
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	3
%n>STV	50

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
Prior to 2011, BST work was conducted on the Mill River AU (MA62-29), with a max dry weather E. coli concentration of >24,196MPN at both Spring St & Weir St. Additional BST work was conducted in 2013-2018 at 17 sites along the Mill River AU (MA62-29), with E. coli concentrations ranging 50 to 4,611MPN. Four hotspot areas were identified: 1) In 2014 at the upstream end of the AU a source of bacteria was discovered on an unnamed tributary, with a max dry weather E. coli concentration of 8,664MPN at Warren St. The City identified an illicit connection from a sanitary sewer for a building on Warren St into the tributary. Post-correction follow up samples in the tributary indicated improved bacteria concentrations, with a max of <1000MPN. 2) Behind Hopewell Park; location of a human source narrowed down to a stormdrain outfall pipe behind the park. The City of Taunton made extensive corrections (in 2011 & 2012) to sewer & drain lines all the way up Broadway and Washington St (a 1.5 mile stretch). Post-correction follow up samples indicated improved bacteria concentrations, with a max of 213MPN at the pipe vs >241,960MPN prior. However, the max E. coli concentration in river behind the park post correction (in 2014) was 920MPN. 3) The Weir St bridge (numerous illicit connections to numerous stormdrain outfall pipes under the bridge). The City investigated and made extensive corrections. Post correction follow up samples downstream of the bridge indicated improved bacteria concentrations, with a max of 613MPN in 2018 vs 1,986MPN in 2015. 4) The Spring Street bridge; elevated bacteria concentrations were observed at an outfall just upstream of the bridge, with a max of 5,475MPN & human marker analysis in 2015/2016 indicated “strong evidence” of a human source. City investigation narrowed down hotspots within the drainage infrastructure, but no correctable source was ever found. Overall, the E. coli concentrations at the Spring St bridge improved to a max of 770MPN by 2018. The E. coli concentrations at the downstream end of the AU improved from a max of >2,419.6MPN in 2008 to 512MPN in 2018.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* samples at 11 sites along the Mill River (MA62-29) in Taunton from up to downstream as follows: Whittenton St. (W2481) September-October 2014 (n=3), ~925ft DS of Whittenton St. at the old railroad grade crossing (W2484) September-October 2014 (n=2), western crossing at West Britannia St. (W2479) September 2014 (n=3), eastern crossing at West Britannia St. (W2480) September 2012 (n=2), July-August 2018 (n=2), Danforth St. (W2476) August-September 2014 (n=4), June-July 2016 (n=2), July-August 2018 (n=2), west of Hamilton St. at the back of Hopewell Park (tennis court and pool) (W2475) July-September 2014 (n=3), ~2800 ft US of Rt. 140 (Washington St.) (W2389) May-September 2013 (n=5), ~1400 ft US of Rt. 140 (at the abandoned West Adams St. crossing) (W2478) July-August 2014 (n=2), Rt. 140 (Washington St.) (W2477) July-August 2014 (n=2), ~ 220 ft DS from Rt. 44 (Winthrop St.) (W2372) May-September 2013 (n=5), Danforth St. (W2476) August-September 2014 (n=4), June-July 2016 (n=2), July-August 2018 (n=2),~90 ft DS of Weir St. (Rt. 138) (W2578) July-October 2015 (n=2), July-October 2018 (n=3), Spring St. (W2915) July-October 2018 (n=3), Ingell Street (W2914) July-October 2018 (n=2). Data analysis for *E. coli* sampling indicated that 100% of intervals had GMs >630 CFU/100mL at four sites (W2479, W2476, W2389, and W2372) and one to four samples exceeded the 1260 CFU/100mL STV (at W2476 in 2014) but with no exceedances of the STV in 2016 or 2018. The *E. coli* data at the rest of the sites (results ranged 130 to 2420 CFU/100mL) were too limited to evaluate according to the 2022 CALM guidance (MassDEP 2022). There were four sites where the *E. coli* data did not exceed the use attainment impairment threshold: at Whittenton St. (W2481), at the back of Hopewell Park (tennis court and pool) (W2475), ~90 ft downstream of Weir St. (Rt. 138) (W2578), and at Spring St. (W2915). The *E. coli* data at the other sites (results ranged 130 to 2420 CFU/100mL) were too limited to evaluate using the 2022 CALM guidance (MassDEP 2022). As a result of MassDEP BST work in partnership with the City of Taunton, a number of bacteria sources were identified and corrected: 1) In 2014 the City identified an illicit connection from a sanitary sewer for a building on Warren St. into an unnamed tributary. Post-correction follow-up samples in the tributary indicated improved bacteria concentrations (<1000 MPN vs 8664 MPN prior); 2) Behind Hopewell Park a human source was narrowed down to a stormdrain outfall behind the park. The City made extensive corrections (in 2011 and 2012) to sewer and drain lines all the way up Broadway and Washington St. (a 1.5 mile stretch). Post-correction follow-up samples indicated improved bacteria concentrations (maximum 213 MPN at the pipe vs. >241,960 MPN prior); 3) The Weir St. bridge (illicit connections to numerous stormdrain outfalls under the bridge) so the City made extensive corrections and post correction follow-up samples downstream of the bridge indicated improved bacteria concentrations (maximum 613 MPN in 2018 vs. 1,986 MPN in 2015); 4) The Spring St. bridge had elevated bacteria concentrations at an outfall just upstream of the bridge (maximum 5,475 MPN) and human marker analysis in 2015/2016 indicated "strong evidence" of a human source. City investigation narrowed down hotspots within the drainage infrastructure, but no correctable source was ever found. The Secondary Contact Recreation Use for the Mill River (MA62-29) is assessed as Not Supporting based on elevated *E. coli* bacteria concentrations documented by MassDEP staff at four sites along the river western crossing at West Britannia St. (W2479), Danforth St. (W2476), ~2800 ft upstream/north of Rt. 140 (Washington St.) (W2389) and ~220 ft downstream/southeast from Rt. 44 (Winthrop St.) (W2372) in 2013 and 2014. An *E. coli* impairment is being added.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2372	MassDEP	Water Quality	Mill River	[approximately 220 feet downstream/southeast from Route 44 (Winthrop Street), Taunton]	41.900378	-71.093999
W2389	MassDEP	Water Quality	Mill River	[approximately 2800 feet upstream/north of Route 140 (Washington Street), Taunton]	41.909381	-71.098124
W2475	MassDEP	Water Quality	Mill River	[west of Hamilton Street at back of Hopewell Park (tennis court and pool), Taunton]	41.912373	-71.096167
W2476	MassDEP	Water Quality	Mill River	[Danforth Street, Taunton]	41.916773	-71.100772
W2477	MassDEP	Water Quality	Mill River	[Route 140 (Washington Street), Taunton]	41.903434	-71.097721
W2478	MassDEP	Water Quality	Mill River	[approximately 1400 feet upstream (north) of Route 140 crossing (at the site of the abandoned West Adams Street crossing), Taunton]	41.906631	-71.099730

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2479	MassDEP	Water Quality	Mill River	[the western most crossing at West Britannia Street, Taunton]	41.918798	-71.101752
W2480	MassDEP	Water Quality	Mill River	[the eastern most crossing at West Britannia Street, Taunton]	41.918803	-71.101059
W2481	MassDEP	Water Quality	Mill River	[Whittenton Street, Taunton]	41.923433	-71.106183
W2484	MassDEP	Water Quality	Mill River	[approximately 925 feet downstream (south) of Whittenton Street, at old railroad grade crossing, Taunton]	41.921806	-71.104869
W2576	MassDEP	Water Quality	Mill River	[Weir Street (Route 138), upstream of bridge and raised sewer manhole structure, Taunton]	41.900027	-71.092411
W2578	MassDEP	Water Quality	Mill River	[approximately 90 feet downstream of Weir Street (Route 138), Taunton]	41.900097	-71.091916
W2914	MassDEP	Water Quality	Mill River	[Ingell Street, Taunton]	41.896067	-71.082109
W2915	MassDEP	Water Quality	Mill River	[Spring Street, Taunton]	41.899632	-71.089864

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

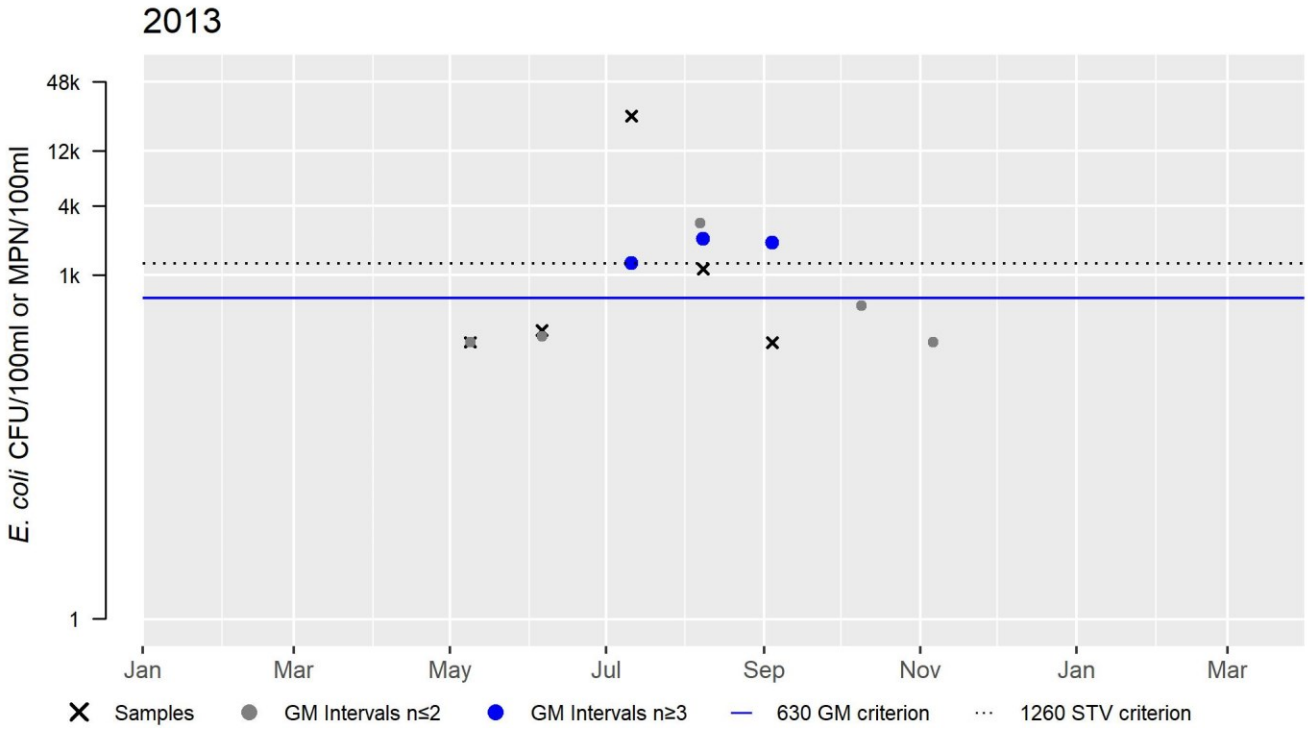
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2372	MassDEP	E. coli	05/09/13	09/04/13	5	259	24196	906
W2389	MassDEP	E. coli	05/09/13	09/04/13	5	243	15530	826
W2475	MassDEP	E. coli	07/10/14	09/16/14	3	248	921	571
W2476	MassDEP	E. coli	08/12/14	09/24/14	4	1300	2419.6	1924
W2476	MassDEP	E. coli	06/13/16	07/11/16	2	248	727	425
W2476	MassDEP	E. coli	07/12/18	08/02/18	2	124	249	176
W2477	MassDEP	E. coli	07/10/14	08/12/14	2	365	1730	795
W2478	MassDEP	E. coli	07/10/14	08/12/14	2	517	2420	1119
W2479	MassDEP	E. coli	09/04/14	09/24/14	3	548	4610	1283
W2480	MassDEP	E. coli	09/16/14	09/24/14	2	910	1990	1346
W2480	MassDEP	E. coli	07/12/18	08/02/18	2	179	201	190
W2481	MassDEP	E. coli	09/04/14	10/15/14	3	25	185	57
W2484	MassDEP	E. coli	09/24/14	10/15/14	2	133	2080	526
W2576	MassDEP	E. coli	07/21/15	10/07/15	2	130	687	299
W2578	MassDEP	E. coli	07/21/15	10/07/15	2	866	1990	1313
W2578	MassDEP	E. coli	07/12/18	10/01/18	3	411	613	500
W2914	MassDEP	E. coli	07/12/18	10/01/18	2	387	512	445
W2915	MassDEP	E. coli	07/12/18	10/01/18	3	461	770	573

W2372 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	906
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	1
%n>STV	20

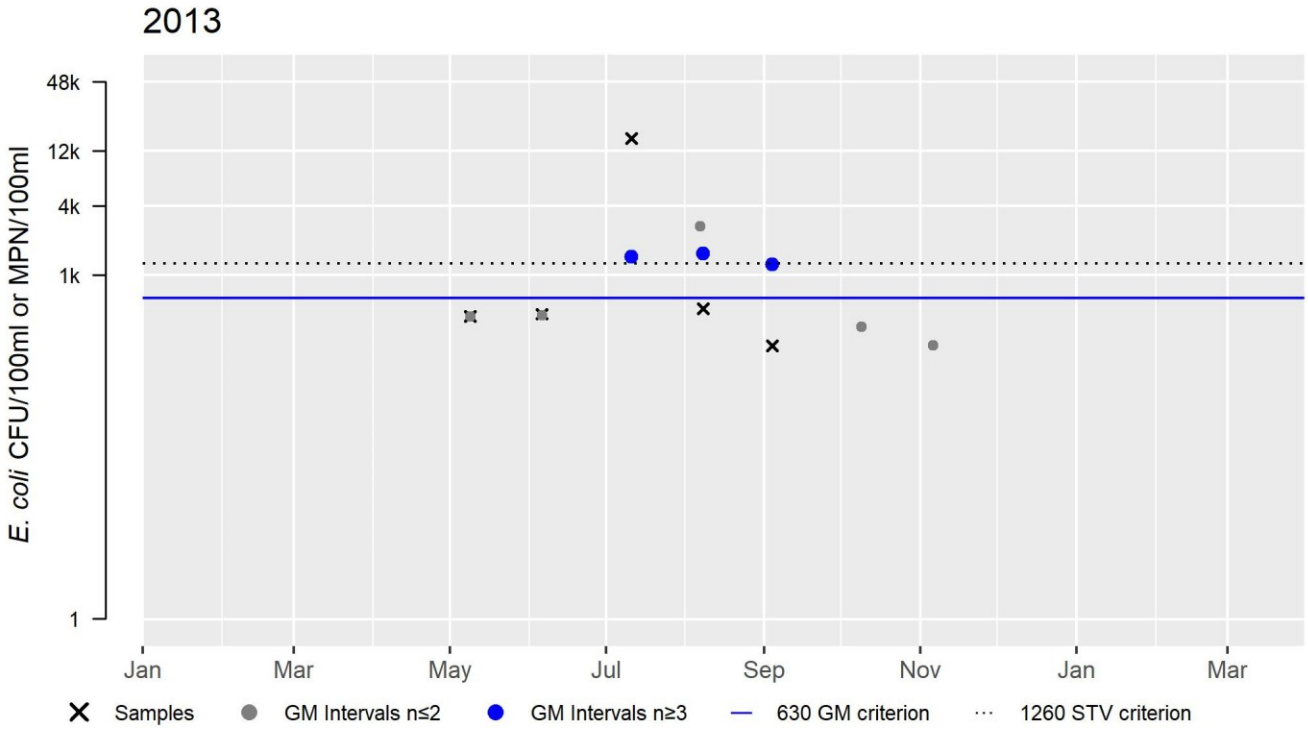
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2389 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	826
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	1
%n>STV	20

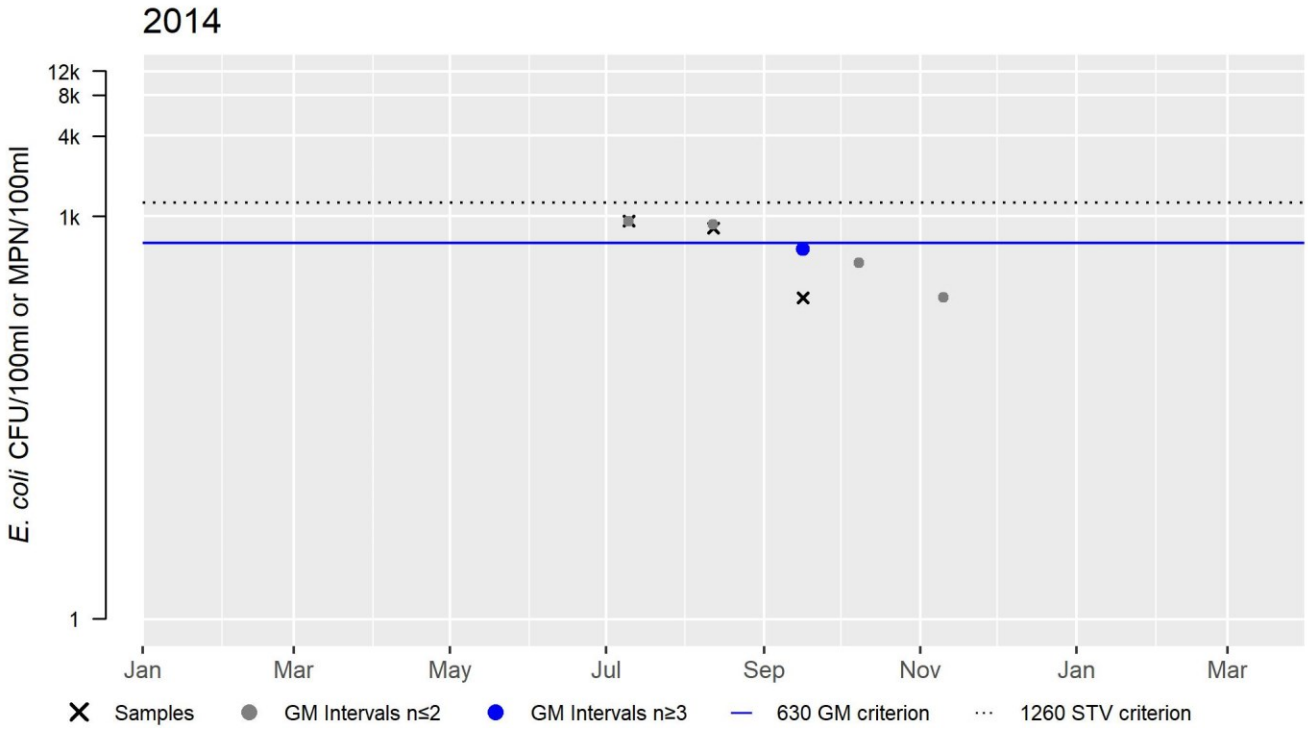
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2475 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	571
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2476 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

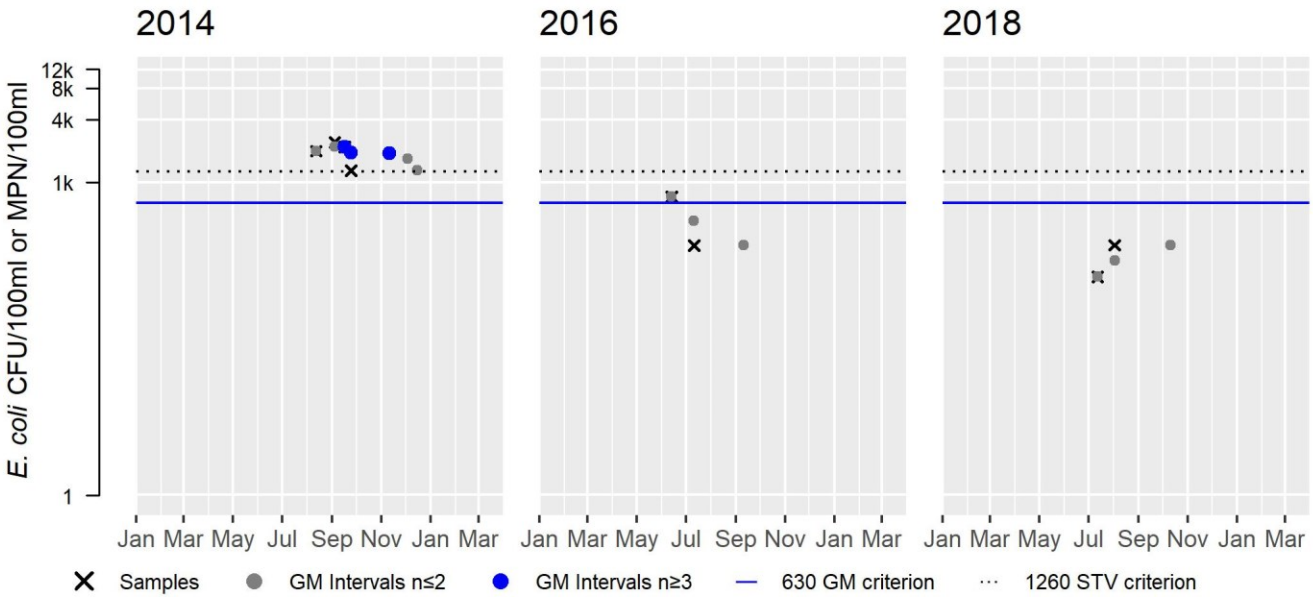
Var	Res
Samples	4
SeasGM	1924
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	100

Var	Res
Samples	2
SeasGM	425
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Var	Res
Samples	2
SeasGM	176
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

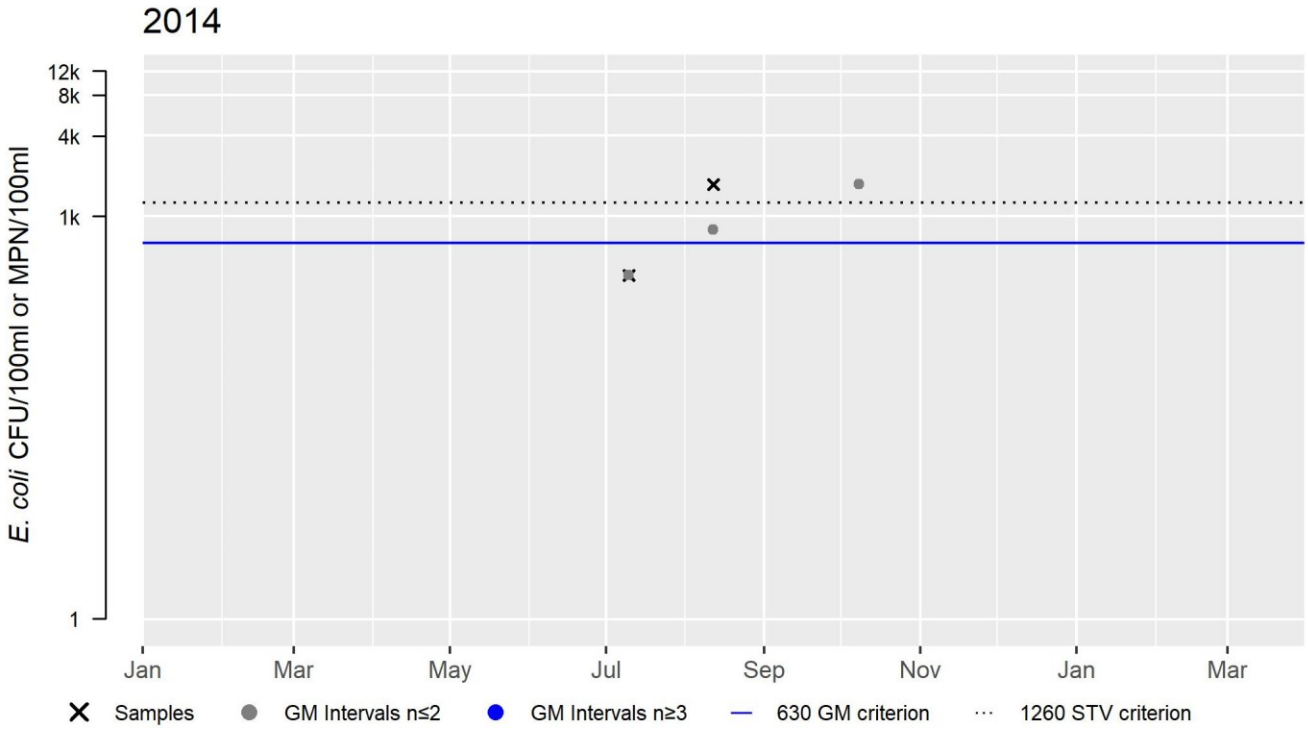
Variable	Cumulative %GMI Ex (all years)
Result	100



W2477 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	795
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

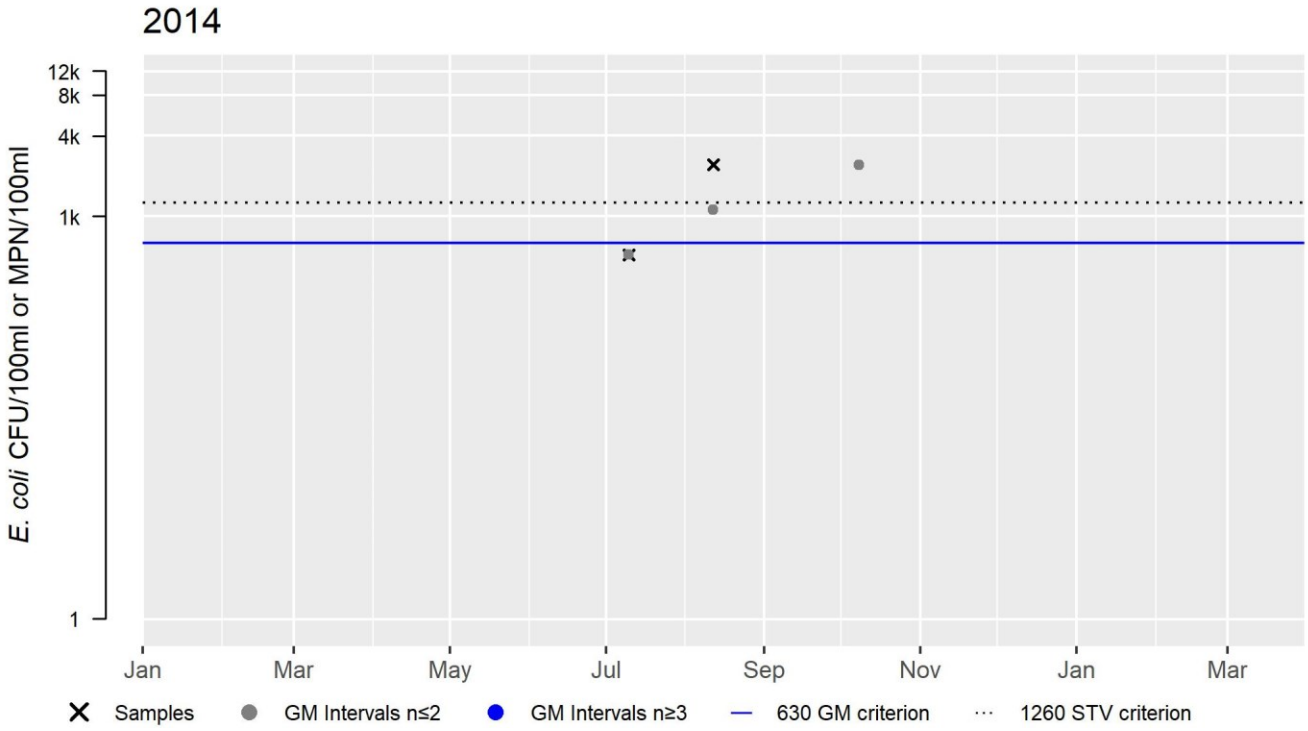
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2478 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1119
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

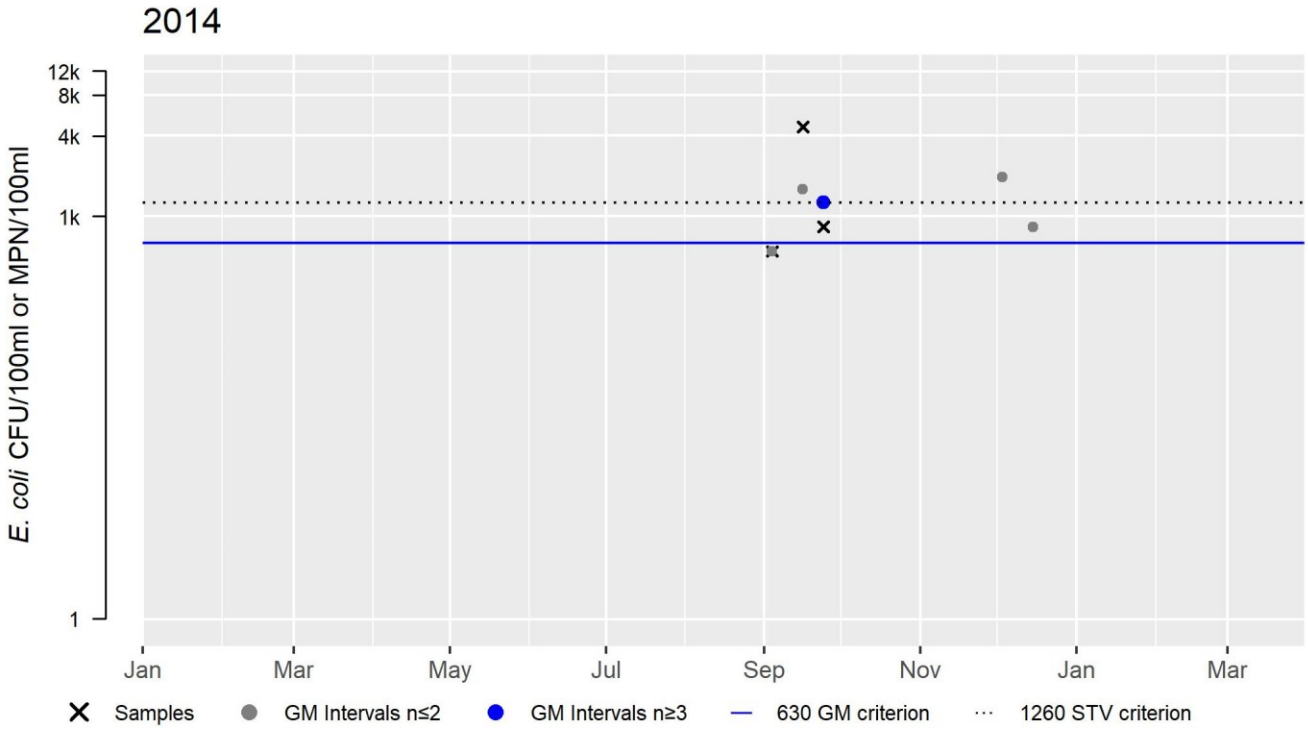
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2479 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1283
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



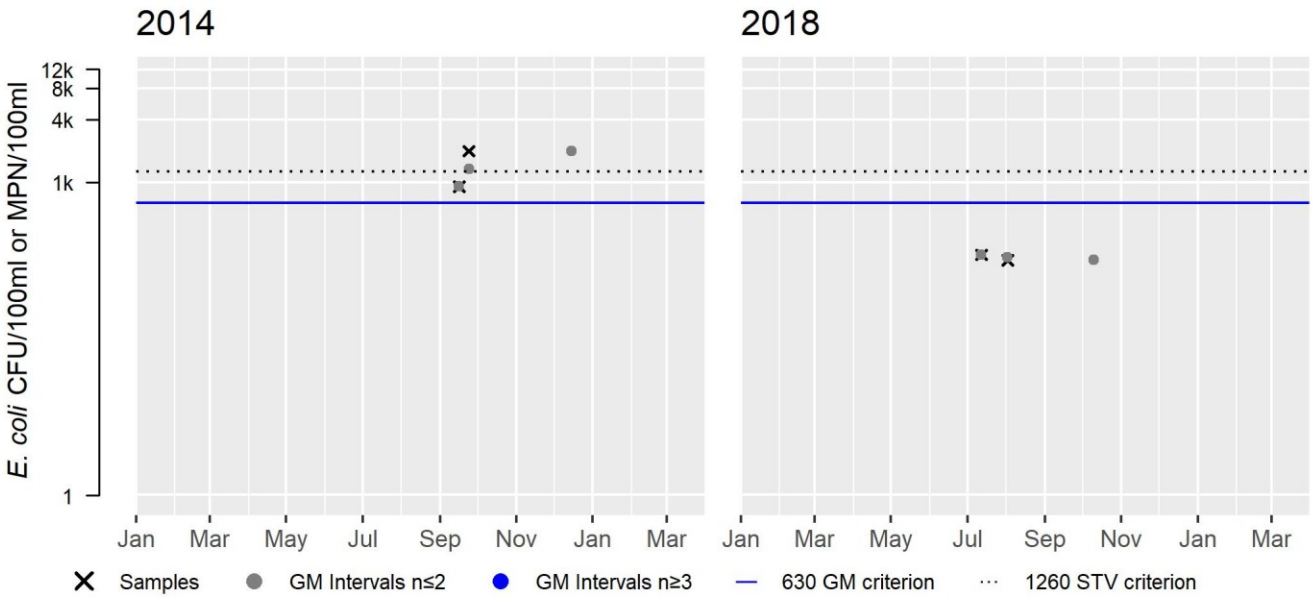
W2480 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1346
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Var	Res
Samples	2
SeasGM	190
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

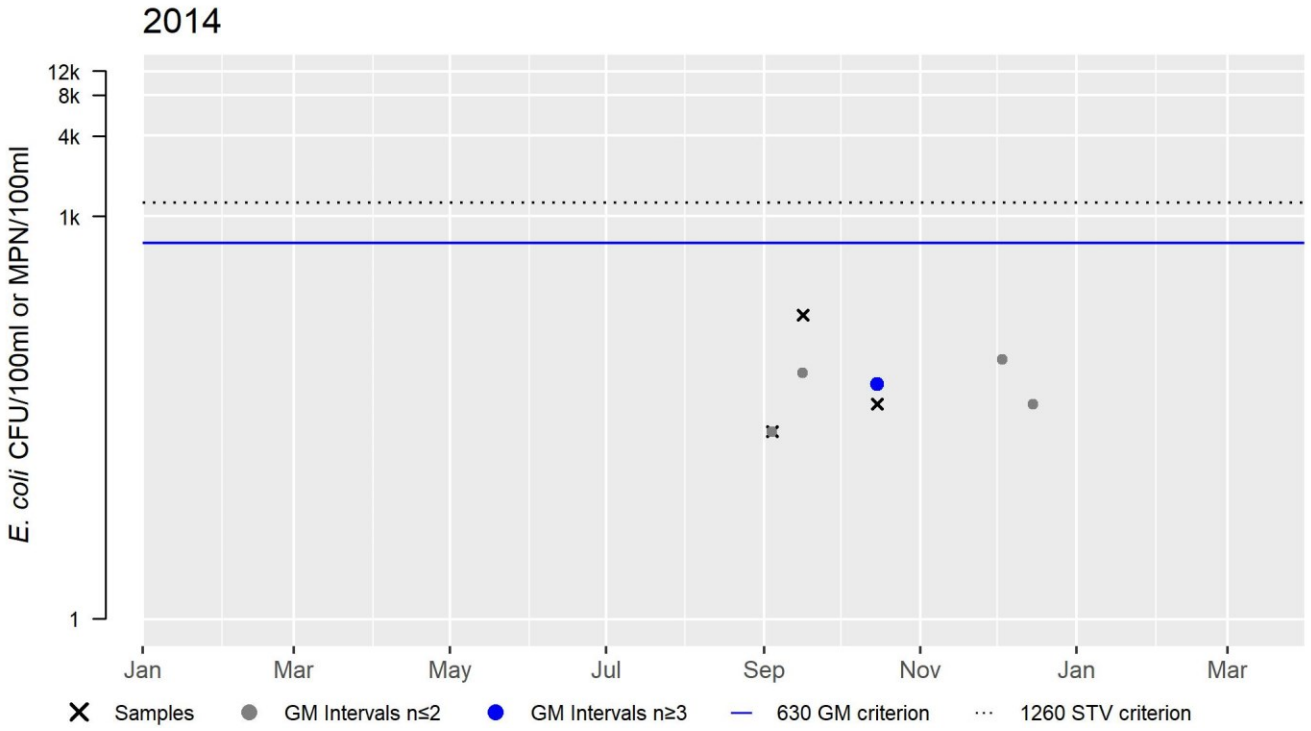
Variable	Cumulative %GMI Ex (all years)
Result	0



W2481 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	57
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

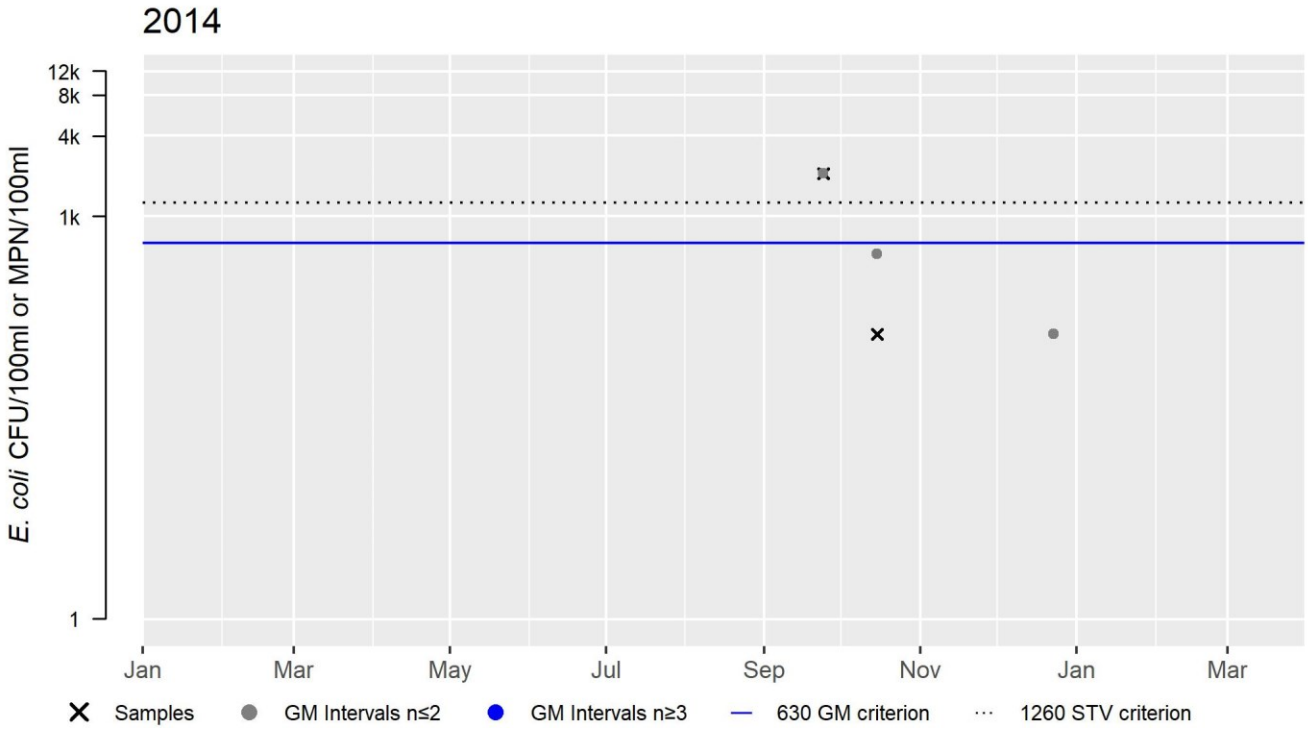
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2484 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	526
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

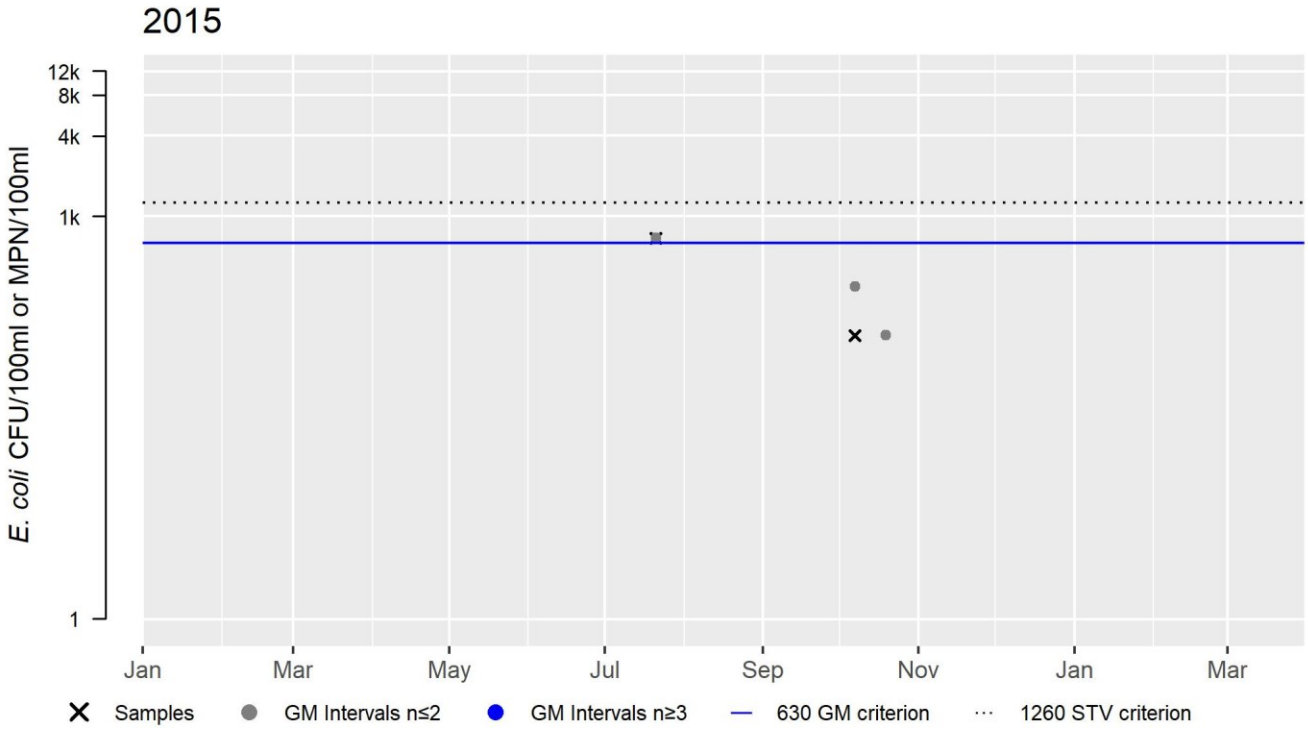
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2576 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	299
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



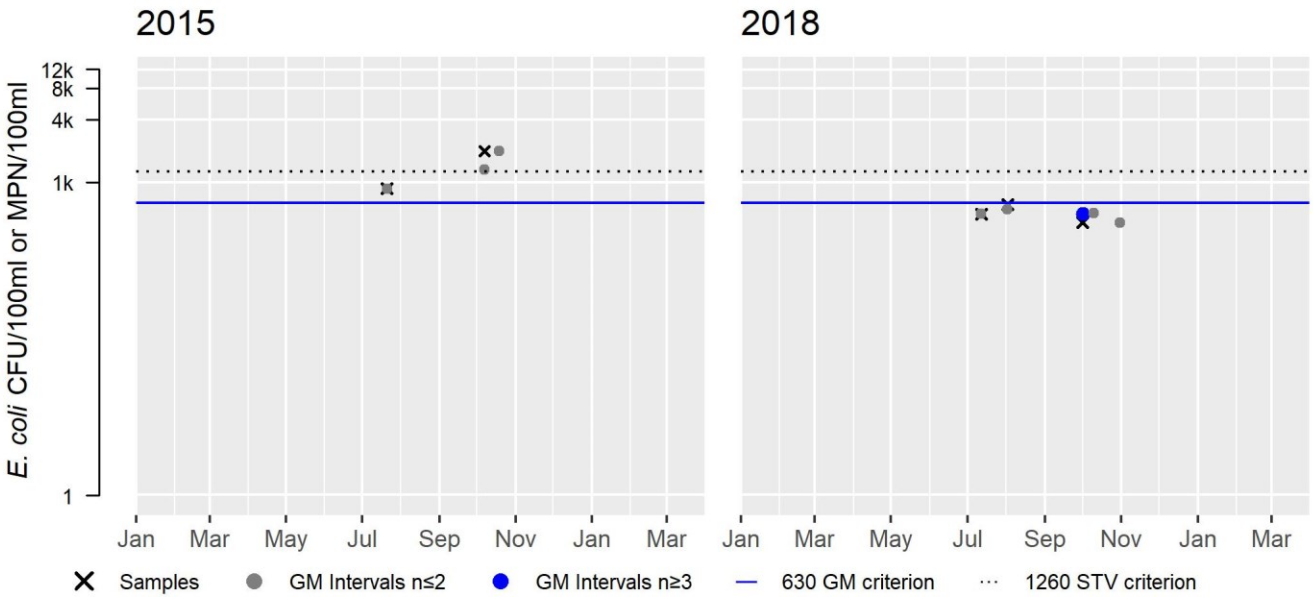
W2578 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1313
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Var	Res
Samples	3
SeasGM	500
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

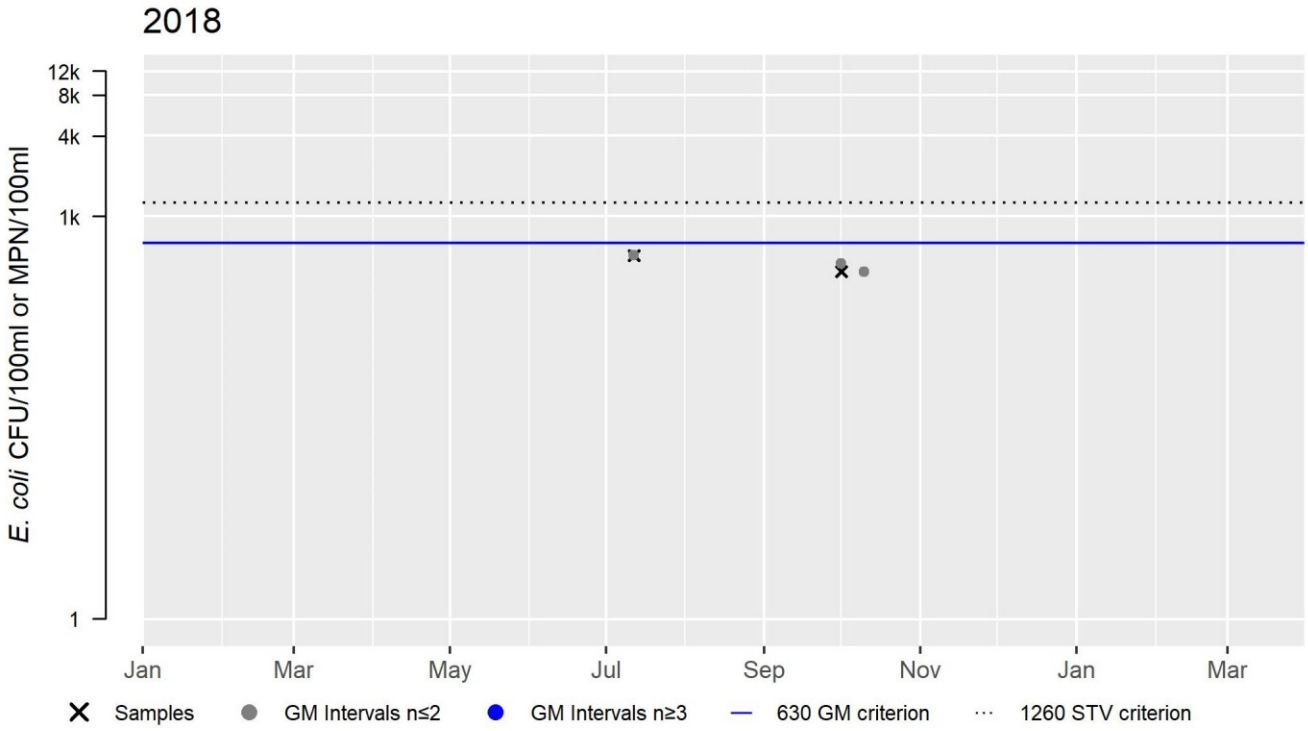
Variable	Cumulative %GMI Ex (all years)
Result	0



W2914 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	445
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

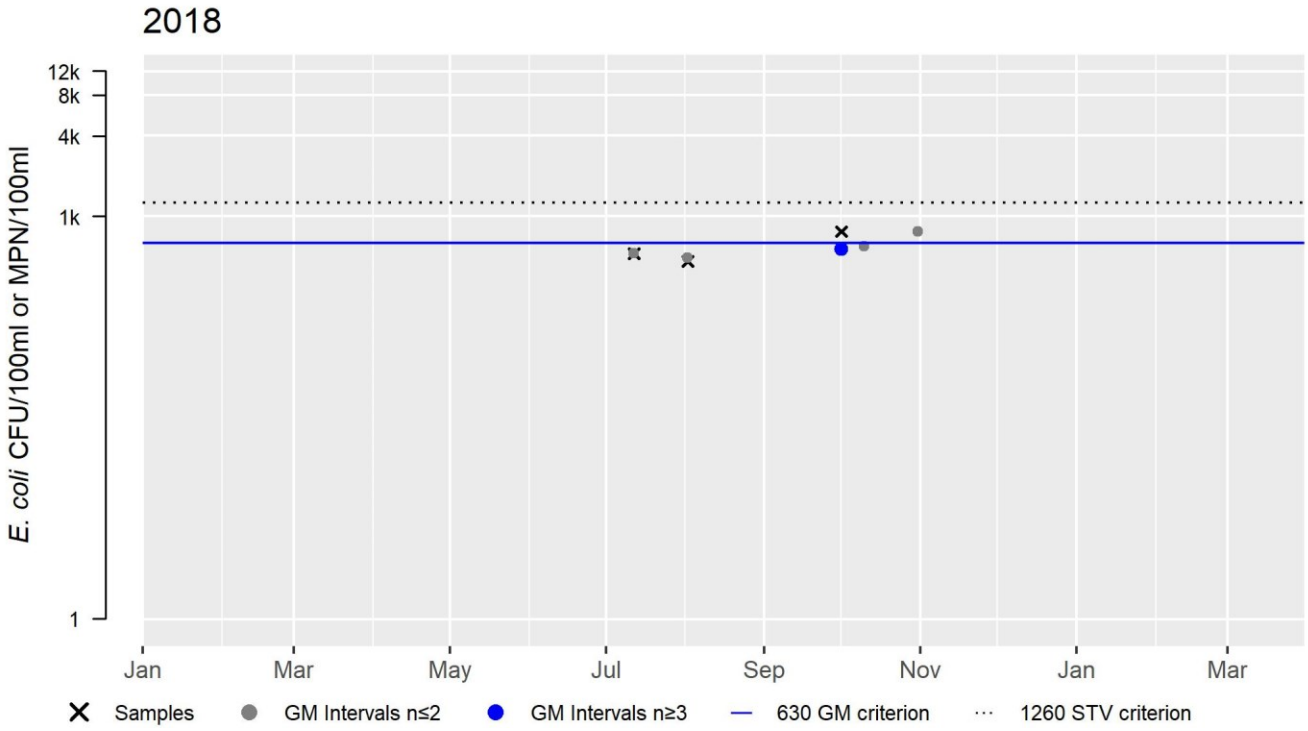
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2915 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	573
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Monponsett Pond, East Basin (MA62218)

Location:	[East Basin] Halifax.
AU Type:	FRESHWATER LAKE
AU Size:	247 ACRES
Classification/Qualifier:	A: PWS, ORW

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	(Curly-leaf Pondweed*)		Unchanged
5	4a	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
5	4a	(Fanwort*)		Unchanged
5	4a	(Non-Native Aquatic Plants*)		Unchanged
5	4a	Chlorophyll-a	R1_MA_2022_01	Changed
5	4a	Harmful Algal Blooms	R1_MA_2022_01	Changed
5	4a	Mercury in Fish Tissue	33880	Unchanged
5	4a	Phosphorus, Total	R1_MA_2022_01	Changed

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X					
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X					
(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					
Chlorophyll-a	Agriculture (Y)	X			X	X	X
Chlorophyll-a	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X			X	X	X
Chlorophyll-a	Internal Nutrient Recycling (Y)	X			X	X	X
Chlorophyll-a	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X			X	X	X
Harmful Algal Blooms	Agriculture (Y)	X			X	X	X
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X			X	X	X
Harmful Algal Blooms	Internal Nutrient Recycling (Y)	X			X	X	X
Harmful Algal Blooms	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X			X	X	X
Mercury in Fish Tissue	Atmospheric Deposition - Toxics (Y)		X				
Mercury in Fish Tissue	Source Unknown (N)		X				
Phosphorus, Total	Agriculture (Y)	X					

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X					
Phosphorus, Total	Internal Nutrient Recycling (Y)	X					
Phosphorus, Total	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X					

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Chlorophyll-a	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)
Harmful Algal Blooms	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)
Phosphorus, Total	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for the East Basin of Monponsett Pond (MA62218), so it will continue to be assessed as Not Supporting, with the Chlorophyll-*a*, Curly-leaf Pondweed, Eurasian Water Milfoil, Fanwort, Harmful Algal Blooms, Non-Native Aquatic Plants, and Total Phosphorus impairments being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Fish Consumption Use for Monponsett Pond, East Basin (MA62218) will continue to be assessed as Not Supporting with the Mercury in Fish Tissue impairment being carried forward. MA DPH advises Children under 12, pregnant women, nursing mothers, women of child-bearing age not to eat any Largemouth Bass, while the general public should limit all Largemouth Bass to 2 meals/month due to elevated mercury (MassDPH 2021).	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

C-HAB postings for Monponsett Pond, East Basin (MA62218) were reported to MassDPH for 14 days in 2017 (not issued or confirmed by sampling) and 48 days in 2018 (advisory was issued based on sample analysis). The Aesthetics Use for Monponsett Pond, East Basin (MA62218) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in a recent year. The Chlorophyll-*a* and Harmful Algal Blooms impairments are both being carried forward. The Alert for low Secchi disk transparency is also being carried forward.

Algal Bloom Information

Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2019 MassDPH Data (Bailey, Logan April 15, 2021) (MassDEP Undated3)

C-HAB Summary Statement
C-HAB postings for East Monponsett Pond (MA62218) were reported to MassDPH for 14 days in 2017 (not issued or confirmed by sampling) and 48 days in 2018 (advisory was issued based on sample analysis). Since blooms >20 days in length were reported in a recent year, the Primary/Secondary Contact Recreation Uses and Aesthetics Use are assessed as Not Supporting.

Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2019) Provided by MassDPH (Bailey, Logan April 15, 2021)

Waterbody	Sample Analysis Used in Issuing Advisory	Bloom Days, 2015	Bloom Days, 2016	Bloom Days, 2017	Bloom Days, 2018	Bloom Days, 2019	# Years with >20 Days of Closure	>1 Posting Per Year
East Monponsett Pond	Advisory issued based on sample analysis				48		1	no
East Monponsett Pond	Not issued or confirmed by sampling			14			0	no

Primary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	YES
2022 Use Attainment Summary	
C-HAB postings for Monponsett Pond, East Basin (MA62218) were reported to MassDPH for 14 days in 2017 (not issued or confirmed by sampling) and 48 days in 2018 (advisory was issued based on sample analysis). The Primary Contact Recreation Use for Monponsett Pond, East Basin (MA62218) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in a recent year. The Chlorophyll-a and Harmful Algal Blooms impairments are both being carried forward. The Alert for low Secchi disk transparency is also being carried forward.	

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	YES
2022 Use Attainment Summary	
C-HAB postings for Monponsett Pond, East Basin (MA62218) were reported to MassDPH for 14 days in 2017 (not issued or confirmed by sampling) and 48 days in 2018 (advisory was issued based on sample analysis). The Secondary Contact Recreation Use for Monponsett Pond, East Basin (MA62218) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in a recent year. The Chlorophyll-a and Harmful Algal Blooms impairments are both being carried forward. The Alert for low Secchi disk transparency is also being carried forward.	

Monponsett Pond, West Basin (MA62119)

Location:	[West Basin] Halifax/Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	283 ACRES
Classification/Qualifier:	A: PWS, ORW

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
5	5	(Fanwort*)		Unchanged
5	5	Chlorophyll-a	R1_MA_2022_01	Changed
5	5	Harmful Algal Blooms	R1_MA_2022_01	Changed
5	5	Mercury in Fish Tissue		Added
5	5	Phosphorus, Total	R1_MA_2022_01	Changed
5	5	Transparency / Clarity	R1_MA_2022_01	Changed

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				
Chlorophyll-a	Agriculture (Y)	X		X	X	X
Chlorophyll-a	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X		X	X	X
Chlorophyll-a	Internal Nutrient Recycling (Y)	X		X	X	X
Chlorophyll-a	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X		X	X	X
Harmful Algal Blooms	Agriculture (Y)	X		X	X	X
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X		X	X	X
Harmful Algal Blooms	Internal Nutrient Recycling (Y)	X		X	X	X
Harmful Algal Blooms	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X		X	X	X
Mercury in Fish Tissue	Atmospheric Deposition - Toxics (Y)		X			
Mercury in Fish Tissue	Source Unknown (N)		X			
Phosphorus, Total	Agriculture (Y)	X				
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X				
Phosphorus, Total	Internal Nutrient Recycling (Y)	X				
Phosphorus, Total	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X				
Transparency / Clarity	Agriculture (Y)	X		X	X	X

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X		X	X	X
Transparency / Clarity	Internal Nutrient Recycling (Y)	X		X	X	X
Transparency / Clarity	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	X		X	X	X

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Chlorophyll-a	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)
Harmful Algal Blooms	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)
Phosphorus, Total	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)
Transparency / Clarity	TMDL Approved or established by EPA (4a)	Impairment covered under TMDL: West and East Monponsett Pond System TMDLs For Total Phosphorus (Report CN 446.2, approved 2022-07-20, ATTAINS Action ID: R1_MA_2022_01)

Recommendations

2022 Recommendations
AES & REC: Monponsett Pond, West Basin (MA62119) should be reevaluated in a future reporting cycle to determine whether there is a true cessation of blooms (no blooms were reported in 2018 and 2019).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for the West Basin of Monponsett Pond (MA62219), so it will continue to be assessed as Not Supporting, with the Chlorophyll-a, Eurasian Water Milfoil, Fanwort, Harmful Algal Blooms, Total Phosphorus and Transparency/Clarity impairments being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

Although no fish toxics monitoring has been conducted in Monponsett Pond, West Basin both west (and east) basins are included in the June 2021 MA DPH Fish Consumption Advisory List, which is based on the Mercury in Fish Tissue documented by MassDEP in the Monponsett Pond, East Basin in 2001 (MassDEP 2005). MA DPH advises children under 12, pregnant women, nursing mothers, women of child-bearing age not to eat any Largemouth Bass, while the general public should limit all Largemouth Bass to 2 meals/month due to elevated mercury (MassDPH 2021). The Fish Consumption Use for Monponsett Pond, West Basin (MA62219) is assessed as Not Supporting. A Mercury in Fish Tissue impairment is being added. The Alert is no longer needed since the 2021 advisory covers both basins so it is being removed.

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
C-HAB postings for Monponsett Pond, West Basin (MA62119) were reported to MassDPH for 160 days in 2015, 167 days in 2016, and 74 days in 2017 (advisories were issued based on sample analysis). The Aesthetics Use for Monponsett Pond, West Basin (MA62119) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in three of five recent years. The Chlorophyll-a, Harmful Algal Blooms, and Transparency/Clarity impairments are all being carried forward.	

Algal Bloom Information

Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2019 MassDPH Data (Bailey, Logan April 15, 2021) (MassDEP Undated3)

C-HAB Summary Statement
C-HAB postings for West Monponsett Pond (MA62119) were reported to MassDPH for 160 days in 2015, 167 days in 2016, and 74 days in 2017 (advisories were issued based on sample analysis). Since blooms >20 days in length were reported in 3 years, the Primary/Secondary Contact Recreation Uses and Aesthetics Use are assessed as Not Supporting. However, this AU should be reevaluated in a future reporting cycle to determine whether there is a true cessation of blooms (no blooms were reported in 2018 and 2019).

Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2019) Provided by MassDPH (Bailey, Logan April 15, 2021)

Waterbody	Sample Analysis Used in Issuing Advisory	Bloom Days, 2015	Bloom Days, 2016	Bloom Days, 2017	Bloom Days, 2018	Bloom Days, 2019	# Years with >20 Days of Closure	>1 Posting Per Year
West Monponsett Pond	Advisory issued based on sample analysis	160	167	74			3	yes

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
C-HAB postings for West Monponsett Pond (MA62119) were reported to MassDPH for 160 days in 2015, 167 days in 2016, and 74 days in 2017 (advisories were issued based on sample analysis). The Primary Contact Recreation Use for Monponsett Pond, West Basin (MA62119) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in three of five recent years. The Chlorophyll-a, Harmful Algal Blooms, and Transparency/Clarity impairments are all being carried forward.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
C-HAB postings for West Monponsett Pond (MA62119) were reported to MassDPH for 160 days in 2015, 167 days in 2016, and 74 days in 2017 (advisories were issued based on sample analysis). The Secondary Contact Recreation Use for Monponsett Pond, West Basin (MA62119) will continue to be assessed as Not Supporting since blooms >20 days in length were reported in three of five recent years. The Chlorophyll-a, Harmful Algal Blooms, and Transparency/Clarity impairments are all being carried forward.	

Mount Hope Mill Pond (MA62122)

Location:	Taunton/Dighton (formerly part of 2014 segment: Three Mile River MA62-56 [MA62-16 (2004)]) (portion formerly reported as 2004 lake segment: Three Mile River Impoundment MA62231).
AU Type:	FRESHWATER LAKE
AU Size:	45 ACRES
Classification/Qualifier:	B: WWF

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Fish Passage Barrier*)		Removed

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Fish Passage Barrier	Applicable WQS attained, due to restoration activities	"Fish Passage Barrier" was first identified as an impairment of the Aquatic Life Use of this Mount Hope Mill Pond AU (MA62122) in the 2018/2020 IR cycle (MassDEP 2021) based on the complete lack of passage to diadromous fish posed by the Draka Dam in Dighton/Taunton. According to Massachusetts Division of Marine Fisheries (DMF) biologists (MassDMF 2020), a new fishway was constructed at the Draka Dam in 2019, which allows the passage of diadromous fish between Mount Hope Mill Pond and the downstream Three Mile River AU (MA62-56). The fishway was cooperatively designed by Tibbetts Engineering, the US Fish and Wildlife Service, and DMF. It includes an aluminum Alaskan Steeppass fish ladder, a concrete-formed entrance box, turnpool and exit box integrated with a notch in the dam crest. A second notch in the dam provides a soft landing for juvenile river herring and other fish leaving the pond into a plunge pool. Flows from the downstream migration channel lead to the entrance box to provide additional attraction flows (MassDMF 2020). The new fishway was assigned a passage score of "0" by DMF biologists, meaning that the Draka Dam now poses no obstruction to diadromous fish passage. Therefore, the Fish Passage Barrier impairment is being removed from this Mount Hope Mill Pond AU (MA62122).

Fish Passage Barrier

A new fishway was constructed at the Draka Dam in 2019, which allows the passage of diadromous fish between Mount Hope Mill Pond (MA62122) and the downstream Three Mile River AU (MA62-56). The fishway was cooperatively designed by Tibbetts Engineering, the US Fish and Wildlife Service, and DMF. It includes an aluminum Alaskan Steeppass fish ladder, a concrete-formed entrance box, turnpool and exit box integrated with a notch in the dam crest. A second notch in the dam provides a soft landing for juvenile river herring and other fish leaving the pond into a plunge pool. Flows from the downstream migration channel lead to the entrance box to provide additional attraction flows (MassDMF 2020). The new fishway was assigned a passage score of "0" by DMF biologists, meaning that the Draka Dam now poses no obstruction to diadromous fish passage. Therefore, the Fish Passage Barrier impairment is being removed from this Mount Hope Mill Pond AU (MA62122).

Recommendations

2022 Recommendations
ALU: Additional water quality data should be collected in Mount Hope Mill Pond to better assess the Aquatic Life Use with regard to nutrient enrichment.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
According to MassDMF biologists, the Draka Dam in Dighton/Taunton does not pose an obstruction to the passage of river herring and American eel between Mount Hope Mill Pond (MA62122) and the downstream Three Mile River AU (MA62-56). MassDMF biologists assigned a passage score of "0" (no obstruction), following construction of a fishway in November 2019. The population score in this area is "3" and MassDMF has been stocking herring in Mount Hope Mill Pond the last few years to prime the spawning migration (MassDMF 2020). The Aquatic Life Use for Mount Hope Mill Pond (MA62122) will continue to be assessed as Not Supporting with the Fanwort impairment being carried forward. The fish passage barrier impairment, identified due to the former obstruction to fish passage posed by the Draka Dam in Dighton/Taunton (which allowed no possible passage of diadromous fish prior to construction of a fishway in 2019), is being removed since the new fishway allows passage of fish and the dam was subsequently assigned a passage score of "0" by MassDMF biologists (see supporting information above). The Alert identified due to potential nutrient enriched conditions (maximum dissolved oxygen saturation of 145% during a 3-day probe deploy at MassDEP station W1273 in September 2004 (MassDEP 2021)) is being carried forward.	

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
According to DMF biologists, the Draka Dam in Dighton/Taunton, is not an obstruction to the passage of river herring and American eel between the Mount Hope Mill Pond the downstream Three Mile River (MA62-56). DMF biologists assigned a passage score of "0" (no obstruction) following construction of a fishway in November 2019. The population score in this area is "3".

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Mount Hope Mill Pond (MA62122); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Mount Hope Mill Pond (MA62122), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococ*ci bacteria data are available to assess the Primary Contact Recreation Use for Mount Hope Mill Pond (MA62122), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for Mount Hope Mill Pond (MA62122), so it is Not Assessed.	

Muddy Cove Brook (MA62-51)

Location:	From the outlet of the small impoundment behind 333 Main Street (Zeneca Inc.), Dighton to mouth at confluence with the Taunton River, Dighton (formerly part of 2004 segment: Muddy Cove Brook MA62-23).
AU Type:	ESTUARY
AU Size:	0.01 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fish Passage Barrier*)		Unchanged
4a	4a	Fecal Coliform	40309	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X					
Fecal Coliform	Source Unknown (N)			X			

Recommendations

2022 Recommendations
REC: Conduct sufficient *Enterococci* sampling to evaluate the status of the Primary and Secondary Contact Recreation Uses for Muddy Cove Brook (MA62-51).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
MassDEP staff did not observe any dense film or filamentous algae in Muddy Cove Brook (MA62-51) at County Street (Rt.138), Dighton (W2305) during the surveys conducted as part of the Bacteria Source Tracking (BST) project in 2011 (n=2), 2012 (n=2) or 2013 (n=2). The Aquatic Life Use for Muddy Cove Brook (MA62-51) will continue to be assessed as Not Supporting. The Fish Passage Barrier impairment (due to the tide gate at Rt.138 that restricts passage for river herring and American eel) (MassDEP 2021) is being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2305	MassDEP	Water Quality	Muddy Cove Brook	[County Street (Route 138), Dighton]	41.811828	-71.121696

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2305	2011	--	--	--	--	--	--	--	--	2	0
W2305	2012	--	--	--	--	--	--	--	--	2	0
W2305	2013	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Muddy Cove Brook (MA62-51); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Muddy Cove Brook (MA62-51): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0048 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0048 sq mi (60%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.1	Taunton River	Prohibited	0.00478	60.0%

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff conducted sampling of Muddy Cove Brook AU (MA62-51) at County Street (Route 138) in Dighton (W2305) during the summers of 2011, 2012, and 2013 as part of the Bacteria Source Tracking (BST) project (n=6 total). There were generally no notable objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during any of the surveys. The Aesthetics Use for Muddy Cove Brook (MA62-51) is assessed as Fully Supporting based on the general lack of objectionable conditions noted by MassDEP staff during summers 2011 to 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2305	MassDEP	Water Quality	Muddy Cove Brook	[County Street (Route 138), Dighton]	41.811828	-71.121696

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2305	Muddy Cove Brook	2011	2	MassDEP aesthetics observations for station W2305 on Muddy Cove Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2305	Muddy Cove Brook	2012	2	MassDEP aesthetics observations for station W2305 on Muddy Cove Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2012. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2305	Muddy Cove Brook	2013	2	MassDEP aesthetics observations for station W2305 on Muddy Cove Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2305	2011	2	2	0
W2305	2012	2	2	0
W2305	2013	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2305	Muddy Cove Brook	2011	Color	None	2	2
W2305	Muddy Cove Brook	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2011	Odor	None	1	2
W2305	Muddy Cove Brook	2011	Odor	Other	1	2
W2305	Muddy Cove Brook	2011	Scum	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2011	Turbidity	Moderately Turbid	1	2
W2305	Muddy Cove Brook	2011	Turbidity	Slightly Turbid	1	2
W2305	Muddy Cove Brook	2012	Color	Brownish	1	2
W2305	Muddy Cove Brook	2012	Color	None	1	2
W2305	Muddy Cove Brook	2012	Objectionable Deposits	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2012	Odor	None	2	2
W2305	Muddy Cove Brook	2012	Scum	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2012	Turbidity	Moderately Turbid	1	2
W2305	Muddy Cove Brook	2012	Turbidity	Slightly Turbid	1	2
W2305	Muddy Cove Brook	2013	Color	Light Yellow/Tan	1	2
W2305	Muddy Cove Brook	2013	Color	None	1	2
W2305	Muddy Cove Brook	2013	Objectionable Deposits	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2013	Odor	None	2	2
W2305	Muddy Cove Brook	2013	Scum	Not Applicable (N/A)	2	2
W2305	Muddy Cove Brook	2013	Turbidity	Moderately Turbid	1	2
W2305	Muddy Cove Brook	2013	Turbidity	Slightly Turbid	1	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	YES
2022 Use Attainment Summary	
MassDEP Bacteria Source Tracking (BST) work was conducted between 2011 and 2013 on Muddy Cove Brook (MA62-51). The maximum dry weather *E. coli* concentration was 1,733 MPN/100mL at the County St. sampling location (it should be noted that all BST data are not in the MassDEP WPP Monitoring database, so are not presented in bacteria tables below). Despite the incidence of intermittently elevated bacteria concentrations, detergent concentrations at County St. were low and no correctable source of bacteria was ever found. It should also be noted that the abandoned "Zeneca" property (located between County Street and Elm Street) was ruled out as source of bacteria to the brook. No *Enterococci* bacteria data are available to assess the status of the Primary Contact Recreation Use for Muddy Cove Brook (MA62-51), so it is Not Assessed. An Alert is being identified due to intermittently elevated *E. coli* bacteria concentrations documented in the brook between 2011 and 2013. Additional monitoring is being recommended.	

Bacteria Data

MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted in 2011-2013 on the Muddy Cove Brook AU (MA62-51), with a max dry weather *E. coli* concentration of 1,733MPN at County St. Despite the incidence of intermittently elevated bacteria concentrations, detergent concentrations at County St were low and no correctable source was ever found. It should be noted that the abandoned "Zeneca" property (located between County Street and Elm Street) was ruled out as as source of bacteria to the brook.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Muddy Cove Brook (MA62-51): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0048 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Assessed	YES
2022 Use Attainment Summary	
MassDEP Bacteria Source Tracking (BST) work was conducted between 2011 and 2013 on Muddy Cove Brook (MA62-51). The maximum dry weather *E. coli* concentration was 1,733 MPN/100mL at the County St. sampling location (it should be noted that all BST data are not in the MassDEP WPP Monitoring database, so are not presented in bacteria tables below). Despite the incidence of intermittently elevated bacteria concentrations, detergent concentrations at County St. were low and no correctable source of bacteria was ever found. It should also be noted that the abandoned "Zeneca" property (located between County Street and Elm Street) was ruled out as source of bacteria to the brook. No Enterococci bacteria data are available to assess the status of the Secondary Contact Recreation Use for Muddy Cove Brook (MA62-51), so it is Not Assessed. An Alert is being identified due to intermittently elevated *E. coli* bacteria concentrations documented in the brook between 2011 and 2013. Additional monitoring is being recommended.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Muddy Cove Brook (MA62-51): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0048 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Muddy Cove Brook (MA62-58)

Location:	Headwaters, south of Hart Street, Dighton to inlet Muddy Cove Brook Pond, Dighton (formerly part of 2014 segment: Muddy Cove Brook MA62-52 [MA62-23 (2004)]).
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

No usable data were available for Muddy Cove Brook (MA62-58) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Muddy Cove Brook (MA62-59)

Location:	From outlet Muddy Cove Brook Pond, Dighton to outlet of small impoundment behind 333 Main Street (Zeneca Inc.), Dighton (formerly part of 2014 segment: Muddy Cove Brook MA62-52 [MA62-23 (2004)]).
AU Type:	RIVER
AU Size:	0.2 MILES
Classification/Qualifier:	B

No usable data were available for Muddy Cove Brook (MA62-59) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Muddy Cove Brook Pond (MA62124)

Location:	Dighton.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	B

No usable data were available for Muddy Cove Brook Pond (MA62124) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fish Passage Barrier*)		Unchanged
5	5	Algae		Unchanged
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
Algae	Source Unknown (N)			X	X	X
Turbidity	Source Unknown (N)			X	X	X

Muddy Pond (MA62125)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	61 ACRES
Classification/Qualifier:	B

No usable data were available for Muddy Pond (MA62125) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Muddy Pond (MA62126)

Location:	Halifax.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

No usable data were available for Muddy Pond (MA62126) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Muddy Pond (MA62233)

Location:	Kingston (formerly reported as 2004 segment: Muddy Pond MA94104).
AU Type:	FRESHWATER LAKE
AU Size:	42 ACRES
Classification/Qualifier:	B

No usable data were available for Muddy Pond (MA62233) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

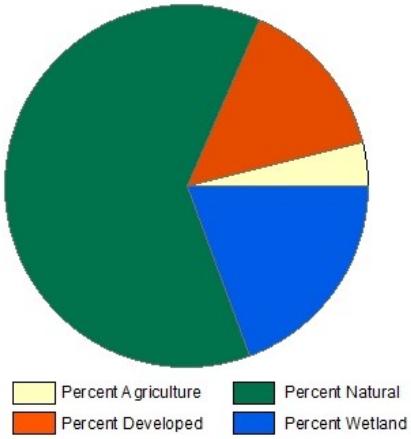
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Mulberry Meadow Brook (MA62-31)

Location:	Headwaters, outlet New Pond, Easton to mouth at inlet of Winnecunnet Pond, Norton (through former 2014 segments: Ward Pond MA62203 and Reservoir MA62158).
AU Type:	RIVER
AU Size:	4.6 MILES
Classification/Qualifier:	B

Mulberry Meadow Brook - MA62-31

Watershed Area: 11.92 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	11.92	3.55	4.53	1.26
Agriculture	3.8%	8.3%	6.6%	17.8%
Developed	14.7%	12.5%	8.1%	5.8%
Natural	62.2%	62%	56%	55.5%
Wetland	19.4%	17.2%	29.3%	20.9%
Impervious Cover	6.5%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Recommendations

2022 Recommendations
ALU: Collect physio-chemcal water quality data for this Mulberry Meadow Brook AU (MA62-31) along with biotic data (benthic/fish surveys) to determine the effects of cranberry bogs on conditions in the stream and allow reevaluation of the Aquatic Life Use.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDFG biologists conducted backpack electrofishing at one site near the upstream end of this Mulberry Meadow Brook AU (MA62-31), upstream and downstream of Highland Rd, Easton (SampleID 5278) in July 2014. The sample (collected in a low gradient stream reach) contained only a small number of fish overall (13), though it did include one macrohabitat generalist taxon that is moderately tolerant to environmental perturbations, i.e. redfin pickerel (comprising 8% of the sample) and also one fluvial specialist taxon, tessellated darter (comprising 15% of the sample). Note that a large portion of the brook runs through active cranberry bogs. The Aquatic Life Use for Mulberry Meadow Brook (MA62-31) is assessed as having Insufficient Information since there is a lack of any water quality data indicating the effects of the cranberry bogs on water quality conditions. However, the small fish sample collected in 2014 was indicative of generally good conditions for a low gradient warm water stream..

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5278	MassDFG	Fish Community	Mulberry Meadow Brook	Highland Rd DS (180') US (100'), Easton	42.01890	-71.12580

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, RP = Redfin Pickerel, TD = Tessellated Darter]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5278	07/08/14	BP	TP	L	3	13	0%	1	15%	0%	1	8%	No	No	AE, RP, TD,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Mulberry Meadow Brook (MA62-31); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Mulberry Meadow Brook (MA62-31), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* or *E. coli* data are available to assess the Primary Contact Recreation Use for Mulberry Meadow Brook (MA62-31), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* data are available to assess the Secondary Contact Recreation Use for Mulberry Meadow Brook (MA62-31), so it is Not Assessed.	

Mullein Hill Chapel Pond (MA62127)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Mullein Hill Chapel Pond (MA62127) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

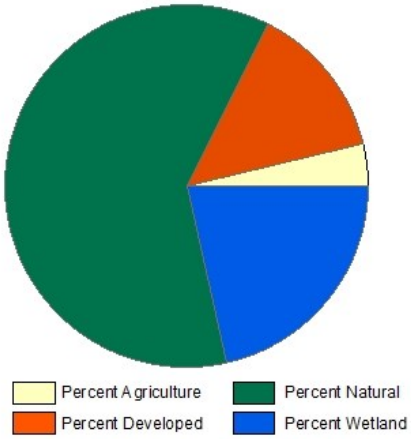
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Nemasket River (MA62-25)

Location:	Headwaters, outlet Assawompset Pond, Lakeville/Middleborough to Middleborough WWTP (NPDES: MA0101591) discharge, Middleborough.
AU Type:	RIVER
AU Size:	6.2 MILES
Classification/Qualifier:	B

Nemasket River - MA62-25

Watershed Area: 66.83 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	66.83	10.9	17.12	2.42
Agriculture	3.7%	4.7%	4.3%	5.3%
Developed	14%	25%	11.5%	12.1%
Natural	60.9%	51.4%	44.7%	38.7%
Wetland	21.5%	19%	39.6%	43.9%
Impervious Cover	5.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Ambient Bioassays - Chronic Aquatic Toxicity		Unchanged
5	5	Benthic Macroinvertebrates		Added
5	5	Dissolved Oxygen		Unchanged
5	5	Temperature		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Ambient Bioassays - Chronic Aquatic Toxicity	Source Unknown (N)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Temperature	Dam or Impoundment (N)	X				
Temperature	Source Unknown (N)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Backpack electrofishing at three sites and at one site where the sampling method was not stated was conducted in the downstream half of this Nemasket River AU (MA62-25) in Middleborough, from up to downstream as follows: 1500ft DS of Rt. I95, US of Rt. 28 (SampleID 5053) in August 2013 by MassDEP biologists, and the following three sites by MADFG biologists below Wareham St. dam not including pool at base of dam (SampleID 7634) in July 2018; pool below Wareham St. Dam (SampleID 8137) in July 2018, and Oliver Mill Park (SampleID 7638) in July 2018. All samples were collected in low-moderate gradient reaches and while the sample at the most upstream site was associated with a note describing "poor fish shocking efficiency", all four samples were well represented by macrohabitat generalists intolerant/moderately tolerant to environmental perturbations, comprising between 29 and 48% of the samples and two samples (7634 & 7368) also contained fluvial specialist/dependent species including both fallfish and tessellated darter. Benthic and water quality monitoring was conducted by MassDEP staff approximately 1500ft downstream/north of Interstate 495, Middleborough (B0854, W2396) during the summer 2013 as part of the MAP2 Probabilistic Wadable Streams monitoring project (note that the water quality data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). The benthic community sample IBI score (compared to the Statewide low gradient index) was indicative of Severely Degraded conditions (14). Water quality sampling data including both deployed probe and discrete sampling efforts can be summarized as follows: Some of the water quality data were indicative of good conditions, i.e. (average and maximum total phosphorus concentrations 0.033 and 0.045mg/L respectively, n=5), very low ammonia nitrogen concentrations (max 0.03mg/L, n=5), maximum DO saturation 87.9% and no observations of any dense/very dense filamentous algae of three site visits, low specific conductance and chloride concentrations (max 133µS/cm n=3 & 32mg/L n=5, respectively) and no other acute or chronic metals criteria exceedances (n=2) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). However, some of the water quality data was indicative of poor conditions, i.e., DO and pH were quite low and temperature was high. The minimum DO was 0.4mg/L during three short term DO deploys, the 3-5DADMin <5.0mg/L three times and the 1-day minimum <4.0mg/L 12 times. It should also be noted that the max diel DO shift was 5.2mg/L with an average of 3.1mg/L. The pH was consistently 5.8SU (n=3). The maximum temperature was 30.4°C and exceeded the acute maximum 24-hour average of 28.3°C on both 19 and 20 July (with max 24hr rolling averages of 29.2 and 27.0°C during the two deployments (95 and 68 days, respectively) and the rolling average temperature was >28.3°C 124 times, while the chronic 7-DADM of 27.7°C was exceeded 11 times. The Aquatic Life Use for this Nemasket River AU (MA62-25) will continue to be assessed as Not Supporting. The Ambient Bioassays - Chronic Aquatic Toxicity, Dissolved Oxygen, and Temperature impairments are all being carried forward (MassDEP 2021). A Benthic Macroinvertebrates impairment is being added based on the severely degraded benthic sample ~1500ft downstream of Interstate 495 (B0854) in summer 2013 so the Alert for benthic macroinvertebrates is being removed.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5053	MassDEP	Fish Community	Nemasket River	1500 ft DS/N of I95, US of RT 28	41.88097	-70.90962
7634	MassDFG	Fish Community	Nemasket River	Below Wareham St. dam not including pool at base of dam. Site #2, Middleborough	41.89047	-70.90356
7638	MassDFG	Fish Community	Nemasket River	Oliver Mill Park. Site #1, Middleborough	41.90689	-70.91446

8137	MassDFG	Fish Community	Nemasket River	Pool below Wareham St. Dam. Site #3, Middleborough	41.89045	-70.90370
B0854	MassDEP	Benthic	Nemasket River/	[approximately 460 meters downstream/north of Interstate 495, Middleborough, MA]	41.881423	-70.909427
W2396	MassDEP	Water Quality	Nemasket River	[approximately 1500 feet downstream/north of Interstate 495, Middleborough]	41.881423	-70.909427

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0854	07/18/13	RBP multihab	Statewide_Low_Gradient	298	14	SD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BB = Brown Bullhead, BF = Bowfin, BS = Banded Sunfish, CP = Chain Pickerel, CS = Common Shiner, F = Fallfish, LMB = Largemouth Bass, P = Pumpkinseed, RBS = Redbreast Sunfish, RP = Redfin Pickerel, SD = Swamp Darter, SL = Sea Lamprey, TD = Tessellated Darter, WS = White Sucker, YB = Yellow Bullhead, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5053	08/20/13	NS	TP		6	24	0%	0	0%	0%	3	46%	Yes	No	AE, B, BB, LMB, P, RP,
7634	07/26/18	BP	TP		11	68	0%	4	10%	3%	5	29%	No	No	AE, BS, CP, CS, F, LMB, P, RP, TD, WS, YB,
7638	07/26/18	BP	TP		12	102	0%	2	25%	2%	5	48%	No	No	AE, B, BF, CP, F, LMB, RBS, RP, SD, SL, TD, YB,
8137	07/26/18	BP	TP		7	43	0%	0	0%	0%	4	42%	Yes	No	AE, B, CP, LMB, P, YB, YP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2396	2013	3	12	0.4	0.5	1.6	5.2	3	12	2	8	3	12

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2396	05/08/13	09/04/13	3	0.7	1.9	3	3	3

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2396	06/01/13	09/03/13	95	92	29.1	30.4	29.3	28.1	90	44	78	35	11	2

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2396	2013	3	12	26.8	28.2	26.4	25.4	3	4	2	4	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2396	06/01/13	09/04/13	95	4579	29.2	2082	1642	124
W2396	06/06/13	08/13/13	68	572	27.0	191	191	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2396	05/08/13	09/04/13	5	4	26.2	21.3	3	2	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2396	05/08/13	09/04/13	3	5.8	5.8	3	3

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2396	2013	5	0.02	0.045	0.033	5.2	3.1	87.9	5.8	3	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2396	2013	2	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2396	2013	2	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2396	05/06/13	0.5	0.9	0.4	0.48	0.0	0.8
W2396	07/29/13	0.3	0.6	0.3	0.34	0.0	0.7

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2396	2013	2	0.013	0.023	0.018	0.1	0.1	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2396	2013	5	0.020	0.030	0.022	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2396	2013	5	29	32	31	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2396	05/08/13	09/04/13	3	103	133	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Nemasket River AU (MA62-25); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert

Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys on this Nemasket River AU (MA62-25) approximately 1500ft downstream/north of Interstate 495 in Middleborough (W2396), during the summer of 2013 as part of the MAP2 Probabilistic Wadeable Streams monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews (n=9). The Aesthetics Use for this Nemasket River AU (MA62-25) is assessed as Fully Supporting based on the general lack of any objectionable conditions noted by MassDEP staff during summer 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2396	MassDEP	Water Quality	Nemasket River	[approximately 1500 feet downstream/north of Interstate 495, Middleborough]	41.881423	-70.909427

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2396	Nemasket River	2013	9	MassDEP aesthetics observations for station W2396/MAP2-402 on Nemasket River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2396	2013	9	3	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2396	Nemasket River	2013	Color	Light Yellow/Tan	8	9
W2396	Nemasket River	2013	Color	Unobservable	1	9
W2396	Nemasket River	2013	Objectionable Deposits	No	7	9
W2396	Nemasket River	2013	Objectionable Deposits	Not Applicable (N/A)	1	9
W2396	Nemasket River	2013	Objectionable Deposits	Unobservable	1	9
W2396	Nemasket River	2013	Odor	None	5	9
W2396	Nemasket River	2013	Odor	NR	2	9
W2396	Nemasket River	2013	Odor	Other	2	9
W2396	Nemasket River	2013	Scum	No	6	9
W2396	Nemasket River	2013	Scum	Not Applicable (N/A)	1	9
W2396	Nemasket River	2013	Scum	Yes	2	9
W2396	Nemasket River	2013	Turbidity	None	7	9

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2396	Nemasket River	2013	Turbidity	Slightly Turbid	1	9
W2396	Nemasket River	2013	Turbidity	Unobservable	1	9

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples from this Nemasket River AU (MA62-25) approximately 1500ft downstream/north of Interstate 495 in Middleborough (W2396) between May and September 2013 (n=5) as part of the MAP2 Probabilistic Wadable Streams monitoring project. Data analysis indicated that none of the intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV. The seasonal GM was 45 CFU/100mL.
The Primary Contact Recreation Use for this Nemasket River AU (MA62-25) is assessed as Fully Supporting since the *E. coli* data collected by MassDEP staff during summer 2013 did not exceed the use attainment impairment threshold for this single year low frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2396	MassDEP	Water Quality	Nemasket River	[approximately 1500 feet downstream/north of Interstate 495, Middleborough]	41.881423	-70.909427

Bacteria Data

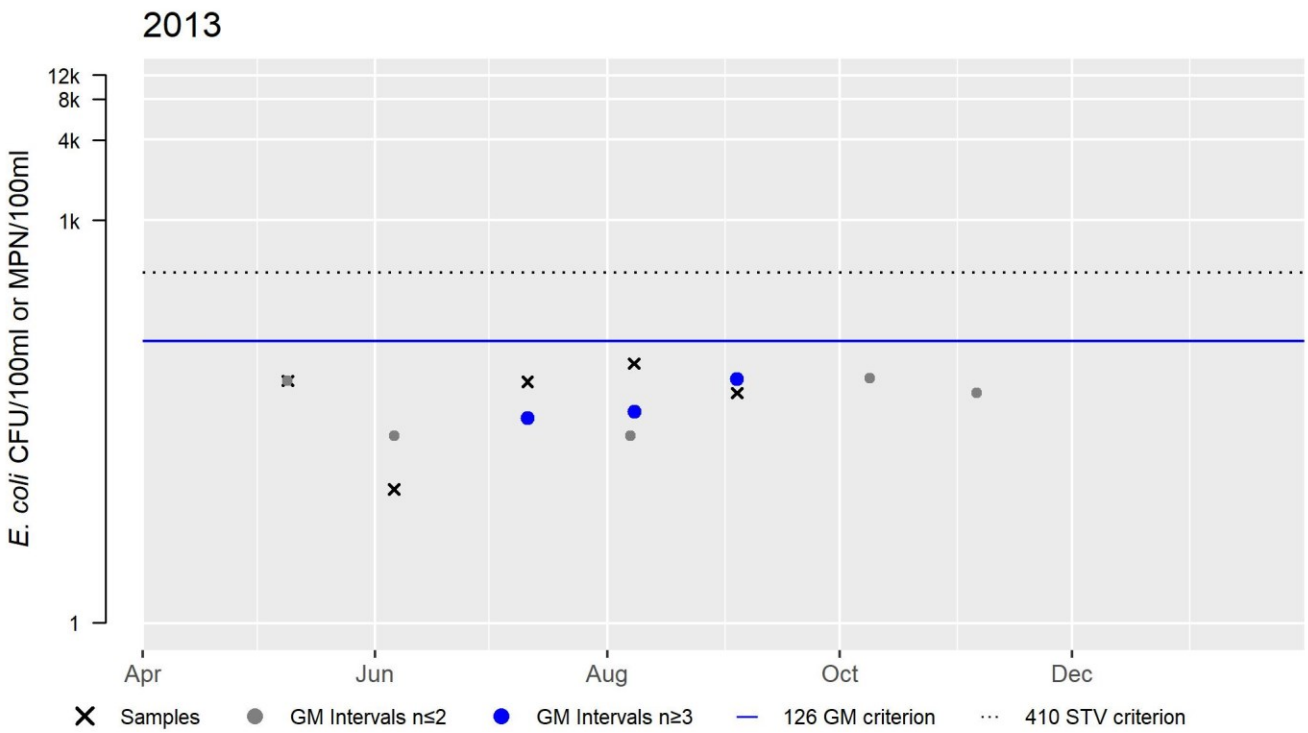
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2396	MassDEP	E. coli	05/09/13	09/04/13	5	10	86	45

W2396 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	45
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples from this Nemasket River AU (MA62-25) approximately 1500ft downstream/north of Interstate 495 in Middleborough (W2396) between May and September 2013 (n=5), as part of the MAP2 Probabilistic Wadable Streams monitoring project. Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 45 CFU/100mL. The Secondary Contact Recreation Use for this Nemasket River AU (MA62-25) is assessed as Fully Supporting since the *E. coli* data collected by MassDEP staff during summer 2013 did not exceed the use attainment impairment threshold for this single year low frequency dataset.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2396	MassDEP	Water Quality	Nemasket River	[approximately 1500 feet downstream/north of Interstate 495, Middleborough]	41.881423	-70.909427

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

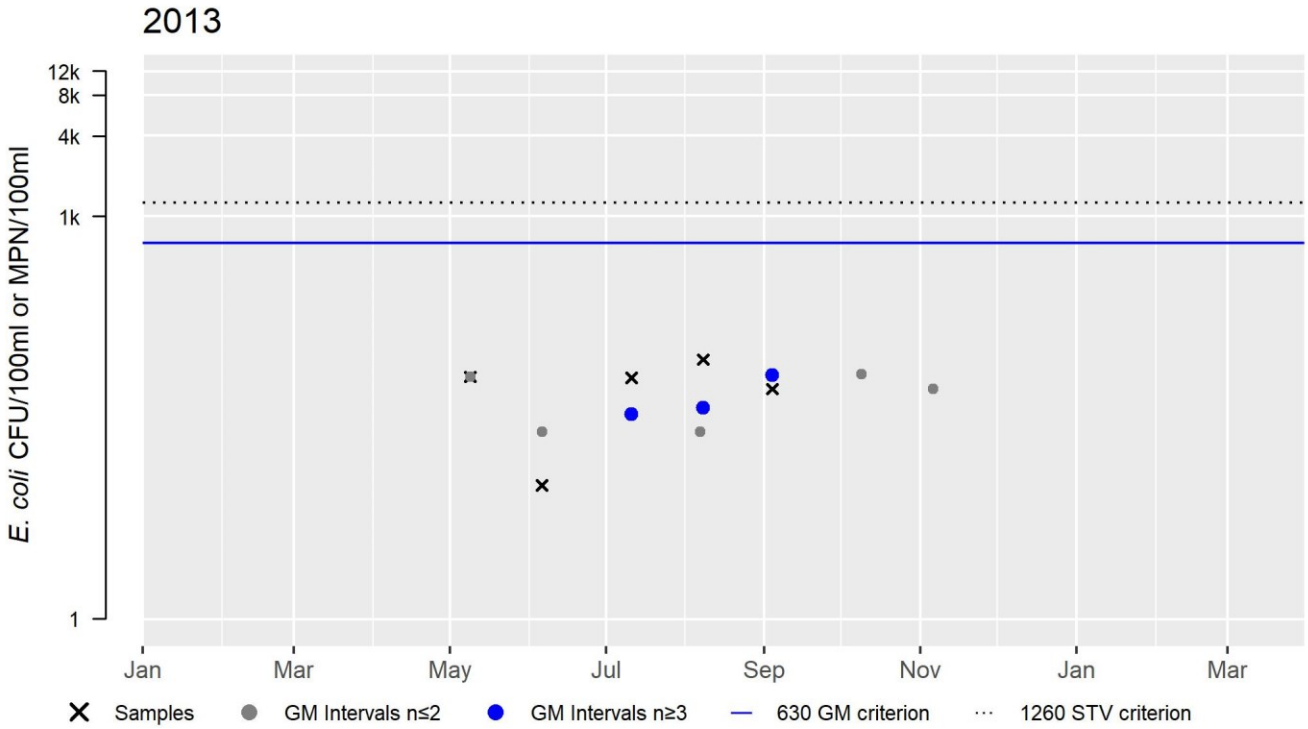
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2396	MassDEP	E. coli	05/09/13	09/04/13	5	10	86	45

W2396 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	45
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

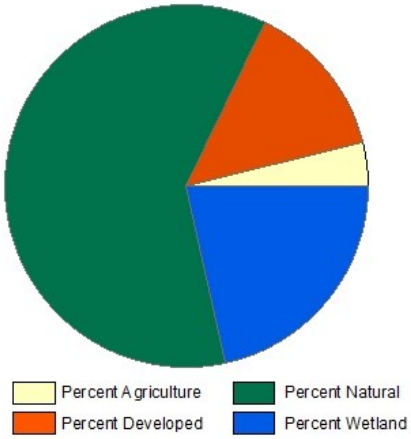


Nemasket River (MA62-26)

Location:	From the Middleborough WWTP (NPDES: MA0101591) discharge, Middleborough to mouth at confluence with the Taunton River, Middleborough.
AU Type:	RIVER
AU Size:	5.1 MILES
Classification/Qualifier:	B: WWF

Nemasket River - MA62-26

Watershed Area: 70.13 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	70.13	5.19	18.23	1.63
Agriculture	3.9%	7.1%	4.5%	8%
Developed	14%	14.4%	11.3%	9.5%
Natural	60.5%	53.1%	44.9%	45.3%
Wetland	21.6%	25.5%	39.2%	37.2%
Impervious Cover	5.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Enterococcus	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Additional monitoring for the presence of *C. fluminea* should be conducted in this Nemasket River AU (MA62-26) to confirm its presence and ascertain its distribution. REC & AES: Surveys should be conducted to determine current conditions with regard to trash and debris along this Nemasket River AU (MA62-26).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Assessed	YES
2022 Use Attainment Summary	
No recent data are available to assess the status of the Aquatic Life Use for Nemasket River (MA62-26) so it is Not Assessed. The Alert previously identified for the presence of the non-native aquatic species Asian Clam (*Corbicula fluminea*) documented at the mouth of the river (upstream extent of infestation unknown), is being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Nemasket River (MA62-26); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	YES
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Nemasket River AU (MA62-26), so it is Not Assessed. The Alert previously identified for isolated areas of trash and debris is being carried forward.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples in the middle of this Nemasket River AU (MA62-26), on Murdock Street in Middleborough (TRWA_NEM- 01) between April and October 2019 (n=7). Data analysis indicated that 100% of the intervals had GMs >35 CFU/100mL, with one sample exceeding the 350 CFU/100mL STV. The seasonal GM was 53 CFU/100mL. The Primary Contact Recreation Use for this Nemasket River AU (MA62-26) is assessed as Not Supporting since the *Enterococci* data collected by TRWA in summer 2019 exceeds the use attainment impairment threshold for this single year moderate frequency dataset. An Enterococcus impairment is being added. The Alert for isolated areas of trash and debris is also being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_NEM-01	Taunton River Watershed Association	Water Quality	Nemasket River	Nemasket R., Murdock St., Middleboro	41.933627	-70.923346

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (30-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

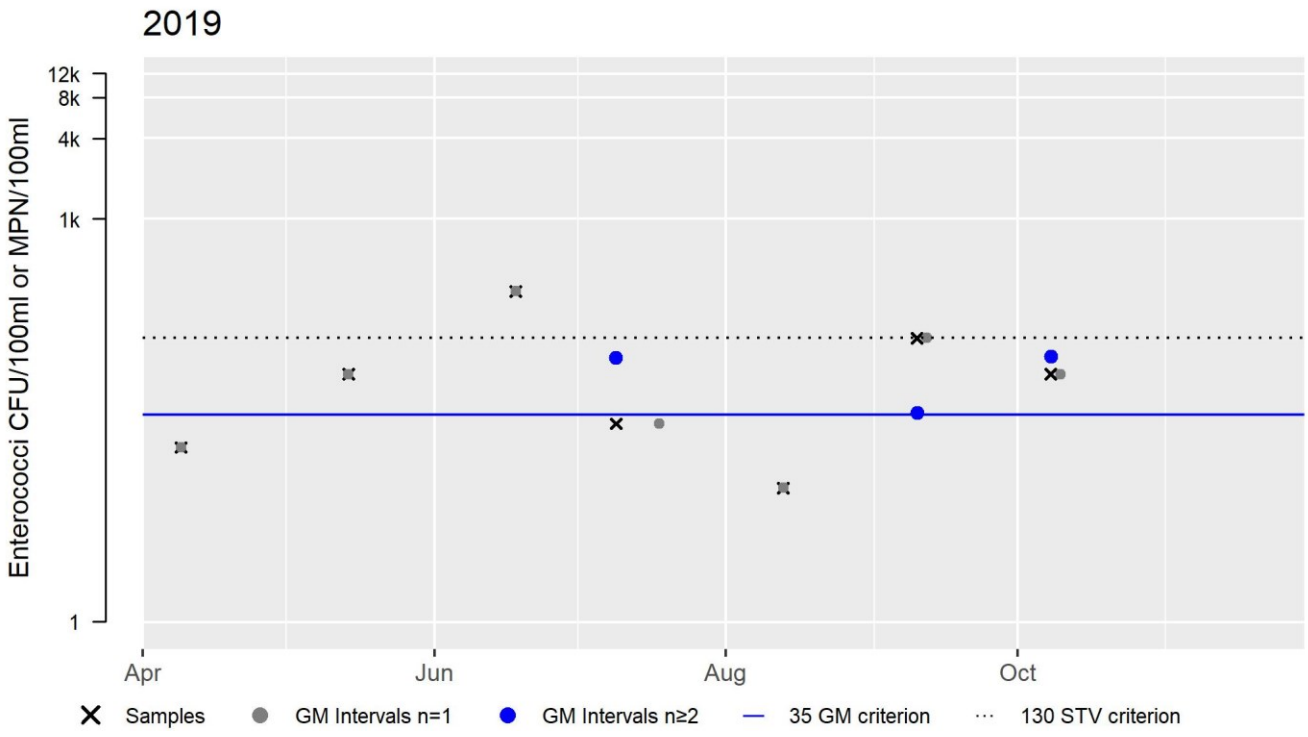
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_NEM-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	290	53

TRWA_NEM-01 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	53
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	1
%n>STV	14

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert

Not Assessed	YES
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for this Nemasket River AU (MA62-26), so it is Not Assessed. The Alert previously identified for isolated areas of trash and debris is being carried forward.	

New Pond (MA62130)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

No usable data were available for New Pond (MA62130) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

North Center Street Pond (MA62132)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	12 ACRES
Classification/Qualifier:	B

No usable data were available for North Center Street Pond (MA62132) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Norton Reservoir (MA62134)

Location:	Norton/Mansfield.
AU Type:	FRESHWATER LAKE
AU Size:	557 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	(Non-Native Aquatic Plants*)		Unchanged
5	5	Algae		Unchanged
5	5	Dioxin (including 2,3,7,8-TCDD)		Unchanged
5	5	Pentachlorophenol (PCP)		Unchanged
5	5	Phosphorus, Total		Unchanged
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				
Algae	Source Unknown (N)			X	X	X
Dioxin (including 2,3,7,8-TCDD)	CERCLA NPL (Superfund) Sites (Y)		X			
Pentachlorophenol (PCP)	CERCLA NPL (Superfund) Sites (Y)		X			
Phosphorus, Total	Source Unknown (N)	X				
Turbidity	Source Unknown (N)			X	X	X

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

As was previously reported (MassDEP 2021) during the 1996 MassDEP lake synoptic survey of Norton Reservoir two non-native aquatic macrophyte species, *Myriophyllum heterophyllum* and *Cabomba caroliniana* were identified in Norton Reservoir. Additionally, the USGS database (via Harvard University Museum of Comparative Zoology Specimen Collection) lists this site as having the non-native mollusk *Corbicula fluminea* present as well, but the infestation of this species needs to be confirmed by DCR or DEP (presence of live specimen). No more recent data are available for this AU. Based on the presence of the non-native aquatic macrophytes *Myriophyllum heterophyllum* and *Cabomba caroliniana* and the historic total phosphorus impairment the Aquatic Life Use is assessed as Not Supporting. This use is also identified with an Alert status due to the potential infestation of the non-native mollusk *Corbicula fluminea* (Asian clam).

Fish Consumption

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
As part of the Hatheway and Patterson Company site investigation in November 1998, MA DFW and the US EPA conducted additional fish toxics monitoring in Norton Reservoir. Because of elevated levels of dioxin and pesticides MA DPH issued a fish consumption advisory recommending that "*The general public should not eat any fish from this waterbody*". The Fish Consumption Use for Norton Reservoir will continue to be assessed as Not Supporting because of the site-specific fish consumption advisory. The Dioxin (including 2,3,7, 8-TCDD) and Pentachlorophenol (PCP) impairments are both being carried forward.	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No recent data. The Aesthetics Use for Norton Reservoir will continue to be assessed as Not Supporting with the Algae and Turbidity impairments being carried forward.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No recent data. The Primary Contact Recreation Use for Norton Reservoir will continue to be assessed as Not Supporting with the Algae and Turbidity impairments being carried forward.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No recent data. The Secondary Contact Recreation Use for Norton Reservoir will continue to be assessed as Not Supporting with the Algae and Turbidity impairments being carried forward.	

Oakland Pond (MA62136)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	38 ACRES
Classification/Qualifier:	B: WWF

No usable data were available for Oakland Pond (MA62136) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

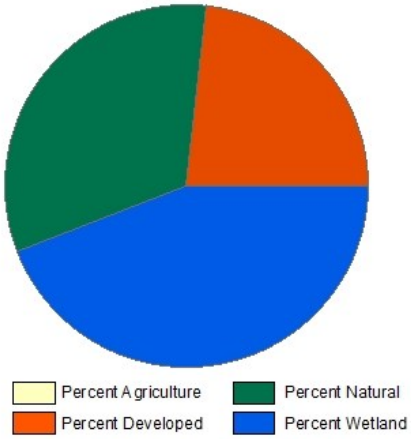
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Pine Swamp Brook (MA62-77)

Location:	Headwaters, perennial portion east of Route 138 (Broadway), Raynham to mouth at confluence with unnamed tributary to Kings Pond, east of King Philip Street, Raynham.
AU Type:	RIVER
AU Size:	1.1 MILES
Classification/Qualifier:	B

Pine Swamp Brook - MA62-77

Watershed Area: 2.25 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.25	2.25	0.3	0.3
Agriculture	0%	0%	0%	0%
Developed	23.3%	23.3%	11.7%	11.7%
Natural	32.5%	32.5%	26.4%	26.4%
Wetland	44.1%	44.1%	61.9%	61.9%
Impervious Cover	11.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Benthic Macroinvertebrates		Added
--	5	Dissolved Oxygen		Added
--	5	Escherichia Coli (E. Coli)		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Conduct follow-up water quality monitoring in Pine Swamp Brook with an emphasis on indicators of nutrient enrichment, so the Aquatic Life Use can be reevaluated to determine whether an impairment is warranted.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Benthic and water quality monitoring (B0858, W2400) were conducted by MassDEP staff at the upstream end of Pine Swamp Brook AU (MA62-77), approximately 1770 ft downstream from Rt.138 (Broadway), Raynham during the summer of 2013 as part of the MAP2 monitoring project. The benthic community sample, collected in July, had an IBI score of 52, which is indicative of moderately degraded conditions for a low gradient location. DO measurements were recorded during two short term deploys (total of eight days): the minimum DO was 3.1mg/L, the 3-5DADMin was <5.0mg/L two times (minimum 3-5 DADMin 3.6mg/L) and the daily minimum was <4.0mg/L three times. Temperature was recorded over 95 days during the summer index period: the maximum temperature was 29.3°C and the 7-DADM was >27.7°C three times (maximum 7DADM 27.9°C) but the acute maximum 24-hour rolling average did not exceed 28.3°C (maximum 24hr rolling average 27.4°C). The pH ranged from 6.2-6.9SU (n=3) and though there were some physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.185mg/L n=5, the maximum diel DO shift was only 2.4mg/L, with a DO maximum saturation of 75% and there were no observations of any dense/very dense filamentous algae during eight site visits). Specific conductance and chloride concentrations were both low (maximum 304µS/cm n=3 and 70mg/L n=5, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.08mg/L, n=5 with no toxicity estimated). There was just one minimal exceedance of the chronic criterion for lead (TU of 1.1 in June), but no other acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). The Aquatic Life Use for Pine Swamp Brook (MA62-77) is assessed as Not Supporting based on the moderately degraded benthic community and low Dissolved Oxygen (3-5 DADMin <5.0 mg/L two times), with Benthic Macroinvertebrates and Dissolved Oxygen impairments being added. While the benthic/water quality stations were located within the Pine Swamp wetland, there is also a great deal of urban development (11.1% impervious cover), water withdrawal areas and a pump station along the north side of this small sub-watershed (2.25 sq miles) and the land cover does not pass the natural screen in the 2022 CALM (MassDEP 2022). Consequently, the low DO and elevated temperatures documented by MassDEP downstream of Rt. 138 in 2013 are not considered to be natural. An Alert is also being identified for elevated Total Phosphorus and a recommendation is being made to conduct additional monitoring for nutrient enrichment indicators (at this time, there are no other biological/physicochemical indicators of enrichment).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
B0858	MassDEP	Benthic	Pine Swamp Brook/	[approximately 540 meters downstream/east from Route 138 (Broadway), Raynham, MA]	41.932518	-71.077577
W2400	MassDEP	Water Quality	Pine Swamp Brook	[approximately 1770 feet downstream/east from Route 138 (Broadway), Raynham]	41.932518	-71.077577

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0858	07/22/13	RBP multihab	Statewide_Low_Gradient	278	52	MD

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2400	2013	2	8	3.1	3.6	4.2	2.4	2	6	1	4	2	3

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2400	05/08/13	09/04/13	3	4.5	5.2	1	1	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2400	06/01/13	09/03/13	95	92	27.3	29.3	27.9	26.2	78	12	41	10	3	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2400	2013	3	12	25.1	26.9	24.6	23.3	2	2	2	1	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2400	06/01/13	09/04/13	95	4583	27.4	574	500	0
W2400	06/06/13	08/13/13	68	573	25.8	79	56	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2400	05/08/13	09/04/13	5	4	25.5	20.0	2	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2400	05/08/13	09/04/13	3	6.2	6.9	1	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2400	2013	5	0.069	0.530	0.185	2.4	1.0	75.0	6.9	8	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2400	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2400	2013	3	0	0	0	0	1	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2400	05/06/13	0.1	0.3	0.1	0.13	0.0	0.2
W2400	06/19/13	0.1	0.2	0.2	0.28	0.0	1.1
W2400	07/29/13	0.2	0.4	0.1	0.17	0.0	0.4

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2400	2013	3	0.015	0.083	0.042	0.3	0.4	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2400	2013	5	0.040	0.080	0.068	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2400	2013	5	17	70	43	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2400	05/08/13	09/04/13	3	138	304	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Pine Swamp Brook (MA62-77); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys on this Pine Swamp Brook AU (MA62-77) approximately 1770 ft downstream/east from Rt. 138 (Broadway) in Raynham (W2400) during the summer of 2013, as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=9). The Aesthetics Use for this Pine Swamp Brook AU (MA62-77) is assessed as Fully Supporting based on the lack of objectionable conditions during summer 2013 field surveys.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2400	MassDEP	Water Quality	Pine Swamp Brook	[approximately 1770 feet downstream/east from Route 138 (Broadway), Raynham]	41.932518	-71.077577

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2400	Pine Swamp Brook	2013	9	MassDEP aesthetics observations for station W2400/MAP2-413 on Pine Swamp Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2400	2013	9	8	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2400	Pine Swamp Brook	2013	Color	Light Yellow/Tan	7	9
W2400	Pine Swamp Brook	2013	Color	Reddish	1	9
W2400	Pine Swamp Brook	2013	Color	Unobservable	1	9
W2400	Pine Swamp Brook	2013	Objectionable Deposits	No	7	9
W2400	Pine Swamp Brook	2013	Objectionable Deposits	Not Applicable (N/A)	1	9
W2400	Pine Swamp Brook	2013	Objectionable Deposits	Unobservable	1	9
W2400	Pine Swamp Brook	2013	Odor	None	6	9
W2400	Pine Swamp Brook	2013	Odor	Rotting Vegetables	2	9
W2400	Pine Swamp Brook	2013	Odor	Sulfide (rotten egg)	1	9
W2400	Pine Swamp Brook	2013	Scum	No	8	9
W2400	Pine Swamp Brook	2013	Scum	Not Applicable (N/A)	1	9
W2400	Pine Swamp Brook	2013	Turbidity	Highly Turbid	1	9
W2400	Pine Swamp Brook	2013	Turbidity	Moderately Turbid	1	9
W2400	Pine Swamp Brook	2013	Turbidity	None	4	9
W2400	Pine Swamp Brook	2013	Turbidity	Slightly Turbid	3	9

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples in this Pine Swamp Brook AU (MA62-77) approximately 1770 ft downstream/east from Rt. 138 (Broadway) in Raynham (W2400) between May and September 2013 (n=5). Data analysis indicated that 100% of intervals had GMs >126 CFU/100mL, one sample exceeded the 410 CFU/100mL STV and the seasonal GM was 265 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during nine site visits.
The Primary Contact Recreation Use for this Pine Swamp Brook AU (MA62-77) is assessed as Not Supporting since *E. coli* data exceeded the use attainment impairment threshold for a single year, low frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2400	MassDEP	Water Quality	Pine Swamp Brook	[approximately 1770 feet downstream/east from Route 138 (Broadway), Raynham]	41.932518	-71.077577

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

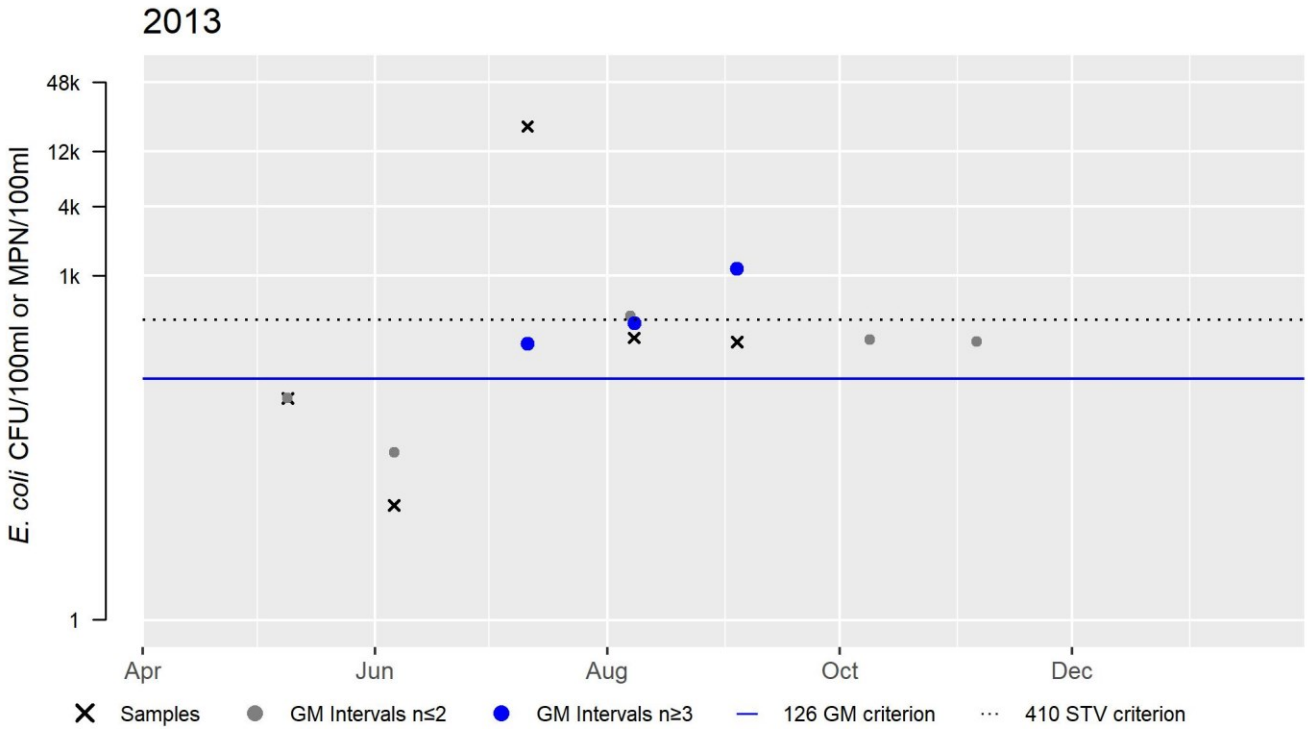
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2400	MassDEP	E. coli	05/09/13	09/04/13	5	10	19860	265

W2400 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	265
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples in this Pine Swamp Brook AU (MA62-77) approximately 1770 ft downstream/east from Rt. 138 (Broadway) in Raynham (W2400) between May and September 2013 (n=5). Data analysis indicated that 33% of intervals had GMs >630 CFU/100mL, only one sample exceeded the 1260 CFU/100mL STV and the seasonal GM was 265 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during nine site visits.
The Secondary Contact Recreation Use for this Pine Swamp Brook AU (MA62-77) is assessed as Fully Supporting since *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2400	MassDEP	Water Quality	Pine Swamp Brook	[approximately 1770 feet downstream/east from Route 138 (Broadway), Raynham]	41.932518	-71.077577

Bacteria Data

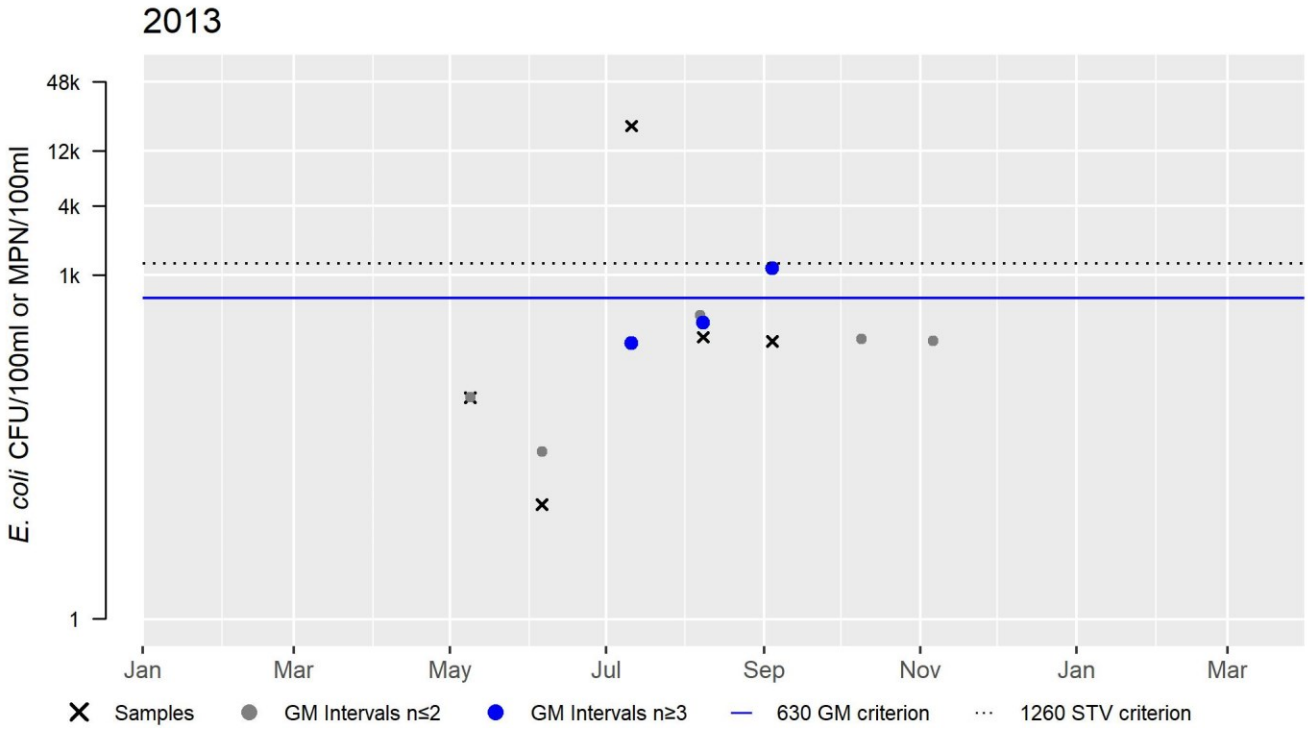
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2400	MassDEP	E. coli	05/09/13	09/04/13	5	10	19860	265

W2400 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	265
#GMI	3
#GMI Ex	1
%GMI Ex	33
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Plymouth Street Pond (MA62141)

Location:	Halifax/East Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	165 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
DMF biologists note one structure causing passage limitation to diadromous fish at the downstream end of this Plymouth Street Pond AU (MA62141). A bog reservoir dam was noted to obstruct the passage of fish between the pond and the downstream AU (an unnamed tributary locally known as "Stump Brook" MA62-80). This dam was given a passage score of "10" indicating that it allows no possible passage of the targeted species, river herring and American eel. The population score was noted to be "2". The Aquatic Life Use for Plymouth Street Pond (MA62141) is assessed as Not Supporting, based on the barrier to diadromous fish passage posed by the bog reservoir dam.	

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
DMF biologists note one structure causing passage limitation to diadromous fish at the downstream end of this AU (Plymouth Street Pond MA62141). A bog reservoir dam was noted to obstruct the passage of fish between the pond and the downstream AU (an unnamed tributary locally known as "Stump Brook" MA62-80). This dam was given a passage score of "10" indicating that it allows no possible passage of the targeted species, river herring and American eel. The population score was noted to be "2". The Aquatic Life Use for Plymouth Street Pond (Assessment Unit MA62141) is assessed as Not Supporting, based on the barrier to diadromous fish passage at the bog reservoir dam.

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Plymouth Street Pond (MA62141); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Plymouth Street Pond (MA62141), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for Plymouth Street Pond (MA62141), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for Plymouth Street Pond (MA62141), so it is Not Assessed.	

Pocksha Pond (MA62145)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	592 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Pocksha Pond (MA62145) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

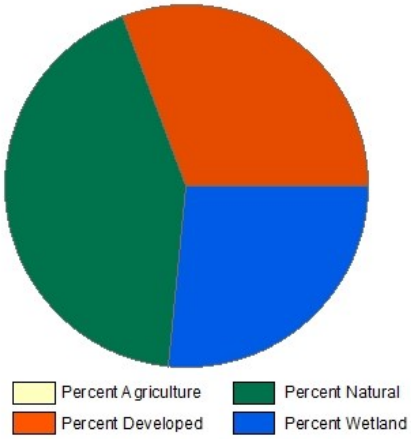
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Poor Meadow Brook (MA62-34)

Location:	Headwaters, from wetland near County Street, Hanson to mouth at confluence with Satucket River, East Bridgewater.
AU Type:	RIVER
AU Size:	6.9 MILES
Classification/Qualifier:	B

Poor Meadow Brook - MA62-34

Watershed Area: 16.35 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	16.35	3.83	3.43	0.68
Agriculture	0.8%	0.9%	0.7%	0.7%
Developed	30.5%	17.4%	18.8%	6.9%
Natural	42.3%	46.2%	34.5%	36.7%
Wetland	26.4%	35.5%	46%	55.7%
Impervious Cover	14.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Escherichia Coli (E. Coli)		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Escherichia Coli (E. Coli)	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Conduct a follow-up benthic survey, as well as water quality survey, in Poor Meadow Brook in the vicinity of Main St in Hanson to reevaluate whether a Benthic Macroinvertebrates impairment is needed.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	YES

2022 Use Attainment Summary

MassDFG and MassDEP biologists conducted backpack electrofishing at two sites in the middle of Poor Meadow Brook (MA62-34), from up to downstream as follows: Below Main St. (Rt. 27), Hanson (SampleID 5901) in July 2016 and Main St., just E. of Franklin St., Hanson (SampleID 5059) in August 2013. Both samples (collected in this low-moderate gradient stream reach) were comprised nearly 50% by fluvial specialist/dependent species (most commonly tessellated darter and also contained 9-22% macrohabitat generalists intolerant/moderately tolerant to environmental perturbations. Benthic and water quality monitoring were conducted by MassDEP staff at Main St. in Hanson (B0841, W0869) during the summer of 2013 as part of the MAP2 monitoring project (note that some of the water quality data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). The benthic community sample was collected in July and had an IBI score of 59,indicative of moderately degraded conditions for a low gradient location. Water quality sampling data including both deployed probe and discrete sampling efforts can be summarized as follows: the minimum discrete DO was 5.4mg/L (n=3) and the minimum DO from three short-term deploys (totaling 10 days) was 5.6mg/L; the maximum temperature was 29.1^{o}C, the maximum 7-DADM was 27.7 ^{o}C (so did not exceed the 27.7^{o}C criterion) and the maximum 24-hr rolling average was 27.8 ^{o}C for a deployment lasting 107 days during the summer index period. The pH ranged from 6.7 to 6.9SU (n=3) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.041mg/L, n=5, maximum diel DO shift 1.2mg/L, DO maximum saturation of 82.6%, maximum pH 6.9SU and no observations of dense/very dense filamentous algae during eight site visits). Specific conductance and chloride concentrations were both low (maximum 438µS/cm n=3 and 130mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.13mg/L, n=4 with no toxicity estimated). There were no exceedances of either acute or chronic metals criteria (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
The Aquatic Life Use for Poor Meadow Brook (MA62-34) will continue to be assessed as Fully Supporting based on the fish, benthic and water quality samples collected by MassDEP staff (and MassDFG) in the vicinity of Main St. in 2013 (and 2016). An Alert is being added for Benthic Macroinvertebrates since the benthic community sample IBI score was indicative of “Moderately Degraded conditions”, but the score was within five points of the “Satisfactory Condition” score range so an impairment decision will not be made at this time..

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5059	MassDEP	Fish Community	Poor Meadow Brook	Main st xing, just E of Franklin St.	42.04239	-70.89846
5901	MassDFG	Fish Community	Poor Meadow Brook	Below Main St. (Route 27), Hanson	42.04299	-70.89824
B0841	MassDEP	Benthic	Poor Meadow Brook/	[Main Street, Hanson, MA]	42.042388	-70.898462
W0869	MassDEP	Water Quality	Poor Meadow Brook	[Main Street, Hanson]	42.042388	-70.898462

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0841	07/16/13	RBP multihab	Statewide_Low_Gradient	296	59	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, CP = Chain Pickerel, CS = Common Shiner, GS = Golden Shiner, LMB = Largemouth Bass, P = Pumpkinseed, RBS = Redbreast Sunfish, RP = Redfin Pickerel, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5059	08/29/13	BG	TP		10	97	0%	2	48%	0%	5	22%	No	No	AE, B, CP, GS, LMB, P, RBS, RP, TD, WS,
5901	07/21/16	BP	TP	L	5	35	0%	2	49%	0%	1	9%	Yes	No	AE, B, CS, RP, TD,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W0869	2013	3	10	5.6	6	6.3	1.2	0	0	2	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W0869	05/22/13	09/25/13	3	5.4	5.9	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W0869	06/01/13	09/15/13	107	107	27.8	29.1	27.7	26.5	88	21	54	17	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W0869	2013	3	12	23.6	25.6	23.0	21.4	3	1	1	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W0869	06/01/13	09/15/13	107	5136	27.8	1025	828	0
W0869	06/20/13	08/27/13	68	577	24.2	26	4	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W0869	05/22/13	09/25/13	5	3	24.2	19.9	3	2	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W0869	05/22/13	09/25/13	3	6.7	6.9	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W0869	2013	5	0.02	0.058	0.041	1.2	0.8	82.6	6.9	8	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W0869	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W0869	2013	3	0	0	0	0	1	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W0869	05/31/13	0.3	0.6	0.6	0.77	0.0	1.0
W0869	07/12/13	0.3	0.6	0.3	0.45	0.0	0.8
W0869	08/23/13	0.2	0.5	0.2	0.35	0.0	0.3

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W0869	2013	3	0.015	0.12	0.070	0.4	0.6	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W0869	2013	4	0.030	0.130	0.060	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W0869	2013	4	67	130	109	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W0869	05/22/13	09/25/13	3	346	438	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Poor Meadow Brook (MA62-34); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality field surveys in this Poor Meadow Brook AU (MA62-34) at Main St. in Hanson (W0869) during the summer of 2013 as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use of this Poor Meadow Brook AU (MA62-34) is assessed as Fully Supporting based on the lack of objectionable conditions observed by field crews during summer 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0869	MassDEP	Water Quality	Poor Meadow Brook	[Main Street, Hanson]	42.042388	-70.898462

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0869	Poor Meadow Brook	2013	8	MassDEP aesthetics observations for station W0869/MAP2-362 on Poor Meadow Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0869	2013	8	8	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0869	Poor Meadow Brook	2013	Color	Light Yellow/Tan	7	8
W0869	Poor Meadow Brook	2013	Color	None	1	8
W0869	Poor Meadow Brook	2013	Objectionable Deposits	No	3	8
W0869	Poor Meadow Brook	2013	Objectionable Deposits	Yes	5	8
W0869	Poor Meadow Brook	2013	Odor	Musty (Basement)	1	8
W0869	Poor Meadow Brook	2013	Odor	None	7	8
W0869	Poor Meadow Brook	2013	Scum	No	8	8
W0869	Poor Meadow Brook	2013	Turbidity	None	5	8
W0869	Poor Meadow Brook	2013	Turbidity	Slightly Turbid	3	8

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from this Poor Meadow Brook AU (MA62-34) at Main St. in Hanson (W0869) between May and September 2013 (n=5), as part of the MAP2 monitoring project. Data analysis indicated that 100% of intervals had GMs >126 CFU/100mL, one sample exceeded the 410 CFU/100mL STV and the seasonal GM was 169 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.
The Primary Contact Recreation Use for this Poor Meadow Brook AU (MA62-34) is assessed as Not Supporting since MassDEP *E. coli* data exceeded the use attainment impairment threshold for a single year, limited frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0869	MassDEP	Water Quality	Poor Meadow Brook	[Main Street, Hanson]	42.042388	-70.898462

Bacteria Data

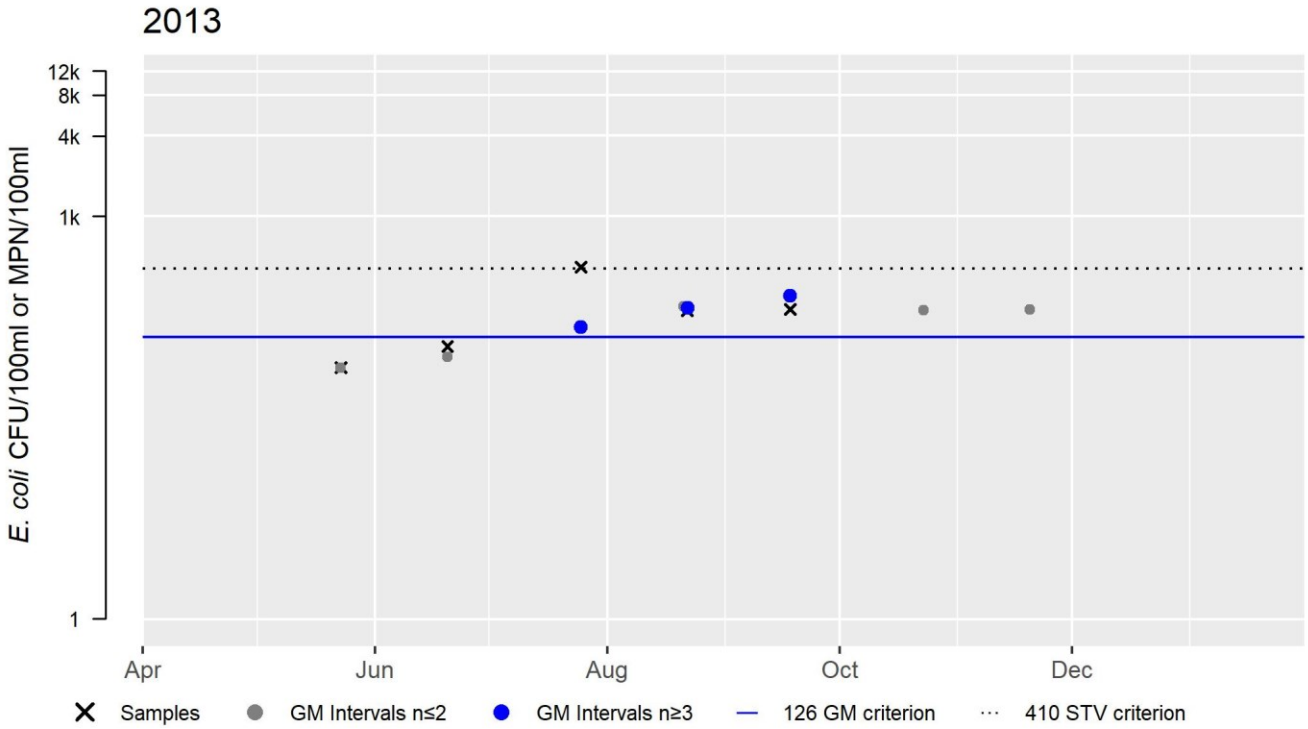
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0869	MassDEP	E. coli	05/23/13	09/18/13	5	75	420	169

W0869 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	169
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples from this Poor Meadow Brook AU (MA62-34) at Main St. in Hanson (W0869) between May and September 2013 (n=5), as part of the MAP2 monitoring project. Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 169 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.

The Secondary Contact Recreation Use for this Poor Meadow Brook AU (MA62-34) is assessed as Fully Supporting since MassDEP *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset and there were no objectionable conditions noted at this location during summer 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0869	MassDEP	Water Quality	Poor Meadow Brook	[Main Street, Hanson]	42.042388	-70.898462

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

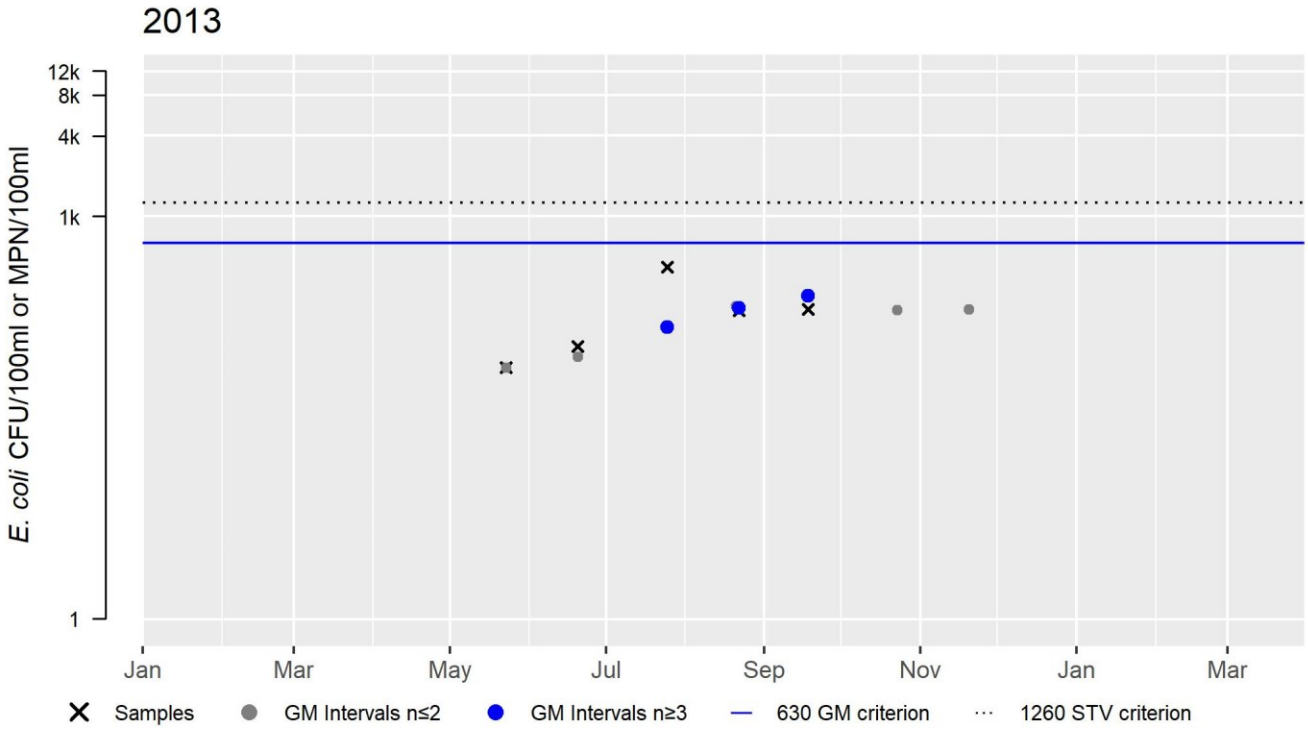
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W0869	MassDEP	E. coli	05/23/13	09/18/13	5	75	420	169

W0869 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	169
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Poquoy Brook (MA62-71)

Location:	Headwaters, outlet Poquoy Brook Pond, Lakeville to mouth at confluence with the Taunton River, Taunton/Middleborough.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B

No usable data were available for Poquoy Brook (MA62-71) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Agriculture (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Poquoy Brook Pond (MA62146)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	34 ACRES
Classification/Qualifier:	B

No usable data were available for Poquoy Brook Pond (MA62146) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Agriculture (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Poquoy Pond (MA62147)

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

No usable data were available for Poquoy Pond (MA62147) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Prospect Hill Pond (MA62149)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	42 ACRES
Classification/Qualifier:	B

No usable data were available for Prospect Hill Pond (MA62149) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

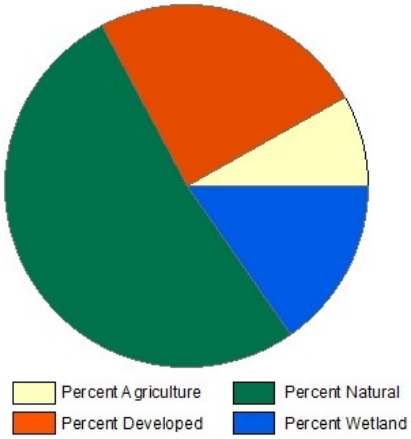
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Puddingshear Brook (MA62-75)

Location:	Headwaters south of Old Center Street, Middleborough to mouth at confluence with Poquoy Brook, Middleborough.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

Puddingshear Brook - MA62-75

Watershed Area: 1.2 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	1.2	1.2	0.26	0.27
Agriculture	8.1%	8.1%	0.7%	0.7%
Developed	24.6%	24.6%	7.4%	7.3%
Natural	52%	52%	50.1%	50.9%
Wetland	15.3%	15.3%	41.8%	41%
Impervious Cover	15.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Benthic Macroinvertebrates		Added
--	5	Escherichia Coli (E. Coli)		Added
--	5	Temperature		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Source Unknown (N)				X	
Temperature	Source Unknown (N)	X				

Recommendations

2022 Recommendations
ALU: Conduct long-term continuous monitoring of dissolved oxygen in Puddingshear Brook downstream of Clayton Rd, Middleborough to reevalauate whether a dissolved oxygen impairment may be appropriate.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Benthic, fish and water quality monitoring were conducted by MassDEP staff towards the downstream end of Puddingshear Brook (MA62-75) approximately 335 ft downstream/southwest from Clayton Road, Middleborough, in 2013 as part of the MAP2 monitoring project. The July benthic community sample (B0837) IBI score of 50 was indicative of moderately degraded conditions for a low gradient location. This brook is mapped as a Cold-Water Fishery Resource by MassDFG and a sample collected in September (method not stated) was comprised of 69% fluvial specialists/dependents including 28% cold-water individuals (eight Eastern Brook Trout measuring <140mm). Due to the presence of multiple small Eastern brook trout, the brook is being assessed as a Tier 1 Cold-water Existing Use. Water quality sampling data (including both deployed probe and discrete sampling efforts) (W2379) can be summarized as follows: minimum DO of 5.3mg/L during three short term deploys (total of 12 days) and 3-5DADMin only once <6.0mg/L (minimum 3-5DADMin 5.7 mg/L); for the long term temperature deploy (95 days) the maximum temperature was 24.1°C and the 7DADM exceeded 20.0°C 23 times (maximum 7DADM 22.1°C) but the maximum 24-hr rolling average temperature (22.4°C) did not exceed the acute criterion of 23.5°C. The pH was a little low, ranging from 6.0-6.4SU (n=3), but there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.038mg/L n=5, maximum diel DO shift 2.5mg/L, DO maximum saturation of 86.2% and no observations of any dense/very dense filamentous algae). Specific conductance and chloride concentrations were both low (maximum 273µS/cm n=3 and 83mg/L n=5, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.07mg/L, n=5 with no toxicity estimated). There were no acute or chronic metals criteria exceedances (n=3)- though one lead concentration was borderline with a TU of 1.0 (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). The Aquatic Life Use for Puddingshear Brook (MA62-75), which has a Tier 1 Cold-water Existing Use (multiple Eastern brook trout <140 mm were captured in September 2013), is assessed as Not Supporting based on the moderately degraded benthic community conditions documented by MassDEP staff just downstream of Clayton Rd in Middleborough in July 2013, as well as on continuous temperature data exceeding the cold-water temperature criterion during summer 2013. Impairments are being added for Benthic Macroinvertebrates and Temperature. An Alert is being identified for dissolved oxygen since the 3-5DADMin was <6.0 mg/L one time and a recommendation will be made to conduct long-term continuous monitoring of DO.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5079	MassDEP	Fish Community	Puddingshear Brook	.2 miles N of Poquoy Br Confluence, 1/4 mile S of I-495.	41.90744	-70.97992
B0837	MassDEP	Benthic	Puddingshear Brook/	[approximately 100 meters downstream/southwest from Clayton Road, Middleborough, MA]	41.907438	-70.979916
W2379	MassDEP	Water Quality	Puddingshear Brook	[approximately 335 feet downstream/southwest from Clayton Road, Middleborough]	41.907438	-70.979916

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0837	07/11/13	RBP multihab	Statewide_Low_Gradient	279	50	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net]

[Species List: AE = American Eel, EBT = Brook Trout, RBS = Redbreast Sunfish, TD = Tessellated Darter]

Sample ID	Sample Date	Method	Sample Type	Total Taxa	Total Ind	EBT Ind	EBT Min Length (mm)	EBT Max Length (mm)	EBT ≤140mm Ind	SC Ind	Cold Ind %	Fluvial Ind %	Notables	CFR	Species List
5079	09/19/13	NS	TP	4	29	8	74	100	8	0	28%	69%	No	Yes	AE, EBT, RBS, TD,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2379	2013	3	12	5.3	5.7	6.5	2.5	1	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2379	05/08/13	09/04/13	3	6.3	7.2	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2379	06/01/13	09/03/13	95	92	22.2	24.1	22.1	20.6	23	0	0	0	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2379	2013	3	12	21.1	22.0	21.7	20.4	1	0	0	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2379	06/01/13	09/04/13	95	4581	22.4	0	0	0
W2379	06/06/13	08/13/13	68	572	21.5	0	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2379	05/08/13	09/04/13	5	4	19.7	16.2	0	0	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2379	05/08/13	09/04/13	3	6	6.4	3	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2379	2013	5	0.022	0.057	0.038	2.5	1.3	86.2	6.4	8	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2379	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2379	2013	3	0	0	0	0	1	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2379	05/06/13	0.2	0.4	0.2	0.22	0.0	0.3
W2379	06/19/13	0.2	0.5	0.3	0.44	0.0	1.0
W2379	07/29/13	0.1	0.3	0.2	0.31	0.0	0.8

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2379	2013	3	0.043	0.12	0.084	0.4	0.6	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2379	2013	5	0.020	0.070	0.042	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2379	2013	5	47	83	64	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2379	05/08/13	09/04/13	3	84	273	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Puddingshear Brook (MA62-75); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys close to the downstream end of Puddingshear Brook (MA62-75), approximately 335 ft downstream/southwest from Clayton Road in Middleborough (W2379) during the summer of 2013, as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=9). The Aesthetics Use for this Puddingshear Brook AU (MA62-75) is assessed as Fully Supporting based on the lack of objectionable conditions.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2379	MassDEP	Water Quality	Puddingshear Brook	[approximately 335 feet downstream/southwest from Clayton Road, Middleborough]	41.907438	-70.979916

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2379	Puddingshear Brook	2013	9	MassDEP aesthetics observations for station W2379/MAP2-345 on Puddingshear Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2379	2013	9	8	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2379	Puddingshear Brook	2013	Color	Light Yellow/Tan	6	9
W2379	Puddingshear Brook	2013	Color	None	2	9
W2379	Puddingshear Brook	2013	Color	Reddish	1	9
W2379	Puddingshear Brook	2013	Objectionable Deposits	No	8	9
W2379	Puddingshear Brook	2013	Objectionable Deposits	Not Applicable (N/A)	1	9
W2379	Puddingshear Brook	2013	Odor	None	8	9
W2379	Puddingshear Brook	2013	Odor	NR	1	9
W2379	Puddingshear Brook	2013	Scum	No	8	9
W2379	Puddingshear Brook	2013	Scum	Not Applicable (N/A)	1	9
W2379	Puddingshear Brook	2013	Turbidity	None	8	9
W2379	Puddingshear Brook	2013	Turbidity	Slightly Turbid	1	9

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary
MassDEP staff collected *E. coli* bacteria samples close to the downstream end of Puddingshear Brook (MA62-75) approximately 335 ft downstream/southwest from Clayton Road in Middleborough (W2379), between May and September 2013 (n=5), as part of the MAP2 monitoring project. Data analysis indicated that 100% of intervals had GMs >126 CFU/100mL and three samples exceeded the 410 CFU/100mL STV (seasonal GM was 280 CFU/100mL). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during nine site visits. The Primary Contact Recreation Use for Puddingshear Brook (MA62-75) is assessed as Not Supporting since *E. coli* data exceeded the use attainment impairment threshold for a single year, low frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description.	Latitude	Longitude
W2379	MassDEP	Water Quality	Puddingshear Brook	[approximately 335 feet downstream/southwest from Clayton Road, Middleborough]	41.907438	-70.979916

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

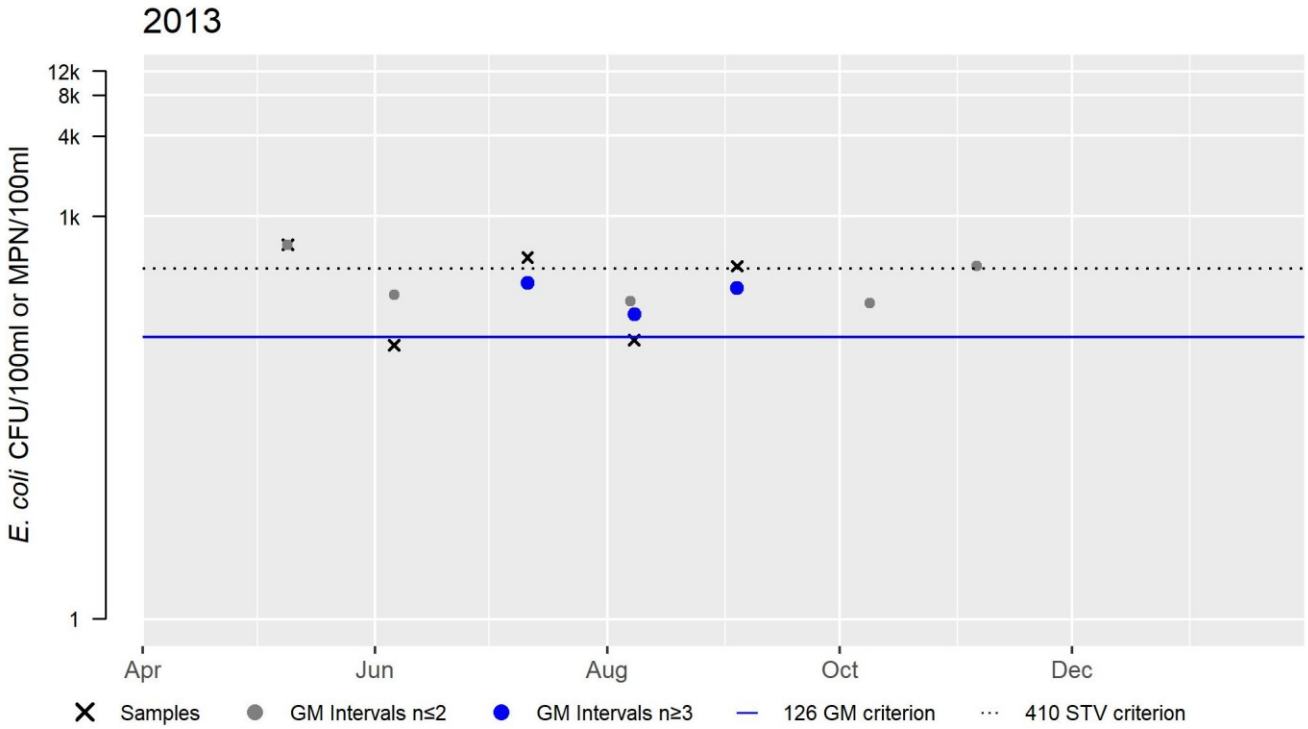
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2379	MassDEP	E. coli	05/09/13	09/04/13	5	110	613	280

W2379 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	280
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	3
%n>STV	60

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples in Puddingshear Brook (MA62-75) approximately 335 ft downstream/southwest from Clayton Road in Middleborough (W2379) between May and September 2013 (n=5) as part of the MAP2 monitoring project. Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 280 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during nine site visits.

The Secondary Contact Recreation Use for Puddingshear Brook (MA62-75) is assessed as Fully Supporting since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2379	MassDEP	Water Quality	Puddingshear Brook	[approximately 335 feet downstream/southwest from Clayton Road, Middleborough]	41.907438	-70.979916

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

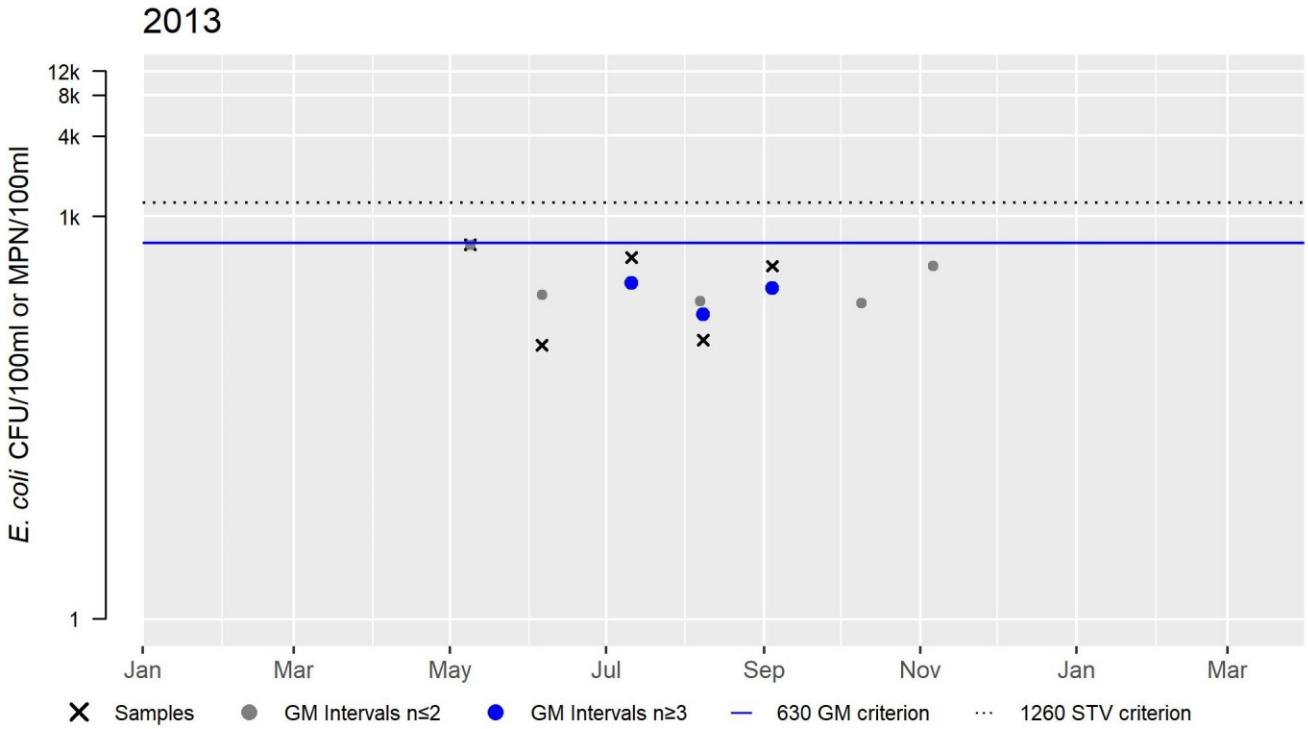
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2379	MassDEP	E. coli	05/09/13	09/04/13	5	110	613	280

W2379 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	280
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Puds Pond (MA62151)

Location:	Sharon/Easton.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	B

No usable data were available for Puds Pond (MA62151) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Queset Brook (MA62-67)

Location:	Headwaters, outlet Ames Long Pond, Easton to inlet Longwater Pond, Easton (through former 2014 segment: Shovelshop Pond MA62172) (formely part of 2014 segment: Queset Brook MA62-21).
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B

No usable data were available for Queset Brook (MA62-67) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Queset Brook (MA62-68)

Location:	From outlet Longwater Pond, Easton to mouth at confluence with Coweeset Brook, West Bridgewater (formerly part of 2014 segment: Queset Brook MA62-21).
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

No usable data were available for Queset Brook (MA62-68) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

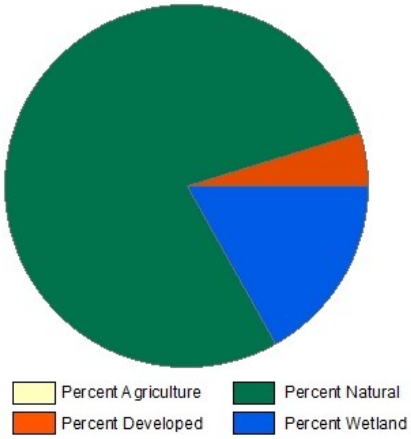
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Rattlesnake Brook (MA62-45)

Location:	Headwaters east of Riggenbach Road, Fall River to mouth at confluence with Assonet River, Freetown.
AU Type:	RIVER
AU Size:	3.2 MILES
Classification/Qualifier:	B

Rattlesnake Brook - MA62-45

Watershed Area: 6.55 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.55	6.12	1.43	1.4
Agriculture	0.7%	0.7%	0.1%	0.1%
Developed	4.7%	4.9%	3.5%	3.6%
Natural	78%	76.8%	69.4%	69.6%
Wetland	16.7%	17.5%	27%	26.7%
Impervious Cover	2%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP and MassDFG biologists collected nine fish samples (mostly via backpack electrofishing during summers Oct 2013 to Aug 2019) in the downstream (DS) half of Rattlesnake Brook (MA62-45) in Freetown, from upstream (US) to DS as follows: ~1300ft US of Rt 24/79 (SampleIDs 6324, 6364 & 6353), ~570 ft US of Rt 24/79 (SampleID 5104), US reach near S. Main St (SampleID 7646), above old dam site (SampleID 8548), DS reach (SampleID 7645), above Narrows Rd and below old dam site (SampleID 8547) and above Narrows Rd crossing (SampleID 8546). None of the samples (n= 6-119) contained fluvial taxa and one sample in 2015 (ID 6364), 2018 (ID 7646) and 2019 (ID 8546) did not contain any intolerant/moderately tolerant macrohabitat generalists either. The other six samples included 6-33% moderately tolerant macrohabitat generalists (usually largemouth bass and redfin pickerel). MassDEP staff conducted benthic and water quality (WQ) monitoring in Freetown as part of the Reference Site Network project ~1300ft US of Rt 24 (B0468, W2466) during summers 2014, 2015 and 2016 and a short way DS ~570ft US of Rt 24 (B0828, W2412) in summer 2013. Benthic community sample IBI scores were indicative of satisfactory to exceptional conditions at B0468 (low gradient scores of 72 & 85 in July 2014 & Sept 2016, respectively and Central Hills high gradient score of 57 in Aug 2015) and satisfactory conditions at B0828 in July 2013 (Central Hills score of 58). Dissolved Oxygen (DO) and temperature (T) were measured at both stations via deployed probe and were generally indicative of good conditions. W2466: min DOs 7.5/5.5/3.4mg/L during three deploys (109, 116, 128 days, respectively) and min 7DADMins 7.7/6.9/4.8 mg/L (violations of criteria only in 2016 during a regional drought). W2412: min DO 7.3mg/L during one deploy (97 days) and min 7DADMin 7.6 mg/L. T, recorded at both stations in the summer index periods of years described above (deploys 81-107 days), had an overall max of 26.0ºC. Generally, no physico-chemical indicators of nutrient enrichment (max seasonal avg total phosphorus 0.024mg/L n=4/station-yr, DO max saturation 98.6%, max diel DO shift 3.1 mg/L with the exception of W2466 in 2016 and no observations of excessive algae other than two observations at W2466 in 2016 likely related to drought conditions). Specific conductance and chloride both low (max 49µS/cm, n=15 & 7mg/L n=16, respectively), as was total ammonia-nitrogen (max 0.04mg/L, n=16, no toxicity). pH ranged from 4.4 to 6.1SU (n=15 overall) and <6.0SU 12 times but this is likely natural due to extensive wetlands (16.7% in the subwatershed and 26.7% in the proximal stream buffer).

UMass Amherst students studied the thermal impact of the Rattlesnake Brook Dam, monitoring continuous water T (12 deploys of 77 or 107 days during summer index periods) and DO (20 deploys of 5-8 days) July 2015 to Sept 2017 (pre- and post- dam removal which was in Nov 2016 (UMass-Amherst 2018)), at four stations: 600m US of the dam, 10m US of the dam (i.e., in the impoundment) and 20m & 65m DS of the dam. Before dam removal, min DO 5-7DADMins were generally >5.0mg/L except for all deploys at the first DS station since there was likely no flow making it over the dam. After dam removal, the minimum DO from all stations was 7.1mg/L. T was acceptable at all stations 2015-2017 with a max 7DADM of 26.2°C and a max 24-hr rolling avg of 25.6°C, both in the impoundment. Discrete pH and specific conductance (SC) (n=19 each) US and DS of impoundment: pH on low side, ranging 4.6-6.7SU (<6.0SU 15 times, likely due to natural conditions) but SC good with max of 239µs/cm.

The Aquatic Life Use of Rattlesnake Brook is assessed as Fully Supporting based primarily on good benthic and fish communities, as well as MassDEP water quality data from just upstream of Rt 24 (2014-2016) and UMass student data from near the former Rattlesnake Brook Dam, post removal (2017).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5104	MassDEP	Fish Community	Rattlesnake Brook	~570 ft US/E of RT 24/79 (Amverst Memorial Hwy)	41.77440	-71.08528
6324	MassDEP	Fish Community	Rattlesnake Brook	Approx 1300 ft US/E of Rt 24/79 (Amvets Memorial Hwy), Freetown	41.77255	-71.08495
6353	MassDEP	Fish Community	Rattlesnake Brook	, Freetown	41.77255	-71.08495
6364	MassDEP	Fish Community	Rattlesnake Brook	, Freetown	41.77255	-71.08495

7645	MassDFG	Fish Community	Rattlesnake Brook	Downstream reach of rattlesnake brook, Freetown	41.78123	-71.08596
7646	MassDFG	Fish Community	Rattlesnake Brook	Upstream Reach, Freetown	41.77669	-71.08909
8546	MassDFG	Fish Community	Rattlesnake Brook	above narrows road crossing, Freetown	41.78190	-71.08615
8547	MassDFG	Fish Community	Rattlesnake Brook	above narrows and below old dam site, Freetown	41.78142	-71.08696
8548	MassDFG	Fish Community	Rattlesnake Brook	above old dam site, Freetown	41.78070	-71.08646
B0468	MassDEP	Benthic	Rattlesnake Brook/	[approximately 375 meters upstream/southeast from Route 24, Freetown, MA]	41.772548	-71.084948
B0828	MassDEP	Benthic	Rattlesnake Brook/	[approximately 175 meters upstream/east from Route 24/79 (Amvets Memorial Highway), Freetown, MA]	41.774440	-71.085280
W2412	MassDEP	Water Quality	Rattlesnake Brook	[approximately 570 feet upstream/east from Route 24/79 (Amvets Memorial Highway), Freetown]	41.774440	-71.085280
W2466	MassDEP	Water Quality	Rattlesnake Brook	[approximately 1300 feet upstream/east from Route 24/79 (Amvets Memorial Highway), Freetown]	41.772548	-71.084948

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
UMassA_RATDS1	UMass Amherst	Water Quality	Rattlesnake Brook	20m downstream dam	41.780867	-71.08665
UMassA_RATDS2	UMass Amherst	Water Quality	Rattlesnake Brook	65m downstream dam	41.781267	-71.0868
UMassA_RATIMP	UMass Amherst	Water Quality	Rattlesnake Brook	10m upstream dam	41.78065	-71.08645
UMassA_RATURB	UMass Amherst	Water Quality	Rattlesnake Brook	600m upstream dam	41.776471	-71.089094

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0468	07/14/14	RBP multihab	Statewide_Low_Gradient	290	72	S

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0468	08/03/15	RBP kicknet	Central_Hills_300ct_SE	311	57	S
B0468	09/21/16	RBP multihab	Statewide_Low_Gradient	310	85	E
B0828	07/09/13	RBP kicknet	Central_Hills_300ct_SE	283	58	S

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, BB = Brown Bullhead, CP = Chain Pickerel, K = Banded Killifish, LMB = Largemouth Bass, M = Mummichog, P = Pumpkinseed, RP = Redfin Pickerel, SK = Striped Killifish]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5104	10/04/13	NS	TP		5	63	0%	0	0%	0%	3	14%	No	No	AE, BB, LMB, P, RP,
6324	09/19/14	NS	TP		2	34	0%	0	0%	0%	1	9%	No	No	AE, RP,
6353	08/11/16	BP	TP		2	39	0%	0	0%	0%	1	8%	Yes	No	AE, RP,
6364	07/02/15	NS	TP		1	17	0%	0	0%	0%	0	0%	No	No	AE,
7645	08/03/18	BP	TP		8	119	0%	0	0%	0%	4	8%	Yes	No	AE, CP, K, LMB, M, P, RP, SK,
7646	08/03/18	BP	TP		1	37	0%	0	0%	0%	0	0%	No	No	AE,
8546	08/22/19	BP	TP		2	64	0%	0	0%	0%	0	0%	Yes	No	AE, M,
8547	08/22/19	BP	TP		3	34	0%	0	0%	0%	2	6%	Yes	No	AE, LMB, RP,
8548	08/22/19	BP	TP		2	6	0%	0	0%	0%	1	33%	Yes	No	AE, RP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Long-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[7DADMin= 7-Day Average of the Daily Minima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Day Count	7day Count	30day Count	DO Min (mg/L)	Min 7DADMin (mg/L)	Min 7DADA (mg/L)	Delta DO Max (mg/L)	Count CW 7DADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages 7DADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages 7DADMin <5.0	Count WW Other Life Stages 1Day Min <4.0	Count CW 30DADA <8.0	Count WW Other Life Stages 30DADA <6.0
W2412	06/03/13	09/29/13	97	50	43	7.3	7.6	7.8	0.9	0	0	0	0	0	0	0	0
W2466	05/30/14	09/15/14	109	103	80	7.5	7.7	8.1	1.2	0	0	0	0	0	0	0	0
W2466	05/29/15	09/21/15	116	110	87	5.5	6.9	7.7	3.1	0	0	0	0	0	0	7	0
W2466	05/19/16	09/28/16	128	102	98	3.4	4.8	6.2	5.7	27	5	4	2	4	2	77	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2412	05/28/13	09/30/13	3	8.3	9.1	0	0	0
W2466	06/19/14	09/16/14	4	8	8.8	0	0	0
W2466	06/24/15	09/22/15	4	8.3	8.8	0	0	0
W2466	06/15/16	09/29/16	4	7.6	8.6	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2412	06/03/13	09/15/13	83	39	24.5	26.0	24.3	23.1	7	4	3	2	0	0
W2412	06/27/13	09/15/13	81	78	24.5	26.0	24.8	23.5	38	4	23	2	0	0
W2466	06/01/14	09/15/14	107	103	22.0	23.4	21.9	20.8	46	0	0	0	0	0
W2466	06/01/15	09/15/15	107	107	22.3	23.8	23.0	21.7	64	0	8	0	0	0
W2466	06/01/16	09/15/16	105	98	23.7	25.4	24.4	23.1	76	2	26	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2412	06/27/13	09/15/13	81	3840	24.6	197	70	0
W2412	06/01/13	09/15/13	107	5093	24.7	202	72	0
W2466	06/01/15	09/15/15	107	5136	22.3	0	0	0
W2466	06/01/14	09/15/14	107	5136	22.1	0	0	0
W2466	06/01/16	09/15/16	107	5132	24.0	68	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2412	05/28/13	09/30/13	5	2	21.6	16.3	1	0	0	0
W2466	06/19/14	09/16/14	4	3	20.8	17.6	1	0	0	0
W2466	06/24/15	09/22/15	4	3	21.7	18.9	1	0	0	0

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2466	06/15/16	09/29/16	4	3	21.4	18.5	1	0	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2412	05/28/13	09/30/13	3	4.5	5.3	3	3
W2466	06/19/14	09/16/14	4	4.4	5.5	4	4
W2466	06/24/15	09/22/15	4	4.6	5.1	4	4
W2466	06/15/16	09/29/16	4	4.8	6.1	4	3

UMass Amherst Dam Study Short-term Continuous Dissolved Oxygen Data (2015-2017). (UMass-Amherst 2018) (MassDEP Undated3)

[Note: X= 7 (or # of deploy days if less than seven days); XDADMin= XDay Average of the Daily Minima, XDADA= XDay Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
UMassA_RATDS1	09/05/15	09/10/15	6	0	0	0.1	2.8	1	6	0	0	1	6
UMassA_RATDS1	07/01/16	07/05/16	5	0	0	0	0	1	5	1	5	1	5
UMassA_RATDS1	08/03/16	08/08/16	6	0	0	0.1	1.3	1	6	0	0	1	6
UMassA_RATDS1	08/31/16	09/04/16	5	0	0	0	0	1	5	0	0	1	5
UMassA_RATDS1	07/20/17	07/25/17	6	7.2	7.6	8	1	0	0	0	0	0	0
UMassA_RATDS1	08/05/17	08/10/17	6	7.3	7.6	8.1	1.3	0	0	0	0	0	0
UMassA_RATDS1	08/30/17	09/06/17	8	7.4	8.2	8.8	1.7	0	0	0	0	0	0
UMassA_RATIMP	07/01/16	07/05/16	5	6.1	6.4	7.4	2.9	0	0	0	0	0	0
UMassA_RATIMP	08/03/16	08/08/16	6	5.3	6.6	7.4	2.2	0	0	0	0	0	0
UMassA_RATIMP	08/31/16	09/04/16	5	0.5	3.8	6.9	8.2	1	3	0	0	1	2
UMassA_RATIMP	07/20/17	07/25/17	6	7.4	7.8	8.2	0.9	0	0	0	0	0	0
UMassA_RATIMP	08/05/17	08/10/17	6	7.7	7.9	8.4	1.3	0	0	0	0	0	0
UMassA_RATIMP	08/30/17	09/06/17	8	7.4	8.1	8.6	1.6	0	0	0	0	0	0
UMassA_RATURB	09/05/15	09/10/15	6	7.7	8.2	8.6	1.1	0	0	0	0	0	0
UMassA_RATURB	07/01/16	07/05/16	5	7.3	7.5	8	1.1	0	0	0	0	0	0
UMassA_RATURB	08/03/16	08/08/16	6	7.1	7.7	8.2	1.3	0	0	0	0	0	0
UMassA_RATURB	08/31/16	09/04/16	5	7.5	7.9	8.3	0.9	0	0	0	0	0	0
UMassA_RATURB	07/20/17	07/25/17	6	7.9	8.2	8.5	0.7	0	0	0	0	0	0
UMassA_RATURB	08/05/17	08/10/17	6	7.9	8.2	8.5	0.7	0	0	0	0	0	0
UMassA_RATURB	08/30/17	09/06/17	8	7.8	8.6	8.9	0.8	0	0	0	0	0	0

UMass Amherst Dam Study Long-term Continuous Temperature Data (Summer Index 2014-2017). (UMass-Amherst 2018) (MassDEP Undated3)

[Summer Index is June 1 – Sept 15; 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Index Count	Max 24hr Rolling Avg Temp (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier2 7DADA >21	Count WW 7DADM >27.7
UMassA_RATDS1	07/01/15	12/31/15	77	24.7	26.7	24.9	24.7	71	47	0
UMassA_RATDS1	01/01/16	12/31/16	107	23.5	25.1	22.9	22.6	64	15	0
UMassA_RATDS1	01/01/17	10/21/17	107	23.7	25.6	23.6	23.4	78	54	0
UMassA_RATDS2	07/01/15	12/31/15	77	23.7	25.7	23.6	23.4	59	31	0
UMassA_RATDS2	01/01/16	12/31/16	107	23.2	24.0	22.7	22.5	51	17	0
UMassA_RATDS2	01/01/17	10/21/17	107	24.1	27.9	24.1	23.9	79	64	0
UMassA_RATIMP	07/01/15	12/31/15	77	25.6	27.8	25.5	25.2	71	69	0
UMassA_RATIMP	01/01/16	12/31/16	107	25.5	29.3	26.2	26.0	106	95	0
UMassA_RATIMP	01/01/17	10/21/17	107	23.3	24.9	23.1	22.9	65	40	0
UMassA_RATURB	07/01/15	12/31/15	77	22.3	23.6	22.6	22.5	63	24	0
UMassA_RATURB	01/01/16	12/31/16	107	24.0	25.7	23.9	23.7	60	38	0
UMassA_RATURB	01/01/17	10/21/17	107	21.5	22.8	21.3	21.1	10	2	0

UMass Amherst Dam Study Discrete pH Data (2016-2017). (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
UMassA_RATDS1	06/30/16	09/05/16	Surface	5	5.4	5.8	5	5
UMassA_RATDS1	07/19/17	09/07/17	Surface	5	5.6	6.5	4	2
UMassA_RATURB	06/30/16	09/05/16	Surface	4	4.8	6.7	3	3
UMassA_RATURB	07/19/17	09/07/17	Surface	5	4.6	5.3	5	5

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2412	2013	4	0.013	0.020	0.016	0.9	0.5	98.6	5.3	5	0
W2466	2014	4	0.011	0.021	0.017	1.2	0.7	95.0	5.5	4	0
W2466	2015	4	0.013	0.036	0.024	3.1	1.1	98.2	5.1	4	0
W2466	2016	4	0.01	0.021	0.015	5.7	1.8	95.4	6.1	4	2

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2412	2013	4	0.020	0.020	0.020	0	0
W2466	2014	4	0.020	0.020	0.020	0	0

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2466	2015	4	0.038	0.040	0.040	0	0
W2466	2016	4	0.040	0.040	0.040	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2412	2013	4	6	7	7	0	0
W2466	2014	4	6	6	6	0	0
W2466	2015	4	6	7	6	0	0
W2466	2016	4	4	5	4	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2412	05/28/13	09/30/13	3	39	41	0	0	0	0	0	0
W2466	06/19/14	09/16/14	4	39	40	0	0	0	0	0	0
W2466	06/24/15	09/22/15	4	39	49	0	0	0	0	0	0
W2466	06/15/16	09/29/16	4	37	44	0	0	0	0	0	0

UMass Amherst Dam Study Discrete Specific Conductance Data (2016-2017) Compared to Estimated Chloride Criteria. (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
UMassA_RATDS1	06/30/16	09/05/16	surface	5	95	134	0	0	0	0	0	0
UMassA_RATDS1	07/19/17	09/07/17	surface	5	69	118	0	0	0	0	0	0
UMassA_RATURB	06/30/16	09/05/16	surface	4	83	239	0	0	0	0	0	0
UMassA_RATURB	07/19/17	09/07/17	surface	5	71	139	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Rattlesnake Brook (MA62-45); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff conducted sampling in Rattlesnake Brook (MA62-45) at two sites during the summers of 2013, 2014, 2015 and 2016 as part of the Reference Site Network monitoring project from up to downstream as follows: approximately 1300 ft upstream/east from Rt. 24/79 (Amvets Memorial Highway) in Freetown (W2466) and approximately 570 ft upstream/east from Rt. 24/79 (Amvets Memorial Highway) in Freetown (W2412). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at either site during any of the surveys. The Aesthetics Use for Rattlesnake Brook (MA62-45) is assessed as Fully Supporting based on the general lack of objectionable conditions noted by MassDEP staff at the sites sampled during summers 2013 through 2016.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2412	MassDEP	Water Quality	Rattlesnake Brook	[approximately 570 feet upstream/east from Route 24/79 (Amvets Memorial Highway), Freetown]	41.774440	-71.085280
W2466	MassDEP	Water Quality	Rattlesnake Brook	[approximately 1300 feet upstream/east from Route 24/79 (Amvets Memorial Highway), Freetown]	41.772548	-71.084948

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2412	Rattlesnake Brook	2013	5	MassDEP aesthetics observations for station W2412 on Rattlesnake Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2466	Rattlesnake Brook	2014	4	MassDEP aesthetics observations for station W2466 on Rattlesnake Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014.
W2466	Rattlesnake Brook	2015	4	MassDEP aesthetics observations for station W2466 on Rattlesnake Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015.
W2466	Rattlesnake Brook	2016	4	MassDEP aesthetics observations for station W2466 on Rattlesnake Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2016.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2412	2013	5	5	0
W2466	2014	4	4	0
W2466	2015	4	4	0
W2466	2016	4	4	2

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2412	Rattlesnake Brook	2013	Color	Light Yellow/Tan	1	5
W2412	Rattlesnake Brook	2013	Color	None	1	5
W2412	Rattlesnake Brook	2013	Color	Reddish	3	5
W2412	Rattlesnake Brook	2013	Objectionable Deposits	No	5	5
W2412	Rattlesnake Brook	2013	Odor	None	5	5
W2412	Rattlesnake Brook	2013	Scum	No	5	5
W2412	Rattlesnake Brook	2013	Turbidity	None	5	5
W2466	Rattlesnake Brook	2014	Color	Reddish	4	4
W2466	Rattlesnake Brook	2014	Objectionable Deposits	No	4	4
W2466	Rattlesnake Brook	2014	Odor	None	4	4
W2466	Rattlesnake Brook	2014	Scum	Yes	4	4
W2466	Rattlesnake Brook	2014	Turbidity	None	4	4
W2466	Rattlesnake Brook	2015	Color	Light Yellow/Tan	3	4
W2466	Rattlesnake Brook	2015	Color	Reddish	1	4
W2466	Rattlesnake Brook	2015	Objectionable Deposits	No	4	4
W2466	Rattlesnake Brook	2015	Odor	None	3	4
W2466	Rattlesnake Brook	2015	Odor	NR	1	4
W2466	Rattlesnake Brook	2015	Scum	No	4	4
W2466	Rattlesnake Brook	2015	Turbidity	None	4	4
W2466	Rattlesnake Brook	2016	Color	Light Yellow/Tan	3	4
W2466	Rattlesnake Brook	2016	Color	Reddish	1	4
W2466	Rattlesnake Brook	2016	Objectionable Deposits	No	4	4
W2466	Rattlesnake Brook	2016	Odor	None	4	4
W2466	Rattlesnake Brook	2016	Scum	No	4	4
W2466	Rattlesnake Brook	2016	Turbidity	None	4	4

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* bacteria data are available to assess the Primary Contact Recreation Use for Rattlesnake Brook (MA62-45), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for Rattlesnake Brook (MA62-45), so it is Not Assessed.	

Reservoir (White Oak Reservoir) (MA62157)

Location:	Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Reservoir (White Oak Reservoir) (MA62157) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
5	5	Phosphorus, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Nutrient/Eutrophication Biological Indicators	Agriculture (Y)	X		X	X	X
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X		X	X	X
Nutrient/Eutrophication Biological Indicators	Rural (Residential Areas) (N)	X		X	X	X
Phosphorus, Total	Agriculture (Y)	X				
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X				
Phosphorus, Total	Rural (Residential Areas) (N)	X				

Richmond Pond (MA62159)

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

No usable data were available for Richmond Pond (MA62159) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Robbins Pond (MA62162)

Location:	East Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	124 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Recommendations

2022 Recommendations
ALU: Conduct an aquatic macrophyte survey of Robbins Pond (MA62162) when flowering heads are present to confirm the presence of any non-native *Myriophyllum* spp. (confirmation of any non-native species should be made by a qualified state agency/taxonomist).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	YES
2022 Use Attainment Summary	
According to DMF biologists, the Pond Street culvert at the downstream end of Robbins Pond was given a passage score of "0", indicating that this structure is not an obstruction to the passage of the target species, river herring and American eel (population score of 2). DMF biologists note no limits to passage with the existing culvert, but that it is older and is due to be replaced imminently. There is insufficient information to assess Aquatic Life Use for Robbins Pond (MA62162). The Alert previously identified because of the presence of an unidentified species of *Myriophyllum*, an aquatic macrophyte (MassDEP 2005), is being carried forward.	

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
According to DMF biologists (2020), at the downstream end of Robbins Pond the Pond Street culvert was given a passage score of "0", indicating that this structure is not an obstruction to the passage of the target species, river herring and American eel (population score of 2). DMF biologists note no limits to passage with the existing culvert, but that it is older and is due to be replaced imminently.

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

Fish toxics sampling was performed by MassDEP WPP biologists at Robbins Pond (MA62162) in East Bridgewater in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals and organochlorine pesticides. No site-specific fish consumption advisory was issued by MassDPH. The Fish Consumptions Use of Robbins Pond (MA62162) is Not Assessed since no site-specific advisory has been issued.

MassDEP fish toxics sampling information (2018-2020) and MassDPH Fish Consumption Advisory information (2019-2021) Data Sources: (MassDEP 2018, MassDEP Undated7)

Fish toxics sampling was performed by MassDEP WPP biologists at Robbins Pond (MA62162) in East Bridgewater in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals and organochlorine pesticides. No site-specific fish consumption advisory was issued by MassDPH.

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Robbins Pond (MA62162), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for Robbins Pond (MA62162), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for Robbins Pond (MA62162), so it is Not Assessed.	

Robinson Brook (MA62-14)

Location:	Headwaters, outlet Hersey Pond, Foxborough to mouth at confluence with Rumford River, Mansfield.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

No usable data were available for Robinson Brook (MA62-14) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Physical Substrate Habitat Alterations*)		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Physical Substrate Habitat Alterations*)	Source Unknown (N)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				

Route One Pond, West (MA62165)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	10 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Route One Pond, West (MA62165) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Rumford River (MA62-40)

Location:	From outlet Norton Reservoir, Norton to mouth at confluence with Wading River forming headwaters Threemile River, Norton (formerly part of 2004 segment: Rumford River MA62-15).
AU Type:	RIVER
AU Size:	4.5 MILES
Classification/Qualifier:	B

No usable data were available for Rumford River (MA62-40) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

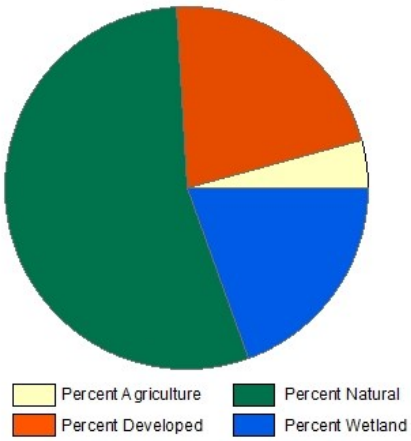
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Rumford River (MA62-62)

Location:	Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough (through former 2014 segment: Vandys Pond MA62112) (formerly part of 2014 segment: Rumford River MA62-39 [MA62-15 (2004)]).
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	B

Rumford River - MA62-62

Watershed Area: 6.11 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.11	3.57	2.28	1.55
Agriculture	4.2%	0.1%	2.2%	0%
Developed	21.7%	22.2%	13.5%	11.8%
Natural	54.6%	60.9%	51.8%	57.6%
Wetland	19.5%	16.9%	32.5%	30.7%
Impervious Cover	10.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Non-Native Aquatic Plants*)		Unchanged
4c	5	Benthic Macroinvertebrates		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDFG and MassDEP biologists conducted backpack electrofishing at five sites throughout this Rumford River AU (MA62-62) in Foxborough, from up to downstream as follows: just downstream of Cocasset St. (SampleIDs 5233 & 5992) in 2014 and 2016; ~675 ft downstream of Cocasset St. (SampleID 5067) in 2013; at the end of Alexander Rd (SampleID 5993) in 2016 and along Morse St., North of Glue Factory Rd, (SampleID 5234) in 2014. All the samples were dominated by a combination of macrohabitat generalists intolerant/moderately tolerant to environmental perturbations (38-92% of the sample) and fluvial specialist/dependent species (namely blacknose dace, longnose dace and white sucker comprising 2-62% of the sample) and were indicative of excellent conditions for a warm water low gradient stream. Benthic and water quality monitoring were conducted by MassDEP staff approximately 675 ft downstream/south from Cocasset St., Foxborough (B0835, W2377) during the summer of 2013 as part of the MAP2 monitoring project (note that the water quality data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). The benthic community sample IBI score of 39 was indicative of moderately degraded conditions for a low gradient location. Water quality sampling data (including both deployed probe and discrete sampling efforts) are summarized as follows: a minimum DO of 6.0mg/L during two short term deploys (total of eight days); the maximum temperature during the long term deploy (107 days) was 26.6°C. The pH ranged from 6.5-6.6SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.019mg/L, max 0.026mg/L (n=5), max diel DO shift 1.1mg/L, DO max saturation of 87.3% and no observations of any dense/very dense filamentous algae). Specific conductance and chloride concentrations were both low (max 294µS/cm, n=2 & 85mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (max 0.06mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
While the fish and water quality data are indicative of good conditions, the Aquatic Life Use for this Rumford River AU (MA62-62) is assessed as Not Supporting, based on the moderately degraded benthic community conditions documented just downstream of Cocasset St, Foxborough in 2013 by MassDEP staff. A new impairment for Benthic Macroinvertebrates is being added and the Non-Native Aquatic Plants impairment is being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5067	MassDEP	Fish Community	Rumford River	~675 ft DS/S of Cocasset St	42.06140	-71.21640
5233	MassDFG	Fish Community	Rumford River	Cocasset St xing DS, just W of Adams St, Foxborough	42.06289	-71.21555
5234	MassDFG	Fish Community	Rumford River	Along Morse St, N of Glue Factory Rd, Foxborough	42.04969	-71.21037
5992	MassDFG	Fish Community	Rumford River	Cocasset St DS., Foxborough	42.06281	-71.21569
5993	MassDFG	Fish Community	Rumford River	End of Alexander Rd, Foxborough	42.05869	-71.21578
B0835	MassDEP	Benthic	Rumford River/	[approximately 205 meters downstream/south from Cocasset Street, Foxborough, MA]	42.061126	-71.216586

W2377	MassDEP	Water Quality	Rumford River	[approximately 675 feet downstream/south from Cocasset Street, Foxborough]	42.061126	-71.216586

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0835	07/23/13	RBP multihab	Statewide_Low_Gradient	269	39	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: BB = Brown Bullhead, BND = Blacknose Dace, BS = Banded Sunfish, CP = Chain Pickerel, LND = Longnose Dace, RP = Redfin Pickerel, SD = Swamp Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5067	09/06/13	BP	TP		4	34	0%	2	62%	0%	2	38%	No	No	BND, CP, RP, WS,
5233	07/15/14	BP	TP	L	3	43	0%	1	60%	2%	2	40%	No	No	BS, LND, RP,
5234	07/15/14	BP	TP	L	2	18	0%	1	11%	0%	1	89%	No	No	RP, WS,
5992	08/24/16	BP	TP	L	6	16	0%	2	38%	19%	4	63%	No	No	BS, CP, LND, RP, SD, WS,
5993	08/24/16	BP	TP	L	5	60	0%	1	2%	43%	3	92%	No	No	BB, BS, RP, SD, WS,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2377	2013	2	8	6	6.4	6.8	1.1	0	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2377	05/15/13	09/18/13	2	5.9	6.9	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2377	06/01/13	09/15/13	107	106	25.4	26.6	25.7	24.5	79	14	38	8	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2377	2013	2	8	23.9	25.8	25.1	22.8	2	2	1	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2377	06/01/13	09/15/13	107	5136	25.4	692	382	0
W2377	07/18/13	08/20/13	33	389	24.0	92	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2377	05/15/13	09/18/13	4	2	23.2	17.5	1	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2377	05/15/13	09/18/13	2	6.5	6.6	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2377	2013	5	0.014	0.026	0.019	1.1	0.5	87.3	6.6	6	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2377	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2377	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2377	2013	3	0.013	0.041	0.025	0.1	0.2	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2377	2013	4	0.040	0.060	0.048	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2377	2013	4	56	85	73	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2377	05/15/13	09/18/13	2	266	294	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Rumford River (MA62-62); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality field surveys in the middle of this Rumford River AU (MA62-62) approximately 675 ft downstream/south from Cocasset St. in Foxborough (W2377) during the summer of 2013 as part of the MAP2 monitoring project. There were no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use for this Rumford River AU (MA62-62) continues to be assessed as Fully Supporting based on the lack of objectionable conditions observed at the MassDEP Cocasset St. station (W2377).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2377	MassDEP	Water Quality	Rumford River	[approximately 675 feet downstream/south from Cocasset Street, Foxborough]	42.061126	-71.216586

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2377	Rumford River	2013	8	MassDEP aesthetics observations for station W2377/MAP2-339 on Rumford River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2377	2013	8	6	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2377	Rumford River	2013	Color	Light Yellow/Tan	7	8
W2377	Rumford River	2013	Color	Reddish	1	8
W2377	Rumford River	2013	Objectionable Deposits	No	7	8
W2377	Rumford River	2013	Objectionable Deposits	Unobservable	1	8
W2377	Rumford River	2013	Odor	Musty (Basement)	1	8
W2377	Rumford River	2013	Odor	None	6	8
W2377	Rumford River	2013	Odor	NR	1	8
W2377	Rumford River	2013	Scum	No	4	8
W2377	Rumford River	2013	Scum	Yes	4	8
W2377	Rumford River	2013	Turbidity	None	7	8
W2377	Rumford River	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples in the middle of this Rumford River AU (MA62-62) approximately 675 ft downstream/south from Cocasset St. in Foxborough (W2377) between May and September 2013 (n=5). Data analysis indicated that 33% of intervals had GMs >126 CFU/100mL and one sample exceeded the 410 CFU/100mL STV. The seasonal GM was 76 CFU/100mL. There were no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station.
Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Primary Contact Recreation Use for this Rumford River AU (MA62-62) is assessed as Fully Supporting.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2377	MassDEP	Water Quality	Rumford River	[approximately 675 feet downstream/south from Cocasset Street, Foxborough]	42.061126	-71.216586

Bacteria Data

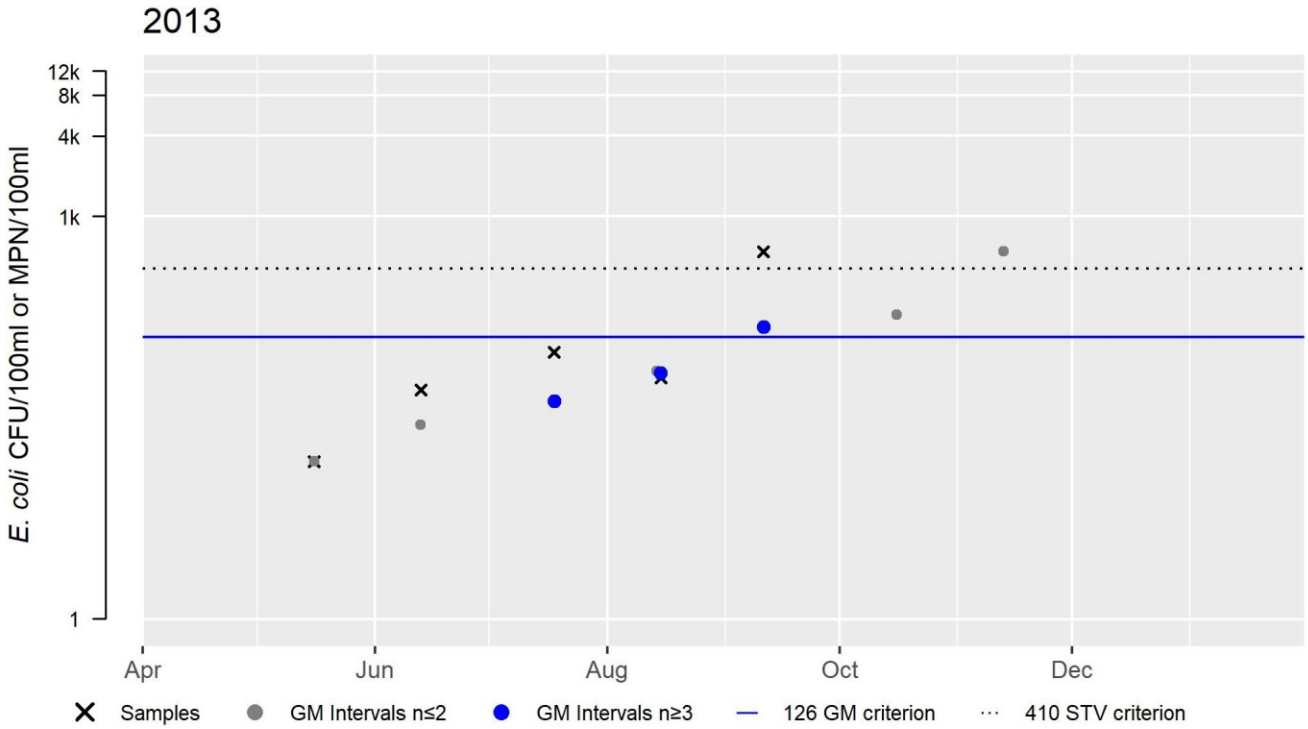
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2377	MassDEP	E. coli	05/16/13	09/11/13	5	15	546	76

W2377 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	76
#GMI	3
#GMI Ex	1
%GMI Ex	33
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples in the middle of this Rumford River AU (MA62-62), approximately 675 ft downstream/south from Cocasset St. in Foxborough (W2377) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 76 CFU/100mL. There were no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station. Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Secondary Contact Recreation Use for this Rumford River AU (MA62-62) is assessed as Fully Supporting.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2377	MassDEP	Water Quality	Rumford River	[approximately 675 feet downstream/south from Cocasset Street, Foxborough]	42.061126	-71.216586

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

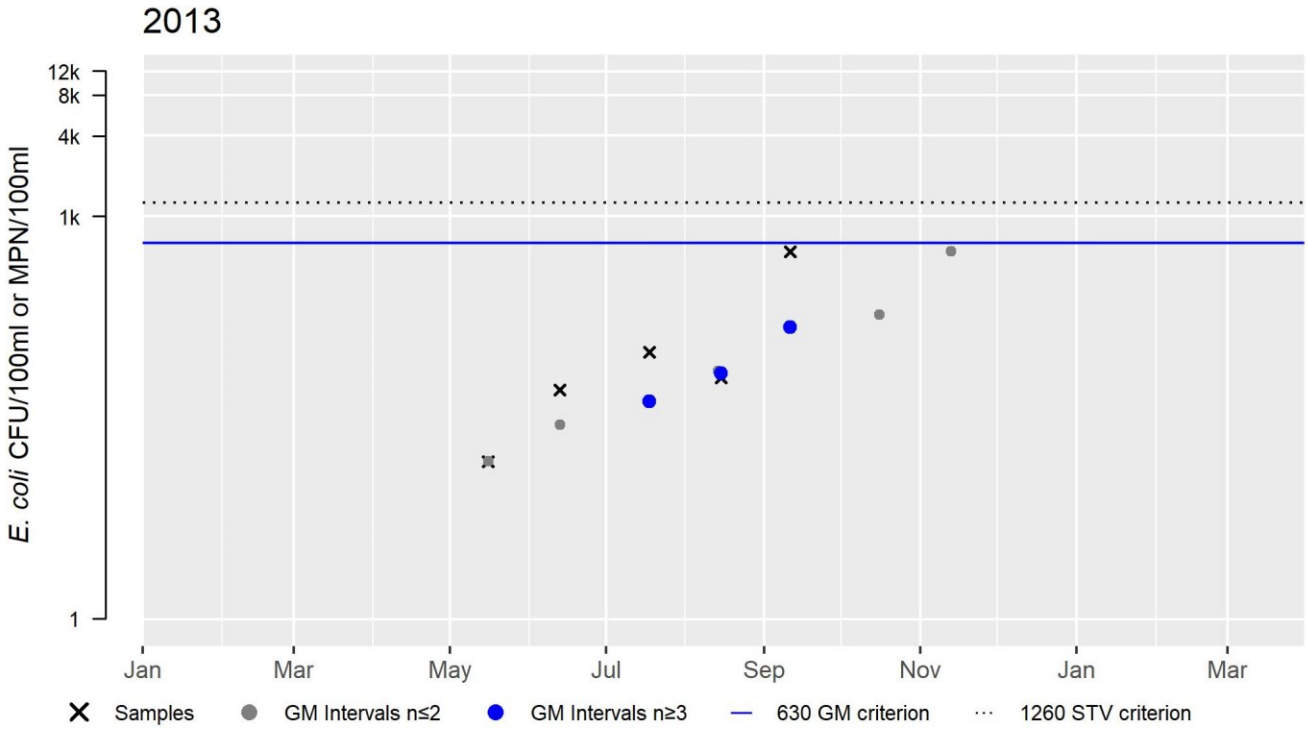
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2377	MassDEP	E. coli	05/16/13	09/11/13	5	15	546	76

W2377 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	76
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

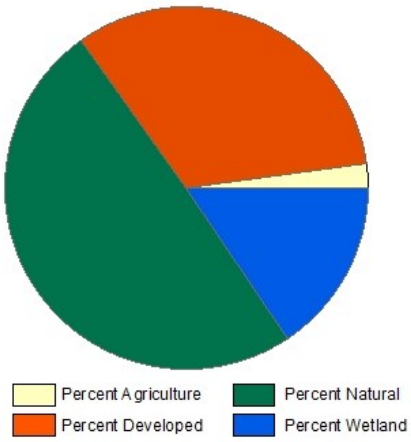


Rumford River (MA62-63)

Location:	From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton (through former 2014 pond segments; Fulton Pond MA62075, Hodges Pond MA62091, and Cabot Pond MA62029) (formerly part of 2014 segment: Rumford River MA62-39 [MA62-15 (2004)]).
AU Type:	RIVER
AU Size:	5.1 MILES
Classification/Qualifier:	B

Rumford River - MA62-63

Watershed Area: 13.52 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	13.52	3.19	4.85	1.21
Agriculture	2.2%	0.1%	1.5%	0.2%
Developed	32.7%	47.6%	22.4%	37.5%
Natural	49.5%	37.1%	48.6%	40.5%
Wetland	15.6%	15.2%	27.5%	21.7%
Impervious Cover	17.8%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Dioxin (including 2,3,7,8-TCDD)		Unchanged
5	5	Fish Bioassessments		Removed
5	5	Pentachlorophenol (PCP)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				
Dioxin (including 2,3,7,8-TCDD)	CERCLA NPL (Superfund) Sites (Y)		X			

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Pentachlorophenol (PCP)	CERCLA NPL (Superfund) Sites (Y)		X			

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Fish Bioassessments	Applicable WQS attained; reason for recovery unspecified	Based on the fish sample data collected in this Rumford River AU (MA62-63) in August 2013 the Fish Bioassessment impairment is being removed. The August 2013 fish sample indicated the presence of a fluvial species as well as intolerant/moderately tolerant macrohabitat generalist species and these data meet use attainment guidance described in the 2022 CALM. It should be noted here that cleanup activities took place between the late summer 2009 and fall of 2010 for the Hatheway and Patterson Company (HPC) Superfund Site (a former wood preserving facility) located near the upstream end of this AU. The site was removed from the NPL list in 2018. These cleanup activities may also have helped restore fish habitat in this Rumford River AU.

Fish Bioassessments

Listing History: This Rumford River Assessment Unit (AU) was first listed as impaired with Waterbody System (WBS) impairment "Cause Unknown" in the 2006 reporting cycle when the AU was part of the Rumford River AU MA63-39. In the 2010 IR reporting cycle the "Cause Unknown" impairment was changed to the Assessment Database (ADB) "Fishes Bioassessments" impairment (in addition to an Aquatic Macroinvertebrate Bioassessments impairment) based on fish sampling data collected in the Rumford River by DWM biologists in September 2001 downstream from Willow Street, Mansfield (just downstream from Cabot Pond Dam) using a backpack shocker. A total of 36 fish were collected with six species represented. The fish community was dominated by pumpkinseed and other species present included black crappie, yellow perch, redfin pickerel, bluegill and American eel. All fish were macrohabitat generalists. These data were evaluated with a previous methodology (MassDEP 2012) that indicated impairment when fluvial specialists/dependents species were absent or "relatively scarce" in riverine AUs (in addition to other issues that may have led to an impairment decision). Since the fish sample collected in 2001 lacked fluvial species, an impairment was identified.

Data Supporting Delisting: Backpack electrofishing was conducted by MassDEP biologists towards the downstream end of this Rumford River AU (MA62-63) ~1450 ft upstream/north from the Rt. 140 ramp to Rt. 495 north bound, Mansfield, in 2013 as part of the MAP2 monitoring project. The sample data indicated the presence of a fluvial species as well as several intolerant/moderately tolerant macrohabitat generalist species. Since the August 2013 fish sample data (SampleID 5049) meet use attainment guidance described in the 2022 CALM, the Fish Bioassessment impairment for the Rumford River AU (MA62-39) is being removed.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

Benthic, fish and water quality monitoring were conducted by MassDEP staff towards the downstream end of this Rumford River AU (MA62-63) ~1450 ft upstream/north from the Rt. 140 ramp to Rt. 495 north bound, Mansfield, during summer 2013 as part of the MAP2 monitoring project (note that the water quality data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). The benthic community sample (B0860) IBI score of 66 was indicative of Satisfactory Conditions for a low gradient location. The fish sample) (SampleID 5049, method unstated) was dominated by macrohabitat generalist taxa that are intolerant/moderately tolerant to environmental perturbations (four taxa, comprising 86% of the sample) and a fluvial dependent species (white sucker, comprising 4% of the sample) was also documented. Water quality sampling data (including both deployed probe and discrete sampling efforts) from station W2402 can be summarized as follows: minimum DO of 5.9mg/L during two short term deploys (totaling eight days); the maximum temperatures during the long term deploy (107 days) and the short term deploy were 29.1°C and 28.8°C respectively, the 7-DADM exceeded 27.7°C four times (maximum 7-DADM 28.3°C) and the 3-5DADM exceeded 27.7°C once (maximum 3-5DADM 28.3°C), but the maximum 24-hour rolling average did not exceed 28.3°C (maximum 24-hr rolling averages of 27.4°C & 27.6°C). The pH was 6.9SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.029mg/L, n=5, though the maximum was 0.072mg/L, which is a little high for a stream entering a lake, i.e., Norton Reservoir maximum diel DO shift 0.8mg/L, DO maximum saturation of 92.8% and no observations of any dense/very dense filamentous algae). Specific conductance and chloride concentrations were both low (maximum 394µS/cm, n=2 & 120mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.04mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).

While the benthic community, fish and water quality data were indicative of generally good conditions, the Aquatic Life Use for Rumford River (MA62-63) will continue to be assessed as Not Supporting with the Benthic Macroinvertebrates and Curly-leaf Pondweed impairments being carried forward. The fish community has shown significant improvement (now dominated by intolerant/moderately tolerant macrohabitat generalist taxa and includes a fluvial dependent species) since remediation of the Hatheway and Patterson Company (HPC) Superfund Site (a former wood preserving facility) located near the upstream end of this AU (cleanup activities took place between the late summer 2009 and fall of 2010) and the site was removed from the NPL list in 2018. Consequently, the prior Fish Bioassessments impairment is being delisted (see supporting information above).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5049	MassDEP	Fish Community	Rumford River	.25 miles US/N of rt 140 ramp to I-95 NB.	42.00503	-71.21345
B0860	MassDEP	Benthic	Rumford River/	[approximately 440 meters upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield, MA]	42.005027	-71.213447
W2402	MassDEP	Water Quality	Rumford River	[approximately 1450 feet upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield]	42.005027	-71.213447

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0860	07/23/13	RBP multihab	Statewide_Low_Gradient	309	66	S

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, LMB = Largemouth Bass, P = Pumpkinseed, RP = Redfin Pickerel, WS = White Sucker, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5049	08/15/13	NS	TP		7	57	0%	1	4%	0%	4	86%	No	No	AE, B, LMB, P, RP, WS, YP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2402	2013	2	8	5.9	6.3	6.6	0.8	0	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2402	05/15/13	09/18/13	2	6.6	7.3	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2402	06/01/13	09/15/13	107	106	27.3	29.1	28.3	26.7	92	22	74	19	4	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2402	2013	2	8	27.4	28.8	28.3	27.0	2	4	2	4	1	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2402	06/01/13	09/15/13	107	5136	27.4	1108	921	0
W2402	07/18/13	08/20/13	33	389	27.6	194	194	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2402	05/15/13	09/18/13	4	2	25.4	20.3	2	2	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2402	05/15/13	09/18/13	2	6.9	6.9	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2402	2013	5	0.011	0.072	0.029	0.8	0.5	92.8	6.9	7	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2402	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2402	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2402	2013	3	0.010	0.032	0.021	0.1	0.2	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2402	2013	4	0.030	0.040	0.035	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2402	2013	4	79	120	98	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2402	05/15/13	09/18/13	2	383	394	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Rumford River (MA62-63); therefore, the Fish Consumption Use will continue to be assessed as Not Supporting, with the Dioxin and Pentachlorophenol (PCP) impairments being carried forward. The MassDPH advisory applies to the Rumford River from the Glue Factory Pond Dam through the Fulton, Kingman and Cabot Ponds, including the Norton Reservoir (downstream of this Rumford River AU) and advises that "*No one should consume any fish from this water body*" (MassDPH 2021).	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality field surveys in this Rumford River AU (MA62-63) approximately 1450 ft upstream/north from the Rt. 140 ramp to Rt. 495 northbound in Mansfield (W2402) during the summer of 2013 as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use for this Rumford River AU (MA62-63) continues to be assessed as Fully Supporting based on the lack of objectionable conditions observed at MassDEP station W2402.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2402	MassDEP	Water Quality	Rumford River	[approximately 1450 feet upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield]	42.005027	-71.213447

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2402	Rumford River	2013	8	MassDEP aesthetics observations for station W2402/MAP2-423 on Rumford River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2402	2013	8	7	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2402	Rumford River	2013	Color	Light Yellow/Tan	7	8
W2402	Rumford River	2013	Color	None	1	8
W2402	Rumford River	2013	Objectionable Deposits	No	7	8
W2402	Rumford River	2013	Objectionable Deposits	Unobservable	1	8
W2402	Rumford River	2013	Odor	None	8	8
W2402	Rumford River	2013	Scum	No	7	8
W2402	Rumford River	2013	Scum	Yes	1	8
W2402	Rumford River	2013	Turbidity	None	6	8
W2402	Rumford River	2013	Turbidity	Slightly Turbid	2	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples from this Rumford River AU (MA62-63) approximately 1450 ft upstream/north from the Rt. 140 ramp to Rt. 495 northbound in Mansfield (W2402) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV. The seasonal GM was 54 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station.
Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Primary Contact Recreation Use for this Rumford River AU (MA62-63) is assessed as Fully Supporting.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2402	MassDEP	Water Quality	Rumford River	[approximately 1450 feet upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield]	42.005027	-71.213447

Bacteria Data

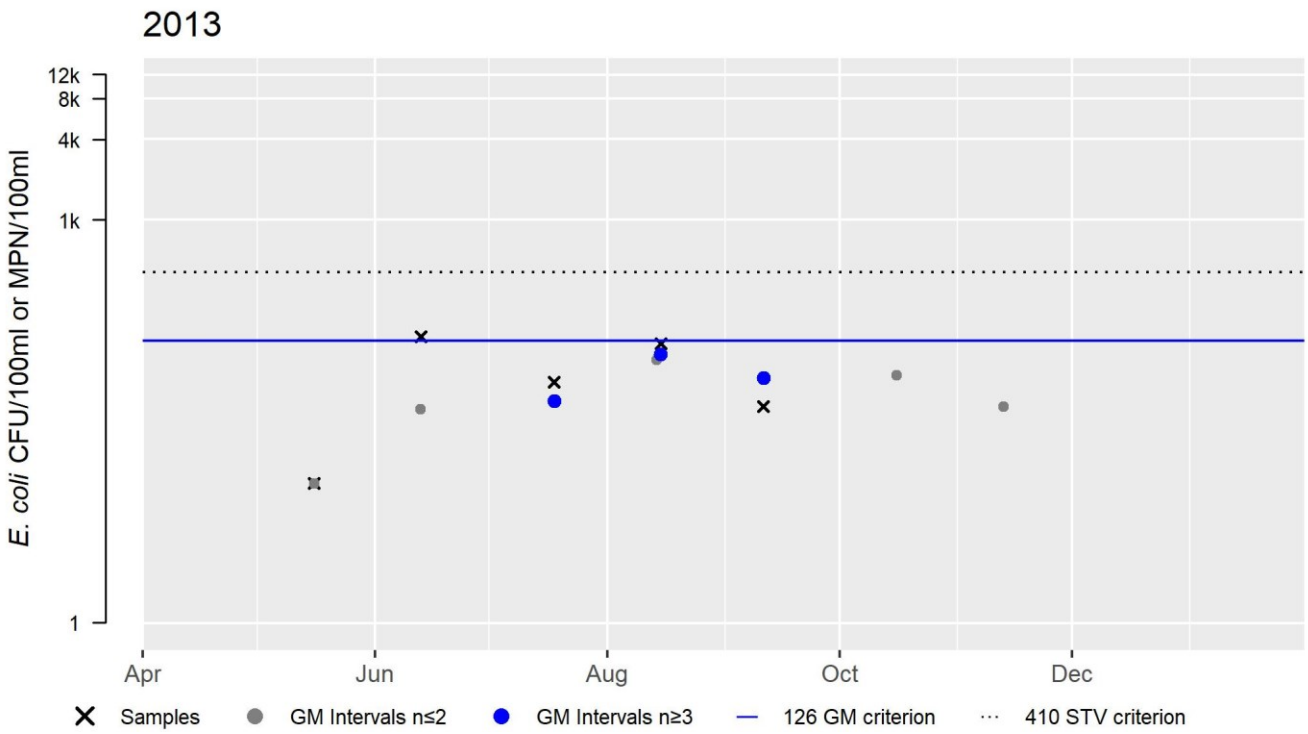
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2402	MassDEP	E. coli	05/16/13	09/11/13	5	11	135	54

W2402 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	54
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from this Rumford River AU (MA62-63) approximately 1450 ft upstream/north from the Rt. 140 ramp to Rt. 495 north bound in Mansfield (W2402) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 54 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station.
Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Secondary Contact Recreation Use for this Rumford River AU (MA62-63) is assessed as Fully Supporting.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2402	MassDEP	Water Quality	Rumford River	[approximately 1450 feet upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield]	42.005027	-71.213447

Bacteria Data

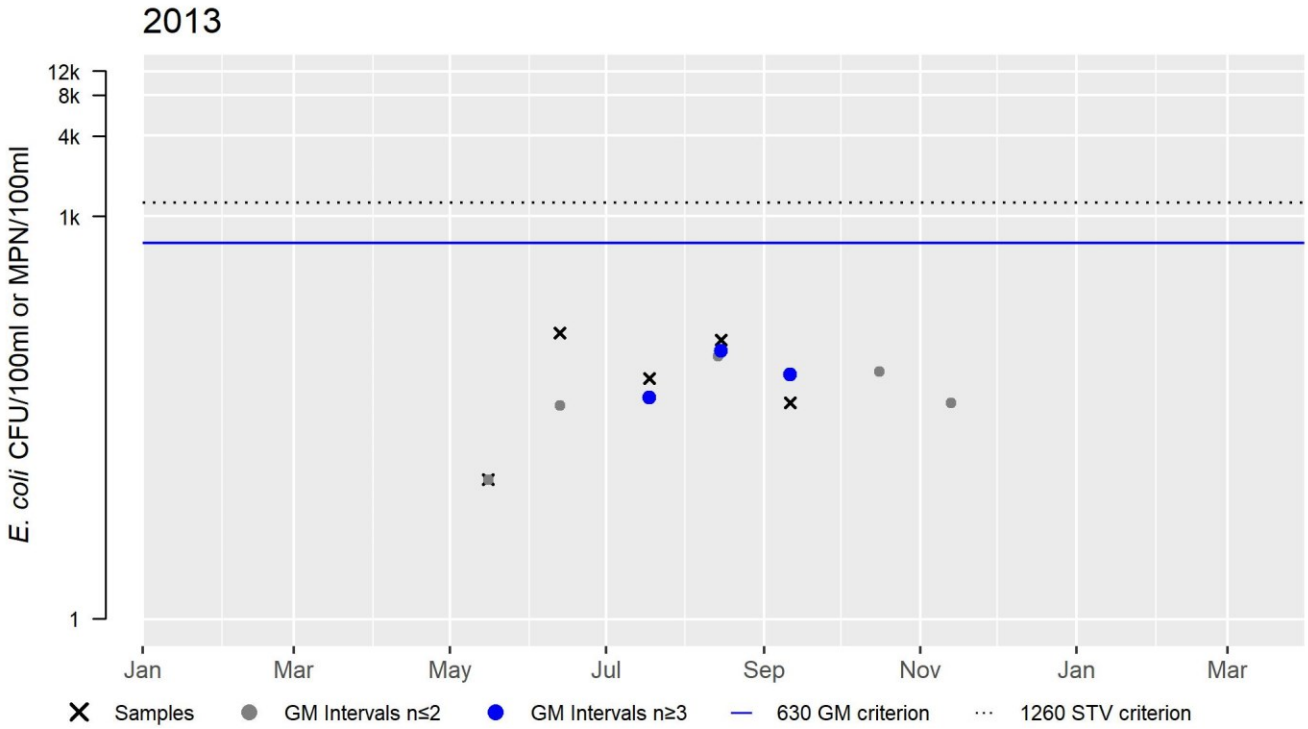
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2402	MassDEP	E. coli	05/16/13	09/11/13	5	11	135	54

W2402 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	54
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

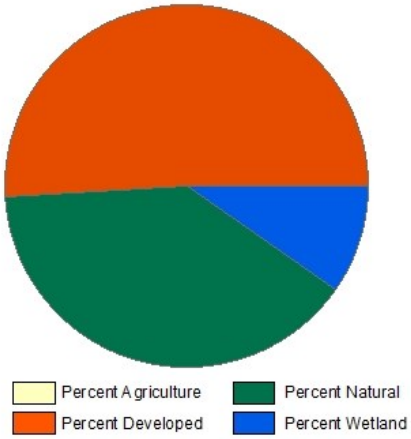


Salisbury Brook (MA62-08)

Location:	Headwaters, outlet Cross Pond, Brockton to mouth at confluence with Trout Brook forming headwaters Salibury Plain River, Brockton.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Salisbury Brook - MA62-08

Watershed Area: 8.22 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	8.22	3.73	2.38	0.67
Agriculture	0%	0%	0%	0%
Developed	50.9%	61.3%	36.4%	51.2%
Natural	39.3%	34.4%	41.6%	36.5%
Wetland	9.7%	4.3%	22%	12.3%
Impervious Cover	33.6%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)		Unchanged
5	5	(Non-Native Aquatic Plants*)		Unchanged
5	5	(Physical Substrate Habitat Alterations*)		Unchanged
5	5	Algae		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Escherichia Coli (E. Coli)	40308	Unchanged
5	5	Fecal Coliform	40308	Unchanged
5	5	Sedimentation/Siltation		Unchanged
5	5	Trash		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (N)			X	X	X

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Physical Substrate Habitat Alterations*)	Source Unknown (N)	X				
Algae	Source Unknown (N)	X		X	X	X
Benthic Macroinvertebrates	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	X
Escherichia Coli (E. Coli)	Illicit Connections/Hook-ups to Storm Sewers (N)				X	X
Escherichia Coli (E. Coli)	Source Unknown (N)				X	X
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	X
Fecal Coliform	Illicit Connections/Hook-ups to Storm Sewers (N)				X	X
Fecal Coliform	Source Unknown (N)				X	X
Sedimentation/Siltation	Source Unknown (N)	X				
Trash	Illegal Dumps or Other Inappropriate Waste Disposal (N)			X	X	X

Recommendations

2022 Recommendations
ALU & AES: Further study is recommended to investigate the cause and extent of the abundant growth of filamentous algae in Salisbury Brook affecting aesthetics and aquatic communities.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP biologists conducted backpack electrofishing at one site in the middle of this Salisbury Brook AU (MA62-08), just upstream of Ellsworth St. (SampleID 5068) in September 2013. The sample (n=19) did not contain any fluvial species but did include two intolerant/moderately tolerant macrohabitat generalist taxa comprising 16% of the sample. Benthic and water quality monitoring were also conducted by MassDEP staff upstream of Ellsworth St (B0836, W2378) during the summer of 2013 as part of the MAP2 monitoring project (note that the water quality and fish data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). The benthic community sample IBI score of 28 was indicative of severely degraded conditions for a low gradient location. Water quality sampling data including both deployed probe and discrete sampling efforts can be summarized as follows: the minimum dissolved oxygen (DO) was 4.8mg/L during two short term deploys (total of eight days) and the minimum 3-5DADMin was 5.0mg/L; the maximum temperature was 28.8^{o}C, the maximum 7-DADM was acceptable at 26.4^{o}C and the maximum 24-hr rolling average was 26.8^{o}C during the 107-day deployment. The pH ranged from 6.4 to 6.6SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration 0.027mg/L n=5, maximum diel DO shift 2.1mg/L, DO maximum saturation 90%, maximum pH 6.6SU and no observations of dense/very dense filamentous algae during seven site visits to W2378 or during the other 40 site visits to 13 sites on the AU, surveyed during the Bacteria Source Tracking (BST) project in 2013-2015 & 2018). Specific conductance and chloride concentrations were both low (maximum 600µS/cm n=2 and 190mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.14mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
The Aquatic Life Use for Salisbury Brook (MA62-08) will continue to be assessed as Not Supporting with the Algae, Benthic Macroinvertebrates (severely degraded benthic community conditions documented by MassDEP staff upstream of Ellsworth St. in 2013), Non-Native Aquatic Plants, Physical Substrate Habitat Alterations and Sedimentation/Siltation impairments being carried forward; It should be noted, however, that water quality data collected by MassDEP staff during summer 2013 were generally indicative of good conditions.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5068	MassDEP	Fish Community	Salisbury Brook	W of Carleton St, just US/S of Ellsworth St	42.08240	-71.03005
B0836	MassDEP	Benthic	Salisbury Brook/	[west of Carleton Street, just upstream/south of Ellsworth Street, Brockton, MA]	42.082574	-71.030076
W1490	MassDEP	Water Quality	Salisbury Brook	[Otis Street, Brockton]	42.079367	-71.014062
W2378	MassDEP	Water Quality	Salisbury Brook	[west of Carleton Street, just upstream/south of Ellsworth Street, Brockton]	42.082574	-71.030076
W2431	MassDEP	Water Quality	Salisbury Brook	[Ash Street, Brockton]	42.087550	-71.036144
W2435	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet downstream/east of Belmont Avenue, Brockton]	42.086697	-71.033600
W2436	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet upstream/west of Belmont Avenue, Brockton]	42.086739	-71.033801
W2437	MassDEP	Water Quality	Salisbury Brook	[Moraine Street, Brockton]	42.087815	-71.037505
W2438	MassDEP	Water Quality	Salisbury Brook	[just downstream/south at Pleasant Street (Route 27), Brockton]	42.089328	-71.039926
W2491	MassDEP	Water Quality	Salisbury Brook	[approximately 120 feet west of Summer Street, at the mouth of Salisbury Brook, Rehoboth]	42.079105	-71.010146

W2579	MassDEP	Water Quality	Salisbury Brook	[Montgomery Street, Brockton]	42.082918	-71.028682
W2580	MassDEP	Water Quality	Salisbury Brook	[Warren Avenue, Brockton]	42.077663	-71.022152
W2581	MassDEP	Water Quality	Salisbury Brook	[Perkins Street, Brockton]	42.080168	-71.015558
W2582	MassDEP	Water Quality	Salisbury Brook	[Montello Street, Brockton]	42.080709	-71.017187
W2583	MassDEP	Water Quality	Salisbury Brook	[Spring Street, Brockton]	42.085076	-71.033035

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0836	07/23/13	RBP multihab	Statewide_Low_Gradient	275	28	SD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, CP = Chain Pickerel, RP = Redfin Pickerel]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5068	09/06/13	BP	TP		3	19	0%	0	0%	0%	2	16%	No	No	AE, CP, RP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2378	2013	2	8	4.8	5	5.6	2.1	1	2	1	2	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2378	05/15/13	09/18/13	2	6.5	6.8	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2378	06/01/13	09/15/13	107	106	26.2	28.8	26.4	25.0	92	15	54	9	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2378	2013	2	8	24.6	27.8	25.4	23.6	2	3	1	1	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2378	06/01/13	09/15/13	107	5136	26.8	755	422	0
W2378	07/18/13	08/20/13	33	389	25.0	114	53	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2378	05/15/13	09/18/13	4	2	22.7	17.5	2	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2378	05/15/13	09/18/13	2	6.4	6.6	1	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W1490	2015	--	--	--	--	--	--	--	--	4	2
W2378	2013	5	0.022	0.030	0.027	2.1	1.1	90.0	6.6	7	0
W2431	2013	--	--	--	--	--	--	--	--	3	0
W2435	2013	--	--	--	--	--	--	--	--	4	0
W2436	2013	--	--	--	--	--	--	--	--	5	0
W2437	2013	--	--	--	--	--	--	--	--	3	0
W2438	2013	--	--	--	--	--	--	--	--	3	0
W2491	2014	--	--	--	--	--	--	--	--	2	0
W2491	2018	--	--	--	--	--	--	--	--	2	0
W2579	2015	--	--	--	--	--	--	--	--	2	0
W2580	2015	--	--	--	--	--	--	--	--	2	0
W2581	2015	--	--	--	--	--	--	--	--	3	0
W2582	2015	--	--	--	--	--	--	--	--	4	0
W2583	2015	--	--	--	--	--	--	--	--	3	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2378	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2378	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2378	2013	3	0.006	0.0088	0.008	0.0	0.0	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2378	2013	4	0.040	0.140	0.080	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2378	2013	4	130	190	160	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2378	05/15/13	09/18/13	2	208	600	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

No fish toxics monitoring has been conducted in Salisbury Brook (MA62-08); therefore, the Fish Consumption Use is Not Assessed.

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys on this Salisbury Brook AU (MA62-08) at 13 sites in Brockton during the summers of 2013 (as part of the Bacteria Source Tracking (BST) project and the MAP2 project) and the summers of 2014, 2015 and 2018 (as part of the BST project only). The site descriptions from upstream to downstream are as follows: just DS at Pleasant St. (Rt. 27) (W2438, n=3 in 2013); Moraine St. (W2437, n=3 in 2013), Ash St. (W2431, n=3 in 2013), ~20 ft US of Belmont Ave (W2436, n=5 in 2013), ~20 ft DS of Belmont Ave (W2435, n=4 in 2013), Spring St. (W2583, n=3 in 2015); west of Carleton St., just US of Ellsworth St. (W2378, n=8 in 2013), Montgomery St. (W2579, n=2 in 2015), Warren Ave (W2580, n=2 in 2015), Montello St. (W2582, n=4 in 2015), Perkins St. (W2581, n=3 in 2015), Otis St. (W1490, n=4 in 2015) and ~120 ft west of Summer St., at the mouth of Salisbury Brook (W2491, n=2 in 2014 and 2018). There were generally no noted objectionable odors or turbidity recorded by DEP field sampling crews at any site during any summer. However, there were eight observations of trash and one observation of bacterial growth at site W2378 as well as two observations of dense/very dense filamentous algae at site W1490. The Aquatic Life Use for Salisbury Brook (MA62-08) will continue to be assessed as Not Supporting with the Algae, Debris and Trash impairments being carried forward (observations of trash and bacterial growth were made by MassDEP staff during field surveys just US of Ellsworth St. (W2378) in 2013 and observations of dense filamentous algae were made by MassDEP staff during field surveys at Otis St. (W1490) in 2015).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1490	MassDEP	Water Quality	Salisbury Brook	[Otis Street, Brockton]	42.079367	-71.014062
W2378	MassDEP	Water Quality	Salisbury Brook	[west of Carleton Street, just upstream/south of Ellsworth Street, Brockton]	42.082574	-71.030076
W2431	MassDEP	Water Quality	Salisbury Brook	[Ash Street, Brockton]	42.087550	-71.036144
W2435	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet downstream/east of Belmont Avenue, Brockton]	42.086697	-71.033600
W2436	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet upstream/west of Belmont Avenue, Brockton]	42.086739	-71.033801
W2437	MassDEP	Water Quality	Salisbury Brook	[Moraine Street, Brockton]	42.087815	-71.037505
W2438	MassDEP	Water Quality	Salisbury Brook	[just downstream/south at Pleasant Street (Route 27), Brockton]	42.089328	-71.039926
W2491	MassDEP	Water Quality	Salisbury Brook	[approximately 120 feet west of Summer Street, at the mouth of Salisbury Brook, Rehoboth]	42.079105	-71.010146
W2579	MassDEP	Water Quality	Salisbury Brook	[Montgomery Street, Brockton]	42.082918	-71.028682
W2580	MassDEP	Water Quality	Salisbury Brook	[Warren Avenue, Brockton]	42.077663	-71.022152
W2581	MassDEP	Water Quality	Salisbury Brook	[Perkins Street, Brockton]	42.080168	-71.015558
W2582	MassDEP	Water Quality	Salisbury Brook	[Montello Street, Brockton]	42.080709	-71.017187

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2583	MassDEP	Water Quality	Salisbury Brook	[Spring Street, Brockton]	42.085076	-71.033035

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1490	Salisbury Brook	2015	4	The Aesthetics use for Salisbury Brook is assessed as Fully Supporting based on observations (generally no odors, deposits, or turbidity) by MassDEP staff during field surveys at station W1490 in summer 2015 (n=4). However, the use is identified with an Alert status due to 2 observations of dense/very dense filamentous algae.
W2378	Salisbury Brook	2013	8	The Aesthetic use for Salisbury Brook continues to be assessed as Not Supporting based on observations of MassDEP staff at station W2378/MAP2-341 during summer 2013 (n=8). These include 8 observations of trash and 1 observation of a bacterial growth. There were generally no other objectionable conditions (odors, growths, or turbidity).
W2431	Salisbury Brook	2013	3	MassDEP aesthetics observations for station W2431 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2435	Salisbury Brook	2013	4	MassDEP aesthetics observations for station W2435 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2436	Salisbury Brook	2013	5	MassDEP aesthetics observations for station W2436 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2437	Salisbury Brook	2013	3	MassDEP aesthetics observations for station W2437 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2438	Salisbury Brook	2013	3	MassDEP aesthetics observations for station W2438 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2491	Salisbury Brook	2014	2	MassDEP aesthetics observations for station W2491 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2491	Salisbury Brook	2018	2	MassDEP aesthetics observations for station W2491 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2579	Salisbury Brook	2015	2	MassDEP aesthetics observations for station W2579 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2580	Salisbury Brook	2015	2	MassDEP aesthetics observations for station W2580 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2581	Salisbury Brook	2015	3	MassDEP aesthetics observations for station W2581 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015.
W2582	Salisbury Brook	2015	4	MassDEP aesthetics observations for station W2582 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015.
W2583	Salisbury Brook	2015	3	MassDEP aesthetics observations for station W2583 on Salisbury Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1490	2015	4	4	2
W2378	2013	8	7	0
W2431	2013	3	3	0
W2435	2013	4	4	0
W2436	2013	5	5	0
W2437	2013	3	3	0
W2438	2013	3	3	0
W2491	2014	2	2	0
W2491	2018	2	2	0
W2579	2015	2	2	0
W2580	2015	2	2	0
W2581	2015	3	3	0
W2582	2015	4	4	0

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2583	2015	3	3	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1490	Salisbury Brook	2015	Color	None	4	4
W1490	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	4	4
W1490	Salisbury Brook	2015	Odor	None	4	4
W1490	Salisbury Brook	2015	Scum	Not Applicable (N/A)	4	4
W1490	Salisbury Brook	2015	Turbidity	Slightly Turbid	4	4
W2378	Salisbury Brook	2013	Color	Greyish	1	8
W2378	Salisbury Brook	2013	Color	Light Yellow/Tan	4	8
W2378	Salisbury Brook	2013	Color	None	3	8
W2378	Salisbury Brook	2013	Objectionable Deposits	Yes	8	8
W2378	Salisbury Brook	2013	Odor	Musty (Basement)	3	8
W2378	Salisbury Brook	2013	Odor	None	3	8
W2378	Salisbury Brook	2013	Odor	NR	1	8
W2378	Salisbury Brook	2013	Odor	Petroleum	1	8
W2378	Salisbury Brook	2013	Scum	No	7	8
W2378	Salisbury Brook	2013	Scum	Yes	1	8
W2378	Salisbury Brook	2013	Turbidity	None	7	8
W2378	Salisbury Brook	2013	Turbidity	Slightly Turbid	1	8
W2431	Salisbury Brook	2013	Color	None	3	3
W2431	Salisbury Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W2431	Salisbury Brook	2013	Odor	None	3	3
W2431	Salisbury Brook	2013	Scum	Not Applicable (N/A)	3	3
W2431	Salisbury Brook	2013	Turbidity	Slightly Turbid	3	3
W2435	Salisbury Brook	2013	Color	None	4	4
W2435	Salisbury Brook	2013	Objectionable Deposits	Not Applicable (N/A)	4	4
W2435	Salisbury Brook	2013	Odor	Musty (Basement)	1	4
W2435	Salisbury Brook	2013	Odor	None	3	4
W2435	Salisbury Brook	2013	Scum	Not Applicable (N/A)	4	4
W2435	Salisbury Brook	2013	Turbidity	Moderately Turbid	1	4
W2435	Salisbury Brook	2013	Turbidity	Slightly Turbid	3	4
W2436	Salisbury Brook	2013	Color	None	5	5
W2436	Salisbury Brook	2013	Objectionable Deposits	Not Applicable (N/A)	5	5
W2436	Salisbury Brook	2013	Odor	None	5	5
W2436	Salisbury Brook	2013	Scum	Not Applicable (N/A)	5	5
W2436	Salisbury Brook	2013	Turbidity	Slightly Turbid	5	5
W2437	Salisbury Brook	2013	Color	None	3	3
W2437	Salisbury Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W2437	Salisbury Brook	2013	Odor	None	3	3
W2437	Salisbury Brook	2013	Scum	Not Applicable (N/A)	3	3
W2437	Salisbury Brook	2013	Turbidity	Slightly Turbid	3	3
W2438	Salisbury Brook	2013	Color	None	3	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2438	Salisbury Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W2438	Salisbury Brook	2013	Odor	None	3	3
W2438	Salisbury Brook	2013	Scum	Not Applicable (N/A)	3	3
W2438	Salisbury Brook	2013	Turbidity	Slightly Turbid	3	3
W2491	Salisbury Brook	2014	Color	None	2	2
W2491	Salisbury Brook	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2491	Salisbury Brook	2014	Odor	None	2	2
W2491	Salisbury Brook	2014	Scum	Not Applicable (N/A)	2	2
W2491	Salisbury Brook	2014	Turbidity	Slightly Turbid	2	2
W2491	Salisbury Brook	2018	Color	None	2	2
W2491	Salisbury Brook	2018	Objectionable Deposits	NA	2	2
W2491	Salisbury Brook	2018	Odor	None	2	2
W2491	Salisbury Brook	2018	Scum	NA	2	2
W2491	Salisbury Brook	2018	Turbidity	Slightly Turbid	2	2
W2579	Salisbury Brook	2015	Color	None	2	2
W2579	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2579	Salisbury Brook	2015	Odor	None	2	2
W2579	Salisbury Brook	2015	Scum	Not Applicable (N/A)	2	2
W2579	Salisbury Brook	2015	Turbidity	Slightly Turbid	2	2
W2580	Salisbury Brook	2015	Color	None	2	2
W2580	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2580	Salisbury Brook	2015	Odor	None	2	2
W2580	Salisbury Brook	2015	Scum	Not Applicable (N/A)	2	2
W2580	Salisbury Brook	2015	Turbidity	Slightly Turbid	2	2
W2581	Salisbury Brook	2015	Color	None	3	3
W2581	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	3	3
W2581	Salisbury Brook	2015	Odor	None	3	3
W2581	Salisbury Brook	2015	Scum	Not Applicable (N/A)	3	3
W2581	Salisbury Brook	2015	Turbidity	Slightly Turbid	3	3
W2582	Salisbury Brook	2015	Color	None	4	4
W2582	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	4	4
W2582	Salisbury Brook	2015	Odor	None	4	4
W2582	Salisbury Brook	2015	Scum	Not Applicable (N/A)	4	4
W2582	Salisbury Brook	2015	Turbidity	Slightly Turbid	4	4
W2583	Salisbury Brook	2015	Color	None	3	3
W2583	Salisbury Brook	2015	Objectionable Deposits	Not Applicable (N/A)	3	3
W2583	Salisbury Brook	2015	Odor	None	3	3
W2583	Salisbury Brook	2015	Scum	Not Applicable (N/A)	3	3
W2583	Salisbury Brook	2015	Turbidity	Slightly Turbid	3	3

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from this Salisbury Brook AU (MA62-08) as part of the MAP2 project (in 2013) and as part of the Bacteria Source Tracking (BST) project (in 2013-2015 and 2018), at 13 sites in Brockton from upstream to downstream as follows: just DS at Pleasant St. (Rt. 27) (W2438) July-October 2013 (n=3); Moraine St. (W2437) July-October 2013 (n=3); Ash St. (W2431) July-October 2013 (n=3); ~20ft US of Belmont Ave (W2436) April-October 2013 (n=5); ~20 ft DS of Belmont Ave (W2435) April-September 2013 (n=4); Spring St. (W2583) June-October 2015 (n=3); just US of Ellsworth St (W2378) May-September 2013 (n=5); Montgomery St. (W2579) June-July 2015 (n=2); Warren Ave (W2580) May-June 2015 (n=2); Montello St. (W2582) May-September 2015 (n=4); Perkins St. (W2581) May-September 2015 (n=3); Otis St. (W1490) May-September 2015 (n=4) and ~ 120ft W of Summer St, at the mouth of Salisbury Brook (W2491) in July 2014 (n=2) and July-August 2018 (n=2). Data analysis indicated that 100% of intervals had GMs >126 CFU/100mL at six locations (W2437, W2431, W2436, W2378, W2582 and W1490) and the number of samples exceeding the 410 CFU/100mL STV ranged from 1-5 samples (data from these stations exceeded the use attainment impairment threshold for a single year, limited frequency dataset). The data at the rest of the sites are too limited to assess the Use according to the 2022 CALM "Use Attainment Impairment Decision Schema", though it should be noted that at sites W2435, W2579, W2580, W2581 and W2491, 2-3 samples exceeded the 410 CFU/100mL STV and the seasonal GMs ranged from 813 to 13,264 CFU/100mL. *E. coli* data did not exceed the use attainment impairment threshold only at the most upstream site of them all, i.e., Pleasant St. (W2438). There were generally no noted objectionable odors or turbidity recorded by DEP field sampling crews at any site during any summer. However, there were eight observations of trash and one observation of bacterial growth at site W2378 as well as two observations of dense/very dense filamentous algae at site W1490.
Additional BST work was conducted in 2011-2018 at 19 sites along Salisbury Brook, with *E. coli* concentrations ranging from 85 to >24,196 MPN. Two hotspot areas were identified in the stretch of brook downstream of the Belmont Ave bridge (no human sources ever located) and the stretch of brook between Perkins St and the downstream end of the AU (human sources corrected in 2015 and 2016). The *E. coli* concentrations at the downstream end of the AU (W2491) improved from a maximum of 24,196 MPN in 2014 to 1,935 MPN in 2018.
The Primary Contact Recreation Use for Salisbury Brook (MA62-08) will continue to be assessed as Not Supporting with the Algae, Debris, Escherichia Coli (*E. Coli*), Fecal Coliform and Trash impairments being carried forward. *E. coli* data collected by MassDEP at six stations in the AU in 2013-2015 and 2018 exceeded use attainment impairment thresholds, and observations of objectionable conditions continue to be observed at two stations.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1490	MassDEP	Water Quality	Salisbury Brook	[Otis Street, Brockton]	42.079367	-71.014062
W2378	MassDEP	Water Quality	Salisbury Brook	[west of Carleton Street, just upstream/south of Ellsworth Street, Brockton]	42.082574	-71.030076
W2431	MassDEP	Water Quality	Salisbury Brook	[Ash Street, Brockton]	42.087550	-71.036144
W2435	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet downstream/east of Belmont Avenue, Brockton]	42.086697	-71.033600
W2436	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet upstream/west of Belmont Avenue, Brockton]	42.086739	-71.033801
W2437	MassDEP	Water Quality	Salisbury Brook	[Moraine Street, Brockton]	42.087815	-71.037505
W2438	MassDEP	Water Quality	Salisbury Brook	[just downstream/south at Pleasant Street (Route 27), Brockton]	42.089328	-71.039926
W2491	MassDEP	Water Quality	Salisbury Brook	[approximately 120 feet west of Summer Street, at the mouth of Salisbury Brook, Rehoboth]	42.079105	-71.010146
W2579	MassDEP	Water Quality	Salisbury Brook	[Montgomery Street, Brockton]	42.082918	-71.028682

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2580	MassDEP	Water Quality	Salisbury Brook	[Warren Avenue, Brockton]	42.077663	-71.022152
W2581	MassDEP	Water Quality	Salisbury Brook	[Perkins Street, Brockton]	42.080168	-71.015558
W2582	MassDEP	Water Quality	Salisbury Brook	[Montello Street, Brockton]	42.080709	-71.017187
W2583	MassDEP	Water Quality	Salisbury Brook	[Spring Street, Brockton]	42.085076	-71.033035

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

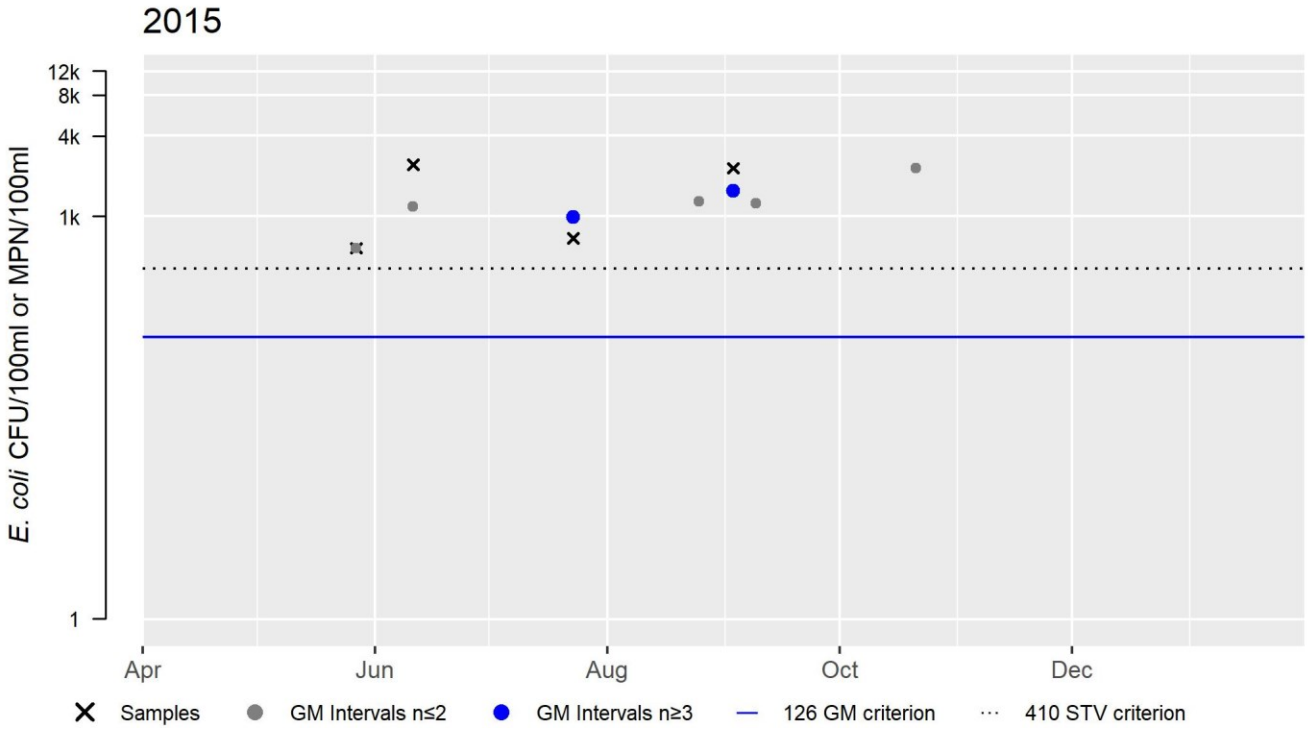
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1490	MassDEP	E. coli	05/27/15	09/03/15	4	579	2419.6	1217
W2378	MassDEP	E. coli	05/16/13	09/11/13	5	727	1860	1195
W2431	MassDEP	E. coli	07/17/13	10/02/13	3	246	1200	566
W2435	MassDEP	E. coli	04/10/13	09/19/13	4	226	2420	813
W2436	MassDEP	E. coli	04/10/13	10/02/13	5	213	2419.6	856
W2437	MassDEP	E. coli	07/17/13	10/02/13	3	181	980	365
W2438	MassDEP	E. coli	07/17/13	10/02/13	3	85	161	119
W2491	MassDEP	E. coli	07/09/14	07/23/14	2	7270	24200	13264
W2491	MassDEP	E. coli	07/16/18	08/01/18	2	1150	1940	1494
W2579	MassDEP	E. coli	06/11/15	07/23/15	2	1050	1200	1122
W2580	MassDEP	E. coli	05/27/15	06/11/15	2	1120	1550	1318
W2581	MassDEP	E. coli	05/27/15	09/03/15	3	980	3260	1607
W2582	MassDEP	E. coli	05/27/15	09/03/15	4	816	1410	1115
W2583	MassDEP	E. coli	06/11/15	10/21/15	3	259	2420	589

W1490 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	1217
#GMI	2
#GMI Ex	2
%GMI Ex	100
n>STV	4
%n>STV	100

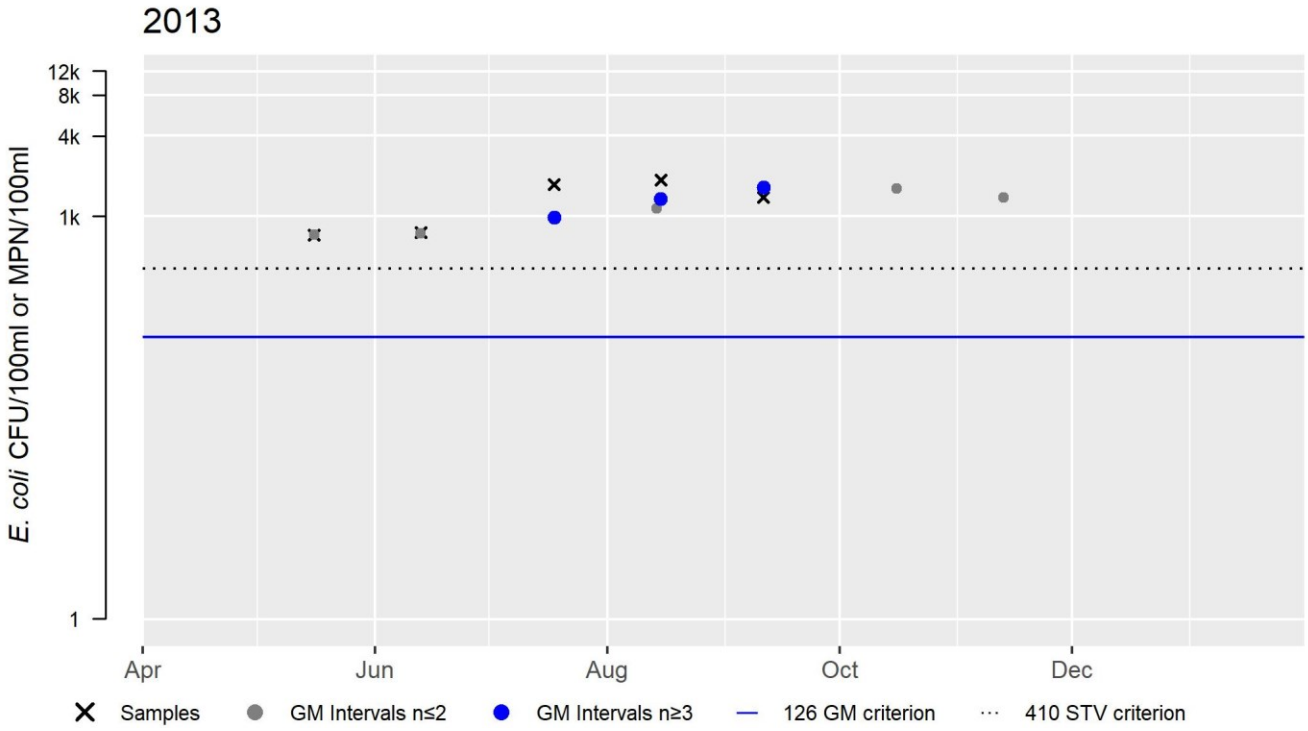
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2378 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	1195
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	5
%n>STV	100

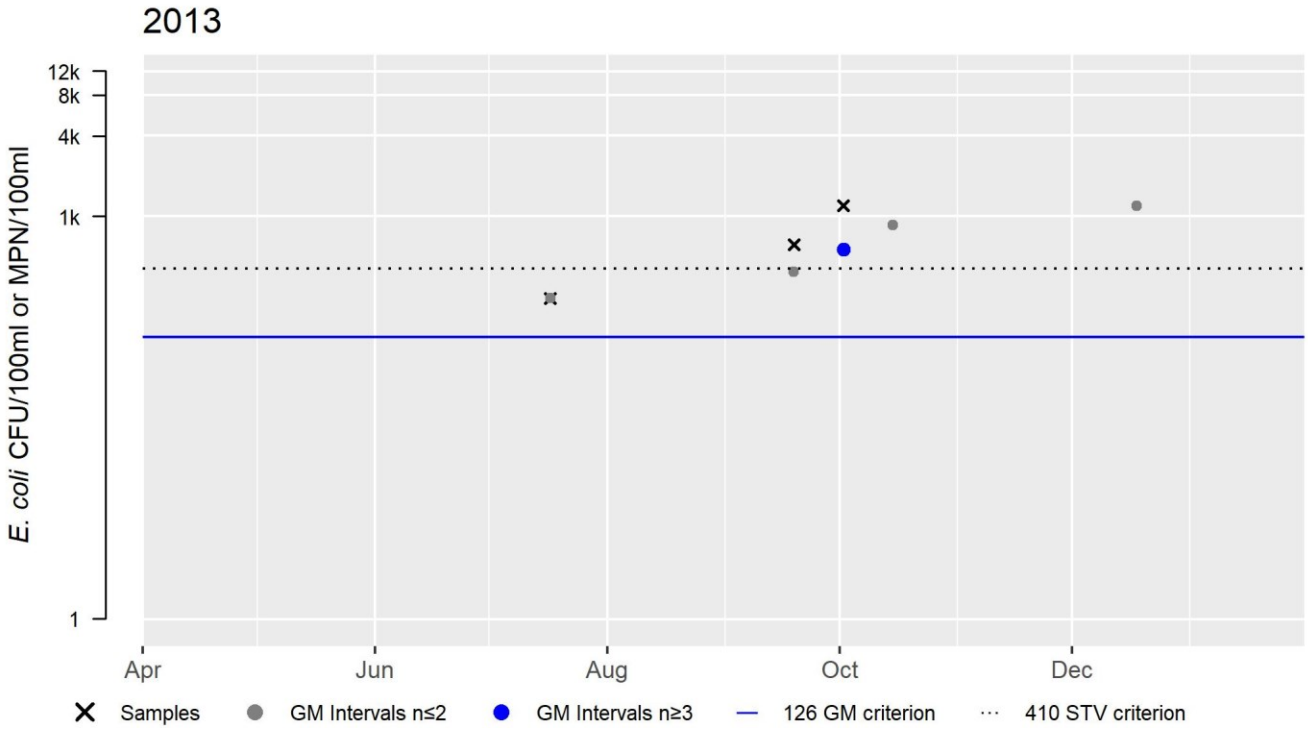
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2431 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	566
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	2
%n>STV	67

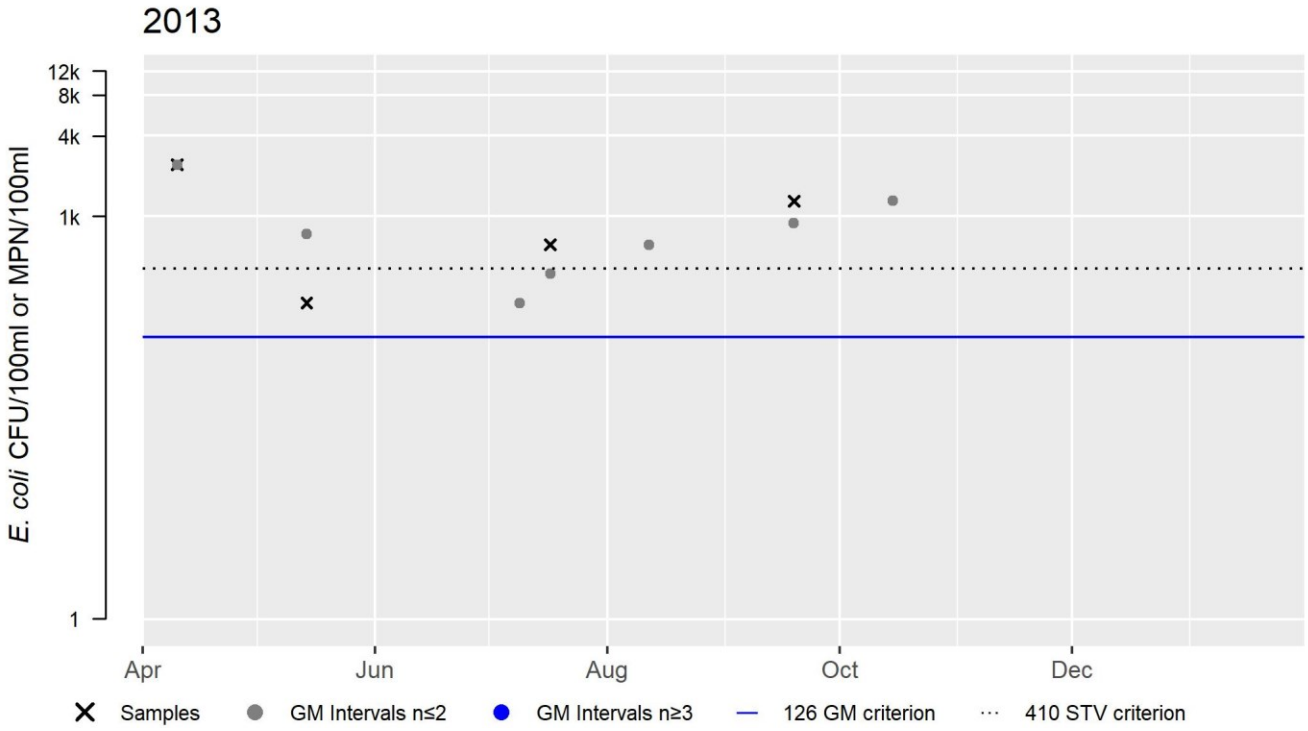
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2435 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	813
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	3
%n>STV	75

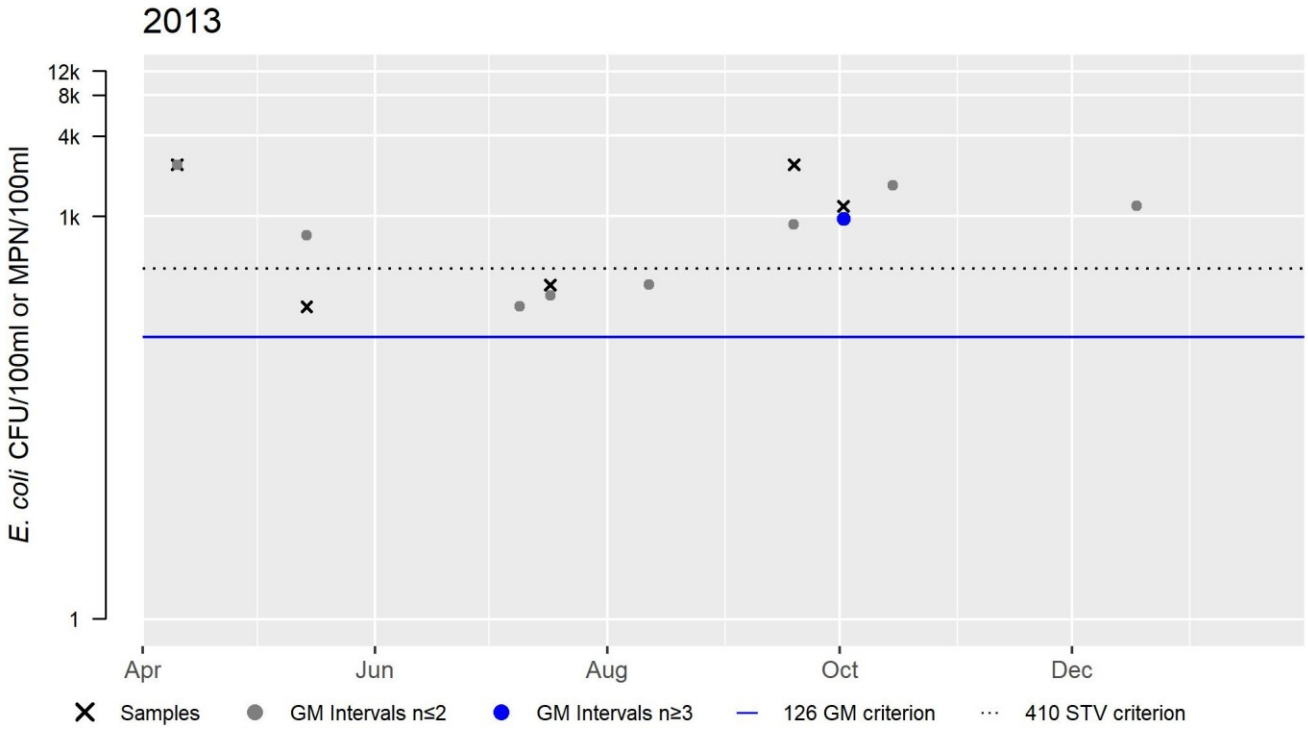
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2436 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	856
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	60

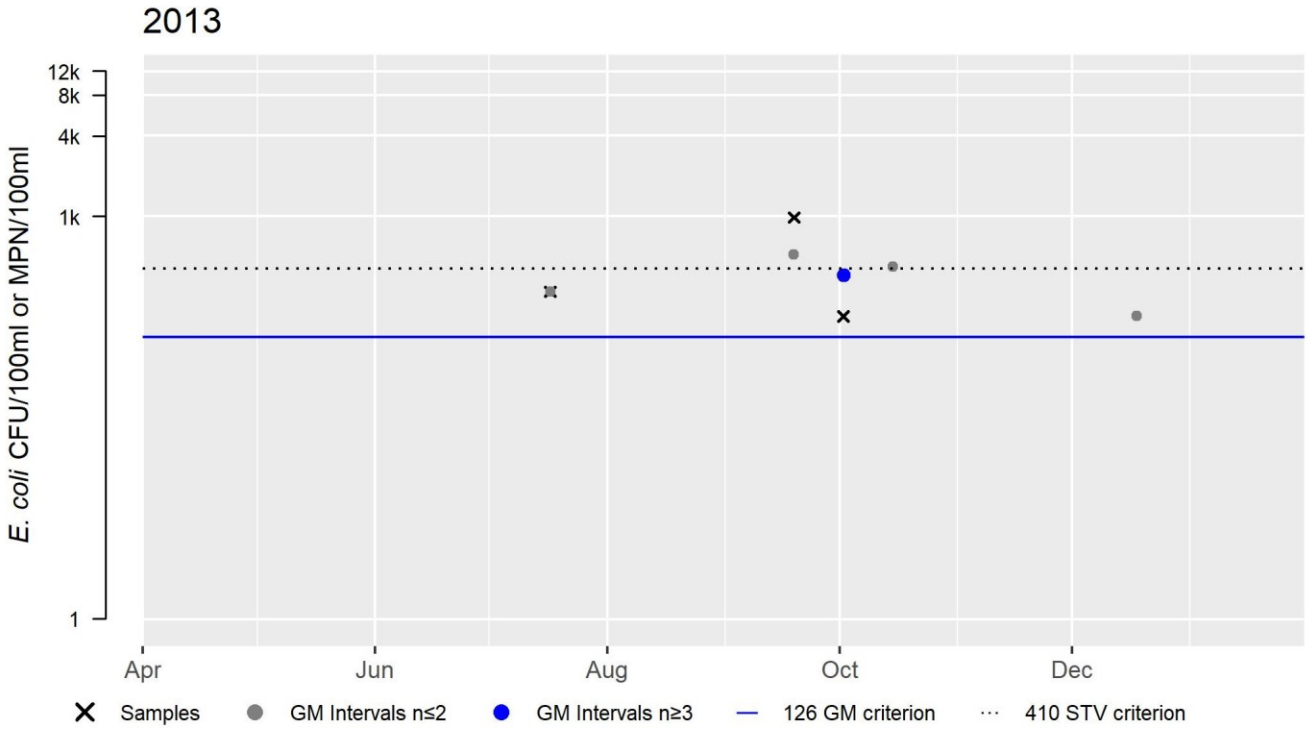
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2437 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	365
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

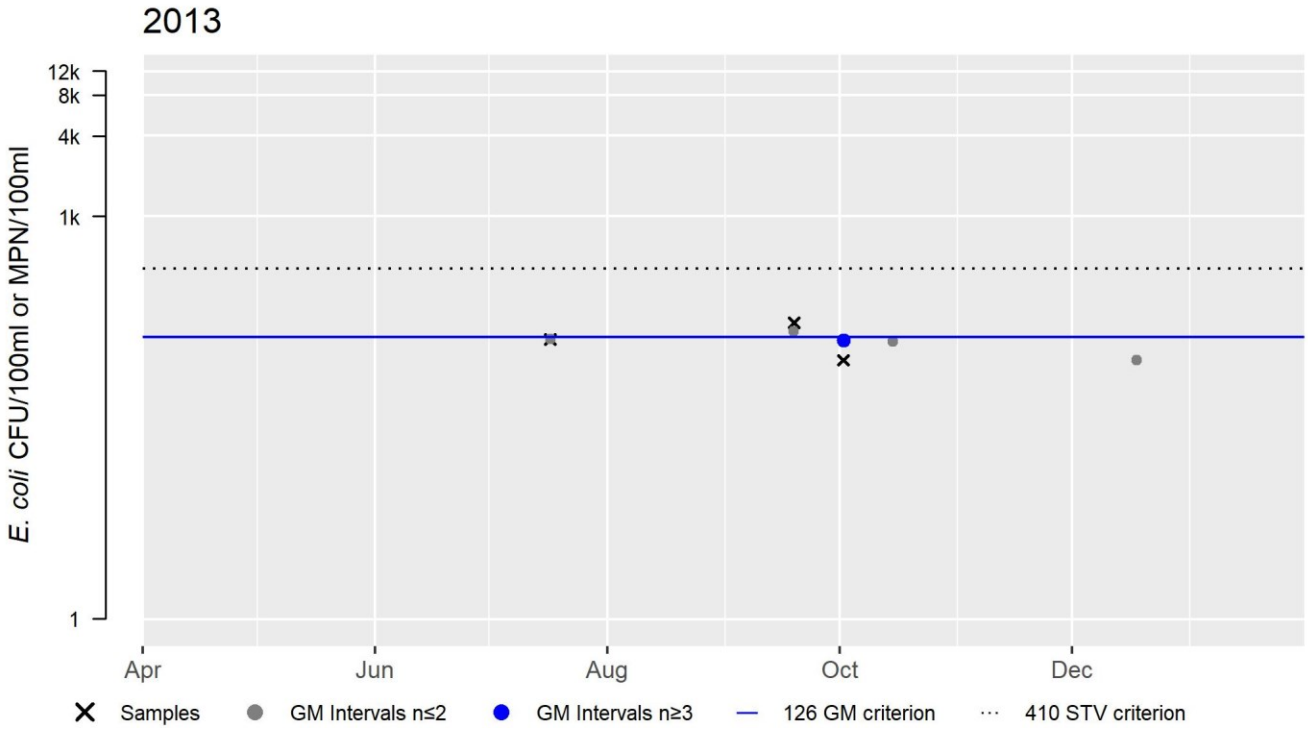
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2438 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	119
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



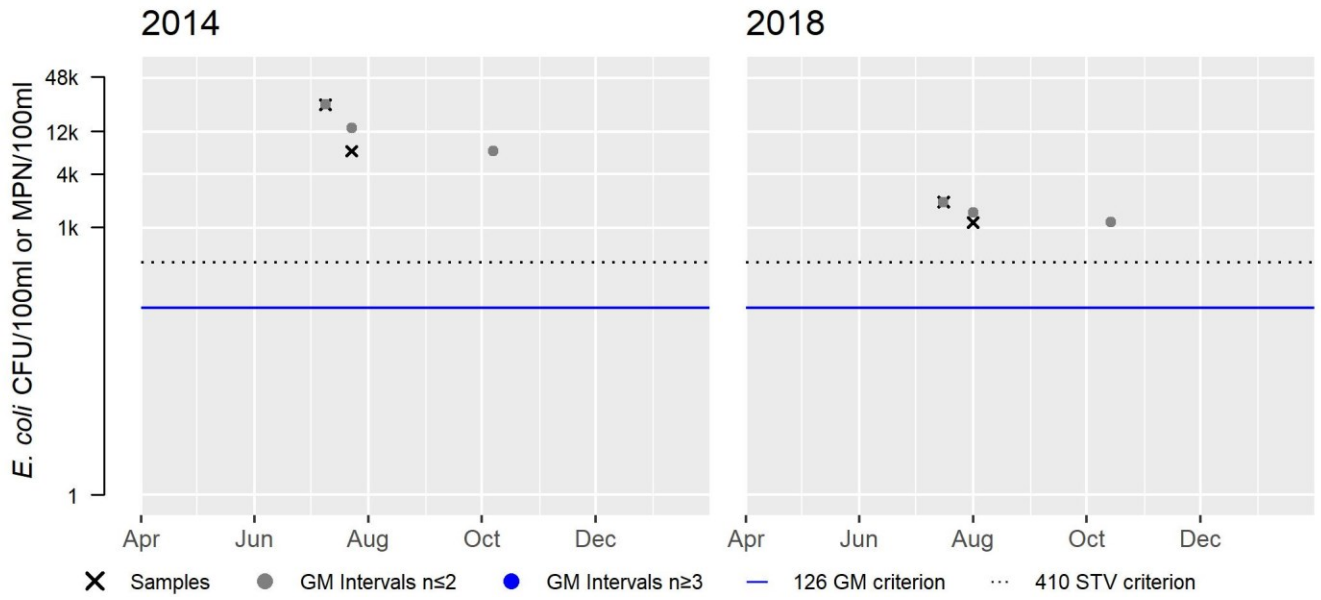
W2491 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	13264
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	1494
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

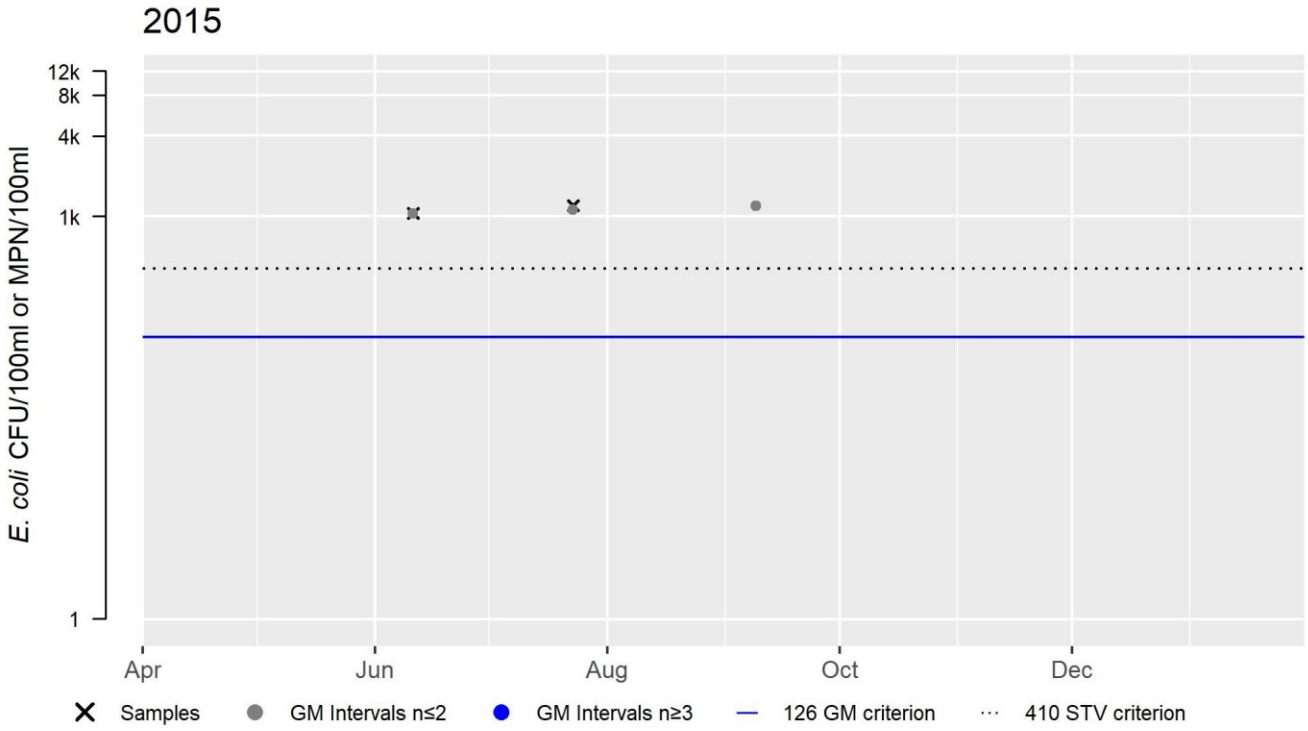
Variable	Cumulative %GMI Ex (all years)
Result	0



W2579 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1122
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

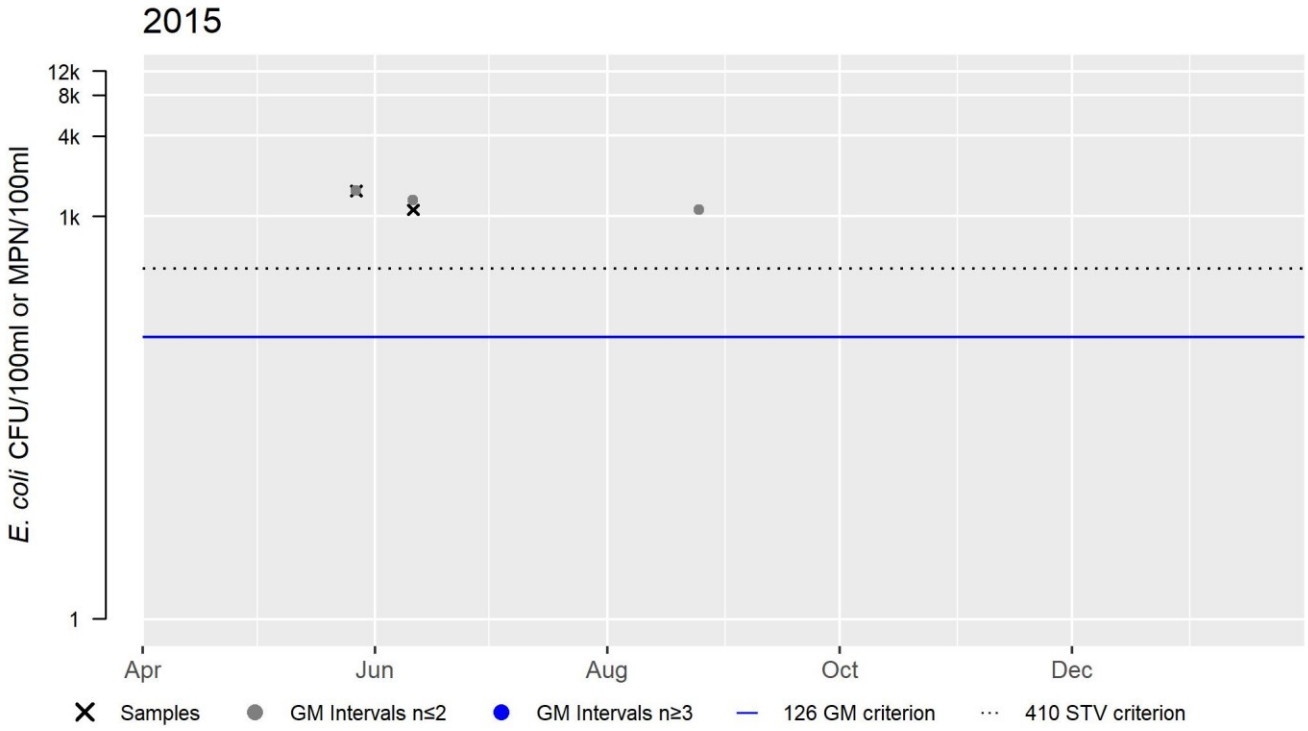
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2580 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1318
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

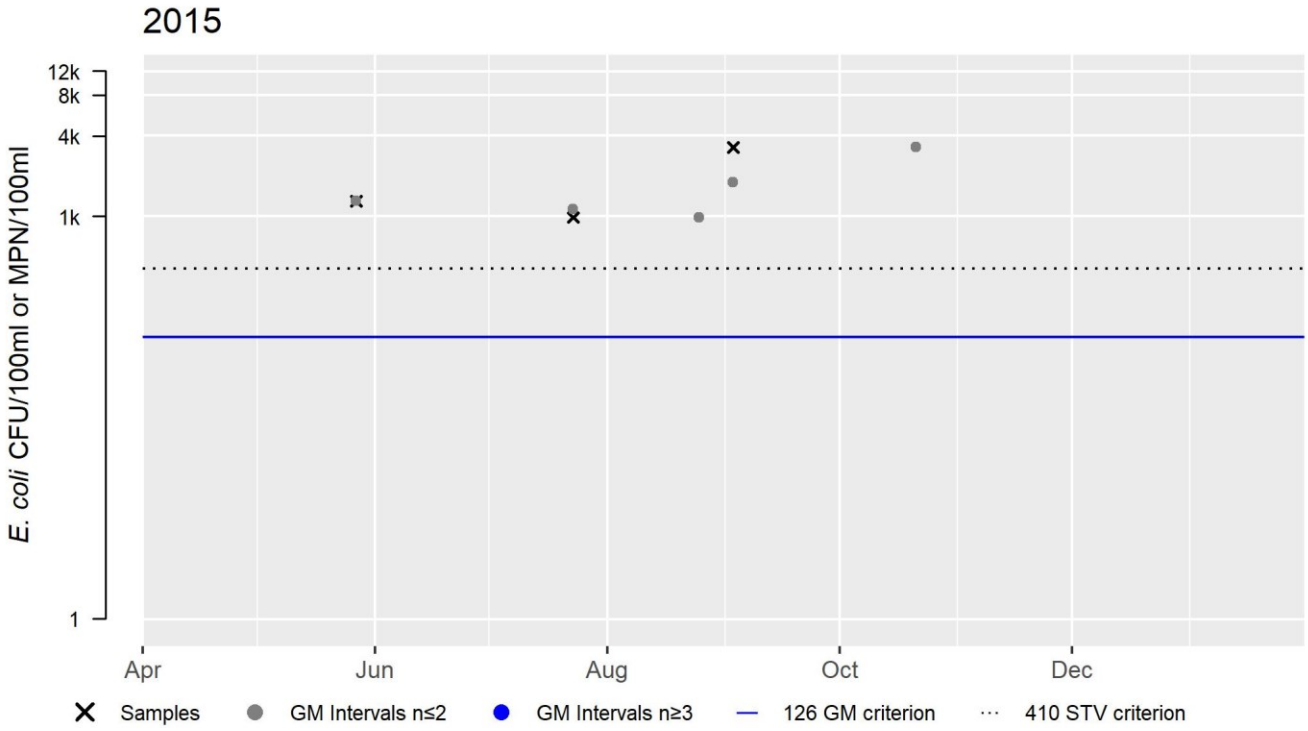
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2581 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1607
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	3
%n>STV	100

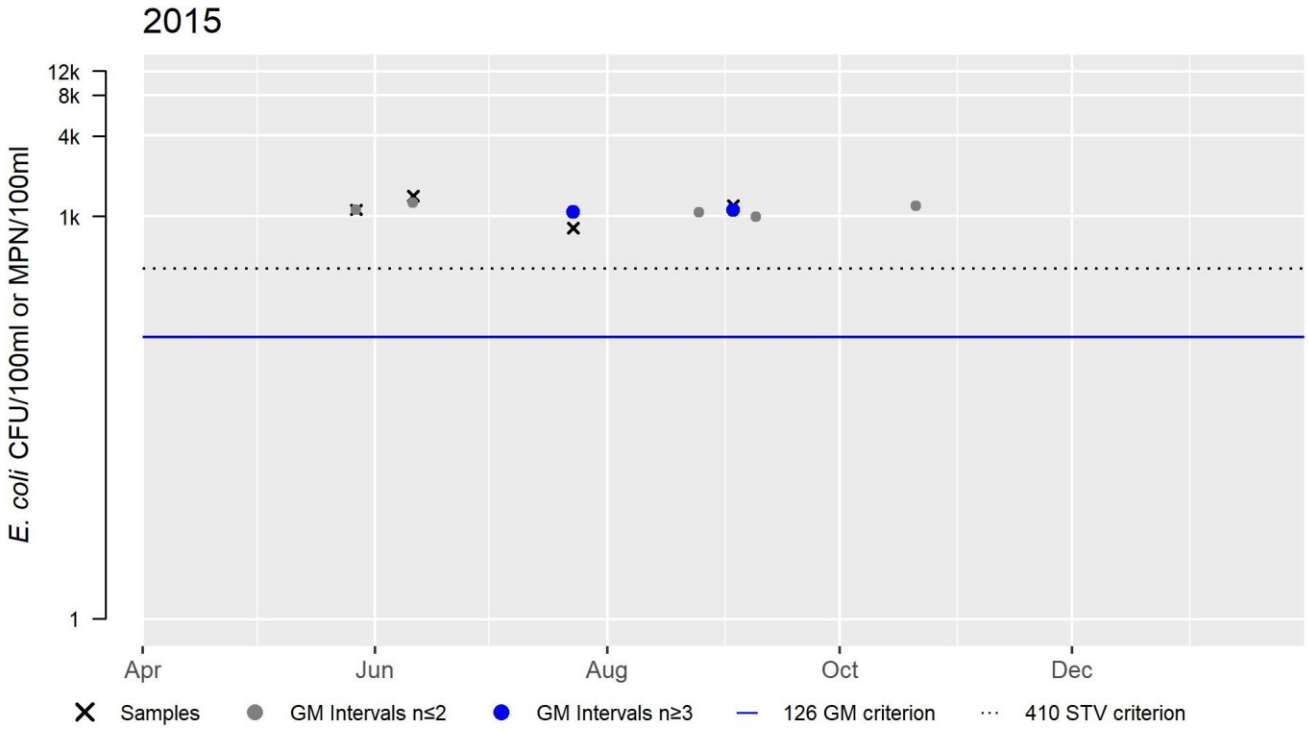
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2582 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	1115
#GMI	2
#GMI Ex	2
%GMI Ex	100
n>STV	4
%n>STV	100

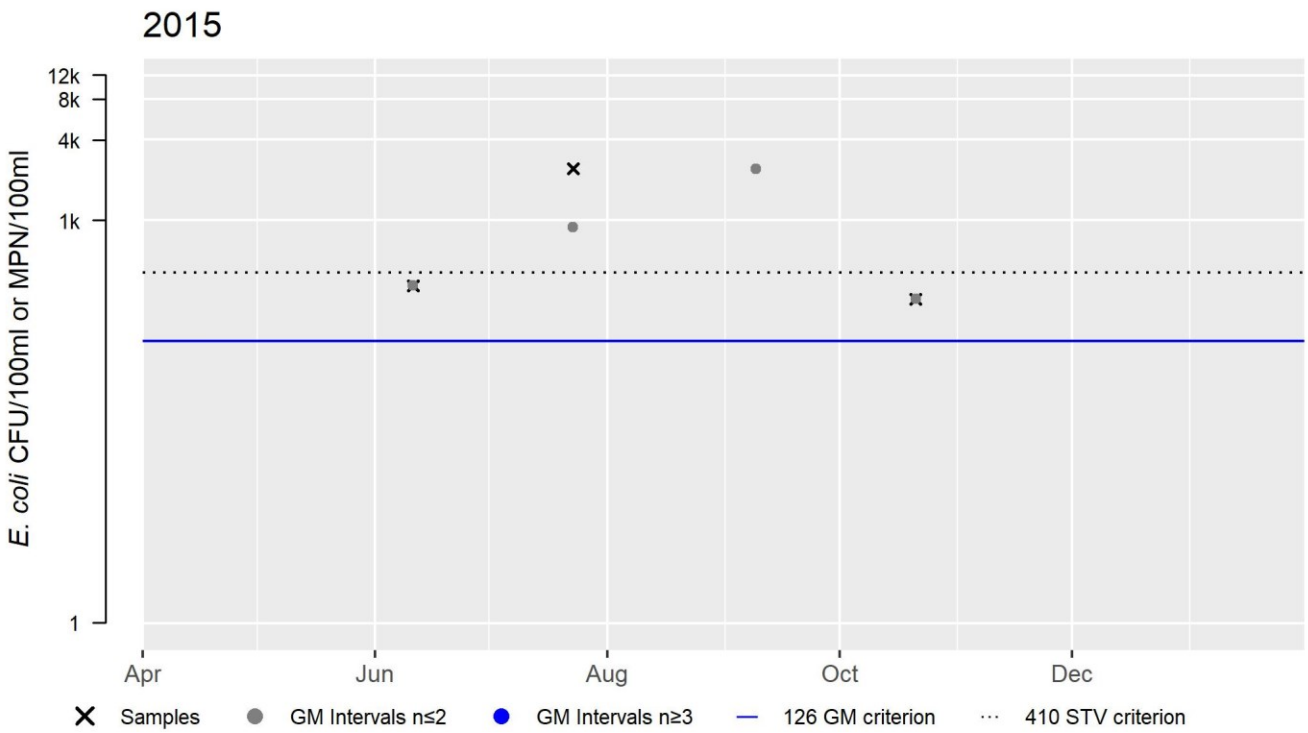
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2583 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	589
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	33

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
Prior to 2011, BST work was conducted along the Salisbury Brook AU (MA62-08), with a max dry weather E. coli concentration of >24,196MPN at Warren St. Additional BST work was conducted in 2011-2018 at 19 sites along Salisbury Brook, with E. coli concentrations ranging 85 to >24,196MPN. Two hotspot areas were identified: 1) The stretch of brook downstream of the Belmont Ave bridge (location of a human source narrowed down to a stormdrain outfall pipe underneath the Belmont Ave bridge. Source tracking progressed up into the drainage infrastructure with help of City of Brockton. Investigation ongoing, no corrections yet). 2) The stretch of brook between Perkins St and the bottom of the AU (source narrowed down to a stormdrain outfall pipe ~770ft upstream of the confluence with the Salisbury Plain River. The City corrected a human source located on the stretch of Lawrence St between Montello St (Rte 28) & the nearby railroad line, in 2015 & 2016). concentrations improved at the pipe from a max of 24,196MPN in 2014 to 249MPN in 2018. The E.coli concentrations at the downstream end of the AU improved from a max of 24,196MPN in 2014 to 1,935MPN in 2018. Elevated bacteria concentrations continue to be observed intermittently at all hotspot areas and the City continues to watch/sample all City drain outfall pipes, source tracking when necessary.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples from this Salisbury Brook AU (MA62-08) as part of the MAP2 project (in 2013) and as part of the Bacteria Source Tracking (BST) project (in 2013-2015 & 2018), at 13 sites in Brockton from upstream to downstream as follows: just DS at Pleasant St. (Rt. 27) (W2438) July-October 2013 (n=3); Moraine St. (W2437) July-October 2013 (n=3); Ash St. (W2431) July-October 2013 (n=3); ~20ft US of Belmont Ave (W2436) April-October 2013 (n=5); ~20 ft DS of Belmont Ave (W2435) April-September 2013 (n=4); Spring St. (W2583) June-October 2015 (n=3); just US of Ellsworth St. (W2378) May-September 2013 (n=5); Montgomery St. (W2579) June-July 2015 (n=2); Warren Ave (W2580) May-June 2015 (n=2); Montello St. (W2582) May-September 2015 (n=4); Perkins St. (W2581) May-September 2015 (n=3); Otis St. (W1490) May-September 2015 (n=4) and ~120ft W of Summer St, at the mouth of Salisbury Brook (W2491) in July 2014 (n=2) and July-August 2018 (n=2). Data analysis indicated that 100% of intervals had GMs >630 CFU/100mL at four locations (W2436, W2378, W2582 & W1490) and the number of samples exceeding the 1260 CFU/100mL STV ranged from 1-3 samples (data from these stations exceeded the use attainment impairment threshold for a single year, limited frequency dataset). The data at the rest of the sites are too limited to assess the Secondary Contact Recreation Use according to the CALM "Use Attainment Impairment Decision Schema", though it should be noted that at sites W2435, W2583, W2580, W2581 and W2491 a range of 1-2 samples exceeded the 1260 CFU/100mL STV and seasonal GMs ranged from 813-13,264 CFU/100mL. *E. coli* data did not exceed the use attainment impairment threshold at the three most upstream sites (W2438, W2437, W2431). There were generally no noted objectionable odors or turbidity recorded by DEP field sampling crews at any site during any summer. However, there were eight observations of trash and one observation of bacterial growth at site W2378 as well as two observations of dense/very dense filamentous algae at site W1490.

Additional BST work was conducted in 2011-2018 at 19 sites along Salisbury Brook, with *E. coli* concentrations ranging from 85 to >24,196 MPN. Two hotspot areas were identified in the stretch of brook downstream of the Belmont Ave bridge (no human sources ever located) and the stretch of brook between Perkins St. and the downstream end of the AU (human sources corrected in 2015 and 2016). The *E. coli* concentrations at the downstream end of the AU (W2491) improved from a maximum of 24,196 MPN in 2014 to 1,935 MPN in 2018.

The Secondary Contact Recreation Use for Salisbury Brook (MA62-08) will continue to be assessed as Not Supporting with the Algae, Debris, Escherichia Coli (*E. Coli*), Fecal Coliform and Trash impairments being carried forward. *E. coli* data collected by MassDEP at four stations in the AU in 2013-2015 and 2018 exceeded use attainment impairment thresholds and observations of objectionable conditions continue to be observed at two stations.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1490	MassDEP	Water Quality	Salisbury Brook	[Otis Street, Brockton]	42.079367	-71.014062
W2378	MassDEP	Water Quality	Salisbury Brook	[west of Carleton Street, just upstream/south of Ellsworth Street, Brockton]	42.082574	-71.030076
W2431	MassDEP	Water Quality	Salisbury Brook	[Ash Street, Brockton]	42.087550	-71.036144
W2435	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet downstream/east of Belmont Avenue, Brockton]	42.086697	-71.033600
W2436	MassDEP	Water Quality	Salisbury Brook	[approximately 20 feet upstream/west of Belmont Avenue, Brockton]	42.086739	-71.033801
W2437	MassDEP	Water Quality	Salisbury Brook	[Moraine Street, Brockton]	42.087815	-71.037505

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2438	MassDEP	Water Quality	Salisbury Brook	[just downstream/south at Pleasant Street (Route 27), Brockton]	42.089328	-71.039926
W2491	MassDEP	Water Quality	Salisbury Brook	[approximately 120 feet west of Summer Street, at the mouth of Salisbury Brook, Rehoboth]	42.079105	-71.010146
W2579	MassDEP	Water Quality	Salisbury Brook	[Montgomery Street, Brockton]	42.082918	-71.028682
W2580	MassDEP	Water Quality	Salisbury Brook	[Warren Avenue, Brockton]	42.077663	-71.022152
W2581	MassDEP	Water Quality	Salisbury Brook	[Perkins Street, Brockton]	42.080168	-71.015558
W2582	MassDEP	Water Quality	Salisbury Brook	[Montello Street, Brockton]	42.080709	-71.017187
W2583	MassDEP	Water Quality	Salisbury Brook	[Spring Street, Brockton]	42.085076	-71.033035

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

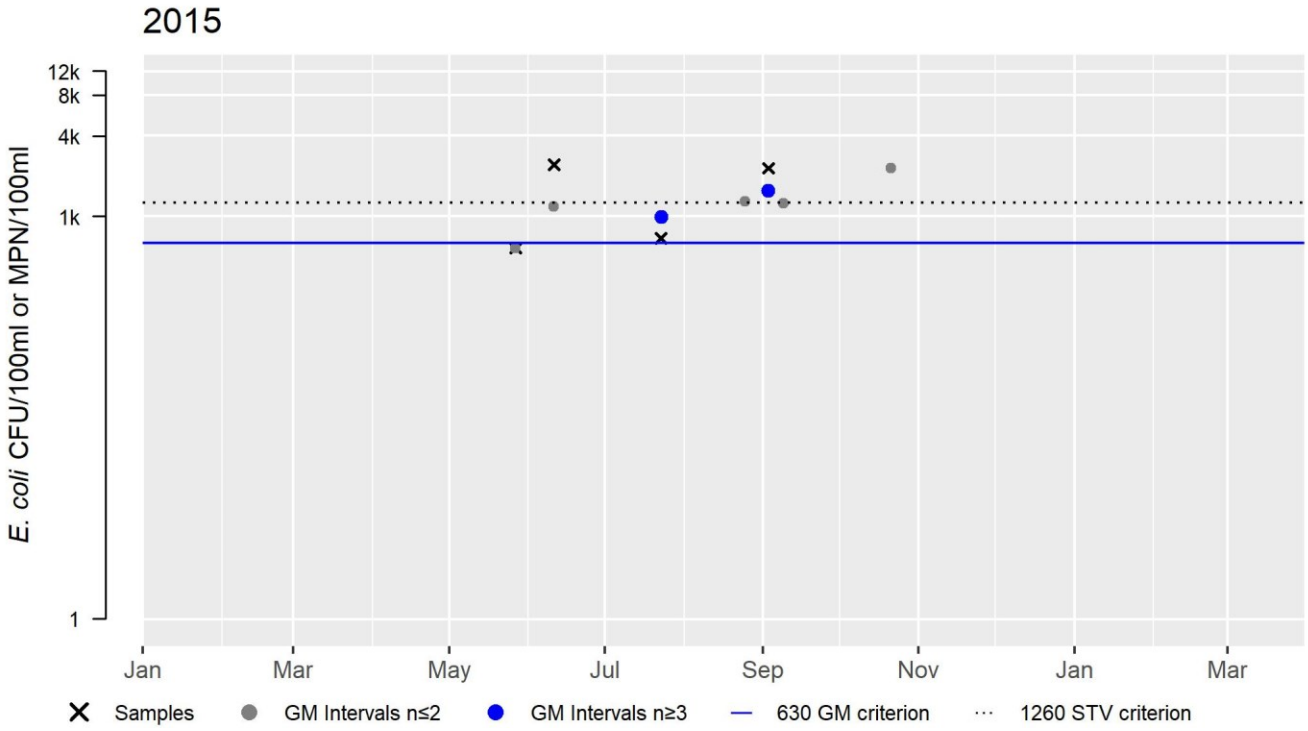
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W1490	MassDEP	E. coli	05/27/15	09/03/15	4	579	2419.6	1217
W2378	MassDEP	E. coli	05/16/13	09/11/13	5	727	1860	1195
W2431	MassDEP	E. coli	07/17/13	10/02/13	3	246	1200	566
W2435	MassDEP	E. coli	04/10/13	09/19/13	4	226	2420	813
W2436	MassDEP	E. coli	04/10/13	10/02/13	5	213	2419.6	856
W2437	MassDEP	E. coli	07/17/13	10/02/13	3	181	980	365
W2438	MassDEP	E. coli	07/17/13	10/02/13	3	85	161	119
W2491	MassDEP	E. coli	07/09/14	07/23/14	2	7270	24200	13264
W2491	MassDEP	E. coli	07/16/18	08/01/18	2	1150	1940	1494
W2579	MassDEP	E. coli	06/11/15	07/23/15	2	1050	1200	1122
W2580	MassDEP	E. coli	05/27/15	06/11/15	2	1120	1550	1318
W2581	MassDEP	E. coli	05/27/15	09/03/15	3	980	3260	1607
W2582	MassDEP	E. coli	05/27/15	09/03/15	4	816	1410	1115
W2583	MassDEP	E. coli	06/11/15	10/21/15	3	259	2420	589

W1490 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	1217
#GMI	2
#GMI Ex	2
%GMI Ex	100
n>STV	2
%n>STV	50

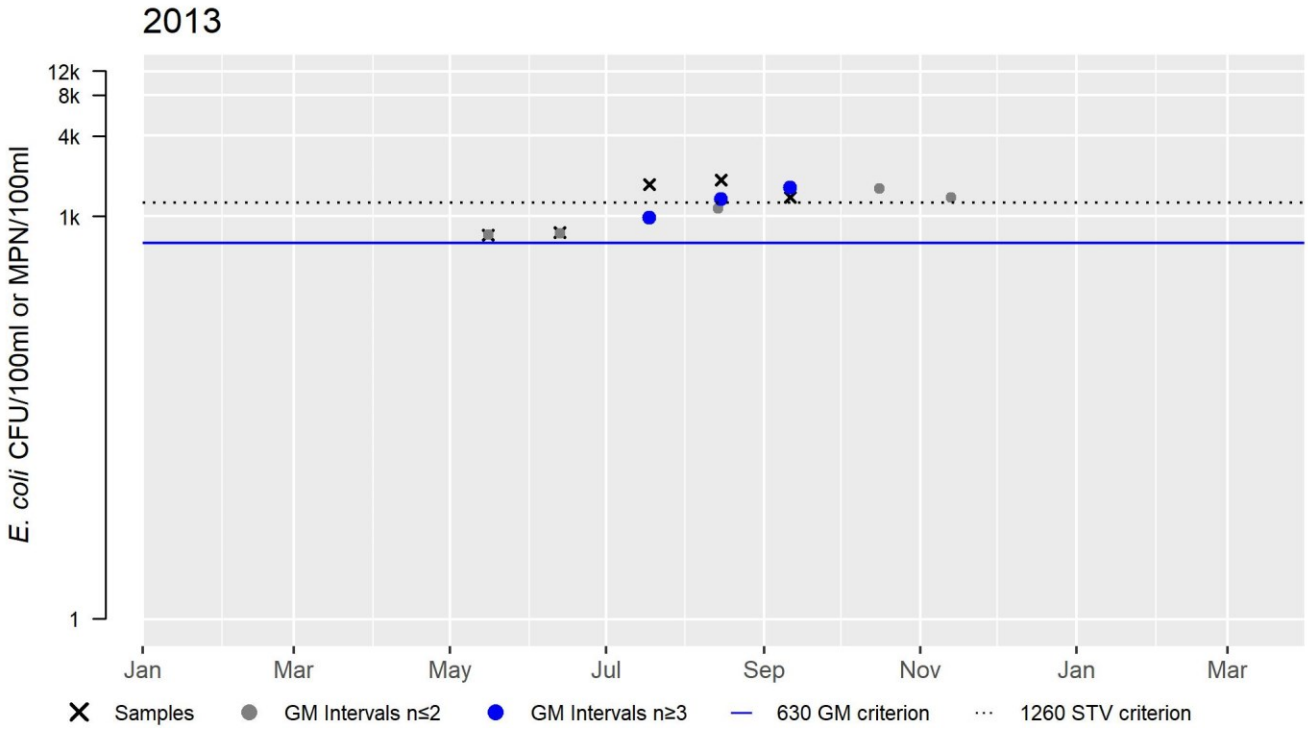
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2378 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	1195
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	3
%n>STV	60

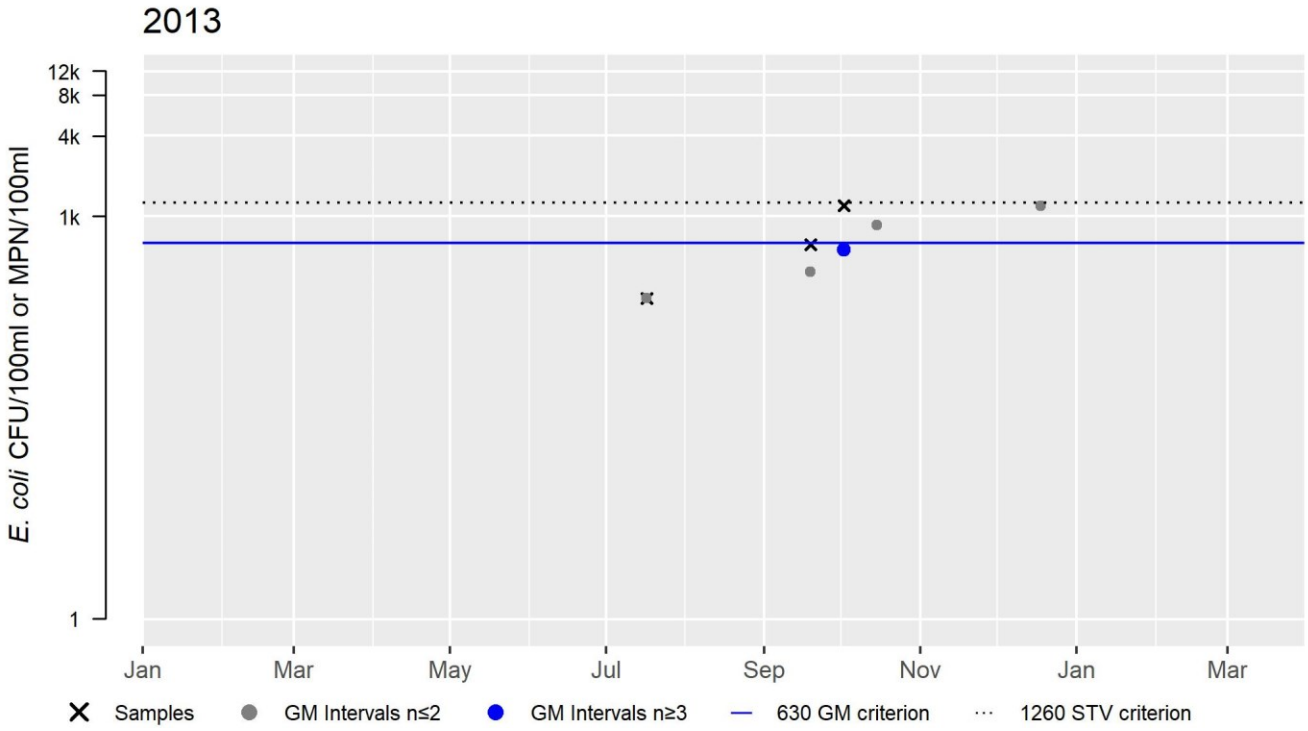
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2431 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	566
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

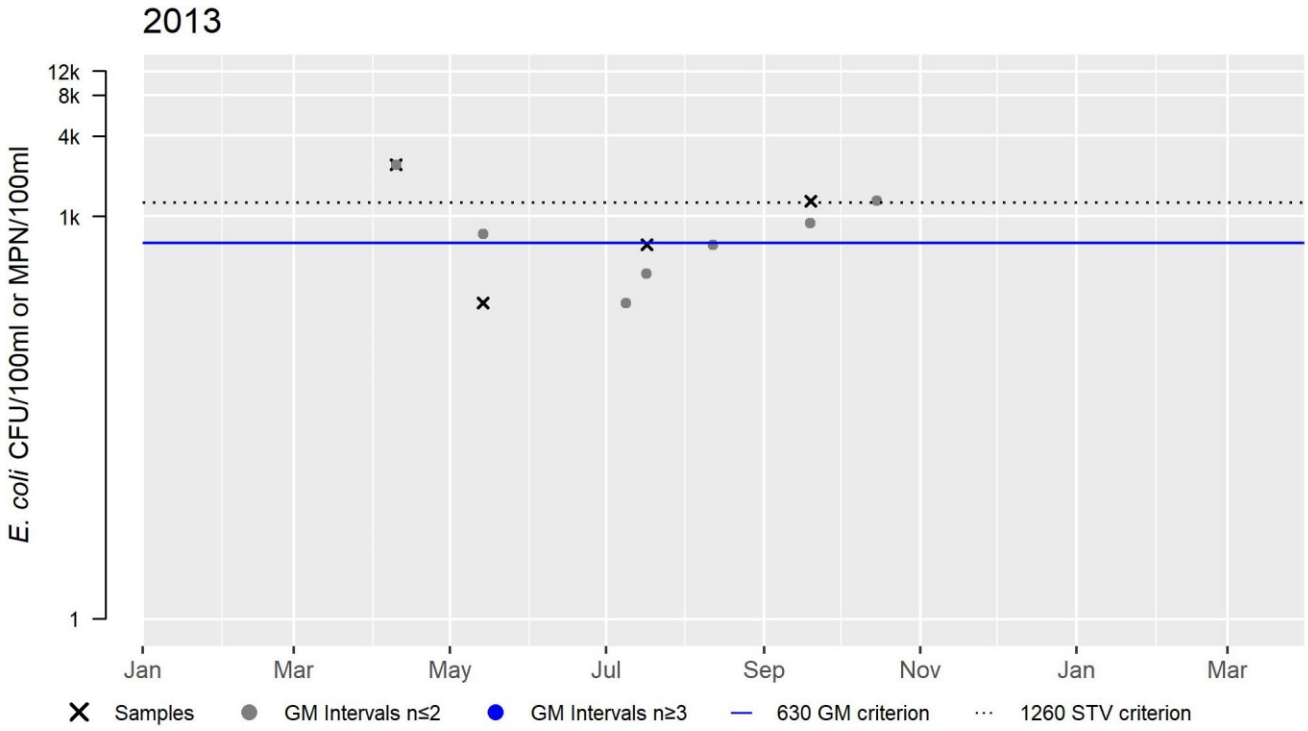
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2435 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	813
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	50

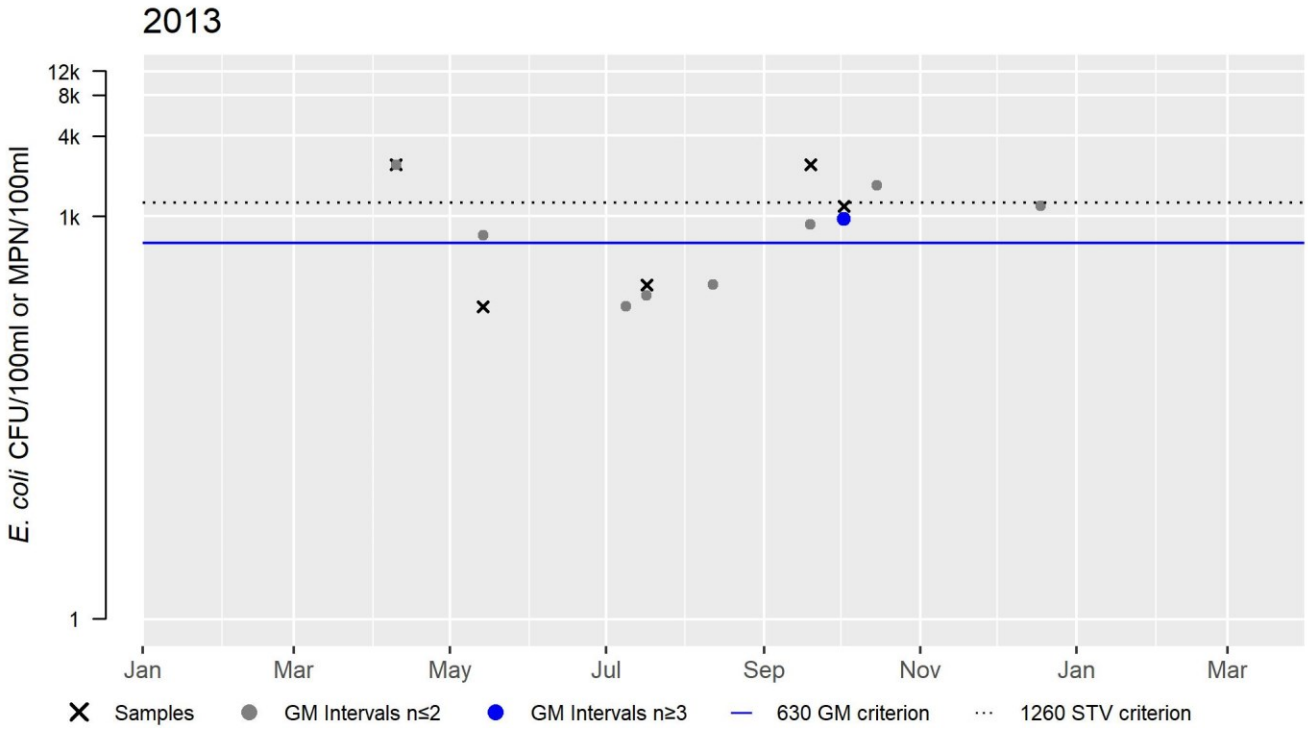
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2436 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	856
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	2
%n>STV	40

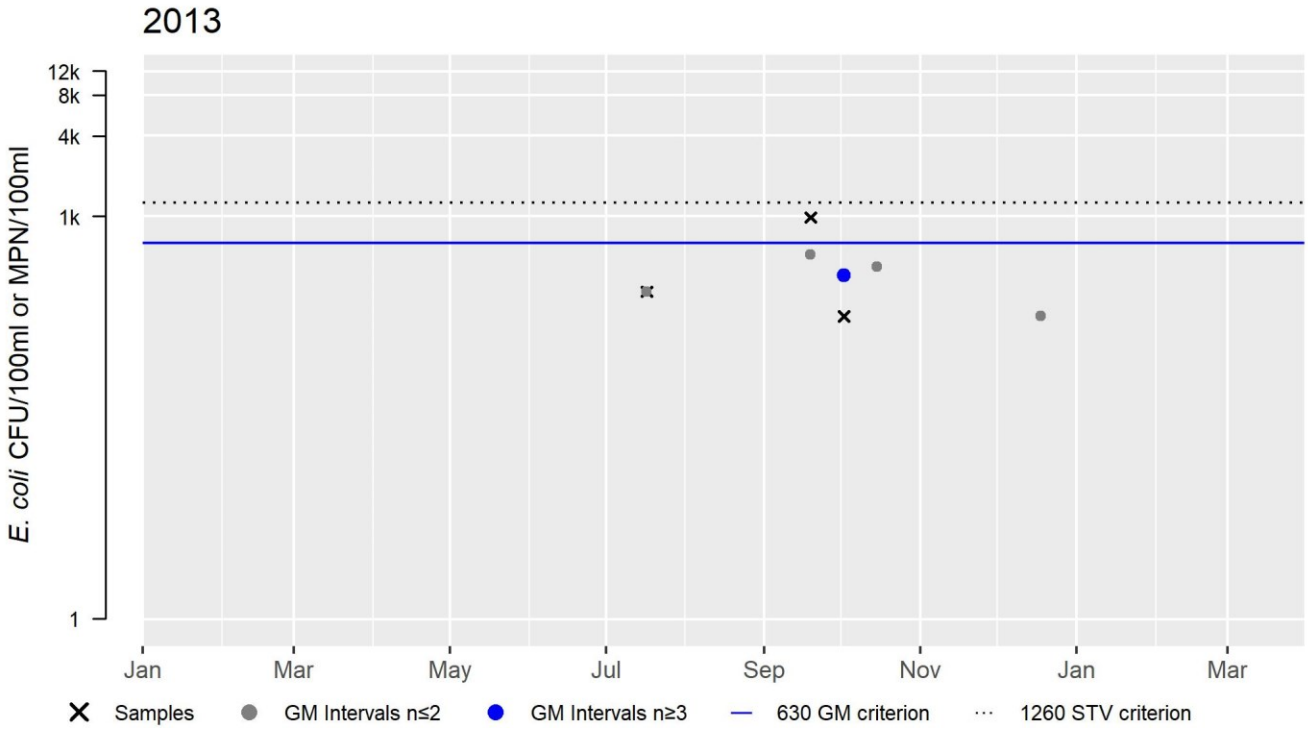
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2437 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	365
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

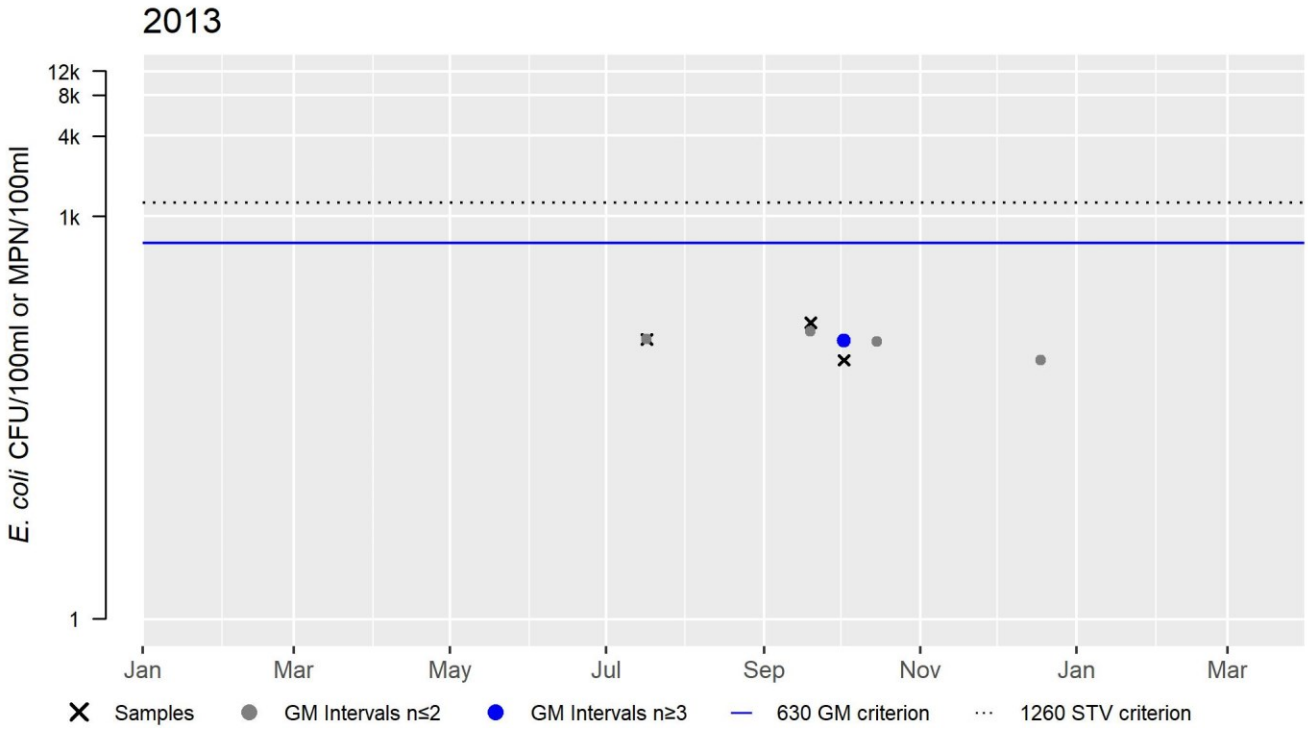
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2438 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	119
#GMI	1
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



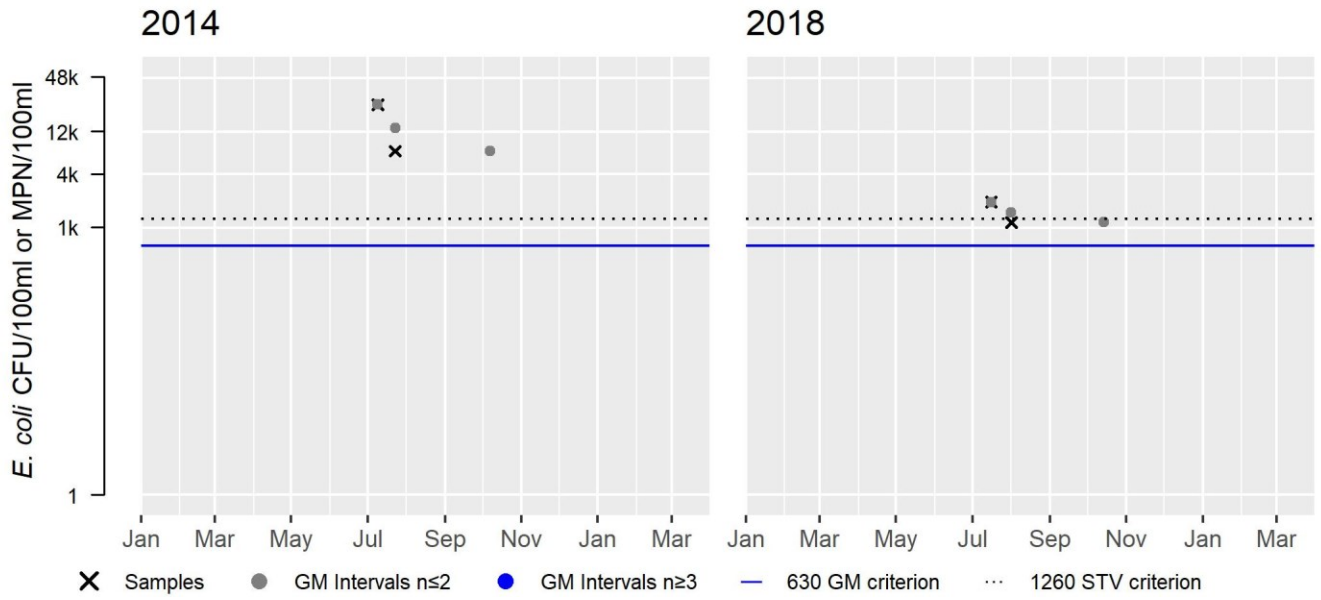
W2491 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	13264
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	1494
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

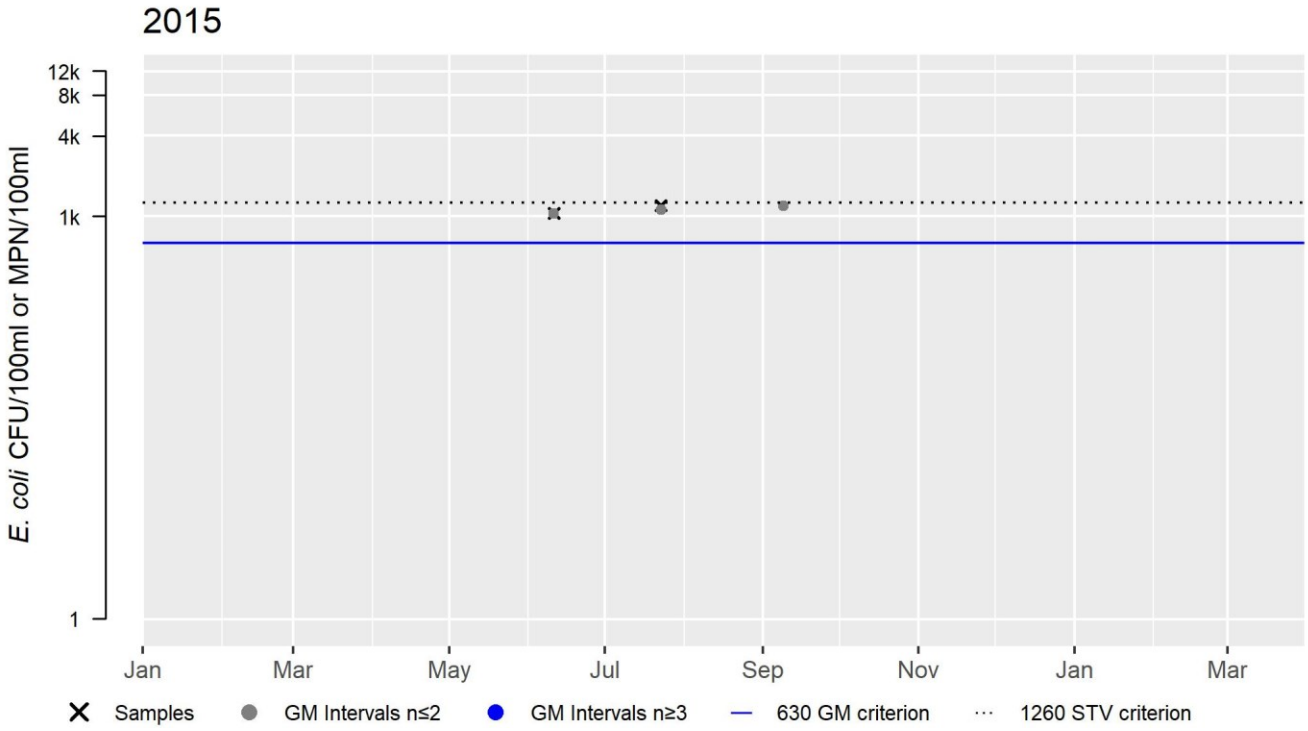
Variable	Cumulative %GMI Ex (all years)
Result	0



W2579 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1122
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

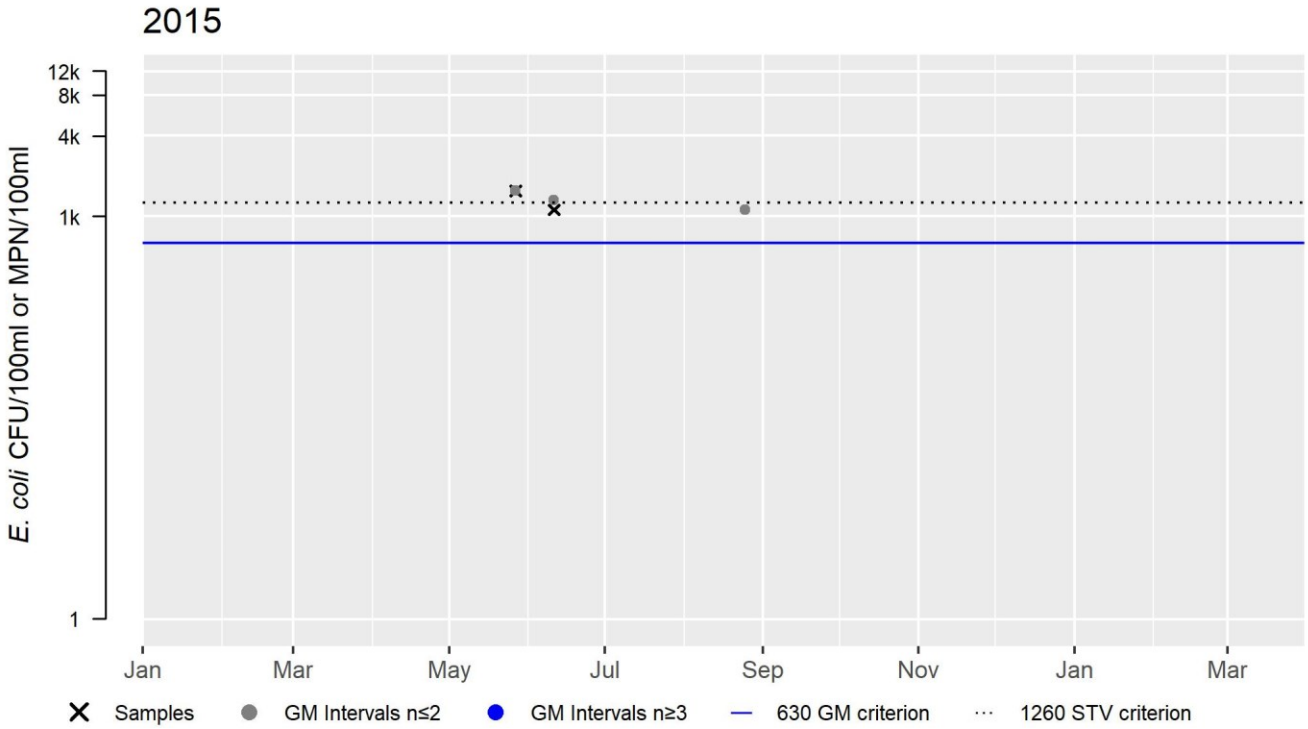
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2580 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1318
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

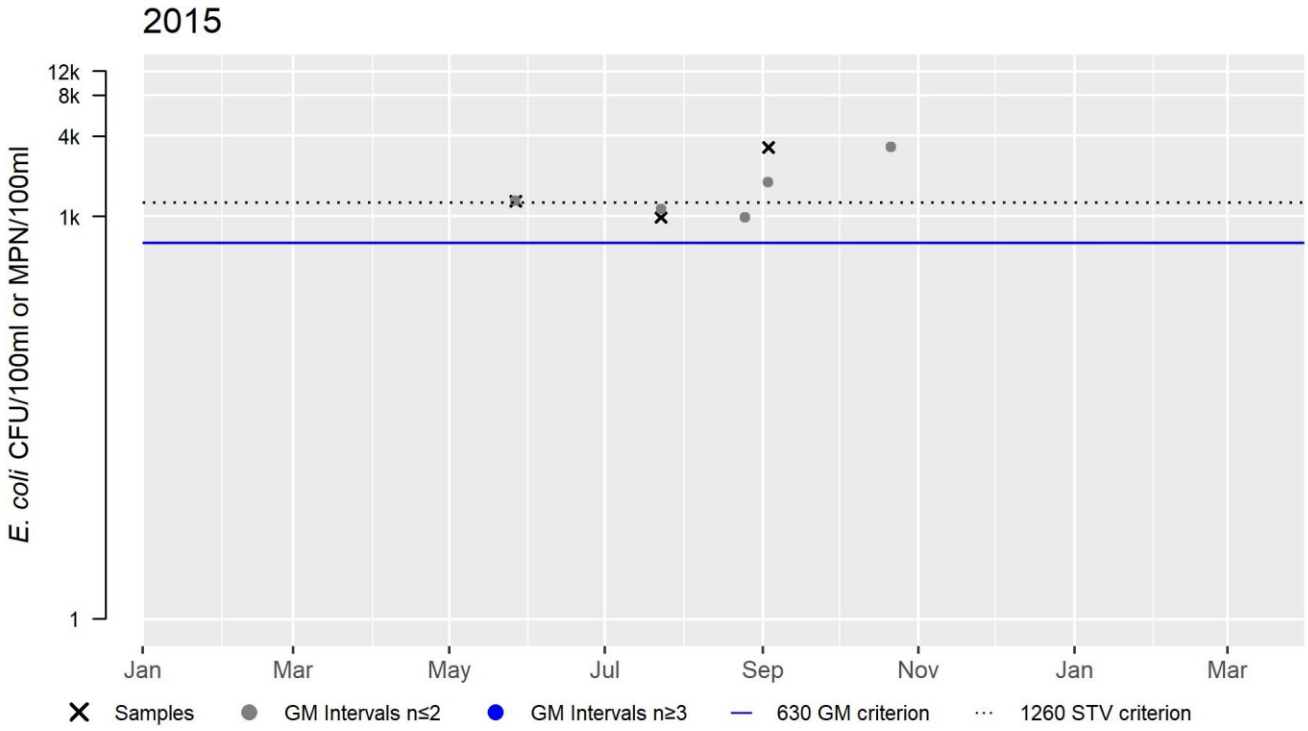
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2581 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1607
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	67

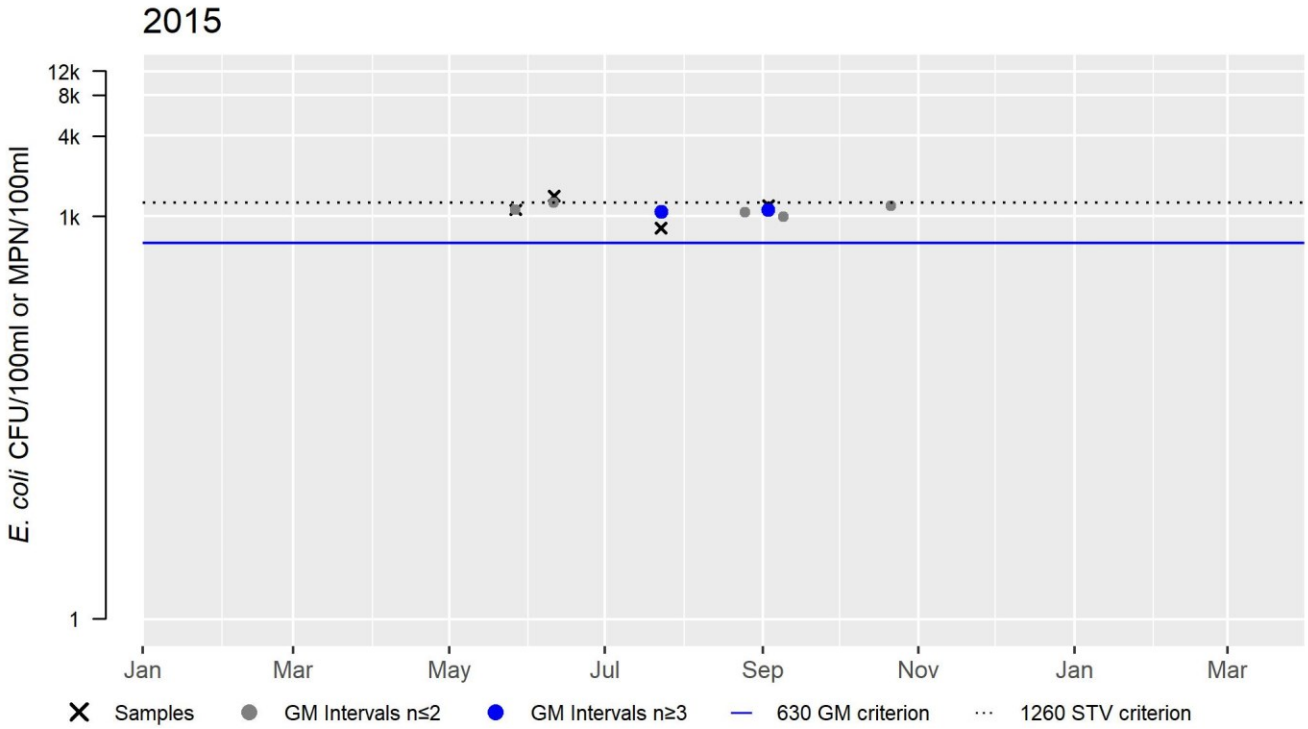
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2582 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	4
SeasGM	1115
#GMI	2
#GMI Ex	2
%GMI Ex	100
n>STV	1
%n>STV	25

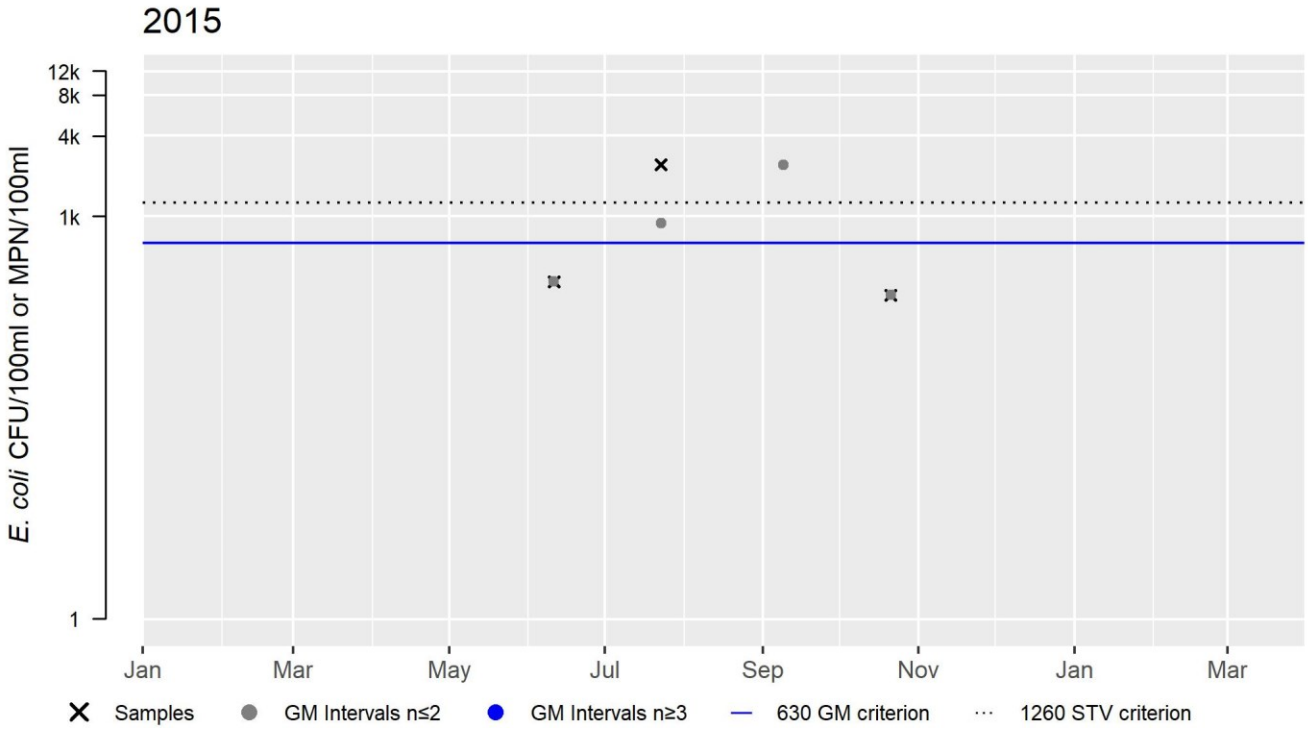
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2583 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	589
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	33

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

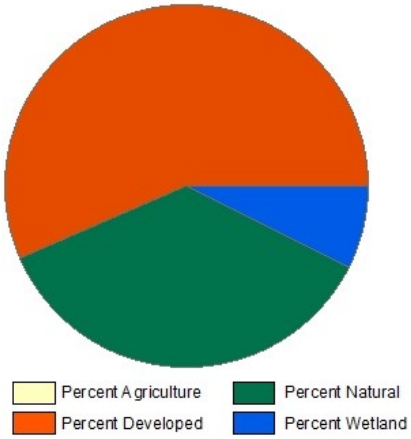


Salisbury Plain River (MA62-05)

Location:	Headwaters, confluence of Trout and Salisbury brooks, Brockton to the Brockton Advanced Water Reclamation Facility (AWRF) discharge (NPDES: MA0101010), Brockton.
AU Type:	RIVER
AU Size:	2.4 MILES
Classification/Qualifier:	B

Salisbury Plain River - MA62-05

Watershed Area: 17.96 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	17.96	4.9	4.14	0.82
Agriculture	0.1%	0.3%	0%	0%
Developed	56.4%	69.4%	40.2%	58.6%
Natural	36%	25.9%	40.2%	30.9%
Wetland	7.4%	4.4%	19.6%	10.5%
Impervious Cover	35.8%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)		Unchanged
5	5	(Physical Substrate Habitat Alterations*)		Unchanged
5	5	Benthic Macroinvertebrates		Added
5	5	Dissolved Oxygen		Unchanged
5	5	Escherichia Coli (E. Coli)	40308	Unchanged
5	5	Fecal Coliform	40308	Unchanged
5	5	Sedimentation/Siltation		Unchanged
5	5	Trash		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (N)			X	X	X
(Physical Substrate Habitat Alterations*)	Municipal (Urbanized High Density Area) (Y)	X				
(Physical Substrate Habitat Alterations*)	Source Unknown (N)	X				

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				
Dissolved Oxygen	Municipal (Urbanized High Density Area) (Y)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Municipal (Urbanized High Density Area) (Y)				X	X
Escherichia Coli (E. Coli)	Source Unknown (N)				X	X
Fecal Coliform	Municipal (Urbanized High Density Area) (Y)				X	X
Fecal Coliform	Source Unknown (N)				X	X
Sedimentation/Siltation	Municipal (Urbanized High Density Area) (Y)	X				
Sedimentation/Siltation	Source Unknown (N)	X				
Trash	Illegal Dumps or Other Inappropriate Waste Disposal (N)			X	X	X

Recommendations

2022 Recommendations
ALU: While the DO data collected ~1300ft downstream of Grove St (W2406) were indicative of satisfactory conditions, additional DO data should be collected further downstream where the 2002 data were collected that triggered the original impairment, i.e., at the Plain St crossing and at #1690 Main St in Brockton (MassDEP 2005).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDEP staff conducted fish, benthic and water quality surveys in this Salisbury Brook AU (MA62-05), ~1300 ft downstream of Grove St, Brockton during summer 2013 as part of the MAP2 monitoring project (note that most of the water quality data were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness). Barge electrofishing was conducted in August (SampleID 5058, n=279) and the sample, was dominated (92%) by the fluvial taxa, tessellated darter and white sucker. The benthic community sample (Station B0864) had an IBI score of 19 which was indicative of severely degraded conditions for a low gradient location. Water quality surveys at station W2406 included both deployed probe and discrete sampling efforts that can be summarized as follows: the minimum DO was 5.1mg/L during three short term deploys (total of 11 days) and the minimum 3-5DADMin was 6.1mg/L; the maximum temperature was 27.8°C during a 107-day probe deploy in the summer index period and the maximum 24-hr rolling average was 25.5°C. The pH ranged from 6.7 to 7.0SU (n=3) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.05mg/L n=5, maximum diel DO shift 1.9mg/L, DO maximum saturation of 92.5%, max pH 7.0SU & no observations of dense/very dense filamentous algae during eight site visits to W2406, or during 13 site visits to the other four sites in the AU, surveyed during the Bacteria Source Tracking (BST) project in 2013, 2014 and 2018). Specific conductance and chloride concentrations did not exceed criteria (maximum 646µS/cm n=3 and 180mg/L n=4, respectively), nor did total ammonia-nitrogen (TAN) (maximum 0.32mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
The Aquatic Life Use for Salisbury Plain River (MA62-05) will continue to be assessed as Not Supporting with the Dissolved Oxygen, Physical Substrate Habitat Alterations and Sedimentation/Siltation impairments being carried forward. A new impairment for Benthic Macroinvertebrates will be added, since severely degraded benthic community conditions were documented ~1300 ft downstream of Grove St. by MassDEP staff during summer 2013. Although recent DO data met use attainment thresholds, the Dissolved Oxygen impairment was based on sampling conducted in 2002 downstream in the AU near Plain St. and #1690 Main St., Brockton (MassDEP 2005), so a recommendation will be made to conduct follow-up sampling in these locations.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5058	MassDEP	Fish Community	Salisbury Plain River	~1300 ft DS/S of Grove St	42.07543	-71.00934
B0864	MassDEP	Benthic	Salisbury Plain River/	[approximately 400 meters downstream/south from Grove Street, Brockton, MA]	42.075428	-71.009638
W2406	MassDEP	Water Quality	Salisbury Plain River	[approximately 1300 feet downstream/south from Grove Street, Brockton]	42.075428	-71.009638
W2428	MassDEP	Water Quality	Salisbury Plain River	[just downstream at Plain Street, Brockton]	42.059084	-71.011001
W2429	MassDEP	Water Quality	Salisbury Plain River	[Pine Avenue, Brockton]	42.068999	-71.010362
W2430	MassDEP	Water Quality	Salisbury Plain River	[approximately 225 feet downstream/south of Grove Street (at wooden footbridge), Brockton]	42.078301	-71.009494
W2921	MassDEP	Water Quality	Salisbury Plain River	[west of the western end of Hudson Street, Brockton]	42.074473	-71.010416

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0864	07/23/13	RBP multihab	Statewide_Low_Gradient	270	19	SD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, LMB = Largemouth Bass, SL = Sea Lamprey, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5058	08/29/13	BG	TP		6	279	0%	2	92%	0%	1	1%	No	No	AE, B, LMB, SL, TD, WS,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2406	2013	3	11	5.1	6.1	6.9	1.9	0	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2406	05/22/13	09/25/13	3	7.1	7.4	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2406	06/01/13	09/15/13	107	107	25.3	27.8	25.8	24.3	82	11	38	5	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2406	2013	3	11	22.1	23.3	22.1	20.8	3	0	0	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2406	06/01/13	09/15/13	107	5136	25.5	508	196	0
W2406	06/20/13	08/27/13	68	547	22.3	0	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2406	05/22/13	09/25/13	5	3	21.9	19.2	3	0	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2406	05/22/13	09/25/13	3	6.7	7	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2406	2013	5	0.039	0.060	0.050	1.9	1.0	92.5	7.0	8	0
W2428	2013	--	--	--	--	--	--	--	--	2	0
W2429	2013	--	--	--	--	--	--	--	--	3	0
W2429	2018	--	--	--	--	--	--	--	--	2	0
W2430	2013	--	--	--	--	--	--	--	--	2	0
W2430	2014	--	--	--	--	--	--	--	--	2	0
W2921	2018	--	--	--	--	--	--	--	--	2	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2406	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2406	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2406	2013	3	0.005	0.0083	0.006	0.0	0.0	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2406	2013	4	0.080	0.320	0.170	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2406	2013	4	150	180	168	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2406	05/22/13	09/25/13	3	571	646	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Salisbury Plain River AU (MA62-05); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
MassDEP staff conducted field surveys of this Salisbury Plain River AU (MA62-05) at five sites in Brockton during the summer of 2013 (as part of the Bacteria Source Tracking (BST) project and the MAP2 project) and the summers of 2014 and 2018 (as part of the BST project only). The site descriptions from upstream to downstream are as follows: ~225ft downstream/south of Grove St. (at wooden footbridge) (W2430, n=2 in 2013 and n=2 in 2014); ~1300ft downstream/south from Grove St. (W2406, n=8 in 2013); west of the western end of Hudson St. (W2921, n=2 in 2018); Pine Avenue (W2429, n=3 in 2013, n=2 in 2018); and just downstream at Plain St. (W2428, n=2 in 2013). There were generally no objectionable growths or turbidity recorded by DEP field sampling crews at any of the sites during any year. However, at site W2406 there were eight observations of trash (noted as heavy several times) and a petroleum odor was present on two occasions. The Aesthetics use for this Salisbury Plain River AU (MA62-05) continues to be assessed as Not Supporting with the Debris and Trash impairments being carried forward (based on observations of trash by MassDEP staff ~1300ft downstream of Grove St. (W2406) during summer 2013). An Alert is also being identified due to the petroleum odor detected twice at W2406 in 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2406	MassDEP	Water Quality	Salisbury Plain River	[approximately 1300 feet downstream/south from Grove Street, Brockton]	42.075428	-71.009638

W2428	MassDEP	Water Quality	Salisbury Plain River	[just downstream at Plain Street, Brockton]	42.059084	-71.011001
W2429	MassDEP	Water Quality	Salisbury Plain River	[Pine Avenue, Brockton]	42.068999	-71.010362
W2430	MassDEP	Water Quality	Salisbury Plain River	[approximately 225 feet downstream/south of Grove Street (at wooden footbridge), Brockton]	42.078301	-71.009494
W2921	MassDEP	Water Quality	Salisbury Plain River	[west of the western end of Hudson Street, Brockton]	42.074473	-71.010416

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2406	Salisbury Plain River	2013	8	The Aesthetics use for this Salisbury Plain River AU (MA62-05) continues to be assessed as Not Supporting based on observations of MassDEP staff at station W2406 during summer 2013 (n=8). These include 8 observations of trash (noted as heavy several times). An Alert is also being identified since a petroleum odor was present on 2 occasions. There were generally no other objectionable conditions (growths or turbidity).
W2428	Salisbury Plain River	2013	2	MassDEP aesthetics observations for station W2428 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2429	Salisbury Plain River	2013	3	MassDEP aesthetics observations for station W2429 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2429	Salisbury Plain River	2018	2	MassDEP aesthetics observations for station W2429 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2430	Salisbury Plain River	2013	2	MassDEP aesthetics observations for station W2430 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2430	Salisbury Plain River	2014	2	MassDEP aesthetics observations for station W2430 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2921	Salisbury Plain River	2018	2	MassDEP aesthetics observations for station W2921 on Salisbury Plain River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2406	2013	8	8	0
W2428	2013	2	2	0
W2429	2013	3	3	0
W2429	2018	2	2	0
W2430	2013	2	2	0
W2430	2014	2	2	0
W2921	2018	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2406	Salisbury Plain River	2013	Color	Light Yellow/Tan	5	8
W2406	Salisbury Plain River	2013	Color	None	3	8
W2406	Salisbury Plain River	2013	Objectionable Deposits	Yes	8	8
W2406	Salisbury Plain River	2013	Odor	Effluent (Treated)	1	8
W2406	Salisbury Plain River	2013	Odor	None	5	8
W2406	Salisbury Plain River	2013	Odor	Petroleum	2	8
W2406	Salisbury Plain River	2013	Scum	No	8	8
W2406	Salisbury Plain River	2013	Turbidity	None	4	8
W2406	Salisbury Plain River	2013	Turbidity	Slightly Turbid	4	8
W2428	Salisbury Plain River	2013	Color	None	2	2
W2428	Salisbury Plain River	2013	Objectionable Deposits	Not Applicable (N/A)	2	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2428	Salisbury Plain River	2013	Odor	None	2	2
W2428	Salisbury Plain River	2013	Scum	Not Applicable (N/A)	2	2
W2428	Salisbury Plain River	2013	Turbidity	Slightly Turbid	2	2
W2429	Salisbury Plain River	2013	Color	Greyish	1	3
W2429	Salisbury Plain River	2013	Color	None	2	3
W2429	Salisbury Plain River	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W2429	Salisbury Plain River	2013	Odor	None	2	3
W2429	Salisbury Plain River	2013	Odor	Other	1	3
W2429	Salisbury Plain River	2013	Scum	Not Applicable (N/A)	3	3
W2429	Salisbury Plain River	2013	Turbidity	Moderately Turbid	2	3
W2429	Salisbury Plain River	2013	Turbidity	Slightly Turbid	1	3
W2429	Salisbury Plain River	2018	Color	None	2	2
W2429	Salisbury Plain River	2018	Objectionable Deposits	NA	2	2
W2429	Salisbury Plain River	2018	Odor	Petroleum	1	2
W2429	Salisbury Plain River	2018	Odor	Other_____	1	2
W2429	Salisbury Plain River	2018	Scum	NA	2	2
W2429	Salisbury Plain River	2018	Turbidity	Slightly Turbid	2	2
W2430	Salisbury Plain River	2013	Color	None	2	2
W2430	Salisbury Plain River	2013	Objectionable Deposits	Not Applicable (N/A)	2	2
W2430	Salisbury Plain River	2013	Odor	None	2	2
W2430	Salisbury Plain River	2013	Scum	Not Applicable (N/A)	2	2
W2430	Salisbury Plain River	2013	Turbidity	Moderately Turbid	1	2
W2430	Salisbury Plain River	2013	Turbidity	Slightly Turbid	1	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2430	Salisbury Plain River	2014	Color	None	2	2
W2430	Salisbury Plain River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2430	Salisbury Plain River	2014	Odor	None	2	2
W2430	Salisbury Plain River	2014	Scum	Not Applicable (N/A)	2	2
W2430	Salisbury Plain River	2014	Turbidity	None	1	2
W2430	Salisbury Plain River	2014	Turbidity	Slightly Turbid	1	2
W2921	Salisbury Plain River	2018	Color	None	2	2
W2921	Salisbury Plain River	2018	Objectionable Deposits	NA	2	2
W2921	Salisbury Plain River	2018	Odor	None	2	2
W2921	Salisbury Plain River	2018	Scum	NA	2	2
W2921	Salisbury Plain River	2018	Turbidity	Slightly Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

MassDEP staff conducted field surveys of this Salisbury Plain River AU (MA62-05) at five sites in Brockton during the summer of 2013 (as part of the Bacteria Source Tracking (BST) project and the MAP2 project) and the summers of 2014 and 2018 (as part of the BST project only). The site descriptions from upstream to downstream are as follows: ~225 ft downstream/south of Grove St. at wooden footbridge (W2430) August-September 2013 and June-July 2014 (n=2 for both); ~1300 ft downstream/south from Grove St. (W2406) May-September 2013 (n=5); west of the western end of Hudson St. (W2921) July-August 2018 (n=2); at Pine Ave (W2429) August-September 2013 (n=3) & June-July 2018 (n=2); and just downstream at Plain St. (W2428) July-August 2013 (n=2). Data analysis indicated 100% of intervals had GMs >126 CFU/100mL at W2406 and W2429 in 2013 and the number of samples exceeding the 410 CFU/100mL STV was five or three, respectively (these data exceeded the use attainment impairment threshold for a single year, limited frequency dataset). The data from the rest of the sites were too limited to assess the Primary Contact Recreation Use according to the CALM "Use Attainment Impairment Decision Schema" (MassDEP 2022), though it should be noted that, at each of the three sites, 2-5 samples exceeded the 410 CFU/100mL STV, with the seasonal GMs ranging from 2,390 to 10,724 CFU/100ml. There were generally no objectionable growths or turbidity recorded by DEP field sampling crews at any of the sites during any year. However, at site W2406 there were eight observations of trash (noted as heavy several times) and a petroleum odor was present on two occasions.

Additional intermittent Bacteria Source Tracking (BST) project work was conducted in 2011, 2013, 2014 and 2018 in this Salisbury Plain River AU; evidence was indicated that at least one significant human source exists upgradient of a culvert on the grounds of the Brookside apartment building, which the City of Brockton is currently monitoring. One stormdrain pipe (located ~370 ft downstream of Grove St.), was found to contribute dry weather flow with a maximum *E. coli* concentration of >241,960 MPN. Consequently, the City found and corrected three separate human sources of bacteria within the drainage line to this pipe in 2013 and 2017. *E. coli* concentrations have remained elevated at the pipe (though improved, with a maximum of 5,475 MPN in 2019) and the City continues to investigate, with this pipe ranking high on its City-wide prioritization list.

The Primary Contact Recreation Use for this Salisbury Plain River AU (MA62-05) will continue to be assessed as Not Supporting with the Debris, Escherichia Coli (*E. Coli*), Fecal Coliform and Trash impairments being carried forward. *E. coli* bacteria data collected by MassDEP staff in 2013, ~1300 ft downstream/south from Grove St. (W2406) and at Pine Ave (W2429) exceeded use attainment impairment thresholds and trash continued to be documented during the 2013 site visits to W2406. An Alert is also being identified due to the petroleum odor detected twice at site W2406.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2406	MassDEP	Water Quality	Salisbury Plain River	[approximately 1300 feet downstream/south from Grove Street, Brockton]	42.075428	-71.009638
W2428	MassDEP	Water Quality	Salisbury Plain River	[just downstream at Plain Street, Brockton]	42.059084	-71.011001
W2429	MassDEP	Water Quality	Salisbury Plain River	[Pine Avenue, Brockton]	42.068999	-71.010362
W2430	MassDEP	Water Quality	Salisbury Plain River	[approximately 225 feet downstream/south of Grove Street (at wooden footbridge), Brockton]	42.078301	-71.009494
W2921	MassDEP	Water Quality	Salisbury Plain River	[west of the western end of Hudson Street, Brockton]	42.074473	-71.010416

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

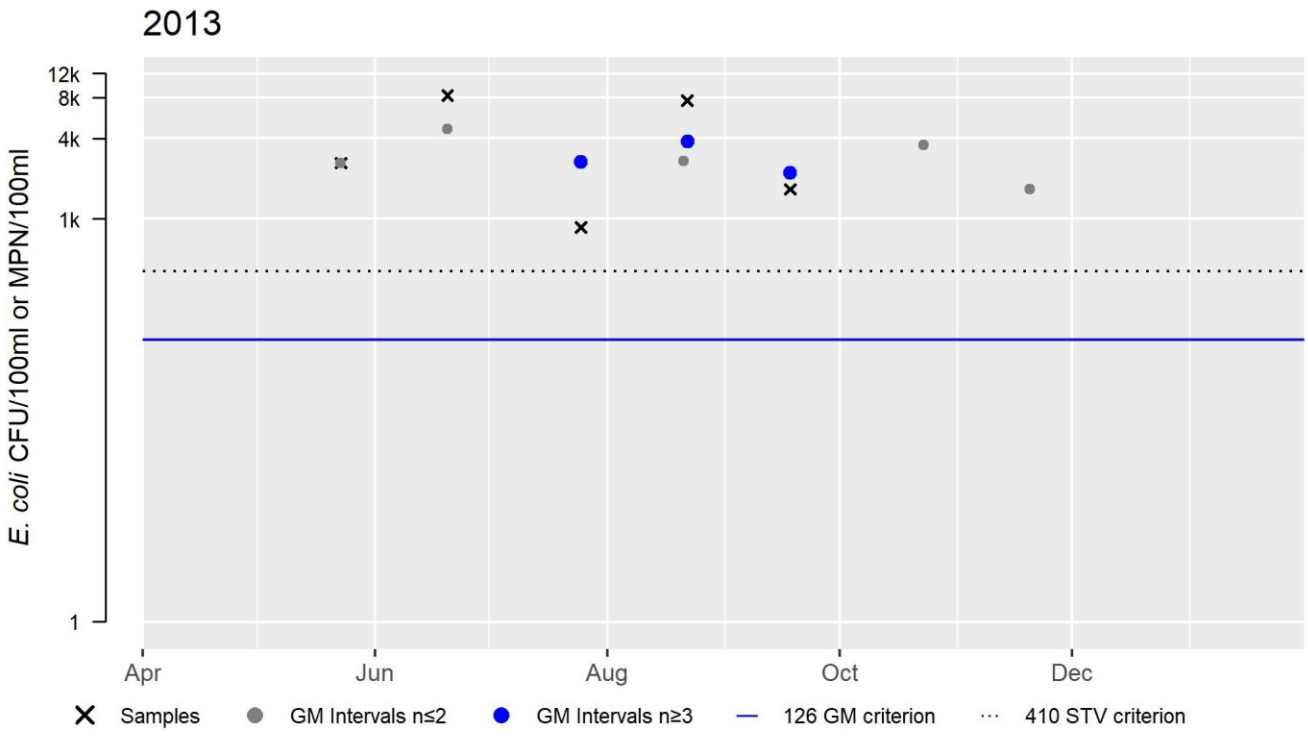
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2406	MassDEP	E. coli	05/23/13	09/18/13	5	862	8300	2979
W2428	MassDEP	E. coli	07/31/13	08/29/13	2	2360	2419.6	2390
W2429	MassDEP	E. coli	08/29/13	09/26/13	3	9800	12030	10724
W2429	MassDEP	E. coli	06/18/18	07/16/18	2	2419.6	5480	3641
W2430	MassDEP	E. coli	08/29/13	09/12/13	2	1190	7700	3027
W2430	MassDEP	E. coli	06/12/14	07/09/14	2	1410	24196	5841
W2921	MassDEP	E. coli	07/16/18	08/01/18	2	3080	9210	5326

W2406 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	2979
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	5
%n>STV	100

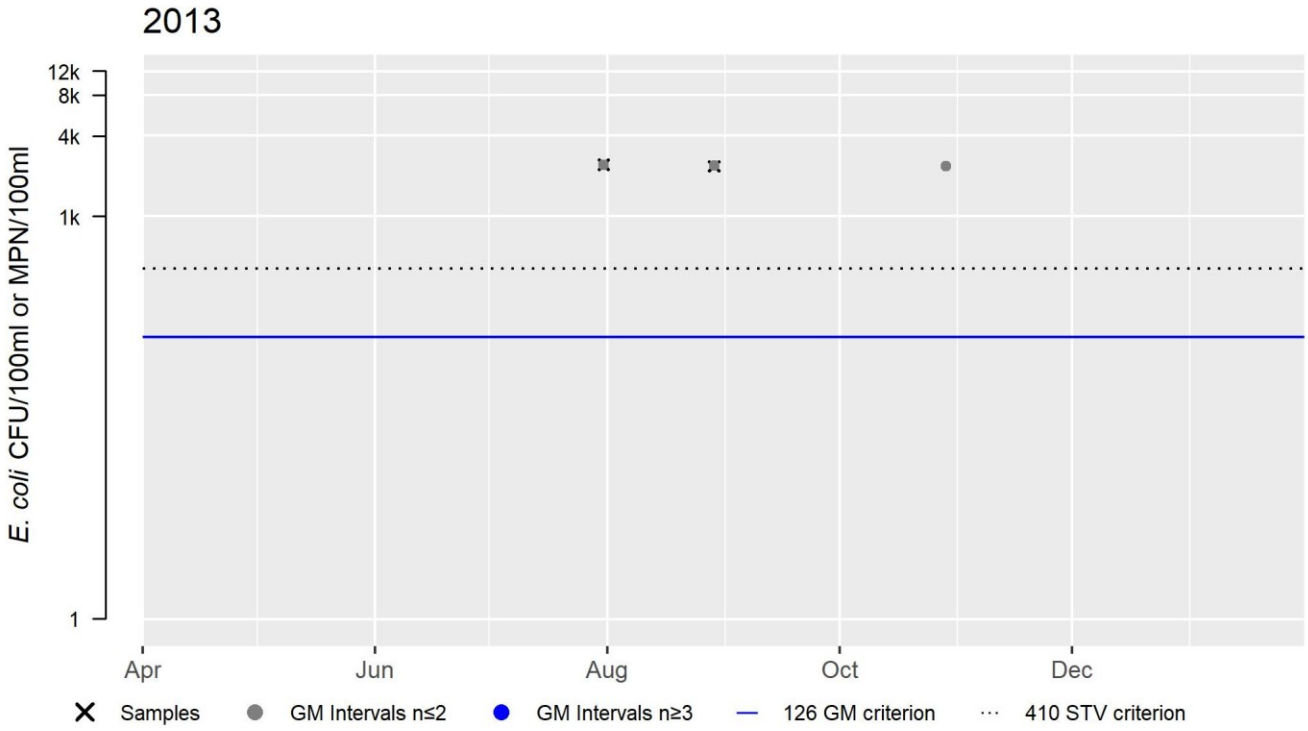
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2428 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2390
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



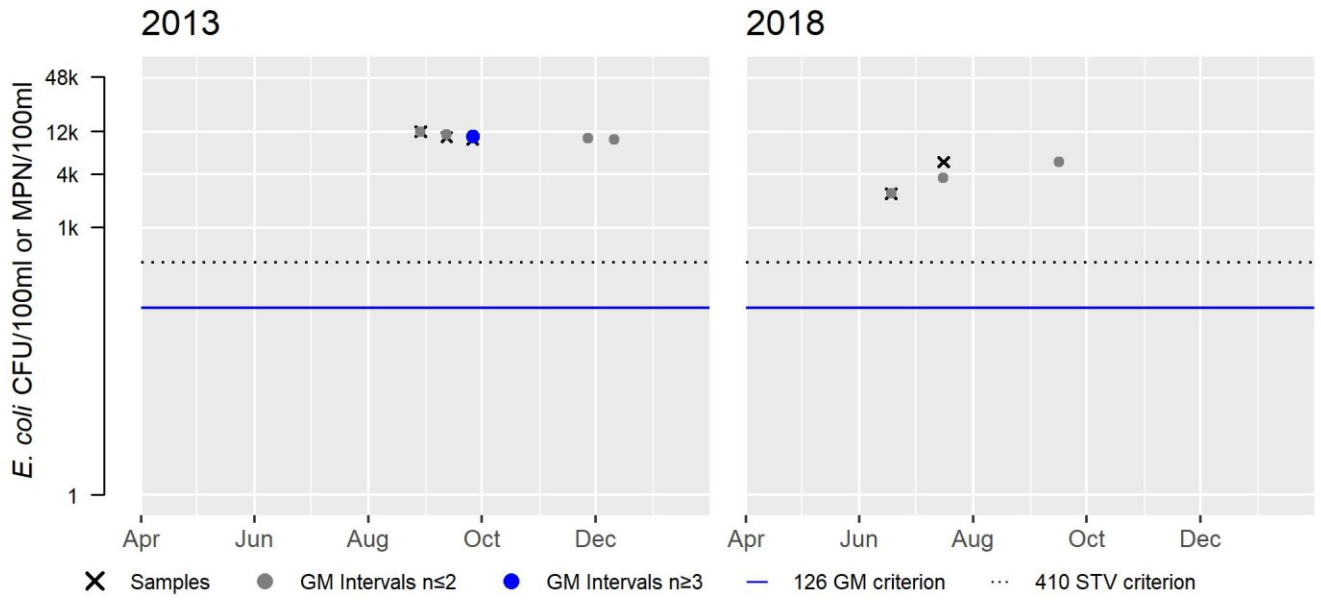
W2429 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	10724
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Var	Res
Samples	2
SeasGM	3641
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	100



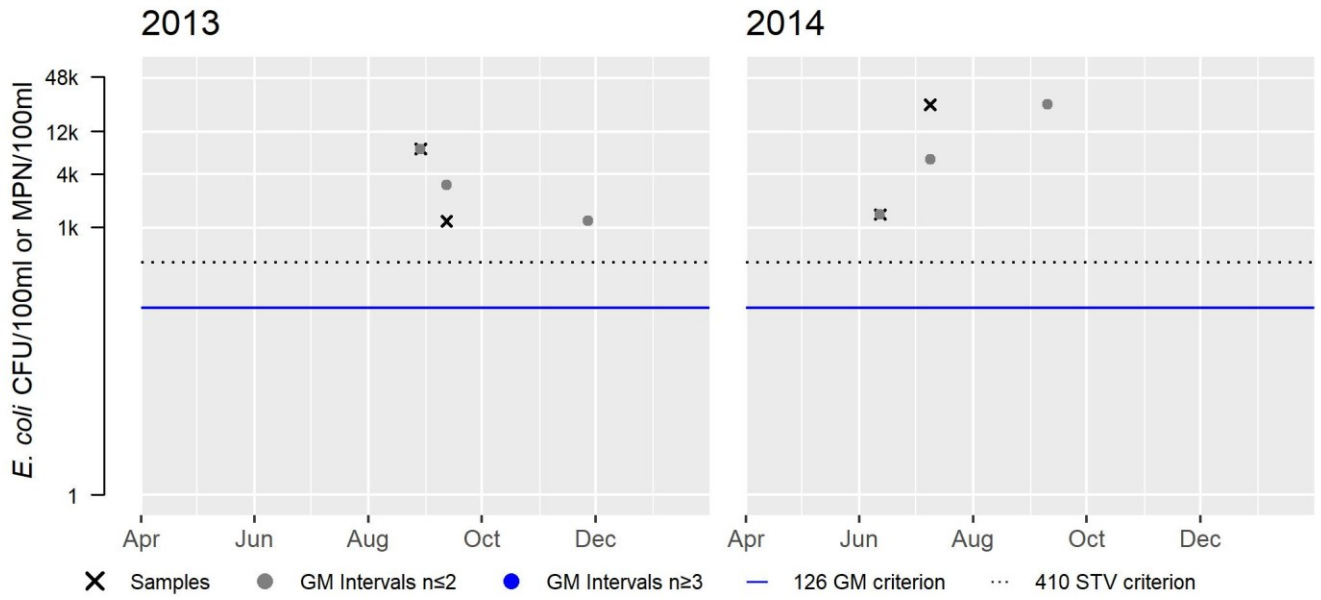
W2430 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	3027
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	5841
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

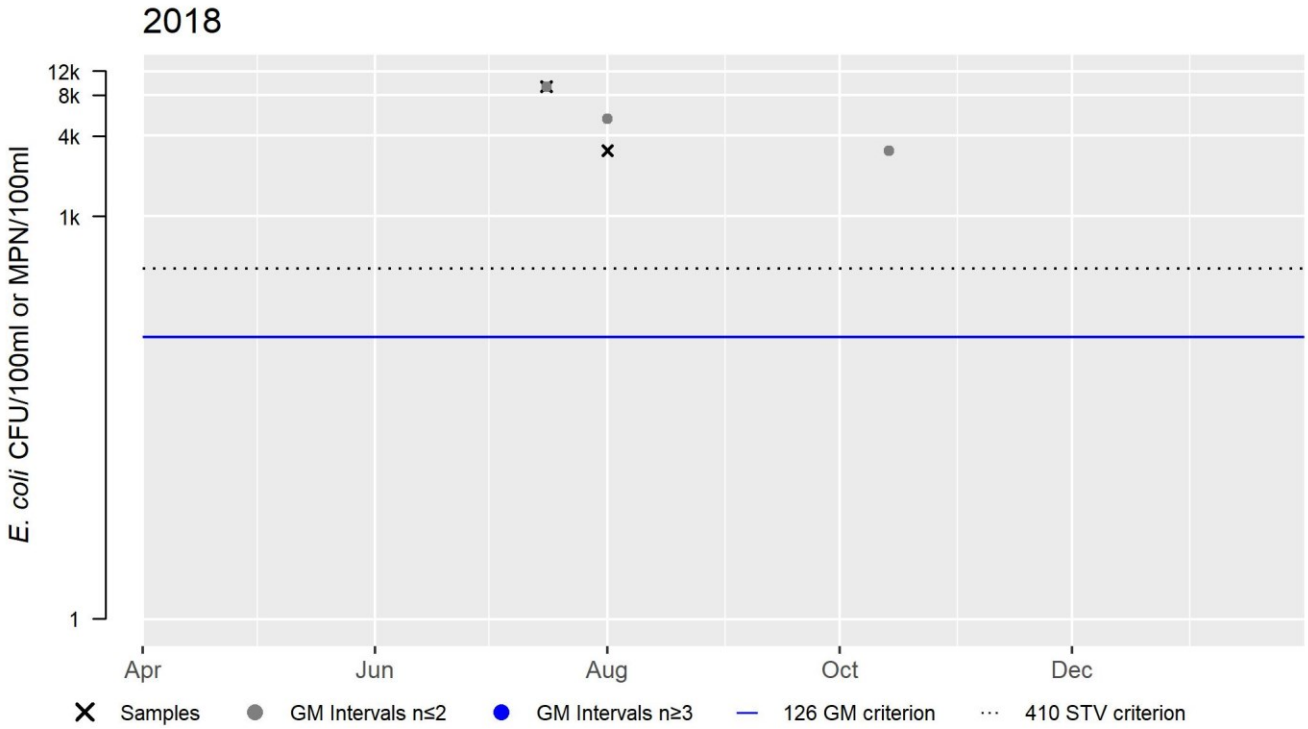
Variable	Cumulative %GMI Ex (all years)
Result	0



W2921 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	5326
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted in 2011, 2013, 2014 and 2018 at 12 sites along the Salisbury Plain River AU (MA62-05), with E.coli concentrations ranging 24 to 24,196MPN. BST work was also conducted in 1 unnamed tributary in 2017 & 2018 with E.coli concentrations ranging 1,553 - >241,960MPN; evidence indicated that at least one signficant human source exists upgradient of the Brookside appartment culvert and Main Street. The City of Brockton is currently investigating this issue. BST work was also conducted at 4 stormdrain outfall pipes discharging directly to the Salisbury Plain River: 3 of these pipes were ruled out as significant sources of bacteria, but at one pipe (~370ft downstream of Grove St), dry weather flow was sampled 2013-2019, with a max E.coli concentration of >241,960MPN. The City found and corrected 3 seperate human sources of bacteria within the drainage line to this pipe in 2013 and 2017. E.coli concentrations have remained elevated at the pipe (though improved, with a max of 5,475MPN in 2019) and the City continues to investigate with this pipe ranking high on its prioritization list.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

MassDEP staff conducted field surveys of this Salisbury Plain River AU (MA62-05) at five sites in Brockton during the summer of 2013 (as part of the Bacteria Source Tracking (BST) project and the MAP2 project) and the summers of 2014 and 2018 (as part of the BST project only). The site descriptions from upstream to downstream are as follows: ~225 ft downstream/south of Grove St. (at wooden footbridge) (W2430) August-September 2013 and June-July 2014 (n=2 for both); ~1300 ft downstream/south from Grove St. (W2406) May-September 2013 (n=5); west of the western end of Hudson St. (W2921) July-August 2018 (n=2); at Pine Ave (W2429) August-September 2013 (n=3) and June-July 2018 (n=2); and just downstream at Plain St.(W2428) July-August 2013 (n=2). Data analysis indicated 100% of intervals had GMs >630 CFU/100mL at W2406 and W2429 in 2013 and the number of samples exceeding the 410 CFU/100mL STV was four or three, respectively (these data exceeded the use attainment impairment threshold for a single year, limited frequency dataset). The data from the rest of the sites were too limited to assess the Secondary Contact Recreation Use according to the CALM "Use Attainment Impairment Decision Schema" (MassDEP 2022), though it should be noted that, at each of the three sites, 1-2 samples exceeded the 1260 CFU/100mL STV, with the seasonal GMs ranging from 2,390 to 10,724 CFU/100ml. There were generally no objectionable growths or turbidity recorded by DEP field sampling crews at any of the sites during any year. However, at site W2406 there were eight observations of trash (noted as heavy several times) and a petroleum odor was present on two occasions.

Bacteria Source Tracking (BST) project work was conducted in 2011, 2013, 2014 and 2018 in this Salisbury Plain River AU; evidence indicated that at least one significant human source exists upgradient of a culvert on the grounds of the Brookside apartment building, which the City of Brockton is currently monitoring. One stormdrain pipe (located ~370ft downstream of Grove St), was found to contribute dry weather flow with a maximum *E. coli* concentration of >241,960 MPN. Consequently, the City found and corrected three separate human sources of bacteria within the drainage line to this pipe in 2013 and 2017. *E. coli* concentrations have remained elevated at the pipe (though improved, with a maximum of 5,475 MPN in 2019) and the City continues to investigate, with this pipe ranking high on its City-wide prioritization list.

The Secondary Contact Recreation Use for this Salisbury Plain River AU (MA62-05) will continue to be assessed as Not Supporting, with the Debris, Escherichia Coli (*E. Coli*), Fecal Coliform and Trash impairments being carried forward. *E. coli* bacteria data collected by MassDEP staff in 2013, ~1300 ft downstream/south from Grove St. (W2406) and at Pine Ave (W2429) exceeded use attainment impairment thresholds and trash continued to be documented during the 2013 site visits to W2406. An Alert is also being identified due to the petroleum odor detected twice at site W2406.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2406	MassDEP	Water Quality	Salisbury Plain River	[approximately 1300 feet downstream/south from Grove Street, Brockton]	42.075428	-71.009638
W2428	MassDEP	Water Quality	Salisbury Plain River	[just downstream at Plain Street, Brockton]	42.059084	-71.011001
W2429	MassDEP	Water Quality	Salisbury Plain River	[Pine Avenue, Brockton]	42.068999	-71.010362
W2430	MassDEP	Water Quality	Salisbury Plain River	[approximately 225 feet downstream/south of Grove Street (at wooden footbridge), Brockton]	42.078301	-71.009494
W2921	MassDEP	Water Quality	Salisbury Plain River	[west of the western end of Hudson Street, Brockton]	42.074473	-71.010416

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

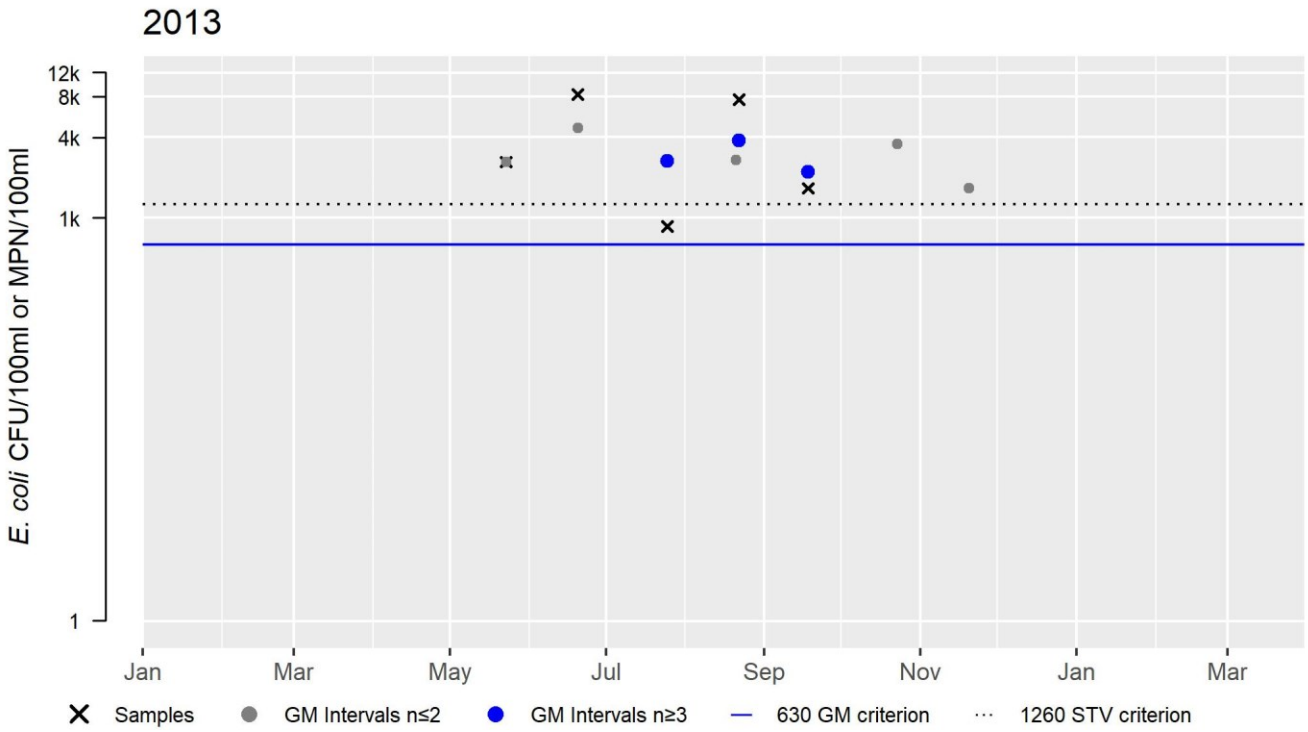
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2406	MassDEP	E. coli	05/23/13	09/18/13	5	862	8300	2979
W2428	MassDEP	E. coli	07/31/13	08/29/13	2	2360	2419.6	2390
W2429	MassDEP	E. coli	08/29/13	09/26/13	3	9800	12030	10724
W2429	MassDEP	E. coli	06/18/18	07/16/18	2	2419.6	5480	3641
W2430	MassDEP	E. coli	08/29/13	09/12/13	2	1190	7700	3027
W2430	MassDEP	E. coli	06/12/14	07/09/14	2	1410	24196	5841
W2921	MassDEP	E. coli	07/16/18	08/01/18	2	3080	9210	5326

W2406 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	2979
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	80

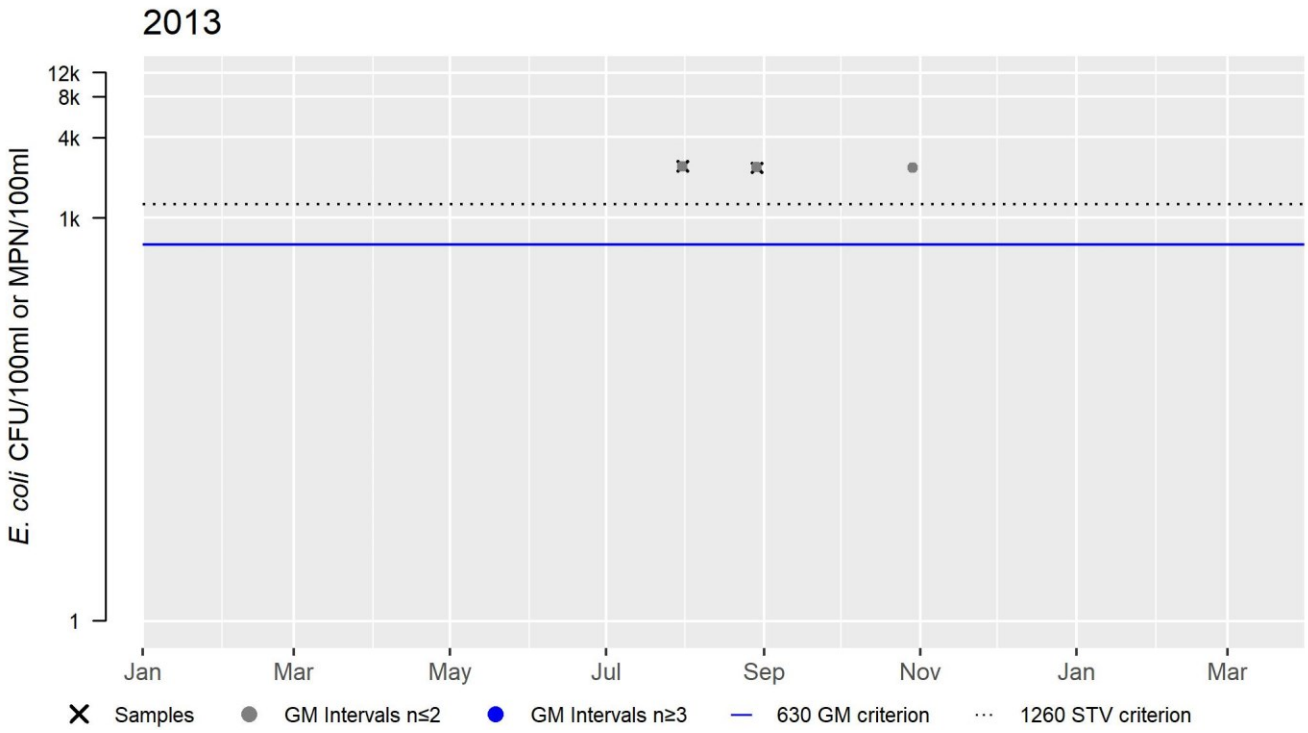
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2428 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2390
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



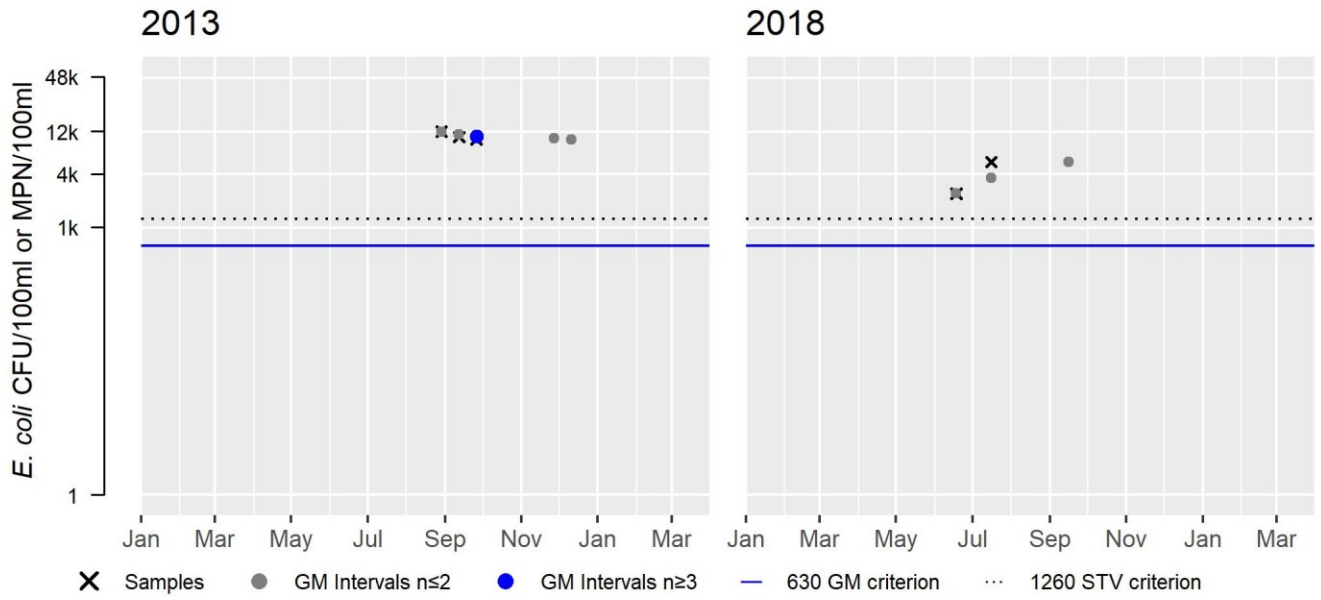
W2429 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	10724
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Var	Res
Samples	2
SeasGM	3641
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	100



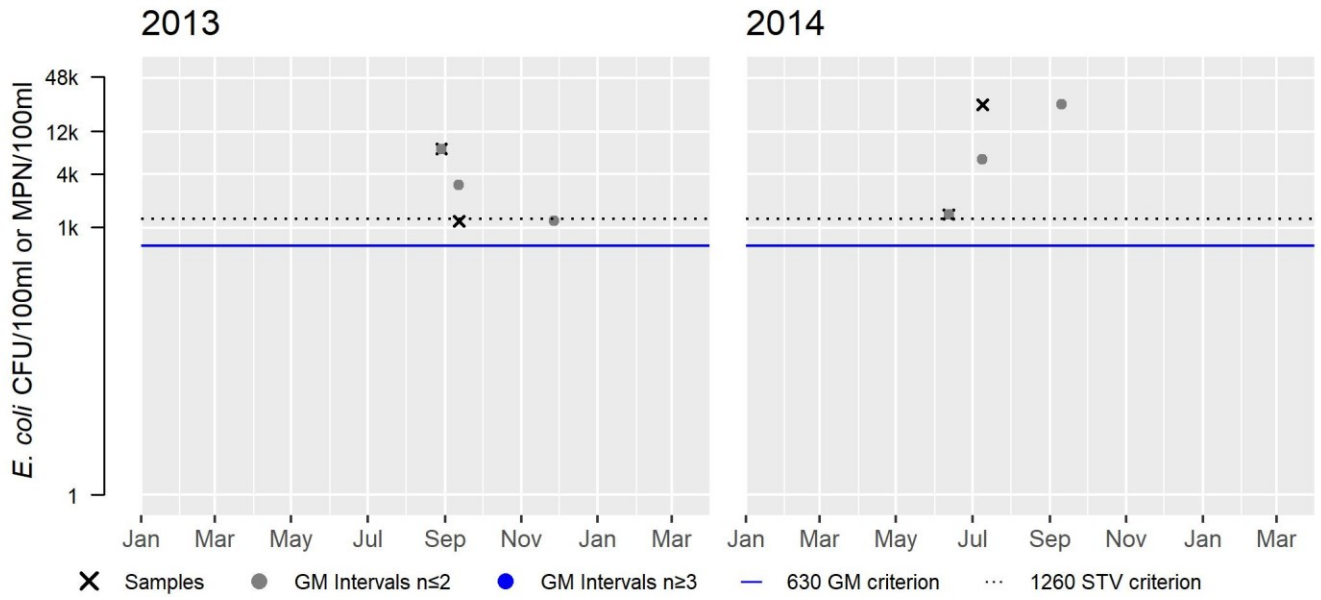
W2430 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	3027
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Var	Res
Samples	2
SeasGM	5841
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

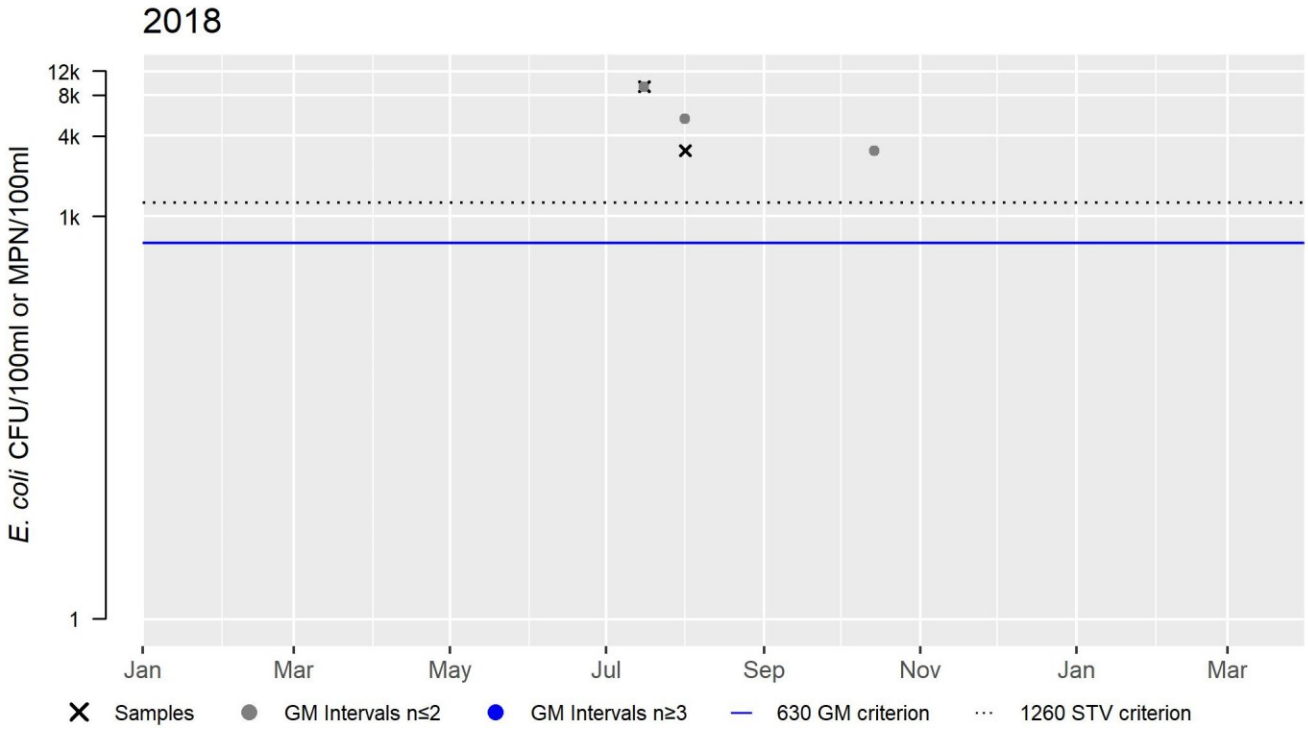
Variable	Cumulative %GMI Ex (all years)
Result	0



W2921 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	5326
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Salisbury Plain River (MA62-06)

Location:	From the Brockton Advanced Water Reclamation Facility (AWRF) discharge (NPDES: MA0101010), Brockton to mouth at confluence with Beaver Brook forming headwaters Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	B: WWF

No usable data were available for Salisbury Plain River (MA62-06) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Algae		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Dissolved Oxygen		Unchanged
5	5	Escherichia Coli (E. Coli)	40308	Unchanged
5	5	Fecal Coliform	40308	Unchanged
5	5	Odor		Unchanged
5	5	Phosphorus, Total		Unchanged
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Algae	Municipal Point Source Discharges (Y)	X		X	X	X
Benthic Macroinvertebrates	Municipal Point Source Discharges (Y)	X				
Dissolved Oxygen	Municipal Point Source Discharges (Y)	X				
Escherichia Coli (E. Coli)	Municipal Point Source Discharges (Y)				X	
Fecal Coliform	Municipal Point Source Discharges (Y)				X	
Odor	Municipal Point Source Discharges (Y)			X	X	X
Phosphorus, Total	Municipal Point Source Discharges (Y)	X		X	X	X
Turbidity	Municipal Point Source Discharges (Y)			X	X	X

Sassaquin Pond (MA62232)

Location:	New Bedford (formerly reported as 2002 segment: Sassaquin Pond MA95129).
AU Type:	FRESHWATER LAKE
AU Size:	36 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Sassaquin Pond (MA62232) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Unchanged
5	5	Algae		Unchanged
5	5	Fecal Coliform		Unchanged
5	5	Harmful Algal Blooms		Unchanged
5	5	Odor		Unchanged

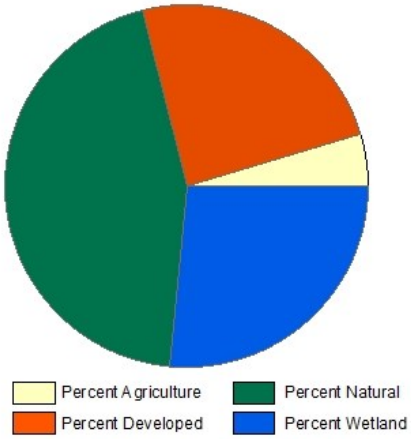
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Algae	Source Unknown (N)			X	X	X
Fecal Coliform	Source Unknown (N)				X	
Harmful Algal Blooms	Source Unknown (N)			X	X	X
Odor	Source Unknown (N)			X	X	X

Satucket River (MA62-10)

Location:	Headwaters, outlet Robbins Pond, East Bridgewater to mouth at confluence with the Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	5.6 MILES
Classification/Qualifier:	B

Satucket River - MA62-10

Watershed Area: 35.01 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	35.01	7.64	8.76	1.99
Agriculture	4.6%	4.64%	5.48%	6.42%
Developed	24.3%	24.01%	16.51%	15.27%
Natural	44.6%	45.61%	37.7%	43.88%
Wetland	26.52%	25.87%	40.34%	34.82%
Impervious Cover	11.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)		Unchanged
5	5	Dissolved Oxygen		Added
5	5	Lead		Added
5	5	Temperature		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Lead	Source Unknown (N)	X				
Temperature	Dam or Impoundment (N)	X				

Recommendations

2022 Recommendations
ALU: Conduct long-term continuous Temperature and DO monitoring in the Satucket River near MassDEP station W2375 and downstream of the remnants of the Carver Cotton Gin Mill Dam (which was removed in 2017).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary
Benthic and water quality (WQ) monitoring were conducted in this Satucket River AU (MA62-10) by MassDEP staff ~1840ft downstream of Washington St, E. Bridgewater (B0833, W2375) during summer 2013 as part of the MAP2 monitoring project (most WQ data were previously reported on in the 2018/2020 IR (MassDEP 2021) but are being included here for completeness). The July benthic sample IBI score of 61 was indicative of moderately degraded conditions for a low gradient location (but was within 1 point of satisfactory). Dissolved oxygen (DO) was recorded over three probe deploys (12 days total): min DO 3.7mg/L, min 3-5DADMin 3.8mg/L (<5.0mg/L once) and 1-day min was <4.0mg/L four times. Temperature was measured over 107 days in the summer index period: max temp 32.1°C, 7-DADM >27.7°C 15 times (max 7DADM 30.9°C) and max 24-hour rolling avg of 29.7°C exceeded the acute 28.3°C criterion. pH ranged 6.3-6.7SU (n=3) and there were generally no indicators of nutrient enrichment (total phosphorus seasonal avg 0.063mg/L n=5, max diel DO shift 1.0mg/L, DO max saturation 87.4%, no observations of excessive filamentous algae on 3 site visits). Specific conductance & chloride both low (max 291µS/cm n=3 and 78mg/L n=4, respectively), as was total ammonia-nitrogen (max 0.11mg/L, n=4). Of three clean metals samples, all three exceeded the lead chronic criteria (TUs 1.8-2.3), but no other metals exceedances (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). MassDFG biologists conducted backpack electrofishing at three low gradient sites in E. Bridgewater from upstream to downstream: mid-AU downstream of Bridge St. (SampleID 7774, July 2018) and in downstream half of AU, upstream of Rt. 106 (SampleID 7023, July 2017) and behind storage building off Whitman St. (SampleID 7789, July 2018). All three samples contained 16-30% fluvial specialist/dependent species and included 6-9% intolerant/moderately tolerant macrohabitat generalist taxa. There are two fish passage structures on the Satucket River which has a population score of "2" for river herring and American eel. At upstream end of AU, the Pond St. culvert (just DS of Robbins Pond) was given a passage score of "0" (no obstruction). In the downstream half of AU, the Carver Cotton Gin Mill Dam, which previously obstructed fish passage, was removed in Nov 2017, opening 13 miles of river habitat and restoring access to 652 acres of river herring spawning habitat (DER 2017). The dam remnants were given a passage score of "0" (no obstruction). Studies on the thermal impact of the Cotton Gin Mill Dam were conducted by UMass students between July 2015 and Aug 2017. Data loggers monitored discrete/continuous water temp and DO at eight stations including one upstream of the dam, one site in the impoundment and five stations ranging from 28m-1625m downstream of the dam. Although DO dropped beneath 2022 CALM criteria (MassDEP 2022) upstream and within the impoundment (as low as 2.1mg/L), since the dam was subsequently removed an impairment decision cannot be based on these data. Similarly, long-term temp data collected over 21-106 days during the summer index periods generally did not exceed criteria but there were 7DADM exceedances at the upstream site (n=16) and in the impoundment (n=5) during summer 2016 (max 7DADM 28.6°C). There were no acute temp exceedances. The Aquatic Life Use for the Satucket River (MA62-10) will continue to be assessed as Not Supporting with the Non-Native Aquatic Plants and Temperature impairments being carried forward (elevated temperature was documented at DEP station W2375 in 2013). A Dissolved Oxygen impairment is being added based on 2013 DEP data from downstream of Washington St. (W2375) and a lead impairment is being added due to chronic exceedances at the same location. An Alert is being identified for Benthic Macroinvertebrates due to the IBI score on the border of moderately degraded and satisfactory conditions.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
7023	MassDFG	Fish Community	Satucket River	Above Rt 106, Bridgewater	42.02203	-70.95065
7774	MassDFG	Fish Community	Satucket River	below Bridge St. , East Bridgewater	42.02255	-70.93196
7789	MassDFG	Fish Community	Satucket River	behind storage building off Whitman St, East Bridgewater	42.02001	-70.95322
B0833	MassDEP	Benthic	Satucket River/	[approximately 560 meters downstream/west from Washington Street, East Bridgewater, MA]	42.018472	-70.922526
W2375	MassDEP	Water Quality	Satucket River	[approximately 1840 feet downstream/west from Washington Street, East Bridgewater]	42.018472	-70.922526

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
UMassA_CGMDS1	UMass Amherst	Water Quality	Satucket River	28m downstream dam	42.021254	-70.951298
UMassA_CGMDS2	UMass Amherst	Water Quality	Satucket River	140m downstream dam	42.020383	-70.952217
UMassA_CGMDS3	UMass Amherst	Water Quality	Satucket River	350m downstream dam	42.019395	-70.952379
UMassA_CGMDS4	UMass Amherst	Water Quality	Satucket River	865m downstream dam	42.016883	-70.953817
UMassA_CGMDS5	UMass Amherst	Water Quality	Satucket River	1625m downstream dam	42.013783	-70.954433
UMassA_CGMIMP	UMass Amherst	Water Quality	Satucket River	7m upstream dam	42.0215	-70.950883
UMassA_CGMUS	UMass Amherst	Water Quality	Satucket River	90m upstream dam	42.022	-70.95065

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0833	07/17/13	RBP multihab	Statewide_Low_Gradient	277	61	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]
[Species List: AE = American Eel, B = Bluegill, BB = Brown Bullhead, CP = Chain Pickerel, CS = Common Shiner, F = Fallfish, P = Pumpkinseed, SL = Sea Lamprey, TD = Tessellated Darter, WS = White Sucker, YB = Yellow Bullhead]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
7023	07/20/17	BP	TP	L	5	32	0%	2	22%	0%	1	6%	Yes	No	AE, B, P, TD, WS,
7774	07/16/18	BP	TP	L	6	67	0%	1	16%	0%	2	7%	No	No	AE, B, CP, P, TD, YB,
7789	07/16/18	BP	TP	L	9	23	0%	3	30%	0%	2	9%	No	No	AE, B, BB, CP, CS, F, P, SL, TD,

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
Data Source: (Reback, et al. 2004), (DER 2017). There are two structures that pertain to fish passage on the Satucket River. The target species for passage at both locations are river herring and American eel, with a population score of "2". At the upstream end of the AU, the Pond Street culvert (located just downstream of Robbins Pond) was given a passage score of "0" (no obstruction). DMF biologists note no limits to passage with the existing culvert, but that it is older and is due to be replaced imminently. In the downstream half of the AU, the Carver Cotton Gin Mill Dam (built in 1842) that impaired fish passage, was removed in November of 2017. DMF received owner project approval letter 2013 and a DER Sandy Grant 2014. The Project partners included DER, The Nature Conservancy, NOAA Restoration Center, the US Fish & Wildlife Service and other partners. The Dam removal will restore 13 miles of river corridor and 652 acres of river herring spawning habitat. The remnants of the dam were given a passage score of "0" (no obstruction). Additional articles can be found here: https://www.mass.gov/news/removal-of-the-carver-cotton-gin-dam-on-the-satucket-river-begins https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/massachusetts/newsroom/carver-cotton-gin-dam-removal-begins-in-east-bridgewater.xml https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/massachusetts/explore/stabilizing-the-satucket.xml

Status of MassDER habitat restoration priority projects as of 2021 (Wildman, N. April 15, 2021)

The Cotton Gin Mill Dam (also called the Carver Cotton Gin Dam) was built in the mid-1800's on the Satucket River in East Bridgewater. The dam blocked passage for diadromous fish from Narragansett Bay to the river upstream and Robbins Pond, both of which provide suitable nursery habitat for river herring (TNC Undated). In June 2017, The Nature Conservancy (TNC) received a Federal Grant of $530,000 to fund The Satucket River Restoration Project (MassDER 2017a). The Division of Ecological Restoration (DER), TNC, NOAA Restoration Center and the US Fish and Wildlife Service worked together to remove the Carver Cotton Gin Dam in late 2017. The dam was previously rated as a 'significant hazard' dam in 'unsafe' conditions by the Massachusetts Office of Dam Safety (DER 2017). The removal of this dam has opened 13 miles of river habitat, restored access to 652 acres of river herring spawning habitat and has improved water quality (DER 2017). Studies on the thermal impact of the Cotton Gin Mill Dam on the Satucket River were conducted by UMass students between July 2015 and October 2016. Investigators used data loggers to monitor discrete and continuous water temperature (UMass-Amherst 2018).

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2375	2013	3	12	3.7	3.8	4	1	2	4	1	4	1	4

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2375	05/22/13	09/25/13	3	4.2	5.5	1	1	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2375	06/01/13	09/15/13	107	107	29.5	32.1	30.9	28.5	97	34	81	27	15	5

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2375	2013	3	12	25.4	27.8	25.1	23.4	3	2	3	1	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2375	06/01/13	09/15/13	107	5136	29.7	1679	1272	303
W2375	06/20/13	08/27/13	68	578	25.9	76	56	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2375	05/22/13	09/25/13	5	3	25.0	20.6	3	3	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2375	05/22/13	09/25/13	3	6.3	6.7	1	0

UMass Amherst Dam Study Short-term Continuous Dissolved Oxygen Data (2015-2017). (UMass-Amherst 2018) (MassDEP Undated3)

[Note: X= 7 (or # of deploy days if less than seven days); XDADMin= XDay Average of the Daily Minima, XDADA= XDay Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
UMassA_CGMDS1	09/13/15	09/18/15	6	6	6.7	7.4	2.9	0	0	0	0	0	0
UMassA_CGMDS1	07/01/16	07/05/16	5	4.6	5	6.2	3.1	1	1	1	1	0	0
UMassA_CGMDS1	09/01/16	09/04/16	4	4.3	4.9	6.5	4.3	1	2	0	0	1	0
UMassA_CGMDS1	09/26/16	10/01/16	6	7.3	8	8.9	3.8	0	0	0	0	0	0
UMassA_CGMIMP	09/13/15	09/18/15	6	5.6	6.3	7.2	3.4	0	0	0	0	0	0
UMassA_CGMIMP	07/01/16	07/05/16	5	4.4	4.7	6.2	3.7	1	4	1	4	1	0

Station Code	Start Date	End Date	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
UMassA_CGMIMP	09/01/16	09/04/16	4	2.1	3.1	5.9	7.8	1	4	0	0	1	4
UMassA_CGMIMP	09/26/16	10/01/16	6	6.5	7.5	8.4	3.4	0	0	0	0	0	0
UMassA_CGMUS	09/13/15	09/18/15	6	5.2	5.9	6.8	3.5	1	0	0	0	0	0
UMassA_CGMUS	07/01/16	07/05/16	5	2.9	3.9	5.6	4.3	1	5	1	5	1	2
UMassA_CGMUS	09/01/16	09/04/16	4	3.2	4.9	6.9	6.9	1	2	0	0	1	1
UMassA_CGMUS	09/26/16	10/01/16	6	7.2	7.5	8.6	4.3	0	0	0	0	0	0

UMass Amherst Dam Study Long-term Continuous Temperature Data (Summer Index 2014-2017). (UMass-Amherst 2018) (MassDEP Undated3)

[Summer Index is June 1 – Sept 15; 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Index Count	Max 24hr Rolling Avg Temp (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier2 7DADA >21	Count WW 7DADM >27.7
UMassA_CGMDS1	07/17/15	12/31/15	61	26.8	28.3	27.0	26.8	55	55	0
UMassA_CGMDS1	01/01/16	12/31/16	49	27.7	29.4	27.7	27.5	105	98	0
UMassA_CGMDS1	01/01/17	08/08/17	21	26.7	28.0	26.3	26.1	55	54	0
UMassA_CGMDS2	07/17/15	12/31/15	61	26.7	28.1	26.5	26.3	55	55	0
UMassA_CGMDS2	01/01/16	12/31/16	106	27.1	29.3	27.5	27.4	105	98	0
UMassA_CGMDS2	01/01/17	08/08/17	21	26.6	28.0	26.2	26.0	55	54	0
UMassA_CGMDS3	07/17/15	12/31/15	61	26.7	28.2	26.3	26.2	55	55	0
UMassA_CGMDS3	01/01/16	12/31/16	49	26.5	28.3	26.8	26.6	54	48	0
UMassA_CGMDS3	01/01/17	06/21/17	21	25.8	26.3	23.7	23.3	8	8	0
UMassA_CGMDS4	07/17/15	12/31/15	61	26.5	27.9	25.8	25.7	55	55	0
UMassA_CGMDS4	01/01/16	12/31/16	106	26.0	30.0	26.8	26.3	105	97	0
UMassA_CGMDS4	01/01/17	06/21/17	21	25.6	26.2	23.5	23.1	8	8	0
UMassA_CGMDS5	07/17/15	12/31/15	61	26.3	27.6	25.3	25.0	55	52	0
UMassA_CGMDS5	01/01/16	12/31/16	106	25.7	27.1	25.5	25.3	105	89	0
UMassA_CGMDS5	01/01/17	06/21/17	21	25.5	26.1	23.5	23.1	8	7	0
UMassA_CGMIMP	07/17/15	12/31/15	61	26.8	28.3	27.0	26.8	55	55	0
UMassA_CGMIMP	01/01/16	12/31/16	106	27.8	29.6	28.1	27.9	105	99	5
UMassA_CGMIMP	01/01/17	08/08/17	68	26.6	27.9	26.2	26.0	55	53	0
UMassA_CGMUS	07/17/15	12/31/15	61	26.8	28.4	27.1	26.9	55	55	0
UMassA_CGMUS	01/01/16	12/31/16	106	28.2	30.6	28.6	28.5	105	98	16
UMassA_CGMUS	01/01/17	08/08/17	68	26.7	28.0	26.2	26.1	55	54	0

UMass Amherst Dam Study Discrete pH Data (2016-2017). (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
UMassA_CGMDS1	06/30/16	10/02/16	Surface	5	6.6	7.3	0	0
UMassA_CGMUS	06/30/16	10/02/16	Surface	5	6.5	7.6	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2375	2013	5	0.049	0.074	0.063	1.0	0.7	87.4	6.7	3	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2375	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2375	2013	3	0	0	0	0	3	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)
[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2375	05/31/13	0.3	0.6	0.7	0.88	0.1	1.9
W2375	07/12/13	0.2	0.4	0.4	0.57	0.1	2.3
W2375	08/23/13	0.3	0.6	0.3	0.40	0.1	1.8

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2375	2013	3	0.055	0.13	0.098	0.4	0.7	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2375	2013	4	0.040	0.110	0.070	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2375	2013	4	36	78	63	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2375	05/22/13	09/25/13	3	194	291	0	0	0	0	0	0

UMass Amherst Dam Study Discrete Specific Conductance Data (2016-2017) Compared to Estimated Chloride Criteria. (UMass-Amherst 2018) (MassDEP Undated3)

Station Code	Start Date	End Date	Sample Depth	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
UMassA_CGMDS1	06/30/16	10/02/16	surface	5	357	407	0	0	0	0	0	0
UMassA_CGMUS	06/30/16	10/02/16	surface	5	347	405	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in the Satucket River (MA62-10); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys of this Satucket River AU (MA62-10) approximately 1840 ft downstream/west from Washington St. in East Bridgewater (W2375), as part of the MAP2 monitoring project, during the summer of 2013. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use for this Satucket River AU (MA62-10) continues to be assessed as Fully Supporting due to the lack of objectionable conditions observed by DEP field crews during summer 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2375	MassDEP	Water Quality	Satucket River	[approximately 1840 feet downstream/west from Washington Street, East Bridgewater]	42.018472	-70.922526

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2375	Satucket River	2013	8	MassDEP aesthetics observations for station W2375/MAP2-333 on Satucket River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2375	2013	8	3	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2375	Satucket River	2013	Color	Light Yellow/Tan	7	8
W2375	Satucket River	2013	Color	NR	1	8
W2375	Satucket River	2013	Objectionable Deposits	No	7	8
W2375	Satucket River	2013	Objectionable Deposits	Yes	1	8
W2375	Satucket River	2013	Odor	Musty (Basement)	1	8
W2375	Satucket River	2013	Odor	None	7	8
W2375	Satucket River	2013	Scum	No	7	8
W2375	Satucket River	2013	Scum	Yes	1	8
W2375	Satucket River	2013	Turbidity	Moderately Turbid	2	8
W2375	Satucket River	2013	Turbidity	None	3	8
W2375	Satucket River	2013	Turbidity	Slightly Turbid	3	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples from this Satucket River AU (MA62-10) approximately 1840 ft downstream/west from Washington St. in East Bridgewater (W2375), as part of the MAP2 monitoring project between May and September 2013 (n=5). Data analysis indicated that 33% of intervals had GMs >126 CFU/100mL and one sample exceeded the 410 CFU/100mL STV. The seasonal GM was 133 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.
The Primary Contact Recreation Use of this Satucket River AU (MA62-10) continues to be assessed as Fully Supporting since MassDEP *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset and no objectionable conditions were observed.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2375	MassDEP	Water Quality	Satucket River	[approximately 1840 feet downstream/west from Washington Street, East Bridgewater]	42.018472	-70.922526

Bacteria Data

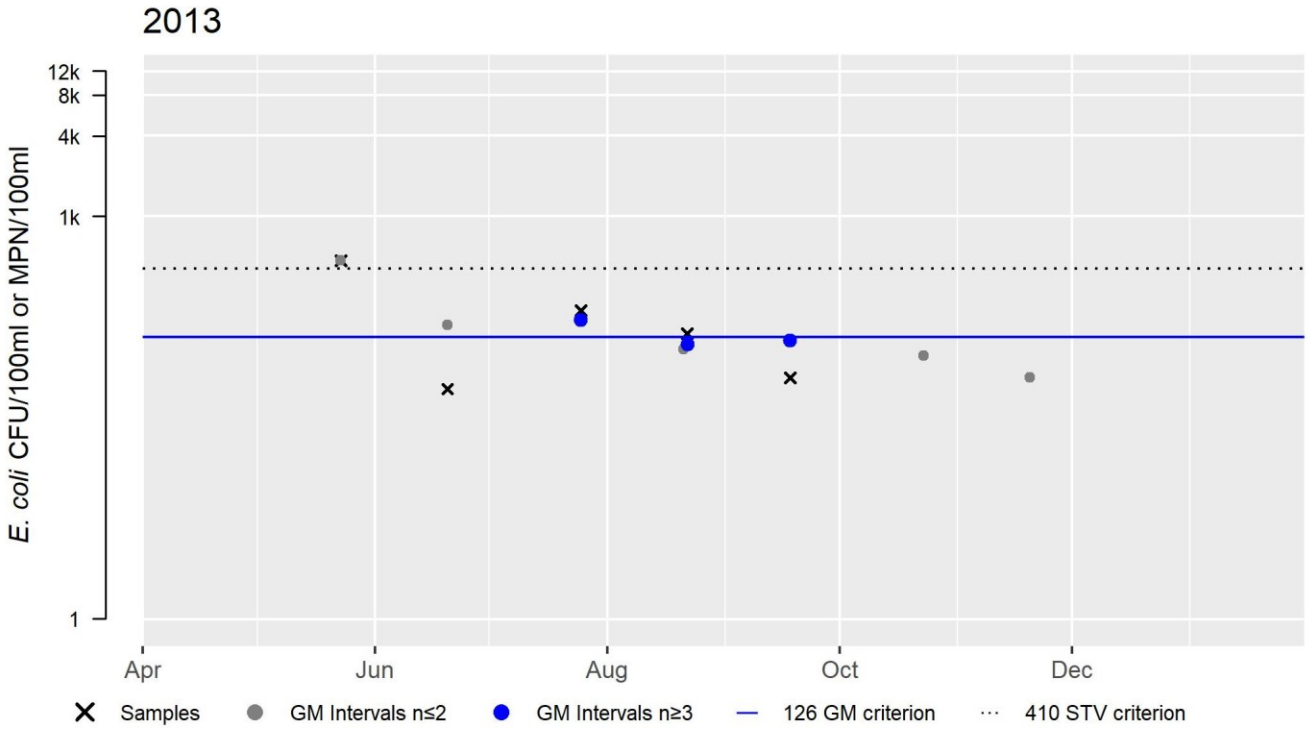
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2375	MassDEP	E. coli	05/23/13	09/18/13	5	52	470	133

W2375 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	133
#GMI	3
#GMI Ex	1
%GMI Ex	33
n>STV	1
%n>STV	20

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples in this Satucket River AU (MA62-10) approximately 1840 ft downstream/west from Washington St. in East Bridgewater (W2375) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 133 ,CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.
The Secondary Contact Recreation Use of this Satucket River AU (MA62-10) continues to be assessed as Fully Supporting since MassDEP *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset and no objectionable conditions were observed.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2375	MassDEP	Water Quality	Satucket River	[approximately 1840 feet downstream/west from Washington Street, East Bridgewater]	42.018472	-70.922526

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

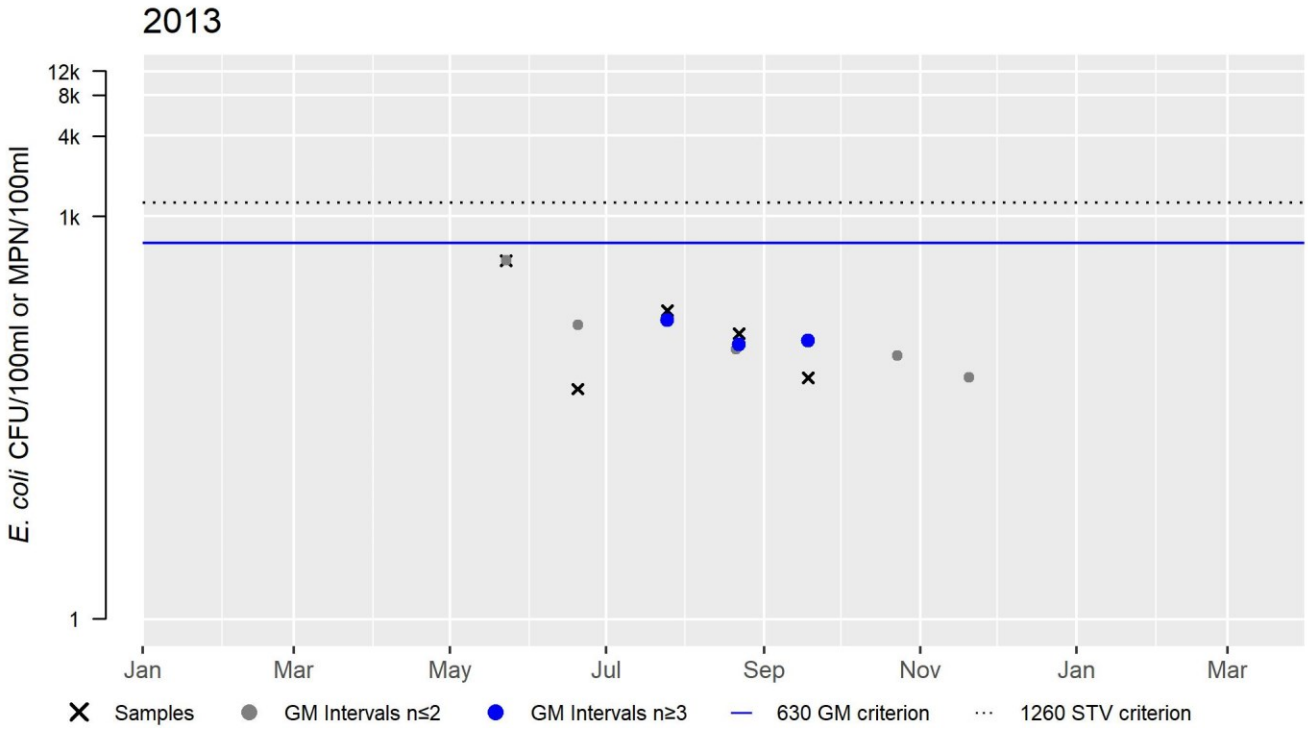
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2375	MassDEP	E. coli	05/23/13	09/18/13	5	52	470	133

W2375 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	133
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Savery Pond (MA62167)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	24 ACRES
Classification/Qualifier:	B

No usable data were available for Savery Pond (MA62167) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Sawmill Brook (MA62-36)

Location:	Headwaters, outlet Ice Pond, Bridgewater to mouth at confluence with the Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B: WWF

No usable data were available for Sawmill Brook (MA62-36) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

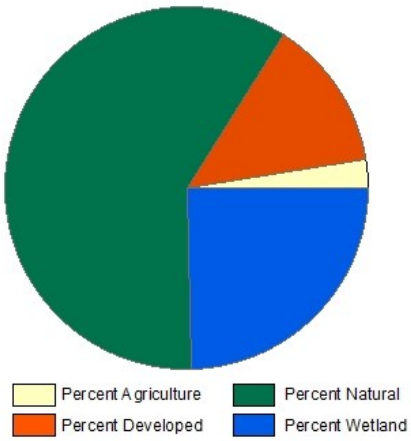
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Segreganset River (MA62-53)

Location:	Source in wetland north of Glebe Street, Taunton to the Montaup Pond Dam (NATID: MA02104), Dighton (formerly part of 2004 segment: Segreganset River MA62-18) (through former 2014 lake segment: Segreganset River Ponds MA62169).
AU Type:	RIVER
AU Size:	7.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Segreganset River - MA62-53

Watershed Area: 13.44 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	13.44	6.54	7.92	3.4
Agriculture	2.5%	3.9%	1.6%	2.3%
Developed	13.5%	11.2%	8.6%	5.2%
Natural	59.5%	58.4%	52.9%	48.2%
Wetland	24.6%	26.5%	36.8%	44.3%
Impervious Cover	5.5%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Dewatering*)		Unchanged
4c	5	(Fish Passage Barrier*)		Unchanged
4c	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Dewatering*)	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X				
(Dewatering*)	Water Diversions (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
Enterococcus	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Continue to conduct metals sampling in this Segrangaset River AU (MA62-53) to better evaluate chronic lead criteria exceedance frequency and if an impairment decision is warranted.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Without any more recent data to evaluate the Aquatic Life Use for this Segreganset River AU (MA62-53), it will continue to be assessed as Not Supporting (MassDEP 2021). The Dewatering and Fish Passage Barrier impairments are both being carried forward as is the Alert for two slight chronic lead criteria exceedances documented by USGS between January 2019 and February 2020 (in the river upstream from the twin culverts on Center Street in Dighton).	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Segreganset River AU (MA62-53); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Segreganset River AU (MA62-53), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples from this Segreganset River AU (MA62-53) at Horton St. in Dighton (TRWA_SEG) between April and October 2019 (n=7). Data analysis indicated that 83% of intervals had GMs >35 CFU/100mL and two samples exceeded the 130 CFU/100mL STV. The seasonal GM was 78 CFU/100mL. The Primary Contact Recreation Use of this Segreganset River AU (MA62-53) is assessed as Not Supporting since the *Enterococci* data collected by TRWA exceeds the use attainment impairment threshold for a single year, moderate frequency dataset. An Enterococcus impairment is being added.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_SEG	Taunton River Watershed Association	Water Quality	Segregansett River	Segregansett R. Horton Street, Dighton	41.846322	-71.164374

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

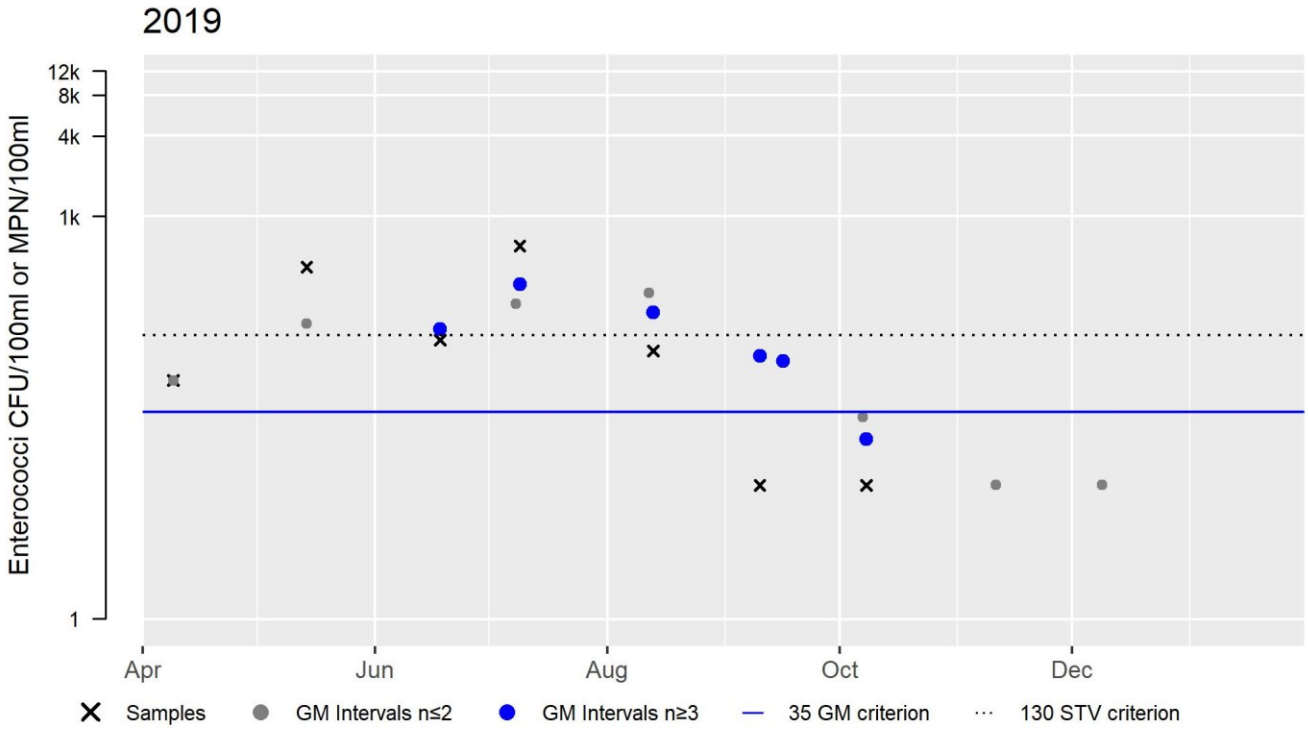
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_SEG	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	600	78

TRWA_SEG Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	78
#GMI	6
#GMI Ex	5
%GMI Ex	83
n>STV	2
%n>STV	29

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for this Segreganset River AU (MA62-53), so it is Not Assessed.	

Segreganset River (MA62-54)

Location:	From Montaup Pond Dam (NATID: MA02104), Dighton to approximately 250 feet north of Brook Street, Dighton (formerly part of 2004 segment: Segreganset River MA62-18).
AU Type:	RIVER
AU Size:	0.3 MILES
Classification/Qualifier:	B

No usable data were available for Segreganset River (MA62-54) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Dewatering*)		Unchanged
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Dewatering*)	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X				
(Dewatering*)	Water Diversions (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Segreganset River (MA62-55)

Location:	From approximately 250 feet north of Brook Street, Dighton to mouth at confluence with the Taunton River, Dighton (formerly part of 2004 segment: Segreganset River MA62-18).
AU Type:	ESTUARY
AU Size:	0.02 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Fecal Coliform	40309	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Fecal Coliform	Source Unknown (N)			X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for this Segreganset River AU (MA62-55), so it is Not Assessed.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Segreganset River AU (MA62-55); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Segreganset River (MA62-55): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0146 sq mi (73%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0146 sq mi (73%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.1	Taunton River	Prohibited	0.01456	73.2%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Segreganset River AU (MA62-55), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* or *E. coli* data are available to assess the Primary Contact Recreation Use for this Segreganset River AU (MA62-55), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Segreganset River (MA62-55): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0146 sq mi (73%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* bacteria data are available to assess the Secondary Contact Recreation Use for this Segreganset River AU (MA62-55), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

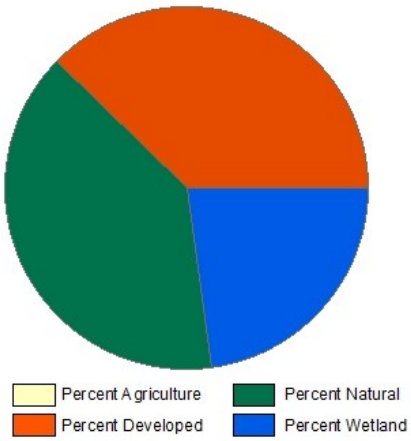
Summary
Segreganset River (MA62-55): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0146 sq mi (73%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Shumatuscacant River (MA62-33)

Location:	Headwaters, from wetland northwest of Vineyard Road, Abington to mouth at confluence with Poor Meadow Brook, Hanson (through former 2014 segment: Hobart Pond MA62090) (excluding 0.5 mile through Island Grove Pond MA62094).
AU Type:	RIVER
AU Size:	8 MILES
Classification/Qualifier:	B

Shumatuscacant River - MA62-33

Watershed Area: 10.69 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	10.69	4.33	2.28	0.85
Agriculture	0.6%	0.7%	0.4%	0.4%
Developed	37.6%	36.6%	24.8%	21.7%
Natural	39.2%	39.7%	33.8%	30.4%
Wetland	22.7%	23%	41%	47.5%
Impervious Cover	18.3%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)		Unchanged
5	5	(Physical Substrate Habitat Alterations*)		Unchanged
5	5	Benthic Macroinvertebrates		Added
5	5	Dissolved Oxygen		Unchanged
5	5	Escherichia Coli (E. Coli)		Added
5	5	Fecal Coliform	40308	Unchanged
5	5	Sedimentation/Siltation		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Physical Substrate Habitat Alterations*)	Source Unknown (N)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Dissolved Oxygen	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Source Unknown (N)				X	
Fecal Coliform	Source Unknown (N)				X	
Sedimentation/Siltation	Source Unknown (N)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDFG and MassDEP biologists conducted backpack electrofishing at five sites in the downstream half of this Shumatuscacant River AU (MA62-33) in 2013 (SampleID 5082) and 2016 (remaining four samples), from up to downstream as follows: by Whitman rail station, (SampleID 5910), ~3200 ft US/NW of Franklin St. behind Ridder Country Club, Whitman (SampleID 5082), from riffle to golf cart bridge, Hanson/East Bridgewater (SampleID 5908), railroad bridge upstream, East Bridgewater (SampleID 5907) and Washington St. Bridge, Hanson (SampleID 5909). All the samples (n= 19-76) collected in this low-moderate gradient stream reach, except ID 5910 (with comments of poor habitat and channelized silt over sand and rubble), contained at least one fluvial specialist/dependent species (most commonly tessellated darter) comprising 32-59% of the sample and all the samples contained macrohabitat generalists intolerant/moderately tolerant to environmental perturbations (4-25% of the sample). Benthic and water quality monitoring were conducted by MassDEP staff ~3200 ft upstream of Rt. 27 (Franklin St.), Whitman (B0845, W2386) during the summer of 2013 as part of the MAP2 monitoring project. The benthic community sample was collected in July and the IBI score of 35 was indicative of severely degraded conditions for a low gradient location. Water quality sampling data including both deployed probe and discrete sampling efforts can be summarized as follows: the minimum DO was 2.6mg/L during three short term DO deploys (totaling 12 days), the 3-5DADMin was <5.0mg/L two times and the 1-day minimum was <4.0mg/L five times; the maximum temperature from a 107-day deploy was 28.7°C, the maximum 7-DADM of 27.6 °C was <27.7°C and the maximum 24hr rolling average was 27.2°C. The pH ranged from 6.6 to 6.8SU (n=3) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.044mg/Ln=5, maximum diel DO shift 1.7mg/L, DO maximum saturation of 75.2%, maximum pH 6.8SU & no observations of any dense/very dense filamentous algae during seven site visits). Specific conductance and chloride concentrations were both low (maximum 485µS/cm n=3 and 140mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.1mg/L, n=4 with no toxicity estimated) and there were no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).

The Aquatic Life Use for Shumatuscacant River (MA62-33) will continue to be assessed as Not Supporting with the Dissolved Oxygen, Non-Native Aquatic Plants, Physical Substrate Habitat Alterations and Sedimentation/Siltation impairments being carried forward. A new impairment will be added for Benthic Macroinvertebrates based on the sample indicative of severely degraded conditions that was collected by MassDEP staff ~3200ft upstream of Franklin St. in 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5082	MassDEP	Fish Community	Shumatuscacant River	~3200 ft US/NW of Rt 27 (Franklin St), behind Ridder Country Club.	42.06812	-70.91424
5907	MassDFG	Fish Community	Shumatuscacant River	Railroad bridge upstream, East Bridgewater	42.06298	-70.90926
5908	MassDFG	Fish Community	Shumatuscacant River	From riffle to golf cart bridge., Hanson/East Bridgewater	42.06329	-70.91041
5909	MassDFG	Fish Community	Shumatuscacant River	Washington St. Bridge, Hanson	42.05800	-70.90000
5910	MassDFG	Fish Community	Shumatuscacant River	by Whitman rail station, Whitman	42.08139	-70.92294
B0845	MassDEP	Benthic	Shumatuscacant River/	[approximately 975 meters upstream/northwest of Route 27 (Franklin Street), Whitman, MA]	42.068117	-70.914242
W2386	MassDEP	Water Quality	Shumatuscacant River	[approximately 3200 feet upstream/northwest of Route 27 (Franklin Street), Whitman]	42.068117	-70.914242

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0845	07/17/13	RBP multihab	Statewide_Low_Gradient	279	35	SD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, CCS = Creek Chubsucker, CP = Chain Pickerel, GS = Golden Shiner, LMB = Largemouth Bass, P = Pumpkinseed, RP = Redfin Pickerel, SD = Swamp Darter, TD = Tessellated Darter, WS = White Sucker, YB = Yellow Bullhead, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5082	09/20/13	BP	TP		7	28	0%	1	54%	0%	4	21%	Yes	No	AE, B, CP, LMB, P, RP, TD,
5907	07/11/16	BP	TP	L	6	67	0%	1	49%	0%	2	4%	No	No	AE, B, CP, RP, TD, YB,
5908	07/11/16	BP	TP		6	19	0%	1	32%	0%	3	21%	No	No	AE, B, P, RP, WS, YP,
5909	07/11/16	BP	TP		8	76	0%	3	59%	3%	3	11%	No	No	AE, CCS, GS, P, RP, SD, TD, WS,

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5910	07/11/16	BP	TP		3	24	0%	0	0%	0%	1	25%	Yes	No	AE, B, RP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2386	2013	3	12	2.6	3.3	4	1.7	3	8	2	8	2	5

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2386	05/22/13	09/25/13	3	3.6	4.8	1	1	1

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2386	06/01/13	09/15/13	107	107	26.9	28.7	27.6	25.7	88	18	44	16	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2386	2013	3	12	23.6	25.8	23.4	21.3	3	1	1	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2386	06/01/13	09/15/13	107	5136	27.2	924	755	0
W2386	06/20/13	08/27/13	68	575	24.3	27	9	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2386	05/22/13	09/25/13	5	3	24.5	19.6	3	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2386	05/22/13	09/25/13	3	6.6	6.8	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2386	2013	5	0.033	0.061	0.044	1.7	0.9	75.2	6.8	7	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2386	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)
[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2386	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2386	2013	3	0.011	0.057	0.034	0.2	0.3	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2386	2013	4	0.020	0.100	0.053	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2386	2013	4	81	140	118	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2386	05/22/13	09/25/13	3	416	485	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

No fish toxics monitoring has been conducted in the Shumatuscacant River (MA62-33); therefore, the Fish Consumption Use is Not Assessed.

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys in this Shumatuscacant River AU (MA62-33) approximately 3200 ft upstream/northwest of Rt. 27 (Franklin St.) in Whitman (W2386) as part of the MAP2 monitoring project during the summer of 2013. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use of this Shumatuscacant River AU (MA62-33) is assessed as Fully Supporting based on the lack of objectionable conditions.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2386	MassDEP	Water Quality	Shumatuscacant River	[approximately 3200 feet upstream/northwest of Route 27 (Franklin Street), Whitman]	42.068117	-70.914242

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2386	Shumatuscacant River	2013	8	MassDEP aesthetics observations for station W2386/MAP2-373 on Shumatuscacant River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2386	2013	8	7	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2386	Shumatuscacant River	2013	Color	Brownish	1	8
W2386	Shumatuscacant River	2013	Color	Light Yellow/Tan	7	8
W2386	Shumatuscacant River	2013	Objectionable Deposits	No	8	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2386	Shumatuscacant River	2013	Odor	None	6	8
W2386	Shumatuscacant River	2013	Odor	NR	2	8
W2386	Shumatuscacant River	2013	Scum	No	8	8
W2386	Shumatuscacant River	2013	Turbidity	Moderately Turbid	2	8
W2386	Shumatuscacant River	2013	Turbidity	None	3	8
W2386	Shumatuscacant River	2013	Turbidity	Slightly Turbid	3	8

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples from this Shumatuscacant River AU (MA62-33) ~3200 ft upstream/northwest of Rt. 27 (Franklin St.) in Whitman (W2386), as part of the MAP2 monitoring project between May and September 2013 (n=5). Data analysis indicated that 100% of intervals had GMs >126 CFU/100mL and two samples exceeded the 410 CFU/100mL STV. The seasonal GM was 233 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station. The Primary Contact Recreation Use for this Shumatuscacant River AU (MA62-33) continues to be assessed as Not Supporting, with the Fecal Coliform impairment carried forward. A new impairment for Escherichia Coli (*E. Coli*) will be added since MassDEP *E. coli* data collected at Station W2386 during summer 2013 exceeded the use attainment impairment threshold for a single year, low frequency dataset.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2386	MassDEP	Water Quality	Shumatuscacant River	[approximately 3200 feet upstream/northwest of Route 27 (Franklin Street), Whitman]	42.068117	-70.914242

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

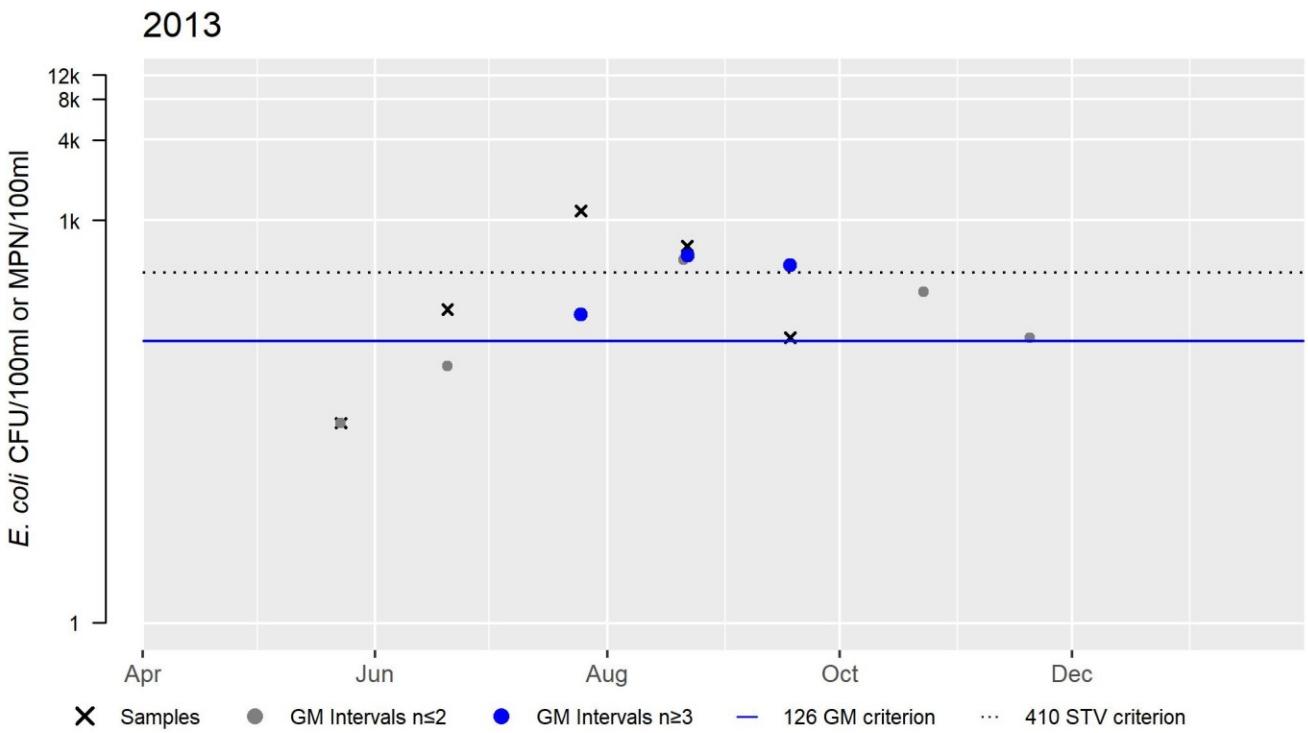
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2386	MassDEP	E. coli	05/23/13	09/18/13	5	31	1180	233

W2386 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	233
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	2
%n>STV	40

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff collected *E. coli* bacteria samples in this Shumatuscacant River AU (MA62-33) approximately 3200 ft upstream/northwest of Rt. 27 (Franklin St.) in Whitman (W2386), as part of the MAP2 monitoring project between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 233 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this station. The Secondary Contact Recreation Use for this Shumatuscacant River AU (MA62-33) is assessed as Fully Supporting since MassDEP *E. coli* data collected at Station W2386 during summer 2013 did not exceed the use attainment impairment threshold for a single year, low frequency dataset and there were no objectionable conditions observed at this station.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2386	MassDEP	Water Quality	Shumatuscacant River	[approximately 3200 feet upstream/northwest of Route 27 (Franklin Street), Whitman]	42.068117	-70.914242

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

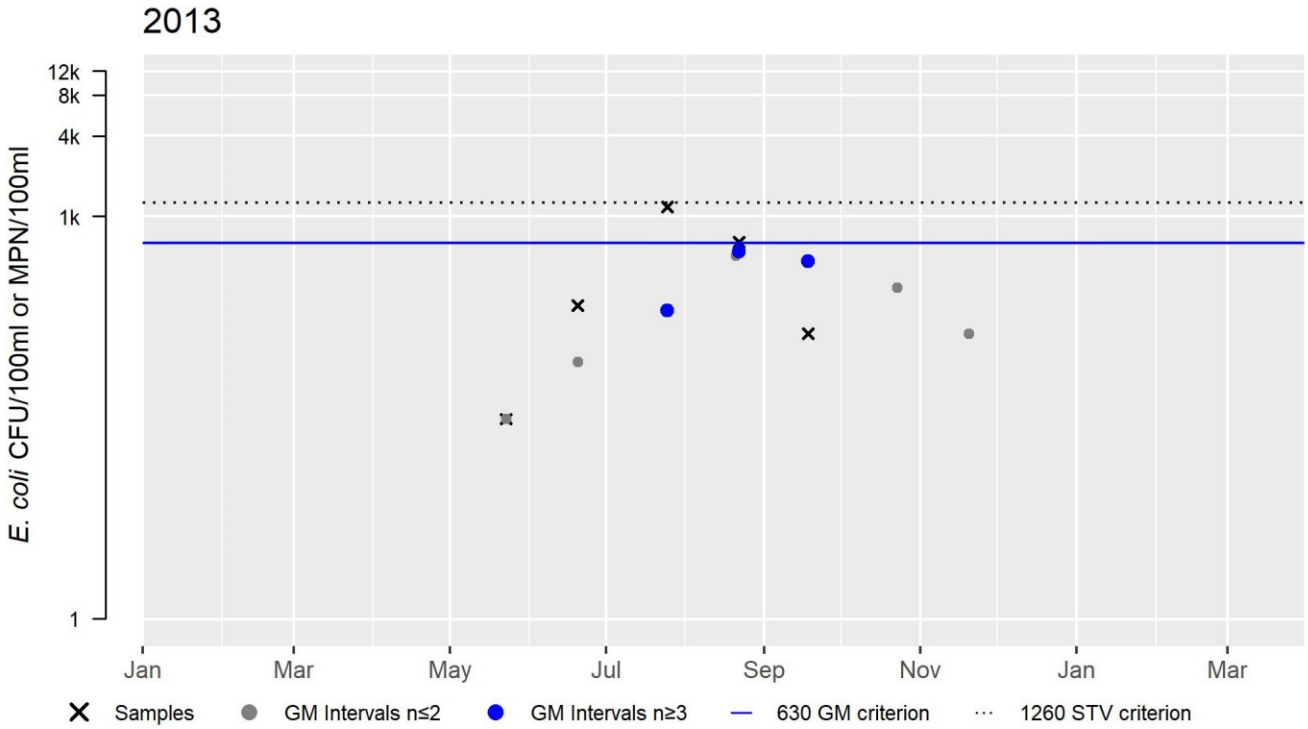
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2386	MassDEP	E. coli	05/23/13	09/18/13	5	31	1180	233

W2386 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	233
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Snake River (MA62-28)

Location:	Headwaters, outlet Winnecunnet Pond, Norton to mouth at inlet of Lake Sabbatia, Taunton.
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

No usable data were available for Snake River (MA62-28) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Somerset Reservoir (MA62174)

Location:	Somerset.
AU Type:	FRESHWATER LAKE
AU Size:	164 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for Somerset Reservoir (MA62174) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Mercury in Fish Tissue	Atmospheric Deposition - Toxics (Y)		X			
Mercury in Fish Tissue	Source Unknown (N)		X			

Stetson Pond (MA62182)

Location:	Pembroke.
AU Type:	FRESHWATER LAKE
AU Size:	88 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Stetson Pond (MA62182) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Unchanged
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Unchanged
5	5	(Fanwort*)		Unchanged
5	5	(Water Chestnut*)		Unchanged
5	5	Dissolved Oxygen		Unchanged
5	5	Harmful Algal Blooms		Unchanged
5	5	Phosphorus, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Harmful Algal Blooms	Internal Nutrient Recycling (Y)			X	X	X
Harmful Algal Blooms	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)			X	X	X
Phosphorus, Total	Source Unknown (N)	X				

Sunset Lake (MA62184)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Sunset Lake (MA62184) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

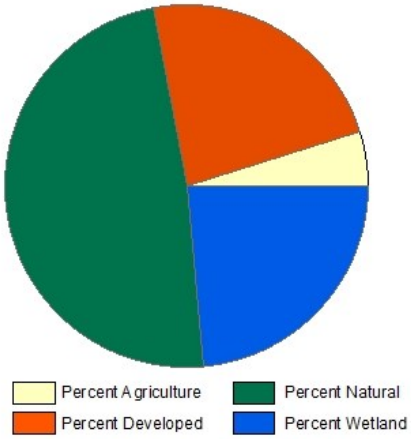
2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Taunton River (MA62-01)

Location:	Headwaters, confluence of Town and Matfield rivers, Bridgewater to Route 24 bridge, Taunton/Raynham.
AU Type:	RIVER
AU Size:	19.5 MILES
Classification/Qualifier:	B: WWF

Taunton River - MA62-01

Watershed Area: 302.23 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	302.23	14.04	77.5	3.7
Agriculture	4.9%	4.8%	5.9%	8.1%
Developed	23%	28.4%	14.7%	14.9%
Natural	48.5%	50.1%	42.1%	49%
Wetland	23.5%	16.7%	37.4%	29.5%
Impervious Cover	10.9%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Unchanged
5	5	Enterococcus		Added
5	5	Escherichia Coli (E. Coli)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Dissolved Oxygen	Municipal Point Source Discharges (N)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Enterococcus	Source Unknown (N)				X	
Escherichia Coli (E. Coli)	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: *Corbicula fluminea* has been found but documentation of the presence of live specimens is still necessary. Conduct additional dissolved oxygen (DO) monitoring in this Taunton River AU (MA62-01) by deployment of continuous meters at the Plymouth St./Rt. 104 Bridge in Bridgewater (W1502), at the USGS gage 01108000 Taunton River near Titicut Road in Bridgewater, at the Green St./Plymouth St. Bridge in Bridgewater/Middleborough (W1503) and at the South St. East /Old Colony Avenue bridge in Raynham/Taunton (W1504) to better evaluate the DO impairment.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
MassDFG biologists conducted boat shocking in three reaches along this Taunton River AU (MA62-01) one in the upstream half and two at the downstream end; from upstream to downstream as follows: Up from Summer St. to tree across the river, then back down, Bridgewater (SampleID 5887) in August 2016 and two reaches near the Weir village ramp in Taunton (SampleID 8292 and 8293) in July 2019. All three samples were well represented by macrohabitat generalist species which are intolerant/moderately tolerant to environmental perturbations (comprising 57, 28 and 20% of the samples respectively), as well as the fluvial dependent species (white sucker). The Aquatic Life Use for this Taunton River AU (MA62-01) will continue to be assessed as Not Supporting. Although fish sampling data in summers 2016 and 2019 are indicative of generally good conditions for a low gradient warm water river, the Dissolved Oxygen impairment is being carried forward. The alerts for slightly elevated total phosphorus and possible presence of the non-native shellfish *Corbicula fluminea* are also being carried forward (confirmation of live specimens of *C. fluminea* is needed prior to making an impairment decision).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5887	MassDFG	Fish Community	Taunton River	Up from Summer St. to tree across the river, then back down., Bridgewater	41.94807	-70.93670
8292	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.89146	-71.04479
8293	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.89755	-71.04423

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BB = Brown Bullhead, BF = Bowfin, CP = Chain Pickerel, GS = Golden Shiner, GSF = Green Sunfish, H = Hogchoker, LMB = Largemouth Bass, P = Pumpkinseed, RB = Rock Bass, RBS = Redbreast Sunfish, RP = Redfin Pickerel, WS = White Sucker, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5887	08/11/16	BT	TP		10	51	0%	1	18%	0%	4	57%	No	No	AE, B, BF, CP, GS, GSF, LMB, P, RB, WS,
8292	07/19/19	BT	TP		9	29	0%	1	52%	0%	5	28%	No	No	AE, B, H, LMB, P, RB, RBS, RP, WS,
8293	07/19/19	BT	TP		7	10	0%	1	30%	0%	2	20%	No	No	AE, B, BB, BF, P, WS, YP,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Taunton River AU (MA62-01); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Taunton River AU (MA62-01), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Taunton River Watershed Association (TWRA) staff/volunteers collected *Enterococci* bacteria data at two sites along this Taunton River AU (MA62-01); at the Cherry St. bridge in Bridgewater (TRWA_CHE-01-TNT-04) and farther downstream on Rt. 18 (Bedford St.) in Bridgewater (TRWA_BED- 01-TNT-03) between April and October 2019 (n=7 for both). Data analysis for the upstream site (TRWA_CHE-01-TNT-04) indicated that 100% of intervals had GMs >35 CFU/100mL. At the downstream site (TRWA_BED- 01-TNT-03) 67% of intervals had GMs >35 CFU/100mL and two samples exceeded the 130 CFU/100mL STV, with a seasonal GM of 51 CFU/100mL. The Primary Contact Recreation Use of this Taunton River AU (MA62-01) will continue to be assessed as Not Supporting since the *Enterococci* data collected at both TRWA sites in summer 2019 exceeded the use attainment impairment threshold for a single year, moderate frequency dataset. An *Enterococcus* impairment is being added and the *E. coli* impairment is being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_BED-01-TNT-03	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R., Rt 18, Bedford St., Bridgewater	41.936667	-70.965556
TRWA_CHE-01-TNT-04	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R. Br, Cherry St., Bridgewater	41.978417	-70.912222

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (30-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

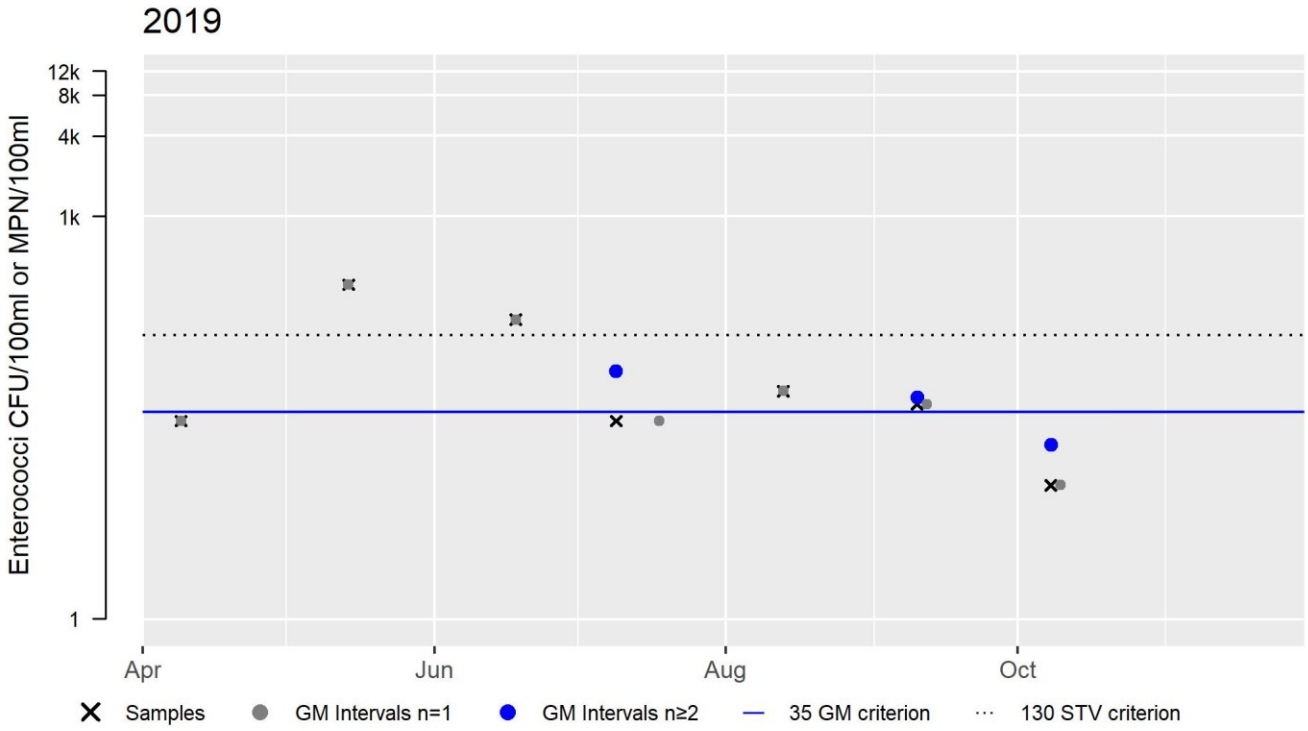
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_BED-01-TNT-03	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	310	51
TRWA_CHE-01-TNT-04	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	70	1250	155

TRWA_BED-01-TNT-03 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	51
#GMI	3
#GMI Ex	2
%GMI Ex	67
n>STV	2
%n>STV	29

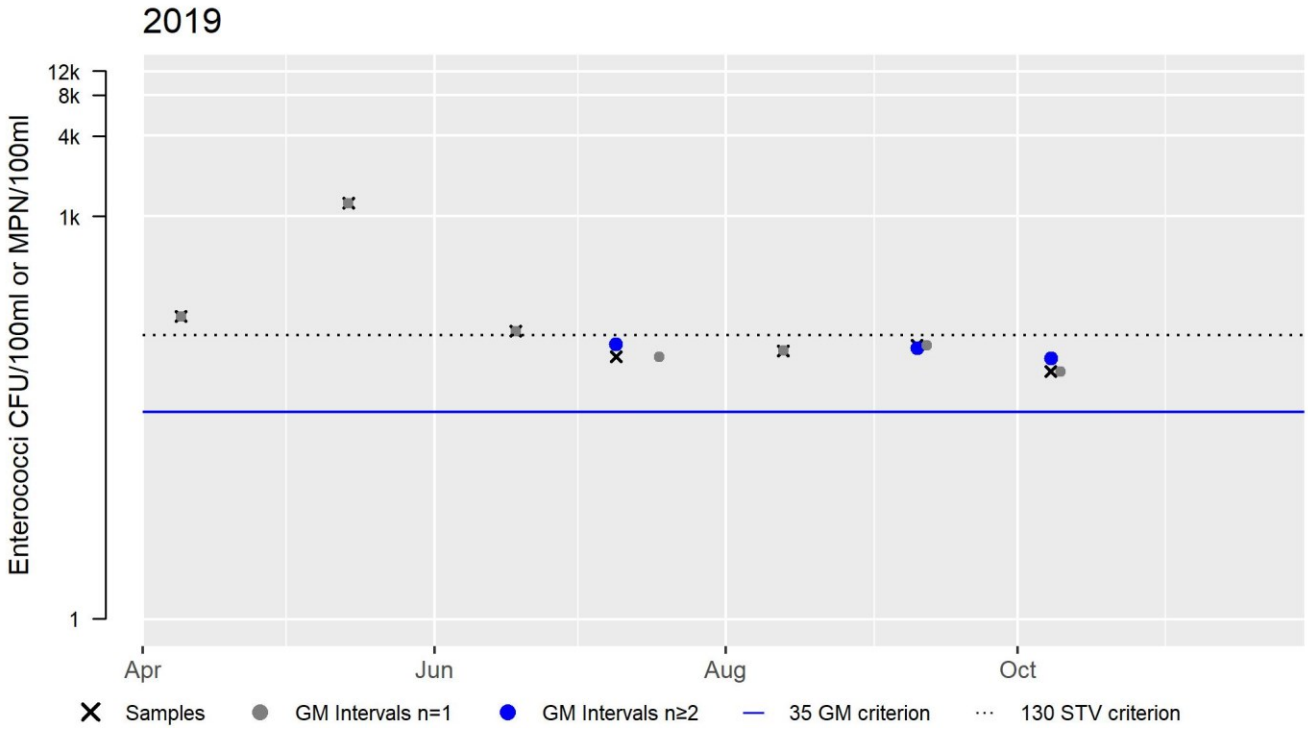
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_CHE-01-TNT-04 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	155
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	3
%n>STV	43

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to evaluate the status of the Secondary Contact Recreation Use for this Taunton River AU (MA62-01), so it is Not Assessed.	

Taunton River (MA62-02)

Location:	From Route 24 bridge, Taunton/Raynham to Berkley Bridge, Dighton/Berkley.
AU Type:	ESTUARY
AU Size:	0.28 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Chlorophyll-a		Unchanged
5	5	Enterococcus	40310	Unchanged
5	5	Fecal Coliform	40310	Unchanged
5	5	Nitrogen, Total		Unchanged
5	5	Phosphorus, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Chlorophyll-a	Municipal Point Source Discharges (N)	X					
Chlorophyll-a	Source Unknown (N)	X					
Enterococcus	Combined Sewer Overflows (N)					X	X
Enterococcus	Source Unknown (N)					X	X
Fecal Coliform	Source Unknown (N)			X			
Nitrogen, Total	Municipal Point Source Discharges (N)	X					
Nitrogen, Total	Source Unknown (N)	X					
Phosphorus, Total	Municipal Point Source Discharges (N)	X					
Phosphorus, Total	Source Unknown (N)	X					

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDFG biologists conducted boat electrofishing at 13 sites and seine netting at one site throughout this Taunton River AU (MA62-02) in Taunton/Dighton, from up to downstream as follows: just downstream of Rt. 24 (SampleID 8181) in June 2019; Weir village ramp just upstream of Forge River (SampleIDs 8300 and 8296) in October and August 2019; Plain St. bridge to first bend (Sample ID 8298) in August 2019; at powerlines below Rt. 24 to Rt. 104 confluence (SampleID 8182) in June 2019; reach behind Rt. 44, fire boat ramp, started at bridge ended at Mill River (SampleID 8184) in June 2019; above Mill River (Sample ID 8301) in October 2019; start at Steel Bridge (upper) and end just past mouth of Mill River (SampleID 8297) in August 2019; downstream of Mill River (SampleID 8294) in July 2019; above and below Taunton Boat Club Ramp (East Side) (SampleID 5888) in August 2016; downstream of ramp, bend below pay launch to former receiver location ended at sandy beach and log jams (SampleID 8183) in June 2019; a little further downstream from Weir Ramp (SampleIDs 8295 and 8299) in July and August 2019; and upstream of Berkley Bridge on side cove, Dighton (SampleID 5916) in August 2016. Fish sample data collected between August 2016 and October 2019 were indicative of good conditions for a warm water river; fluvial specialist/dependent species (usually one to three taxa per sample including white sucker, tessellated darter and/or striped bass) comprised between 12 and 78% of the samples (excluding the seine net sample) while macrohabitat generalists moderately tolerant to environmental perturbations were also well represented. The only sample that did not contain any fluvial species or moderately tolerant macrohabitat generalists was the seine netting sample collected upstream of the Berkley bridge (SampleID 5916) where estuarine fish species were collected (Atlantic needlefish, Atlantic silverside, hogchoker, banded killifish and naked goby).
The Aquatic Life Use for this Taunton River AU (MA62-02) will continue to be assessed as Not Supporting. While the fish sampling data collected by MassDFG biologists between August 2016 and October 2019 were indicative of generally good conditions for a warm water resource, these data are not typically used for evaluating estuarine AUs. The Chlorophyll *a*, Total Nitrogen and Total Phosphorus impairments are all being carried forward based on the evidence of nutrient enrichment documented during summer of 2018 by the University of Massachusetts-Dartmouth, SMAST Coastal Systems Program (CSP) scientists as described in the 2018/2020 IR update (MassDEP 2021).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5888	MassDFG	Fish Community	Taunton River	Above and below Taunton Boat Club Ramp (East Side), Taunton	41.87713	-71.09310
5916	MassDFG	Fish Community	Taunton River	Upstream of Berkley Bridge on side cove., Dighton	41.83606	-71.10822
8181	MassDFG	Fish Community	Taunton River	Started just DS of Rt. 24. Run 1 in Taunton River. , Taunton	41.90295	-71.04677
8182	MassDFG	Fish Community	Taunton River	Started at powerlines below Rt 24. Ended at 99 Restaurant at 104 confluence. Run 2 in Taunton River. , Taunton	41.90553	-71.06952
8183	MassDFG	Fish Community	Taunton River	DS of ramp, bend below pay launch to frmr receiver location. Ended at sandy beach and log jams. Run 4 in Taunton River. , Taunton	41.87342	-71.09322
8184	MassDFG	Fish Community	Taunton River	Reach behind 44, fire boat ramp. Started at bridge, ended at Mill River. Run 3 in Taunton River. , Taunton	41.90075	-71.08208
8294	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.89524	-71.08101
8295	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.87296	-71.09353

8296	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.90262	-71.05972
8297	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.89579	-71.08073
8298	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.88268	-71.09110
8299	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.87254	-71.09848
8300	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.90258	-71.05896
8301	MassDFG	Fish Community	Taunton River	Weir village ramp. , Taunton	41.89925	-71.08323

Biological Monitoring Information

Fish Community Data (DELTS or population loss estimates only)

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: A = Alewife, AE = American Eel, AN = Atlantic Needlefish, ATS = Atlantic Silverside, B = Bluegill, BB = Brown Bullhead, BC = Black Crappie, BF = Bowfin, BXP = Hybrid Bluegill/Pumpkinseed, CP = Chain Pickerel, F = Fallfish, GS = Golden Shiner, H = Hogchoker, K = Banded Killifish, LMB = Largemouth Bass, NG = Naked Goby, P = Pumpkinseed, RB = Rock Bass, RBS = Redbreast Sunfish, RP = Redfin Pickerel, S = American Shad, SB = Striped Bass, SL = Sea Lamprey, TD = Tessellated Darter, WP = White Perch, WS = White Sucker, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5888	08/10/16	BT	TP		13	49	0%	2	24%	0%	4	39%	Yes	No	AE, B, BB, BF, GS, H, K, LMB, P, RBS, RP, TD, WS,
5916	08/12/16	SE	TP		5	218	0%	0	0%	0%	0	0%	No	No	AN, ATS, H, K, NG,
8181	06/17/19	BT	TP		4	17	0%	2	12%	6%	1	82%	No	No	A, GS, SB, WS,
8182	06/17/19	BT	TP		4	9	0%	1	22%	0%	2	56%	No	No	B, P, RBS, WS,
8183	06/17/19	BT	TP		15	116	0%	3	14%	1%	7	47%	No	No	A, AE, B, BC, GS, H, K, LMB, P, RBS, SB, TD, WP, WS, YP,
8184	06/17/19	BT	TP		5	10	0%	2	50%	30%	2	40%	No	No	GS, RBS, SB, WS, YP,
8294	07/19/19	BT	TP		6	12	0%	2	58%	0%	2	25%	No	No	AE, CP, H, P, TD, WS,
8295	07/19/19	BT	TP		6	75	0%	1	13%	0%	3	57%	No	No	AE, B, BC, CP, WP, WS,
8296	08/13/19	BT	TP		12	45	0%	3	27%	0%	5	38%	No	No	AE, B, BB, BF, CP, F, LMB, P, RB, TD, WS, YP,

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
8297	08/13/19	BT	TP		12	63	0%	2	37%	3%	5	24%	No	No	AE, B, BB, BF, CP, GS, LMB, P, RB, SB, WS, YP,
8298	08/13/19	BT	TP		12	43	0%	3	47%	2%	6	37%	No	No	A, AE, B, BC, H, LMB, P, RBS, SB, TD, WS, YP,
8299	08/13/19	BT	TP		18	138	0%	3	12%	1%	8	43%	No	No	A, AE, B, BC, BF, BXP, CP, GS, H, LMB, P, RB, S, SB, TD, WP, WS, YP,
8300	10/02/19	BT	TP		9	18	0%	1	22%	0%	3	39%	No	No	A, AE, B, BF, GS, P, SL, WS, YP,
8301	10/02/19	BT	TP		4	9	0%	2	78%	22%	1	11%	No	No	BF, RB, SB, WS,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Taunton River AU (MA62-02); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Taunton River (MA62-02): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.23 sq mi (82%). The sum of the approved, conditionally approved and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.23 sq mi (82%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved and/or restricted. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.1	Taunton River	Prohibited	0.23001	81.9%

Aesthetic

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDEP staff conducted limited sampling at two sites in this Taunton River AU (MA62-02) during the summers of 2014 and 2016 as part of the MassDEP Bacteria Source Tracking (BST) project. The site were located at Rt. 140 (County St.), Taunton (W2495) in 2014 (n=2) and farther downstream at Plain St., Taunton (W2658) in 2016 (n=2). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by at either site during either survey. Too limited data/information are available to evaluate the Aesthetics Use of this Taunton River AU (MA62-02) so it is assessed as having Insufficient Information.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2495	MassDEP	Water Quality	Taunton River	[Route 140 (County Street), Taunton]	41.896816	-71.081473
W2658	MassDEP	Water Quality	Taunton River	[Plain Street, Taunton]	41.886070	-71.089043

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2495	Taunton River	2014	2	MassDEP aesthetics observations for station W2495 on Taunton River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2658	Taunton River	2016	2	MassDEP aesthetics observations for station W2658 on Taunton River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2016. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2495	2014	2	0	0
W2658	2016	2	0	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2495	Taunton River	2014	Color	None	2	2
W2495	Taunton River	2014	Objectionable Deposits	Not Applicable (N/A)	2	2
W2495	Taunton River	2014	Odor	None	2	2
W2495	Taunton River	2014	Scum	Not Applicable (N/A)	2	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2495	Taunton River	2014	Turbidity	Highly Turbid	1	2
W2495	Taunton River	2014	Turbidity	Slightly Turbid	1	2
W2658	Taunton River	2016	Color	Light Yellow/Tan	1	2
W2658	Taunton River	2016	Color	None	1	2
W2658	Taunton River	2016	Objectionable Deposits	Not Applicable (N/A)	2	2
W2658	Taunton River	2016	Odor	None	2	2
W2658	Taunton River	2016	Scum	Not Applicable (N/A)	2	2
W2658	Taunton River	2016	Turbidity	Moderately Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

The Taunton River Watershed Association (TRWA) staff/volunteers conducted *Enterococci* bacteria sampling in this Taunton River AU (MA62-02) at the Plain St. bridge in Taunton (TRWA_TNT- 02) between April and October 2019 (n=7) and farther downstream at the Center St. bridge in Berkley between April and October 2019 (n=7). Data analysis indicated that 67% and 33% of intervals had GMs >35 CFU/100mL and two samples exceeded the 130 CFU/100mL STV at each station.

Additional intermittent Bacteria Source Tracking (BST) work conducted by MassDEP staff in 2012-2016 at three sites in this Taunton River AU documented *E. coli* concentrations ranging from 21 to 345 MPN. BST work was also conducted in 2012 and 2014 on two unnamed tributaries and though a maximum *E. coli* concentration of 1,120 MPN was documented, no correctable source was ever found on the tributaries (the highest concentrations were suspected to be associated with an adjacent dog park area). BST work was also conducted at two stormdrain outfall pipes discharging during dry weather conditions directly to the AU: a source to an outfall just upstream of the Plain St. bridge, (maximum *E. coli* concentration >24,196 MPN) was found and later corrected in 2017 and sources to a pipe a few hundred feet upstream of Plain St. (maximum *E. coli* concentration 51,720 MPN) were found and later corrected by the end of 2017, however in 2018 a maximum *E. coli* concentration of >24,196 MPN was documented at the pipe. Human marker analysis in 2018 of a sample from this second outfall indicated a “weak” human source, but no additional correctable source has yet been identified.

The Primary Contact Recreation Use for this Taunton River AU (MA62-02) will continue to be assessed as Not Supporting since the *Enterococci* sampling data collected by TRWA during summer 2019 exceeded the use attainment impairment threshold for a single year, moderate frequency dataset. A presumptive impairment decision is also appropriate since a CSO is present, but this waterbody does not have a CSO variance in place. The Enterococcus impairment is being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_TNT-01	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R. Br, Center St., Berkley	41.834926	-71.108184
TRWA_TNT-02	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R. Br, Plain St., Taunton	41.88606	-71.089077

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (30-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

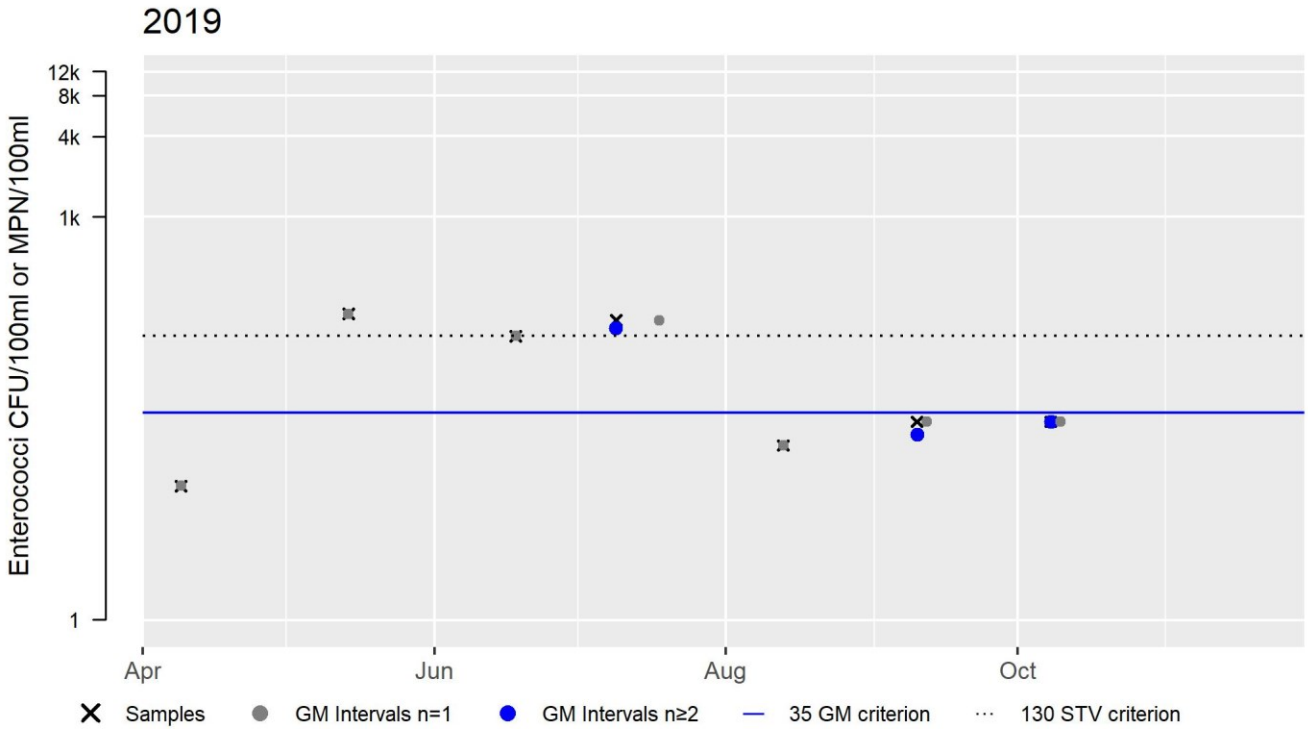
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_TNT-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	190	50
TRWA_TNT-02	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	420	72

TRWA_TNT-01 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	50
#GMI	3
#GMI Ex	1
%GMI Ex	33
n>STV	2
%n>STV	29

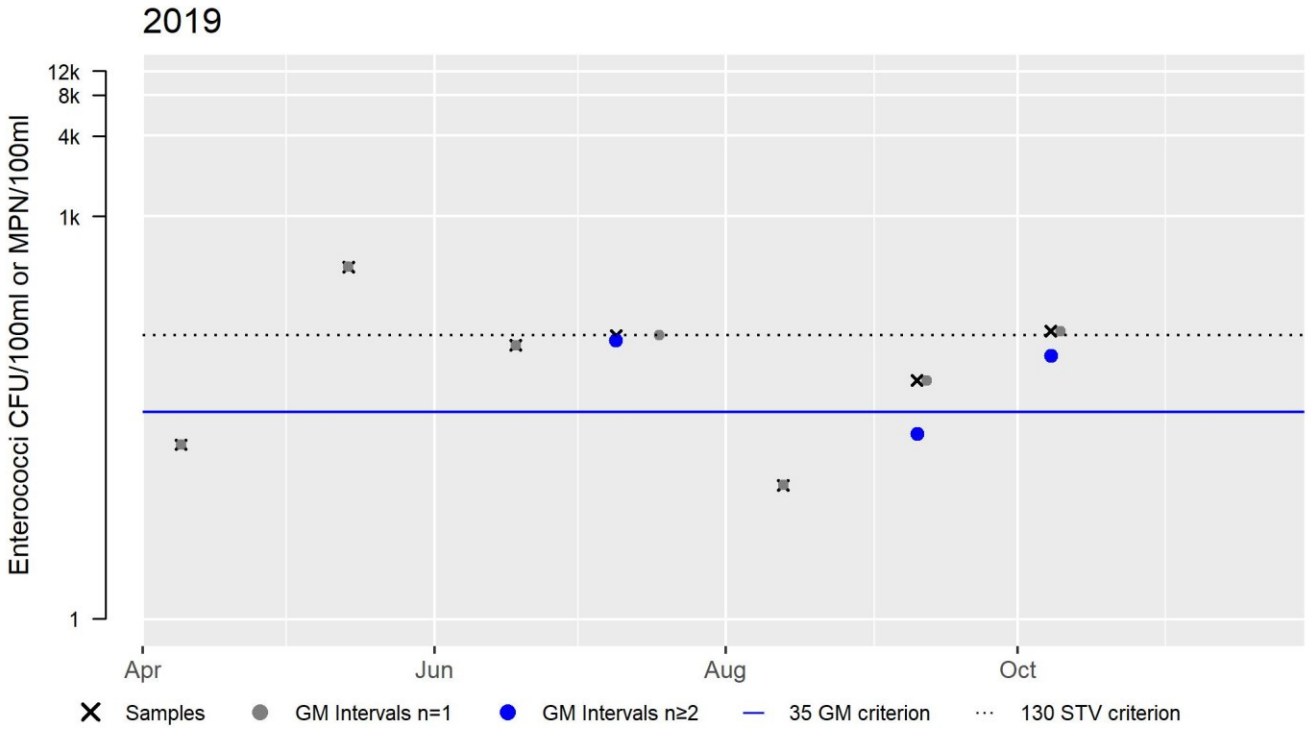
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_TNT-02 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	72
#GMI	3
#GMI Ex	2
%GMI Ex	67
n>STV	2
%n>STV	29

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted in 2012-2016 at 3 sites along the Taunton River AU (MA62-02), with E.coli concentrations ranging 21 to 345MPN. BST work was also conducted in 2012 & 2014 on 2 unnamed tributaries with a max E.coli concentration of 1,120MPN. No correctable source was ever found on the tributaries, though the highest concentrations were suspected to be associated with an adjacent dog park area. BST work was also conducted at 2 stormdrain outfall pipes discharging directly to the Taunton River: At a pipe just upstream of the Plain Street bridge, dry weather flow was sampled in 2016 & 2017, with a max E.coli concentration of >24,196MPN. The City of Taunton narrowed down the location of the source of bacteria to drainage on First Street (which originated from the City-wide underdrain). The City subsequently corrected this source in 2017 by abandoning the underdrain in place (no follow up samples have yet been taken). At a pipe a few hundred feet upstream of Plain St, dry weather flow was sampled in 2016-2018, with a max E.coli concentration of 51,720MPN in 2016. The City identifed 2 sources of bacteria: a “direct connection” from a nearby house on Ingell St to the drain (through the basement) and also a sewer line break on Ingell St. Both sources were corrected by the end of 2017, however in 2018 a max E.coli concentration of >24,196MPN was noted at the pipe. Human marker analysis in 2018 was indicative of a “weak” human source, but no additional correctable source has been found yet.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-02): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.23 sq mi (82%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

The Taunton River Watershed Association (TRWA) staff/volunteers conducted *Enterococci* bacteria sampling in this Taunton River AU (MA62-02) at the Plain St. bridge in Taunton (TRWA_TNT-02) between April and October 2019 (n=7) and farther downstream at the Center St. bridge in Berkley (TRWA_TNT-01) between April and October 2019 (n=7). Data analysis indicated that 17 and 0% of intervals had GMs >175 CFU/100mL at the up and downstream sampling locations, respectively while 1 and 0 samples exceeded the 350 CFU/100mL STV at these sites.
Additional intermittent Bacteria Source Tracking (BST) work conducted by MassDEP staff in 2012-2016 at three sites in this Taunton River AU documented *E. coli* concentrations ranging from 21 to 345 MPN. BST work was also conducted in 2012 and 2014 on two unnamed tributaries and though a maximum *E. coli* concentration of 1,120 MPN was documented, no correctable source was ever found on the tributaries (the highest concentrations were suspected to be associated with an adjacent dog park area). BST work was also conducted at two stormdrain outfall pipes discharging during dry weather conditions directly to the AU: a source to an outfall just upstream of the Plain St. bridge, (maximum *E. coli* concentration >24,196 MPN) was found and later corrected in 2017 and sources to a pipe a few hundred feet upstream of Plain St. (maximum *E. coli* concentration 51,720 MPN) were found and later corrected by the end of 2017, however in 2018 a maximum *E. coli* concentration of >24,196 MPN was documented at the pipe. Human marker analysis in 2018 of a sample from this second outfall indicated a "weak" human source, but no additional correctable source has yet been identified.
The Secondary Contact Recreation Use for this Taunton River AU (MA62-02) will continue to be assessed as Not Supporting. While the *Enterococci* sampling data collected by TRWA during summer 2019 did not exceed the use attainment impairment threshold for a single year, moderate frequency dataset, the presumptive impairment decision is being maintained since a CSO is present, but this waterbody does not have a CSO variance in place.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_TNT-01	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R. Br, Center St., Berkley	41.834926	-71.108184
TRWA_TNT-02	Taunton River Watershed Association	Water Quality	Taunton River	Taunton R. Br, Plain St., Taunton	41.88606	-71.089077

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

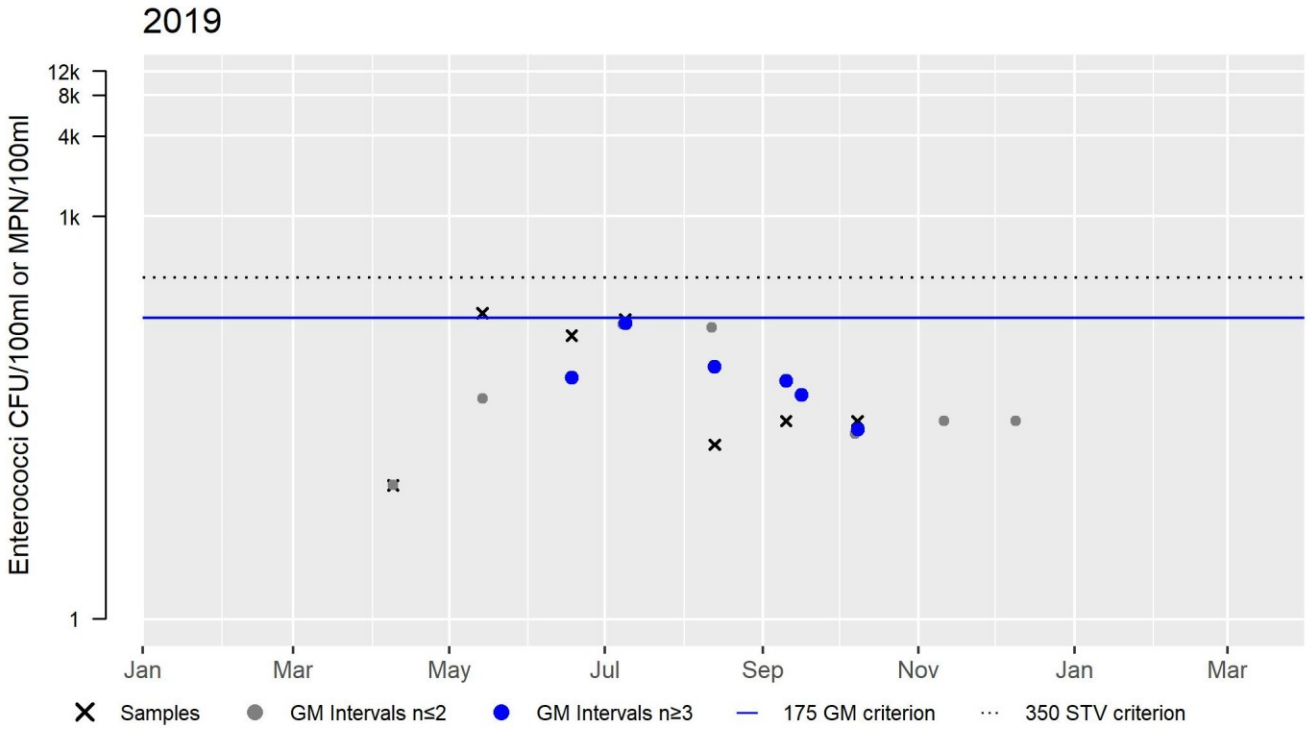
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
TRWA_TNT-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	190	50
TRWA_TNT-02	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	420	72

TRWA_TNT-01 Enterococci (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	50
#GMI	6
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

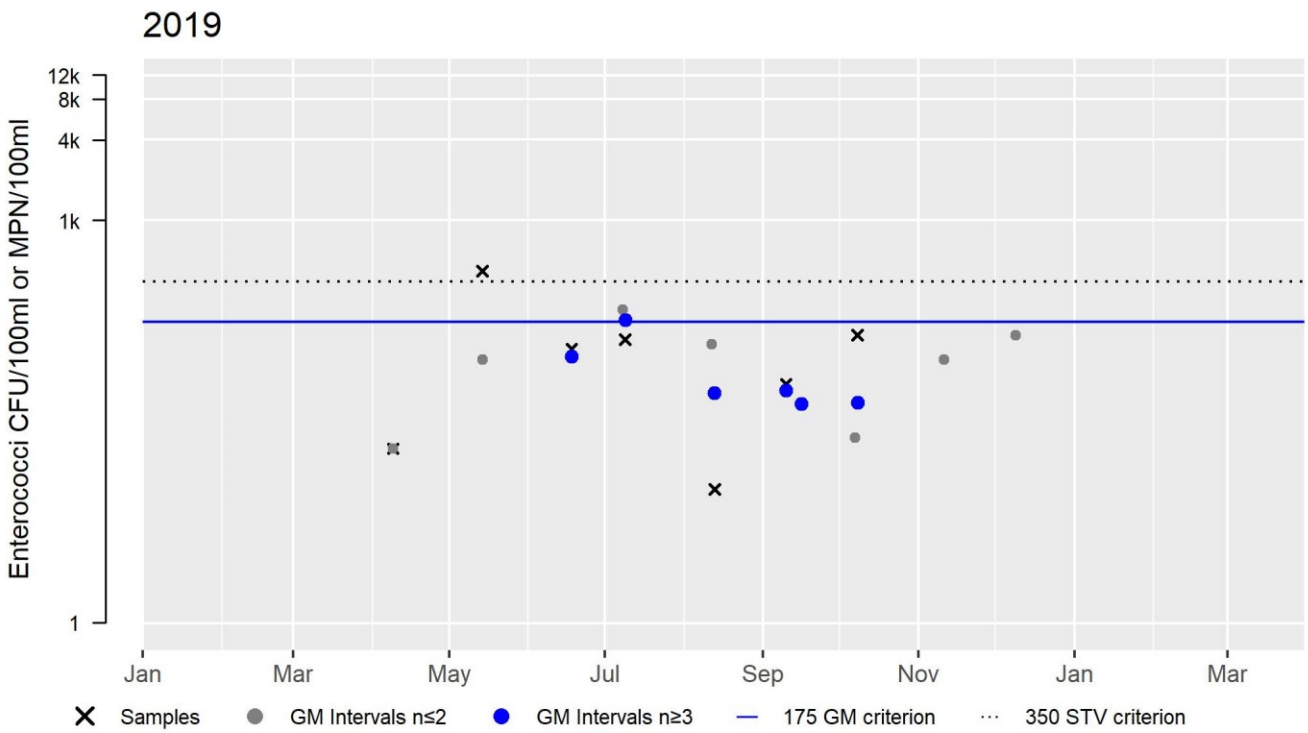
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_TNT-02 Enterococci (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	72
#GMI	6
#GMI Ex	1
%GMI Ex	17
n>STV	1
%n>STV	14

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-02): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.23 sq mi (82%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Taunton River (MA62-03)

Location:	From Berkley Bridge, Dighton/Berkley to confluence with Assonet River at a line from Sandy Point, Somerset northeasterly to the southwestern tip of Assonet Neck, Berkley.
AU Type:	ESTUARY
AU Size:	0.92 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Unchanged
5	5	Enterococcus		Added
5	5	Fecal Coliform	40310	Unchanged
5	5	Nitrogen, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Dissolved Oxygen	Contribution from Downstream Waters Due to Tidal Action (N)	X					
Dissolved Oxygen	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO) (N)	X					
Enterococcus	Combined Sewer Overflows (N)					X	X
Fecal Coliform	Source Unknown (N)			X			
Nitrogen, Total	Contribution from Downstream Waters Due to Tidal Action (N)	X					
Nitrogen, Total	Municipal Point Source Discharges (N)	X					
Nitrogen, Total	Source Unknown (N)	X					

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

MassDFG biologists conducted seine netting sampling in August 2016 at two sites on the west bank of this Taunton River AU (MA62-03) in Dighton, from up to downstream as follows: ~100m downstream of Taunton River Yacht Club (SampleID 5913) and further downstream from Muddy Cove Brook confluence (SampleID 5914). Typical estuarine species including killifish, American eel, alewife and Atlantic silverside were present as were Atlantic salmon though fewer were collected in the downstream sampling location. The Aquatic Life Use for this Taunton River AU (MA62-03) will continue to be assessed as Not Supporting. Fish sampling data are not typically used for evaluating estuarine AUs (nor are seine net data). The Dissolved Oxygen and Total Nitrogen impairments are both being carried forward based on the evidence of nutrient enrichment found in both the up and downstream Taunton River AUs (MA62-02 and MA62-04) even though chlorophyll a concentrations were below 10ug/L in this reach of the river during the 2018 summer surveys conducted by SMAST scientists as described in the 2018/2020 IR update (MassDEP 2021).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5913	MassDFG	Fish Community	Taunton River	Downstream of Taunton River Yacht Club..~100m, ~9:45 am., Dighton	41.81192	-71.11797
5914	MassDFG	Fish Community	Taunton River	, Dighton	41.80273	-71.12081

Biological Monitoring Information

Fish Community Data (DELTS or population loss estimates only)

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net; Trout= any combination of brook trout, brown trout, rainbow trout, tiger trout; Other Tier2 Species= any size and any combination of American brook lamprey, Atlantic salmon, lake chub, lake trout, longnose sucker, slimy sculpin]

[Species List: A = Alewife, AE = American Eel, AS = Atlantic Salmon, ATS = Atlantic Silverside, H = Hogchoker, K = Banded Killifish, M = Mummichog, NG = Naked Goby, SK = Striped Killifish, SSR = Striped Sea Robin]

Sample ID	Sample Date	Method	Sample Type	Total Taxa	Total Ind	Trout ≤140mm Ind	LLS<200mm Ind	Other Tier2 Ind	Cold Ind %	Fluvial Ind %	Notables	CFR	Species List
5913	08/12/16	SE	TP	6	45	0	0	30	67%	67%	No	No	A, AE, AS, M, NG, SK,
5914	08/12/16	SE	TP	7	121	0	0	9	7%	7%	No	No	AS, ATS, H, K, M, SK, SSR,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Taunton River AU (MA62-03); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert

Not Supporting	YES
2022 Use Attainment Summary	
Taunton River (MA62-03): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.894 sq mi (97%). The sum of the approved, conditionally approved and restricted shellfish growing areas represents 0.3246 sq mi (35%). The prohibited shellfish growing area represents 0.5694 sq mi (62%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved and/or restricted. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.0	Taunton River	Restricted	0.32455	35.1%
MHB2.1	Taunton River	Prohibited	0.56940	61.6%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Taunton River AU (MA62-03), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for this Taunton River AU (MA62-03), however a presumptive impairment decision is appropriate since this AU is qualified as CSO but a CSO variance is not yet in place. CSOs are present in both the up and downstream Taunton River AUs MA62-02 and MA62-04). An Enterococcus impairment is being added.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-03): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.894 sq mi (97%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

No *Enterococcus* bacteria data are available to assess the status of the Secondary Contact Recreation Use for this Taunton River AU (MA62-03), however a presumptive impairment decision is appropriate since this AU is qualified as CSO but a CSO variance is not yet in place. CSOs are present in both the up and downstream Taunton River AUs MA62-02 and MA62-04). An Enterococcus impairment is being added.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-03): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.894 sq mi (97%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Taunton River (MA62-04)

Location:	From confluence with Assonet River at a line from Sandy Point, Somerset northeasterly to the southwestern tip of Assonet Neck, Berkley to mouth just upstream of the Braga Bridge, Somerset/Fall River.
AU Type:	ESTUARY
AU Size:	2.6 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Unchanged
5	5	Enterococcus	40310	Unchanged
5	5	Fecal Coliform	40310	Unchanged
5	5	Fish Bioassessments		Unchanged
5	5	Nitrogen, Total		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Dissolved Oxygen	Contribution from Downstream Waters Due to Tidal Action (N)	X					
Dissolved Oxygen	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO) (Y)	X					
Enterococcus	Combined Sewer Overflows (N)					X	X
Enterococcus	Source Unknown (N)					X	X
Fecal Coliform	Source Unknown (N)			X			
Fish Bioassessments	Source Unknown (N)	X					
Nitrogen, Total	Contribution from Downstream Waters Due to Tidal Action (N)	X					
Nitrogen, Total	Municipal Point Source Discharges (N)	X					
Nitrogen, Total	Source Unknown (N)	X					

Supporting Information for Removed Impairments

2018/20 Removed Impairment	Removal Reason	Removal Comment
Fecal Coliform	Please enter removal reason	Provide justification for removing the cause

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary
All recent data available to evaluate the status of the Aquatic Life Use for this Taunton River AU (MA62-04) were utilized in the 2018/2020 IR reporting cycle (MassDEP 2021). The Aquatic Life Use will continue to be assessed as Not Supporting with the Dissolved Oxygen, Fish Bioassessments and Total Nitrogen impairments all being carried forward.

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Taunton River AU (MA62-04); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Taunton River (MA62-04): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 2.5536 sq mi (98%). The sum of the approved, conditionally approved and restricted shellfish growing areas represents 2.551 sq mi (98%). The Shellfish Harvesting Use would usually be assessed as fully supporting because the growing areas (normalized to the AU area) are classified as 100% approved, conditionally approved and/or restricted. However, due to the CSO qualifier for this AU and the frequent swimming advisory postings at Pierce Beach in 2014 and 2018 (45% and 9% respectively) the Shellfish Harvesting Use will continue to be assessed as Not Supporting, with the Fecal Coliform impairment being carried forward.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.0	Taunton River	Restricted	2.55105	98.2%
MHB2.4	Taunton River, West	Prohibited	0.00253	0.1%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Taunton River AU (MA62-04), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

There is one beach, Pierce Beach (ID 3138), on the west bank in the upper area of this Taunton River AU (MA62-04) in Somerset. This beach was posted with swimming advisories ranging from 0 to 45% between 2014 and 2019 with the greatest number of postings in 2014 (45% of the bathing season) and 2018 (9% of the bathing season). Some bacteria source tracking (BST) work was conducted by MassDEP staff in a tributary at the upper end of the beach in 2015 and 2016 but no correctable source of bacteria was ever found.
The Primary Contact Recreation Use for this Taunton River AU (MA62-04) will continue to be assessed as Not Supporting. Although the frequency of swimming advisory postings at Pierce Beach seems to have improved between 2014 and 2018, a presumptive impairment decision is also appropriate since CSOs are present but this waterbody does not have a CSO variance in place. The *Enterococcus* impairment is being carried forward.

Bacteria Data

MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted from 2015-2016 at 1 tributary to the Taunton River AU (MA62-04). The tributary (locally known as Labor-In-Vain creek) discharges to the upstream end of the AU at Pierce Beach. The Department of Public Health (DPH) had highlighted this beach as a priority for BST due to numerous dry weather beach closures at Pierces beach. E. coli concentrations in the tributary ranged 35 to 2,755MPN. The data pattern suggested that the source of the bacteria was in the marsh area upstream South St. The Town of Somerset investigated but no human sources were ever pinpointed. In 2016, human marker analysis (just downstream of the marsh) indicated "inconclusive" evidence of a human source. No correctable source was ever found.

Beach Postings

MassDPH Beach Posting Data Summary (% Bathing Season Posted 2014-2019) (Bailey, Logan Feb. 2, 2021) (MassDEP Undated3)

Beach ID	Beach Name/Town	Left Boundary (Latitude)	Left Boundary (Longitude)	Right Boundary (Latitude)	Right Boundary (Longitude)	2014	2015	2016	2017	2018	2019	# years> 10%
3138	Pierce Beach/Somerset	41.76427	-71.13430	41.76444	-71.13060	45%	7%	0%	2%	9%	0%	1

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-04): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 2.5536 sq mi (98%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	NO
2022 Use Attainment Summary	

There is one beach, Pierce Beach (ID 3138), on the west bank in the upper area of this Taunton River AU (MA62-04) in Somerset. This beach was posted with swimming advisories ranging from 0 to 45% between 2014 and 2019 with the greatest number of postings in 2014 (45% of the bathing season) and 2018 (9% of the bathing season). Some bacteria source tracking (BST) work was conducted by MassDEP staff in a tributary at the upper end of the beach in 2015 and 2016 but no correctable source of bacteria was ever found. The Secondary Contact Recreation Use for this Taunton River AU (MA62-04) will continue to be assessed as Not Supporting. Although the frequency of swimming advisory postings at Pierce Beach seems to have improved between 2014 and 2018, a presumptive impairment decision is also appropriate since CSOs are present but this waterbody does not have a CSO variance in place. The *Enterococcus* impairment is being carried forward.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Taunton River (MA62-04): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 2.5536 sq mi (98%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

The Creek (MA62-76)

Location:	Headwaters northwest of Riverside Avenue, Somerset to mouth at confluence with the Taunton River, Somerset.
AU Type:	ESTUARY
AU Size:	0.01 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Fecal Coliform		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Fecal Coliform	Source Unknown (N)			X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	
MassDEP staff conducted limited sampling in The Creek (MA62-76) at South St., Somerset (W2584) during the summer of 2015, as part of the MassDEP Bacteria Source Tracking (BST) project. There was no dense film or filamentous algae observed at this site during the summer surveys (n=2). There is limited data/information available to assess the Aquatic Life Use for The Creek (MA62-76) so it is assessed as having Insufficient Information.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2584	MassDEP	Water Quality	The Creek	[South Street, Somerset]	41.767388	-71.134137

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2584	2015	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in The Creek (MA62-76); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Creek (MA62-76): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0054 sq mi (63%). The approved shellfish growing area represents 0 sq mi (0%). The Shellfish Harvesting Use is assessed as not supporting because the growing area (normalized to the AU area) is <100% approved. Based on the new growing area classifications, a fecal coliform impairment is being added.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.0	Taunton River	Restricted	0.00542	63.4%

Aesthetic

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	
MassDEP staff conducted sampling in The Creek (MA62-76) at two sites during the summer of 2015 as part of the Bacteria Source Tracking (BST) project. The site descriptions are as follows: on South St. in Somerset (W2584, n=2) and farther downstream approximately 85 ft upstream of the mouth at its confluence with the Taunton River in Somerset (W2585, n=1). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at either site. Too limited data/information is available to evaluate the Aesthetics Use of The Creek (MA62-76) so it is assessed as having Insufficient Information.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2584	MassDEP	Water Quality	The Creek	[South Street, Somerset]	41.767388	-71.134137

W2585	MassDEP	Water Quality	The Creek	[approximately 85 feet upstream of mouth at confluence with the Taunton River, Somerset]	41.764318	-71.134629

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2584	The Creek	2015	2	MassDEP aesthetics observations for station W2584 on The Creek can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2585	The Creek	2015	1	MassDEP aesthetics observations for station W2585 on The Creek can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2584	2015	2	2	0
W2585	2015	1	0	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2584	The Creek	2015	Color	None	2	2
W2584	The Creek	2015	Objectionable Deposits	Not Applicable (N/A)	2	2
W2584	The Creek	2015	Odor	None	2	2
W2584	The Creek	2015	Scum	Not Applicable (N/A)	2	2
W2584	The Creek	2015	Turbidity	Moderately Turbid	2	2
W2585	The Creek	2015	Color	None	1	1
W2585	The Creek	2015	Objectionable Deposits	Not Applicable (N/A)	1	1
W2585	The Creek	2015	Odor	None	1	1
W2585	The Creek	2015	Scum	Not Applicable (N/A)	1	1
W2585	The Creek	2015	Turbidity	Moderately Turbid	1	1

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

No *Enterococcus* bacteria data are available to evaluate the status of the Primary Contact Recreation Use for The Creek (MA62-76), so it is Not Assessed.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
The Creek (MA62-76): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0054 sq mi (63%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococcus* bacteria data are available to assess the status of the Secondary Contact Recreation Use for The Creek (MA62-76), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
The Creek (MA62-76): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0054 sq mi (63%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

The Reservoir (MA62189)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for The Reservoir (MA62189) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Thirtyacre Pond (MA62190)

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

No usable data were available for Thirtyacre Pond (MA62190) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

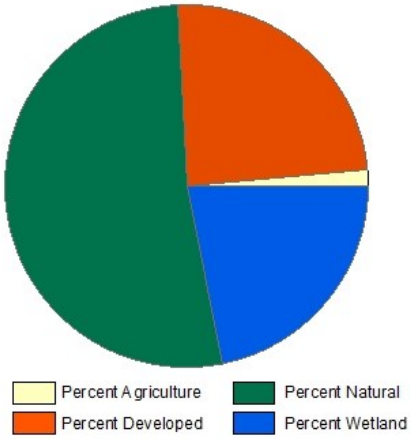
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Threemile River (MA62-56)

Location:	Confluence of Wading and Rumford rivers, Norton to dam (NATID: MA03083) behind 66 South Street (Harodite Finishing Co.), Taunton (excluding the approximately 0.5 mile through Oakland Pond segment MA62136 and the appproximately 1.0 mile through Mount Hope Mill Pond segment MA62122) (formerly part of 2004 segment: Three Mile River MA62-16).
AU Type:	RIVER
AU Size:	10.5 MILES
Classification/Qualifier:	B: WWF

Three Mile River - MA62-56

Watershed Area: 84.38 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	84.38	5.49	28.1	1.74
Agriculture	1.4%	3.3%	1.2%	2.8%
Developed	24.4%	22.4%	17.9%	12.9%
Natural	52.3%	54.1%	49.2%	48.5%
Wetland	21.8%	20.3%	31.7%	35.8%
Impervious Cover	11.6%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Fish Passage Barrier*)		Unchanged
4c	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				
Enterococcus	Source Unknown (N)				X	

Recommendations

2022 Recommendations
AES: Sample upstream reaches of this segment to determine current conditions (sewage odors noted historically near Harvey Street crossing in Taunton).

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary
According to DMF biologists, there are four structures of note pertaining to diadromous fish passage throughout this Three Mile River AU (MA62-56). The targeted species at all locations are river herring and American eel, with a population score of "3". From upstream to downstream: the Draka Dam in Dighton/Taunton, is not an obstruction to the passage of diadromous fish between the Three Mile River and the upstream Mount Hope Mill Pond (MA62122). DMF biologists assigned a passage score of "0" (no obstruction) following construction of a fishway in November 2019. The former railroad trestles just upstream of Railroad Ave were given a passage score of "5" (restricted passage). DMF biologists note that the trestles can be a debris dam and must be cleaned annually. They also note that dismantling the bridge or removing sections would improve passage. As noted in the 2018/2020 IR (MassDEP 2021), there are two dams at the Harodite factory, of which the "#2 dam" "appears to be avoidable by way of a bypass channel a few yards from the spillway", though it was only passable during a narrow flow range and was assigned a passage score of 3 (minor obstruction). The other dam structure is located at the Harodite Company at the boundary with the downstream Three Mile River AU (MA62-57) and it has an existing fishway. Initially, the dam was equipped with a prefabricated, wooden Denil ladder. This structure was washed away by high water during the spring of 1998. In 2008/2009 a steeppass was installed. The only maintenance necessary is “the removal of some sediment that can build up at the fishway exit". "The upstream impoundment has been stocked by DMF with blueback herring in anticipation of a replacement being installed". A passage score of 2 (minor obstruction) has now been assigned to the dam. As part of the MassDEP Bacteria Source Tracking (BST) project, MassDEP staff did not observe any dense film or filamentous algae at six locations in Taunton/Dighton on this Threemile River AU during summer surveys in 2011 and 2017. The sites are described from upstream to downstream as follows: Norton Ave (W0821, n=2 in 2017); Tremont St. (Rt. 140) (W2743, n=2 in 2017); ~1200 ft upstream from Warner/Joseph E. Warner Boulevard (W2306, n=1 in 2011); at Warner/Joseph E. Warner Boulevard (W2307, n=1 in 2011); at South St./Spring St. (W2309, n=1 in 2011) and at Spring St. in Dighton (W2308, n=2 in 2011). The Aquatic Life Use for Three Mile River (MA62-56) continues to be assessed as Not Supporting, based on the barrier to diadromous fish passage at the former railroad trestles, just upstream of Railroad Ave. The Fish Passage Barrier impairment is being carried forward. It should be noted that this impairment was previously identified due to the impediment posed by the Draka Dam (which allowed no possible passage of diadromous fish prior to construction of a fishway in 2019 and now poses no obstruction). The prior Alert for occasionally low survival of fathead minnows exposed to river water collected from the Crane St. bridge as part of Mansfield Water Pollution Abatement Facility (WPAF) whole effluent toxicity tests (MassDEP 2005), is being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0821	MassDEP	Water Quality	Threemile River	[Norton Avenue (near Harvey Street), Taunton]	41.933320	-71.154267

W2306	MassDEP	Water Quality	Threemile River	[approximately 1200 feet upstream from Warner Boulevard/Joseph E Warner Boulevard, Dighton/Taunton (on south bank at decrepit footbridge downstream of Three Mile River Dam, National Id MA01170)]	41.867736	-71.129091
W2307	MassDEP	Water Quality	Threemile River	[Warner Boulevard/Joseph E Warner Boulevard, Dighton/Taunton]	41.866890	-71.125192
W2308	MassDEP	Water Quality	Threemile River	[upstream at Spring Street , Dighton (river braid does not appear on USGS 1985 Assonet quadrangle)]	41.864590	-71.122284
W2309	MassDEP	Water Quality	Threemile River	[downstream at South Street/Spring Street, Taunton/Dighton]	41.864362	-71.121382
W2743	MassDEP	Water Quality	Threemile River	[Tremont Street (Route 140), Taunton]	41.910206	-71.128830

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
Data Source: (Rebak et al 2004, MassDER 2017, MassDEP 2005). According to DMF biologists, there are four structures of note pertaining to diadromous fish passage throughout the Three Mile River AU. The targeted species at all locations are river herring and American eel, with a population score of "3". From upstream to downstream: the Draka Dam in Dighton/Taunton, is not an obstruction to the passage of diadromous fish between the Three Mile River and the upstream Mount Hope Mill Pond (MA62122). DMF biologists assigned a passage score of "0" (no obstruction) following construction of a fishway in November 2019. The former railroad trestles just upstream of Railroad Ave were given a passage score of "5" (restricted passage). DMF biologists note that the trestles can be a debris dam and must be cleaned annually. They also note that dismantling the bridge or removing sections would improve passage. There are two dams at the Harodite factory. What is known as the "#2 dam" "appears to be avoidable by way of a bypass channel a few yards from the spillway", though it was noted to only be passable during a narrow flow range and was assigned a passage score of "3" (minor obstruction). The other dam structure is located at the boundary with the downstream Three Mile River AU (MA62-57), this dam had an existing fishway. “The first, at the Harodite Company was equipped with a prefabricated, wooden Denil ladder. This structure was washed away by high water during the spring of 1998. In 2008/2009 a steeppass was installed. The only maintenance necessary would be the removal of some sediment that can build up at the fishway exit". "The upstream impoundment has been stocked by DMF with blueback herring in anticipation of a replacement being installed". A passage score of "2" (minor obstruction) has now been assigned to the dam. The Aquatic Life Use for Three Mile River (Assessment Unit MA62-56) is assessed as Not Supporting, based on the barrier to diadromous fish passage at the former railroad trestles just upstream of Railroad Ave.

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W0821	2017	--	--	--	--	--	--	--	--	2	0
W2306	2011	--	--	--	--	--	--	--	--	1	0
W2307	2011	--	--	--	--	--	--	--	--	1	0
W2308	2011	--	--	--	--	--	--	--	--	2	0
W2309	2011	--	--	--	--	--	--	--	--	1	0
W2743	2017	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Threemile River (MA62-56); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	YES
2022 Use Attainment Summary	
MassDEP staff conducted field surveys in this Threemile River AU (MA62-56) at seven sites in Taunton/Dighton during the summers of 2011 and 2017. The site descriptions from upstream to downstream are as follows: on Norton Avenue near Harvey St. (W0821, n=2 in 2017); southwest from the western end of Country Way, approximately 1/2 mile downstream from Norton Ave (W2742, n=2 in 2017); farther downstream on Tremont St. (Rt.140) (W2743, n=2 in 2017); approximately 1200 ft upstream from Warner/Joseph E. Warner Boulevard (W2306, n=2 in 2011); at Warner /Joseph E. Warner Boulevard (W2307, n=2 in 2011); at South St./Spring St. (W2309, n=3 in 2011) and farthest downstream upstream at Spring St. in Dighton (W2308, n=3 in 2011). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at any site during the surveys. The Aesthetics Use for this Threemile River AU (MA62-56) continues to be assessed as Fully Supporting based on the lack of observed objectionable conditions. The prior alert issue due to sewage odor near the Harvey St. crossing (MassDEP 2005) is being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0821	MassDEP	Water Quality	Threemile River	[Norton Avenue (near Harvey Street), Taunton]	41.933320	-71.154267
W2306	MassDEP	Water Quality	Threemile River	[approximately 1200 feet upstream from Warren Boulevard/Joseph E Warner Boulevard, Dighton/Taunton (on south bank at decrepit footbridge downstream of Three Mile River Dam, National Id MA01170)]	41.867736	-71.129091
W2307	MassDEP	Water Quality	Threemile River	[Warner Boulevard/Joseph E Warren Boulevard, Dighton/Taunton]	41.866890	-71.125192

W2308	MassDEP	Water Quality	Threemile River	[upstream at Spring Street , Dighton (river braid does not appear on USGS 1985 Assonet quadrangle)]	41.864590	-71.122284
W2309	MassDEP	Water Quality	Threemile River	[downstream at South Street/Spring Street, Taunton/Dighton]	41.864362	-71.121382
W2742	MassDEP	Water Quality	Threemile River	[southwest from western end of Country Way, approximately 1/2 mile downstream from Norton Avenue, Taunton]	41.927222	-71.150784
W2743	MassDEP	Water Quality	Threemile River	[Tremont Street (Route 140), Taunton]	41.910206	-71.128830

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0821	Threemile River	2017	2	There are insufficient data available to assess the Aesthetics Use for the Threemile River. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP staff at station W0821 during surveys in summer 2017, however, data were limited (n=2).
W2306	Threemile River	2011	2	MassDEP aesthetics observations for station W2306 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2307	Threemile River	2011	2	MassDEP aesthetics observations for station W2307 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2308	Threemile River	2011	3	MassDEP aesthetics observations for station W2308 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011.
W2309	Threemile River	2011	3	MassDEP aesthetics observations for station W2309 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011.
W2742	Threemile River	2017	2	MassDEP aesthetics observations for station W2742 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2017. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2743	Threemile River	2017	2	MassDEP aesthetics observations for station W2743 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2017. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0821	2017	2	2	0
W2306	2011	2	1	0
W2307	2011	2	1	0
W2308	2011	3	2	0
W2309	2011	3	1	0
W2742	2017	2	0	0
W2743	2017	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0821	Threemile River	2017	Color	None	2	2
W0821	Threemile River	2017	Objectionable Deposits	Not Applicable (N/A)	2	2
W0821	Threemile River	2017	Odor	None	2	2
W0821	Threemile River	2017	Scum	Not Applicable (N/A)	2	2
W0821	Threemile River	2017	Turbidity	Moderately Turbid	1	2
W0821	Threemile River	2017	Turbidity	Slightly Turbid	1	2
W2306	Threemile River	2011	Color	None	2	2
W2306	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2306	Threemile River	2011	Odor	None	2	2
W2306	Threemile River	2011	Scum	Not Applicable (N/A)	2	2
W2306	Threemile River	2011	Turbidity	Moderately Turbid	1	2
W2306	Threemile River	2011	Turbidity	None	1	2
W2307	Threemile River	2011	Color	None	2	2
W2307	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2307	Threemile River	2011	Odor	None	2	2
W2307	Threemile River	2011	Scum	Not Applicable (N/A)	2	2
W2307	Threemile River	2011	Turbidity	Moderately Turbid	2	2
W2308	Threemile River	2011	Color	Light Yellow/Tan	1	3
W2308	Threemile River	2011	Color	None	2	3
W2308	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	3	3
W2308	Threemile River	2011	Odor	None	2	3
W2308	Threemile River	2011	Odor	Other	1	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2308	Threemile River	2011	Scum	Not Applicable (N/A)	3	3
W2308	Threemile River	2011	Turbidity	Moderately Turbid	1	3
W2308	Threemile River	2011	Turbidity	Slightly Turbid	2	3
W2309	Threemile River	2011	Color	Light Yellow/Tan	1	3
W2309	Threemile River	2011	Color	None	2	3
W2309	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	3	3
W2309	Threemile River	2011	Odor	None	3	3
W2309	Threemile River	2011	Scum	Not Applicable (N/A)	3	3
W2309	Threemile River	2011	Turbidity	Moderately Turbid	2	3
W2309	Threemile River	2011	Turbidity	Slightly Turbid	1	3
W2742	Threemile River	2017	Color	None	2	2
W2742	Threemile River	2017	Objectionable Deposits	Not Applicable (N/A)	2	2
W2742	Threemile River	2017	Odor	None	2	2
W2742	Threemile River	2017	Scum	Not Applicable (N/A)	2	2
W2742	Threemile River	2017	Turbidity	Moderately Turbid	2	2
W2743	Threemile River	2017	Color	None	2	2
W2743	Threemile River	2017	Objectionable Deposits	Not Applicable (N/A)	2	2
W2743	Threemile River	2017	Odor	Musty (Basement)	1	2
W2743	Threemile River	2017	Odor	None	1	2
W2743	Threemile River	2017	Scum	Not Applicable (N/A)	2	2
W2743	Threemile River	2017	Turbidity	Moderately Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples and Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples from this Threemile River AU (MA62-56), in Norton/Taunton/Dighton at sites described from upstream to downstream as follows: at Crane St. in Norton (TRWA_TMR-03) April-October 2019 (n=7); on Norton Ave near Harvey St. (W0821) August-September 2017 (n=2); southwest from the western end of Country Way, approximately 1/2 mile downstream from Norton Avenue (W2742) August-September 2017 (n=2); farther downstream on Tremont St. (Rt. 140) (W2743) August-September 2017 (n=2); at Rt. 44 (Cohannet St.) (TRWA_TMR-02) April-October 2019 (n=7); ~1200 ft upstream from Warner/Joseph E. Warner Boulevard (W2306) June-August 2011 (n=2); at Warner/Joseph E. Warner Boulevard (W2307) June-August 2011 (n=2); at South St./Spring St. (W2309) June-October 2011 (n=3) and at Spring St. in Dighton (W2308) June-October 2011 (n=3). The *E. coli* data were too limited to assess according to the Use Attainment Impairment Decision Schema in the 2022 CALM (MassDEP 2022), but it should be noted that seasonal GMs ranged from 57 to 189 CFU/100mL (with four of them exceeding 126 CFU/100ml). Data analysis for *Enterococci* samples indicated that 100% and 67% of intervals had GMs >35 CFU/100mL (at TRWA_TMR-03 and TRWA_TMR-02, respectively); a number of samples also exceeded the 130 CFU/100mL STV (n= 4 and 1, respectively). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during field surveys at any of the DEP sites.

The Primary Contact Recreation Use for this Threemile River AU (MA62-56) is assessed as Not Supporting since the *Enterococci* data documented by TRWA in 2019 at two stations (on Crane St. and Cohannet St.) exceeded the use attainment impairment threshold for single year, moderate frequency datasets.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0821	MassDEP	Water Quality	Threemile River	[Norton Avenue (near Harvey Street), Taunton]	41.933320	-71.154267
W2306	MassDEP	Water Quality	Threemile River	[approximately 1200 feet upstream from Warren Boulevard/Joseph E Warner Boulevard, Dighton/Taunton (on south bank at decrepit footbridge downstream of Three Mile River Dam, National Id MA01170)]	41.867736	-71.129091
W2307	MassDEP	Water Quality	Threemile River	[Warner Boulevard/Joseph E Warren Boulevard, Dighton/Taunton]	41.866890	-71.125192
W2308	MassDEP	Water Quality	Threemile River	[upstream at Spring Street , Dighton (river braid does not appear on USGS 1985 Assonet quadrangle)]	41.864590	-71.122284
W2309	MassDEP	Water Quality	Threemile River	[downstream at South Street/Spring Street, Taunton/Dighton]	41.864362	-71.121382
W2742	MassDEP	Water Quality	Threemile River	[southwest from western end of Country Way, approximately 1/2 mile downstream from Norton Avenue, Taunton]	41.927222	-71.150784
W2743	MassDEP	Water Quality	Threemile River	[Tremont Street (Route 140), Taunton]	41.910206	-71.128830
TRWA_TMR-02	Taunton River Watershed Association	Water Quality	Three Mile River	Three Mile R. Br, Rt 44, Cohannet St.	41.8865	-71.133333
TRWA_TMR-03	Taunton River Watershed Association	Water Quality	Three Mile River	Three Mile R. Br, Crane St., Norton	41.94675	-71.160556

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (30-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5) (TRWA 2020) (MassDEP Undated3)

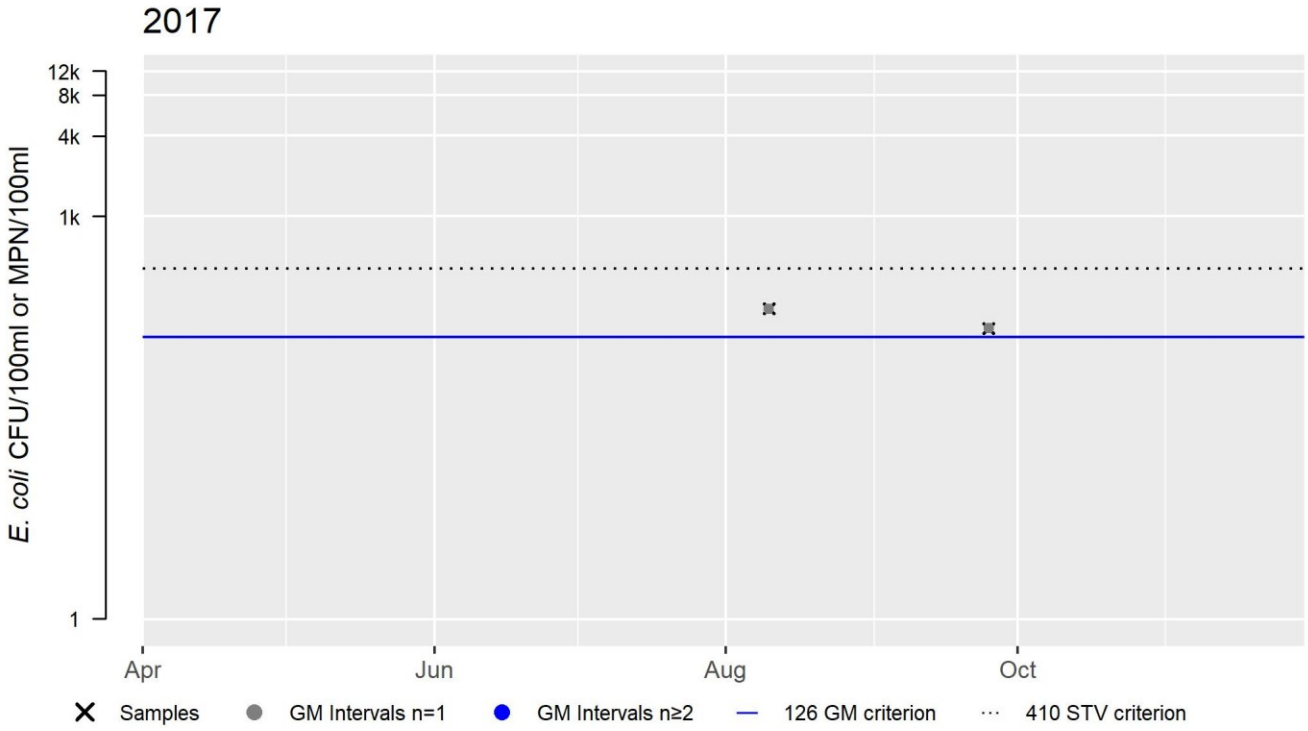
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0821	MassDEP	E. coli	08/10/17	09/25/17	2	147	205	174
W2306	MassDEP	E. coli	06/02/11	08/24/11	2	119	179	146
W2307	MassDEP	E. coli	06/02/11	08/24/11	2	72	120	93
W2308	MassDEP	E. coli	06/02/11	10/18/11	3	20	275	92
W2309	MassDEP	E. coli	06/02/11	10/18/11	3	24	108	57
W2742	MassDEP	E. coli	08/10/17	09/25/17	2	135	265	189
W2743	MassDEP	E. coli	08/10/17	09/25/17	2	88	219	139
TRWA_TMR-02	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	30	250	69
TRWA_TMR-03	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	10	590	105

W0821 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	174
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

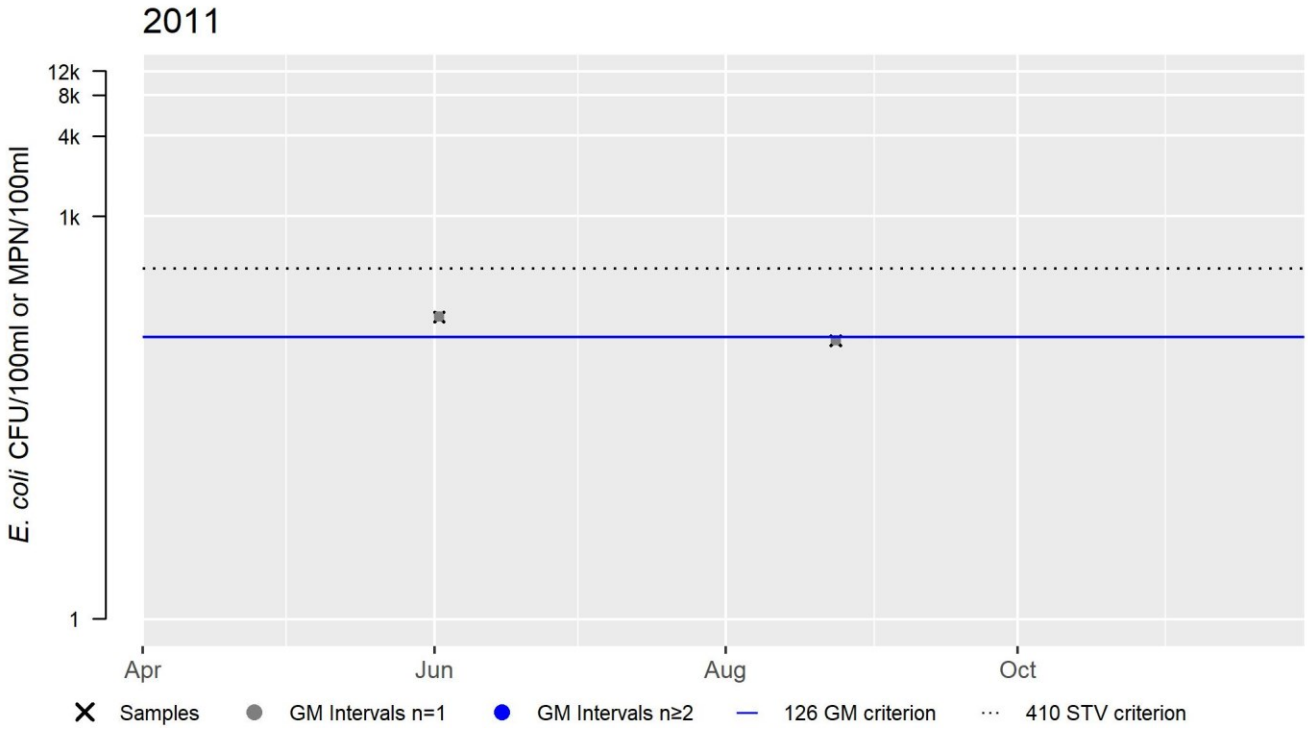
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2306 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	146
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

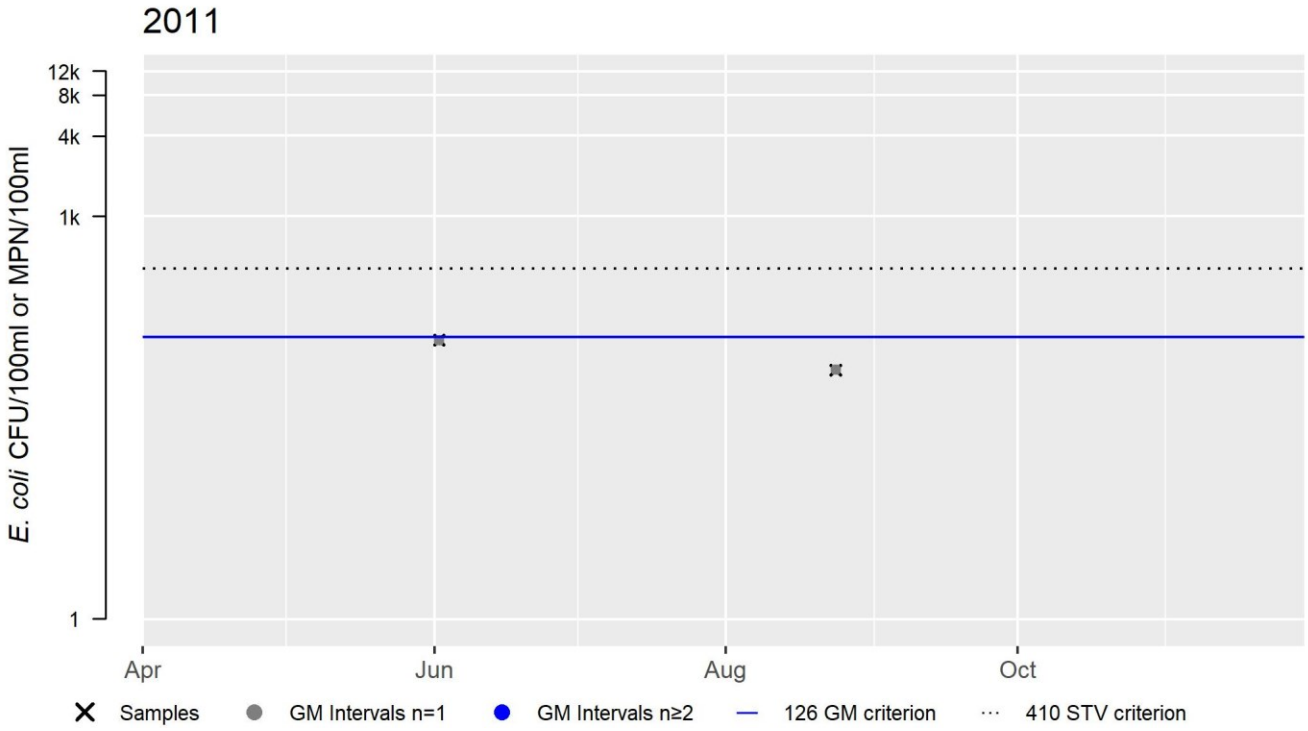
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2307 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	93
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

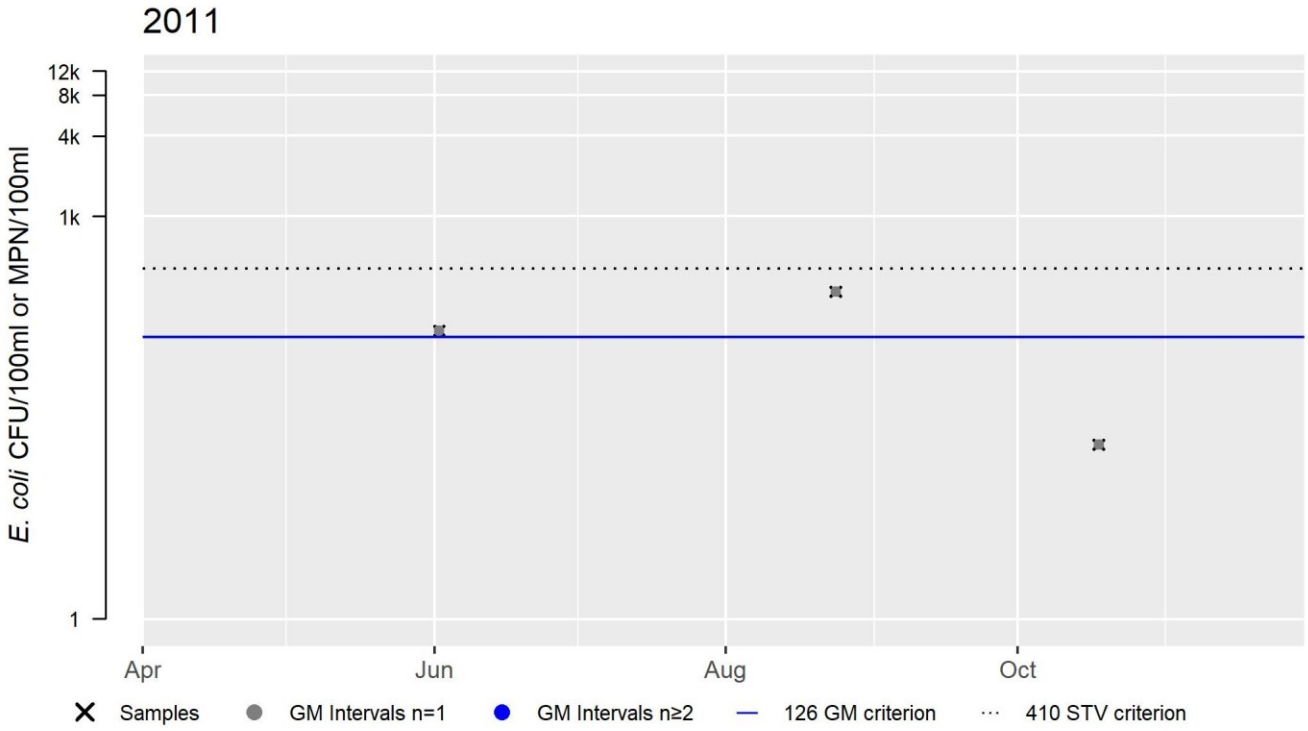
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2308 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	92
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

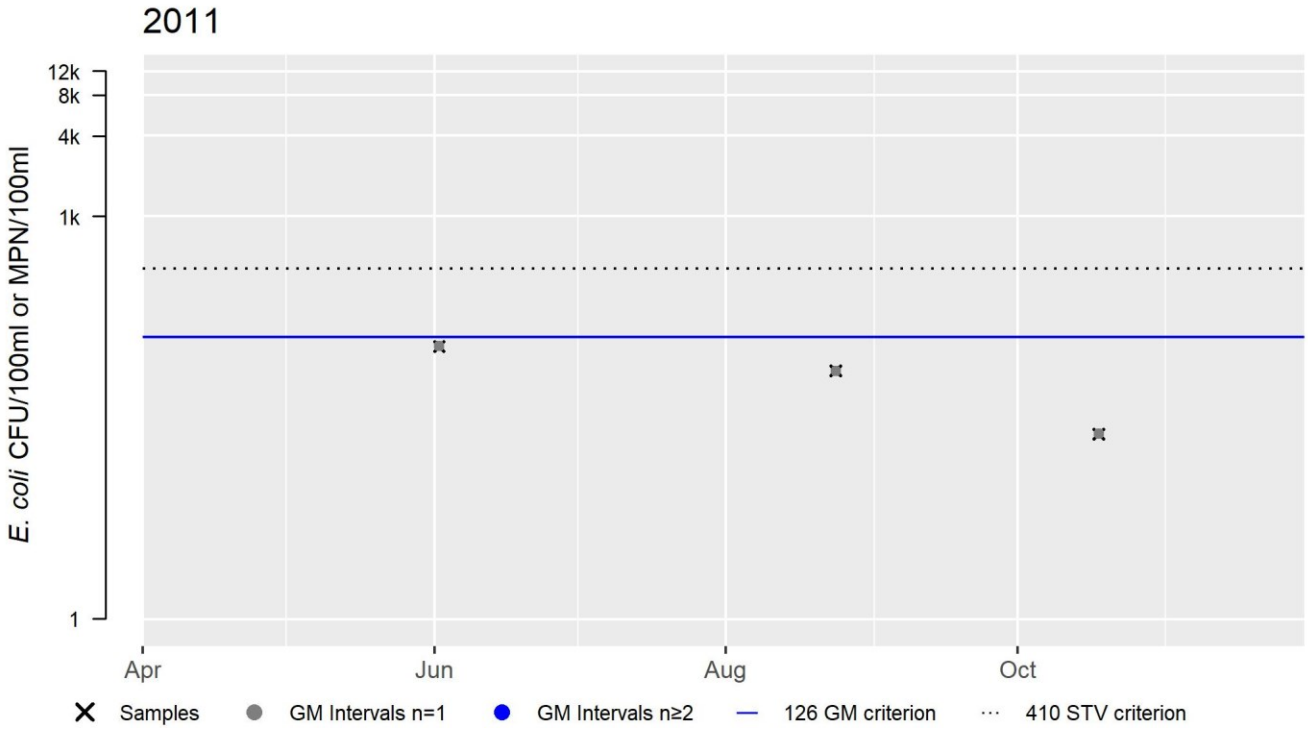
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2309 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	57
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

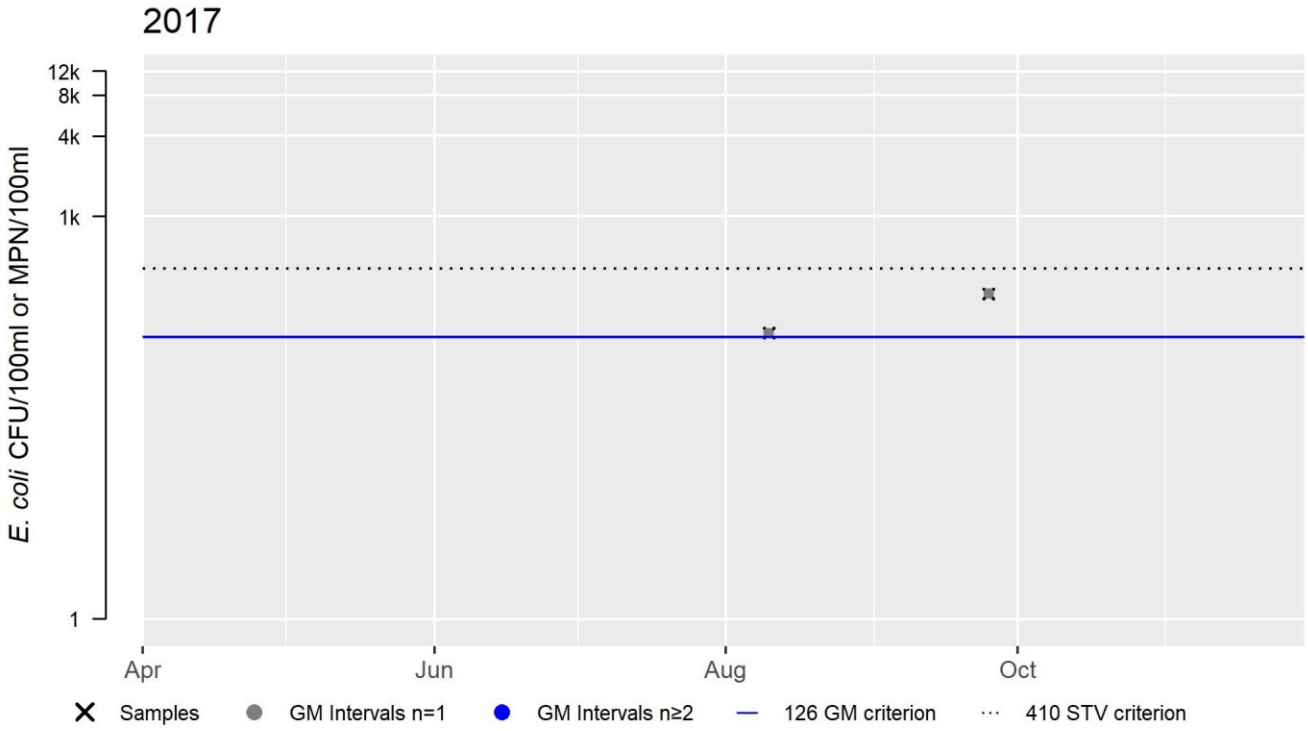
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2742 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	189
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

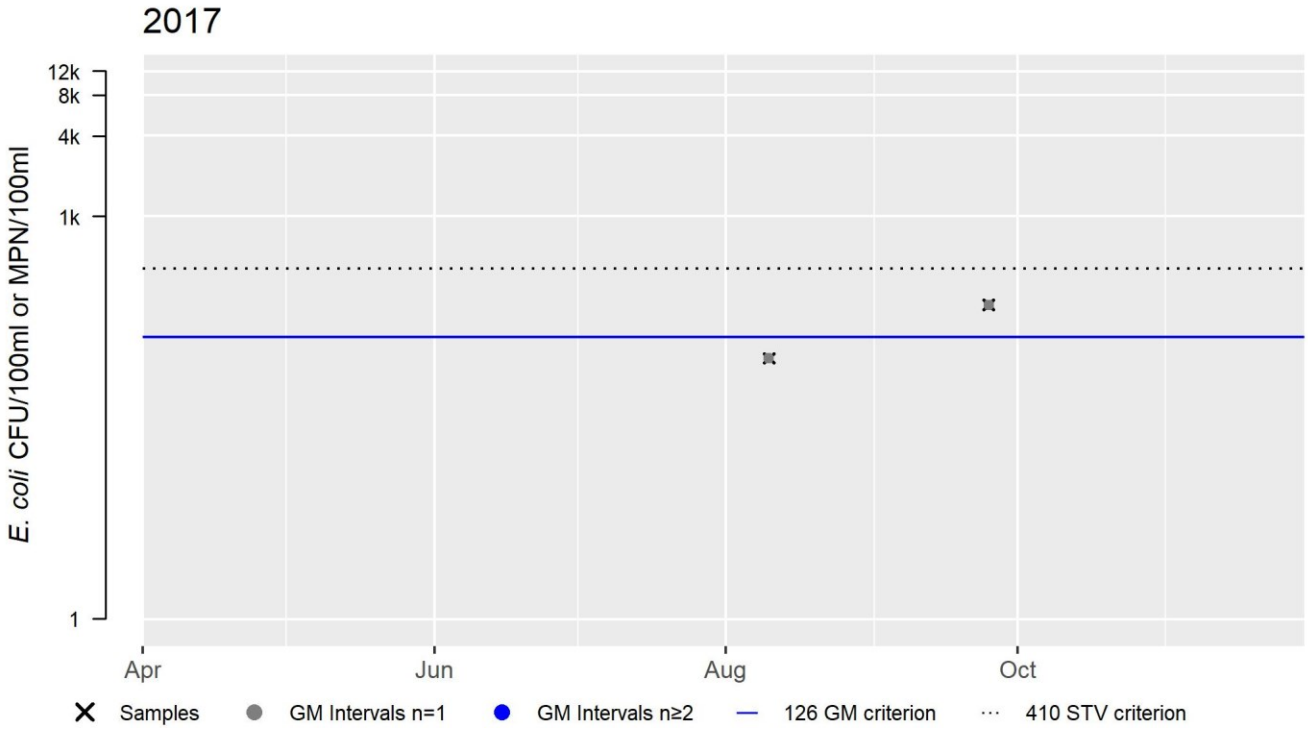
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2743 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	139
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

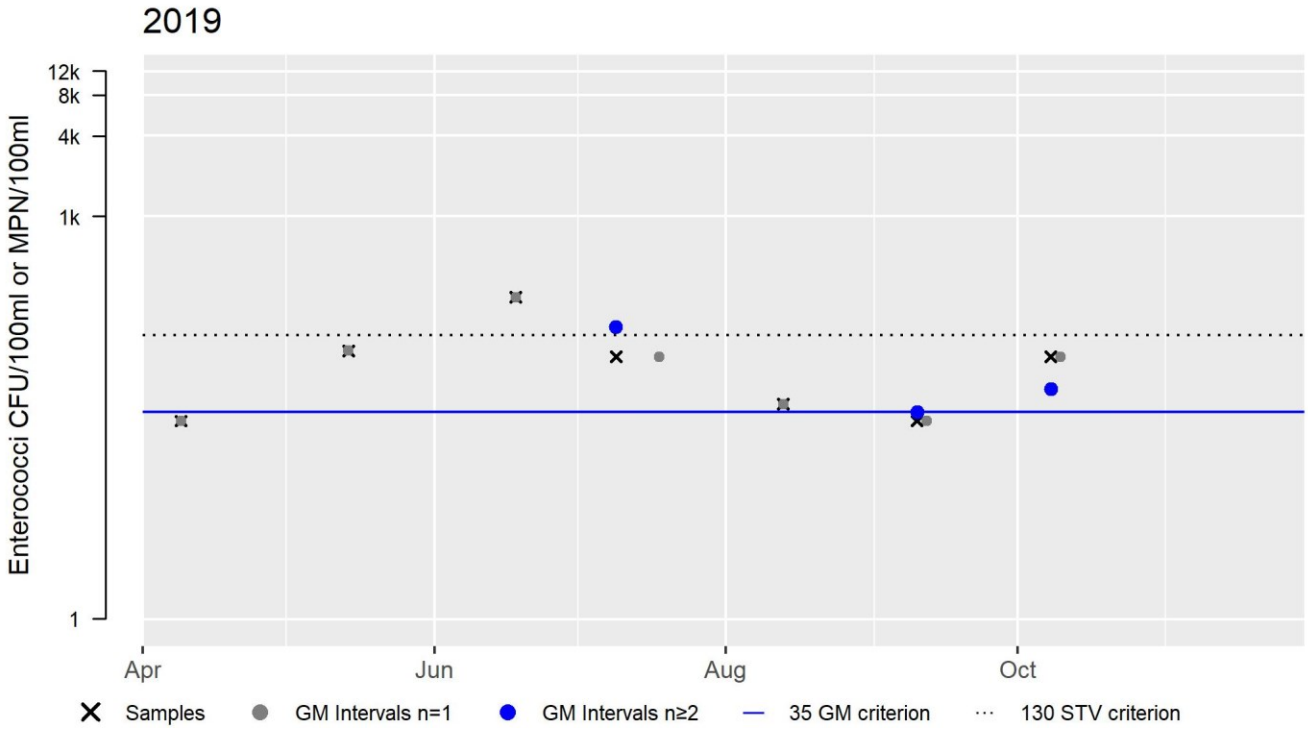
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_TMR-02 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	69
#GMI	3
#GMI Ex	2
%GMI Ex	67
n>STV	1
%n>STV	14

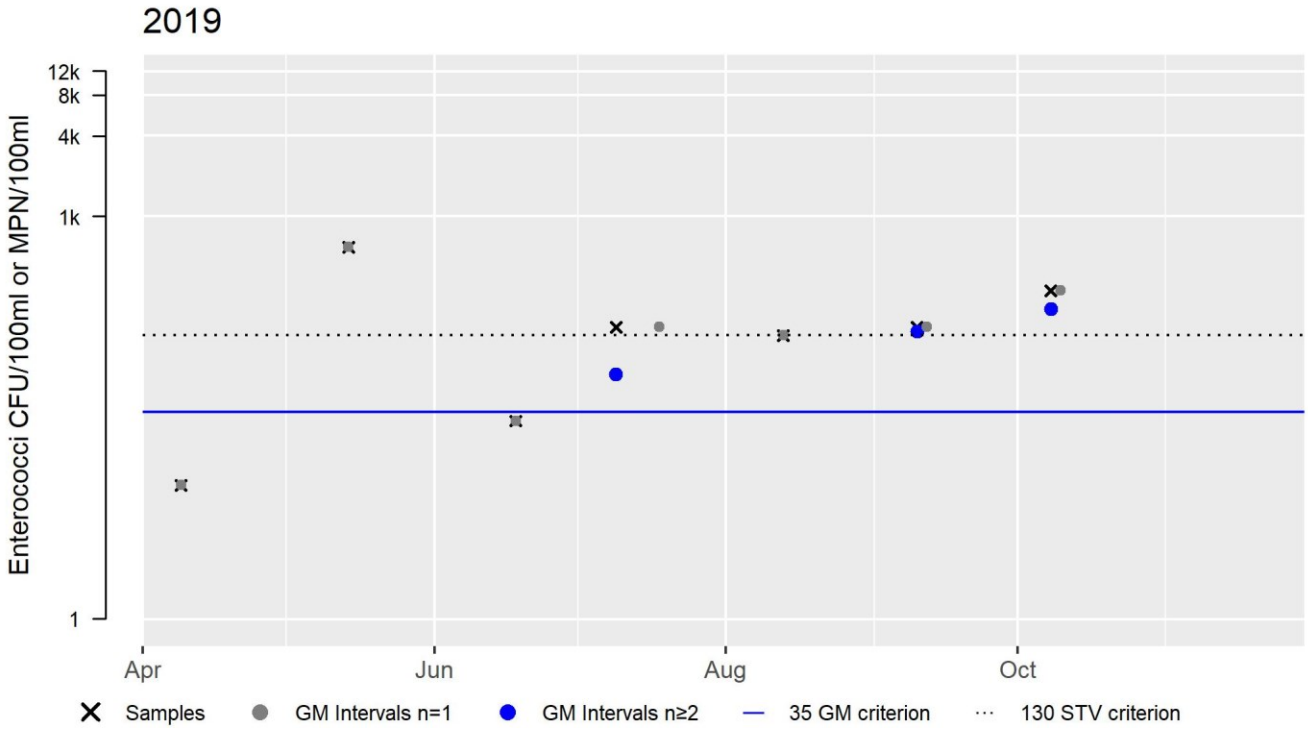
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_TMR-03 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	105
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	4
%n>STV	57

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples in this Threemile River AU (MA62-56), in Norton/Taunton/Dighton at stations described from upstream to downstream as follows: on Norton Avenue near Harvey St. (W0821) August-September 2017 (n=2); southwest from the western end of Country Way, approximately 1/2 mile downstream from Norton Ave (W2742) August-September 2017 (n=2); farther downstream on Tremont St. (Rt. 140) (W2743) August-September 2017 (n=2); approximately 1200 ft upstream from Warner/Joseph E Warner Boulevard (W2306) June-August 2011 (n=2); at Warner/Joseph E. Warner Boulevard (W2307) June-August 2011 (n=2); at South St./Spring St. (W2309) June-October 2011 (n=3) and at Spring St. in Dighton (W2308) June-October 2011 (n=3). The *E. coli* data were too limited to assess according to the Use Attainment Impairment Decision Schema in the 2022 CALM (MassDEP 2022), but it should be noted that none of the samples exceeded the 1260 CFU/100mL STV and the seasonal GMs ranged from 57 to 189 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during field surveys at any of the DEP sites.
Too limited *E. coli* data are available to assess the Secondary Contact Recreation Use for this Threemile River AU (MA62-56), so it is assessed as having Insufficient Information.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0821	MassDEP	Water Quality	Threemile River	[Norton Avenue (near Harvey Street), Taunton]	41.933320	-71.154267
W2306	MassDEP	Water Quality	Threemile River	[approximately 1200 feet upstream from Warren Boulevard/Joseph E Warner Boulevard, Dighton/Taunton (on south bank at decrepit footbridge downstream of Three Mile River Dam, National Id MA01170)]	41.867736	-71.129091
W2307	MassDEP	Water Quality	Threemile River	[Warner Boulevard/Joseph E Warren Boulevard, Dighton/Taunton]	41.866890	-71.125192
W2308	MassDEP	Water Quality	Threemile River	[upstream at Spring Street , Dighton (river braid does not appear on USGS 1985 Assonet quadrangle)]	41.864590	-71.122284
W2309	MassDEP	Water Quality	Threemile River	[downstream at South Street/Spring Street, Taunton/Dighton]	41.864362	-71.121382
W2742	MassDEP	Water Quality	Threemile River	[southwest from western end of Country Way, approximately 1/2 mile downstream from Norton Avenue, Taunton]	41.927222	-71.150784
W2743	MassDEP	Water Quality	Threemile River	[Tremont Street (Route 140), Taunton]	41.910206	-71.128830

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

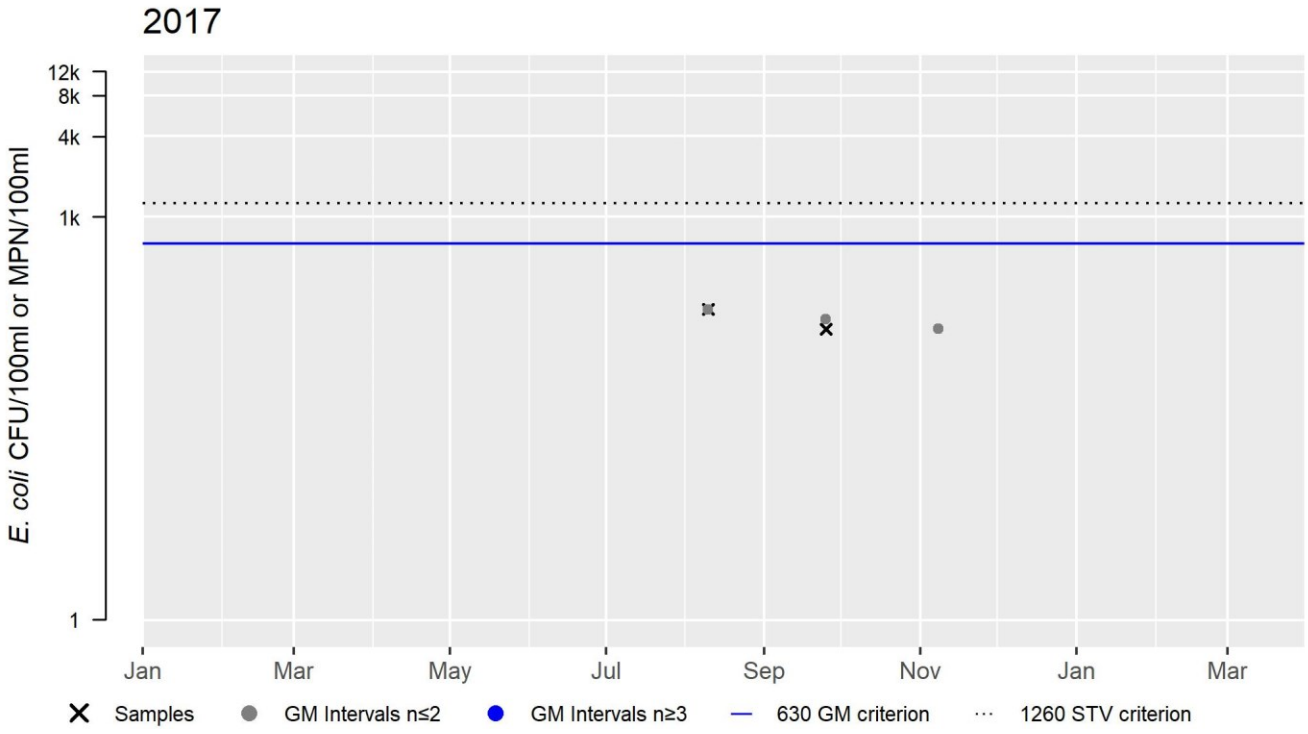
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W0821	MassDEP	E. coli	08/10/17	09/25/17	2	147	205	174
W2306	MassDEP	E. coli	06/02/11	08/24/11	2	119	179	146
W2307	MassDEP	E. coli	06/02/11	08/24/11	2	72	120	93
W2308	MassDEP	E. coli	06/02/11	10/18/11	3	20	275	92
W2309	MassDEP	E. coli	06/02/11	10/18/11	3	24	108	57

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2742	MassDEP	E. coli	08/10/17	09/25/17	2	135	265	189
W2743	MassDEP	E. coli	08/10/17	09/25/17	2	88	219	139

W0821 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	174
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

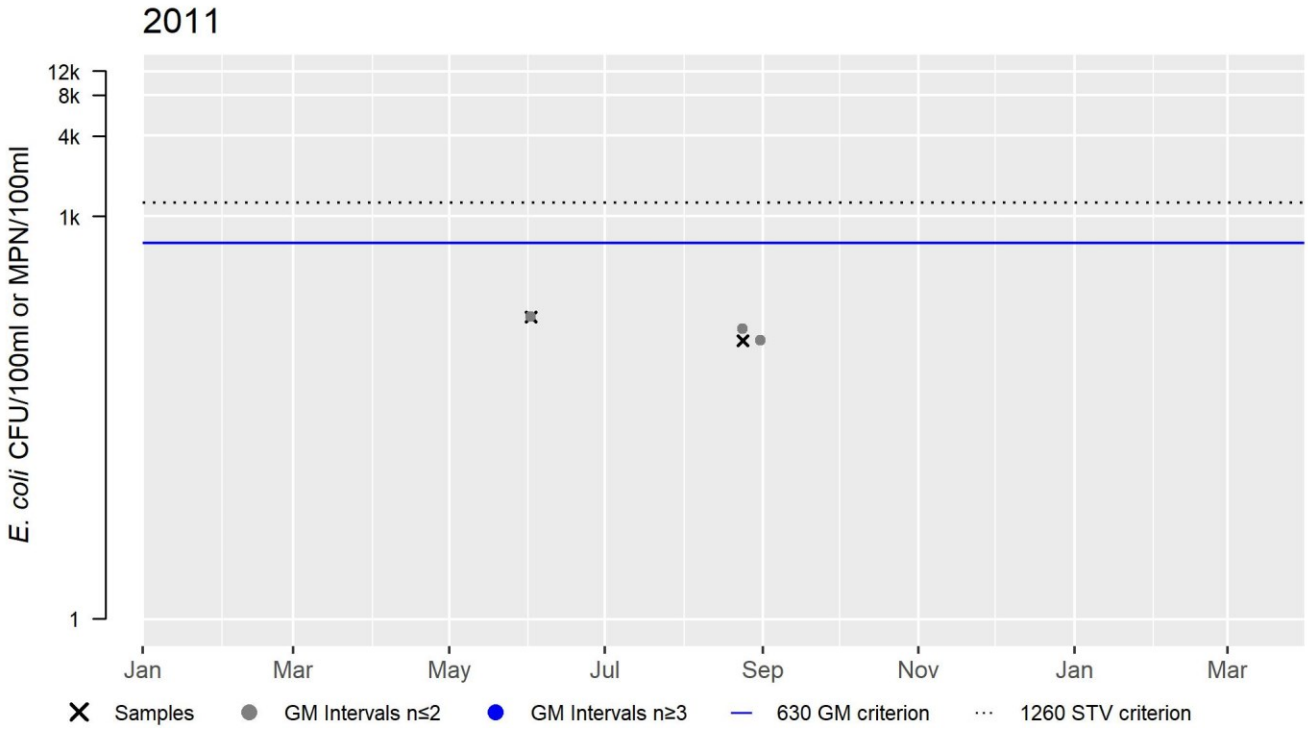
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2306 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	146
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

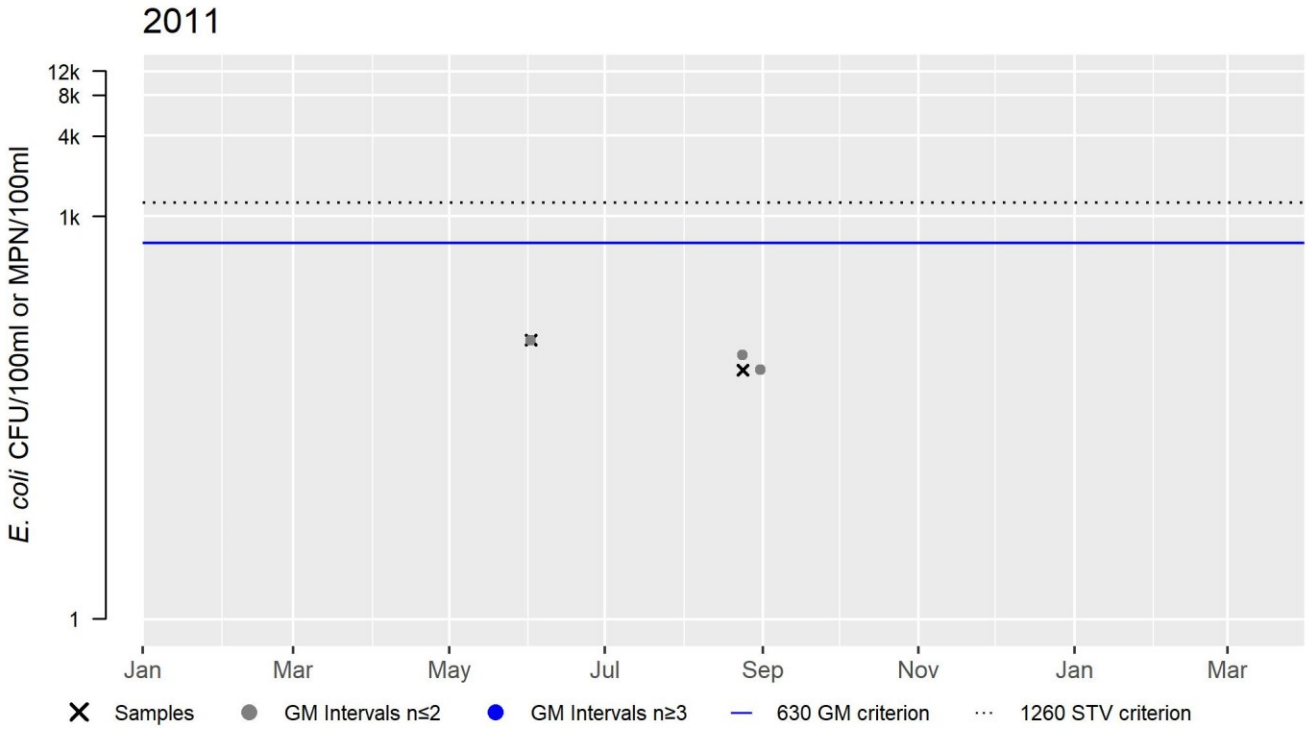
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2307 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	93
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

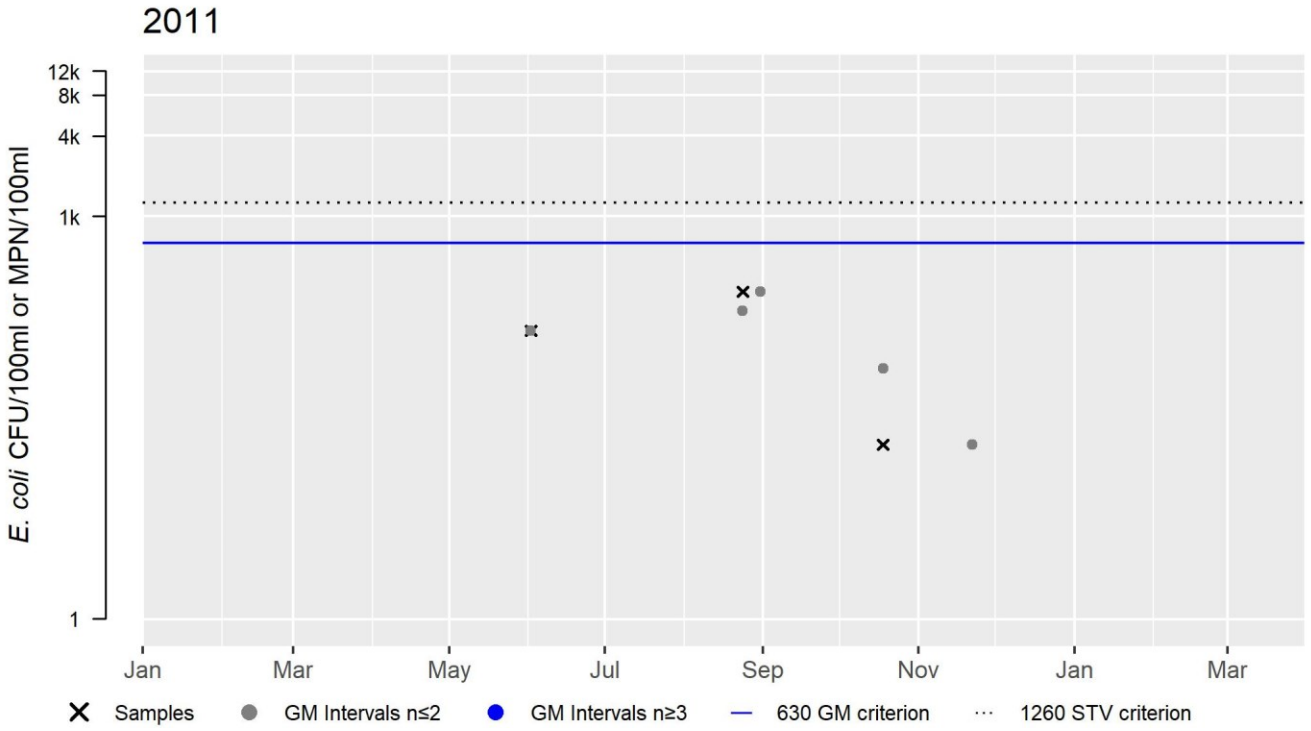
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2308 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	92
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

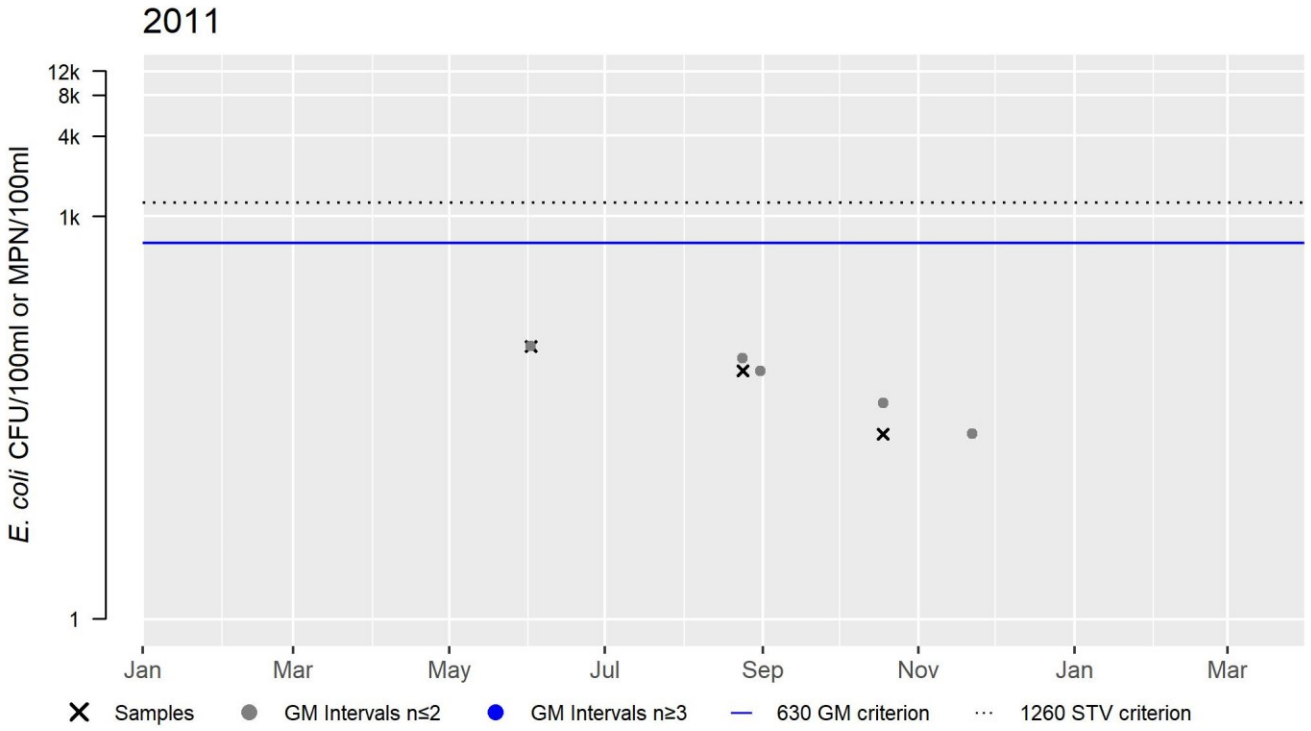
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2309 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	57
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

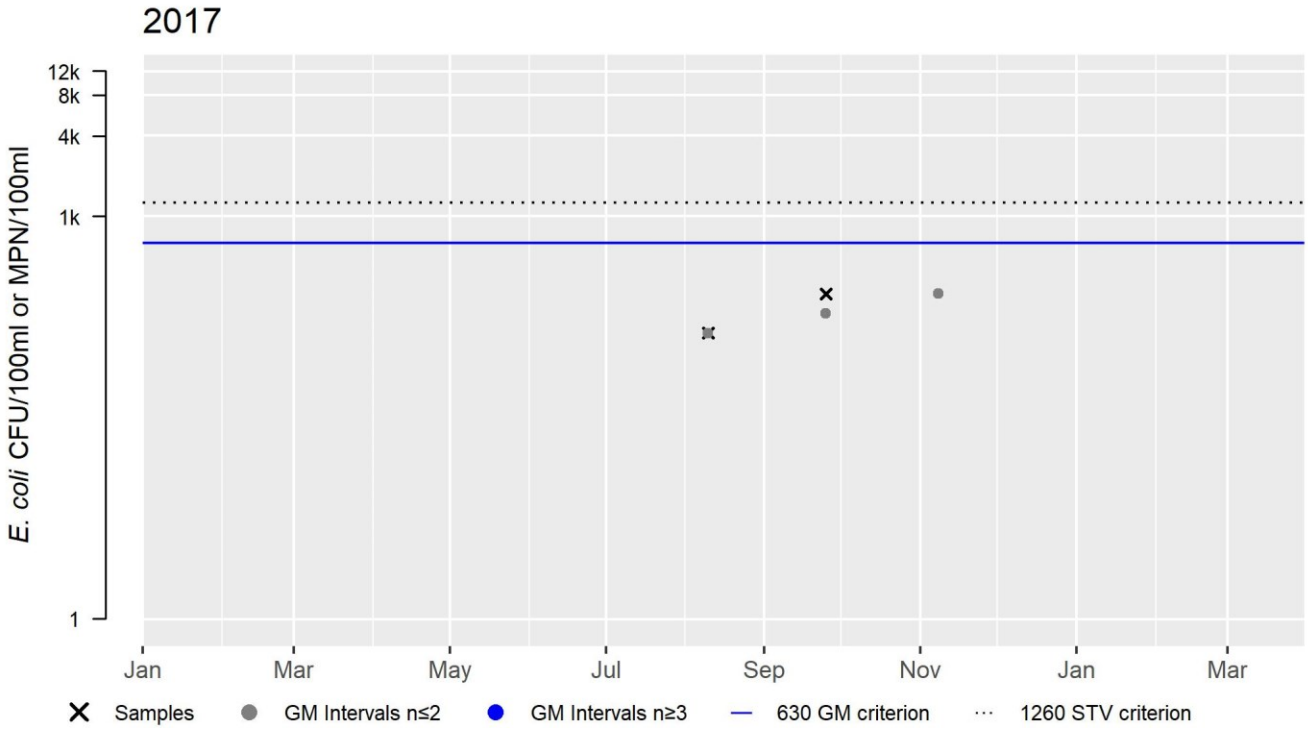
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2742 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	189
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

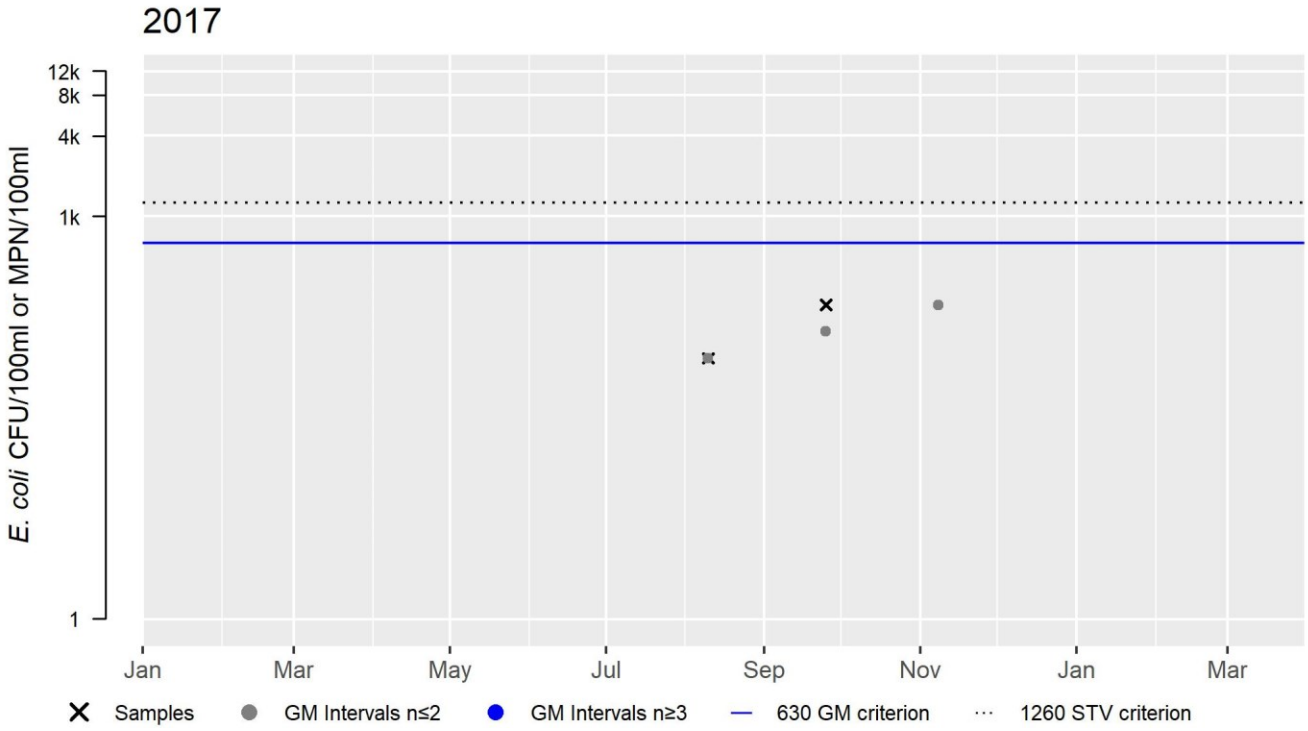
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2743 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	139
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Threemile River (MA62-57)

Location:	From dam (NATID: MA03083) behind 66 South Street (Harodite Finishing Co.), Taunton/Dighton to mouth at confluence with the Taunton River, Taunton/Dighton (formerly part of 2004 segment: Three Mile River MA62-16).
AU Type:	ESTUARY
AU Size:	0.02 SQUARE MILES
Classification/Qualifier:	SB: SFR

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	5	Enterococcus		Added
4a	5	Fecal Coliform	40310	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Enterococcus	Source Unknown (N)					X	X
Fecal Coliform	Source Unknown (N)			X			

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	

According to DMF biologists there are two barriers at the upstream end of this MA62-57 Three Mile River AU (at the boundary with the Three Mile River MA62-56 AU) both allowing adequate passage of diadromous fish . The targeted species are river herring and American eel, with a population score of "3". As noted in the 2018/2020 IR (MassDEP 2021), there are two dams at the Harodite factory, of which the "#2 dam" "appears to be avoidable by way of a bypass channel a few yards from the spillway", though it was only passable during a narrow flow range and was assigned a passage score of "3" (minor obstruction). The other dam structure was located at the Harodite Company and had an existing fishway. Initially, the dam "was equipped with a prefabricated, wooden Denil ladder. This structure was washed away by high water during the spring of 1998. In 2008/2009 a steeppass was installed. The only maintenance necessary is the removal of some sediment that can build up at the fishway exit". "The upstream impoundment has been stocked by DMF with blueback herring in anticipation of a replacement being installed". A passage score of "2" (minor obstruction) has now been assigned to the dam.
As part of the MassDEP Bacteria Source Tracking (BST) project, MassDEP staff did not observe any dense film or filamentous algae at three locations in Taunton/Dighton on this Threemile River AU during summer surveys in 2011,. The sites are described from upstream to downstream as follows: east of Lincoln Avenue in Dighton, ~800 ft downstream from the Harodite Dam (National ID MA03083) on the Dighton/Taunton border (W2310, n=2); Old Somerset Avenue in Dighton/Taunton (W2311, n=2); and at the abandoned railroad trestle ~600 ft upstream of the confluence with the Taunton River in Dighton/Taunton (W2312, n=2).
MassDFG biologists collected a fish sample using a seine net at the downstream end of this Threemile River AU (MA62-57) in Dighton, just upstream of the confluence with the Taunton River (MA62-02). This estuarine sample contained numerous individuals (261) and was mostly characterized by warm water species that are tolerant to environmental perturbations, as well as a small number of moderately tolerant macrohabitat generalists (2 taxa, comprising 3% of the sample, namely pumpkinseed and redbreast sunfish). Per the 2022 CALM (MassDEP 2022), fish community data are not currently utilized by MassDEP to assess the Aquatic Life Use in estuarine waters.
The Aquatic Life Use for this Threemile River AU (MA62-57) is assessed as having insufficient information since there is a lack of water quality data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5915	MassDFG	Fish Community	Threemile River	, Dighton	41.85450	-71.10990
W2310	MassDEP	Water Quality	Threemile River	[east of Lincoln Avenue, Dighton, approximatley 800 feet downstream from the Harodite Dam (National Id MA03083), on the Dighton/Taunton border]	41.860725	-71.121843
W2311	MassDEP	Water Quality	Threemile River	[Old Somerset Avenue, Dighton/Taunton]	41.856001	-71.116017
W2312	MassDEP	Water Quality	Threemile River	[abandoned railroad trestle approximately 600 feet upstream of confluence with Taunton River, Dighton/Taunton]	41.855054	-71.111013

Biological Monitoring Information

Fish Community Data (DELTS or population loss estimates only)

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)
[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: ATS = Atlantic Silverside, B = Bluegill, GS = Golden Shiner, K = Banded Killifish, M = Mummichog, P = Pumpkinseed, RBS = Redbreast Sunfish]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5915	08/12/16	SE	TP		7	261	0%	0	0%	0%	2	3%	No	No	ATS, B, GS, K, M, P, RBS,

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
(Rebak et al 2004, MassDER 2017, MassDEP 2005). According to DMF biologists , there are two barriers providing adequate passage to diadromous fish passage at the upstream end of this Three Mile River AU (at the boundary with the Three Mile River MA62-56). The targeted species are river herring and American eel, with a population score of "3". There are two dams at the Harodite factory. What is known as the "#2 dam" "appears to be avoidable by way of a bypass channel a few yards from the spillway", though it was noted to only be passable during a narrow flow range and was assigned a passage score of "3" (minor obstruction). The other dam structure had an existing fishway. "The first, at the Harodite Company was equipped with a prefabricated, wooden Denil ladder. This structure was washed away by high water during the spring of 1998. In 2008/2009 a steeppass was installed. The only maintenance necessary is the removal of some sediment that can build up at the fishway exit. "The upstream impoundment has been stocked by DMF with blueback herring in anticipation of a replacement being installed". A passage score of "2" (minor obstruction) has now been assigned to the dam.

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2310	2011	--	--	--	--	--	--	--	--	2	0
W2311	2011	--	--	--	--	--	--	--	--	2	0
W2312	2011	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Threemile River AU (MA62-57); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
Threemile River (MA62-57): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0069 sq mi (32%). The sum of the approved, conditionally approved and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0069 sq mi (32%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved and/or restricted. Alert due to prohibited area >= 0.0001 sq mi. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.1	Taunton River	Prohibited	0.00687	31.9%

Aesthetic

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys on this Threemile River AU (MA62-57) at three sites during the summer of 2011 as part of the Bacteria Source Tracking (BST) Project. The site descriptions from upstream to downstream are as follows: east of Lincoln Avenue in Dighton ~800 ft downstream from the Harodite Dam (National ID MA03083) on the Dighton/Taunton border (W2310); Old Somerset Avenue in Dighton/Taunton (W2311); and at the abandoned railroad trestle ~600 ft upstream of the confluence with the Taunton River in Dighton/Taunton (W2312). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at any of the sites. however, there data were extremely limited (n= 2/station). There is insufficient information to assess the Aesthetics Use for this Threemile River AU (MA62-57).	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2310	MassDEP	Water Quality	Threemile River	[east of Lincoln Avenue, Dighton, approximately 800 feet downstream from the Harodite Dam (National Id MA03083), on the Dighton/Taunton border]	41.860725	-71.121843
W2311	MassDEP	Water Quality	Threemile River	[Old Somerset Avenue, Dighton/Taunton]	41.856001	-71.116017
W2312	MassDEP	Water Quality	Threemile River	[abandoned railroad trestle approximately 600 feet upstream of confluence with Taunton River, Dighton/Taunton]	41.855054	-71.111013

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2310	Threemile River	2011	2	MassDEP aesthetics observations for station W2310 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2311	Threemile River	2011	2	MassDEP aesthetics observations for station W2311 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2312	Threemile River	2011	2	MassDEP aesthetics observations for station W2312 on Threemile River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2310	2011	2	2	0
W2311	2011	2	2	0
W2312	2011	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2310	Threemile River	2011	Color	None	2	2
W2310	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2310	Threemile River	2011	Odor	None	2	2
W2310	Threemile River	2011	Scum	Not Applicable (N/A)	2	2
W2310	Threemile River	2011	Turbidity	Moderately Turbid	2	2
W2311	Threemile River	2011	Color	None	2	2
W2311	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2311	Threemile River	2011	Odor	None	2	2
W2311	Threemile River	2011	Scum	Not Applicable (N/A)	2	2
W2311	Threemile River	2011	Turbidity	Moderately Turbid	2	2
W2312	Threemile River	2011	Color	None	2	2
W2312	Threemile River	2011	Objectionable Deposits	Not Applicable (N/A)	2	2
W2312	Threemile River	2011	Odor	None	2	2
W2312	Threemile River	2011	Scum	Not Applicable (N/A)	2	2
W2312	Threemile River	2011	Turbidity	Moderately Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Taunton River Watershed Association (TRWA) staff/volunteers collected Enterococci bacteria samples in this Threemile River AU (MA62-57), on the Somerset Ave bridge (Rt.138) (TRWA_TMR-01) April-October 2019 (n=7). Data analysis indicated that 100% of intervals had GMs >35 CFU/100mL and four samples exceeded the 130 CFU/100mL STV. There were generally no noted objectionable aesthetic conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at any of three sites, however, data were extremely limited (n= 2/station). From upstream to downstream the stations were located east of Lincoln Avenue in Dighton ~800 ft downstream from the Harodite Dam (National ID MA03083) on the Dighton/Taunton border (W2310); Old Somerset Avenue in Dighton/Taunton (W2311); and at the abandoned railroad trestle ~600 ft upstream of the confluence with the Taunton River in Dighton/Taunton (W2312). The Primary Contact Recreation Use for this Threemile River AU (MA62-57) is assessed as Not Supporting since TRWA Enterococci data (collected from the Somerset Avenue bridge during summer 2019) exceeded the use attainment impairment threshold for a single year, moderate frequency dataset.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_TMR-01	Taunton River Watershed Association	Water Quality	Three Mile River	Three Mile R. Br, Rt 138, Somerset Ave.	41.855528	-71.115556

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

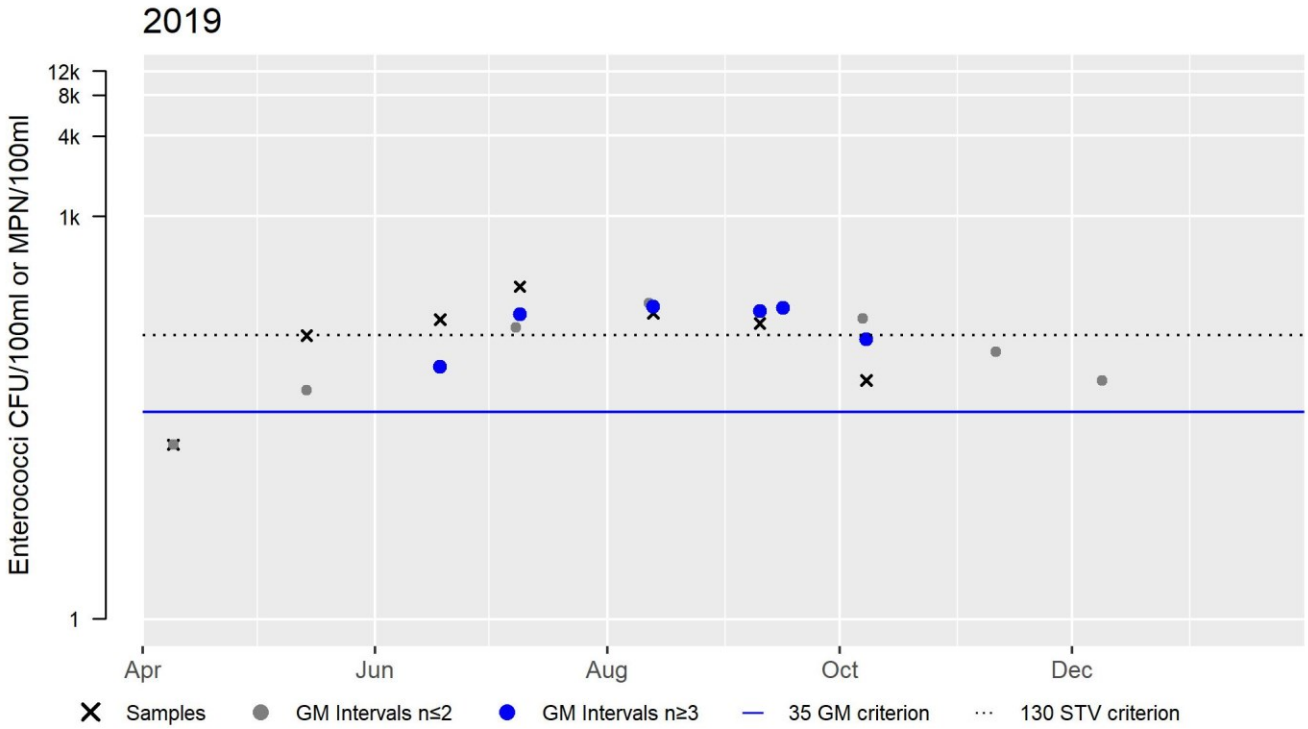
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
TRWA_TMR-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	20	300	113

TRWA_TMR-01 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	113
#GMI	6
#GMI Ex	6
%GMI Ex	100
n>STV	4
%n>STV	57

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
BST work was conducted in 2011 at 6 sites on the Three Mile River AU (MA62-57), with dry weather E.coli concentrations ranging 55 - 180MPN. The BST program recommended (based on 2011 data) that segment MA62-57 undergo a de-listing assessment.

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Threemile River (MA62-57): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0069 sq mi (32%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Taunton River Watershed Association (TRWA) staff/volunteers collected Enterococci bacteria samples in this Threemile River AU (MA62-57) on the Somerset Ave bridge (Rt.138) (TRWA_TMR-01) April-October 2019 (n=7). Data analysis indicated that 67% of intervals had GMs >175 CFU/100mL but no samples exceeded the 350 CFU/100mL STV (this meets the use attainment impairment threshold for a moderate frequency dataset (MassDEP 2022)). There were generally no noted objectionable aesthetic conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at any of three sites, however, data were extremely limited (n= 2/station). From upstream to downstream the stations were located east of Lincoln Avenue in Dighton ~800 ft downstream from the Harodite Dam (National ID MA03083) on the Dighton/Taunton border (W2310); Old Somerset Avenue in Dighton/Taunton (W2311); and at the abandoned railroad trestle ~600 ft upstream of the confluence with the Taunton River in Dighton/Taunton (W2312). The Secondary Contact Recreation Use for this Threemile River AU (MA62-57) is assessed as Not Supporting since TRWA Enterococci data (collected from the Somerset Ave bridge during summer 2019) exceeded the use attainment impairment threshold for a single year, moderate frequency dataset.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
TRWA_TMR-01	Taunton River Watershed Association	Water Quality	Three Mile River	Three Mile R. Br, Rt 138, Somerset Ave.	41.855528	-71.115556

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (TRWA 2020) (MassDEP Undated3)

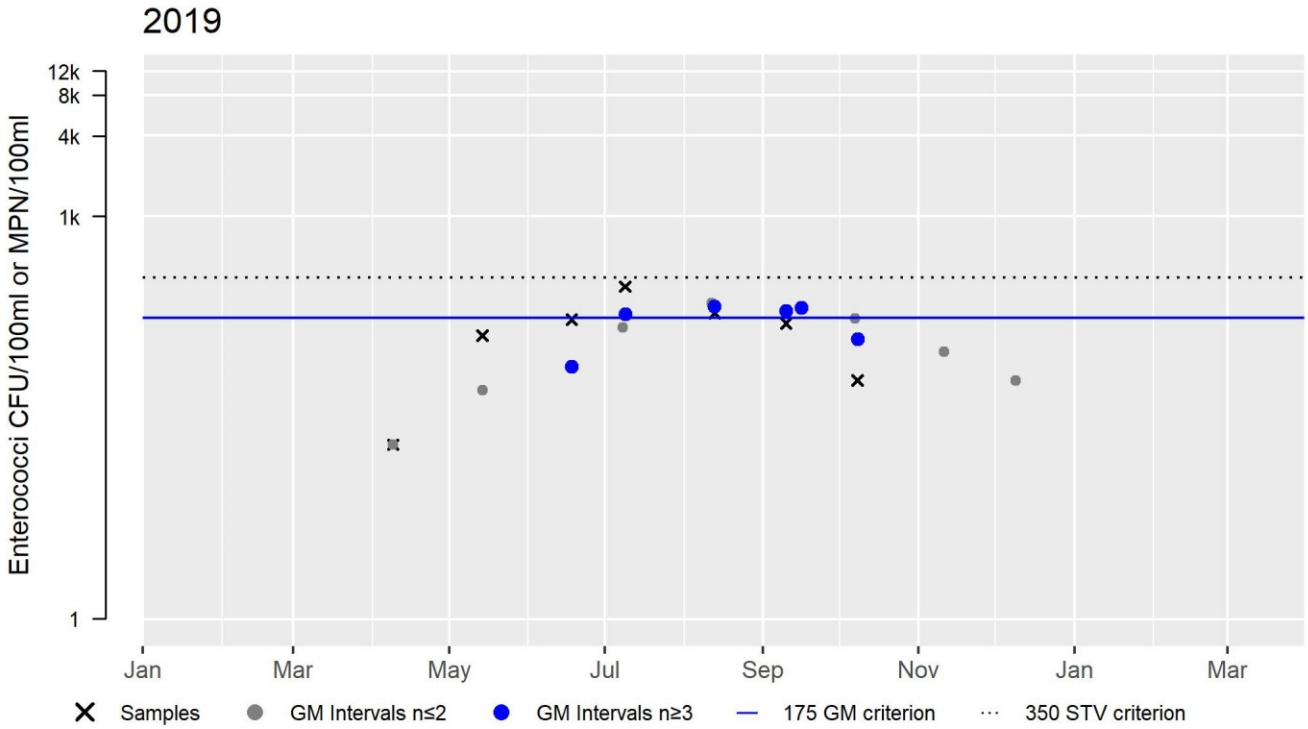
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
TRWA_TMR-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	20	300	113

TRWA_TMR-01 Enterococci (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	113
#GMI	6
#GMI Ex	4
%GMI Ex	67
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Threemile River (MA62-57): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0069 sq mi (32%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Thurston Street Pond (MA62192)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	7 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Thurston Street Pond (MA62192) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Tispaquin Pond (MA62195)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	195 ACRES
Classification/Qualifier:	B

No usable data were available for Tispaquin Pond (MA62195) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Town River (MA62-11)

Location:	Headwaters, outlet Lake Nippenicket, Bridgewater to Route 28 bridge, West Bridgewater.
AU Type:	RIVER
AU Size:	4.5 MILES
Classification/Qualifier:	B

No usable data were available for Town River (MA62-11) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

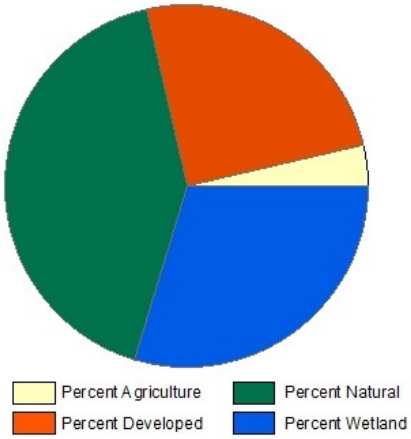
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Town River (MA62-12)

Location:	Route 28 bridge, West Bridgewater to Bridgewater WWTP (NPDES: MA0100641) discharge, Bridgewater.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B

Town River - MA62-12

Watershed Area: 55.87 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	55.87	9.2	14.22	2.49
Agriculture	3.6%	9.7%	4.7%	13.1%
Developed	25%	27.5%	17.7%	16.7%
Natural	41.8%	32.1%	37.5%	27.5%
Wetland	29.6%	30.8%	40.1%	42.7%
Impervious Cover	12.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Recommendations

2022 Recommendations
ALU: Get an update on progress of the High St. Dam removal project and reevaluate the status of the Fish Passage Barrier impairment of this Town River AU (MA62-12) once it is complete.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
The Nature Conservancy received $70,000 in funding to support the removal of the High St. Dam on this Town River AU (MA62-12) and to replace the undersized High St. Bridge in Bridgewater. Both the dam and bridge currently impede migratory fish passage, interrupt natural river processes and contribute to local flooding. The removal of the High St. Dam will reconnect over 10 miles of riverine habitat upstream of the dam and benefit a range of wildlife species (DER 2019). Completion of the project is expected in Fall 2022 (Wildman June 14, 2021). The Aquatic Life Use of this Town River AU (MA62-12) will continue to be assessed as Not Supporting with the Fish Passage Barrier impairment being carried forward. A recommendation will be made to get an update on the High St. Dam removal project in a future IR cycle.	

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

Status of MassDER habitat restoration priority projects as of 2021 (Wildman, N. April 15, 2021)
The Nature Conservancy received $70,000 in funding to support the removal of the High Street Dam on the Town River and to replace the undersized High Street Bridge in Bridgewater. Both the dam and bridge currently impede migratory fish passage, interrupt natural river processes and contribute to local flooding. The removal of the High Street Dam will reconnect over 10 miles of riverine habitat upstream of the dam and benefit a range of wildlife species (DER 2019). Completion of the project is expected in Fall 2022 (Wildman, N. April 15, 2021).

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Town River AU (MA62-12); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available, so the Aesthetic Use of this Town River (MA62-12) AU is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or Enterococci bacteria data are available, so the Primary Contact Recreation Use of this Town River (MA62-12) AU is Not Assessed.	

Secondary Contact Recreation

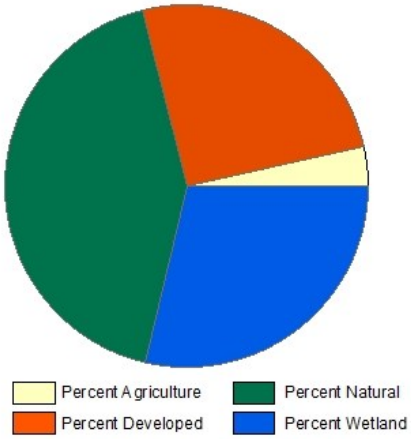
2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available, so the Secondary Contact Recreation Use of this Town River (MA62-12) AU is Not Assessed	

Town River (MA62-13)

Location:	From Bridgewater WWTP (NPDES: MA0100641) discharge, Bridgewater to mouth at confluence with the Matfield River forming headwaters Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	B: WWF

Town River - MA62-13

Watershed Area: 60.16 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	60.16	8.11	15.34	1.89
Agriculture	3.5%	1.9%	4.5%	1.2%
Developed	25.4%	35.5%	17.4%	21.5%
Natural	42.4%	45.7%	38.6%	46.3%
Wetland	28.7%	16.9%	39.6%	31.1%
Impervious Cover	12.7%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Non-Native Aquatic Plants*)		Unchanged
4c	5	Benthic Macroinvertebrates		Added
4c	5	Enterococcus		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				
Enterococcus	Source Unknown (N)				X	

Recommendations

2022 Recommendations
ALU: Total phosphorus monitoring should be conducted in this Town River AU (MA62-13) since the Bridgewater WWTP permit was reissued with more stringent limits in September 2016 (monthly average limit of 1.0 changed to 0.3 mg/L between 1 April and 31 October). Additional clean metals sampling and continuous temperature monitoring should be conducted to reevaluate whether impairments are warranted.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary
MassDEP biologists conducted benthic community (Station B0863), fish community (SampleID 5050) and water quality monitoring (Station W2405) surveys in this Town River AU (MA62-13) ~25 ft upstream/west from Hayward St., Bridgewater as part of the MAP2 monitoring project during summer 2013. The benthic community sample, collected in July, had an IBI score of 48 which was indicative of moderately degraded conditions for a low gradient location. Fish sampling was conducted at the same location (SampleID 5050) in August 2013 and 25% of the sample was comprised of fluvial specialists/dependents (tessellated darter, fallfish and white sucker). An additional 19% of the sample was comprised of four moderately tolerant macrohabitat generalist taxa (black crappie, chain pickerel and pumpkinseed). Some of the summer 2013 water quality sampling data from this location (W2405) were previously reported on in the 2018/2020 IR (MassDEP 2021), but they are being included here for the sake of completeness. Some of the water quality data were indicative of good conditions (i.e., minimum DO 5.0 mg/L from three discrete measurements, minimum DO 5.2 mg/L from 12 days of deployed probe measurements, total phosphorus seasonal average concentration 0.088 mg/L n=5, maximum DO saturation 88%, maximum diel DO shift 1.4 mg/L, no observations of excessive filamentous algae in four site visits, pH 6.2 to 6.6 SU n=3, maximum total ammonia nitrogen 0.260 mg/L n=4, maximum chloride 98 mg/L n=4, maximum specific conductance 341 µs/cm n=3), but temperatures measured over 107 days in the summer index period were slightly elevated (four 7DADMs >27.7°C, maximum 7DADM 28.4°C, maximum 24-hr rolling average 28.0°C was <28.3°C) and two out of three clean metals samples exceeded lead chronic criteria (TUs of 1.1 and 1.2) while the third was borderline (TU of 1.0). Note that dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out. As previously reported (MassDEP 2021), the non-native aquatic macrophyte *Myriophyllum heterophyllum* (variable milfoil) was observed by MassDEP field staff at this location in 2013 and 2017. The Aquatic Life Use for this Town River AU (MA62-13) will continue to be assessed as Not Supporting with the Non-Native Aquatic Plants impairment being carried forward. A new Benthic Macroinvertebrates impairment will be added based on the moderately degraded benthic community documented by MassDEP staff just upstream from Hayward St., Bridgewater, in the summer of 2013. New Alerts are being identified for Lead (two of three clean metals samples from DEP station W2405, collected during summer 2013, were elevated above chronic criteria) and Temperature (four 7DADMs from temperature measurements recorded at W2405 during summer 2013 exceeded the chronic criterion).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5050	MassDEP	Fish Community	Town River	25 ft US/W of hayward St xing	41.99746	-70.95387
B0863	MassDEP	Benthic	Town River/	[approximately 10 meters upstream/west from Hayward Street, Bridgewater, MA]	41.997462	-70.953869
W2405	MassDEP	Water Quality	Town River	[approximately 25 feet upstream/west from Hayward Street, Bridgewater]	41.997462	-70.953869

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0863	07/17/13	RBP multihab	Statewide_Low_Gradient	306	48	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, BC = Black Crappie, CP = Chain Pickerel, F = Fallfish, GS = Golden Shiner, LMB = Largemouth Bass, P = Pumpkinseed, SL = Sea Lamprey, TD = Tessellated Darter, WS = White Sucker, YB = Yellow Bullhead]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5050	08/16/13	NS	TP		12	96	0%	3	25%	0%	4	19%	No	No	AE, B, BC, CP, F, GS, LMB, P, SL, TD, WS, YB,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2405	2013	3	12	5.2	5.5	5.7	1.4	1	0	1	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2405	05/22/13	09/25/13	3	5	6.2	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2405	06/01/13	09/15/13	107	107	27.9	29.4	28.4	26.9	95	26	74	20	4	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2405	2013	3	12	23.1	24.5	23.2	22.1	3	0	3	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2405	06/01/13	09/15/13	107	5136	28.0	1197	993	0
W2405	06/20/13	08/27/13	68	578	23.8	8	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2405	05/22/13	09/25/13	5	3	23.6	20.5	3	2	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2405	05/22/13	09/25/13	3	6.2	6.6	1	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2405	2013	5	0.07	0.110	0.088	1.4	0.6	87.7	6.6	4	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2405	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2405	2013	3	0	0	0	0	3	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2405	05/31/13	0.3	0.5	0.6	0.78	0.0	1.1
W2405	07/12/13	0.3	0.5	0.5	0.64	0.0	1.2
W2405	08/23/13	0.3	0.6	0.4	0.60	0.0	1.0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2405	2013	3	0.055	0.088	0.075	0.3	0.5	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2405	2013	4	0.030	0.260	0.113	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2405	2013	4	36	98	77	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2405	05/22/13	09/25/13	3	223	341	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Town River (MA62-13); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys in this Town River AU (MA62-13) ~25 ft upstream/west from Hayward St. in Bridgewater (W2405), during the summer of 2013. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use of this Town River AU (MA62-13) is assessed as Fully Supporting based on the lack of objectionable conditions.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2405	MassDEP	Water Quality	Town River	[approximately 25 feet upstream/west from Hayward Street, Bridgewater]	41.997462	-70.953869

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2405	Town River	2013	8	MassDEP aesthetics observations for station W2405/MAP2-429 on Town River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2405	2013	8	4	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2405	Town River	2013	Color	Brownish	1	8
W2405	Town River	2013	Color	Light Yellow/Tan	6	8
W2405	Town River	2013	Color	None	1	8
W2405	Town River	2013	Objectionable Deposits	No	6	8
W2405	Town River	2013	Objectionable Deposits	Yes	2	8
W2405	Town River	2013	Odor	Musty (Basement)	2	8
W2405	Town River	2013	Odor	None	6	8
W2405	Town River	2013	Scum	No	7	8
W2405	Town River	2013	Scum	Yes	1	8
W2405	Town River	2013	Turbidity	None	3	8
W2405	Town River	2013	Turbidity	Slightly Turbid	4	8
W2405	Town River	2013	Turbidity	Unobservable	1	8

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples and Taunton River Watershed Association (TRWA) staff/volunteers collected *Enterococci* bacteria samples in this Town River AU (MA62-13) at the following locations from upstream to downstream; ~25ft upstream from Hayward St. in Bridgewater (W2405) between May and September 2013 (n=5) and a little farther downstream at the Hayward St. bridge (TRWA_TWH-01) between April and October 2019 (n=7). Data analysis indicated that for *E. coli* 67% of intervals had GMs >126 CFU/100mL, one sample exceeded the 410 CFU/100mL STV and the seasonal GM was 222 CFU/100mL (does not exceed the use attainment impairment threshold). For the TRWA *Enterococci* data, 100% of intervals had GMs >35 CFU/100mL, two samples exceeded the 130 CFU/100mL STV and the seasonal GM was 148 CFU/100mL (exceeds the use attainment impairment threshold for a single year, limited frequency dataset). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to station W2405.
The Primary Contact Recreation Use for this Town River AU (MA62-13) is assessed as Not Supporting based on the *Enterococci* bacteria data collected by TRWA staff/volunteers in 2019, at the Hayward St. bridge in Bridgewater (TRWA_TWH-01); a new impairment is being added for Enterococcus. An Alert is being identified due to the elevated *E. coli* bacteria data collected by MassDEP staff ~25ft upstream from Hayward St. in 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2405	MassDEP	Water Quality	Town River	[approximately 25 feet upstream/west from Hayward Street, Bridgewater]	41.997462	-70.953869
TRWA_TWH-01	Taunton River Watershed Association	Water Quality	Town River	Town R., Br, Hayward St., Bridgewater	41.997585	-70.953649

Bacteria Data

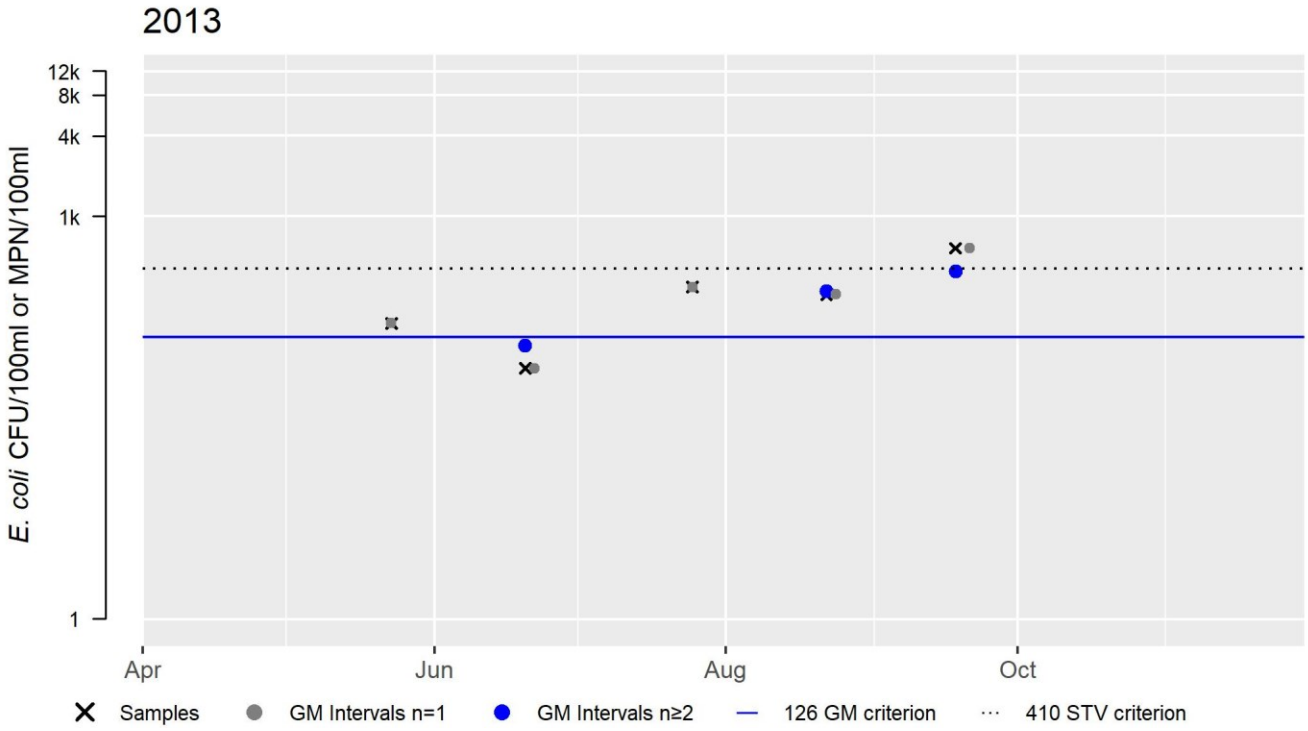
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (30-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5) (TRWA 2020) (MassDEP Undated3)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2405	MassDEP	E. coli	05/23/13	09/18/13	5	74	580	222
TRWA_TWH-01	Taunton River Watershed Association	Enterococci	04/09/19	10/08/19	7	20	1810	148

W2405 *E. coli* (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	222
#GMI	3
#GMI Ex	2
%GMI Ex	67
n>STV	1
%n>STV	20

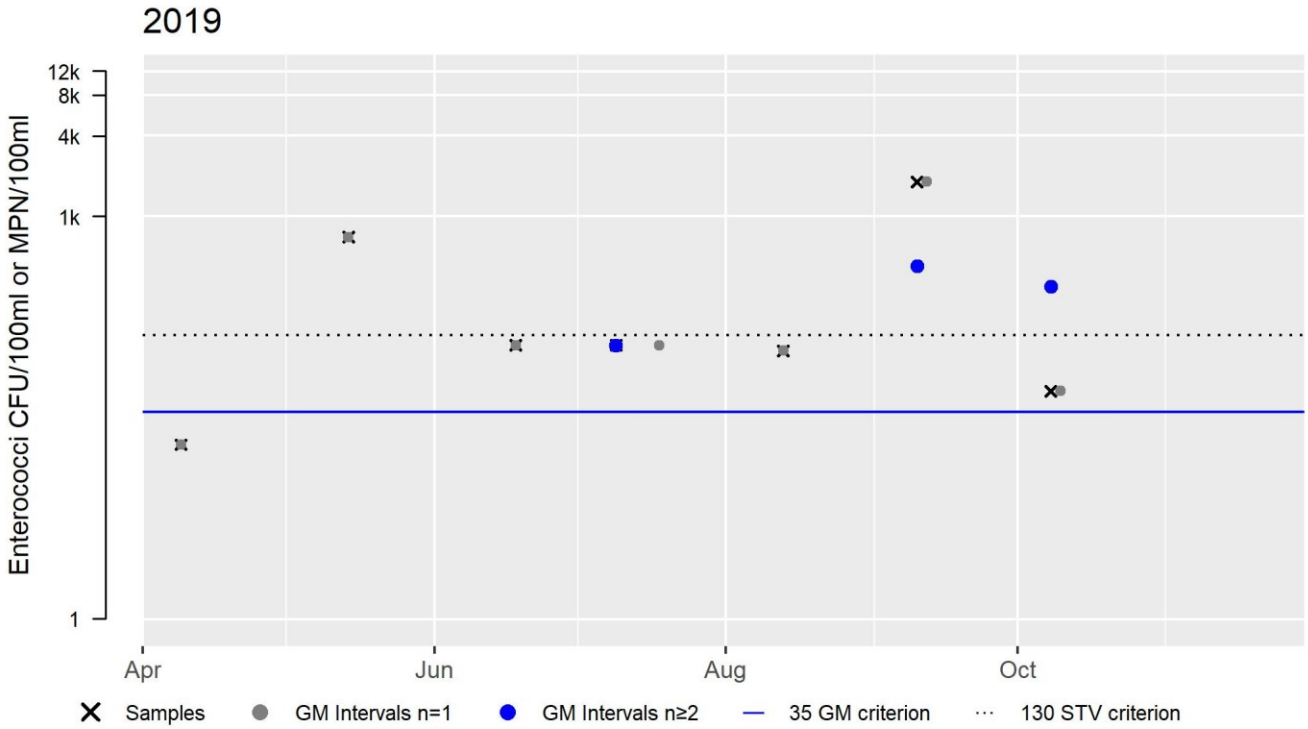
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



TRWA_TWH-01 Enterococci (30-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	7
SeasGM	148
#GMI	3
#GMI Ex	3
%GMI Ex	100
n>STV	2
%n>STV	29

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected bacteria samples in this Town River AU (MA62-13) ~25 ft upstream/west from Hayward St. in Bridgewater (W2405) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 222 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to station W2405.

The Secondary Contact Recreation Use for this Town River AU (MA62-13) is assessed as Fully Supporting since MassDEP *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset and there were no objectionable conditions noted during eight site visits to Station W2405 upstream of Hayward St. in Bridgewater.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2405	MassDEP	Water Quality	Town River	[approximately 25 feet upstream/west from Hayward Street, Bridgewater]	41.997462	-70.953869

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

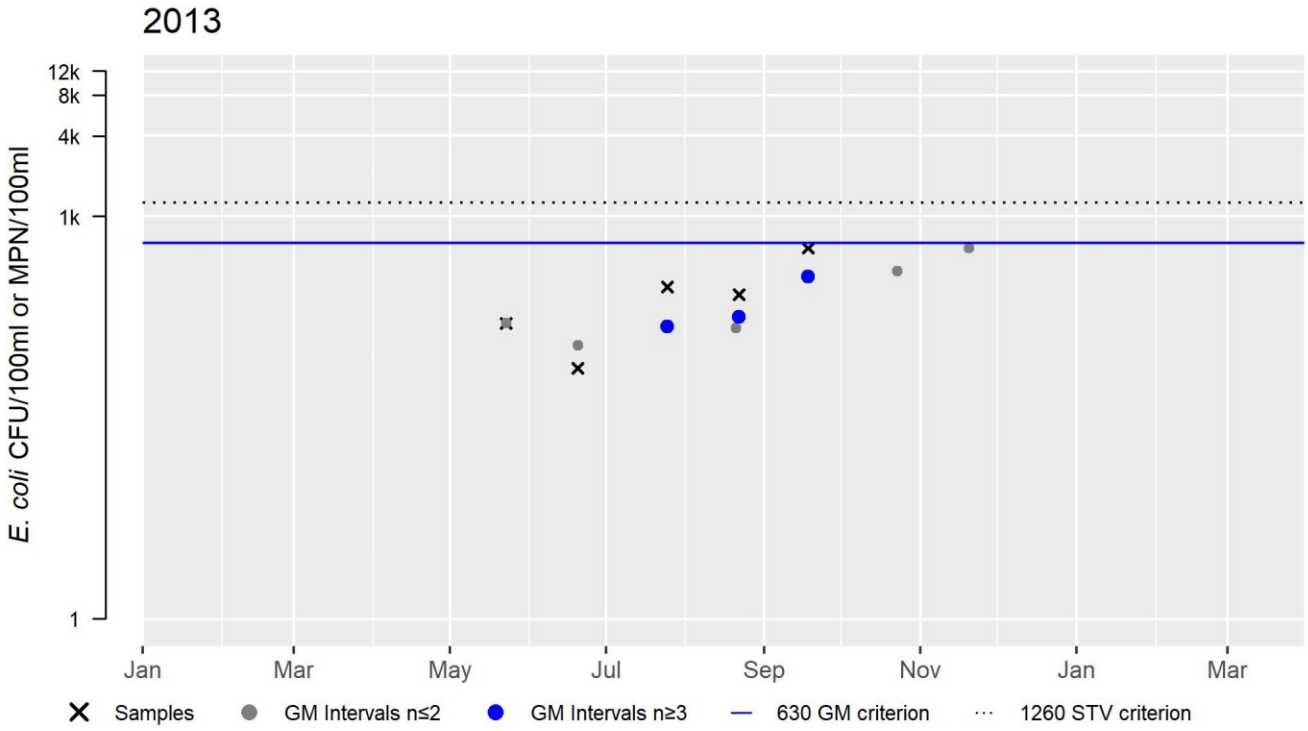
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2405	MassDEP	E. coli	05/23/13	09/18/13	5	74	580	222

W2405 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	222
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

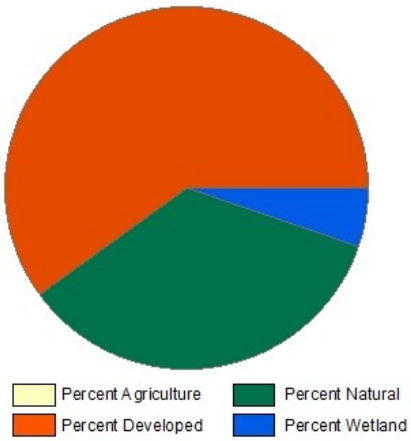


Trout Brook (MA62-07)

Location:	Headwaters, perennial portion, northeast of Argyle Avenue and west of Conrail Line, Avon to mouth at confluence with Salisbury Brook forming headwaters Salisbury Plain River, Brockton.
AU Type:	RIVER
AU Size:	3.4 MILES
Classification/Qualifier:	B

Trout Brook - MA62-07

Watershed Area: 6.97 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.97	5.59	1.38	1.04
Agriculture	0%	0%	0%	0%
Developed	60%	64.7%	44.3%	48.7%
Natural	34.8%	30.7%	38.2%	33.2%
Wetland	5.2%	4.6%	17.6%	18.1%
Impervious Cover	35.4%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Habitat Assessment*)		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Dissolved Oxygen		Unchanged
5	5	Escherichia Coli (E. Coli)	40308	Unchanged
5	5	Fecal Coliform	40308	Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Habitat Assessment*)	Source Unknown (N)	X				
Benthic Macroinvertebrates	Source Unknown (N)	X				
Dissolved Oxygen	Source Unknown (N)	X				
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	X
Escherichia Coli (E. Coli)	Source Unknown (N)				X	X

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)				X	X
Fecal Coliform	Source Unknown (N)				X	X

Recommendations

2022 Recommendations
ALU: Additional monitoring for benthic macroinvertebrates as well as habitat quality evaluations are recommended given the elimination of the NPDES point source discharge (Avon Custom Mixing Services, Inc.). Water quality monitoring should also include dissolved oxygen, total phosphorus, plus the addition of algal survey and chlorophyll-*a* data would be useful in determining if the system is in danger of nutrient driven eutrophication.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
MassDEP staff conducted limited sampling at eight sites along Trout Brook (MA62-07) in Brockton during the summers of 2011, 2012, 2013 and 2018 as part of the MassDEP Bacteria Source Tracking (BST) project. The site descriptions from upstream to downstream are as follows: ~400 ft upstream of Ames St. (W2299), just upstream of the culvert going under Ames St. (W2301), ~200ft south of Ames St. (where culverted brook re-emerges) (W1534), at Elliot St. crossing (W1533), at Court St. bridge (W1492), at Center St. (Rt. 123) (W1621), at the trail crossing in Snow Park (~1000 ft downstream of Rt. 123) (W1622) and between Crescent and Summer Streets (downstream of discharge pipe under Crescent St.) (W1493). There was no dense film or filamentous algae observed at any of the eight sites during these surveys (n=26 total). The Aquatic Life Use for Trout Brook (MA62-07) will continue to be assessed as Not Supporting. The Benthic Macroinvertebrates, Dissolved Oxygen and Habitat Assessment impairments are all being carried forward. The Alert for macrophyte cover observed in a small impoundment is also being carried forward.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1492	MassDEP	Water Quality	Trout Brook	[Court Street bridge, Brockton]	42.086202	-71.013320
W1493	MassDEP	Water Quality	Trout Brook	[between Crescent and Summer streets (downstream of discharge pipe under Crescent Street), Brockton]	42.079646	-71.009307
W1533	MassDEP	Water Quality	Trout Brook	[Elliot Street crossing, Brockton]	42.090856	-71.012184
W1534	MassDEP	Water Quality	Trout Brook	[approximately 200 feet south of Ames Street (where culverted brook re-emerges), Brockton]	42.101749	-71.016937
W1621	MassDEP	Water Quality	Trout Brook	[downstream at Center Street (Route 123), Brockton]	42.083929	-71.012232

W1622	MassDEP	Water Quality	Trout Brook	[trail crossing in Snow Park (approximately 1000 feet downstream of Route 123), Brockton]	42.082115	-71.010018
W2299	MassDEP	Water Quality	Trout Brook	[approximately 400 feet upstream of Ames Street and approximately 25 feet upstream of unnamed tributary entering eastern bank, Brockton]	42.103391	-71.017731
W2301	MassDEP	Water Quality	Trout Brook	[just upstream of culvert going under Ames Street, Brockton (culvert entrance approximately 400 feet upstream/north of road)]	42.103212	-71.017611

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W1492	2018	--	--	--	--	--	--	--	--	1	0
W1493	2013	--	--	--	--	--	--	--	--	3	0
W1493	2018	--	--	--	--	--	--	--	--	3	0
W1533	2018	--	--	--	--	--	--	--	--	2	0
W1534	2018	--	--	--	--	--	--	--	--	2	0
W1621	2013	--	--	--	--	--	--	--	--	3	0
W1622	2018	--	--	--	--	--	--	--	--	2	0
W2299	2011	--	--	--	--	--	--	--	--	2	0
W2299	2012	--	--	--	--	--	--	--	--	2	0
W2299	2013	--	--	--	--	--	--	--	--	2	0
W2301	2011	--	--	--	--	--	--	--	--	2	0
W2301	2013	--	--	--	--	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Trout Brook (MA62-07); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	YES
2022 Use Attainment Summary	

MassDEP staff conducted limited sampling at eight sites along Trout Brook (MA62-07) in Brockton during the summers of 2011, 2012, 2013 and 2018 as part of the MassDEP Bacteria Source Tracking (BST) project. The site descriptions from upstream to downstream are as follows: ~400 ft upstream of Ames St. (W2299), just upstream of the culvert going under Ames St. (W2301), ~200ft south of Ames St. (where culverted brook re-emerges) (W1534), at Elliot St. crossing (W1533), at Court St. bridge (W1492), at Center St. (Rt. 123) (W1621), at the trail crossing in Snow Park (~1000 ft downstream of Rt. 123) (W1622) and between Crescent and Summer Streets (downstream of discharge pipe under Crescent St.) (W1493). There were generally no noted objectionable conditions (odors, deposits, growth, or turbidity) recorded by MassDEP staff at any site during any year.
The Aesthetics Use for Trout Brook (MA62-07) will continue to be assessed as Fully Supporting. The Alert for macrophyte cover observed in a small impoundment is being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1492	MassDEP	Water Quality	Trout Brook	[Court Street bridge, Brockton]	42.086202	-71.013320
W1493	MassDEP	Water Quality	Trout Brook	[between Crescent and Summer streets (downstream of discharge pipe under Crescent Street), Brockton]	42.079646	-71.009307
W1533	MassDEP	Water Quality	Trout Brook	[Elliot Street crossing, Brockton]	42.090856	-71.012184
W1534	MassDEP	Water Quality	Trout Brook	[approximately 200 feet south of Ames Street (where culverted brook re-emerges), Brockton]	42.101749	-71.016937
W1621	MassDEP	Water Quality	Trout Brook	[downstream at Center Street (Route 123), Brockton]	42.083929	-71.012232
W1622	MassDEP	Water Quality	Trout Brook	[trail crossing in Snow Park (approximately 1000 feet downstream of Route 123), Brockton]	42.082115	-71.010018
W2299	MassDEP	Water Quality	Trout Brook	[approximately 400 feet upstream of Ames Street and approximately 25 feet upstream of unnamed tributary entering eastern bank, Brockton]	42.103391	-71.017731
W2301	MassDEP	Water Quality	Trout Brook	[just upstream of culvert going under Ames Street, Brockton (culvert entrance approximately 400 feet upstream/north of road)]	42.103212	-71.017611

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1492	Trout Brook	2018	1	MassDEP aesthetics observations for station W1492 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).
W1493	Trout Brook	2013	3	MassDEP aesthetics observations for station W1493 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1493	Trout Brook	2018	3	MassDEP aesthetics observations for station W1493 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018.
W1533	Trout Brook	2018	2	MassDEP aesthetics observations for station W1533 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W1534	Trout Brook	2018	2	MassDEP aesthetics observations for station W1534 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W1621	Trout Brook	2013	3	MassDEP aesthetics observations for station W1621 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W1622	Trout Brook	2018	2	MassDEP aesthetics observations for station W1622 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2018. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2299	Trout Brook	2011	3	MassDEP aesthetics observations for station W2299 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011.
W2299	Trout Brook	2012	2	MassDEP aesthetics observations for station W2299 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2012. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2299	Trout Brook	2013	3	MassDEP aesthetics observations for station W2299 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2301	Trout Brook	2011	2	MassDEP aesthetics observations for station W2301 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2301	Trout Brook	2013	2	MassDEP aesthetics observations for station W2301 on Trout Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1492	2018	1	1	0
W1493	2013	3	3	0
W1493	2018	3	3	0
W1533	2018	2	2	0
W1534	2018	2	2	0
W1621	2013	3	3	0
W1622	2018	2	2	0
W2299	2011	3	2	0
W2299	2012	2	2	0
W2299	2013	3	2	0
W2301	2011	2	2	0
W2301	2013	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1492	Trout Brook	2018	Color	None	1	1
W1492	Trout Brook	2018	Objectionable Deposits	NA	1	1
W1492	Trout Brook	2018	Odor	None	1	1
W1492	Trout Brook	2018	Scum	NA	1	1
W1492	Trout Brook	2018	Turbidity	Slightly Turbid	1	1
W1493	Trout Brook	2013	Color	None	3	3
W1493	Trout Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W1493	Trout Brook	2013	Odor	None	2	3
W1493	Trout Brook	2013	Odor	Septic	1	3
W1493	Trout Brook	2013	Scum	Not Applicable (N/A)	3	3
W1493	Trout Brook	2013	Turbidity	Moderately Turbid	3	3
W1493	Trout Brook	2018	Color	Light Yellow/Tan	1	3
W1493	Trout Brook	2018	Color	None	2	3
W1493	Trout Brook	2018	Objectionable Deposits	NA	3	3
W1493	Trout Brook	2018	Odor	Musty (Basement)	1	3
W1493	Trout Brook	2018	Odor	None	2	3
W1493	Trout Brook	2018	Scum	NA	3	3
W1493	Trout Brook	2018	Turbidity	Slightly Turbid	3	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1533	Trout Brook	2018	Color	None	2	2
W1533	Trout Brook	2018	Objectionable Deposits	NA	2	2
W1533	Trout Brook	2018	Odor	None	2	2
W1533	Trout Brook	2018	Scum	NA	2	2
W1533	Trout Brook	2018	Turbidity	Slightly Turbid	2	2
W1534	Trout Brook	2018	Color	None	2	2
W1534	Trout Brook	2018	Objectionable Deposits	NA	2	2
W1534	Trout Brook	2018	Odor	None	2	2
W1534	Trout Brook	2018	Scum	NA	2	2
W1534	Trout Brook	2018	Turbidity	Slightly Turbid	2	2
W1621	Trout Brook	2013	Color	None	3	3
W1621	Trout Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W1621	Trout Brook	2013	Odor	Musty (Basement)	1	3
W1621	Trout Brook	2013	Odor	None	2	3
W1621	Trout Brook	2013	Scum	Not Applicable (N/A)	3	3
W1621	Trout Brook	2013	Turbidity	Moderately Turbid	2	3
W1621	Trout Brook	2013	Turbidity	Slightly Turbid	1	3
W1622	Trout Brook	2018	Color	None	2	2
W1622	Trout Brook	2018	Objectionable Deposits	NA	2	2
W1622	Trout Brook	2018	Odor	None	2	2
W1622	Trout Brook	2018	Scum	NA	2	2
W1622	Trout Brook	2018	Turbidity	Slightly Turbid	2	2
W2299	Trout Brook	2011	Color	None	2	3
W2299	Trout Brook	2011	Color	NR	1	3
W2299	Trout Brook	2011	Objectionable Deposits	Not Applicable (N/A)	3	3
W2299	Trout Brook	2011	Odor	None	1	3
W2299	Trout Brook	2011	Odor	NR	1	3
W2299	Trout Brook	2011	Odor	Other	1	3
W2299	Trout Brook	2011	Scum	Not Applicable (N/A)	3	3
W2299	Trout Brook	2011	Turbidity	NR	1	3
W2299	Trout Brook	2011	Turbidity	Slightly Turbid	2	3
W2299	Trout Brook	2012	Color	None	2	2
W2299	Trout Brook	2012	Objectionable Deposits	Not Applicable (N/A)	2	2
W2299	Trout Brook	2012	Odor	None	2	2
W2299	Trout Brook	2012	Scum	Not Applicable (N/A)	2	2
W2299	Trout Brook	2012	Turbidity	Slightly Turbid	2	2
W2299	Trout Brook	2013	Color	None	2	3
W2299	Trout Brook	2013	Color	NR	1	3
W2299	Trout Brook	2013	Objectionable Deposits	Not Applicable (N/A)	3	3
W2299	Trout Brook	2013	Odor	None	2	3
W2299	Trout Brook	2013	Odor	NR	1	3
W2299	Trout Brook	2013	Scum	Not Applicable (N/A)	3	3
W2299	Trout Brook	2013	Turbidity	NR	1	3
W2299	Trout Brook	2013	Turbidity	Slightly Turbid	2	3
W2301	Trout Brook	2011	Color	None	2	2
W2301	Trout Brook	2011	Objectionable Deposits	Not Applicable (N/A)	2	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2301	Trout Brook	2011	Odor	None	2	2
W2301	Trout Brook	2011	Scum	Not Applicable (N/A)	2	2
W2301	Trout Brook	2011	Turbidity	Slightly Turbid	2	2
W2301	Trout Brook	2013	Color	None	2	2
W2301	Trout Brook	2013	Objectionable Deposits	Not Applicable (N/A)	2	2
W2301	Trout Brook	2013	Odor	None	2	2
W2301	Trout Brook	2013	Scum	Not Applicable (N/A)	2	2
W2301	Trout Brook	2013	Turbidity	Slightly Turbid	2	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

MassDEP staff collected *E. coli* and *Enterococci* bacteria samples in Trout Brook (MA62-07) at eight sites in Brockton during the summers of 2011, 2012, 2013 and 2018 as part of the MassDEP Bacteria Source Tracking (BST) project from up to downstream as follows: ~400 ft upstream of Ames St. (W2299) *E. coli* June and August 2011 (n=2), June 2012 (n=2), July and September 2013 (n=2) and *Enterococci* September 2011 (n=1) and October 2013 (n=1); just upstream of the culvert under Ames St. (W2301) *E. coli* June and August 2011 and July and September 2013 (n=2 both years); ~200ft south of Ames St. (where culverted brook re-emerges) (W1534) *E. coli* June and July 2018 (n=2); Elliot St. crossing (W1533) *E. coli* July and August 2018 (n=2); Court St. bridge (W1492) *E. coli* and *Enterococci* August 2018 (n=1 for both); Center St. (Rt. 123) (W1621) *E. coli* July-September 2013 (n=3); at the trail crossing in Snow Park (~1000 ft downstream of Rt. 123) (W1622) *E. coli* July and August 2018 (n=2); and between Crescent and Summer Streets (downstream of discharge pipe under Crescent St.) (W1493) *E. coli* July-September 2013 and June-August 2018 (n=3 both years). Data analysis for *E. coli* sample data indicated that 100% of intervals had GMs >126 CFU/100mL at two locations (W1621 and W1493) and for the multi-year dataset at W1493 all three samples each year exceeded the 410 STV, indicating *E. coli* concentrations exceeded the use attainment impairment thresholds for these single and multi-year limited frequency datasets. *E. coli* sample data at the rest of the sites were too limited to evaluate according 2022 CALM guidance (MassDEP 2022) though it should be noted that nearly all the samples exceeded the 410 CFU/100mL STV and seasonal GMs ranged from 419 to 24,198 CFU/100mL. The *Enterococci* sample data at W2299 and W1492 were also too limited to evaluate, though all three samples exceeded the 130 CFU/100mL STV (range 290 to 1400 CFU/100mL).
Additional intermittent BST efforts in 2011-2019 at fifteen sites along Trout Brook documented *E. coli* concentrations ranging from <10 to 24,196 MPN. Sources for three hotspot areas were identified and corrected (just north of Ames St. human sources corrected in 2012 and 2015, just downstream of Court St., and just downstream of the Crescent St. bridge sources corrected in 2014/2015). The BST project noted that the City of Brockton continues to routinely watch/sample all City drain outfall pipes, source tracking and making corrections when necessary.
The Primary Contact Recreation Use for Trout Brook (MA62-07, will continue to be assessed as Not Supporting since elevated *E. coli* bacteria concentrations were documented by MassDEP at Center St. (W1621) and between Crescent and Summer Streets (W1493) in 2013 and 2018. staff. The *E. coli* and Fecal Coliform impairments are both being carried forward. The Alert for macrophyte cover observed in a small impoundment is also being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1492	MassDEP	Water Quality	Trout Brook	[Court Street bridge, Brockton]	42.086202	-71.013320

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1493	MassDEP	Water Quality	Trout Brook	[between Crescent and Summer streets (downstream of discharge pipe under Crescent Street), Brockton]	42.079646	-71.009307
W1533	MassDEP	Water Quality	Trout Brook	[Elliot Street crossing, Brockton]	42.090856	-71.012184
W1534	MassDEP	Water Quality	Trout Brook	[approximately 200 feet south of Ames Street (where culverted brook re-emerges), Brockton]	42.101749	-71.016937
W1621	MassDEP	Water Quality	Trout Brook	[downstream at Center Street (Route 123), Brockton]	42.083929	-71.012232
W1622	MassDEP	Water Quality	Trout Brook	[trail crossing in Snow Park (approximately 1000 feet downstream of Route 123), Brockton]	42.082115	-71.010018
W2299	MassDEP	Water Quality	Trout Brook	[approximately 400 feet upstream of Ames Street and approximately 25 feet upstream of unnamed tributary entering eastern bank, Brockton]	42.103391	-71.017731
W2301	MassDEP	Water Quality	Trout Brook	[just upstream of culvert going under Ames Street, Brockton (culvert entrance approximately 400 feet upstream/north of road)]	42.103212	-71.017611

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

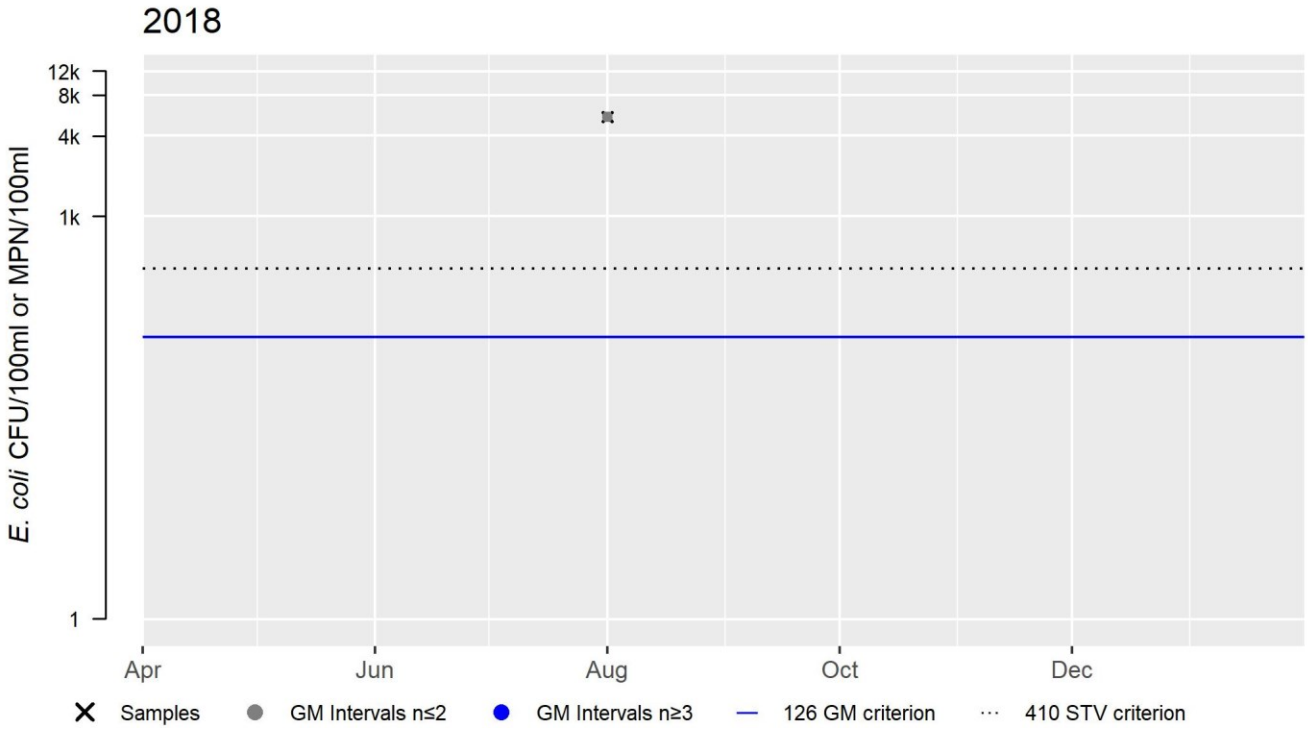
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1492	MassDEP	E. coli	08/01/18	08/01/18	1	5480	5480	5480
W1492	MassDEP	Enterococci	08/08/18	08/08/18	1	1400	1400	1400
W1493	MassDEP	E. coli	07/17/13	09/19/13	3	809	3130	1983
W1493	MassDEP	E. coli	06/27/18	08/01/18	3	1790	10500	3604
W1533	MassDEP	E. coli	07/16/18	08/01/18	2	301	583	419
W1534	MassDEP	E. coli	06/18/18	07/16/18	2	1130	1350	1235
W1621	MassDEP	E. coli	07/17/13	09/19/13	3	1080	1280	1174
W1622	MassDEP	E. coli	07/16/18	08/01/18	2	1960	2140	2048
W2299	MassDEP	E. coli	06/08/11	08/03/11	2	1730	24196	6470
W2299	MassDEP	Enterococci	09/28/11	09/28/11	1	670	670	670
W2299	MassDEP	E. coli	06/12/12	06/19/12	2	24196	24200	24198
W2299	MassDEP	E. coli	07/17/13	09/19/13	2	464	1790	911
W2299	MassDEP	Enterococci	10/01/13	10/01/13	1	290	290	290
W2301	MassDEP	E. coli	06/08/11	08/03/11	2	2419.6	2419.6	2420
W2301	MassDEP	E. coli	07/17/13	09/19/13	2	3650	19860	8514

W1492 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	5480
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

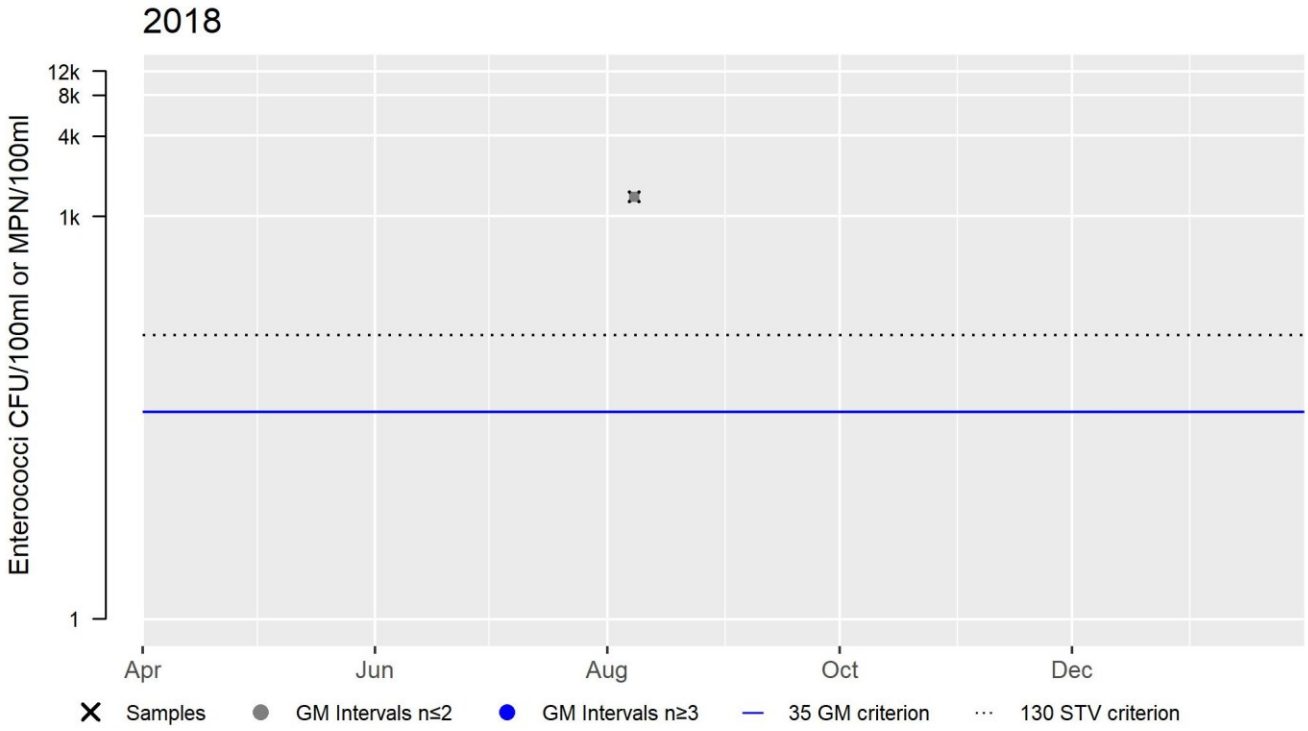
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1492 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	1400
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



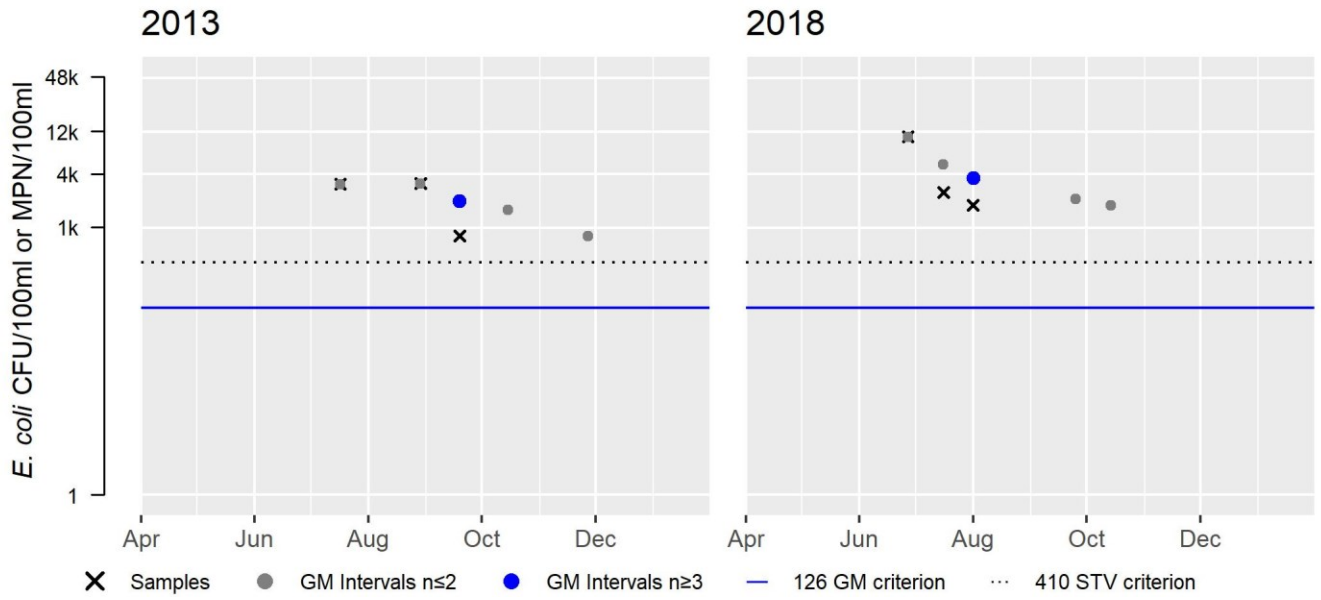
W1493 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1983
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Var	Res
Samples	3
SeasGM	3604
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

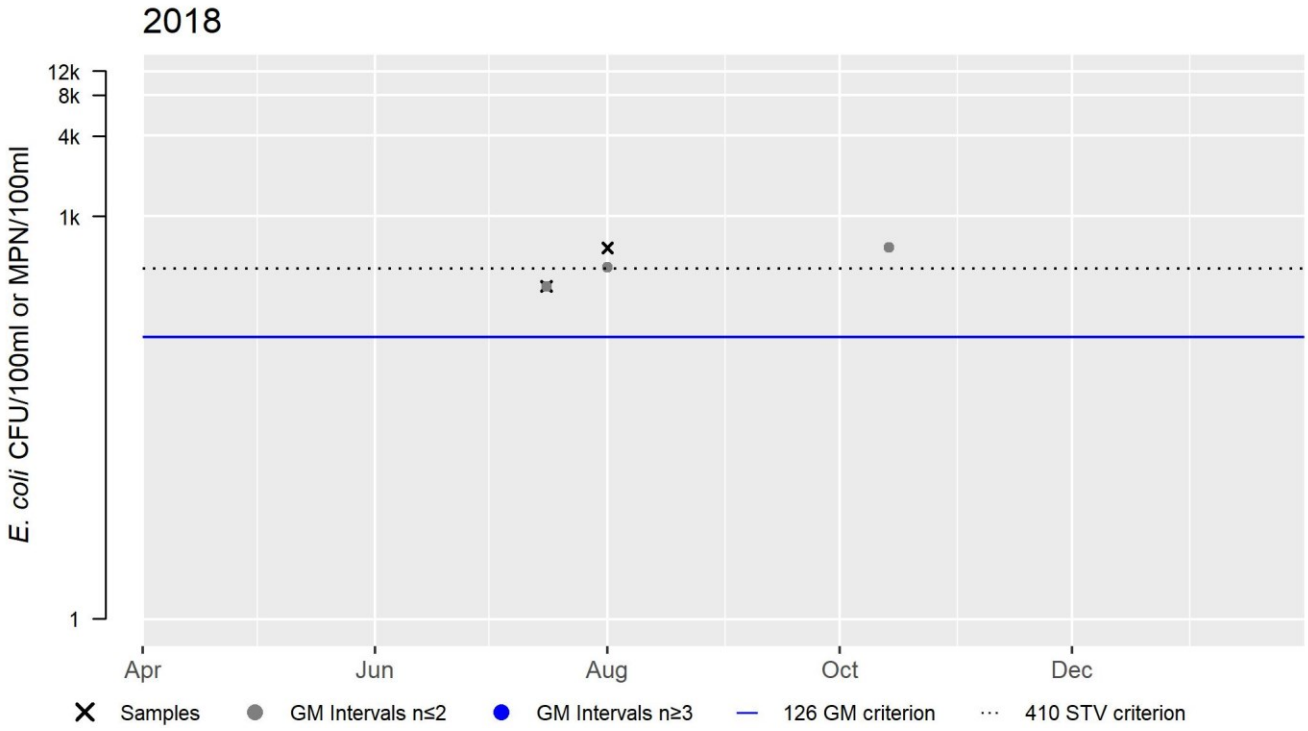
Variable	Cumulative %GMI Ex (all years)
Result	100



W1533 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	419
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

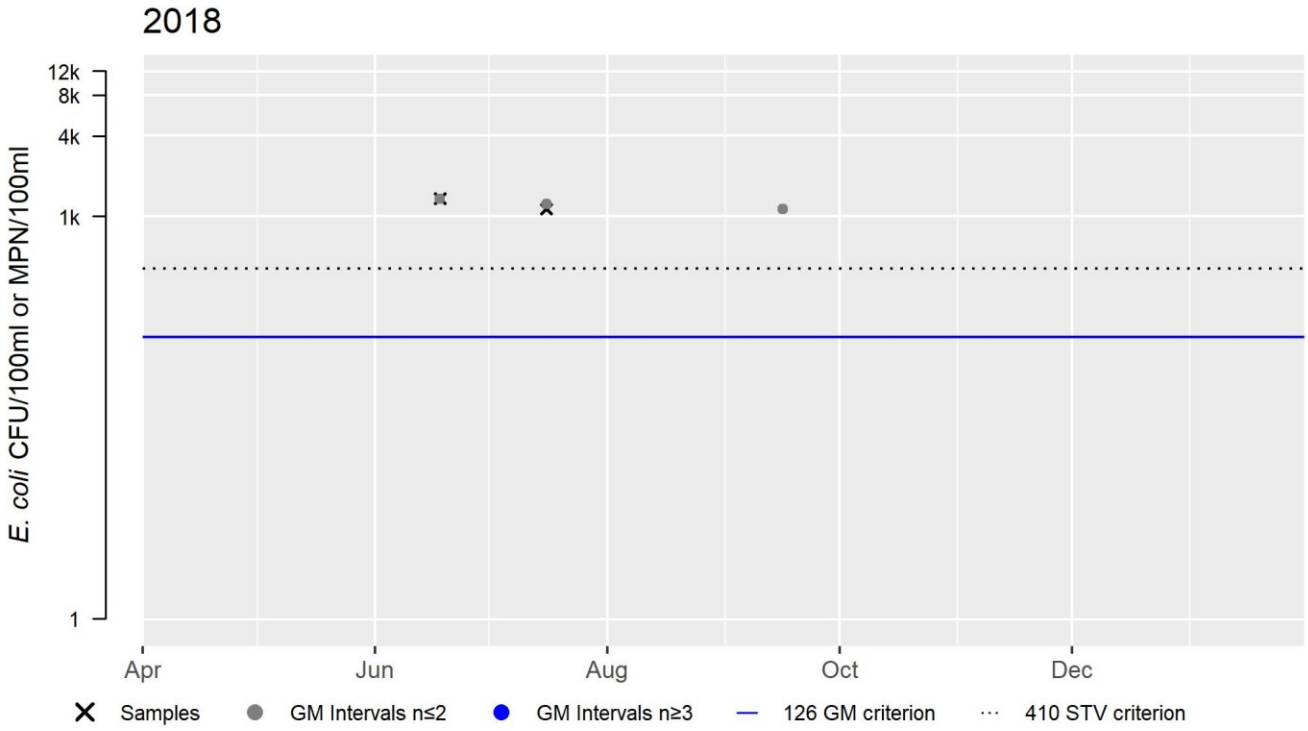
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1534 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1235
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

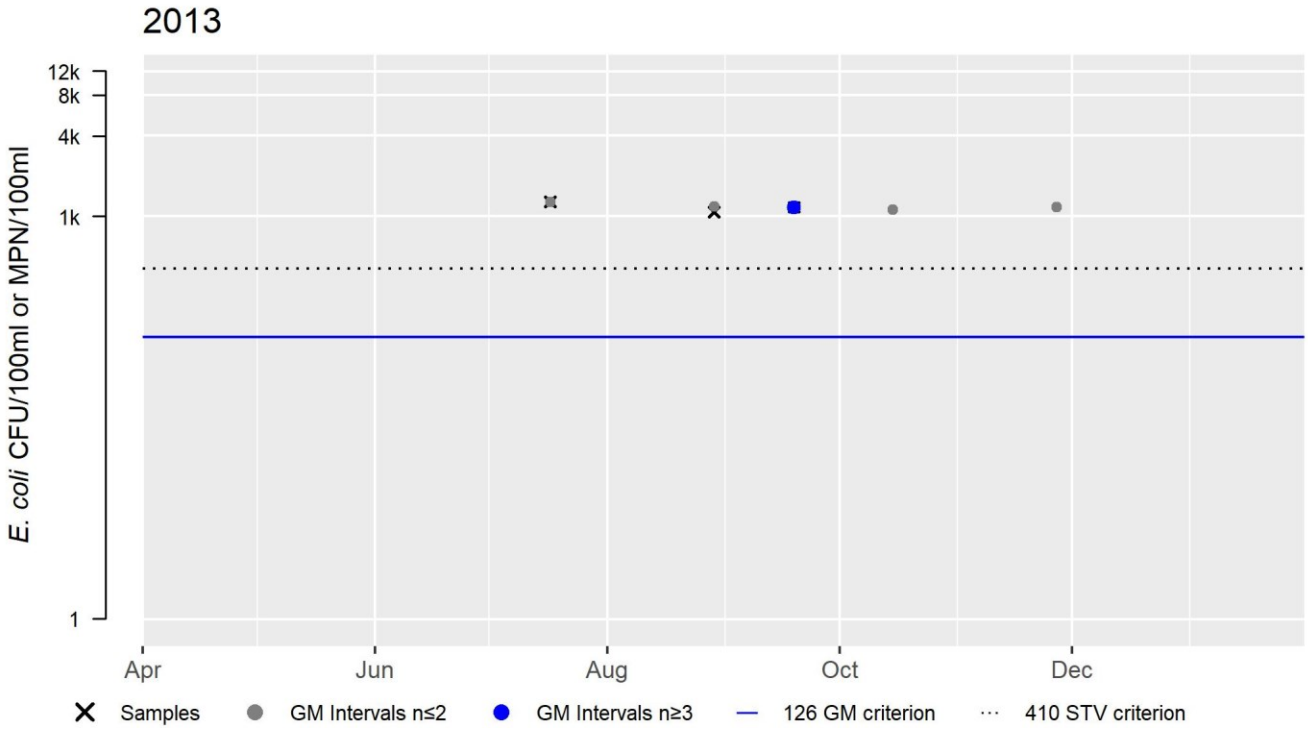
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1621 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1174
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

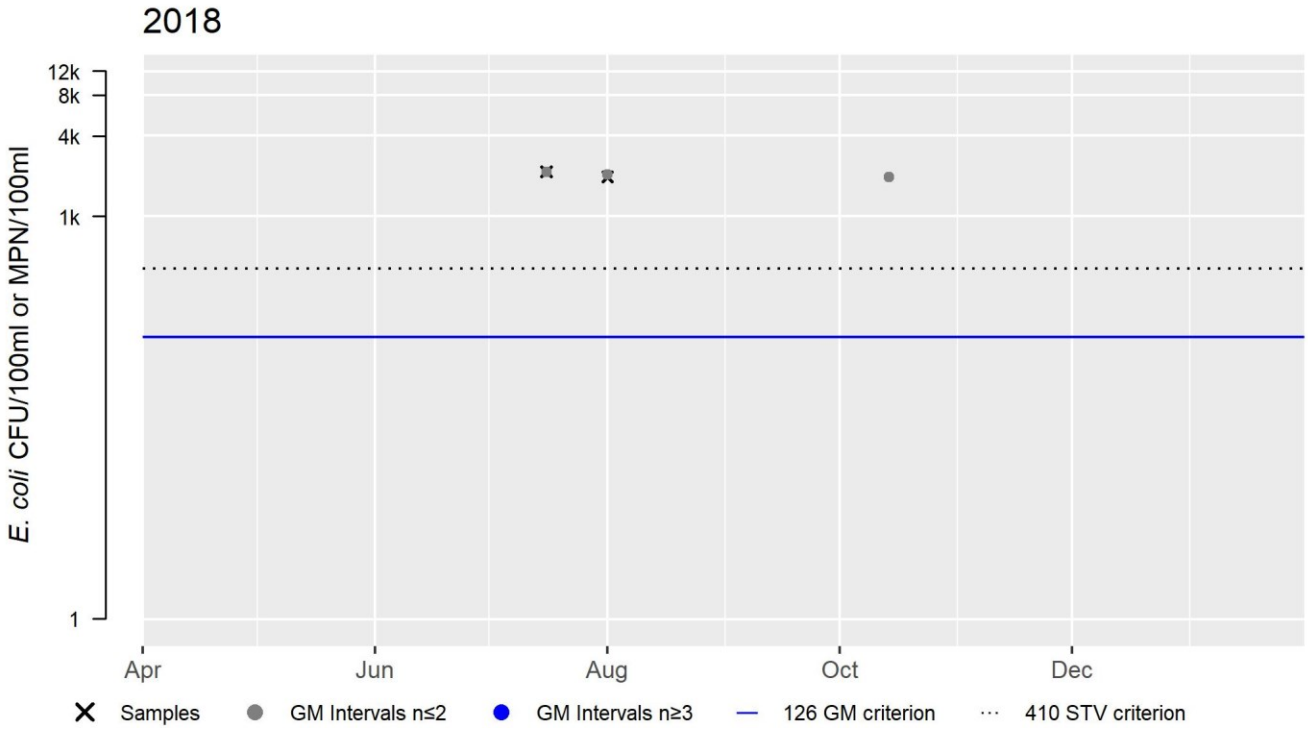
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1622 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2048
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2299 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

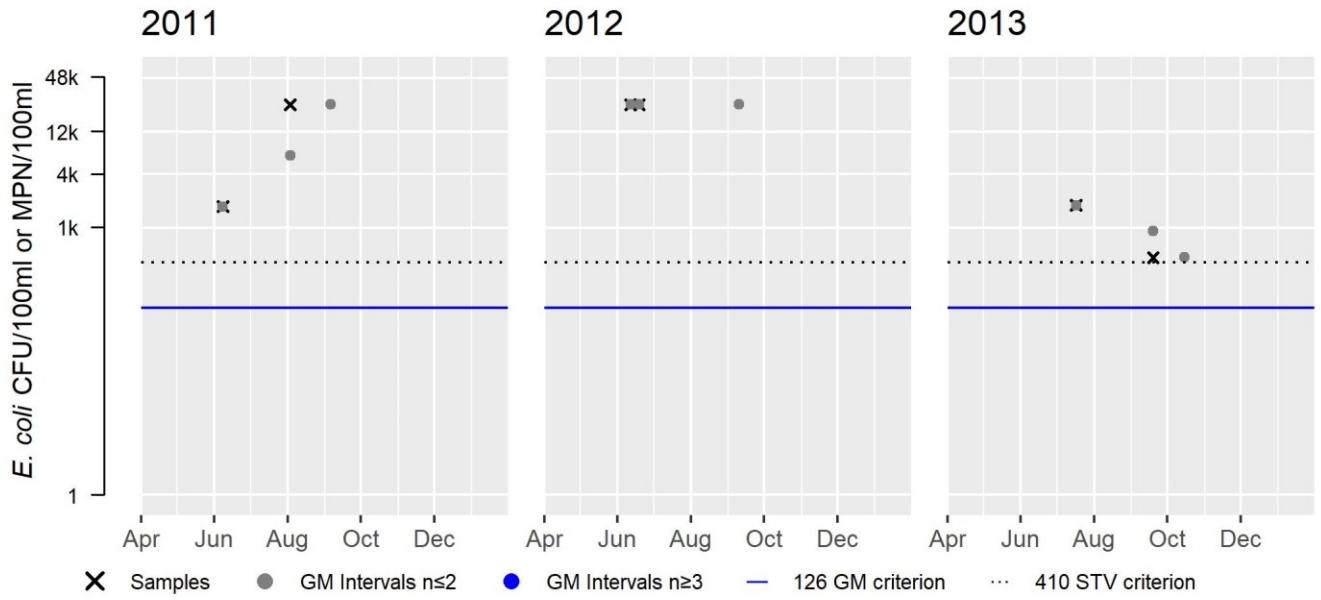
Var	Res
Samples	2
SeasGM	6470
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	24198
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	911
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



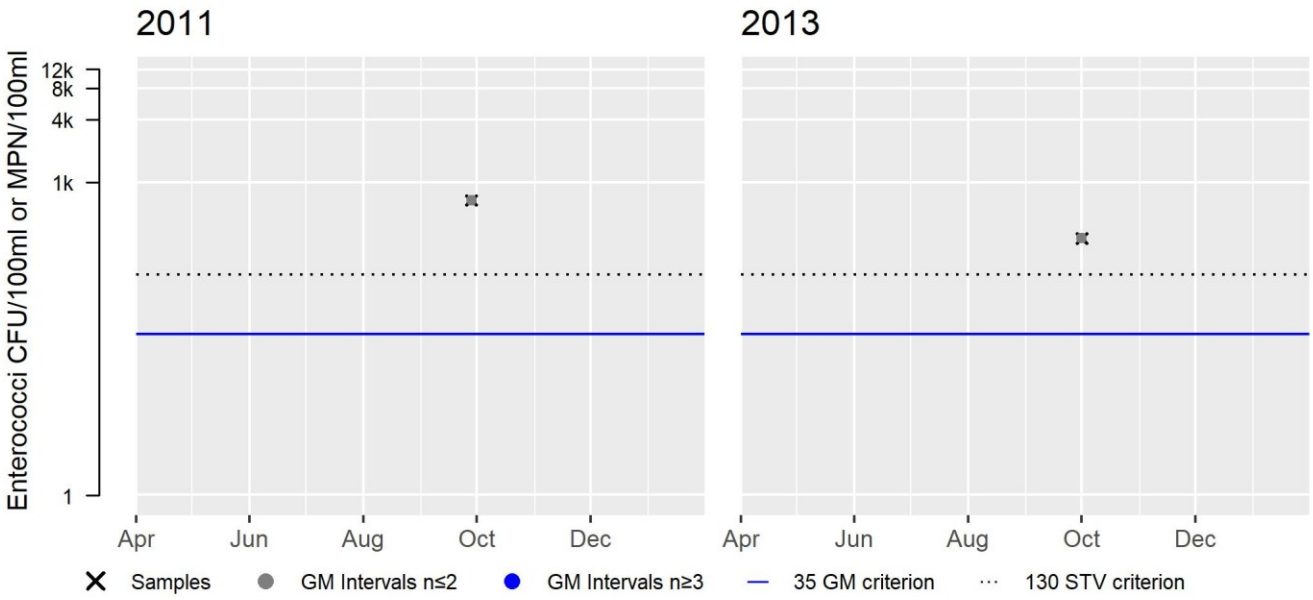
W2299 Enterococci (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	670
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Var	Res
Samples	1
SeasGM	290
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



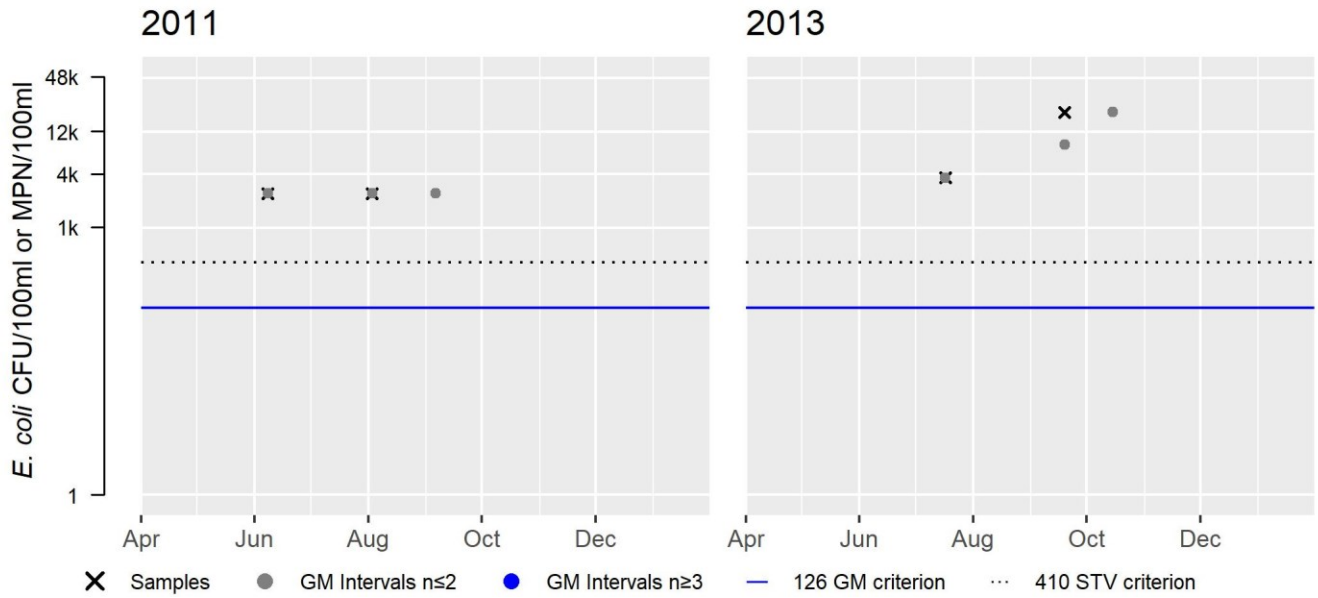
W2301 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2420
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	8514
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



MassDEP Bacteria Source Tracking (BST) Summary Statement for 2011-2019 (MassDEP Undated1)

Summary
Prior to 2011, BST work was conducted along the Trout Brook AU (MA62-07) and on one unnamed tributary, with a max dry weather E.coli concentration of 5,794MPN downstream of Crescent Street. Additional BST work was conducted in 2011-2019 at 15 sites along Trout Brook, with E.coli concentrations ranging <10 to 24,196MPN and on two unnamed tributaries at the upstream end of the AU, with a max E.coli concentration of 24,196MPN. Three hotspot areas were identified: 1) just North of Ames St (1 human source corrected on Field St between Morgan & Dyer St in 2012; 1 human source corrected on Bellavue Ave in 2015). 2) Just downstream of Court Street; human marker analysis was run on samples collected at Court Street in August 2018, the results indicated "weak" evidence of a human source (location of source narrowed down to a stormdrain outfall pipe ~600ft upstream of Court St). 3) Just downstream of Crescent St. bridge (location of source narrowed down to stormdrain outfall pipe under bridge; human sources corrected on Sprague Ave and Jacob Street St in 2014/2015). Elevated bacteria concentrations continue to be observed intermittently at all hotspot areas and the City continues to watch/sample all City drain outfall pipes, source tracking when necessary.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	YES

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples in Trout Brook (MA62-07) at eight sites in Brockton during the summers of 2011, 2012, 2013 and 2018 as part of the MassDEP Bacteria Source Tracking (BST) project from ups to downstream as follows: ~400 ft upstream of Ames St. (W2299) June and August 2011 (n=2), June 2012 (n=2), July and September 2013 (n=2); just upstream of the culvert under Ames St. (W2301) June and August 2011 and July and September 2013 (n=2 both years); ~200ft south of Ames St. (where culverted brook re-emerges) (W1534) June and July 2018 (n=2); Elliot St. crossing (W1533) July and August 2018 (n=2); Court St. bridge (W1492) August 2018 (n=1); Center St. (Rt. 123) (W1621) July-September 2013 (n=3); at the trail crossing in Snow Park (~1000 ft downstream of Rt. 123) (W1622) July and August 2018 (n=2); and between Crescent and Summer Streets (downstream of discharge pipe under Crescent St.) (W1493) July-September 2013 and June-August 2018 (n=3 both years). Data analysis indicated that 100% of intervals had GMs >630 CFU/100mL at two locations (W1621 and W1493) and the multi-year dataset at W1493 also had two and three samples that exceeded the 1260 STV in 2013 and 2018, respectively indicating *E. coli* concentrations that exceeded use attainment impairment thresholds for these single and multi-year limited frequency datasets. Too limited *E. coli* sample data at the rest of the sites were available to evaluate according 2022 CALM guidance (MassDEP 2022) though it should be noted that nearly all the samples exceeded the 1260 CFU/100mL STV and seasonal GMs ranged from 419 to 24,198 CFU/100mL.

Additional intermittent BST efforts in 2011-2019 at fifteen sites along Trout Brook documented *E. coli* concentrations ranging from <10 to 24,196 MPN. Sources for three hotspot areas were identified and corrected (just north of Ames St. human sources corrected in 2012 and 2015, just downstream of Court St., and just downstream of the Crescent St. bridge sources corrected in 2014/2015). The BST project noted that the City of Brockton continues to routinely watch/sample all City drain outfall pipes, source tracking and making corrections when necessary.

The Secondary Contact Recreation Use for Trout Brook (MA62-07) will continue to be assessed as Not Supporting since elevated *E. coli* bacteria concentrations were documented by MassDEP at Center St. (W1621) and between Crescent and Summer Streets (W1493) in 2013 and 2018 . The *E. coli* and Fecal Coliform impairments are both being carried forward. The Alert for macrophyte cover observed in a small impoundment is also being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1492	MassDEP	Water Quality	Trout Brook	[Court Street bridge, Brockton]	42.086202	-71.013320
W1493	MassDEP	Water Quality	Trout Brook	[between Crescent and Summer streets (downstream of discharge pipe under Crescent Street), Brockton]	42.079646	-71.009307
W1533	MassDEP	Water Quality	Trout Brook	[Elliot Street crossing, Brockton]	42.090856	-71.012184
W1534	MassDEP	Water Quality	Trout Brook	[approximately 200 feet south of Ames Street (where culverted brook re-emerges), Brockton]	42.101749	-71.016937
W1621	MassDEP	Water Quality	Trout Brook	[downstream at Center Street (Route 123), Brockton]	42.083929	-71.012232
W1622	MassDEP	Water Quality	Trout Brook	[trail crossing in Snow Park (approximately 1000 feet downstream of Route 123), Brockton]	42.082115	-71.010018
W2299	MassDEP	Water Quality	Trout Brook	[approximately 400 feet upstream of Ames Street and approximately 25 feet upstream of unnamed tributary entering eastern bank, Brockton]	42.103391	-71.017731

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2301	MassDEP	Water Quality	Trout Brook	[just upstream of culvert going under Ames Street, Brockton (culvert entrance approximately 400 feet upstream/north of road)]	42.103212	-71.017611

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

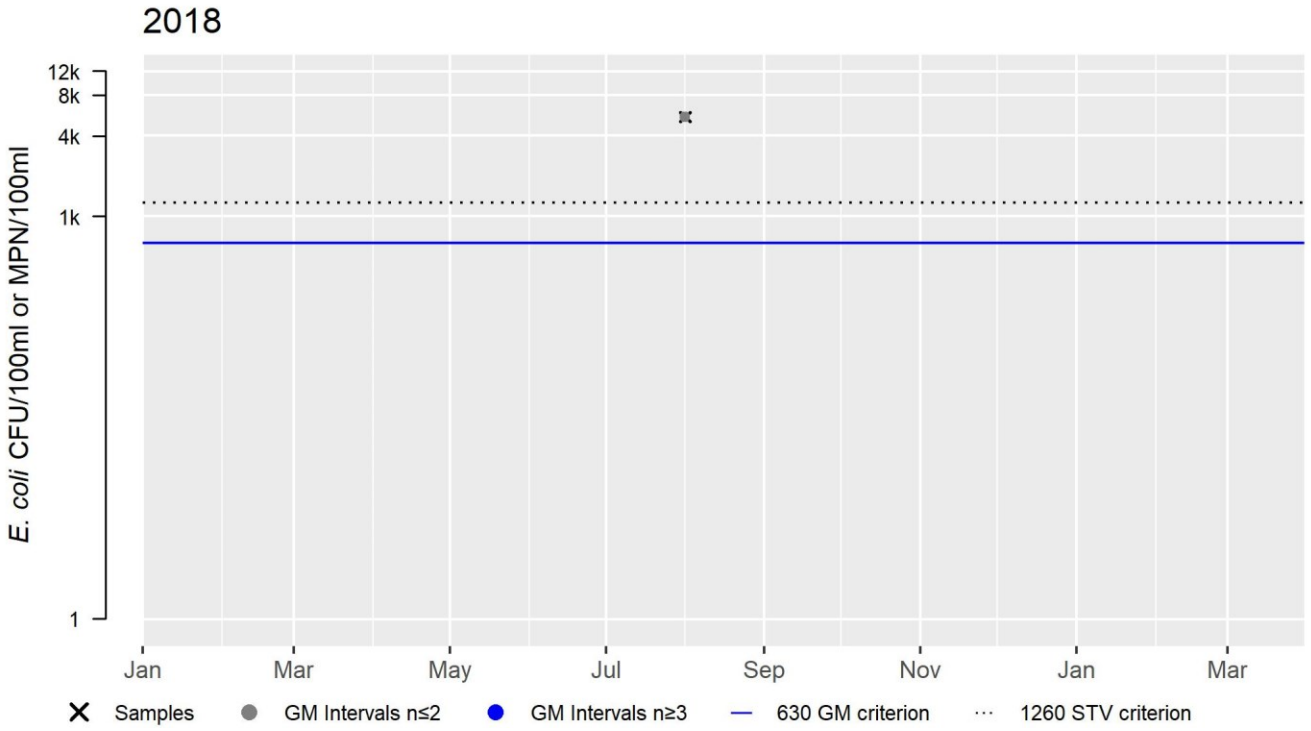
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W1492	MassDEP	E. coli	08/01/18	08/01/18	1	5480	5480	5480
W1493	MassDEP	E. coli	07/17/13	09/19/13	3	809	3130	1983
W1493	MassDEP	E. coli	06/27/18	08/01/18	3	1790	10500	3604
W1533	MassDEP	E. coli	07/16/18	08/01/18	2	301	583	419
W1534	MassDEP	E. coli	06/18/18	07/16/18	2	1130	1350	1235
W1621	MassDEP	E. coli	07/17/13	09/19/13	3	1080	1280	1174
W1622	MassDEP	E. coli	07/16/18	08/01/18	2	1960	2140	2048
W2299	MassDEP	E. coli	06/08/11	08/03/11	2	1730	24196	6470
W2299	MassDEP	E. coli	06/12/12	06/19/12	2	24196	24200	24198
W2299	MassDEP	E. coli	07/17/13	09/19/13	2	464	1790	911
W2301	MassDEP	E. coli	06/08/11	08/03/11	2	2419.6	2419.6	2420
W2301	MassDEP	E. coli	07/17/13	09/19/13	2	3650	19860	8514

W1492 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	1
SeasGM	5480
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



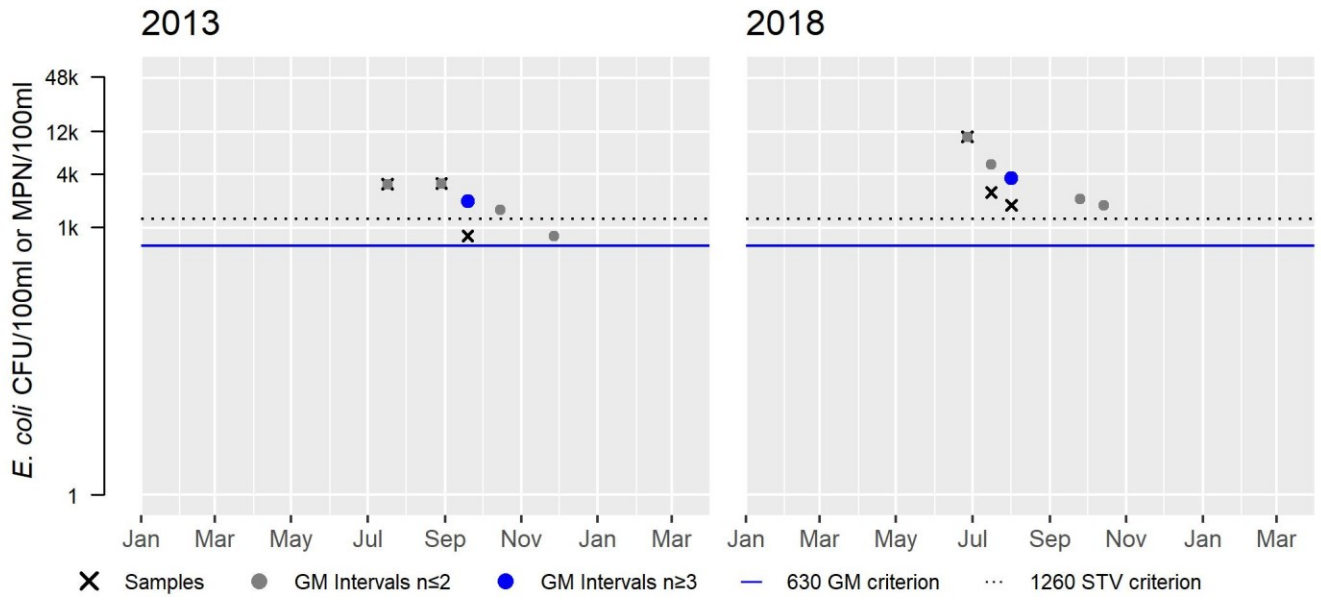
W1493 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1983
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	2
%n>STV	67

Var	Res
Samples	3
SeasGM	3604
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	3
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

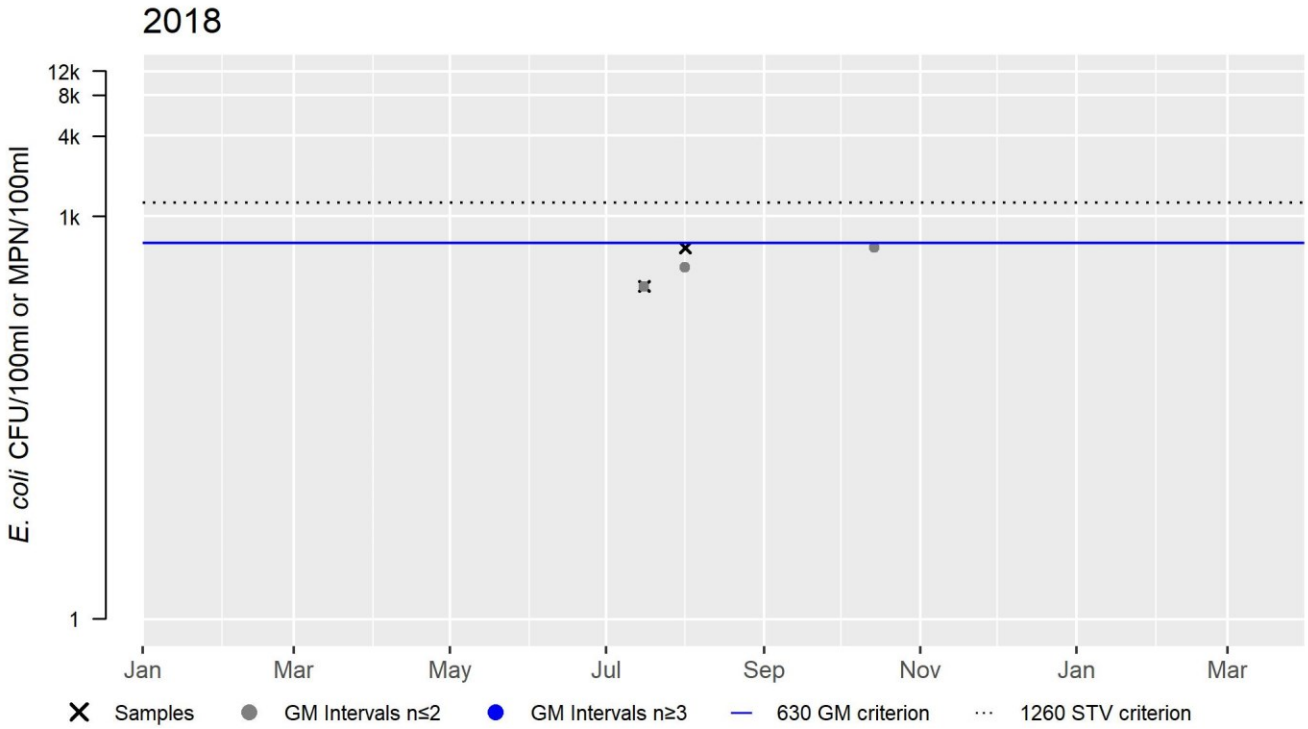
Variable	Cumulative %GMI Ex (all years)
Result	100



W1533 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	419
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

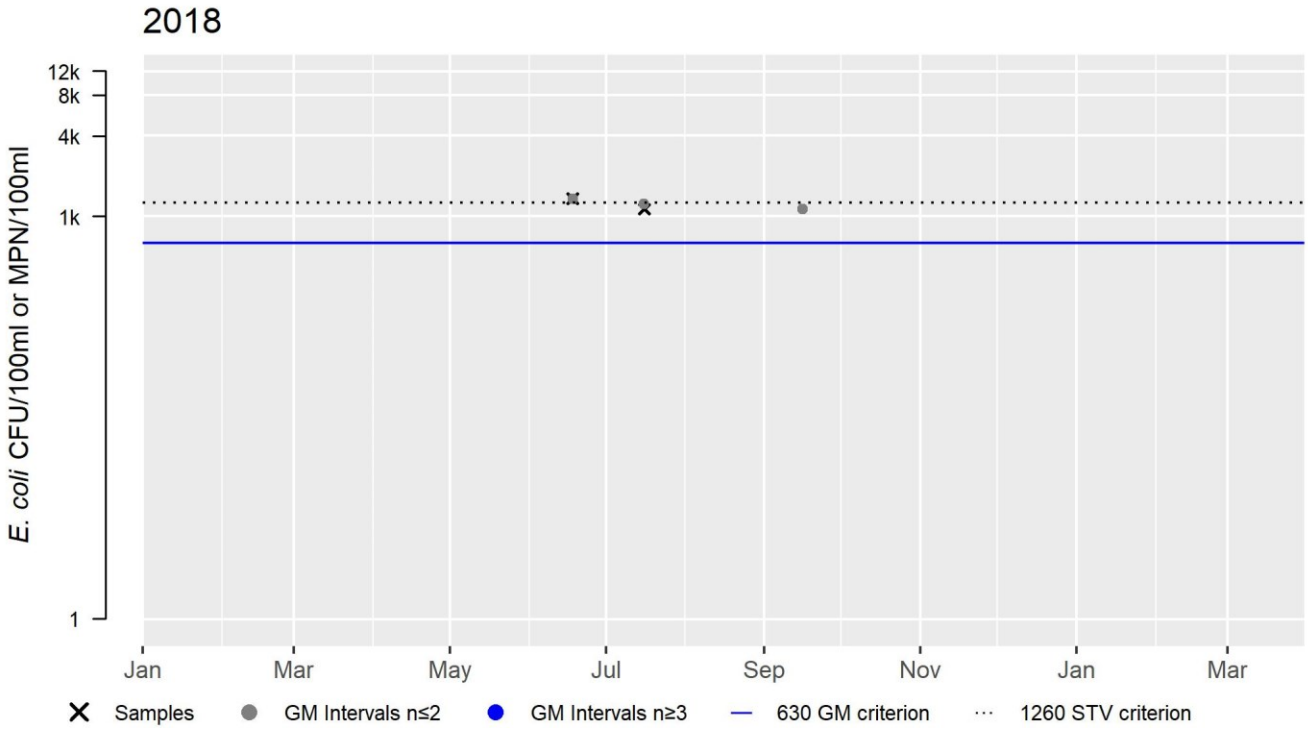
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1534 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	1235
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

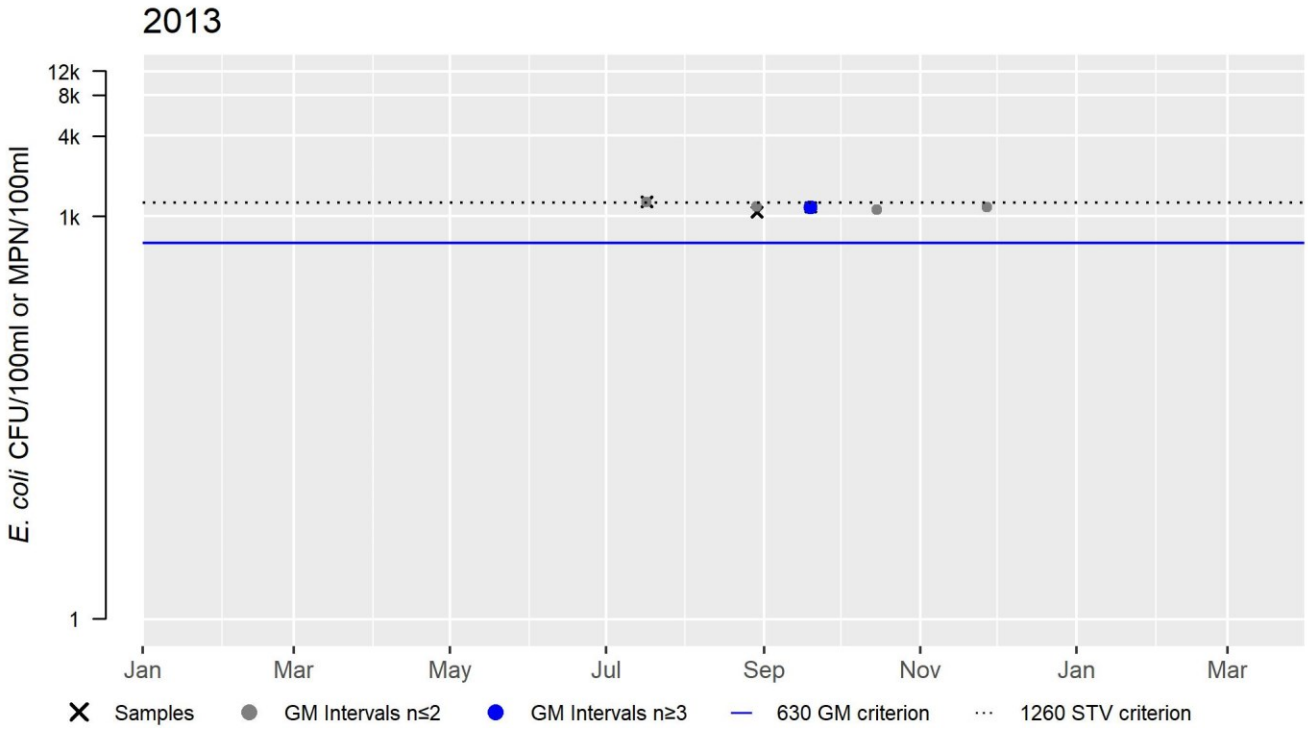
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1621 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	3
SeasGM	1174
#GMI	1
#GMI Ex	1
%GMI Ex	100
n>STV	1
%n>STV	33

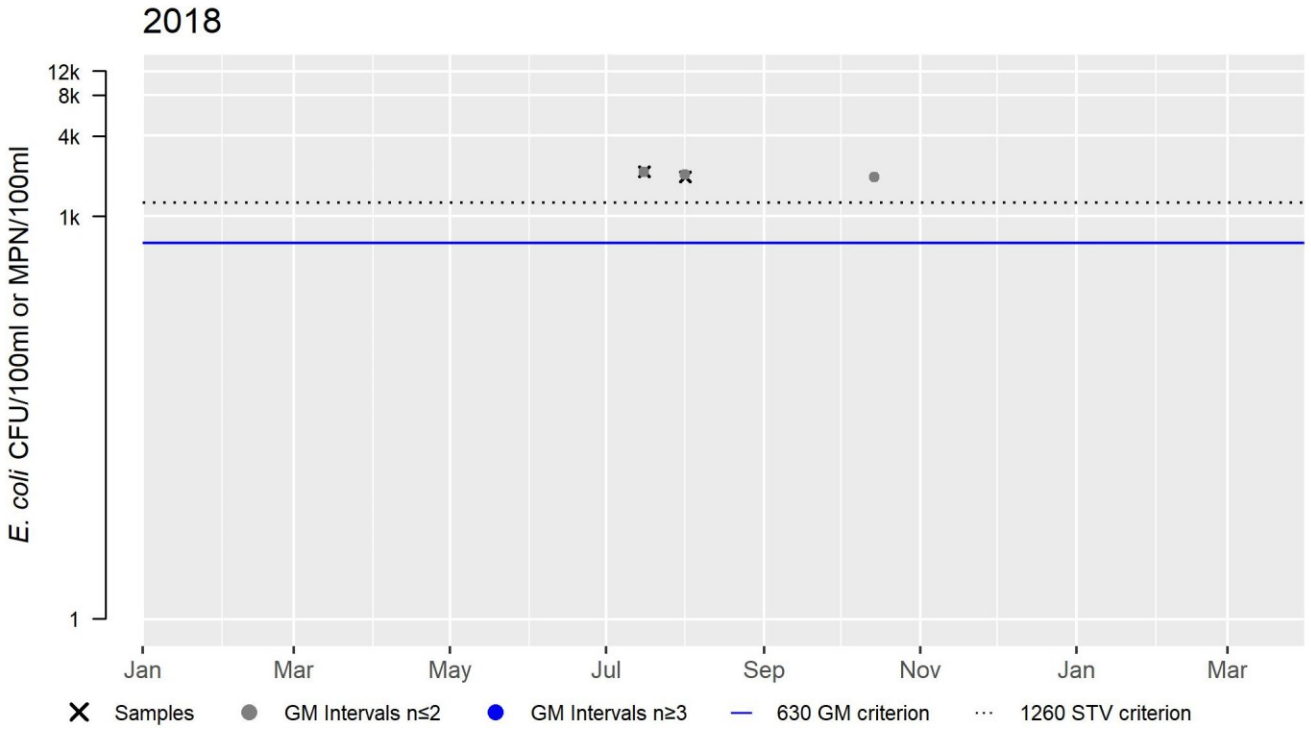
Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W1622 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2048
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



W2299 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

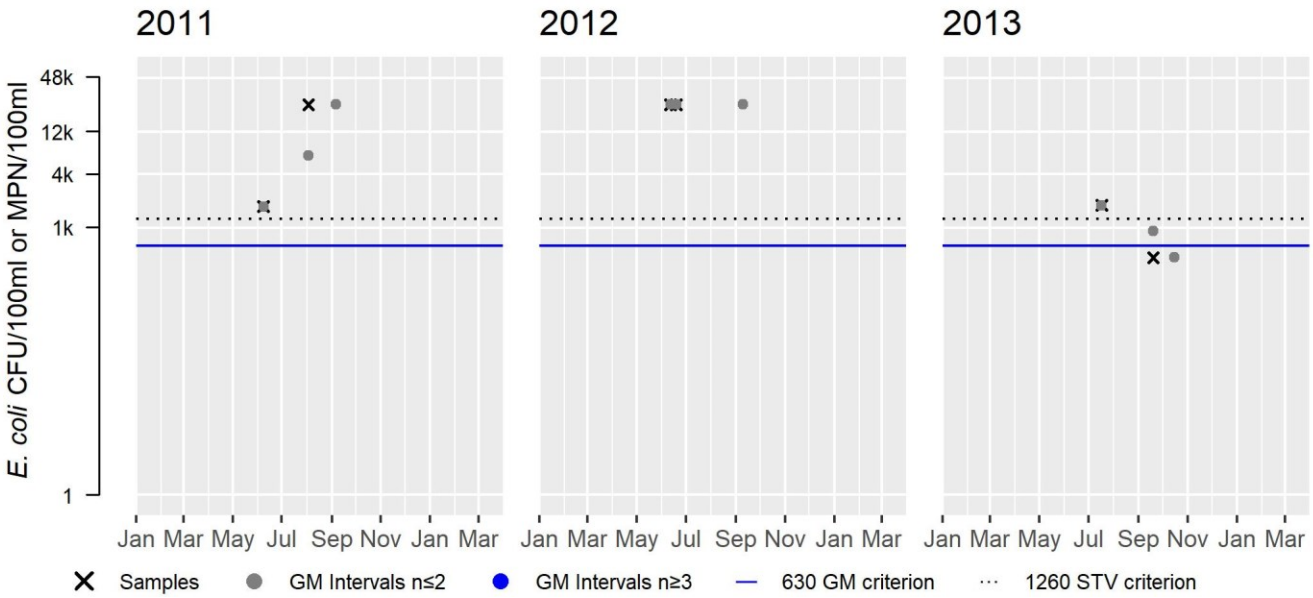
Var	Res
Samples	2
SeasGM	6470
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	24198
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	911
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	1
%n>STV	50

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



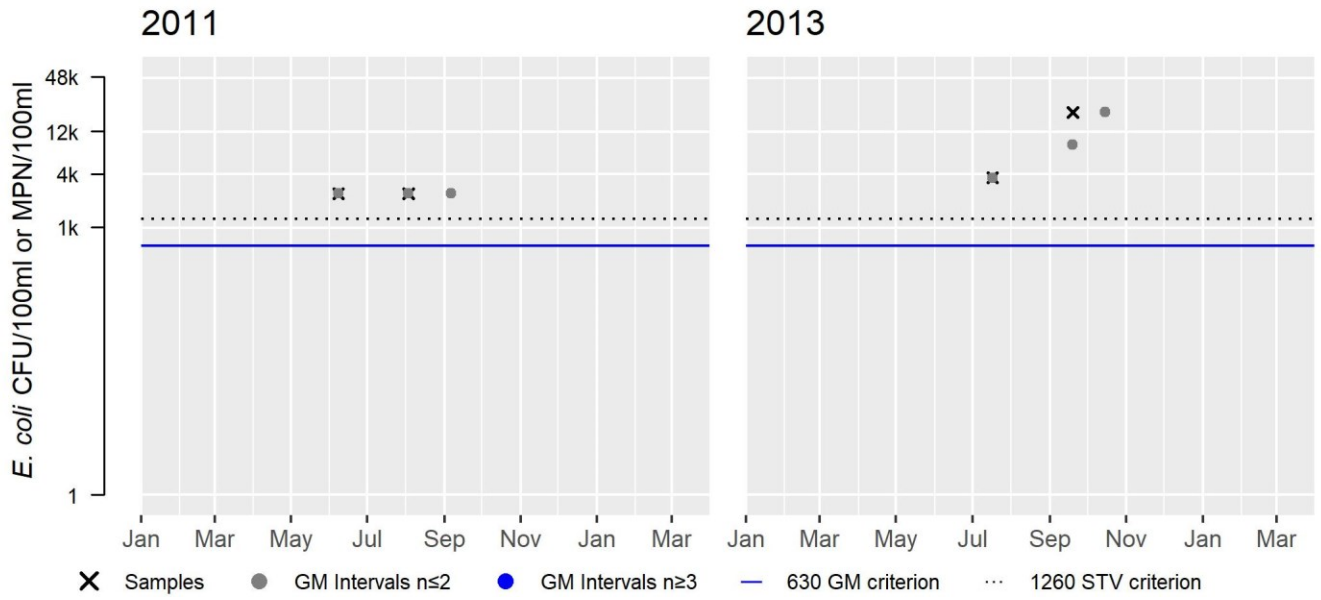
W2301 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	2
SeasGM	2420
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Var	Res
Samples	2
SeasGM	8514
#GMI	0
#GMI Ex	0
%GMI Ex	0
n>STV	2
%n>STV	100

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

Variable	Cumulative %GMI Ex (all years)
Result	0



Turnpike Lake (MA62198)

Location:	Plainville.
AU Type:	FRESHWATER LAKE
AU Size:	99 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for Turnpike Lake (MA62198) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(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				

Unnamed Tributary (MA62-42)

Location:	Headwaters, south of Slab Bridge Road (in Cedar Swamp portion of Freetown-Fall River State Forest), Freetown to mouth at confluence with Cedar Swamp River, Lakeville.
AU Type:	RIVER
AU Size:	4 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA62-42) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Fish Bioassessments		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Specialty Crop Production (Y)	X				
Fish Bioassessments	Specialty Crop Production (Y)	X				

Unnamed Tributary (MA62-48)

Location:	Channel from Taunton Municipal Lighting Plant, Taunton to mouth at confluence with the Taunton River, Taunton.
AU Type:	ESTUARY
AU Size:	0.002 SQUARE MILES
Classification/Qualifier:	SA: SFO

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Flow Regime Modification*)		Unchanged
5	5	(Physical Substrate Habitat Alterations*)		Unchanged
5	5	Benthic Macroinvertebrates		Unchanged
5	5	Fish Bioassessments		Unchanged
5	5	Temperature		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Shellfish Harvesting	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Flow Regime Modification*)	Channel Erosion/Incision from Upstream Hydromodifications (Y)	X					
(Flow Regime Modification*)	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X					
(Flow Regime Modification*)	Industrial Thermal Discharges (Y)	X					
(Physical Substrate Habitat Alterations*)	Channel Erosion/Incision from Upstream Hydromodifications (Y)	X					
(Physical Substrate Habitat Alterations*)	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X					
(Physical Substrate Habitat Alterations*)	Industrial Thermal Discharges (Y)	X					
Benthic Macroinvertebrates	Channel Erosion/Incision from Upstream Hydromodifications (Y)	X					
Benthic Macroinvertebrates	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X					
Benthic Macroinvertebrates	Industrial Thermal Discharges (Y)	X					
Fish Bioassessments	Channel Erosion/Incision from Upstream Hydromodifications (Y)	X					
Fish Bioassessments	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X					
Fish Bioassessments	Industrial Thermal Discharges (Y)	X					
Temperature	Channel Erosion/Incision from Upstream Hydromodifications (Y)	X					
Temperature	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X					
Temperature	Industrial Thermal Discharges (Y)	X					

Recommendations

2022 Recommendations
ALU: Water quality monitoring and bioassesments to gauge whether habitat has improved since the implementation of the 2006 NPDES permit would be useful in determining if this segment is supporting for aquatic life use or remains impaired

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for this Unnamed Tributary AU (MA62-48), so it will continue to be assessed as Not Supporting with the Benthic Macroinvertebrates, Fish Bioassessments, Flow Regime Modification, Physical Substrate Habitat Alterations and Temperature impairments all being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Unnamed Tributary AU (MA62-48); therefore, the Fish Consumption Use is Not Assessed.	

Shellfish Harvesting

2022 Use Attainment	Alert
Insufficient Information	YES
2022 Use Attainment Summary	
Unnamed Tributary (MA62-48): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0006 sq mi (40%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0006 sq mi (40%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. Alert due to prohibited area >= 0.0001 sq mi.	

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB2.1	Taunton River	Prohibited	0.00064	39.9%

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Unnamed Tributary AU (MA62-48), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* data are available to assess the Primary Contact Recreation Use for this Unnamed Tributary AU (MA62-48), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Unnamed Tributary (MA62-48): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0006 sq mi (40%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* data are available to assess the Secondary Contact Recreation Use for this Unnamed Tributary AU (MA62-48), so it is Not Assessed.	

Shellfish Growing Area Classifications

MassDEP Summary Statement for MassDFG Shellfish Growing Area Classification Data (Bettencourt August 25, 2021) (MassDEP Undated6)

Summary
Unnamed Tributary (MA62-48): The total of all shellfish growing area classifications (Bettencourt August 25, 2021) within this AU is 0.0006 sq mi (40%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreation Use cannot be assessed for 2022 using the shellfish classification data.

Unnamed Tributary (MA62-69)

Location:	Unnamed Tributary to unnamed tributaries to Poquoy Brook Pond, headwaters in wetland north of Kenneth Welch Drive, Lakeville to mouth at confluence with unnamed tributary east of Route 18 (Bedford Street), Lakeville.
AU Type:	RIVER
AU Size:	0.6 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA62-69) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	2	None		Unchanged

Unnamed Tributary (MA62-70)

Location:	Unnamed Tributary to Forge River, headwaters outlet Gushee Pond, Raynham to mouth at confluence with Forge River, Raynham (through former 2016 segments: Hewitt Pond MA62088 and Johnson Pond MA62097).
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA62-70) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged
4c	4c	(Fish Passage Barrier*)		Unchanged

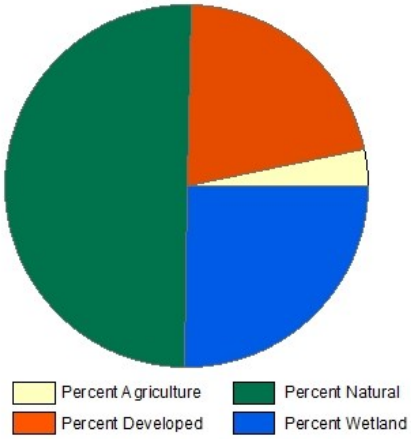
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Unnamed Tributary (MA62-78)

Location:	Unnamed tributary to Canoe River, headwaters, perennial portion east of Essex Street, Norton to mouth at confluence with Canoe River, Norton.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

Unnamed Tributary - MA62-78

Watershed Area: 1.39 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	1.39	1.39	0.35	0.35
Agriculture	3.3%	3.3%	0.5%	0.5%
Developed	21.3%	21.3%	11.7%	11.7%
Natural	50.3%	50.3%	38.5%	38.5%
Wetland	25.2%	25.2%	49.2%	49.2%
Impervious Cover	8.9%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	5	Benthic Macroinvertebrates		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

Benthic, fish and water quality surveys were conducted by MassDEP staff in the downstream half of this Unnamed Tributary (MA62-78) to the Canoe River, south of Interstate 495, approximately 430 ft downstream/southeast of Newcomb St., Norton, during summer 2013 as part of the MAP2 monitoring project. The benthic community sample (B0852) was collected in July and had an IBI score of 43 which was indicative of moderately degraded conditions for a low gradient location. A fish sample (n=65), collected in September by backpack electrofishing (SampleID 5066), was dominated by fluvial specialist/dependent species (four taxa, comprising 69% of the sample) and also contained a large percentage of intolerant/moderately tolerant macrohabitat generalists (1 taxa, comprising 31% of the sample). Water quality sampling data (including both deployed probe and discrete sampling efforts at W2393) can be summarized as follows: the minimum dissolved oxygen was 4.6mg/L during two short term deploys (total of eight days), though the 3-5DADMin was never <5.0mg/L (minimum 3-5DADMin 5.1mg/L); the maximum temperature during the long term deploy (105 days) was 23.6°C and during the two short term deploys (total of eight days) was 25.0°C. The pH ranged from 6.3-6.4SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.059mg/L (n=5), maximum diel DO shift 1.2mg/L, DO maximum saturation of 76.3% and no observations of any dense/very dense filamentous algae during eight site visits). Specific conductance and chloride concentrations were both low (maximum 283µS/cm, n=2 and 72mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (maximum 0.08mg/L, n=4 with no toxicity estimated). One clean metals sample had a minimal exceedance of the chronic criterion for lead (TU of 1.1 in July), but there were no other acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
While the fish and water quality data were generally indicative of good conditions for a warm water stream, the Aquatic Life Use for this Unnamed Tributary (MA62-78) is assessed as Not Supporting based on the Moderately Degraded benthic community conditions documented by MassDEP staff just downstream of Newcomb St. in 2013.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5066	MassDEP	Fish Community	UNT to Canoe River	S nof I-495, ~430 ft DS/SE of Newcomb St	41.98950	-71.17372
B0852	MassDEP	Benthic	Unnamed And/Or Undefined Saris/	[unnamed tributary to Canoe River, south of Interstate 495, approximately 130 meters downstream/southeast of Newcomb Street, Norton, MA]	41.989495	-71.173717
W2393	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Canoe River, south of Interstate 495, approximately 430 feet downstream/southeast of Newcomb Street, Norton]	41.989495	-71.173717

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0852	07/24/13	RBP multihab	Statewide_Low_Gradient	273	43	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: CCS = Creek Chubsucker, F = Fallfish, RP = Redfin Pickerel, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5066	09/06/13	BP	TP		5	65	0%	4	69%	3%	1	31%	No	No	CCS, F, RP, TD, WS,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2393	2013	2	8	4.5	5.1	5.6	1.2	1	1	1	1	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2393	05/15/13	09/18/13	2	5.9	6.5	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2393	06/01/13	09/15/13	105	92	22.1	23.6	22.5	20.9	20	0	0	0	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2393	2013	2	8	22.3	25.0	22.9	21.3	1	0	1	0	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2393	06/01/13	09/15/13	107	5132	22.5	0	0	0
W2393	07/18/13	08/20/13	33	389	22.4	0	0	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2393	05/15/13	09/18/13	4	2	20.3	15.2	1	0	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2393	05/15/13	09/18/13	2	6.3	6.4	2	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2393	2013	5	0.04	0.080	0.059	1.2	0.7	76.3	6.4	8	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2393	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2393	2013	3	0	0	0	0	1	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Selected TU Calculations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Sample Date	Cd CMC TU	Cd CCC TU	Cu CMC TU	Cu CCC TU	Pb CMC TU	Pb CCC TU
W2393	05/20/13	0.2	0.5	0.2	0.24	0.0	0.4
W2393	07/01/13	0.2	0.3	0.2	0.28	0.0	1.1
W2393	08/12/13	0.2	0.5	0.2	0.29	0.0	1.0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2393	2013	3	0.044	0.13	0.098	0.4	0.7	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2393	2013	4	0.030	0.080	0.058	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2393	2013	4	24	72	54	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2393	05/15/13	09/18/13	2	201	283	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Unnamed Tributary (MA62-78) to the Canoe River; therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted field surveys of this Unnamed Tributary (MA62-78) to the Canoe River, south of Interstate 495, ~430 ft downstream/southeast of Newcomb St. in Norton (W2393) during the summer of 2013 as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). The Aesthetics Use of this Unnamed Tributary AU (MA62-78) is assessed as Fully Supporting based on the lack of objectionable conditions observed downstream of Newcomb St. during summer 2013.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2393	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Canoe River, south of Interstate 495, approximately 430 feet downstream/southeast of Newcomb Street, Norton]	41.989495	-71.173717

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2393	Unnamed Tributary	2013	8	MassDEP aesthetics observations for station W2393/MAP2-391 on Unnamed Tributary can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2393	2013	8	8	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2393	Unnamed Tributary	2013	Color	Brownish	1	8
W2393	Unnamed Tributary	2013	Color	Light Yellow/Tan	4	8
W2393	Unnamed Tributary	2013	Color	None	2	8
W2393	Unnamed Tributary	2013	Color	Reddish	1	8
W2393	Unnamed Tributary	2013	Objectionable Deposits	No	7	8
W2393	Unnamed Tributary	2013	Objectionable Deposits	Yes	1	8
W2393	Unnamed Tributary	2013	Odor	Musty (Basement)	1	8
W2393	Unnamed Tributary	2013	Odor	None	7	8
W2393	Unnamed Tributary	2013	Scum	No	7	8
W2393	Unnamed Tributary	2013	Scum	Yes	1	8
W2393	Unnamed Tributary	2013	Turbidity	None	7	8
W2393	Unnamed Tributary	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff collected *E. coli* bacteria samples in this Unnamed Tributary (MA62-78) to the Canoe River, south of Interstate 495, ~430 ft downstream/southeast of Newcomb St. in Norton (W2393) between May and September 2015 (n=5). Data analysis indicated that none of the intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV. The seasonal GM was 68 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to the brook.
The Primary Contact Recreation Use for this Unnamed Tributary AU (MA62-78) is assessed as Fully Supporting primarily since *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, as well as on the lack of objectionable conditions observed by DEP field crews..

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2393	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Canoe River, south of Interstate 495, approximately 430 feet downstream/southeast of Newcomb Street, Norton]	41.989495	-71.173717

Bacteria Data

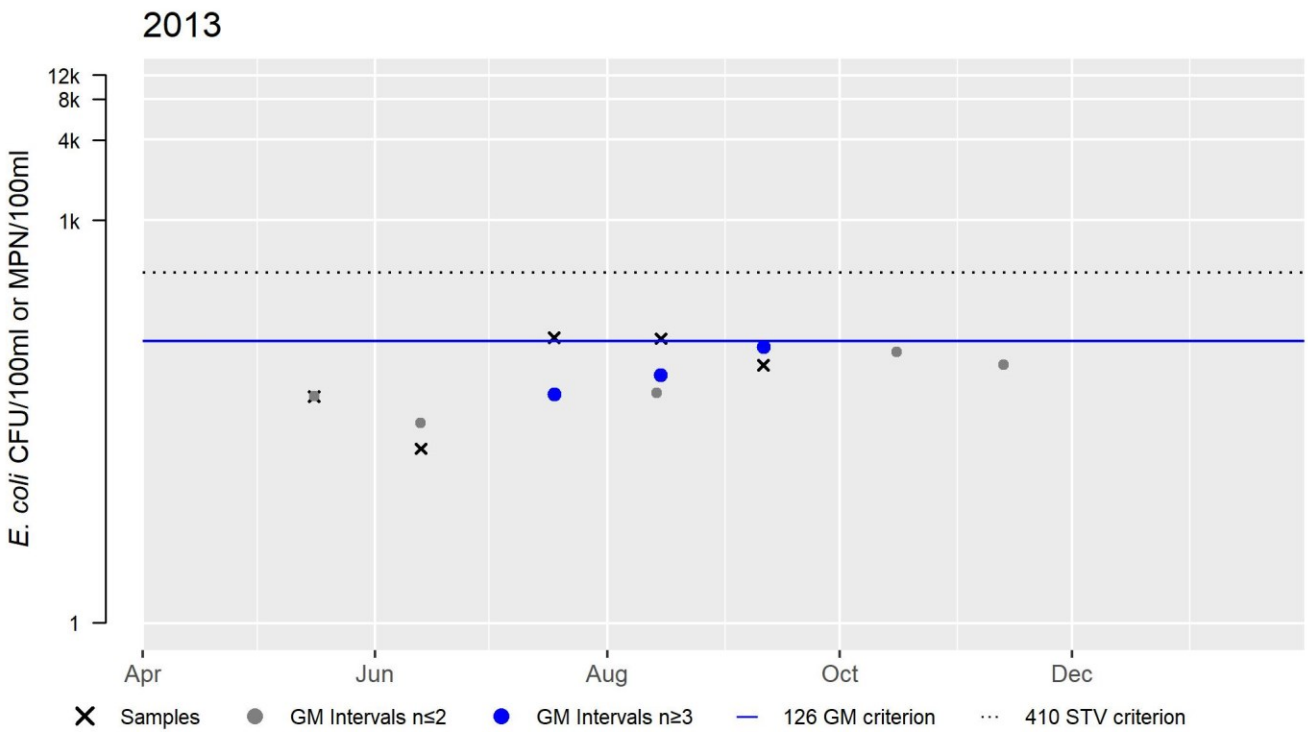
Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2393	MassDEP	E. coli	05/16/13	09/11/13	5	20	134	68

W2393 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	68
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria samples in this Unnamed Tributary (MA62-78) to the Canoe River, south of Interstate 495, ~430 ft downstream/southeast of Newcomb St. in Norton (W2393) between May and September 2015 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 68 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to the brook.
The Secondary Contact Recreation Use for this Unnamed Tributary AU (MA62-78) is assessed as Fully Supporting primarily since *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, as well as on the lack of objectionable conditions observed by DEP field crews.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2393	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Canoe River, south of Interstate 495, approximately 430 feet downstream/southeast of Newcomb Street, Norton]	41.989495	-71.173717

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

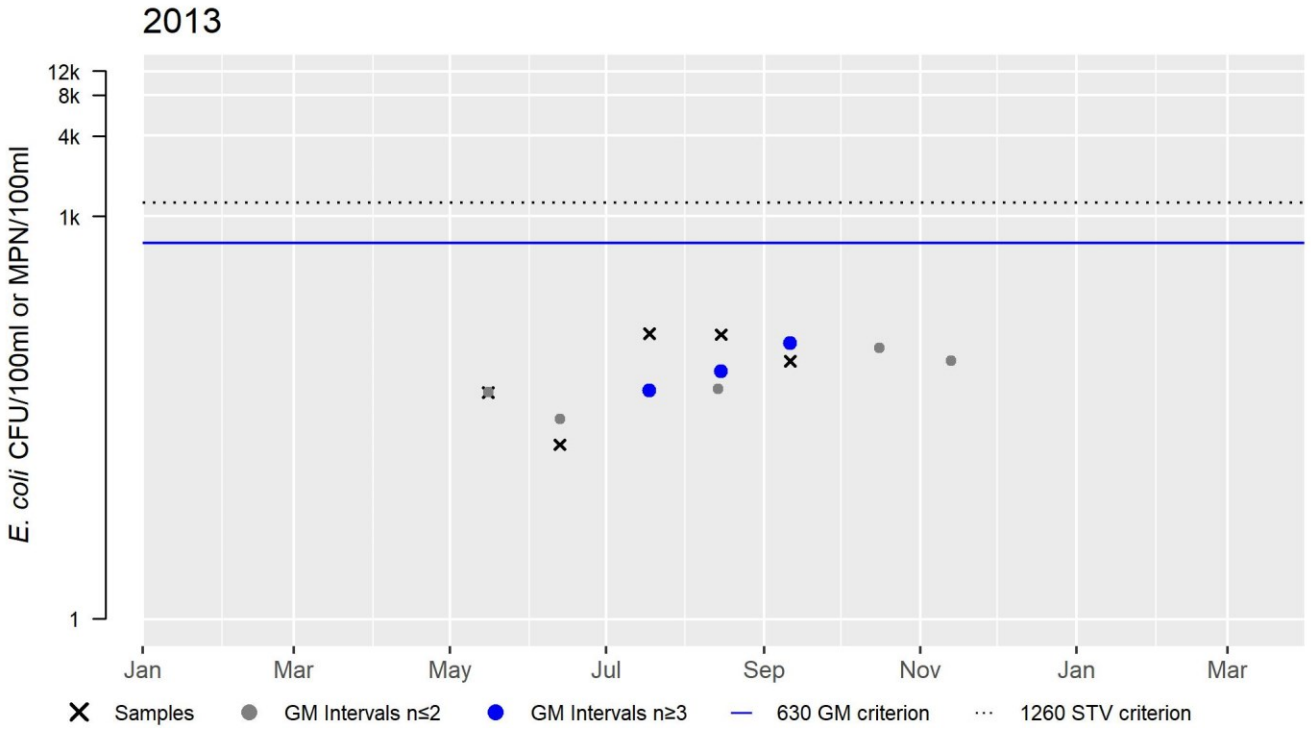
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2393	MassDEP	E. coli	05/16/13	09/11/13	5	20	134	68

W2393 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	68
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

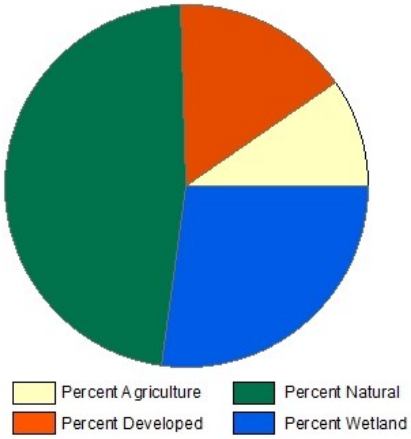


Unnamed Tributary (MA62-80)

Location:	Unnamed tributary (locally considered portion of Stump Brook) between Plymouth Street Pond and Robbins Pond, East Bridgewater.
AU Type:	RIVER
AU Size:	0.1 MILES
Classification/Qualifier:	B

Unnamed Tributary - MA62-80

Watershed Area: 12.58 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	12.58	7.36	3.68	3.19
Agriculture	9.6%	11.5%	9.8%	24.4%
Developed	16%	10.9%	14.6%	8.2%
Natural	47.2%	45.4%	37.8%	34.7%
Wetland	27.3%	32.4%	37.8%	32.7%
Impervious Cover	7.2%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

DMF biologists note one structure causing passage limitation to diadromous fish passage at the upstream end of this AU (an unnamed tributary locally known as "Stump Brook" MA62-80). A bog reservoir dam was noted to obstruct the passage of fish between Stump Brook and the upstream AU (Plymouth Street Pond MA62141). This dam was given a passage score of “10” indicating that the dam allows no possible passage of the targeted species, river herring and American eel. The population score was noted to be “2”. The Aquatic Life Use for this Unnamed Tributary AU (MA62-80) is assessed as Not Supporting, based on the barrier to diadromous fish passage posed by the dam downstream of Plymouth Street Pond.

Biological Monitoring Information

Habitat and Flow Data (anthropogenic alterations)

MassDMF Status of Priority Diadromous Fish Passage Barriers. (Chase 2020)

Assessment Summary
DMF biologists note one structure causing passage limitation to diadromous fish passage at the upstream end of this AU (an unnamed tributary locally known as "Stump Brook"). A bog reservoir dam was noted to obstruct the passage of fish between Stump Brook and the upstream AU (Plymouth Street Pond MA62141). This dam was given a passage score of "10" indicating that the dam allows no possible passage of the targeted species, river herring and American eel. The population score was noted to be "2". The Aquatic Life Use for the unnamed tributary (Assessment Unit MA62-80) is assessed as Not Supporting, based on the barrier to diadromous fish passage at the dam downstream of Plymouth Street Pond.

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Unnamed Tributary AU (MA62-80); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Unnamed Tributary AU (MA62-80), so it is Not Assessed.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* or Enterococci bacteria data are available to assess the Primary Contact Recreation Use for this Unnamed Tributary AU (MA62-80), so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for this Unnamed Tributary AU (MA62-80), so it is Not Assessed.	

Upper Leach Pond (MA62123)

Location:	(Mountain Street Pond) Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	28 ACRES
Classification/Qualifier:	B

No usable data were available for Upper Leach Pond (MA62123) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Upper Porter Pond (MA62200)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	B

No usable data were available for Upper Porter Pond (MA62200) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

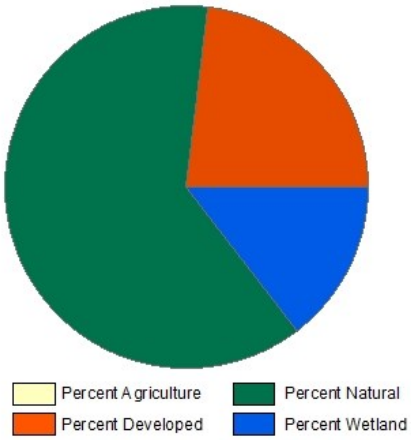
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Wading River (MA62-47)

Location:	Headwaters, outlet Furnace Lake, Foxborough to Balcolm Street, Mansfield (through former 2014 pond segments: Robinson Pond MA62163, Blakes Pond MA62221) (formerly part of 2004 segment: Wading River MA62-17). Note: 1987 Wrentham quad depicts the Wading River as flowing from the outlet of Lake Mirimichi rather than Furnace Lake (Foundry Pond), with the portion between the outlet of Furnace Lake to the confluence with the Wading River identified as the Cocasset River).
AU Type:	RIVER
AU Size:	5 MILES
Classification/Qualifier:	A: PWS, ORW

Wading River - MA62-47

Watershed Area: 19.42 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	19.42	5.9	8.99	2.78
Agriculture	0.8%	0.3%	0.9%	0.6%
Developed	23%	26.9%	16.3%	18.1%
Natural	61.8%	56.2%	56.8%	50.3%
Wetland	14.5%	16.6%	26%	31%
Impervious Cover	10.8%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Algae		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Algae	Source Unknown (N)			X	X	X

Recommendations

2022 Recommendations
OTHER: Conduct additional water quality monitoring in this Wading River AU (MA62-47) and record objectionable conditions, noting whether excessive filamentous algae is still a problem in this AU.

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDFG biologists conducted backpack electrofishing at two sites in the upstream half of this Wading River AU (MA62-47) in August 2016, from upstream to downstream as follows: Sprague Rd crossing downstream, Foxborough (SampleID 5990) and Spruce St. upstream, Foxborough (SampleID 5989). Both samples were collected in low gradient stream reaches and were dominated by one fluvial specialist species (tessellated darter), comprising 65 and 70% of the samples, respectively. Macrohabitat generalist species which are intolerant/moderately tolerant to environmental perturbations, were also well represented, comprising 27 and 23% of the samples, respectively. The Aquatic Life Use for this Wading River AU (MA62-47) will continue to be assessed as Fully Supporting based on the fish data collected in 2016, which are indicative of good conditions for a low gradient warm water stream.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5989	MassDFG	Fish Community	Cocasset River	Spruce St. US., Foxborough. [DEP water body name is Wading River]	42.03528	-71.27867
5990	MassDFG	Fish Community	Cocasset River	Sprague Rd xing DS., Foxborough. [DEP water body name is Wading River]	42.04461	-71.26592

Biological Monitoring Information

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, CP = Chain Pickerel, GS = Golden Shiner, LMB = Largemouth Bass, RP = Redfin Pickerel, TD = Tessellated Darter]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5989	08/22/16	BP	TP	L	5	30	0%	1	70%	0%	3	23%	No	No	AE, CP, LMB, RP, TD,
5990	08/22/16	BP	TP	L	5	26	0%	1	65%	0%	2	27%	No	No	AE, CP, GS, RP, TD,

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO

2022 Use Attainment Summary
No fish toxics monitoring has been conducted in this Wading River AU (MA62-47); therefore, the Fish Consumption Use is Not Assessed.

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for this Wading River AU (MA62-47), so it will continue to be assessed as Not Supporting, with the Algae impairment being carried forward. A recommendation will be made for additional aesthetics monitoring to confirm whether excessive filamentous algae remains a problem in this AU.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* or *Enterococci* data are available to assess the status of the Primary Contact Recreation Use for this Wading River AU (MA62-47), so it will continue to be assessed as Not Supporting, with the Algae impairment being carried forward. A recommendation will be made for additional aesthetics monitoring to confirm whether excessive filamentous algae remains a problem in this AU.	

Secondary Contact Recreation

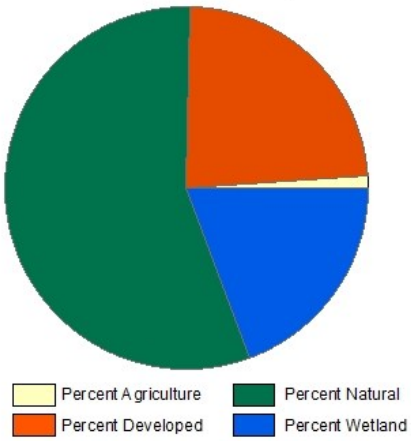
2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No *E. coli* data are available to assess the status of the Secondary Contact Recreation Use for this Wading River AU (MA62-47), so it will continue to be assessed as Not Supporting, with the Algae impairment being carried forward. A recommendation will be made for additional aesthetics monitoring to confirm whether excessive filamentous algae remains a problem in this AU.	

Wading River (MA62-60)

Location:	From Balcolm Street, Mansfield to inlet Barrowswille Pond, Norton (through former 2014 segment: Sweets Pond MA62185) (formerly part of 2014 segment: Wading River MA62-49 [MA62-17 (2004)]).
AU Type:	RIVER
AU Size:	5.8 MILES
Classification/Qualifier:	B: WWF

Wading River - MA62-60

Watershed Area: 36.27 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	36.27	9.97	14.24	2.79
Agriculture	1.1%	1.3%	1%	1.2%
Developed	23.6%	20.9%	18%	14.2%
Natural	56%	50.2%	51.6%	43.8%
Wetland	19.3%	27.6%	29.4%	40.8%
Impervious Cover	11.1%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO

2022 Use Attainment Summary
Benthic, fish and water quality monitoring were conducted by MassDEP staff towards the downstream end of this Wading River AU (MA62-60) ~340 ft upstream/northwest of Rt. 123 (W. Main St) in Norton during summer 2013 as part of the MAP2 monitoring project and all data were indicative of good conditions. The benthic community sample (B0831) IBI score of 81 was indicative of Excellent conditions for a low gradient location. The fish sample (SampleID 5065 method not stated)was well represented by fluvial specialist/dependent species, (three taxa comprising 50% of the sample) and two macrohabitat generalist taxa that are intolerant/moderately tolerant to environmental perturbations were also documented (comprising 12% of the sample). Water quality sampling data (including both deployed probe and discrete sampling efforts) can be summarized as follows: a minimum DO of 5.5mg/L during two short term deploys (totaling eight days); the maximum temperature during the long term deploy (107 days) was 28.7°C and during two short term deploys was 28.8°C, though the 7-DADM was never >27.7°C and the max 24hr rolling average was acceptable at 27.6°C. The pH ranged from 6.9-7.0SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.014mg/L, max 0.02mg/L (n=5), max diel DO shift 1.9mg/L, DO max saturation of 103.6% and no observations of any dense/very dense filamentous algae). Specific conductance and chloride concentrations were both low (max 365µS/cm, n=2 & 110mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (max 0.04mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out). While MassDEP benthic, fish and water quality data are indicative of excellent conditions, the Aquatic Life Use for this Wading River AU (MA62-60) will continue to be assessed as Not Supporting, with the Non-Native Aquatic Plants impairment being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5065	MassDEP	Fish Community	Wading River	~340 ft US/NW of Rt 123 (W. Main St)	41.95255	-71.22476
B0831	MassDEP	Benthic	Wading River/	[approximately 105 meters upstream/northwest from Route 123 (West Main Street), Norton, MA]	41.952551	-71.224761
W2373	MassDEP	Water Quality	Wading River	[approximately 340 feet upstream/northwest from Route 123 (West Main Street), Norton]	41.952551	-71.224761

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0831	08/01/13	RBP multihab	Statewide_Low_Gradient	325	81	E

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]

[Species List: AE = American Eel, B = Bluegill, F = Fallfish, LMB = Largemouth Bass, RP = Redfin Pickerel, TD = Tessellated Darter, WS = White Sucker]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5065	09/05/13	NS	TP		7	26	0%	3	50%	0%	2	12%	No	No	AE, B, F, LMB, RP, TD, WS,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2373	2013	2	8	5.5	5.7	6.1	1.9	1	0	1	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2373	05/15/13	09/18/13	2	6.5	7.5	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2373	06/01/13	09/15/13	107	106	27.5	28.7	27.6	26.3	88	21	49	16	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2373	2013	2	8	27.5	28.8	27.5	26.4	2	4	1	4	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2373	06/01/13	09/15/13	107	5136	27.6	996	764	0
W2373	07/18/13	08/20/13	33	388	27.6	194	194	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2373	05/15/13	09/18/13	4	2	25.0	18.9	2	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2373	05/15/13	09/18/13	2	6.9	7	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2373	2013	5	0.007	0.020	0.014	1.9	1.3	103.6	7.0	4	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2373	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2373	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2373	2013	3	0.010	0.023	0.016	0.1	0.1	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2373	2013	4	0.020	0.040	0.028	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2373	2013	4	66	110	90	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2373	05/15/13	09/18/13	2	233	365	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Wading River AU (MA62-60); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality field surveys of this Wading River AU (MA62-60) ~340 ft upstream/northwest from Rt. 123 (West Main St.) in Norton (W2373) during the summer of 2013 as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). Based on this information, the Aesthetics Use for this Wading River AU (MA62-60) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.123 (W0823) in 2006, is being removed as there were no dense filamentous algae observed just upstream of Rt.123 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2373	MassDEP	Water Quality	Wading River	[approximately 340 feet upstream/northwest from Route 123 (West Main Street), Norton]	41.952551	-71.224761

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2373	Wading River	2013	8	MassDEP aesthetics observations for station W2373/MAP2-327 on Wading River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2373	2013	8	4	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2373	Wading River	2013	Color	Light Yellow/Tan	5	8
W2373	Wading River	2013	Color	None	3	8
W2373	Wading River	2013	Objectionable Deposits	No	7	8
W2373	Wading River	2013	Objectionable Deposits	Yes	1	8
W2373	Wading River	2013	Odor	None	8	8
W2373	Wading River	2013	Scum	No	8	8
W2373	Wading River	2013	Turbidity	None	8	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff conducted water quality field surveys of this Wading River AU (MA62-60) ~340 ft upstream/northwest from Rt.123 (West Main St.) in Norton (W2373) between May and September 2013 (n=5). Data analysis indicated that 33% of intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV. The seasonal GM was 107 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.
Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Primary Contact Recreation Use for this Wading River AU (MA62-60) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.123 (W0823) in 2006, is being removed as there were no dense filamentous algae observed just upstream of Rt.123 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2373	MassDEP	Water Quality	Wading River	[approximately 340 feet upstream/northwest from Route 123 (West Main Street), Norton]	41.952551	-71.224761

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

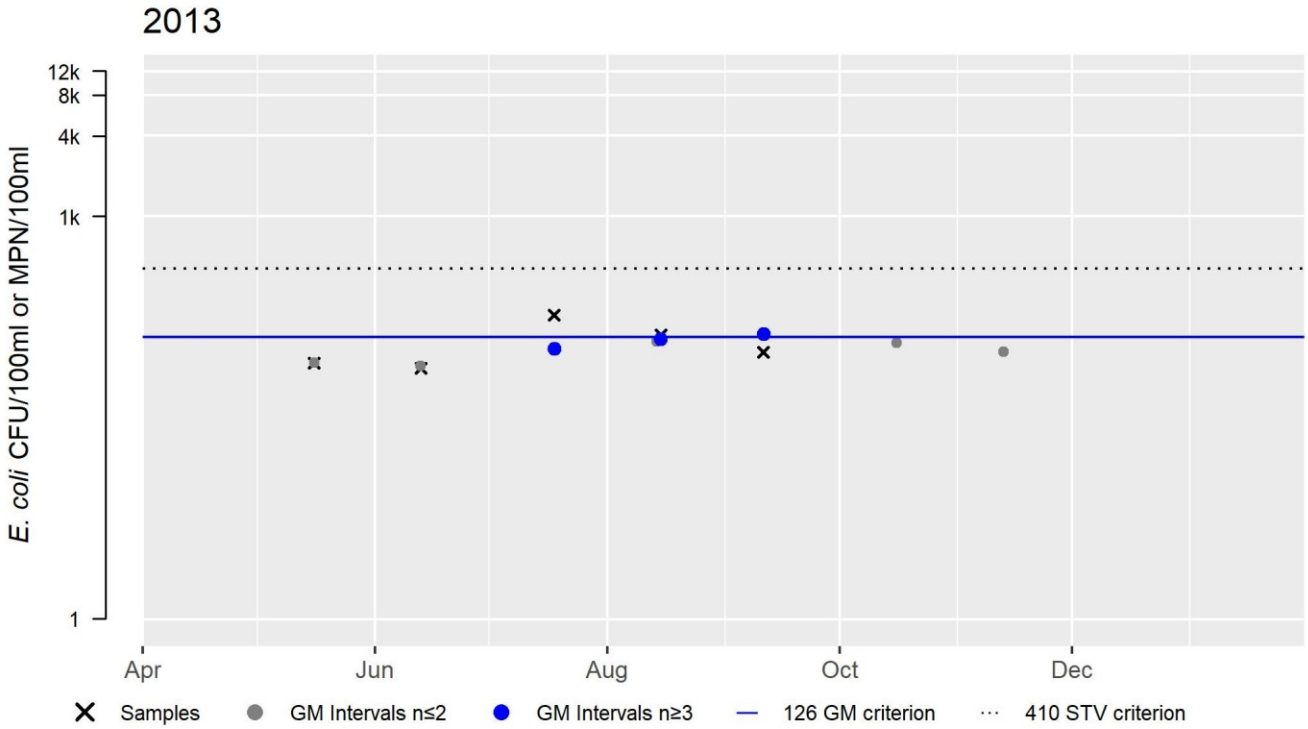
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2373	MassDEP	E. coli	05/16/13	09/11/13	5	74	185	107

W2373 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	107
#GMI	3
#GMI Ex	1
%GMI Ex	33
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff conducted water quality field surveys of this Wading River AU (MA62-60) ~340 ft upstream/northwest from Rt.123 (West Main St.) in Norton (W2373) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 107 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.

Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Secondary Contact Recreation Use for this Wading River AU (MA62-60) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.123 (W0823) in 2006, is being removed as there were no dense filamentous algae observed just upstream of Rt.123 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2373	MassDEP	Water Quality	Wading River	[approximately 340 feet upstream/northwest from Route 123 (West Main Street), Norton]	41.952551	-71.224761

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

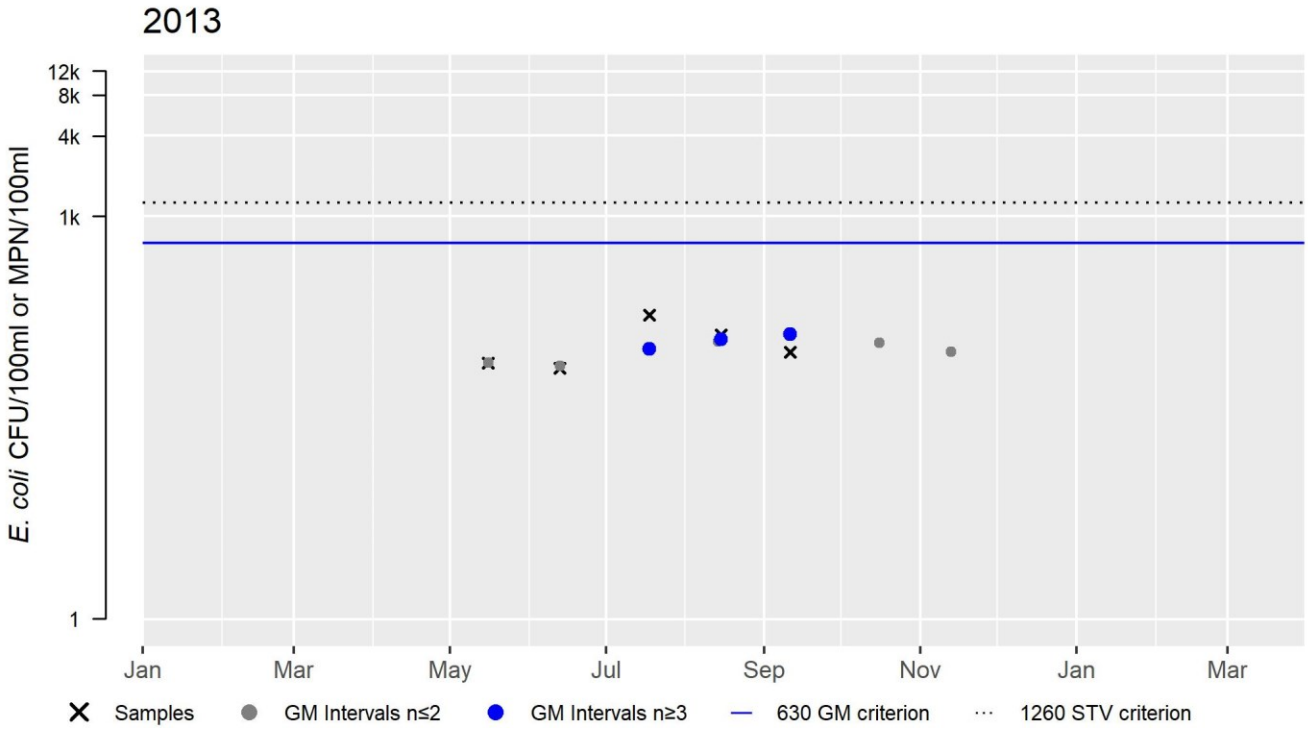
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2373	MassDEP	E. coli	05/16/13	09/11/13	5	74	185	107

W2373 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	107
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV

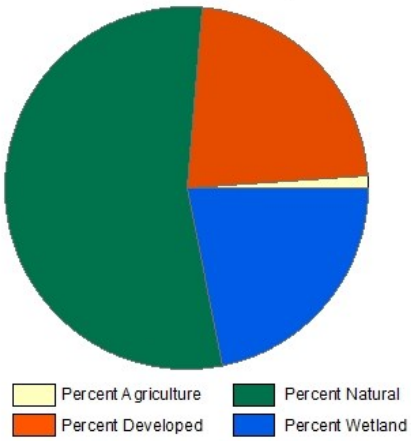


Wading River (MA62-61)

Location:	From outlet Barrowsville Pond, Norton to mouth at confluence with Rumford River, forming headwaters Threemile River, Norton (formerly part of 2014 segment: Wading River MA62-49 [MA62-17 (2004)]).
AU Type:	RIVER
AU Size:	3.5 MILES
Classification/Qualifier:	B: WWF

Wading River - MA62-61

Watershed Area: 43.56 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	43.56	6.3	15.35	1.34
Agriculture	1.1%	0.6%	1%	1.2%
Developed	22.5%	20.9%	17.8%	18.4%
Natural	54.6%	53.1%	51.5%	49.8%
Wetland	21.8%	25.4%	29.7%	30.6%
Impervious Cover	10.4%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Benthic Macroinvertebrates		Added

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
Benthic Macroinvertebrates	Source Unknown (N)	X				

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	

Benthic, fish and water quality monitoring were conducted by MassDEP staff towards the downstream end of this Wading River AU (MA62-61) ~1150 ft downstream/northeast from Rt. 140 (Taunton Avenue) in Norton, during summer 2013 as part of the MAP2 monitoring project. The benthic community sample (B0831) IBI score of 44) was indicative of moderately degraded Conditions for a low gradient location. The fish sample, collected using barge shocking (SampleID 5048), was well represented by macrohabitat generalist taxa that are intolerant/moderately tolerant to environmental perturbations (five taxa, comprising 56% of the sample) and fluvial specialist/dependent species were also documented (two taxa, comprising 22% of the sample). Water quality sampling data (including both deployed probe and discrete sampling efforts) (W2407) can be summarized as follows: a minimum DO of 6.1mg/L during two short term deploys (totaling eight days); the maximum temperature during the long term deploy (107 days) was 28.2°C, though the 7-DADM was never >27.7°C and the max 24hr rolling average was acceptable at 27.2°C. The pH ranged from 6.9-7.1SU (n=2) and there were generally no physico-chemical indicators of nutrient enrichment problems (seasonal average total phosphorus concentration of 0.022mg/L, max 0.031mg/L (n=5), max diel DO shift 1.6mg/L, DO max saturation of 105.9% and no observations of any dense/very dense filamentous algae). Specific conductance and chloride concentrations were both low (max 321µS/cm, n=2 & 89mg/L n=4, respectively), as was total ammonia-nitrogen (TAN) (max 0.04mg/L, n=4 with no toxicity estimated). There were also no acute or chronic metals criteria exceedances (n=3) (note, dissolved Al data were compared to total recoverable Al criteria, so exceedances cannot be ruled out).
While the fish and water quality data are indicative of good conditions, the Aquatic Life Use for this Wading River AU (MA62-61) is assessed as Not Supporting based on the Moderately Degraded benthic community conditions documented by MassDEP staff just downstream of Rt.140 (Taunton Ave) in 2013. A new impairment for Benthic Macroinvertebrates is being added.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
5048	MassDEP	Fish Community	Wading River	.2 miles DS/NE of rt 140 (Taunton Ave)	41.94946	-71.17553
B0865	MassDEP	Benthic	Wading River/	[approximately 350 meters downstream/northeast from Route 140 (Taunton Avenue), Norton, MA]	41.949458	-71.175526
W2407	MassDEP	Water Quality	Wading River	[approximately 1150 feet downstream/northeast from Route 140 (Taunton Avenue), Norton]	41.949458	-71.175526

Biological Monitoring Information

Benthic Macroinvertebrate Data

MassDEP Benthic Macroinvertebrate Data (2011-2017). (MassDEP Undated4)

[Index Biological Condition Class: E= Exceptional, S= Satisfactory, MD= Moderately Degraded, SD= Severely Degraded; High Gradient IBI Thresholds: E= 100-75, S= 74-55, MD= 54-35, SD= 34-0; Low Gradient IBI Thresholds: E= 100-81, S= 80-62, MD= 61-38, SD= 37-0; R qualifier = Rarefaction (100ct) <55]

Station Code	Collection Date	Collection Method	Index Type	Organism Count	Index Score	Index Biological Condition Class
B0865	07/24/13	RBP multihab	Statewide_Low_Gradient	276	44	MD

Fish Community Data and DELTS

Fish Community Data (2012-2019) Provided by MassDFG. (MassDFG 2020) (MassDEP Undated2)

[Sample Type: TP= Total Pickup, SP= Selective Pickup, Method: BT=Boat Shocking, BP= Backpack Shocking, BG= Barge Shocking, SE= Seine, SL= Snorkel, NS= Not Stated, MT= Minnow Trap, GN= Gillnet, FY= Fyke Net, Gradient: H = High, L = Low; I/MT MG= Intolerant/Moderately Tolerant Macrohabitat Generalist]
[Species List: AE = American Eel, B = Bluegill, CP = Chain Pickerel, F = Fallfish, LMB = Largemouth Bass, P = Pumpkinseed, RP = Redfin Pickerel, TD = Tessellated Darter, YP = Yellow Perch]

Sample ID	Sample Date	Method	Sample Type	Gradient	Total Taxa	Total Ind	Cold Ind %	Fluvial Taxa	Fluvial Ind %	Intol Ind %	I/MT MG Taxa	I/MT MG Ind %	Notables	CFR	Species List
5048	08/15/13	BG	TP		9	90	0%	2	22%	0%	5	56%	No	No	AE, B, CP, F, LMB, P, RP, TD, YP,

Physico-chemical Water Quality Information

DO, pH, Temperature

MassDEP Short-term Continuous Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Note: Most deploys 3-5 days in length; Day Count= total # of days over all deploys; XDADMin= 3-5 Day Average of the Daily Minima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	DO Min (mg/L)	Min XDADMin (mg/L)	Min XDADA (mg/L)	Delta DO Max (mg/L)	Count CW XDADMin <6.0	Count CW 1Day Min <5.0	Count WW Early Life Stages XDADA <6.5	Count WW Early Life Stages 1Day Min <5.0	Count WW Other Life Stages XDADMin <5.0	Count WW Other Life Stages 1Day Min <4.0
W2407	2013	2	8	6.1	6.2	6.5	1.6	0	0	0	0	0	0

MassDEP Discrete Dissolved Oxygen Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	DO Count	DO Min (mg/L)	DO Avg (mg/L)	Count CW <5.0	Count WW Early Life Stages <5.0	Count WW Other Life Stages <4.0
W2407	05/15/13	09/18/13	2	6.8	8	0	0	0

MassDEP Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer Index is June 1 – Sept 15; Max Daily Mean= Maximum 24-Hour Average, 7DADM= 7-Day Average of the Daily Maxima, 7DADA= 7-Day Average of the Daily Average, CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Index Count	7day Count	Max Daily Mean (°C)	Max Temp (°C)	Max 7DADM (°C)	Max 7DADA (°C)	Count CWTier1 7DADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 7DADA >21	Count CWTier2 Daily Mean >24.1	Count WW 7DADM >27.7	Count WW Daily Mean >28.3
W2407	06/01/13	09/15/13	107	106	27.1	28.2	27.4	26.2	85	23	57	19	0	0

MassDEP Short-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; Most Deploys 3-5 Days in Length; Day Count= total # of days over all deploys; Max Daily Mean= Maximum 24-Hour Average, XDADM= 3-5 Day Average of the Daily Maxima, XDADA= 3-5 Day Average of the Daily Average, CW= Coldwater, WW= Warmwater]

Station Code	Data Year	Deploys Count	Day Count	Max Daily Mean (°C)	Max Temp (°C)	Max XDADM (°C)	Max XDADA (°C)	Count CWTier1 XDADM >20	Count CWTier1 Daily Mean >23.5	Count CWTier2 XDADA >21	Count CWTier2 Daily Mean >24.1	Count WW XDADM >27.7	Count WW Daily Mean >28.3
W2407	2013	2	8	27.0	28.2	27.4	26.4	2	4	1	4	0	0

24-hour Rolling Average Calculations for MassDEP Short- and Long-term Continuous Temperature Data (Summer Index 2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater; NOTE: In the case of more than one row of data in the same year for a site, different types of temperature probes were deployed.]

Station Code	Start Date	End Date	Count Days Deployed	24hr Rolling Count	Max 24hr Avg Rolling Temp (°C)	Count CWTier1 24hr Avg Rolling >23.5 °C	Count CWTier2 24hr Avg Rolling >24.1 °C	Count WW 24hr Avg Rolling >28.3°C
W2407	06/01/13	09/15/13	107	5136	27.2	1103	909	0
W2407	07/18/13	08/20/13	33	388	27.1	194	194	0

MassDEP Discrete Temperature Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer Index is June 1 – Sept 15; CW= Coldwater, WW= Warmwater]

Station Code	Start Date	End Date	Temp Count	Index Count	Temp Max (°C)	Temp Avg (°C)	Count CW >20	Count CW >22	Count WW >28.3	Count WW >30.3
W2407	05/15/13	09/18/13	4	2	25.3	19.1	2	1	0	0

MassDEP Discrete pH Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	pH Count	pH Min (SU)	pH Max (SU)	pH Count <6.5 & >8.3	pH Count <6.0 & >8.8
W2407	05/15/13	09/18/13	2	6.9	7.1	0	0

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2407	2013	5	0.013	0.031	0.022	1.6	1.0	105.9	7.1	5	0

Toxics and other pollutants (metals, ammonia, chloride, chlorine)

MassDEP Clean Metals Water Column Data (2011-2018), Acute Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CMC= Criterion Maximum Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CMC TU >1	Cd CMC TU >1	Cr III CMC TU >1	Cu CMC TU >1	Pb CMC TU >1	Ni CMC TU >1	Ag CMC TU >1	Zn CMC TU >1
W2407	2013	3	0	0	0	0	0	0	0	0

MassDEP Clean Metals Water Column Data (2011-2018), Chronic Criteria Violations. (MassDEP Undated7) (MassDEP Undated5)

[CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Metals Count	As CCC TU >1	Cd CCC TU >1	Cr III CCC TU >1	Cu CCC TU >1	Pb CCC TU >1	Ni CCC TU >1	Se CCC TU >1	Zn CCC TU >1
W2407	2013	3	0	0	0	0	0	0	0	0

MassDEP Dissolved Aluminum Water Column Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[Since only dissolved aluminum data were available, these data were compared to the default freshwater criteria for total recoverable aluminum (TRA), presented in Appendix E of MassDEP's 2022 CALM. As dissolved Al is a fraction of TRA, an exceedance count of 0 does not rule out violations of the TRA criteria. CMC= Criterion Maximum Concentration, CCC= Criterion Continuous Concentration, TU= Toxic Unit]

Station Code	Data Year	Dissolved Al Count	Al Min (mg/L)	Al Max (mg/L)	Al Avg (mg/L)	Al CMC TU Max	Al CCC TU Max	Al CMC TU >1	Al CCC TU >1
W2407	2013	3	0.019	0.054	0.037	0.2	0.3	0	0

MassDEP Total Ammonia Nitrogen (TAN) Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

[TAN= NH3 + NH4+]

Station Code	Data Year	TAN Count	TAN Min (mg/L)	TAN Max (mg/L)	TAN Avg (mg/L)	Count TAN >Chronic	Count TAN >Acute
W2407	2013	4	0.020	0.040	0.028	0	0

MassDEP Chloride Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Chloride Count	Chloride Min (mg/L)	Chloride Max (mg/L)	Chloride Avg (mg/L)	Count Chloride >230	Count Chloride >860
W2407	2013	4	44	89	72	0	0

MassDEP Discrete Specific Conductance Data (2011-2018) Compared to Estimated Chloride Criteria. (MassDEP Undated7) (MassDEP Undated5)

Station Code	Start Date	End Date	SpCond Count	SpCond Min (µs/cm)	SpCond Max (µs/cm)	Count SpCond >904	Count SpCond >994	Count SpCond >3193	Count SpCond >3512	Consecutive sets >904	Consecutive sets >994
W2407	05/15/13	09/18/13	2	295	321	0	0	0	0	0	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in this Wading River AU (MA62-61); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	
MassDEP staff conducted water quality field surveys of this Wading River AU (MA62-61) ~1150 ft downstream/northeast from Rt.140 (Taunton Avenue) in Norton (W2407) during the summer of 2013 as part of the MAP2 monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews (n=8). Based on this information, the Aesthetics Use for this Wading River AU (MA62-61) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.140 (Taunton Avenue) (W0858) in 2006, is being removed as there were no dense filamentous algae observed just downstream of Rt.140 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2407	MassDEP	Water Quality	Wading River	[approximately 1150 feet downstream/northeast from Route 140 (Taunton Avenue), Norton]	41.949458	-71.175526

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2407	Wading River	2013	8	MassDEP aesthetics observations for station W2407/MAP2-439 on Wading River can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2407	2013	8	5	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2407	Wading River	2013	Color	Brownish	1	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2407	Wading River	2013	Color	Dark Tan	1	8
W2407	Wading River	2013	Color	Light Yellow/Tan	3	8
W2407	Wading River	2013	Color	None	1	8
W2407	Wading River	2013	Color	Reddish	2	8
W2407	Wading River	2013	Objectionable Deposits	No	7	8
W2407	Wading River	2013	Objectionable Deposits	Unobservable	1	8
W2407	Wading River	2013	Odor	None	8	8
W2407	Wading River	2013	Scum	No	6	8
W2407	Wading River	2013	Scum	Yes	2	8
W2407	Wading River	2013	Turbidity	None	7	8
W2407	Wading River	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria data at this Wading River AU (MA62-61) ~1150 ft downstream/northeast from Rt.140 (Taunton Avenue) in Norton (W2407) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV. The seasonal GM was 75 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.
Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Primary Contact Recreation Use for this Wading River AU (MA62-61) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.140 (Taunton Avenue) (W0858) in 2006, is being removed as there were no dense filamentous algae observed just downstream of Rt.140 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2407	MassDEP	Water Quality	Wading River	[approximately 1150 feet downstream/northeast from Route 140 (Taunton Avenue), Norton]	41.949458	-71.175526

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

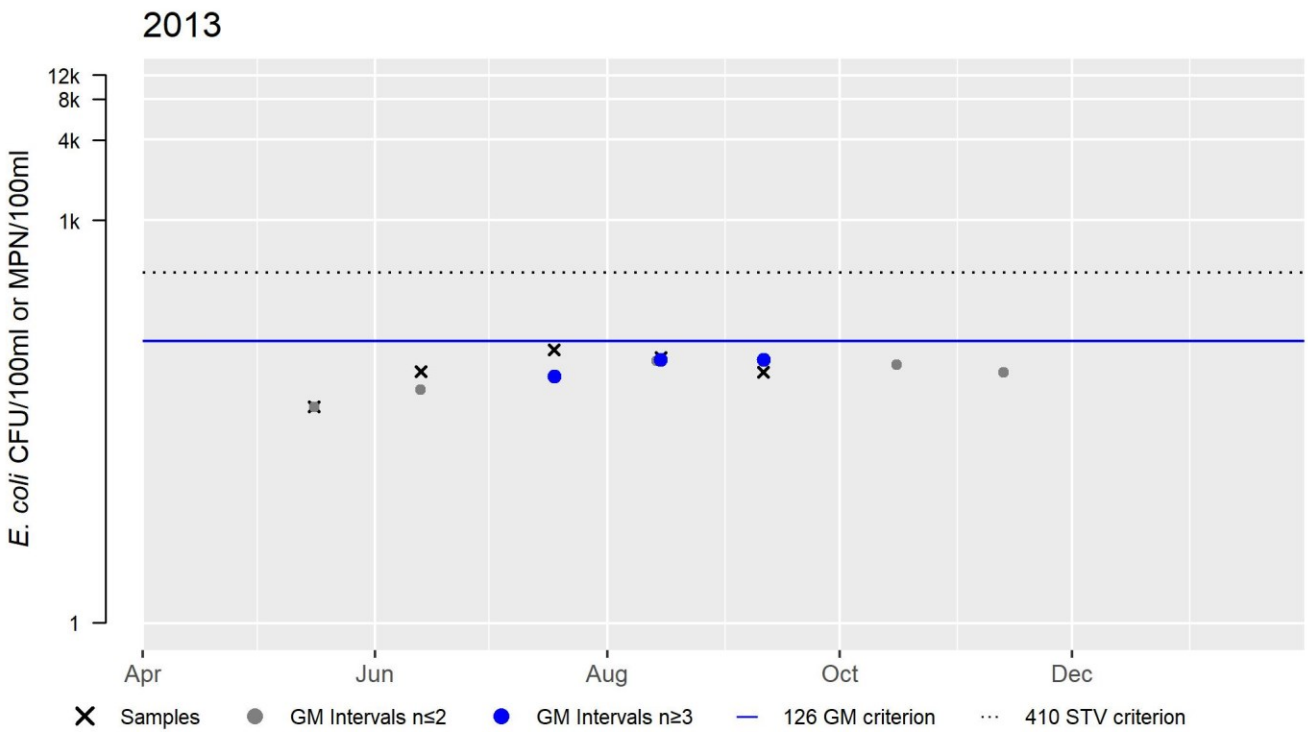
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2407	MassDEP	E. coli	05/16/13	09/11/13	5	41	109	75

W2407 *E. coli* (90-day Interval), Primary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	75
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Secondary Contact Recreation

2022 Use Attainment	Alert
Fully Supporting	NO

2022 Use Attainment Summary

MassDEP staff collected *E. coli* bacteria data at this Wading River AU (MA62-61) ~1150 ft downstream/northeast from Rt. 140 (Taunton Avenue) in Norton (W2407) between May and September 2013 (n=5). Data analysis indicated that none of the intervals had GMs >630 CFU/100mL and no samples exceeded the 1260 CFU/100mL STV. The seasonal GM was 75 CFU/100mL. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during eight site visits to this location.

Since the *E. coli* data did not exceed the use attainment impairment threshold for a single year, low frequency dataset, the Secondary Contact Recreation Use for this Wading River AU (MA62-61) continues to be assessed as Fully Supporting. The Alert previously identified due to dense filamentous algae at Rt.140 (Taunton Avenue) (W0858) in 2006, is being removed as there were no dense filamentous algae observed just downstream of Rt.140 in 2013 and water quality data (collected in the same location in 2013) were generally not indicative of nutrient enrichment problems.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2407	MassDEP	Water Quality	Wading River	[approximately 1150 feet downstream/northeast from Route 140 (Taunton Avenue), Norton]	41.949458	-71.175526

Bacteria Data

Bacteria Data Collected by MassDEP and External Data Providers 2011-2020 (90-day Interval Analysis) (MassDEP Undated7) (MassDEP Undated5)

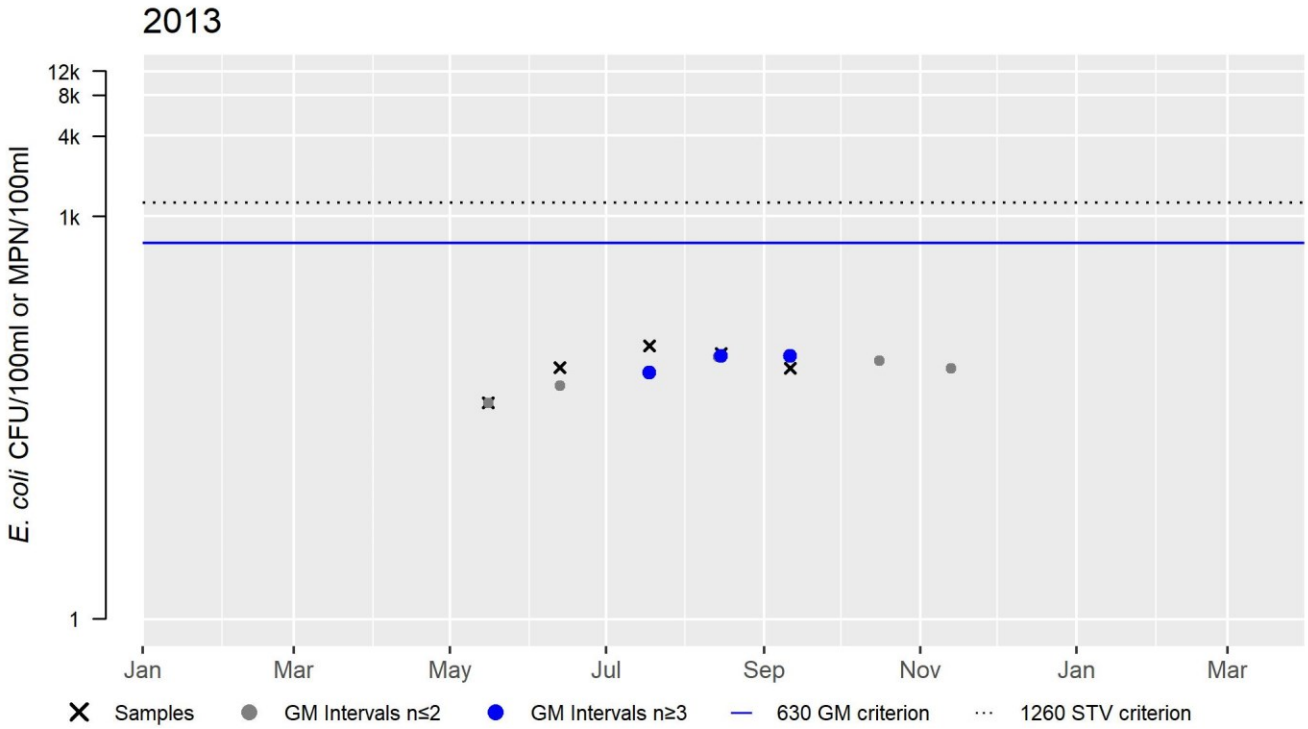
[Result units are CFU/100ml or MPN/100ml]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result (CFU/100ml or MPN/100ml)	Maximum Sample Result (CFU/100ml or MPN/100ml)	Seasonal Geometric Mean (CFU/100ml or MPN/100ml)
W2407	MassDEP	E. coli	05/16/13	09/11/13	5	41	109	75

W2407 *E. coli* (90-day Interval), Secondary Contact Recreational Use Season

Var	Res
Samples	5
SeasGM	75
#GMI	3
#GMI Ex	0
%GMI Ex	0
n>STV	0
%n>STV	0

Abbreviations: Samples = #samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = number GM Intervals; #GMI Ex = number GMI Exeedances; %GMI Ex = percent GMI Exeedances; n>STV = #samples>Statistical Threshold Value (STV); %n>STV = percent samples>STV



Waldo Lake (MA62201)

Location:	Avon/Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	72 ACRES
Classification/Qualifier:	B

No usable data were available for Waldo Lake (MA62201) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Watson Pond (MA62205)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	78 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	Algae		Unchanged
5	5	Dissolved Oxygen		Unchanged
5	5	Enterococcus		Unchanged
5	5	Nutrient/Eutrophication Biological Indicators		Unchanged
5	5	Phosphorus, Total		Unchanged
5	5	Transparency / Clarity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Algae	Source Unknown (N)			X	X	X
Dissolved Oxygen	Source Unknown (N)	X				
Enterococcus	Source Unknown (N)				X	
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X				
Phosphorus, Total	Source Unknown (N)	X				
Transparency / Clarity	Source Unknown (N)			X	X	X

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for Watson Pond (MA62205), so it will continue to be assessed as Not Supporting with the Dissolved Oxygen, Fanwort, Nutrient/Eutrophication Biological Indicators and Total Phosphorus impairments being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	

Fish toxics sampling was performed by MassDEP WPP biologists at Watson Pond (MA62205) in Taunton in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals and organochlorine pesticides. No site-specific fish consumption advisory was issued by MassDPH. The Fish Consumption Use of Watson Pond (MA62205) is Not Assessed since there is no site-specific advisory.

MassDEP fish toxics sampling information (2018-2020) and MassDPH Fish Consumption Advisory information (2019-2021) Data Sources: (MassDEP 2018, MassDEP Undated7)

Fish toxics sampling was performed by MassDEP WPP biologists at Watson Pond in Taunton (MA62205) in May 2018 as part of the probabilistic lake surveys (MAP2). Edible fillets were analyzed for the presence of mercury, metals and organochlorine pesticides. No site-specific fish consumption advisory was issued by MassDPH.

Aesthetic

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aesthetic Use for Watson Pond (MA62205), so it will continue to be assessed as Not Supporting with the Algae and Transparency/Clarity impairments being carried forward.	

Primary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
Watsons Pond Beach (ID 4961) on this Watson Pond AU (MA62205) was typically posted less than 10% of the season (0-2%) between 2014 and 2019, with the exception of the 2015 bathing season when it was posted 18% of the time. The Primary Contact Recreation Use for Watson Pond (MA62205) will continue to be assessed as Not Supporting since beach postings exceeded 10% of the season in 2015. The Algae, *Enterococcus* and Transparency/Clarity impairments are being carried forward.	

Beach Postings

MassDPH Beach Posting Data Summary (% Bathing Season Posted 2014-2019) (Bailey, Logan Feb. 2, 2021) (MassDEP Undated3)

Beach ID	Beach Name/Town	Left Boundary (Latitude)	Left Boundary (Longitude)	Right Boundary (Latitude)	Right Boundary (Longitude)	2014	2015	2016	2017	2018	2019	# years> 10%
4961	Watsons Pond (DCR)/Taunton	41.94965	-71.11530	41.94989	-71.11510	2%	18%	0%	0%	0%	2%	1

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
There are no *E. coli* bacteria data available to assess the Secondary Contact Recreation Use for Watson Pond (MA62205), so it will continue to be assessed as Not Supporting with the Algae and Transparency/Clarity impairments being carried forward.	

Weir Village North Pond (MA62206)

Location:	west of Carriage Lane, Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	17 ACRES
Classification/Qualifier:	B

No usable data were available for Weir Village North Pond (MA62206) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fish Passage Barrier*)	Hydrostructure Impacts on Fish Passage (Y)	X				

Weir Village South Pond (MA62207)

Location:	northeast of the railroad tracks west of Linden Street, Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	14 ACRES
Classification/Qualifier:	B

No usable data were available for Weir Village South Pond (MA62207) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

West Meadow Pond (MA62208)

Location:	West Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	104 ACRES
Classification/Qualifier:	B

No usable data were available for West Meadow Pond (MA62208) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Non-Native Aquatic Plants*)		Unchanged

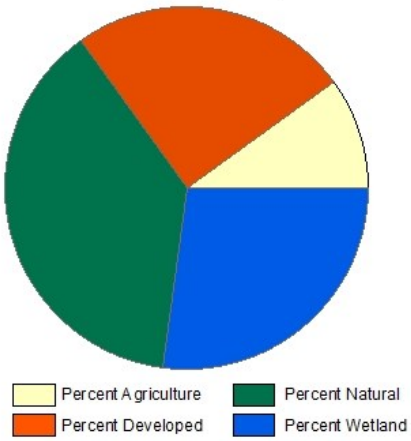
Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X		X	X	X

White Oak Brook (MA62-79)

Location:	Headwaters east of Sandy Lane, Hanson to mouth at inlet Monponsett Pond, West Basin (excluding approximately 0.2 miles through Reservoir (White Oak Reservoir) segment MA62157).
AU Type:	RIVER
AU Size:	1.6 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

White Oak Brook - MA62-79

Watershed Area: 1.01 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	1.01	1.01	0.61	0.74
Agriculture	9.9%	9.9%	7.8%	13.5%
Developed	25%	25%	18%	18.6%
Natural	38%	38%	34.6%	33.8%
Wetland	27.1%	27.1%	39.6%	34.2%
Impervious Cover	10.9%			

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	2	None		Unchanged

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Insufficient Information	NO
2022 Use Attainment Summary	
MassDEP staff conducted some water quality sampling in White Oak Brook (MA62-79) as part of the Baseline Lakes sampling project at Reservoir (White Oak Reservoir). Sampling in White Oak Brook was conducted at Pleasant St., Hanson (W2119) (2011-2015, n=14) and downstream of South St. above confluence with Reservoir, at White Oak Brook impoundment, Hanson (W2174) (2011, 2013-2015, n=5) respectively. Staff observed dense film or filamentous algae just once in 2011 at Pleasant St., Hanson (W2119). Too limited data/information are available to evaluate the Aquatic Life Use for White Oak Brook (MA62-79) so it is assessed as having Insufficient Information.	

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2119	MassDEP	Water Quality	White Oak Brook	[Pleasant Street, Hanson]	42.018986	-70.853425
W2174	MassDEP	Water Quality	White Oak Brook	[downstream of South Street above confluence with Reservoir, a White Oak Brook impoundment, Hanson]	42.032145	-70.854283

Physico-chemical Water Quality Information

Nutrients (Primary Producer Screening, Physico-chemical Screening)

MassDEP Nutrient Enrichment Indicator Data (2011-2018). (MassDEP Undated7) (MassDEP Undated5)
[Summer seasonal total phosphorus data collected May-Sept]

Station Code	Data Year	Seasonal TP Count	Seasonal TP Min (mg/L)	Seasonal TP Max (mg/L)	Seasonal TP Avg (mg/L)	Delta DO Max (mg/L)	Delta DO Avg (mg/L)	DO Sat Max (%)	pH Max (SU)	Count Algal Obsv.	Dense/V. Dense Film/Fila. Algae
W2119	2011	3	0.094	0.120	0.111	--	--	--	--	3	1
W2119	2012	1	0.088	0.088	0.088	--	--	--	--	1	0
W2119	2013	3	0.053	0.110	0.086	--	--	--	--	3	0
W2119	2014	2	0.059	0.061	0.060	--	--	--	--	1	0
W2119	2015	5	0.051	0.092	0.066	--	--	--	--	5	0
W2174	2011	1	0.11	0.110	0.110	--	--	--	--	1	0
W2174	2013	1	0.13	0.130	0.130	--	--	--	--	1	0
W2174	2014	1	0.073	0.073	0.073	--	--	--	--	--	--
W2174	2015	2	0.053	0.061	0.057	--	--	--	--	2	0

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in White Oak Brook (MA62-79); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Fully Supporting	NO
2022 Use Attainment Summary	

MassDEP staff conducted sampling in White Oak Brook (MA62-79) at two sites during the summers of 2011, 2012, 2013, 2014 and 2015, Baseline Lakes sampling project at Reservoir (White Oak Reservoir). Sampling in White Oak Brook was conducted downstream of South St. above the confluence with the Reservoir (White Oak Brook impoundment) in Hanson (W2174, n=1 in 2011, 2012, 2013 and 2014, n=2 in 2015) and farther downstream at Pleasant St. in Hanson (W2119, n=3 in 2011 and 2013, n=1 in 2012, n=2 in 2014 and n=5 in 2015). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at any site during any survey. The Aesthetics Use for White Oak Brook (MA62-79) is assessed as Fully Supporting based on the general lack of objectionable conditions noted by MassDEP staff during summers 2011 through 2015.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2119	MassDEP	Water Quality	White Oak Brook	[Pleasant Street, Hanson]	42.018986	-70.853425
W2174	MassDEP	Water Quality	White Oak Brook	[downstream of South Street above confluence with Reservoir, a White Oak Brook impoundment, Hanson]	42.032145	-70.854283

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2018) (MassDEP Undated5)

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2119	White Oak Brook	2011	3	MassDEP aesthetics observations for station W2119 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011.
W2119	White Oak Brook	2012	1	MassDEP aesthetics observations for station W2119 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2012. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).
W2119	White Oak Brook	2013	3	MassDEP aesthetics observations for station W2119 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013.
W2119	White Oak Brook	2014	2	MassDEP aesthetics observations for station W2119 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).
W2119	White Oak Brook	2015	5	MassDEP aesthetics observations for station W2119 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015.

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2174	White Oak Brook	2011	1	MassDEP aesthetics observations for station W2174 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2011. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).
W2174	White Oak Brook	2013	1	MassDEP aesthetics observations for station W2174 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2013. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).
W2174	White Oak Brook	2014	1	MassDEP aesthetics observations for station W2174 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2014. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=1).
W2174	White Oak Brook	2015	2	MassDEP aesthetics observations for station W2174 on White Oak Brook can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015. However, there is insufficient information to assess the Aesthetics Use since data were limited (n=2).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2018) (MassDEP Undated7) (MassDEP Undated5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2119	2011	3	3	1
W2119	2012	1	1	0
W2119	2013	3	3	0
W2119	2014	2	1	0
W2119	2015	5	5	0
W2174	2011	1	1	0
W2174	2013	1	1	0
W2174	2014	1	0	0
W2174	2015	2	2	0

MassDEP Aesthetics Observations (2011-2018) (MassDEP Undated7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2119	White Oak Brook	2011	Color	Brownish	1	3
W2119	White Oak Brook	2011	Color	Greyish	2	3
W2119	White Oak Brook	2011	Objectionable Deposits	No	2	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2119	White Oak Brook	2011	Objectionable Deposits	Yes	1	3
W2119	White Oak Brook	2011	Odor	Musty (Basement)	1	3
W2119	White Oak Brook	2011	Odor	None	2	3
W2119	White Oak Brook	2011	Scum	No	2	3
W2119	White Oak Brook	2011	Scum	Yes	1	3
W2119	White Oak Brook	2011	Turbidity	None	1	3
W2119	White Oak Brook	2011	Turbidity	Slightly Turbid	2	3
W2119	White Oak Brook	2012	Color	Greyish	1	1
W2119	White Oak Brook	2012	Objectionable Deposits	No	1	1
W2119	White Oak Brook	2012	Odor	None	1	1
W2119	White Oak Brook	2012	Scum	No	1	1
W2119	White Oak Brook	2012	Turbidity	Slightly Turbid	1	1
W2119	White Oak Brook	2013	Color	Brownish	1	3
W2119	White Oak Brook	2013	Color	Greyish	2	3
W2119	White Oak Brook	2013	Objectionable Deposits	No	3	3
W2119	White Oak Brook	2013	Odor	None	3	3
W2119	White Oak Brook	2013	Scum	No	3	3
W2119	White Oak Brook	2013	Turbidity	Moderately Turbid	1	3
W2119	White Oak Brook	2013	Turbidity	Slightly Turbid	2	3
W2119	White Oak Brook	2014	Color	Greyish	1	2
W2119	White Oak Brook	2014	Color	None	1	2
W2119	White Oak Brook	2014	Objectionable Deposits	No	2	2
W2119	White Oak Brook	2014	Odor	None	2	2
W2119	White Oak Brook	2014	Scum	No	2	2
W2119	White Oak Brook	2014	Turbidity	None	1	2
W2119	White Oak Brook	2014	Turbidity	Slightly Turbid	1	2
W2119	White Oak Brook	2015	Color	Brownish	1	5
W2119	White Oak Brook	2015	Color	Greyish	2	5
W2119	White Oak Brook	2015	Color	Light Yellow/Tan	2	5
W2119	White Oak Brook	2015	Objectionable Deposits	No	5	5
W2119	White Oak Brook	2015	Odor	None	5	5
W2119	White Oak Brook	2015	Scum	No	4	5
W2119	White Oak Brook	2015	Scum	Yes	1	5
W2119	White Oak Brook	2015	Turbidity	None	2	5
W2119	White Oak Brook	2015	Turbidity	Slightly Turbid	3	5
W2174	White Oak Brook	2011	Color	Brownish	1	1
W2174	White Oak Brook	2011	Objectionable Deposits	No	1	1
W2174	White Oak Brook	2011	Odor	NR	1	1
W2174	White Oak Brook	2011	Scum	No	1	1
W2174	White Oak Brook	2011	Turbidity	Slightly Turbid	1	1
W2174	White Oak Brook	2013	Color	Brownish	1	1
W2174	White Oak Brook	2013	Objectionable Deposits	No	1	1
W2174	White Oak Brook	2013	Odor	None	1	1
W2174	White Oak Brook	2013	Scum	Yes	1	1
W2174	White Oak Brook	2013	Turbidity	Slightly Turbid	1	1
W2174	White Oak Brook	2014	Color	Greyish	1	1

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2174	White Oak Brook	2014	Objectionable Deposits	Yes	1	1
W2174	White Oak Brook	2014	Odor	None	1	1
W2174	White Oak Brook	2014	Scum	Yes	1	1
W2174	White Oak Brook	2014	Turbidity	Moderately Turbid	1	1
W2174	White Oak Brook	2015	Color	Greyish	1	2
W2174	White Oak Brook	2015	Color	Light Yellow/Tan	1	2
W2174	White Oak Brook	2015	Objectionable Deposits	No	2	2
W2174	White Oak Brook	2015	Odor	None	2	2
W2174	White Oak Brook	2015	Scum	No	2	2
W2174	White Oak Brook	2015	Turbidity	None	1	2
W2174	White Oak Brook	2015	Turbidity	Slightly Turbid	1	2

Primary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *Enterococci* or *E. coli* bacteria data are available to assess the Primary Contact Recreation Use for White Oak Brook (MA62-79) so it is Not Assessed.	

Secondary Contact Recreation

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No *E. coli* bacteria data are available to assess the Secondary Contact Recreation Use for White Oak Brook (MA62-79) so it is Not Assessed.	

Whiteville Pond (MA62211)

Location:	Mansfield.
AU Type:	FRESHWATER LAKE
AU Size:	14 ACRES
Classification/Qualifier:	B

No usable data were available for Whiteville Pond (MA62211) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Winnecunnet Pond (MA62213)

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

No usable data were available for Winnecunnet Pond (MA62213) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				

Winnetuxet River (MA62-24)

Location:	Headwaters, confluence of Muddy Pond Brook and Doten Brook, Carver to mouth at confluence with the Taunton River, Halifax.
AU Type:	RIVER
AU Size:	12.1 MILES
Classification/Qualifier:	B

No usable data were available for Winnetuxet River (MA62-24) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Wolomolopoag Pond (MA62216)

Location:	Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

No usable data were available for Wolomolopoag Pond (MA62216) for the 2022 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None		Unchanged

Woods Pond (MA62220)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	51 ACRES
Classification/Qualifier:	B

2018/20 AU Category	2022 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Unchanged
5	5	Turbidity		Unchanged

Impairment	Source (Confirmed Y/N)	Fish, other Aquatic Life and Wildlife	Fish Consumption	Aesthetic	Primary Contact Recreation	Secondary Contact Recreation
(Fanwort*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X				
Turbidity	Source Unknown (N)			X	X	X

Designated Use Attainment Decisions

Fish, other Aquatic Life and Wildlife

2022 Use Attainment	Alert
Not Supporting	NO
2022 Use Attainment Summary	
No data are available to assess the status of the Aquatic Life Use for Woods Pond (MA62220) so it will continue to be assessed as Not Supporting with the Fanwort impairment being carried forward.	

Fish Consumption

2022 Use Attainment	Alert
Not Assessed	NO
2022 Use Attainment Summary	
No fish toxics monitoring has been conducted in Woods Pond (MA62220); therefore, the Fish Consumption Use is Not Assessed.	

Aesthetic

2022 Use Attainment	Alert
Not Supporting	YES
2022 Use Attainment Summary	
C-HAB postings for Woods Pond (MA62220) were reported to MassDPH for 12 days in 2018. The Aesthetics Use for Woods Pond will continue to be assessed as Not Supporting. The Turbidity impairment is being carried forward. Since no extended blooms (>20 days) were reported, an impairment decision will not be made but an Alert for Harmful Algal Blooms is being added due to the postings in 2018.	

Algal Bloom Information

Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2019 MassDPH Data (Bailey, Logan April 15, 2021) (MassDEP Undated3)

C-HAB Summary Statement
C-HAB postings for Woods Pond (MA62220) were reported to MassDPH for 12 days in 2018. Since no extended blooms (>20 days) were reported, an impairment decision will not be made at this time. However, an Alert is identified for C-HABs.

Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2019) Provided by MassDPH (Bailey, Logan April 15, 2021)

Waterbody	**Sample Analysis Used in Issuing Advisory**	**Bloom Days, 2015**	**Bloom Days, 2016**	**Bloom Days, 2017**	**Bloom Days, 2018**	**Bloom Days, 2019**	**# Years with >20 Days of Closure**	**>1 Posting Per Year**
Woods Pond	Not issued or confirmed by sampling				12		0	no

Primary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	YES
2022 Use Attainment Summary	
C-HAB postings for Woods Pond were reported to MassDPH for 12 days in 2018. No *E. coli* or *Enterococcus* bacteria data are available to assess the status of the Primary Contact Recreation Use for Woods Pond (MA62220), so it will continue to be assessed as Not Supporting with the Turbidity impairment being carried forward. Since no extended blooms (>20 days) were reported, an impairment decision will not be made but an Alert for Harmful Algal Blooms is being added due to the postings in 2018.	

Secondary Contact Recreation

2022 Use Attainment	**Alert**
Not Supporting	YES
2022 Use Attainment Summary	
C-HAB postings for Woods Pond were reported to MassDPH for 12 days in 2018. No *E. coli* bacteria data are available to assess the status of the Secondary Contact Recreation Use for Woods Pond (MA62220), so it will continue to be assessed as Not Supporting with the Turbidity impairment being carried forward. Since no extended blooms (>20 days) were reported, an impairment decision will not be made but an Alert for Harmful Algal Blooms is being added due to the postings in 2018.	

Data Sources

Bailey, Logan. "Email providing Harmful Algal Bloom advisory data (2015-2019) in the attached spreadsheet "HAB_Advisory_Data_forDEP"." Email to Laurie Kennedy (MassDEP Watershed Planning Program) and others with subject line "RE: Beaches Bill reporting data", Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, April 15, 2021.

Bailey, Logan. "RE: Beaches Bill reporting data." Email to Dan Davis (MassDEP Watershed Planning Program) providing an Excel file (DEP_BeachDataRequest) with data for marine and DCR freshwater beaches, Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, MA, Feb. 2, 2021.

Bettencourt, Greg. "MA shellfish classification areas, shapefile provided via email." Email to Laurie Kennedy (MassDEP Watershed Planning Program) with subject line "RE: Hello and question on DMF GIS shellfish classification datalayer - next update", Division of Marine Fisheries, Massachusetts Department of Fish and Game, Gloucester, MA, August 25, 2021.

Chase, B. "Diadromous Fish Restoration Priority List Version 4.0 All Regions (Excel sheet)." Massachusetts Division of Marine Fisheries, New Bedford, MA, 2020.

DER. "Baker-Polito Administration Announces $2.7 Million for River and Wetland Restoration and Climate Adaptation (Press Release)." Division of Ecological Restoration, Massachusetts Department of Fish and Game. June 24, 2019. https://www.mass.gov/news/baker-polito-administration-announces-27-million-for-river-and-wetland-restoration-and-climate (accessed June 2021).

—. "DER and Partners Celebrate Barstowe's Pond Dam Removal (Taunton)." Division of Ecological Restoration, Massachusetts Department of Fish and Game. April 24, 2018. https://www.mass.gov/news/der-and-partners-celebrate-barstowes-pond-dam-removal-taunton (accessed June 2021).

—. "Mill River Restoration." Division of Ecological Restoration, Massachusetts Department of Fish and Game. Undated. https://www.mass.gov/service-details/mill-river-restoration (accessed June 2021).

—. "Removal of the Carver Cotton Gin Dam on the Satucket River Begins." Division of Ecological Restoration, Massachusetts Department of Fish and Game. November 2, 2017. https://www.mass.gov/news/removal-of-the-carver-cotton-gin-dam-on-the-satucket-river-begins (accessed June 2021).

Deschenes, Jordan. "Last dam comes down on Mill River in Taunton in wake of 2005 crisis." Taunton Gazette. January 11, 2018. https://www.tauntongazette.com/news/20180111/last-dam-comes-down-on-mill-river-in-taunton-in-wake-of-2005-crisis (accessed June 2021).

Drought Management Task Force. "Open files compiling 2001-2020 information from "Past Drought Declarations Maps and Hisory" website." Information provided by the Drought Management Task Force and compiled by MassDEP Watershed Planning Program, Worcester, MA. September 2021. https://www.mass.gov/info-details/drought-status#past-drought-declarations-maps-and-history- (accessed September 2021).

Google Earth Pro. "Satellite Imagery of selected stream and lake/pond segments." Massachusetts, Undated.

MassDEP. "2015 Scanned Project Files, Taunton watershed lake survey data, 1996, D01-32.PDF." Division of Watershed Management, Massachusetts Department of Evironmental Protection, Worcester, MA, 1996.

—. "2018 DWM Environmental Monitoring Overview." *CN 444.0.* Division of Watershed Management, Massachusetts Department of Environmental Protection. 2018. https://www.mass.gov/doc/2018-environmental-monitoring-summary/download (accessed July 2021).

MassDEP. "Final Massachusetts Integrated List of Waters for the Clean Water Act 2018/2020 Reporting Cycle (and associated basin-specific appendices)." CN 505.1, Available at https://www.mass.gov/lists/integrated-lists-of-waters-related-reports, Watershed Planning Program, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2021.

MassDEP. "Integrated Listing History 1992-2014 INTLIST_HISTORY.xlsx." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2015.

MassDEP. "Massachusetts Consolidated Assessment and Listing Methodology (CALM) Guidance Manual for the 2012 Reporting Cycle." CN 405.0, Watershed Planning Program, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2012.

MassDEP. "Massachusetts Consolidated Assessment and Listing Methodology (CALM) Guidance Manual for the 2022 Reporting Cycle." CN 564.0, Watershed Planning Program, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2022.

MassDEP. "Open file analysis of 2011-2019 bacteria source tracking data collected by MassDEP Southeast Regional Office staff." Southeast Regional Office, Massachusetts Department of Environmental Protection, Lakeville, MA, Undated1.

MassDEP. "Open file analysis of DFG 2012-2019 fish community data using 2022 CALM guidance." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated2.

MassDEP. "Open file analysis of external water quality data (potential date range 2011-2020) using 2022 CALM guidance." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated3.

MassDEP. "Open file analysis of MassDEP WPP benthic survey data (2011-2018) using 2022 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated4.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 2011 and 2018 using 2022 CALM guidance." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated5.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 2011 and 2018 using 2022 CALM guidance." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated5.

MassDEP. "Open file analysis of shellfish growing area classifications using 2022 CALM guidance." Data provided by MassDFG Division of Marine Fisheries staff in August 25, 2021 email, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated6.

MassDEP. "Open files of unpublished, validated water quality monitoring data, field sheet data, and GIS datalayers in development." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated7.

MassDEP. "Scanned historical 305(b) and 303(d) coding sheets taunton91_02_searchable.pdf." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2002.

MassDEP. "Taunton River Watershed 2001 Water Quality Assessment Report." CN 94.0, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, 2005.

MassDER. "Baker-Polito Administration Announces Over $1.3 Million for River Restoration Projects (Press Release)." Division of Ecological Restoration, Massachusetts Department of Fish and Game. June 29, 2017a. https://www.mass.gov/news/baker-polito-administration-announces-over-13-million-for-river-restoration-projects (accessed June 2021).

MassDER. *Completed and Future Dam Removal Projects, as of April 12, 2017.* Database. Prod. Division of Ecological Restoration Massachusetts Department of Fish and Game. Boston, Massachusetts, 2017b.

MassDFG. *Fish Community Data 1964-2019.* Database submitted to MassDEP on 24 November 2020. Division of Fisheries and Wildlife, Massachusetts Department of Fish and Game. Westborough, MA, November 24, 2020.

MassDMF. "Fishway Construction at the Draka Dam on the Three Mile River." *Mass.Gov.* 1 26, 2020. https://www.mass.gov/news/fishway-construction-at-the-draka-dam-on-the-three-mile-river (accessed 8 11, 2022).

MassDPH. "Freshwater Fish Consumption Advisory List." Bureau of Environmental Health, Massachusetts Department of Public Health. June 2021. https://www.mass.gov/doc/public-health-freshwater-fish-consumption-advisories-2021/download (accessed July 2021).

Reback, K E, P D Brady, K D McLaughlin, and C G Milliken. *A Survey of Anadromous Fish Passage in Coastal Massachusetts. Part 1 Southeastern MA.* Technical Report, Pocasset, Massachusetts: Massachusetts Division of Marine Fisheries, 2004.

TNC. "On-The-Ground Projects: Spotlight on Cotton Gin Mill Dam Removal and Fish Passage Project." *Available on Atlanticfishhabitat.org.* Text and pictures provided by The Nature Conservancy. Undated. https://www.atlanticfishhabitat.org/wp-content/uploads/2012/10/ACFHP-project-factsheet-FY15-MA.pdf (accessed June 2021).

—. "What a River Means." The Nature Conservancy. March 16, 2020. https://www.nature.org/en-us/about-us/where-we-work/united-states/massachusetts/stories-in-massachusetts/mill-river-restoration/ (accessed June 2021).

TRWA. "2019 water quality monitoring data submitted to MassDEP WPP portal on 3/2/2020." Taunton River Watershed Association, Taunton, MA, 2020.

UMass-Amherst. "2014-2017 water quality monitoring data submitted to MassDEP WPP portal on 8/13/2018." University of Massachusetts - Amherst, Amherst, MA, 2018.

USGS. "USGS 2019-2020 Water Quality Data from Taunton River Watershed Gages." USGS Current Conditions for the Nation: Build Time Series. 2020. https://waterdata.usgs.gov/nwis/uv (accessed April 2020).

Wildman, Nick. "Re: DER Dam Removals/Culvert Replacements: Islands, Millers, and Taunton." Email to Shannon Miranda (MassDEP Watershed Planning Program), Division of Ecological Restoration, Massachusetts Department of Fish and Game, Boston, MA, June 14, 2021.

Wildman, Nick. "RE: Request for updated Access Habitat and Dam Removal Database for DEP." Email to Laurie Kennedy (MassDEP Watershed Planning Program) with attachment indicating status of DER priority projects, Massachusetts Division of Ecological Restoration, Boston, MA, April 15, 2021.