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

Appendix 33
Quinebaug 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
Rebecca L. Tepper, Secretary
Massachusetts Department of Environmental Protection
Bonnie Heiple, Commissioner
Bureau of Water Resources
Kathleen M. Baskin, Assistant Commissioner

December 2025

CN 625.0

Watershed Planning Program

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

Acknowledgements

The 2024/2026 Integrated Report (IR) could not have been produced without the dedicated efforts of program staff and input from other Executive Office of Energy and Environmental Affairs (EEA) staff, EPA colleagues, and stakeholder groups. Many thanks to WPP staff who worked directly on the assessments and supporting tasks (e.g., GIS support, data reviews, data analyses, ATTAINS and reports), including Mason Saleeba, Jenny Peet, Jenny Sheppard, Kari Winfield, Stephanie Figary, Bob Smith, Tim Gardner, Anna Mayor, Shervon De Leon, Matt Reardon, Richard Chase, and Richard Carey. Many thanks to WPP field sampling crews, WPP interns, laboratory staff at the Wall Experiment Station, and external data providers who all played important roles in generating the water quality data used to inform decisions.

Disclaimer

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

Contact Information

Watershed Planning Program
Division of Watershed Management, Bureau of Water Resources
Massachusetts Department of Environmental Protection
8 New Bond Street, Worcester, MA 01606
Watershed Planning Program website
Email address: dep.wpp@mass.gov

Notice of Availability

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

Overview of Appendix Contents

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

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

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

The following abbreviations are used when referencing designated uses:

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

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

Table of Contents

2024/26 Cycle Impairment Changes

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Alum Pond	MA41001	5	5	Dissolved Oxygen	--	Unchanged
Breakneck Brook	MA41-28	2	2	None	--	Unchanged
Browns Brook	MA41-20	2	2	None	--	Unchanged
Cady Brook	MA41-05	5	5	(Dewatering*)	--	Unchanged
Cady Brook	MA41-05	5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged
Cady Brook	MA41-06	5	5	(Dewatering*)	--	Unchanged
Cady Brook	MA41-06	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Cady Brook	MA41-06	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Cedar Pond	MA41008	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Cedar Pond	MA41008	5	5	Harmful Algal Blooms	--	Unchanged
Cohasse Brook	MA41-12	5	5	Benthic Macroinvertebrates	--	Unchanged
Cohasse Brook	MA41-12	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Cohasse Brook	MA41-12	5	5	Sedimentation/Siltation	--	Unchanged
East Brimfield Reservoir	MA41014	4a	4a	(Aquatic Plants (Macrophytes)*)	--	Added
East Brimfield Reservoir	MA41014	4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
East Brimfield Reservoir	MA41014	4a	4a	Mercury in Fish Tissue	33880	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Glen Echo Lake	MA41017	5	5	Dissolved Oxygen	--	Unchanged
Hamant Brook	MA41-15	2	2	None	--	Unchanged
Hamilton Reservoir	MA41019	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Hatchet Brook	MA41-14	5	5	Temperature	--	Unchanged
Holland Pond	MA41022	5	5	Harmful Algal Blooms	--	Unchanged
Holland Pond	MA41022	5	5	Mercury in Fish Tissue	33880	Unchanged
Hollow Brook	MA41-24	2	2	None	--	Unchanged
Lake George	MA41016	3	3	None	--	Unchanged
Leadmine Brook	MA41-21	3	3	None	--	Unchanged
Leadmine Pond	MA41027	3	3	None	--	Unchanged
Lebanon Brook	MA41-11	2	2	None	--	Unchanged
Little Alum Pond	MA41029	3	3	None	--	Unchanged
Mcintyre Pond	MA41031	3	3	None	--	Unchanged
Mckinstry Brook	MA41-13	5	5	(Debris*)	--	Unchanged
Mckinstry Brook	MA41-13	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Mckinstry Brook	MA41-13	5	5	Trash	--	Unchanged
Mill Brook	MA41-07	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Monson Road Pond	MA41059	3	3	None	--	Unchanged
Morse Pond	MA41033	5	5	(Aquatic Plants (Macrophytes)*)	--	Unchanged
Morse Pond	MA41033	5	5	Dissolved Oxygen	--	Unchanged
Morse Pond	MA41033	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Mountain Brook	MA41-18	3	3	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
New Boston Road Pond	MA41035	3	3	None	--	Unchanged
No. 3 Reservoir	MA41038	3	3	None	--	Unchanged
No. 4 Reservoir	MA41039	3	3	None	--	Unchanged
No. 5 Reservoir	MA41040	3	3	None	--	Unchanged
Pistol Pond	MA41057	5	5	(Aquatic Plants (Macrophytes)*)	--	Unchanged
Pistol Pond	MA41057	5	5	Dissolved Oxygen	--	Unchanged
Pistol Pond	MA41057	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Pistol Pond	MA41057	5	5	Transparency / Clarity	--	Unchanged
Prindle Lake	MA41043	3	3	None	--	Unchanged
Quinebaug River	MA41-01	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Quinebaug River	MA41-01	5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged
Quinebaug River	MA41-01	5	5	Fish Bioassessments	--	Unchanged
Quinebaug River	MA41-01	5	5	Lack of a Coldwater Assemblage	--	Unchanged
Quinebaug River	MA41-01	5	5	Mercury in Fish Tissue	--	Unchanged
Quinebaug River	MA41-01	5	5	Temperature	--	Unchanged
Quinebaug River	MA41-02	5	5	(Debris*)	--	Unchanged
Quinebaug River	MA41-02	5	5	Algae	--	Unchanged
Quinebaug River	MA41-02	5	5	Lack of a Coldwater Assemblage	--	Unchanged
Quinebaug River	MA41-02	5	5	Trash	--	Unchanged
Quinebaug River	MA41-02	5	5	Turbidity	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Quinebaug River	MA41-03	5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
Quinebaug River	MA41-03	5	5	Dissolved Oxygen	--	Unchanged
Quinebaug River	MA41-03	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Quinebaug River	MA41-03	5	5	Fecal Coliform	R1_MA_2024_04	Changed
Quinebaug River	MA41-03	5	5	Nutrients	--	Unchanged
Quinebaug River	MA41-04	5	4a	Fecal Coliform	R1_MA_2024_04	Changed
Quinebaug River	MA41-09	5	5	(Debris*)	--	Unchanged
Quinebaug River	MA41-09	5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged
Quinebaug River	MA41-09	5	5	Benthic Macroinvertebrates	--	Unchanged
Quinebaug River	MA41-09	5	5	Trash	--	Unchanged
Quinebaug River	MA41-09	5	5	Turbidity	--	Unchanged
Railroad Pond	MA41058	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Rocky Brook	MA41-22	2	2	None	--	Unchanged
Sherman Pond	MA41046	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Sibley Pond	MA41047	5	5	Dissolved Oxygen	--	Unchanged
Sibley Pond	MA41047	5	5	Turbidity	--	Unchanged
Sibley Pond	MA41048	5	5	Dissolved Oxygen	--	Unchanged
Sibley Pond	MA41048	5	5	Turbidity	--	Unchanged
Stevens Brook	MA41-19	2	2	None	--	Unchanged
Sylvestri Pond	MA41049	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
Tufts Branch	MA41-10	3	3	None	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Unnamed Tributary	MA41-16	5	5	Benthic Macroinvertebrates	--	Unchanged
Unnamed Tributary	MA41-16	5	5	Dissolved Oxygen	--	Unchanged
Unnamed Tributary	MA41-16	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Unnamed Tributary	MA41-16	5	5	Sedimentation/Siltation	--	Unchanged
Unnamed Tributary	MA41-23	2	2	None	--	Unchanged
Unnamed Tributary	MA41-25	3	3	None	--	Unchanged
Unnamed Tributary	MA41-26	2	2	None	--	Unchanged
Unnamed Tributary	MA41-27	3	3	None	--	Unchanged
Unnamed Tributary	MA41-29	5	5	Escherichia Coli (E. Coli)	--	Unchanged
Wales Brook	MA41-08	3	3	None	--	Unchanged
Walker Pond	MA41052	4c	4c	(Non-Native Aquatic Plants*)	--	Unchanged
West Brook	MA41-17	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Alum Pond (MA41001)

Location:	Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	198 ACRES
Classification/Qualifier:	B

No usable data were available for Alum Pond (MA41001) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

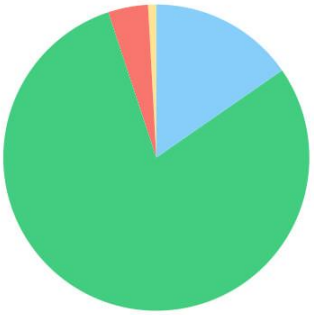
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--

Breakneck Brook (MA41-28)

Location:	Headwaters outlet Breakneck Pond, Sturbridge to mouth at confluence with Quinebaug River, Sturbridge.
AU Type:	RIVER
AU Size:	3.7 MILES
Classification/Qualifier:	B

Breakneck Brook (MA41-28)

Watershed Area: 4.41 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	3.02	2.58	1.13	1.03
Agriculture	0.9%	1%	1.1%	1.2%
Developed	4.2%	5%	2.6%	2.9%
Natural	79.6%	78.2%	73.5%	72%
Wetland	15.3%	15.8%	22.8%	23.9%
Impervious	1.5%	1.8%	0.8%	0.8%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Breakneck Brook (MA41-28), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Breakneck Brook (MA41-28) is assessed as Fully Supporting. MassDEP staff surveyed Breakneck Brook (MA41-28) ~5,290 feet (W2184) and ~8,450 feet (W2902) downstream from the MA/CT state line in Sturbridge during the summers of 2011 (n=6) and 2019 (n=4), respectively. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2184	MassDEP	Water Quality	Breakneck Brook	[approximately 5290 feet downstream from MA/CT state line, Sturbridge]	42.042161	-72.097147
W2902	MassDEP	Water Quality	Breakneck Brook	[approximately 8450 feet downstream/north from MA/CT state line, Sturbridge]	42.050488	-72.096273

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2184	Breakneck Brook	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2184 on Breakneck Brook (MA41-28) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2902	Breakneck Brook	2019	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2902 on Breakneck Brook (MA41-28) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2184	2011	6	5	0
W2902	2019	4	3	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2184	Breakneck Brook	2011	Color	Not Recorded	1	6
W2184	Breakneck Brook	2011	Color	None	4	6
W2184	Breakneck Brook	2011	Color	Light Yellow/Tan	1	6
W2184	Breakneck Brook	2011	Odor	None	6	6
W2184	Breakneck Brook	2011	Turbidity	None	6	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2184	Breakneck Brook	2011	Objectionable Deposits	No	6	6
W2184	Breakneck Brook	2011	Scum	No	5	6
W2184	Breakneck Brook	2011	Scum	Yes	1	6
W2184	Breakneck Brook	2011	Aquatic Plant Density, Overall	None	1	6
W2184	Breakneck Brook	2011	Aquatic Plant Density, Overall	Sparse	3	6
W2184	Breakneck Brook	2011	Aquatic Plant Density, Overall	Moderate	2	6
W2184	Breakneck Brook	2011	Periphyton Density, Filamentous	Not Recorded	1	6
W2184	Breakneck Brook	2011	Periphyton Density, Filamentous	None	5	6
W2184	Breakneck Brook	2011	Periphyton Density, Film	Not Recorded	1	6
W2184	Breakneck Brook	2011	Periphyton Density, Film	None	5	6
W2902	Breakneck Brook	2019	Color	None	2	4
W2902	Breakneck Brook	2019	Color	Light Yellow/Tan	2	4
W2902	Breakneck Brook	2019	Odor	None	4	4
W2902	Breakneck Brook	2019	Turbidity	None	4	4
W2902	Breakneck Brook	2019	Objectionable Deposits	No	4	4
W2902	Breakneck Brook	2019	Scum	No	4	4
W2902	Breakneck Brook	2019	Aquatic Plant Density, Overall	Unobservable	1	4
W2902	Breakneck Brook	2019	Aquatic Plant Density, Overall	None	3	4
W2902	Breakneck Brook	2019	Periphyton Density, Filamentous	Unobservable	1	4
W2902	Breakneck Brook	2019	Periphyton Density, Filamentous	None	2	4
W2902	Breakneck Brook	2019	Periphyton Density, Filamentous	Sparse	1	4
W2902	Breakneck Brook	2019	Periphyton Density, Film	Unobservable	1	4
W2902	Breakneck Brook	2019	Periphyton Density, Film	None	2	4
W2902	Breakneck Brook	2019	Periphyton Density, Film	Sparse	1	4
W2902	Breakneck Brook	2019	Aesthetics Impaired?	No	4	4

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Breakneck Brook (MA41-28) is assessed as Fully Supporting since the *E. coli* concentrations measured at W2184 during summer 2011 were below thresholds.

MassDEP staff collected *E. coli* bacteria samples from Breakneck Brook (MA41-28) approx. 5290 feet downstream from the MA/CT state line in Sturbridge (W2184) between May and October 2011 (n=6). Analysis of this limited frequency dataset indicated none of the intervals had GMs >126 CFU/100mL and none of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 35 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2184	MassDEP	Water Quality	Breakneck Brook	[approximately 5290 feet downstream from MA/CT state line, Sturbridge]	42.042161	-72.097147

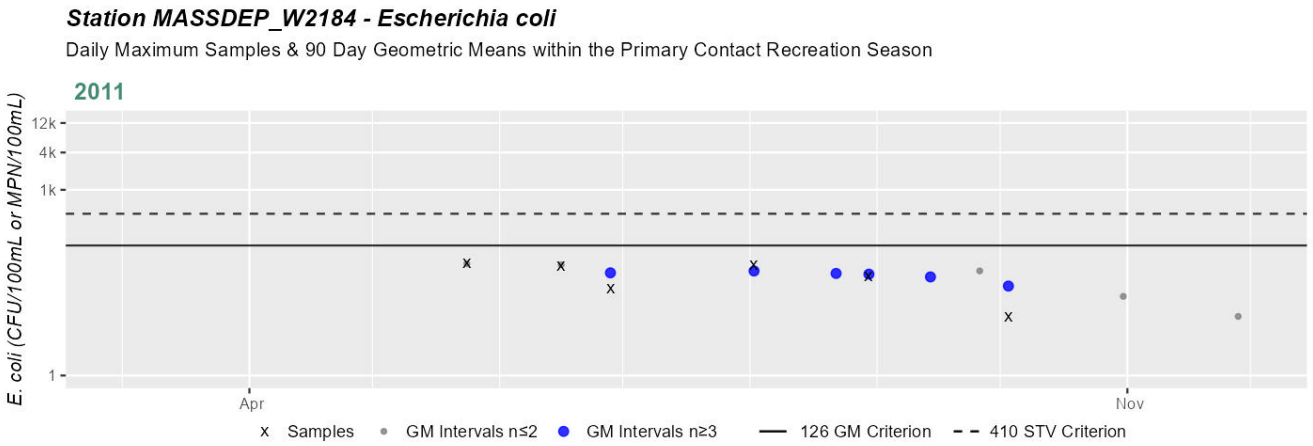
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2184	MassDEP	E. coli	05/24/11	10/03/11	6	9	64	35



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

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Breakneck Brook (MA41-28) is assessed as Fully Supporting since the *E. coli* concentrations measured at W2184 during summer 2011 were below thresholds.
MassDEP staff collected *E. coli* bacteria samples from Breakneck Brook (MA41-28) approx. 5290 feet downstream from the MA/CT state line in Sturbridge (W2184) between May and October 2011 (n=6). Analysis of this limited frequency dataset indicated none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 35 CFU/100mL.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2184	MassDEP	Water Quality	Breakneck Brook	[approximately 5290 feet downstream from MA/CT state line, Sturbridge]	42.042161	-72.097147

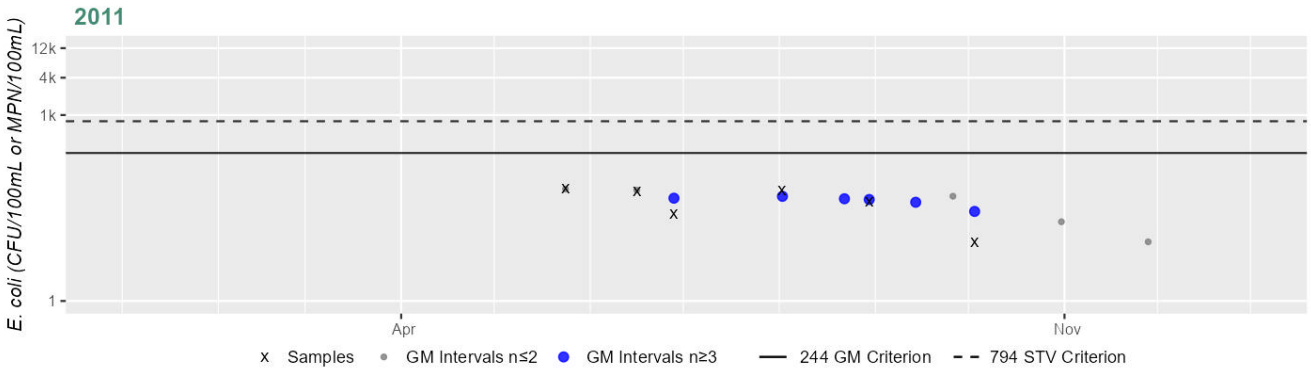
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2184	MassDEP	E. coli	05/24/11	10/03/11	6	9	64	35

Station MASSDEP_W2184 - Escherichia coli

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



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

Cumulative %GMI Exceedance

Current (2011-2022)

0%

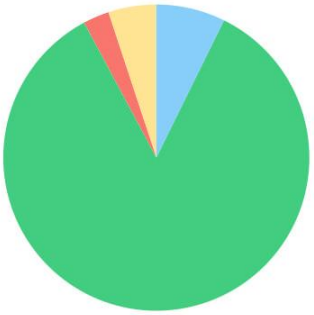
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Browns Brook (MA41-20)

Location:	From the state line Holland, MA/Union, CT to mouth at inlet of Hamilton Reservoir, Holland.
AU Type:	RIVER
AU Size:	0.8 MILES
Classification/Qualifier:	B

Browns Brook (MA41-20)

Watershed Area: 5.65 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	1.90	1.90	0.63	0.63
Agriculture	5.1%	5.1%	6.1%	6.1%
Developed	2.7%	2.7%	1.5%	1.5%
Natural	84.9%	84.9%	79.8%	79.8%
Wetland	7.3%	7.3%	12.6%	12.6%
Impervious	0.8%	0.8%	0.5%	0.5%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Browns Brook (MA41-20), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Browns Brook (MA41-20) is assessed as Fully Supporting based on aesthetics observations at W2220 from 2011-2015. There were generally no objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field crews in Browns Brook approx. 2120 feet upstream from May Brook Road in Holland (W2220) during the summers of 2011, 2012, 2013, 2014, or 2015 (n= 3-5/yr).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2220	MassDEP	Water Quality	Browns Brook	[approximately 2120 feet upstream from May Brook Road, Holland]	42.034815	-72.161586

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2220	Browns Brook	2011	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2220 on Browns Brook (MA41-20) during 3 site visits between Jun 2011 and Aug 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1).
W2220	Browns Brook	2012	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2220 on Browns Brook (MA41-20) during 5 site visits between May 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2220	Browns Brook	2013	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2220 on Browns Brook (MA41-20) during 5 site visits between May 2013 and Sep 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2220	Browns Brook	2014	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2220 on Browns Brook (MA41-20) during 4 site visits between May 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2220	Browns Brook	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2220 on Browns Brook (MA41-20) during 4 site visits between May 2015 and Aug 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2220	2011	3	2	0

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2220	2012	5	4	0
W2220	2013	5	4	0
W2220	2014	4	4	0
W2220	2015	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2220	Browns Brook	2011	Color	Light Yellow/Tan	1	3
W2220	Browns Brook	2011	Color	Brownish	2	3
W2220	Browns Brook	2011	Odor	None	3	3
W2220	Browns Brook	2011	Turbidity	None	2	3
W2220	Browns Brook	2011	Turbidity	Highly Turbid	1	3
W2220	Browns Brook	2012	Color	None	1	5
W2220	Browns Brook	2012	Color	Light Yellow/Tan	4	5
W2220	Browns Brook	2012	Odor	None	5	5
W2220	Browns Brook	2012	Turbidity	None	5	5
W2220	Browns Brook	2013	Color	Not Recorded	1	5
W2220	Browns Brook	2013	Color	None	1	5
W2220	Browns Brook	2013	Color	Light Yellow/Tan	3	5
W2220	Browns Brook	2013	Odor	None	5	5
W2220	Browns Brook	2013	Turbidity	None	4	5
W2220	Browns Brook	2013	Turbidity	Slightly Turbid	1	5
W2220	Browns Brook	2014	Color	None	1	4
W2220	Browns Brook	2014	Color	Light Yellow/Tan	2	4
W2220	Browns Brook	2014	Color	Brownish	1	4
W2220	Browns Brook	2014	Odor	None	4	4
W2220	Browns Brook	2014	Turbidity	None	1	4
W2220	Browns Brook	2014	Turbidity	Slightly Turbid	1	4
W2220	Browns Brook	2014	Turbidity	Moderately Turbid	2	4
W2220	Browns Brook	2015	Color	Light Yellow/Tan	4	4
W2220	Browns Brook	2015	Odor	None	4	4
W2220	Browns Brook	2015	Turbidity	None	2	4
W2220	Browns Brook	2015	Turbidity	Slightly Turbid	2	4
W2220	Browns Brook	2011	Objectionable Deposits	No	3	3
W2220	Browns Brook	2011	Scum	No	3	3
W2220	Browns Brook	2012	Objectionable Deposits	No	5	5
W2220	Browns Brook	2012	Scum	No	5	5
W2220	Browns Brook	2013	Objectionable Deposits	No	4	5
W2220	Browns Brook	2013	Objectionable Deposits	Yes	1	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2220	Browns Brook	2013	Scum	No	5	5
W2220	Browns Brook	2014	Objectionable Deposits	No	3	4
W2220	Browns Brook	2014	Objectionable Deposits	Yes	1	4
W2220	Browns Brook	2014	Scum	No	2	4
W2220	Browns Brook	2014	Scum	Yes	2	4
W2220	Browns Brook	2015	Objectionable Deposits	No	4	4
W2220	Browns Brook	2015	Scum	No	4	4
W2220	Browns Brook	2011	Aquatic Plant Density, Overall	Unobservable	1	3
W2220	Browns Brook	2011	Aquatic Plant Density, Overall	None	1	3
W2220	Browns Brook	2011	Aquatic Plant Density, Overall	Moderate	1	3
W2220	Browns Brook	2012	Aquatic Plant Density, Overall	Unobservable	1	5
W2220	Browns Brook	2012	Aquatic Plant Density, Overall	None	4	5
W2220	Browns Brook	2013	Aquatic Plant Density, Overall	None	5	5
W2220	Browns Brook	2014	Aquatic Plant Density, Overall	None	4	4
W2220	Browns Brook	2015	Aquatic Plant Density, Overall	Not Recorded	1	4
W2220	Browns Brook	2015	Aquatic Plant Density, Overall	None	3	4
W2220	Browns Brook	2011	Periphyton Density, Filamentous	Unobservable	1	3
W2220	Browns Brook	2011	Periphyton Density, Filamentous	None	2	3
W2220	Browns Brook	2011	Periphyton Density, Film	Unobservable	1	3
W2220	Browns Brook	2011	Periphyton Density, Film	None	1	3
W2220	Browns Brook	2011	Periphyton Density, Film	Sparse	1	3
W2220	Browns Brook	2012	Periphyton Density, Filamentous	Unobservable	1	5
W2220	Browns Brook	2012	Periphyton Density, Filamentous	None	4	5
W2220	Browns Brook	2012	Periphyton Density, Film	Unobservable	1	5
W2220	Browns Brook	2012	Periphyton Density, Film	None	4	5
W2220	Browns Brook	2013	Periphyton Density, Filamentous	Not Recorded	1	5
W2220	Browns Brook	2013	Periphyton Density, Filamentous	None	4	5
W2220	Browns Brook	2013	Periphyton Density, Film	Not Recorded	1	5
W2220	Browns Brook	2013	Periphyton Density, Film	Sparse	4	5
W2220	Browns Brook	2014	Periphyton Density, Filamentous	None	4	4
W2220	Browns Brook	2014	Periphyton Density, Film	None	3	4
W2220	Browns Brook	2014	Periphyton Density, Film	Sparse	1	4
W2220	Browns Brook	2015	Periphyton Density, Filamentous	None	4	4
W2220	Browns Brook	2015	Periphyton Density, Film	None	3	4
W2220	Browns Brook	2015	Periphyton Density, Film	Moderate	1	4
W2220	Browns Brook	2013	Aesthetics Impaired?	No	5	5
W2220	Browns Brook	2014	Aesthetics Impaired?	No	4	4
W2220	Browns Brook	2015	Aesthetics Impaired?	No	4	4

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary

No recent bacteria data were collected in Browns Brook (MA41-20) and available aesthetics observations for this AU did not result in any impairments, so there is Insufficient Information to assess the Primary Contact Recreation Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Secondary Contact Recreation Use for Browns Brook (MA41-20) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected historical *E. coli* bacteria samples in Browns Brook (MA41-20) at W1176 [~850 ft upstream/W of May Brook Rd crossing, Holland] from May-Sep 2004 (n=5). Historic *E. coli* data from W1176 were indicative of good water quality conditions (no GM or STV exceedances). Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use for Browns Brook (MA41-20) cannot be positively assessed.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1176	MassDEP	Water Quality	Browns Brook	[approximately 850 feet upstream/west of May Brook Road crossing, Holland]	42.033794	-72.157713

Bacteria Data

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

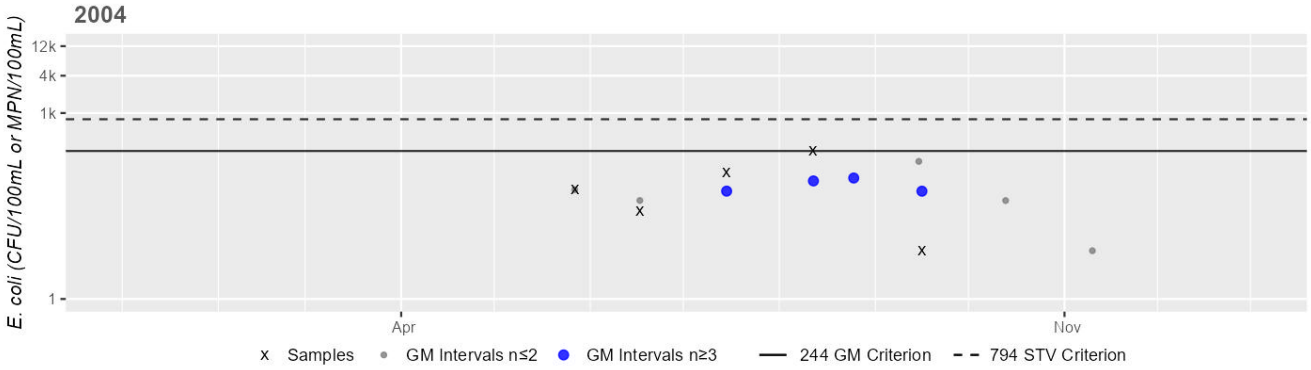
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1176	MassDEP	E. coli	05/26/04	09/15/04	5	6	250	47

Station MASSDEP_W1176 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	47
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

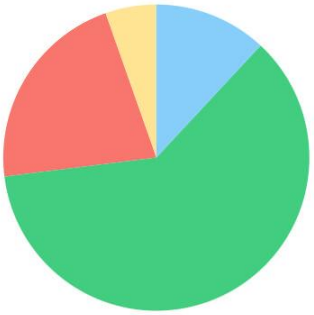
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Cady Brook (MA41-05)

Location:	Headwaters, outlet of Glen Echo Lake, Charlton to Charlton WWTP outfall (NPDES: MA0101141), Charlton.
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B: WWF, HQW

Cady Brook (MA41-05)

Watershed Area: 4.88 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.88	4.51	1.98	1.86
Agriculture	5.4%	5.2%	2.4%	1.9%
Developed	21.6%	22.7%	20.4%	21.5%
Natural	61.1%	60.1%	60%	60.1%
Wetland	11.9%	12%	17.3%	16.6%
Impervious	8.1%	8.5%	8.4%	8.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Dewatering*)	--	Unchanged
5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Dewatering*)	Dam or Impoundment (Y)	X	--	--	--	--
Ambient Bioassays - Chronic Aquatic Toxicity	Source Unknown (N)	X	--	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Cady Brook AU (MA41-05), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for this Cady Brook AU (MA41-05) is assessed as Fully Supporting based on the lack of objectionable conditions documented by MassDEP staff at W0065 during the summer of 2011. MassDEP staff surveyed this Cady Brook AU (MA41-05) at the Route 20 bridge in Charlton, upstream of the Charlton WWTP discharge (W0065) during the summer of 2011 (n=8) as part of a Targeted Bacteria Monitoring Project. There were generally no objectionable conditions (i.e., odors, deposits, growths, or turbidity) observed during any of the surveys.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0065	MassDEP	Water Quality	Cady Brook	[at Route 20 bridge, Charlton, upstream of Charlton WWTP discharge]	42.144748	-71.993801

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0065	Cady Brook	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W0065 on Cady Brook (MA41-05) during 8 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0065	2011	8	7	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0065	Cady Brook	2011	Color	None	3	8
W0065	Cady Brook	2011	Color	Light Yellow/Tan	5	8
W0065	Cady Brook	2011	Odor	None	7	8
W0065	Cady Brook	2011	Odor	Musty (Basement)	1	8
W0065	Cady Brook	2011	Turbidity	None	5	8
W0065	Cady Brook	2011	Turbidity	Slightly Turbid	3	8
W0065	Cady Brook	2011	Objectionable Deposits	Unobservable	1	8
W0065	Cady Brook	2011	Objectionable Deposits	No	6	8
W0065	Cady Brook	2011	Objectionable Deposits	Yes	1	8
W0065	Cady Brook	2011	Scum	No	4	8
W0065	Cady Brook	2011	Scum	Yes	4	8
W0065	Cady Brook	2011	Aquatic Plant Density, Overall	Unobservable	1	8
W0065	Cady Brook	2011	Aquatic Plant Density, Overall	None	7	8
W0065	Cady Brook	2011	Periphyton Density, Filamentous	Unobservable	1	8
W0065	Cady Brook	2011	Periphyton Density, Filamentous	None	6	8
W0065	Cady Brook	2011	Periphyton Density, Filamentous	Sparse	1	8
W0065	Cady Brook	2011	Periphyton Density, Film	Unobservable	1	8
W0065	Cady Brook	2011	Periphyton Density, Film	None	5	8
W0065	Cady Brook	2011	Periphyton Density, Film	Sparse	2	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use of this Cady Brook AU (MA41-05) is assessed as Fully Supporting based on the *E. coli* data collected at W0065 during summer 2011.MassDEP staff collected *E. coli* bacteria samples from this Cady Brook AU (MA41-05) at the Route 20 bridge in Charlton, upstream of the Charlton WWTP discharge (W0065) between May and October 2011 (n=7) as part of a Targeted Bacteria Monitoring Project. Analysis of this moderate frequency dataset indicated 22% of the intervals had GMs >126 CFU/100mL and only one of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 87 CFU/100mL).

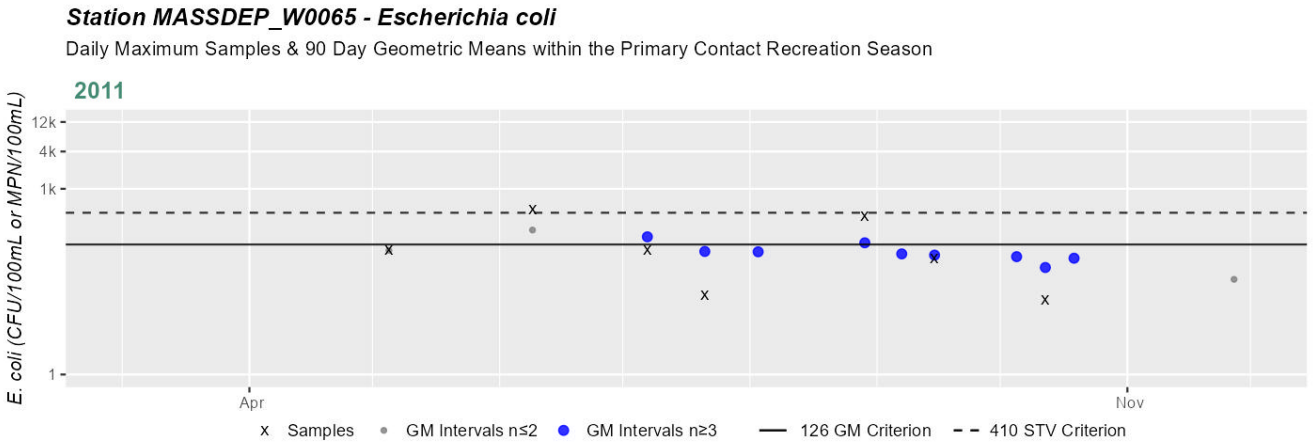
Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0065	MassDEP	Water Quality	Cady Brook	[at Route 20 bridge, Charlton, upstream of Charlton WWTP discharge]	42.144748	-71.993801

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0065	MassDEP	E. coli	05/05/11	10/12/11	7	16	461	87



Variable*	Result
Samples	7
SeasGM	87
#GMI	9
#GMI Ex	2
%GMI Ex	22%
n>STV	1
%n>STV	14%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use of this Cady Brook AU (MA41-05) is assessed as Fully Supporting based on the *E. coli* data collected at W0065 during summer 2011.MassDEP staff collected *E. coli* bacteria samples from this Cady Brook AU (MA41-05) at the Route 20 bridge in Charlton, upstream of the Charlton WWTP discharge (W0065) between May and October 2011 (n=7) as part of a Targeted Bacteria Monitoring Project. Analysis of this moderate frequency dataset indicated none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 87 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0065	MassDEP	Water Quality	Cady Brook	[at Route 20 bridge, Charlton, upstream of Charlton WWTP discharge]	42.144748	-71.993801

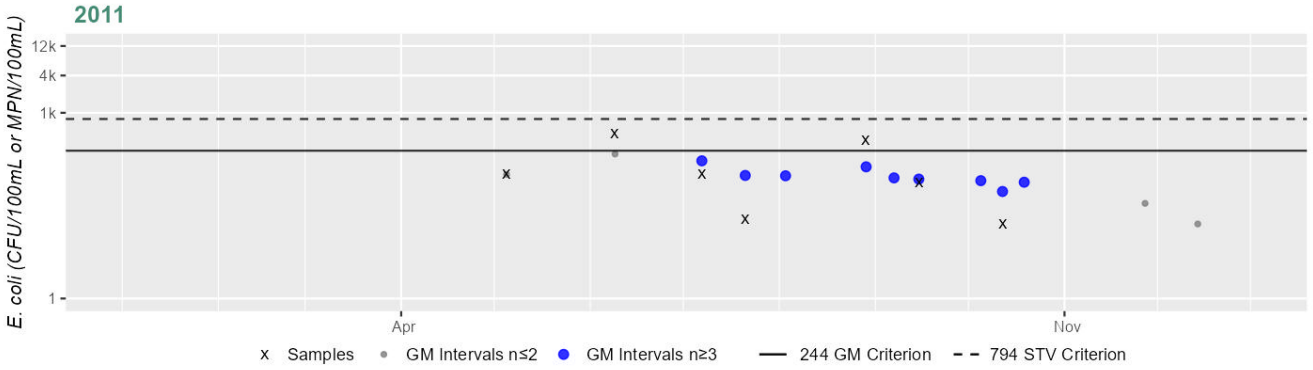
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0065	MassDEP	E. coli	05/05/11	10/12/11	7	16	461	87

Station MASSDEP_W0065 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	87
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

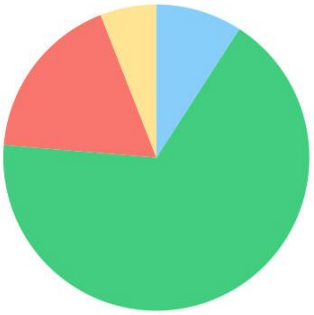
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Cady Brook (MA41-06)

Location:	Charlton WWTP outfall (NPDES: MA0101141), Charlton to mouth at confluence with the Quinebaug River, Southbridge.
AU Type:	RIVER
AU Size:	5.1 MILES
Classification/Qualifier:	B: WWF

Cady Brook (MA41-06)

Watershed Area: 12.28 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	12.28	2.66	5.16	1.21
Agriculture	5.9%	1.3%	3.3%	1.7%
Developed	17.8%	19.6%	17.5%	21.5%
Natural	67.2%	73.6%	66.4%	69.5%
Wetland	9.1%	5.6%	12.8%	7.3%
Impervious	7.1%	8.9%	7.7%	10.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Dewatering*)	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Dewatering*)	Impacts from Hydrostructure Flow Regulation/Modification (Y)	X	--	--	--	--

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

Supporting Information for Removed Impairments

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Trash, Low] Cady Brook (MA41-06) historical water quality stations (mentioned in the 2010 IR or earlier) in the lower 1.0 mile reach through the densely developed portion of Southbridge should be revisited to learn the status of trash/debris problems. This is a low priority. {W0611, W6014, W0619}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Cady Brook AU (MA41-06), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for this Cady Brook AU (MA41-06) is assessed as Fully Supporting based on the general lack of any objectionable conditions documented by MassDEP staff at W0615 and W2189. The Alert status identified in the 2010 IR (trash/debris in the brook along its lower 1.0 mile reach through the densely developed portion of Southbridge) is being carried forward. MassDEP staff surveyed this Cady Brook AU (MA41-06) near the pipeline crossing at the Route 169 bridge in Charlton (W0615) in 2011, 2012, 2013 (n= 2-6 visits/yr) as part of the SMART monitoring project and further downstream just upstream of the confluence with the Quinebaug River in Southbridge (W2189) during the summer of 2011 (n=6) as part of the MAP2 wadeable streams monitoring project. There were generally no objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field crews during the surveys.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0615	MassDEP	Water Quality	Cady Brook	[Route 169 bridge (near pipeline crossing), Charlton]	42.119473	-72.008704
W2189	MassDEP	Water Quality	Cady Brook	[at the confluence with the Quinebaug River, Southbridge]	42.076742	-72.025410

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0615	Cady Brook	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0615 on Cady Brook (MA41-06) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0615	Cady Brook	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0615 on Cady Brook (MA41-06) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0615	Cady Brook	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0615 on Cady Brook (MA41-06) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2189	Cady Brook	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2189 on Cady Brook (MA41-06) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0615	2011	5	5	0
W0615	2012	6	6	2
W0615	2013	2	2	1
W2189	2011	6	5	1

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0615	Cady Brook	2011	Color	None	3	5
W0615	Cady Brook	2011	Color	Light Yellow/Tan	1	5
W0615	Cady Brook	2011	Color	Reddish	1	5
W0615	Cady Brook	2011	Odor	None	5	5
W0615	Cady Brook	2011	Turbidity	None	5	5
W0615	Cady Brook	2012	Color	None	2	6
W0615	Cady Brook	2012	Color	Light Yellow/Tan	4	6
W0615	Cady Brook	2012	Odor	None	6	6
W0615	Cady Brook	2012	Turbidity	None	5	6
W0615	Cady Brook	2012	Turbidity	Slightly Turbid	1	6
W0615	Cady Brook	2013	Color	None	2	2
W0615	Cady Brook	2013	Odor	None	2	2
W0615	Cady Brook	2013	Turbidity	None	2	2
W0615	Cady Brook	2011	Objectionable Deposits	No	4	5
W0615	Cady Brook	2011	Objectionable Deposits	Yes	1	5
W0615	Cady Brook	2011	Scum	Yes	5	5
W0615	Cady Brook	2012	Objectionable Deposits	No	6	6
W0615	Cady Brook	2012	Scum	No	1	6
W0615	Cady Brook	2012	Scum	Yes	5	6
W0615	Cady Brook	2013	Objectionable Deposits	No	2	2
W0615	Cady Brook	2013	Scum	Yes	2	2
W0615	Cady Brook	2011	Aquatic Plant Density, Overall	None	4	5
W0615	Cady Brook	2011	Aquatic Plant Density, Overall	Sparse	1	5
W0615	Cady Brook	2012	Aquatic Plant Density, Overall	None	3	6
W0615	Cady Brook	2012	Aquatic Plant Density, Overall	Sparse	3	6
W0615	Cady Brook	2013	Aquatic Plant Density, Overall	None	1	2
W0615	Cady Brook	2013	Aquatic Plant Density, Overall	Sparse	1	2
W0615	Cady Brook	2011	Periphyton Density, Filamentous	None	5	5
W0615	Cady Brook	2011	Periphyton Density, Film	None	4	5
W0615	Cady Brook	2011	Periphyton Density, Film	Sparse	1	5
W0615	Cady Brook	2012	Periphyton Density, Filamentous	None	5	6
W0615	Cady Brook	2012	Periphyton Density, Filamentous	Sparse	1	6
W0615	Cady Brook	2012	Periphyton Density, Film	None	3	6
W0615	Cady Brook	2012	Periphyton Density, Film	Moderate	1	6
W0615	Cady Brook	2012	Periphyton Density, Film	Very Dense	2	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0615	Cady Brook	2013	Periphyton Density, Filamentous	None	1	2
W0615	Cady Brook	2013	Periphyton Density, Filamentous	Dense	1	2
W0615	Cady Brook	2013	Periphyton Density, Film	None	2	2
W0615	Cady Brook	2013	Aesthetics Impaired?	Not Recorded	2	2
W2189	Cady Brook	2011	Color	Not Recorded	2	6
W2189	Cady Brook	2011	Color	None	3	6
W2189	Cady Brook	2011	Color	Light Yellow/Tan	1	6
W2189	Cady Brook	2011	Odor	None	5	6
W2189	Cady Brook	2011	Odor	Chlorine	1	6
W2189	Cady Brook	2011	Turbidity	None	6	6
W2189	Cady Brook	2011	Objectionable Deposits	No	5	6
W2189	Cady Brook	2011	Objectionable Deposits	Yes	1	6
W2189	Cady Brook	2011	Scum	No	4	6
W2189	Cady Brook	2011	Scum	Yes	2	6
W2189	Cady Brook	2011	Aquatic Plant Density, Overall	Not Recorded	1	6
W2189	Cady Brook	2011	Aquatic Plant Density, Overall	None	5	6
W2189	Cady Brook	2011	Periphyton Density, Filamentous	Unobservable	1	6
W2189	Cady Brook	2011	Periphyton Density, Filamentous	None	4	6
W2189	Cady Brook	2011	Periphyton Density, Filamentous	Sparse	1	6
W2189	Cady Brook	2011	Periphyton Density, Film	Unobservable	1	6
W2189	Cady Brook	2011	Periphyton Density, Film	None	3	6
W2189	Cady Brook	2011	Periphyton Density, Film	Moderate	1	6
W2189	Cady Brook	2011	Periphyton Density, Film	Dense	1	6

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use of this Cady Brook AU (MA41-06) continues to be assessed as Not Supporting with the prior impairment for Escherichia Coli (E. Coli) being carried forward (the *E. coli* concentrations measured at W2189 during summer 2011 exceeded thresholds). The former Alert associated with historical observations of trash/debris in the brook along its lower 1.0 mile reach through the densely developed portion of Southbridge is being removed from the recreational uses but continues to be maintained under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples from this Cady Brook AU (MA41-06) near the pipeline crossing at the Route 169 bridge, Charlton (W0615) in 2011, 2012, 2013 as part of the SMART monitoring project and further downstream just upstream of the confluence with the Quinebaug River, Southbridge (W2189) during the summer of 2011 as part of the MAP2 wadeable streams monitoring project. Insufficient sampling was conducted at the pipeline crossing site to analyze (n= 1-4/yr), while just upstream from the confluence with the Quinebaug River (W2189) sufficient *E. coli* samples were collected between May and October (n=6). Analysis of this limited frequency dataset indicated 100% of the intervals had GMs >126 CFU/100mL, but only one of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 217 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0615	MassDEP	Water Quality	Cady Brook	[Route 169 bridge (near pipeline crossing), Charlton]	42.119473	-72.008704
W2189	MassDEP	Water Quality	Cady Brook	[at the confluence with the Quinebaug River, Southbridge]	42.076742	-72.025410

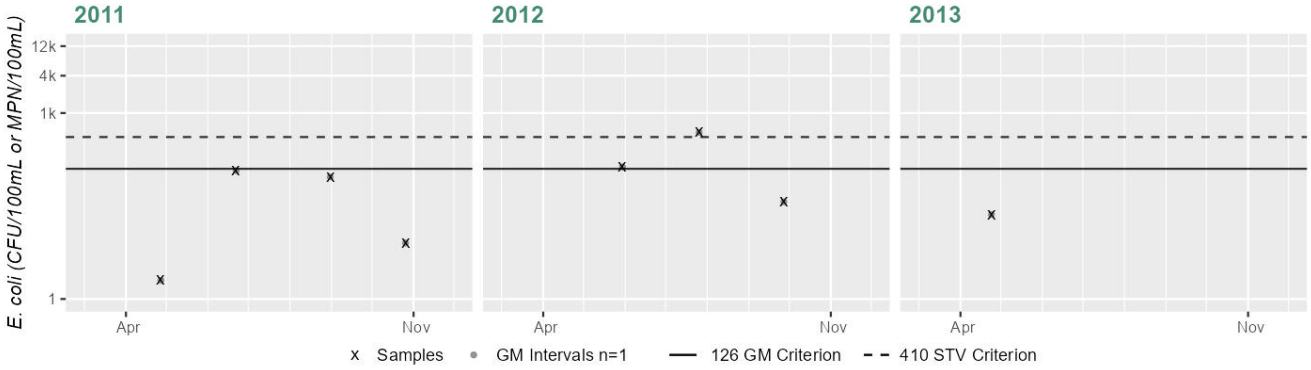
Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0615	MassDEP	E. coli	04/27/11	10/26/11	4	2	118	20
W0615	MassDEP	E. coli	05/29/12	09/26/12	3	37	488	134
W0615	MassDEP	E. coli	04/24/13	04/24/13	1	23	23	23
W2189	MassDEP	E. coli	05/24/11	10/03/11	6	76	980	217

Station MASSDEP_W0615 - Escherichia coli

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



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

Variable*	Result
Samples	3
SeasGM	134
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	33%

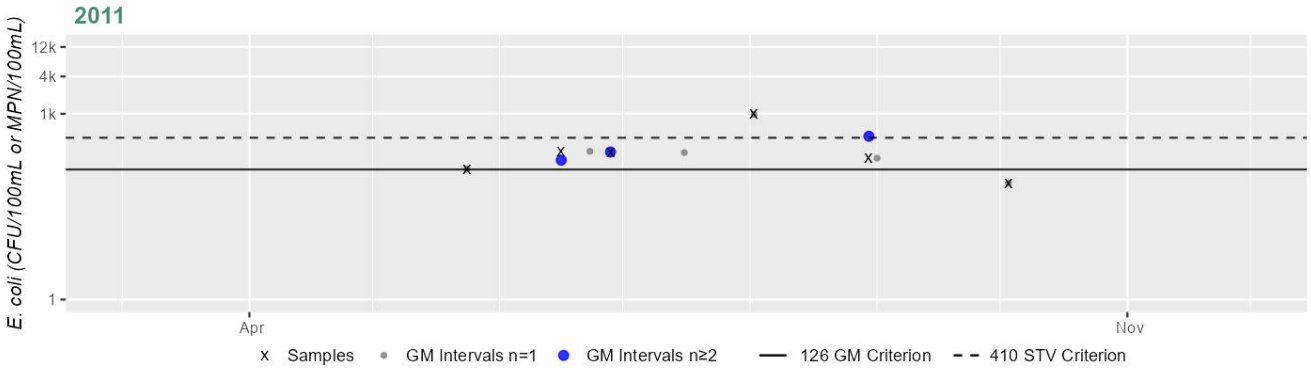
Variable*	Result
Samples	1
SeasGM	23
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2189 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	217
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	1
%n>STV	16%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use of this Cady Brook AU (MA41-06) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. The former Alert associated with historical observations of trash/debris in the brook along its lower 1.0 mile reach through the densely developed portion of Southbridge is being removed from the recreational uses but continues to be maintained under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples from this Cady Brook AU (MA41-06) near the pipeline crossing at the Route 169 bridge, Charlton (W0615) each year from 2007 through 2013 as part of the SMART monitoring project and further downstream just upstream of the confluence with the Quinebaug River, Southbridge (W2189) during the summer of 2011 as part of the MAP2 wadeable streams monitoring project. Because samples were collected roughly bimonthly at the pipeline crossing site (n= 2-6/yr), there was insufficient data to analyze per the 2024 CALM. However, just upstream from the confluence with the Quinebaug River (W2189), sufficient *E. coli* samples were collected between May and October of 2011 (n=6). Analysis of this limited frequency dataset indicated 66% of the intervals had GMs >244 CFU/100mL and one of the samples exceeded the 794 CFU/100mL STV (the overall GM was 217 CFU/100mL). According to the 2024 CALM, because the single year, limited frequency dataset from W2189 included GMs below the threshold as well as an STV exceedance of the threshold, the data are inconclusive to come to a use attainment decision for the Secondary Contact Recreation Use of this Cady Brook AU (MA41-06).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0615	MassDEP	Water Quality	Cady Brook	[Route 169 bridge (near pipeline crossing), Charlton]	42.119473	-72.008704
W2189	MassDEP	Water Quality	Cady Brook	[at the confluence with the Quinebaug River, Southbridge]	42.076742	-72.025410

Bacteria Data

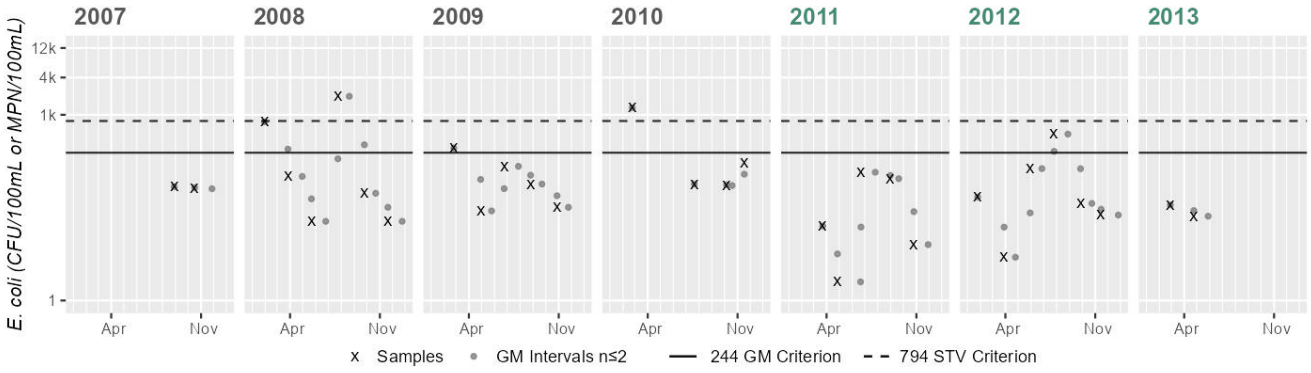
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0615	MassDEP	E. coli	08/29/07	10/17/07	2	64	69	66
W0615	MassDEP	E. coli	01/30/08	11/19/08	6	19	1990	120
W0615	MassDEP	E. coli	02/24/09	10/28/09	5	28	291	78
W0615	MassDEP	E. coli	02/23/10	11/17/10	4	72	1300	185

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0615	MassDEP	E. coli	03/23/11	10/26/11	5	2	118	19
W0615	MassDEP	E. coli	01/25/12	11/14/12	6	5	488	48
W0615	MassDEP	E. coli	02/27/13	04/24/13	2	23	35	28
W2189	MassDEP	E. coli	05/24/11	10/03/11	6	76	980	217

Station MASSDEP_W0615 - Escherichia coli

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



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

Variable*	Result
Samples	6
SeasGM	120
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	5
SeasGM	78
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	185
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	25%

Variable*	Result
Samples	5
SeasGM	19
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	48
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	28
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

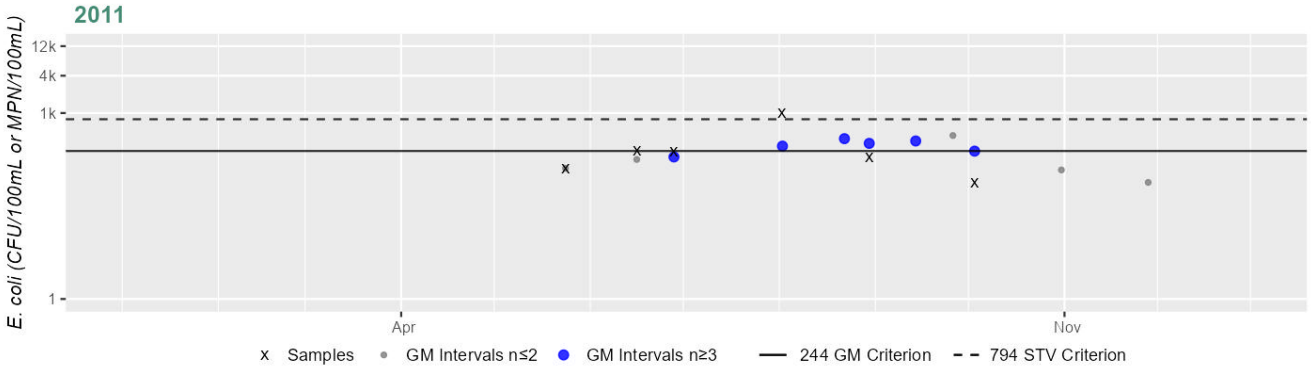
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

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

Station MASSDEP_W2189 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	217
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	1
%n>STV	16%

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

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

Cedar Pond (MA41008)

Location:	Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	149 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged

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

Recommendations

2024/26 Recommendations
2024/2026 IR {Harmful Algal Blooms, Medium] Follow-up monitoring should be conducted in Cedar Pond (MA41008), to confirm if Harmful Algal Blooms are impairing the Recreational and Aesthetics uses. Monitoring should include observational data and collection of cyanobacteria cell count data, as well as continued reporting of blooms to MDPH. This is of medium priority.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No fish toxics sampling has been conducted in Cedar Pond (MA41008), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Cedar Pond (MA41008) will continue to be assessed as Not Supporting with the prior impairment for Harmful Algal Blooms being carried forward since a C-HAB posting >20 days in duration was reported to MDPH in 2018. Follow-up monitoring should be conducted in Cedar Pond to confirm the impairment with cyanobacteria cell count data. During the period 2015 through 2022, C-HAB postings for Cedar Pond (identified as Cedar Lake by MDPH) were reported to MDPH based on visual observations for 64 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Algal Bloom Information

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

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Cedar Pond (MA41008) were reported to MDPH based on visual observations for 64 days in 2018. No blooms were reported in other years. Since blooms were reported in a recent year, a prior Harmful Algal Bloom impairment is being carried forward and the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

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

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Cedar Pond (Cedar Lake)	Sturbridge				64				

Primary Contact Recreation

2024 Impairment	Pollutant Y/N	2024 Source	Confirmed Y/N
Harmful Algal Blooms	YES	Source Unknown	NO

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Cedar Pond (MA41008) will continue to be assessed as Not Supporting with the prior impairment for Harmful Algal Blooms being carried forward since a C-HAB posting >20 days in duration was reported to MDPH in 2018. Follow-up monitoring should be conducted in Cedar Pond to confirm the impairment with cyanobacteria cell count data. During the period 2015 through 2022, C-HAB postings for Cedar Pond (identified as Cedar Lake by MDPH) were reported to MDPH based on visual observations for 64 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

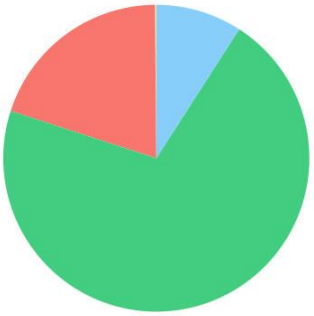
2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Cedar Pond (MA41008) will continue to be assessed as Not Supporting with the prior impairment for Harmful Algal Blooms being carried forward since a C-HAB posting >20 days in duration was reported to MDPH in 2018. Follow-up monitoring should be conducted in Cedar Pond to confirm the impairment with cyanobacteria cell count data. During the period 2015 through 2022, C-HAB postings for Cedar Pond (identified as Cedar Lake by MDPH) were reported to MDPH based on visual observations for 64 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Cohasse Brook (MA41-12)

Location:	From the outlet of Cohasse Brook Reservoir, Southbridge to mouth at confluence with the Quinebaug River, Southbridge (through former 2008 segment: Wells Pond MA41053).
AU Type:	RIVER
AU Size:	2.7 MILES
Classification/Qualifier:	B

Cohasse Brook (MA41-12)

Watershed Area: 4.03 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	2.75	2.23	1.35	1.04
Agriculture	0.1%	0.2%	0.2%	0.2%
Developed	19.9%	24.2%	14.5%	18.3%
Natural	70.9%	67.8%	71.6%	69.4%
Wetland	9.1%	7.8%	13.8%	12%
Impervious	8.7%	10.4%	6.4%	8%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Benthic Macroinvertebrates	Loss of Riparian Habitat (Y)	X	--	--	--	--
Benthic Macroinvertebrates	Unspecified Urban Stormwater (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Impervious Surface/Parking Lot Runoff (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Unspecified Urban Stormwater (Y)	--	--	--	X	X
Sedimentation/Siltation	Loss of Riparian Habitat (Y)	X	--	--	--	--
Sedimentation/Siltation	Unspecified Urban Stormwater (Y)	X	--	--	--	--

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Cohasse Brook (MA41-12), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
The Aesthetics Use of Cohasse Brook (MA41-12) is Not Assessed since no aesthetics data are available.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Cohasse Brook (MA41-12) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Cohasse Brook (MA41-12) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at W1169. MassDEP staff collected E. coli bacteria samples in Cohasse Brook (MA41-12) at W1169 [~700 ft upstream/southW of Cisco St, Southbridge] from May-Sep 2004 (n=5). Analysis of this historic single year limited frequency E. coli dataset from W1169 indicated 100% of intervals had GMs >244 CFU/100ml, 5 samples exceeded the 794 CFU/100ml STV, and the overall GM was 1517 CFU/100ml. Historic E. coli data from W1169 are indicative of an E. coli impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1169	MassDEP	Water Quality	Cohasse Brook	[approximately 700 feet upstream/southwest of Cisco Street, Southbridge]	42.069700	-72.030556

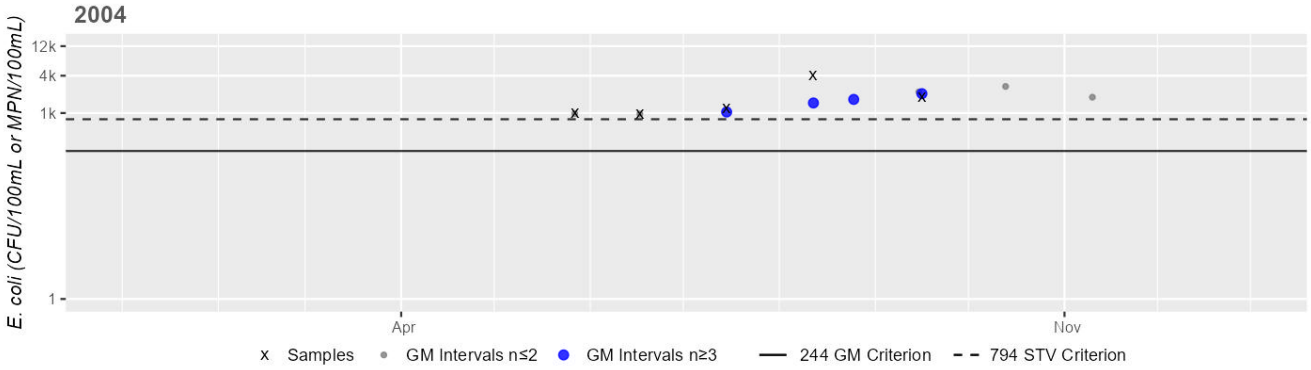
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1169	MassDEP	E. coli	05/26/04	09/15/04	5	950	4000	1517

Station MASSDEP_W1169 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	1517
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	5
%n>STV	100%

Cumulative %GMI Exceedance
Historic (1997-2010)
100%

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

East Brimfield Reservoir (MA41014)

Location:	Brimfield/Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	313 ACRES
Classification/Qualifier:	B: HQW (impoundment on river designated B/CWF/HQW)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Aquatic Plants (Macrophytes)*)	--	Added
4a	4a	(Non-Native Aquatic Plants*)	--	Unchanged
4a	4a	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Aquatic Plants (Macrophytes)*)	Source Unknown (N)	--	--	X	X	X
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (Y)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Fish Consumption Use for East Brimfield Reservoir (MA41014) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for East Brimfield Reservoir (referred to by MA DPH as ''East Brimfield Reservoir, Long Pond, and Quinebaug River (from dam at Hamilton Reservoir through East Brimfield Reservoir/Long Pond, including Holland Pond)'') in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for East Brimfield Reservoir (MA41014, an impoundment of the Quinebaug River) is assessed as Not Supporting and an impairment is being identified for the non-pollutant Aquatic Plants (Macrophytes) based on the macrophyte mapping survey performed in 2016. MassDEP staff surveyed East Brimfield Reservoir in Sturbridge in the middle of the impoundment north of Main Street (Rt.20), at the deep hole index station W2627 (MAP2L-018) and at a shoreline station W2600 (MAP2L-018S) near the beach at the southern end of Old Streeter Rd, both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2627 (n=3) and W2600 (n=5) or littoral zone duckweed recorded in the 10 shoreline plots at W2600 (1 visit). During the macrophyte mapping survey at W2627 in September (n=1) more than 25% (44.5%) of the reservoir was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2600	MassDEP	Water Quality	Quinebaug River/East Brimfield Reservoir	[north eastern end of reservoir, beach at southern end of Old Streeter Road, south off Route 20 (Brimfield Road), Sturbridge]	42.110053	-72.130306
W2627	MassDEP	Water Quality	East Brimfield Reservoir	[index site, just south of center of northern portion (Long Pond) of reservoir, Sturbridge]	42.120090	-72.131224

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2600	East Brimfield Reservoir	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2600 (MAP2L-018S) on East Brimfield Reservoir (MA41014) during 5 site visits between May 2016 and Sep 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots.
W2627	East Brimfield Reservoir	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2627 (MAP2L-018) on East Brimfield Reservoir (MA41014) during 3 site visits between Jun 2016 and Sep 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Sep 2016, greater than 25% (44.5%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%. The observations from the MAP2 survey are indicative of an Aesthetics Use impairment.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2600	East Brimfield Reservoir	2016	Color	None	2	5
W2600	East Brimfield Reservoir	2016	Color	Light Yellow/Tan	3	5
W2600	East Brimfield Reservoir	2016	Odor	None	5	5
W2600	East Brimfield Reservoir	2016	Turbidity	None	4	5
W2600	East Brimfield Reservoir	2016	Turbidity	Slightly Turbid	1	5
W2600	East Brimfield Reservoir	2016	Objectionable Deposits	No	5	5
W2600	East Brimfield Reservoir	2016	Scum	No	5	5
W2600	East Brimfield Reservoir	2016	Aesthetics Impaired?	No	5	5
W2627	East Brimfield Reservoir	2016	Color	Light Yellow/Tan	3	3
W2627	East Brimfield Reservoir	2016	Odor	None	3	3
W2627	East Brimfield Reservoir	2016	Turbidity	None	1	3
W2627	East Brimfield Reservoir	2016	Turbidity	Slightly Turbid	2	3
W2627	East Brimfield Reservoir	2016	Objectionable Deposits	No	3	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2627	East Brimfield Reservoir	2016	Scum	No	3	3
W2627	East Brimfield Reservoir	2016	Aquatic Plant Density, Overall	Unobservable	2	3
W2627	East Brimfield Reservoir	2016	Aquatic Plant Density, Overall	None	1	3
W2627	East Brimfield Reservoir	2016	Aquatic Plant Density, Whole Lake	Not Recorded	1	1
W2627	East Brimfield Reservoir	2016	Duckweed Density, Whole Lake	None	1	1
W2627	East Brimfield Reservoir	2016	Aesthetics Impaired?	No	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use of East Brimfield Reservoir (MA41014) is assessed as Not Supporting and an impairment is being identified for the non-pollutant Aquatic Plants (Macrophytes) based on the macrophyte mapping survey performed in 2016 (this is carried over from the Aesthetics Use). It is noted that *E. coli* bacteria data and other indicators (cyanobacteria cell count, cyanotoxin concentration, Secchi depth) were indicative of good water quality in this waterbody, however.

MassDEP staff collected *E. coli* bacteria data in East Brimfield Reservoir (MA41014) in Sturbridge near the beach at the southern end of Old Streeter Road (W2600/MAP2L-018S) during summer 2016 (n=5). Analysis of this low frequency dataset indicated that none of the intervals had GMs >126 CFU/100mL and none of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 15 CFU/100mL).

During summer 2016, MassDEP field crews collected 3 samples at the shoreline station W2600, as well as 3 water samples at the deep hole index station W2627 (MAP2L-018) on the reservoir-cyanobacteria cell counts did not exceed 70,000 cells/mL in any of the water samples. Analysis of shoreline samples (W2600; n=3) for microcystins indicated that the cyanotoxin concentrations did not exceed the threshold of 8 µg/L. At the index station, W2627 (station depth=8 m), Secchi depth measurements ranged from 2.64-3.6 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold.

There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer 2016 site visits to W2627 (n=3) and W2600 (n=5), but during the macrophyte mapping survey at W2627 in September (n=1), more than 25% (44.5%) of the reservoir was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

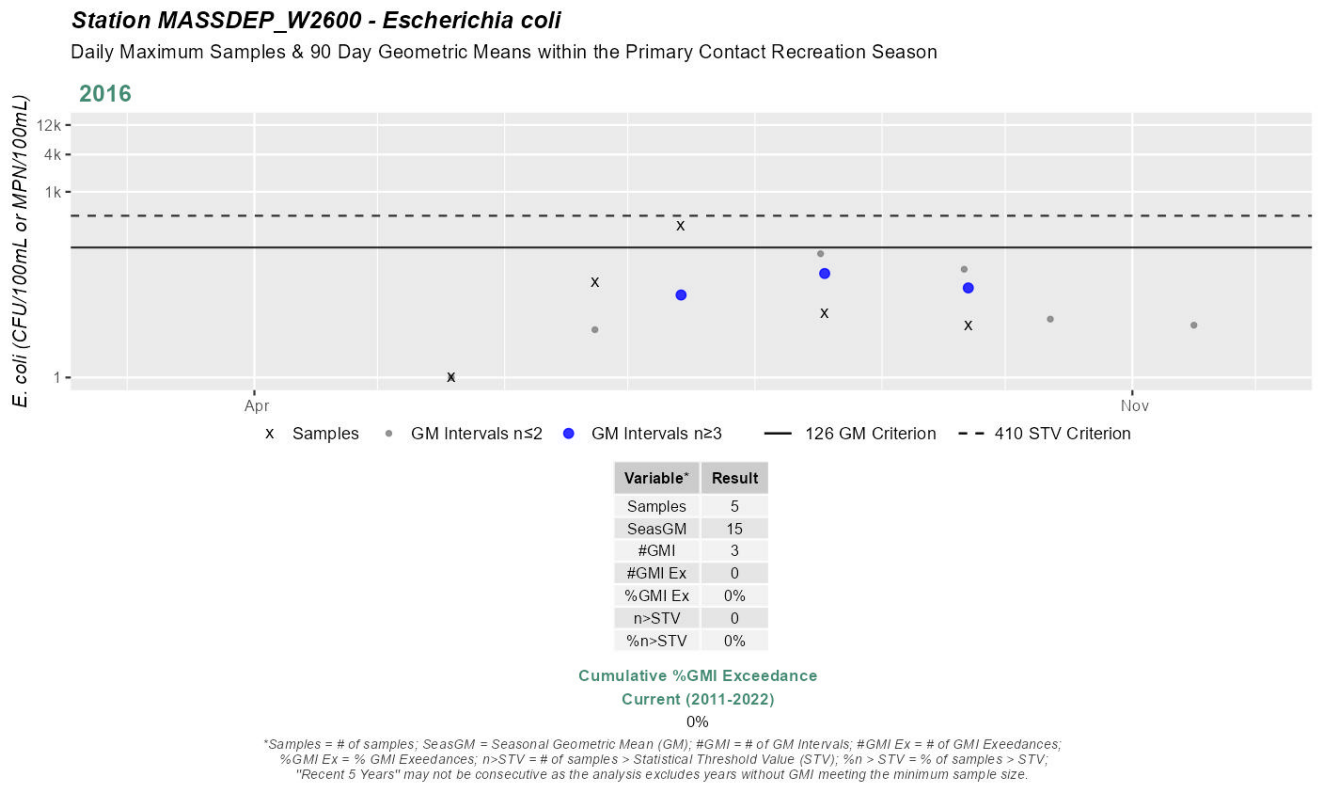
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2600	MassDEP	Water Quality	Quinebaug River/East Brimfield Reservoir	[north eastern end of reservoir, beach at southern end of Old Streeter Road, south off Route 20 (Brimfield Road), Sturbridge]	42.110053	-72.130306
W2627	MassDEP	Water Quality	East Brimfield Reservoir	[index site, just south of center of northern portion (Long Pond) of reservoir, Sturbridge]	42.120090	-72.131224

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2600	MassDEP	E. coli	05/18/16	09/21/16	5	1	285	15



Other Indicators

Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data (MassDEP Undated 4) (MassDEP Undated 3)

Summary Statement
In East Brimfield Reservoir (MA41014) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2627 [MAP2L-018, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2600 [MAP2L-018S, Shoreline]. At station W2627 (station depth=8 m) the Secchi depth measurements ranged from 2.64-3.6 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins samples from W2600 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L.

MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2600	East Brimfield Reservoir	Shoreline	2016	3	0	N/A
W2627	East Brimfield Reservoir	Index	2016	3	0	N/A

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use of East Brimfield Reservoir (MA41014) is assessed as Not Supporting and an impairment is being identified for the non-pollutant Aquatic Plants (Macrophytes) based on the macrophyte mapping survey performed in 2016 (this is carried over from the Aesthetics Use). It is noted that *E. coli* bacteria data were indicative of good water quality in this waterbody, however. MassDEP staff collected *E. coli* bacteria data in East Brimfield Reservoir (MA41014) in Sturbridge near the beach at the southern end of Old Streeter Road (W2600/MAP2L-018S) during summer 2016 (n=5). Analysis of this low frequency dataset indicated that none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 15 CFU/100mL). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer 2016 site visits to W2600 (n=5) and the deep hole index station W2627 (n=3), but during the macrophyte mapping survey at W2627 in September (n=1), more than 25% (44.5%) of the reservoir was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2600	MassDEP	Water Quality	Quinebaug River/East Brimfield Reservoir	[north eastern end of reservoir, beach at southern end of Old Streeter Road, south off Route 20 (Brimfield Road), Sturbridge]	42.110053	-72.130306

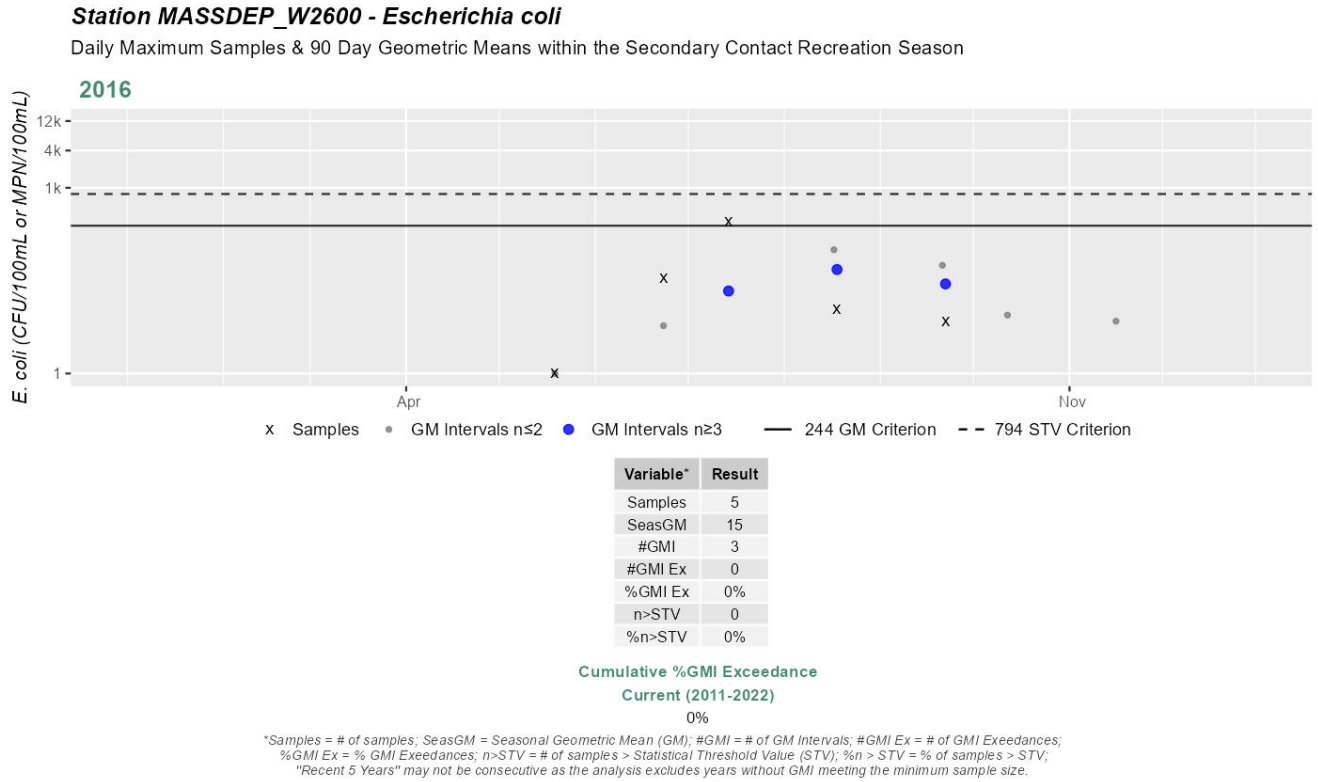
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2600	MassDEP	E. coli	05/18/16	09/21/16	5	1	285	15



Variable*	Result
Samples	5
SeasGM	15
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Glen Echo Lake (MA41017)

Location:	Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	115 ACRES
Classification/Qualifier:	B

No usable data were available for Glen Echo Lake (MA41017) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

Hamant Brook (MA41-15)

Location:	Headwaters, outlet unnamed pond, Sturbridge to mouth at confluence with the Quinebaug River, Sturbridge.
AU Type:	RIVER
AU Size:	3.1 MILES
Classification/Qualifier:	B

Hamant Brook (MA41-15)

Watershed Area: 3.69 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.69	2.44	1.40	0.87
Agriculture	0.4%	0.6%	0.5%	0.8%
Developed	8.2%	8.1%	7%	6.6%
Natural	83.1%	81.5%	80.6%	79.5%
Wetland	8.3%	9.8%	11.8%	13%
Impervious	4.6%	4.4%	4.4%	4.2%

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Turbidity, Low] Conduct follow-up sampling in Hamant Brook (MA41-15) at station HA01 to evaluate the status of the moderate turbidity identified by DEP biologists due to habitat observations during a 2004 benthic macroinvertebrate survey. This is a low priority. {HA01}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

Fish toxics sampling has not been conducted in Hamant Brook (MA41-15), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	YES

2024/26 Use Attainment Summary
No data are available to assess the status of the Aesthetics Use for Hamant Brook (MA41-15), so it is Not Assessed. The prior Alert for moderate turbidity observed by DEP biologists during a 2004 survey at station HA01 (Fiorentino 2007) is being carried forward.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No recent *E. coli* bacteria data are available for Hamant Brook (MA41-15), so the Primary Contact Recreation Use is Not Assessed. The former Alert for moderate turbidity is being removed from the recreational uses but continues to be maintained under the Aesthetics Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
While the *E. coli* concentrations measured at W1174 during summer 2004 were below thresholds, these data were collected prior to the current IR window (2011-2022) and consequently the Secondary Contact Recreation Use for Hamant Brook (MA41-15) is Not Assessed. The former Alert for moderate turbidity is being removed from the recreational uses but continues to be maintained under the Aesthetics Use. MassDEP staff collected historical *E. coli* bacteria samples in Hamant Brook (MA41-15) approx. 100 ft downstream/northeast of an unnamed gravel pit access road, west of Shattuck Rd, Sturbridge (W1174) between May and September 2004 (n=5). Analysis of this limited frequency dataset indicated that none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 21 CFU/100mL). However, as noted above, because the samples were not collected in the current IR window, a use attainment decision cannot be based upon them.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1174	MassDEP	Water Quality	Hamant Brook	[approximately 100 feet downstream/northeast of unnamed gravel pit access road, west off Shattuck Road, Sturbridge]	42.088926	-72.098010

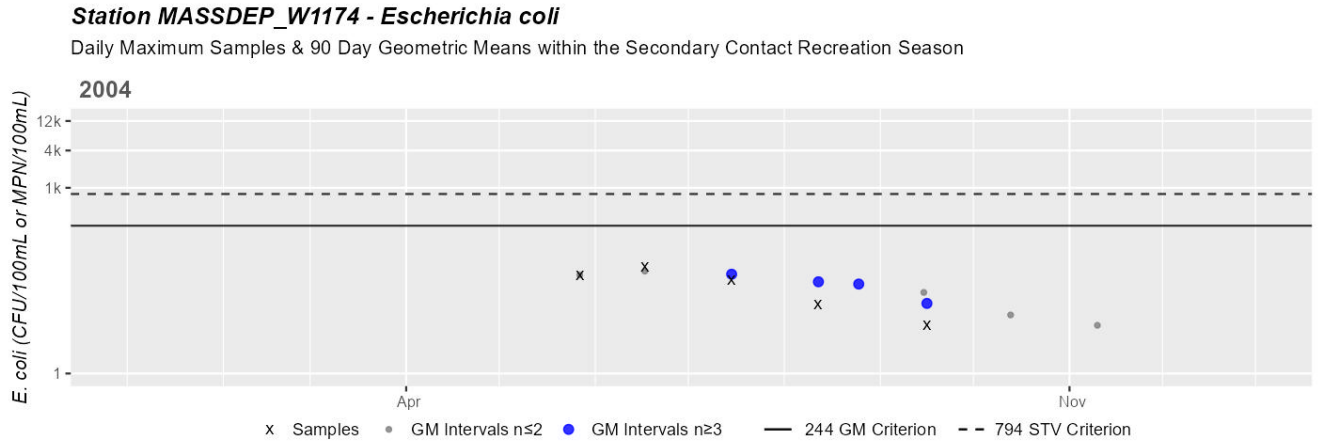
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1174	MassDEP	E. coli	05/26/04	09/15/04	5	6	52	21



Variable*	Result
Samples	5
SeasGM	21
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Hamilton Reservoir (MA41019)

Location:	Holland (size indicates portion in Massachusetts).
AU Type:	FRESHWATER LAKE
AU Size:	386 ACRES
Classification/Qualifier:	B

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

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Harmful Algal Blooms, Low] Follow-up sampling of cyanobacteria cell counts should be conducted in Hamilton Reservoir (MA41019) as there was an elevated measurement in 2016 at W2619, the index station. {W2619}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary

Fish toxics sampling was conducted at Hamilton Reservoir in 2016 as part of MassDEP's probabilistic lake surveys (MAP2). There is Insufficient Information to assess the Fish Consumption Use for Hamilton Reservoir (MA41019) since MDPH did not identify any site-specific advisories and the statewide fish consumption advisory remains in place.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Hamilton Reservoir (MA41019) is assessed as Fully Supporting based on observations at W2619 and W2602 during 2016.
MassDEP staff surveyed this Hamilton Reservoir AU (MA41019) north of Mashapaug Rd in Holland, at the deep hole index station (W2619/MAP2L-002) and at a shoreline station near the beach just southeast of the Chandler Rd-Mashapaug Rd intersection (W2602/MAP2L-002S), both in 2016 as part of the MAP2 lake monitoring project. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded during summer site visits to W2619 (n=3) and W2602 (n=5), or littoral zone duckweed recorded in ten shoreline plots at W2602 (n=1). During the macrophyte mapping survey at W2619 in July (n=1) less than 25% (11.2%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2602	MassDEP	Water Quality	Hamilton Reservoir	[north western side of reservoir, at beach just southeast of the Chandler Road, Mashapaug Road intersection, Holland]	42.054583	-72.160264
W2619	MassDEP	Water Quality	Hamilton Reservoir	[index site, southwestern quadrant of northern lobe, Holland]	42.052961	-72.158518

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2602	Hamilton Reservoir	2016	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2602 (MAP2L-002S) on Hamilton Reservoir (MA41019) during 5 site visits between May 2016 and Sep 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots.

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2619	Hamilton Reservoir	2016	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2619 (MAP2L-002) on Hamilton Reservoir (MA41019) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Jul 2016, less than 25% (11.2%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2602	Hamilton Reservoir	2016	Color	None	2	5
W2602	Hamilton Reservoir	2016	Color	Light Yellow/Tan	3	5
W2602	Hamilton Reservoir	2016	Odor	None	5	5
W2602	Hamilton Reservoir	2016	Turbidity	None	5	5
W2602	Hamilton Reservoir	2016	Objectionable Deposits	No	5	5
W2602	Hamilton Reservoir	2016	Scum	No	5	5
W2602	Hamilton Reservoir	2016	Aesthetics Impaired?	No	5	5
W2619	Hamilton Reservoir	2016	Color	Light Yellow/Tan	3	3
W2619	Hamilton Reservoir	2016	Odor	None	3	3
W2619	Hamilton Reservoir	2016	Turbidity	None	3	3
W2619	Hamilton Reservoir	2016	Objectionable Deposits	No	3	3
W2619	Hamilton Reservoir	2016	Scum	No	3	3
W2619	Hamilton Reservoir	2016	Aquatic Plant Density, Overall	Not Recorded	1	3
W2619	Hamilton Reservoir	2016	Aquatic Plant Density, Overall	None	2	3
W2619	Hamilton Reservoir	2016	Aquatic Plant Density, Whole Lake	Not Recorded	1	1
W2619	Hamilton Reservoir	2016	Duckweed Density, Whole Lake	None	1	1
W2619	Hamilton Reservoir	2016	Aesthetics Impaired?	No	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use of Hamilton Reservoir (MA41019) is being assessed as Fully Supporting based on *E. coli* bacteria data collected at a shoreline station (W2602) during summer 2016. However, an Alert is being identified for Harmful Algal Blooms since cyanobacteria cell count was elevated on one occasion at the index station (W2619) in 2016. Follow-up sampling should be conducted as resources permit.
MassDEP staff collected *E. coli* bacteria data in Hamilton Reservoir (MA41019) in Holland at a shoreline station near the beach just southeast of the Chandler Rd-Mashapaug Rd intersection (W2602/MAP2L-002S) during summer 2016 (n=5). Analysis of this low frequency dataset indicated that none of the intervals had GMs >126 CFU/100mL and none of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 7 CFU/100mL).
During summer 2016, MassDEP field crews collected three samples at the shoreline station W2602, as well as three water samples at the deep hole index station W2619 (MAP2L-002) on the reservoir- the cyanobacteria cell count exceeded 70,000 cells/mL for a single index station sample on Jul 19, 2016. The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Analysis of shoreline samples (W2602, n=3) for microcystins indicated that the cyanotoxin concentrations did not exceed the threshold of 8 µg/L. At the index station, W2619 (station depth=6.3 m), Secchi depth measurements ranged from 2.27-2.73 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold.

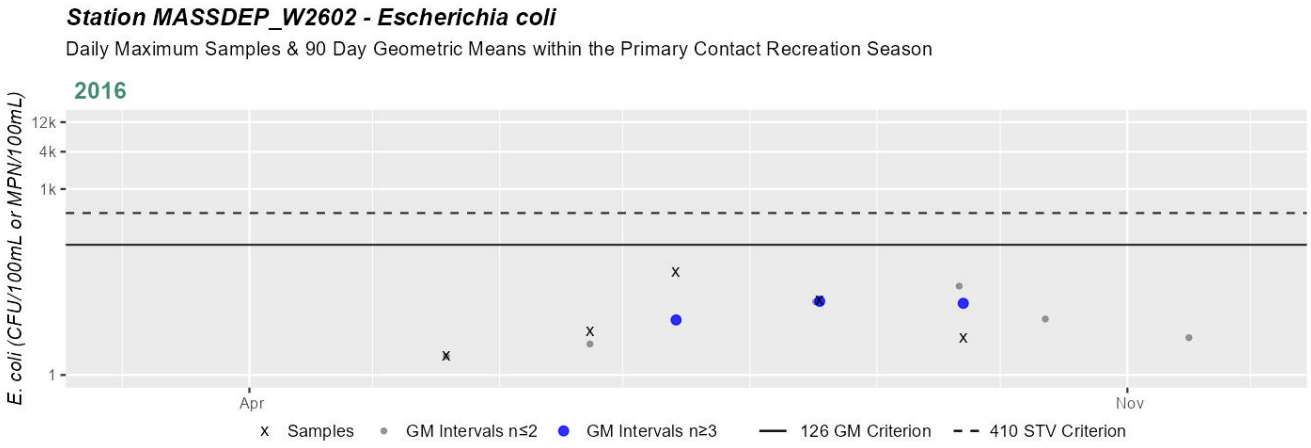
Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2602	MassDEP	Water Quality	Hamilton Reservoir	[north western side of reservoir, at beach just southeast of the Chandler Road, Mashapaug Road intersection, Holland]	42.054583	-72.160264
W2619	MassDEP	Water Quality	Hamilton Reservoir	[index site, southwestern quadrant of northern lobe, Holland]	42.052961	-72.158518

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2602	MassDEP	E. coli	05/18/16	09/21/16	5	2	46	7



Variable*	Result
Samples	5
SeasGM	7
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Other Indicators

Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data (MassDEP Undated 4) (MassDEP Undated 3)

Summary Statement
In Hamilton Reservoir (MA41019) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2619 [MAP2L-002, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2602 [MAP2L-002S, Shoreline]. At station W2619 (station depth=6.3 m) the Secchi depth measurements ranged from 2.27-2.73 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count exceeded 70,000 cells/mL for a single sample on Jul 19, 2016 (n=6). The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Analysis of microcystins samples from W2602 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L.

MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2602	Hamilton Reservoir	Shoreline	2016	3	0	N/A
W2619	Hamilton Reservoir	Index	2016	3	1	2016-07-19

Secondary Contact Recreation

2024/26 Use Attainment	**Alert**

Fully Supporting	YES

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use of Hamilton Reservoir (MA41019) is being assessed as Fully Supporting based on *E. coli* bacteria data collected at a shoreline station (W2602) during summer 2016. However, an Alert is being identified for Harmful Algal Blooms since cyanobacteria cell count was elevated on one occasion at the index station (W2619) in 2016. Follow-up sampling should be conducted as resources permit.

MassDEP staff collected *E. coli* bacteria data in Hamilton Reservoir (MA41019) in Holland at a shoreline station near the beach just southeast of the Chandler Rd-Mashapaug Rd intersection (W2602/MAP2L-002S) during summer 2016 (n=5). Analysis of this low frequency dataset indicated that none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 7 CFU/100mL).

During summer 2016, MassDEP field crews collected three samples at the shoreline station W2602, as well as three water samples at the deep hole index station W2619 (MAP2L-002) on the reservoir- the cyanobacteria cell count exceeded 70,000 cells/mL for a single index station sample on Jul 19, 2016. The elevated cyanobacteria cell count measurement is indicative of a Harmful Algal Blooms Alert. Note that analysis of shoreline samples (W2602, n=3) for microcystins indicated that the cyanotoxin concentrations did not exceed the threshold of 8 µg/L.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2602	MassDEP	Water Quality	Hamilton Reservoir	[north western side of reservoir, at beach just southeast of the Chandler Road, Mashapaug Road intersection, Holland]	42.054583	-72.160264

Bacteria Data

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

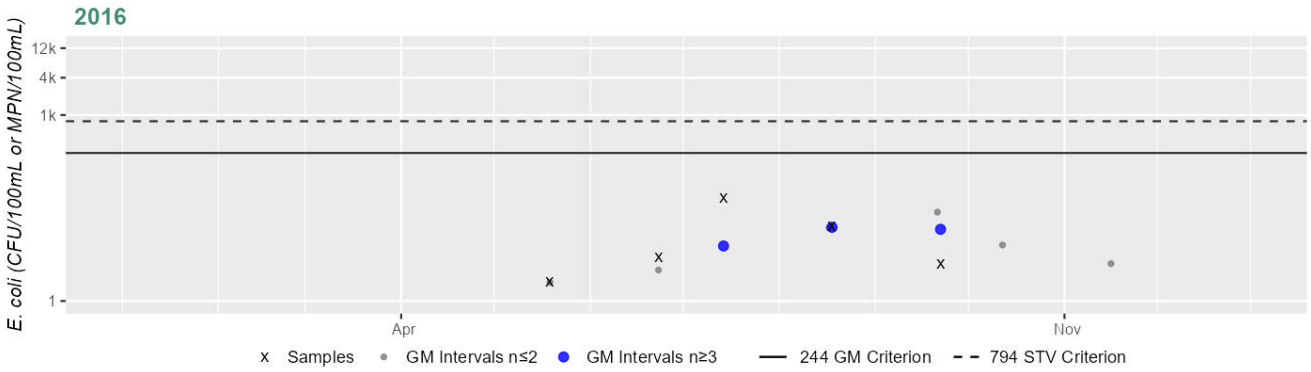
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2602	MassDEP	E. coli	05/18/16	09/21/16	5	2	46	7

Station MASSDEP_W2602 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	7
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Hatchet Brook (MA41-14)

Location:	From the outlet of No. 3 Reservoir, Southbridge to mouth at confluence with the Quinebaug River, Southbridge.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

Hatchet Brook (MA41-14)

Watershed Area: 3.96 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	3.51	3.39	2.14	2.07
Agriculture	0.6%	0.7%	0.3%	0.3%
Developed	6.5%	6.7%	4%	4.1%
Natural	85.2%	84.7%	84.3%	83.8%
Wetland	7.7%	8%	11.4%	11.7%
Impervious	2.3%	2.4%	1.4%	1.4%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Temperature	Dam or Impoundment (Y)	X	--	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

Fish toxics sampling has not been conducted in Hatchet Brook (MA41-14), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Hatchet Brook (MA41-14) will continue to be assessed as Fully Supporting. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews in Hatchet Brook at Dennison Cross Road, Southbridge (W2214) during summer 2011.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2214	MassDEP	Water Quality	Hatchet Brook	[Dennison Cross Road, Southbridge]	42.061511	-72.064542

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2214	Hatchet Brook	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2214 on Hatchet Brook (MA41-14) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2214	2011	6	6	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2214	Hatchet Brook	2011	Color	Not Recorded	1	6
W2214	Hatchet Brook	2011	Color	None	2	6
W2214	Hatchet Brook	2011	Color	Light Yellow/Tan	3	6
W2214	Hatchet Brook	2011	Odor	None	6	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2214	Hatchet Brook	2011	Turbidity	None	6	6
W2214	Hatchet Brook	2011	Objectionable Deposits	No	6	6
W2214	Hatchet Brook	2011	Scum	No	5	6
W2214	Hatchet Brook	2011	Scum	Yes	1	6
W2214	Hatchet Brook	2011	Aquatic Plant Density, Overall	None	6	6
W2214	Hatchet Brook	2011	Periphyton Density, Filamentous	None	6	6
W2214	Hatchet Brook	2011	Periphyton Density, Film	None	5	6
W2214	Hatchet Brook	2011	Periphyton Density, Film	Moderate	1	6

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use of Hatchet Brook (MA41-14) is assessed as Fully Supporting based on the *E. coli* bacteria data collected at W2214 during summer 2011. MassDEP staff collected *E. coli* bacteria samples in Hatchet Brook (MA41-14) at Dennison Cross Road in Southbridge (W2214) between May and October 2011 (n=6). Analysis of this limited frequency dataset indicated 16% of intervals had GMs >126 CFU/100mL and none of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 85 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2214	MassDEP	Water Quality	Hatchet Brook	[Dennison Cross Road, Southbridge]	42.061511	-72.064542

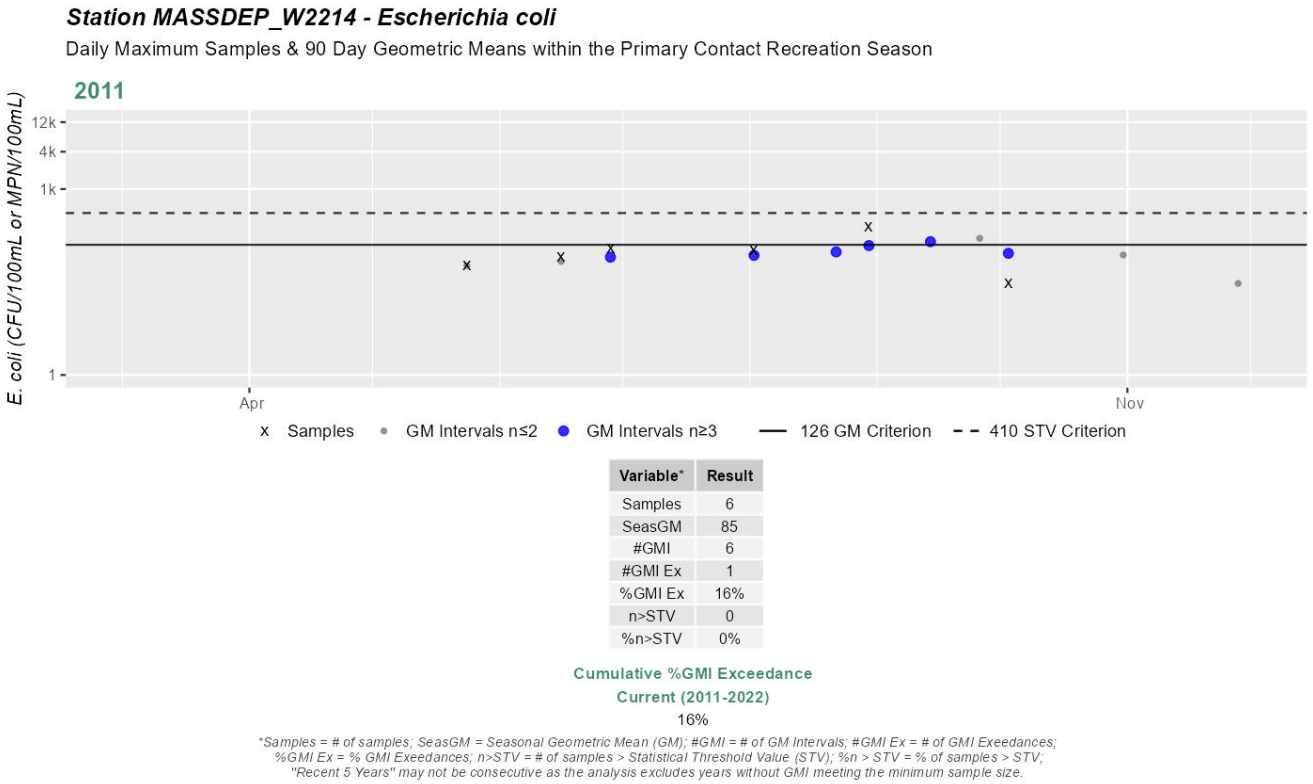
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2214	MassDEP	E. coli	05/24/11	10/03/11	6	30	248	85



Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use of Hatchet Brook (MA41-14) is assessed as Fully Supporting based on the *E. coli* bacteria data collected at W2214 during summer 2011. MassDEP staff collected *E. coli* bacteria samples in Hatchet Brook (MA41-14) at Dennison Cross Road in Southbridge (W2214) between May and October 2011 (n=6). Analysis of this limited frequency dataset indicated none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 85 CFU/100mL). DEP staff also historically sampled a downstream station (W1168) approximately 300 feet upstream/south of South Street, upstream of dam remnants in Southbridge during summer 2004 (n=5) and those data were also indicative of good water quality. However, since they were collected prior to the current IR window (2011-2022), they cannot be used to assess the Secondary Contact Recreation Use of Hatchet Brook.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1168	MassDEP	Water Quality	Hatchet Brook	[approximately 300 feet upstream/south of South Street, upstream of dam remnants, Southbridge]	42.067100	-72.062834
W2214	MassDEP	Water Quality	Hatchet Brook	[Dennison Cross Road, Southbridge]	42.061511	-72.064542

Bacteria Data

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

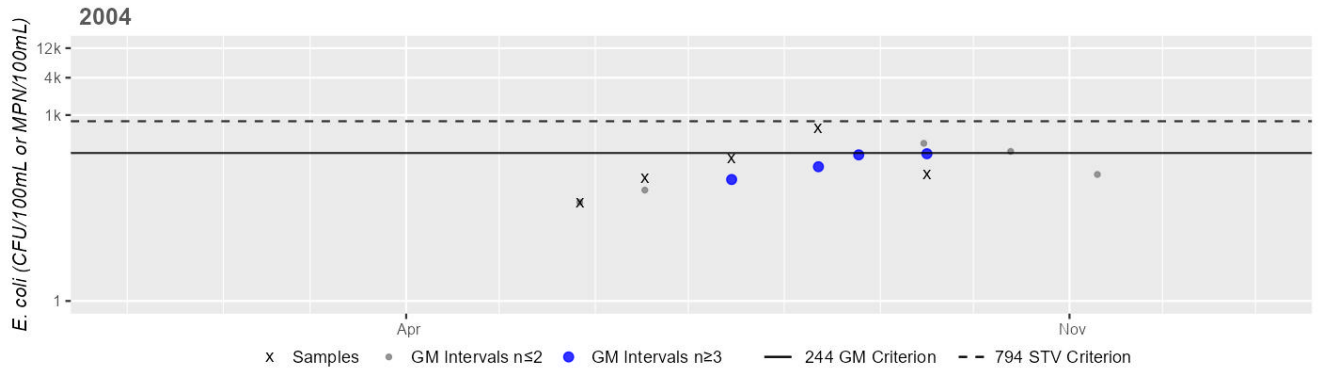
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1168	MassDEP	E. coli	05/26/04	09/15/04	5	39	610	138
W2214	MassDEP	E. coli	05/24/11	10/03/11	6	30	248	85

Station MASSDEP_W1168 - Escherichia coli

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



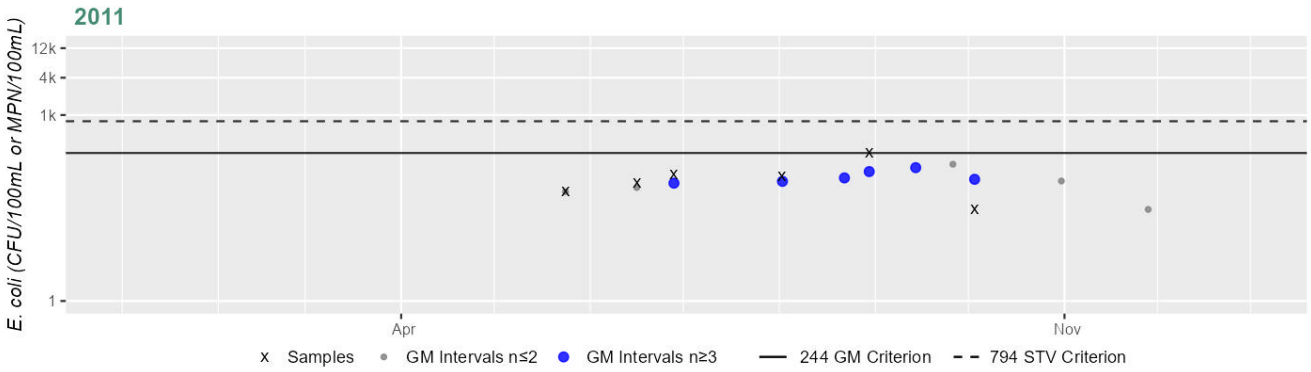
Variable*	Result
Samples	5
SeasGM	138
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2214 - Escherichia coli

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



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

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

Holland Pond (MA41022)

Location:	Holland.
AU Type:	FRESHWATER LAKE
AU Size:	66 ACRES
Classification/Qualifier:	B: HQW (impoundment on river designated B/CWF/HQW)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Harmful Algal Blooms	--	Unchanged
5	5	Mercury in Fish Tissue	33880	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Harmful Algal Blooms	Source Unknown (N)	--	--	X	X	X
Mercury in Fish Tissue	Atmospheric Deposition (Y)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--

Recommendations

2024/26 Recommendations
2024/2026 IR {Harmful Algal Blooms, Medium] Follow-up monitoring should be conducted in Holland Pond (MA41022) to confirm if Harmful Algal Blooms are impairing the Recreational and Aesthetic uses. Monitoring should include observational data and collection of cyanobacteria cell count data, as well as continued reporting of algal blooms to MDPH.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Fish Consumption Use for Holland Pond (MA41022) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for Holland Pond (referred to by MA DPH as ''Holland Pond or Quinebaug River (from dam at Hamilton Reservoir through East Brimfield Reservoir/Long Pond, including Holland Pond)'') in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Holland Pond (MDPH name Lake Siog) (MA41022) continues to be assessed as Not Supporting, with the prior impairment for Harmful Algal Blooms being carried forward, since C-HAB blooms >20 days in length were reported to MDPH in 2016 & 2017. Follow-up monitoring should be conducted in Holland Pond to confirm the impairment with cyanobacteria cell count data. During the period 2015 through 2022, C-HAB postings for Holland Pond (MDPH name Lake Siog) were reported to MDPH based on visual observations for 18 days in 2015, 35 days in 2016, 75 days in 2017, and 3 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Algal Bloom Information

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

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Holland Pond (MDPH name Lake Siog) (MA41022) were reported to MDPH based on visual observations for 18 days in 2015, 35 days in 2016, 75 days in 2017, and 3 days in 2018. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

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

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Holland Pond (MDPH name Lake Siog)	Holland	18	35	75	3				

Primary Contact Recreation

2024 Impairment	Pollutant Y/N	2024 Source	Confirmed Y/N
Harmful Algal Blooms	YES	Source Unknown	NO

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Holland Pond (MDPH name Lake Siog) (MA41022) continues to be assessed as Not Supporting. The prior impairment for Harmful Algal Blooms being carried forward, since C-HAB blooms >20 days in length were reported to MDPH in 2016 & 2017. Follow-up monitoring should be conducted in Holland Pond to confirm the impairment with cyanobacteria cell count data.
During the period 2015 through 2022, C-HAB postings for Holland Pond (MDPH name Lake Siog) were reported to MDPH based on visual observations for 18 days in 2015, 35 days in 2016, 75 days in 2017, and 3 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Holland Pond (MDPH name Lake Siog) (MA41022) continues to be assessed as Not Supporting, with the prior impairment for Harmful Algal Blooms being carried forward, since C-HAB blooms >20 days in length were reported to MDPH in 2016 & 2017. Follow-up monitoring should be conducted in Holland Pond to confirm the impairment with cyanobacteria cell count data.
During the period 2015 through 2022, C-HAB postings for Holland Pond (MDPH name Lake Siog) were reported to MDPH based on visual observations for 18 days in 2015, 35 days in 2016, 75 days in 2017, and 3 days in 2018 and no blooms were reported in other years. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

Hollow Brook (MA41-24)

Location:	Headwaters, west of Hollow Road, Wales to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	2.7 MILES
Classification/Qualifier:	B

No usable data were available for Hollow Brook (MA41-24) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Lake George (MA41016)

Location:	Wales.
AU Type:	FRESHWATER LAKE
AU Size:	93 ACRES
Classification/Qualifier:	B

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Harmful Algal Blooms, Medium] Follow-up monitoring should be conducted in Lake George (MA41016) to determine if Harmful Algal Blooms may be impairing the Recreational and Aesthetic. Monitoring should include observational data and collection of cyanobacteria cell count data, as well as continued reporting of algal blooms to MDPH. This is of medium priority.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No fish toxics sampling has been conducted in Lake George (MA41016), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Insufficient Information	YES

2024/26 Use Attainment Summary

There is Insufficient Information to assess the Aesthetics Use of Lake George (MA41016), but an Alert is being identified for Harmful Algal Blooms in this waterbody since C-HAB postings >15 days in duration were reported in 2022. A recommendation for follow-up monitoring will be made.
During the period 2015 through 2022, C-HAB postings for Lake George were reported to MDPH based on visual observations for 23 days in 2022, and no blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. However, an Alert is being identified for Harmful Algal Blooms and a recommendation for follow-up monitoring will be made.

Algal Bloom Information

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

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Lake George (MA41016) were reported to MDPH based on visual observations for 23 days in 2022. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. However, an Alert is being identified for C-HABs in this waterbody and a recommendation for follow-up sampling will be made.

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

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Lake George	Wales								23

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	YES

2024/26 Use Attainment Summary

There is Insufficient Information to assess the Primary Contact Recreation Use of Lake George (MA41016), but an Alert is being identified for Harmful Algal Blooms in this waterbody since C-HAB postings >15 days in duration were reported in 2022. A recommendation for follow-up monitoring will be made.
During the period 2015 through 2022, C-HAB postings for Lake George were reported to MDPH based on visual observations for 23 days in 2022, and no blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. However, an Alert is being identified for Harmful Algal Blooms and a recommendation for follow-up monitoring will be made.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	YES

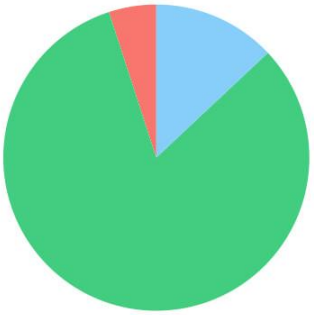
2024/26 Use Attainment Summary
There is Insufficient Information to assess the Secondary Contact Recreation Use of Lake George (MA41016), but an Alert is being identified Harmful Algal Blooms in this waterbody since C-HAB postings >15 days in duration were reported in 2022. A recommendation for follow-up monitoring will be made. During the period 2015 through 2022, C-HAB postings for Lake George were reported to MDPH based on visual observations for 23 days in 2022, and no blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. However, an Alert is being identified for Harmful Algal Blooms and a recommendation for follow-up monitoring will be made.

Leadmine Brook (MA41-21)

Location:	Headwaters, outlet Leadmine Pond, Sturbridge to the state line, Sturbridge, MA/Union, CT.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Leadmine Brook (MA41-21)

Watershed Area: 3.00 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.00	2.70	1.15	1.11
Agriculture	0%	0%	0%	0%
Developed	5%	5.2%	5.7%	5.9%
Natural	82%	81%	77.3%	76.9%
Wetland	13%	13.8%	17%	17.1%
Impervious	2.7%	2.8%	3.2%	3.3%

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted at Leadmine Brook (MA41-21), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No data are available, so the Aesthetic Use for Leadmine Brook (MA41-21) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Primary Contact Recreation Use for Leadmine Brook (MA41-21) so it is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
While *E. coli* concentrations for the 2004 samples from W1182 were below thresholds, these data were collected prior to the current IR window (2011-2022) and consequently the Secondary Contact Recreation Use for Leadmine Brook (MA41-21) is Not Assessed. *E. coli* bacteria data were historically collected by MassDEP staff in Leadmine Brook (MA41-21) south of the Leadmine Rd/Rt 15 junction and immediately northwest of the Rt 15 abandoned rest area in Sturbridge (W1182) during summer 2004 (n=5). Analysis of this single year of limited frequency bacteria data indicated that no intervals had GMs >244 CFU/100mL and no samples exceeded the 794 CFU/100mL STV (the overall GM was 14 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1182	MassDEP	Water Quality	Leadmine Brook	[south of Leadmine Road/Route 15 junction, northwest of Route 15 (Mashapaug Road) abandoned rest area, Sturbridge]	42.039086	-72.131941

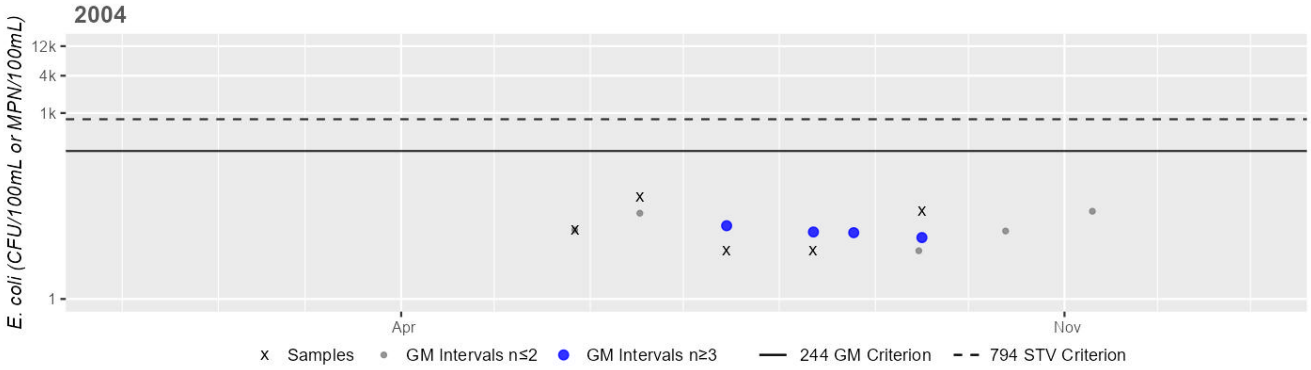
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1182	MassDEP	E. coli	05/26/04	09/15/04	5	6	45	14

Station MASSDEP_W1182 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	14
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Leadmine Pond (MA41027)

Location:	Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	52 ACRES
Classification/Qualifier:	B

No usable data were available for Leadmine Pond (MA41027) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Lebanon Brook (MA41-11)

Location:	From the state line, Southbridge, MA/Woodstock, CT, to mouth at confluence with the Quinebaug River, Southbridge.
AU Type:	RIVER
AU Size:	4.7 MILES
Classification/Qualifier:	B

Lebanon Brook (MA41-11)

Watershed Area: 10.28 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	3.41	2.99	1.49	1.25
Agriculture	0.8%	0.9%	0.4%	0.5%
Developed	11.5%	12.9%	6.9%	7.9%
Natural	74.9%	74.4%	72.9%	72.6%
Wetland	12.8%	11.8%	19.7%	19%
Impervious	4%	4.5%	2.8%	3.2%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Lebanon Brook (MA41-11), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No data are available to assess the status of the Aesthetics Use of Lebanon Brook (MA41-11), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Lebanon Brook (MA41-11) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Lebanon Brook (MA41-11) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected E. coli bacteria samples in Lebanon Brook (MA41-11) at W1171 [E of Rt. 169, ~1900 ft upstream/southW of Ashland Avenue, Southbridge] from May-Sep 2004 (n=5). Historic E. coli data from W1171 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1171	MassDEP	Water Quality	Lebanon Brook	[east of Route 169, approximately 1900 feet upstream/southwest of Ashland Avenue, Southbridge]	42.061719	-72.014615

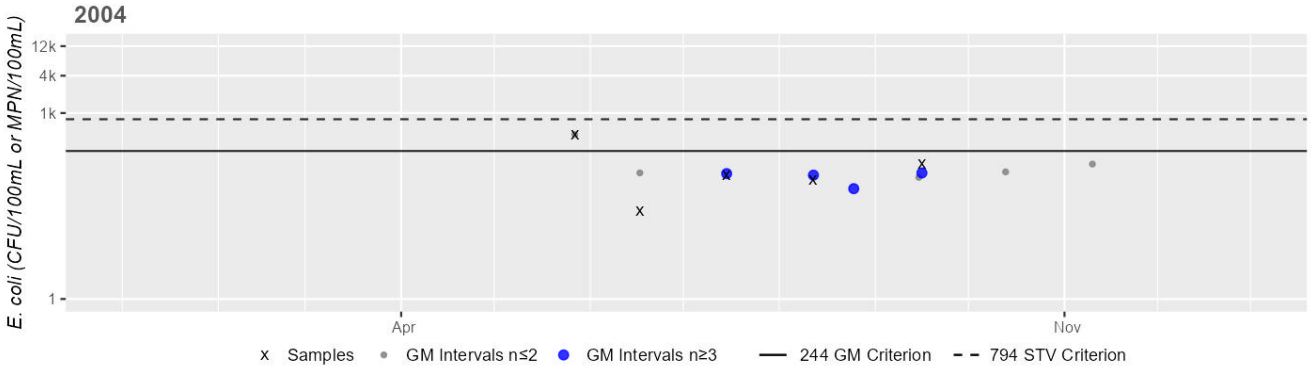
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1171	MassDEP	E. coli	05/26/04	09/15/04	5	26	450	108

Station MASSDEP_W1171 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	108
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Little Alum Pond (MA41029)

Location:	Brimfield.
AU Type:	FRESHWATER LAKE
AU Size:	73 ACRES
Classification/Qualifier:	B

No usable data were available for Little Alum Pond (MA41029) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Mcintyre Pond (MA41031)

Location:	Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	B

No usable data were available for Mcintyre Pond (MA41031) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Mckinstry Brook (MA41-13)

Location:	Headwaters, east of Brookfield Road, Charlton (excluding intermittent portion) to mouth at confluence with the Quinebaug River, Southbridge.
AU Type:	RIVER
AU Size:	7.3 MILES
Classification/Qualifier:	B

Mckinstry Brook (MA41-13)

Watershed Area: 8.01 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.01	4.39	2.73	1.46
Agriculture	2.4%	1.9%	0.6%	0.5%
Developed	12.7%	14.2%	9%	8.5%
Natural	70.6%	69.2%	67.6%	68.7%
Wetland	14.3%	14.8%	22.9%	22.3%
Impervious	4%	4.2%	2.8%	2.9%

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (Y)	--	--	X	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Trash	Illegal Dumps or Other Inappropriate Waste Disposal (Y)	--	--	X	X	X

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Mckinstry Brook (MA41-13), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No recent data are available to assess the status of the Aesthetics Use of Mckinstry Brook (MA41-13), so it continues to be assessed as Not Supporting, with the impairments for Debris and Trash identified for the lower 0.3 miles of the AU being carried forward (based on observations made by MassDEP staff at station MK01 during the 2004 sampling season (MassDEP 2009)).

Primary Contact Recreation

2024/26 Use Attainment	Alert

Not Supporting	NO

2024/26 Use Attainment Summary
No recent bacteria data have been collected in Mckinstry Brook (MA41-13) so the Primary Contact Recreation Use for Mckinstry Brook continues to be assessed as Not Supporting with the historic impairments for Escherichia Coli (E. Coli), Debris, and Trash identified for the lower 0.3 miles being carried forward (based on observations made by MassDEP staff at station MK01 during the 2004 sampling season (MassDEP 2009)).

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Mckinstry Brook (MA41-13) continues to be assessed as Not Supporting with the historic impairments for Debris and Trash identified for the lower 0.3 miles being carried forward (based on observations made by MassDEP staff at station MK01 during the 2004 sampling season (MassDEP 2009). A new impairment for Escherichia Coli (E. Coli) is being added based on reevaluation of historic data from W1170 collected in 2004. MassDEP staff historically collected *E. coli* bacteria data in Mckinstry Brook (MA41-13) at the Pleasant Street crossing in Southbridge (W1170) during summer 2004 (n=5). Analysis of this limited frequency dataset indicated that 100% of intervals had GMs >244 CFU/100mL and one sample exceeded the 794 CFU/100mL STV (the overall GM was 491 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1170	MassDEP	Water Quality	McKinstry Brook	[Pleasant Street crossing, Southbridge]	42.083952	-72.044820

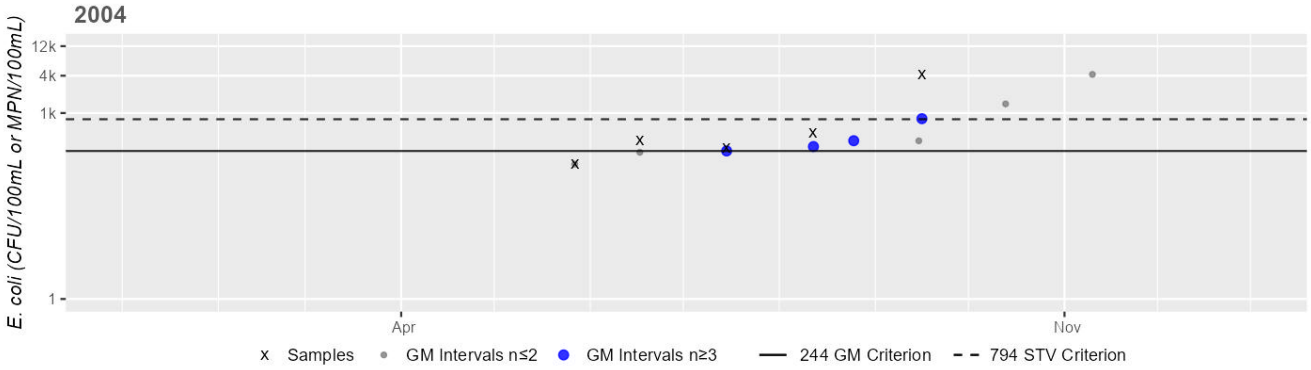
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1170	MassDEP	E. coli	05/26/04	09/15/04	5	150	4200	491

Station MASSDEP_W1170 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	491
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Historic (1997-2010)
100%

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

Mill Brook (MA41-07)

Location:	From inlet of Mill Road Pond, Brimfield to mouth at confluence with Quinebaug River, Brimfield (through former 2008 segment: Mill Road Pond MA41032).
AU Type:	RIVER
AU Size:	4.7 MILES
Classification/Qualifier:	B

No usable data were available for Mill Brook (MA41-07) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

Monson Road Pond (MA41059)

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

No usable data were available for Monson Road Pond (MA41059) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Morse Pond (MA41033)

Location:	Southbridge.
AU Type:	FRESHWATER LAKE
AU Size:	41 ACRES
Classification/Qualifier:	B

No usable data were available for Morse Pond (MA41033) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

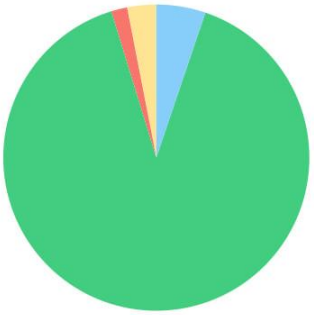
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Aquatic Plants (Macrophytes)*)	Source Unknown (N)	X	--	X	X	X
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	X	X	X

Mountain Brook (MA41-18)

Location:	Headwaters, east of Steerage Rock Road (excluding intermittent portion), Brimfield to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Mountain Brook (MA41-18)

Watershed Area: 1.42 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.42	1.42	0.52	0.52
Agriculture	3.1%	3.1%	6.2%	6.2%
Developed	1.7%	1.7%	2%	2%
Natural	90%	90%	81.9%	81.9%
Wetland	5.2%	5.2%	9.9%	9.9%
Impervious	0.8%	0.8%	1.1%	1.1%

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No fish toxics sampling has been conducted in Mountain Brook (MA41-18), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No data are available to assess the status of the Aesthetics Use for Mountain Brook (MA41-18), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Mountain Brook (MA41-18) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Mountain Brook (MA41-18) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected E. coli bacteria samples in Mountain Brook (MA41-18) at W1181 [Rt. 20 crossing, Brimfield] from May-Sep 2004 (n=5). Analysis of this historic single year limited frequency E. coli dataset from W1181 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 78 CFU/100ml. Historic E. coli data from W1181 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1181	MassDEP	Water Quality	Mountain Brook	[Route 20 crossing, Brimfield]	42.119553	-72.218356

Bacteria Data

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

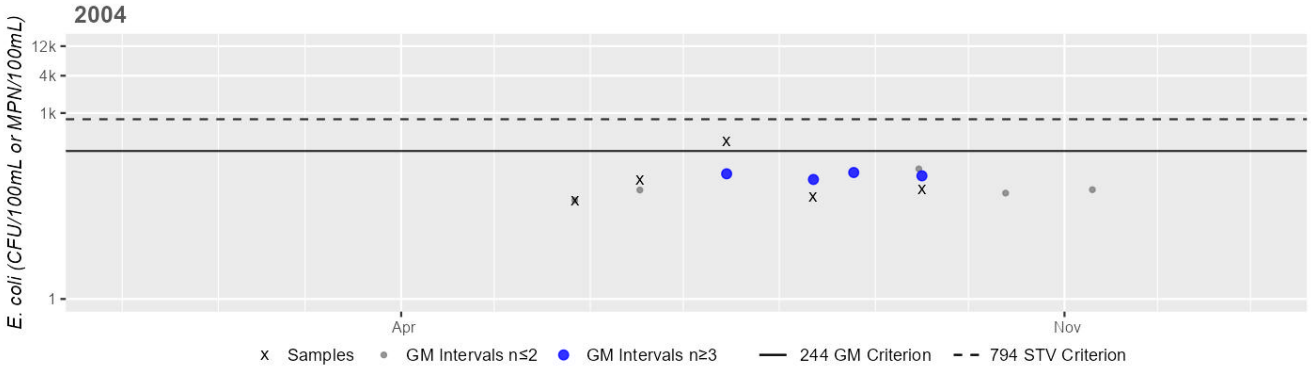
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1181	MassDEP	E. coli	05/26/04	09/15/04	5	39	350	78

Station MASSDEP_W1181 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	78
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

New Boston Road Pond (MA41035)

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

No usable data were available for New Boston Road Pond (MA41035) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

No. 3 Reservoir (MA41038)

Location:	Southbridge.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW

No usable data were available for No. 3 Reservoir (MA41038) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

No. 4 Reservoir (MA41039)

Location:	Southbridge.
AU Type:	FRESHWATER LAKE
AU Size:	69 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for No. 4 Reservoir (MA41039) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

No. 5 Reservoir (MA41040)

Location:	Southbridge.
AU Type:	FRESHWATER LAKE
AU Size:	30 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

No usable data were available for No. 5 Reservoir (MA41040) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Pistol Pond (MA41057)

Location:	Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	5 ACRES
Classification/Qualifier:	B

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Aquatic Plants (Macrophytes)*)	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
5	5	Transparency / Clarity	--	Unchanged

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

Fish toxics sampling has not been conducted in Pistol Pond (MA41057), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Pistol Pond (MA41057) will continue to be assessed as Not Supporting with the prior Aquatic Plants (Macrophytes) non-pollutant and Nutrient/Eutrophication Biological Indicators pollutant impairments being carried forward. Since the impairment for Transparency / Clarity was redundantly duplicated across multiple uses for this waterbody, the Transparency / Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. No new information related to aesthetics has been collected in Pistol Pond.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No new bacteria data are available to assess the Primary Contact Recreation Use of Pistol Pond (MA41057), so it continues to be assessed as Not Supporting and the prior impairments for Aquatic Plants (Macrophytes), a non-pollutant, as well as Nutrient/Eutrophication Biological Indicators and Transparency / Clarity (both pollutants) are being carried forward.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No new bacteria data are available to assess the Secondary Contact Recreation Use of Pistol Pond (MA41057), so it continues to be assessed as Not Supporting and the prior impairments for Aquatic Plants (Macrophytes), a non-pollutant, and Nutrient/Eutrophication Biological Indicators, a pollutant, are being carried forward. Since the impairment for Transparency / Clarity was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Secondary Contact Recreation Use but will continue to be maintained under the Primary Contact Recreation Use.

Prindle Lake (MA41043)

Location:	Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	75 ACRES
Classification/Qualifier:	B

No usable data were available for Prindle Lake (MA41043) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Quinebaug River (MA41-01)

Location:	Outlet Hamilton Reservoir, Holland, to Sturbridge WWTP outfall (NPDES: MA0100421), Sturbridge (excluding Holland Pond segment MA41022 and East Brimfield Reservoir segment MA41014).
AU Type:	RIVER
AU Size:	8.2 MILES
Classification/Qualifier:	B: CWF, HQW

Quinebaug River (MA41-01)

Watershed Area: 71.05 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	65.35	12.85	25.61	5.75
Agriculture	3.1%	1.5%	2.8%	0.8%
Developed	8.7%	13.1%	9.1%	12.9%
Natural	80.6%	79.3%	74.9%	78.2%
Wetland	7.7%	6.1%	13.2%	8.1%
Impervious	3.5%	5.3%	3.9%	5.6%

**Land cover analysis only includes watershed area within Massachusetts.*

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged
5	5	Fish Bioassessments	--	Unchanged
5	5	Lack of a Coldwater Assemblage	--	Unchanged
5	5	Mercury in Fish Tissue	--	Unchanged
5	5	Temperature	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Ambient Bioassays - Chronic Aquatic Toxicity	Source Unknown (N)	X	--	--	--	--
Fish Bioassessments	Dam or Impoundment (Y)	X	--	--	--	--
Fish Bioassessments	Source Unknown (N)	X	--	--	--	--
Lack of a Coldwater Assemblage	Dam or Impoundment (Y)	X	--	--	--	--
Lack of a Coldwater Assemblage	Source Unknown (N)	X	--	--	--	--
Mercury in Fish Tissue	Atmospheric Deposition (N)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Temperature	Dam or Impoundment (Y)	X	--	--	--	--
Temperature	Source Unknown (N)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2024/2026 IR [Bacteria, Medium] Based on data from the 2024/2026 IR cycle (collected in 2011), conduct follow-up monitoring in this Quinebaug River AU (MA41-01) in the vicinity of MassDEP station W2233. An Alert was identified due to GM exceedances of the Primary Contact Recreation Use bacteria threshold (no STV exceedances). Note that data collected at three other stations in this AU in 2011 were indicative of good water quality conditions (W2232, W0601, and W0063). This is of medium priority. {W2233}

Designated Use Attainment Decisions

Fish Consumption

2024 Impairment	Pollutant Y/N	2024 Source	Confirmed Y/N
Mercury in Fish Tissue	YES	Atmospheric Deposition	NO
Mercury in Fish Tissue	YES	Source Unknown	NO

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Fish Consumption Use for this Quinebaug River AU (MA41-01) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward (first identified due to fish toxics sampling conducted by MassDEP staff in September 1998 in this segment of the Quinebaug River (at F0057)). MA DPH included a site-specific advisory for the Quinebaug River (referred to by MA DPH as "Quinebaug River (from dam at Hamilton Reservoir through East Brimfield Reservoir/Long Pond, including Holland Pond)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Quinebaug River (MA41-01) is assessed as Fully Supporting. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during the surveys conducted at four stations along this reach of the Quinebaug River in the summer of 2011 from up to downstream as follows: East Brimfield Road, Holland (W2232; n=8), Holland East Brimfield Road, Brimfield (W2233; n=8), Holland Road bridge, Sturbridge (W0601; n=13; also visited in 2012 n=6 and 2013 n=2), and upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge (W0063; n=8).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0063	MassDEP	Water Quality	Quinebaug River	[upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge]	42.110552	-72.096377
W0601	MassDEP	Water Quality	Quinebaug River	[Holland Road bridge, Sturbridge]	42.109561	-72.118569
W2232	MassDEP	Water Quality	Quinebaug River	[East Brimfield Road, Holland]	42.079545	-72.157257
W2233	MassDEP	Water Quality	Quinebaug River	[Holland East Brimfield Road, Brimfield]	42.106759	-72.148597

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0063	Quinebaug River	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W0063 on Quinebaug River (MA41-01) during 8 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1).
W0601	Quinebaug River	2011	13	Aesthetic observations were made by MassDEP field sampling crews at Station W0601 on Quinebaug River (MA41-01) during 13 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0601	Quinebaug River	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0601 on Quinebaug River (MA41-01) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0601	Quinebaug River	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0601 on Quinebaug River (MA41-01) during 2 site visits between Feb 2013 and Apr 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2232	Quinebaug River	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2232 on Quinebaug River (MA41-01) during 8 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2233	Quinebaug River	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2233 on Quinebaug River (MA41-01) during 8 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0063	2011	8	2	1
W0601	2011	13	7	0
W0601	2012	6	5	1
W0601	2013	2	2	0
W2232	2011	8	3	0
W2233	2011	8	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0063	Quinebaug River	2011	Color	Not Recorded	1	8
W0063	Quinebaug River	2011	Color	Light Yellow/Tan	7	8
W0063	Quinebaug River	2011	Odor	Not Recorded	1	8
W0063	Quinebaug River	2011	Odor	None	7	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0063	Quinebaug River	2011	Turbidity	None	4	8
W0063	Quinebaug River	2011	Turbidity	Slightly Turbid	3	8
W0063	Quinebaug River	2011	Turbidity	Highly Turbid	1	8
W0063	Quinebaug River	2011	Objectionable Deposits	Unobservable	1	8
W0063	Quinebaug River	2011	Objectionable Deposits	No	7	8
W0063	Quinebaug River	2011	Scum	No	4	8
W0063	Quinebaug River	2011	Scum	Yes	4	8
W0063	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	4	8
W0063	Quinebaug River	2011	Aquatic Plant Density, Overall	None	2	8
W0063	Quinebaug River	2011	Aquatic Plant Density, Overall	Sparse	2	8
W0063	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	6	8
W0063	Quinebaug River	2011	Periphyton Density, Filamentous	None	2	8
W0063	Quinebaug River	2011	Periphyton Density, Film	Unobservable	6	8
W0063	Quinebaug River	2011	Periphyton Density, Film	None	1	8
W0063	Quinebaug River	2011	Periphyton Density, Film	Dense	1	8
W0601	Quinebaug River	2011	Color	None	2	13
W0601	Quinebaug River	2011	Color	Light Yellow/Tan	9	13
W0601	Quinebaug River	2011	Color	Reddish	2	13
W0601	Quinebaug River	2011	Odor	Not Recorded	1	13
W0601	Quinebaug River	2011	Odor	None	10	13
W0601	Quinebaug River	2011	Odor	Musty (Basement)	2	13
W0601	Quinebaug River	2011	Turbidity	Unobservable	4	13
W0601	Quinebaug River	2011	Turbidity	None	4	13
W0601	Quinebaug River	2011	Turbidity	Slightly Turbid	4	13
W0601	Quinebaug River	2011	Turbidity	Moderately Turbid	1	13
W0601	Quinebaug River	2012	Color	Reddish	6	6
W0601	Quinebaug River	2012	Odor	None	3	6
W0601	Quinebaug River	2012	Odor	Fishy	1	6
W0601	Quinebaug River	2012	Odor	Other (Eutrophic)	2	6
W0601	Quinebaug River	2012	Turbidity	None	5	6
W0601	Quinebaug River	2012	Turbidity	Slightly Turbid	1	6
W0601	Quinebaug River	2013	Color	None	2	2
W0601	Quinebaug River	2013	Odor	None	2	2
W0601	Quinebaug River	2013	Turbidity	None	2	2
W0601	Quinebaug River	2011	Objectionable Deposits	Unobservable	6	13
W0601	Quinebaug River	2011	Objectionable Deposits	No	6	13
W0601	Quinebaug River	2011	Objectionable Deposits	Yes	1	13
W0601	Quinebaug River	2011	Scum	No	2	13
W0601	Quinebaug River	2011	Scum	Yes	11	13
W0601	Quinebaug River	2012	Objectionable Deposits	Unobservable	1	6
W0601	Quinebaug River	2012	Objectionable Deposits	No	5	6
W0601	Quinebaug River	2012	Scum	No	3	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0601	Quinebaug River	2012	Scum	Yes	3	6
W0601	Quinebaug River	2013	Objectionable Deposits	No	2	2
W0601	Quinebaug River	2013	Scum	No	1	2
W0601	Quinebaug River	2013	Scum	Yes	1	2
W0601	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	7	13
W0601	Quinebaug River	2011	Aquatic Plant Density, Overall	None	6	13
W0601	Quinebaug River	2012	Aquatic Plant Density, Overall	Unobservable	1	6
W0601	Quinebaug River	2012	Aquatic Plant Density, Overall	None	1	6
W0601	Quinebaug River	2012	Aquatic Plant Density, Overall	Sparse	4	6
W0601	Quinebaug River	2013	Aquatic Plant Density, Overall	None	2	2
W0601	Quinebaug River	2011	Periphyton Density, Filamentous	Not Recorded	1	13
W0601	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	6	13
W0601	Quinebaug River	2011	Periphyton Density, Filamentous	None	4	13
W0601	Quinebaug River	2011	Periphyton Density, Filamentous	Sparse	2	13
W0601	Quinebaug River	2011	Periphyton Density, Film	Unobservable	6	13
W0601	Quinebaug River	2011	Periphyton Density, Film	None	5	13
W0601	Quinebaug River	2011	Periphyton Density, Film	Moderate	2	13
W0601	Quinebaug River	2012	Periphyton Density, Filamentous	Unobservable	1	6
W0601	Quinebaug River	2012	Periphyton Density, Filamentous	None	3	6
W0601	Quinebaug River	2012	Periphyton Density, Filamentous	Sparse	1	6
W0601	Quinebaug River	2012	Periphyton Density, Filamentous	Very Dense	1	6
W0601	Quinebaug River	2012	Periphyton Density, Film	Unobservable	1	6
W0601	Quinebaug River	2012	Periphyton Density, Film	None	5	6
W0601	Quinebaug River	2013	Periphyton Density, Filamentous	None	2	2
W0601	Quinebaug River	2013	Periphyton Density, Film	None	2	2
W0601	Quinebaug River	2013	Aesthetics Impaired?	Not Recorded	2	2
W2232	Quinebaug River	2011	Color	Not Recorded	1	8
W2232	Quinebaug River	2011	Color	None	1	8
W2232	Quinebaug River	2011	Color	Light Yellow/Tan	6	8
W2232	Quinebaug River	2011	Odor	None	8	8
W2232	Quinebaug River	2011	Turbidity	None	6	8
W2232	Quinebaug River	2011	Turbidity	Slightly Turbid	1	8
W2232	Quinebaug River	2011	Turbidity	Moderately Turbid	1	8
W2232	Quinebaug River	2011	Objectionable Deposits	Unobservable	1	8
W2232	Quinebaug River	2011	Objectionable Deposits	No	7	8
W2232	Quinebaug River	2011	Scum	No	4	8
W2232	Quinebaug River	2011	Scum	Yes	4	8
W2232	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	5	8
W2232	Quinebaug River	2011	Aquatic Plant Density, Overall	None	3	8
W2232	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	5	8
W2232	Quinebaug River	2011	Periphyton Density, Filamentous	None	3	8
W2232	Quinebaug River	2011	Periphyton Density, Film	Unobservable	5	8
W2232	Quinebaug River	2011	Periphyton Density, Film	None	3	8
W2233	Quinebaug River	2011	Color	Not Recorded	2	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2233	Quinebaug River	2011	Color	None	1	8
W2233	Quinebaug River	2011	Color	Light Yellow/Tan	4	8
W2233	Quinebaug River	2011	Color	Brownish	1	8
W2233	Quinebaug River	2011	Odor	Not Recorded	2	8
W2233	Quinebaug River	2011	Odor	None	6	8
W2233	Quinebaug River	2011	Turbidity	Not Recorded	1	8
W2233	Quinebaug River	2011	Turbidity	None	6	8
W2233	Quinebaug River	2011	Turbidity	Moderately Turbid	1	8
W2233	Quinebaug River	2011	Objectionable Deposits	Unobservable	1	8
W2233	Quinebaug River	2011	Objectionable Deposits	No	7	8
W2233	Quinebaug River	2011	Scum	No	8	8
W2233	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	3	8
W2233	Quinebaug River	2011	Aquatic Plant Density, Overall	Sparse	3	8
W2233	Quinebaug River	2011	Aquatic Plant Density, Overall	Moderate	2	8
W2233	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	4	8
W2233	Quinebaug River	2011	Periphyton Density, Filamentous	None	1	8
W2233	Quinebaug River	2011	Periphyton Density, Filamentous	Sparse	1	8
W2233	Quinebaug River	2011	Periphyton Density, Filamentous	Moderate	2	8
W2233	Quinebaug River	2011	Periphyton Density, Film	Unobservable	4	8
W2233	Quinebaug River	2011	Periphyton Density, Film	None	2	8
W2233	Quinebaug River	2011	Periphyton Density, Film	Moderate	2	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for this Quinebaug River AU (MA41-01) is assessed as Fully Supporting since the *E. coli* concentrations measured at W2232, W2233, W0601, and W0063 in 2011 were all below the STV threshold. However, an Alert is being identified for *E. coli* due to GM exceedances at W2233.

E. coli bacteria sampling was conducted by MassDEP field crews at four sites along this reach of the Quinebaug River (MA41-01) during summer 2011 from up to downstream as follows: East Brimfield Road, Holland (W2232, n=7), Holland East Brimfield Road, Brimfield (W2233, n=6), Holland Road bridge, Sturbridge (W0601, n=11), and upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge (W0063, n=7). Analysis of these mainly moderate frequency datasets indicated that three of the four sites had no intervals with GMs >126 CFU/100mL, while at the fourth site (W2233), 80% of GMs were >126 CFU/100mL. None of the samples at any of the four sites exceeded the 410 CFU/100mL STV. The seasonal GMs from up to downstream during summer 2011 were 36, 133, 14, and 47 CFU/100mL. Some very limited *E. coli* sampling was also conducted in 2012 and 2013 at the Holland Road bridge, Sturbridge (W0601) location (data were too limited to assess).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0063	MassDEP	Water Quality	Quinebaug River	[upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge]	42.110552	-72.096377
W0601	MassDEP	Water Quality	Quinebaug River	[Holland Road bridge, Sturbridge]	42.109561	-72.118569
W2232	MassDEP	Water Quality	Quinebaug River	[East Brimfield Road, Holland]	42.079545	-72.157257
W2233	MassDEP	Water Quality	Quinebaug River	[Holland East Brimfield Road, Brimfield]	42.106759	-72.148597

Bacteria Data

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

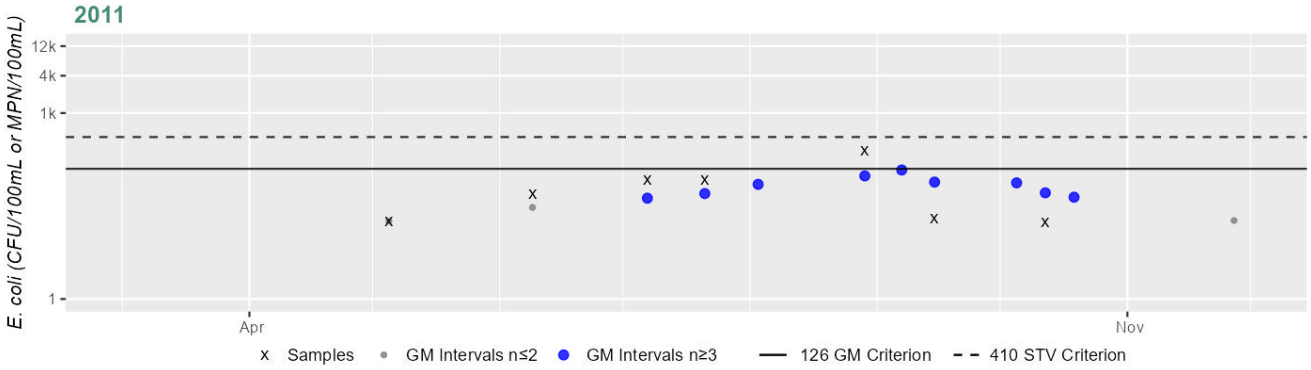
(MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0063	MassDEP	E. coli	05/05/11	10/12/11	7	17	248	47
W0601	MassDEP	E. coli	04/27/11	10/26/11	11	5	196	14
W0601	MassDEP	E. coli	05/29/12	09/26/12	3	2	47	13
W0601	MassDEP	E. coli	04/24/13	04/24/13	1	2	2	2
W2232	MassDEP	E. coli	05/05/11	10/12/11	7	8	365	36
W2233	MassDEP	E. coli	05/05/11	10/12/11	6	34	291	133

Station MASSDEP_W0063 - Escherichia coli

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



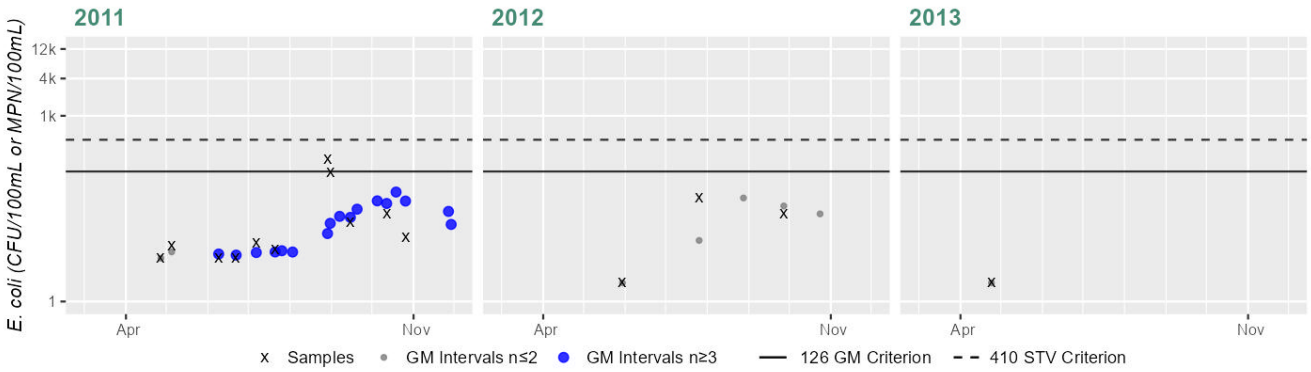
Variable*	Result
Samples	7
SeasGM	47
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W0601 - Escherichia coli

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



Variable*	Result
Samples	11
SeasGM	14
#GMI	17
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	13
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

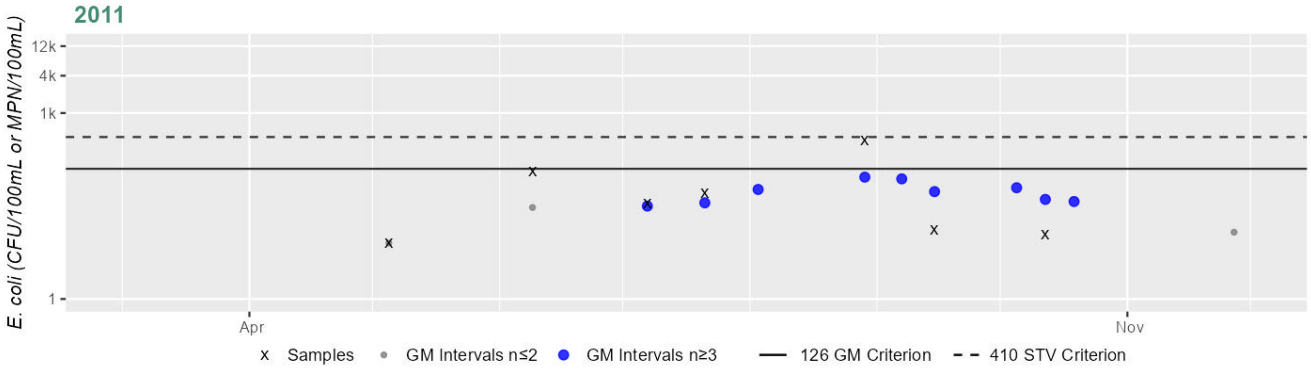
Variable*	Result
Samples	1
SeasGM	2
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2232 - Escherichia coli

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



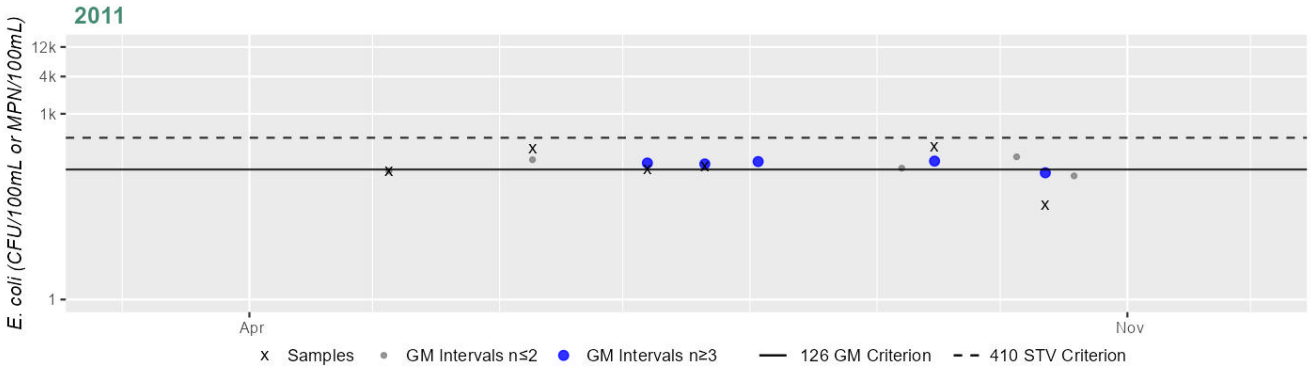
Variable*	Result
Samples	7
SeasGM	36
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2233 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	133
#GMI	5
#GMI Ex	4
%GMI Ex	80%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
Current (2011-2022)
80%

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for this Quinebaug River AU (MA41-01) is assessed as Fully Supporting based on *E. coli* concentrations measured at W2232, W2233, W0601, and W0063 in 2011.

E. coli bacteria sampling was conducted by MassDEP field crews at four sites along this reach of the Quinebaug River (MA41-01) during summer 2011 from up to downstream as follows: East Brimfield Road, Holland (W2232, n=7), Holland East Brimfield Road, Brimfield (W2233, n=6), Holland Road bridge, Sturbridge (W0601, n=12), and upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge (W0063, n=7). Some very limited *E. coli* sampling was also conducted at the Holland Road bridge, Sturbridge (W0601) location from 2007 through 2010, and in 2012 and 2013; these bacteria data are too limited to assess the Secondary Contact Recreation Use according to the 2024 CALM. Analysis of the mainly moderate frequency datasets from 2011 indicated that for all four sites, none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV. The overall GMs from up to downstream during summer 2011 were 36, 133, 13, and 47 CFU/100mL.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0063	MassDEP	Water Quality	Quinebaug River	[upstream of Sturbridge WWTP on the Old Sturbridge Village access road (Stallion Hill Road), Sturbridge]	42.110552	-72.096377
W0601	MassDEP	Water Quality	Quinebaug River	[Holland Road bridge, Sturbridge]	42.109561	-72.118569
W2232	MassDEP	Water Quality	Quinebaug River	[East Brimfield Road, Holland]	42.079545	-72.157257
W2233	MassDEP	Water Quality	Quinebaug River	[Holland East Brimfield Road, Brimfield]	42.106759	-72.148597

Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 2)

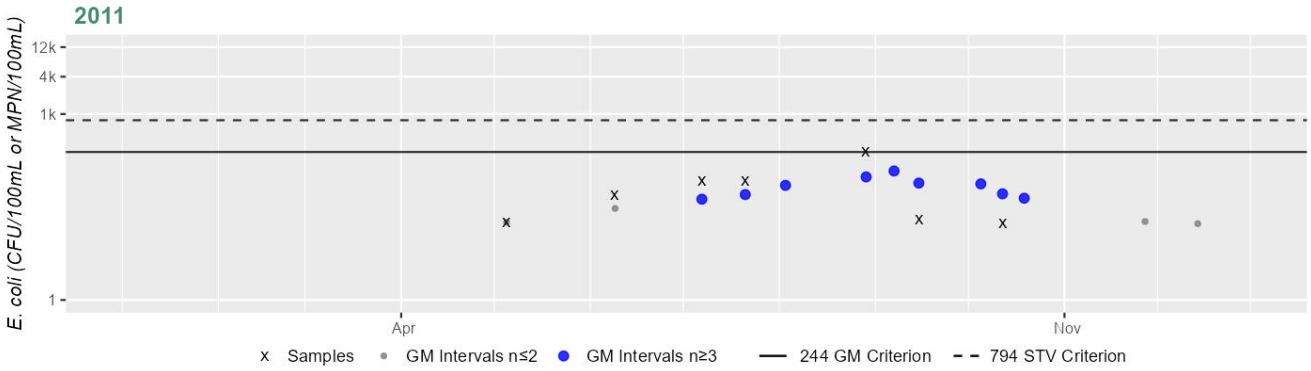
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0063	MassDEP	E. coli	05/05/11	10/12/11	7	17	248	47
W0601	MassDEP	E. coli	08/29/07	10/17/07	2	15	54	28
W0601	MassDEP	E. coli	01/30/08	11/19/08	6	1	51	6
W0601	MassDEP	E. coli	02/24/09	10/28/09	5	2	23	6
W0601	MassDEP	E. coli	02/23/10	11/17/10	4	3	50	14
W0601	MassDEP	E. coli	03/23/11	10/26/11	12	4	196	13
W0601	MassDEP	E. coli	01/25/12	11/14/12	6	1	47	4
W0601	MassDEP	E. coli	02/27/13	04/24/13	2	2	8	4

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2232	MassDEP	E. coli	05/05/11	10/12/11	7	8	365	36
W2233	MassDEP	E. coli	05/05/11	10/12/11	6	34	291	133

Station MASSDEP_W0063 - Escherichia coli

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



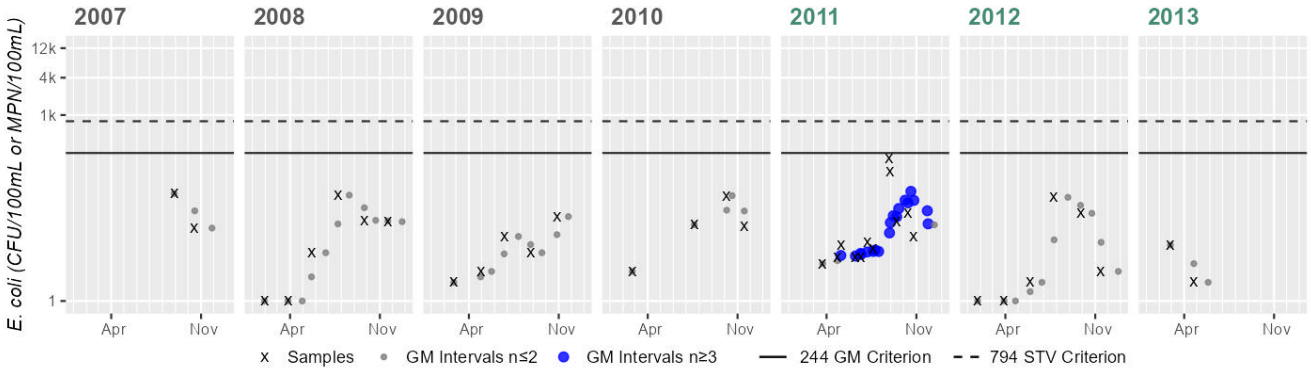
Variable*	Result
Samples	7
SeasGM	47
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W0601 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	28
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Variable*	Result
Samples	4
SeasGM	14
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	13
#GMI	19
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	2
SeasGM	4
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

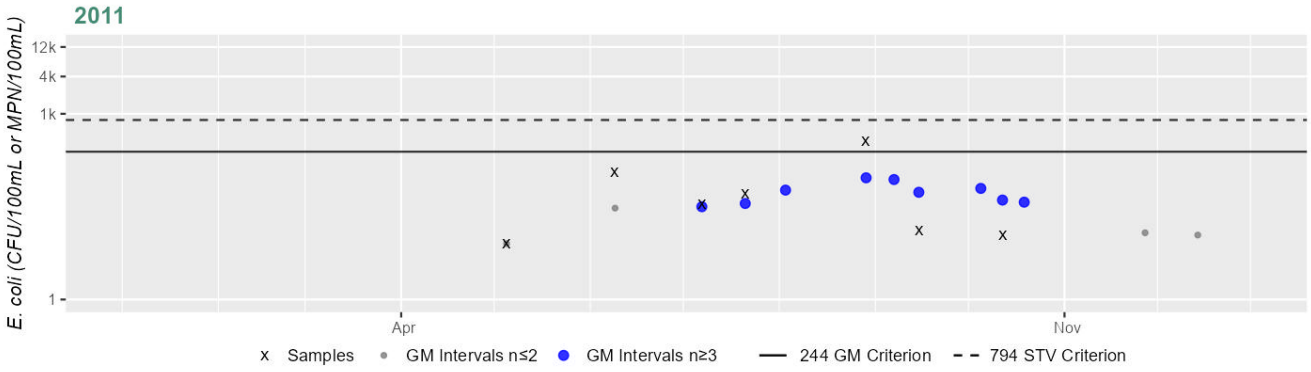
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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

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

Station MASSDEP_W2232 - Escherichia coli

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



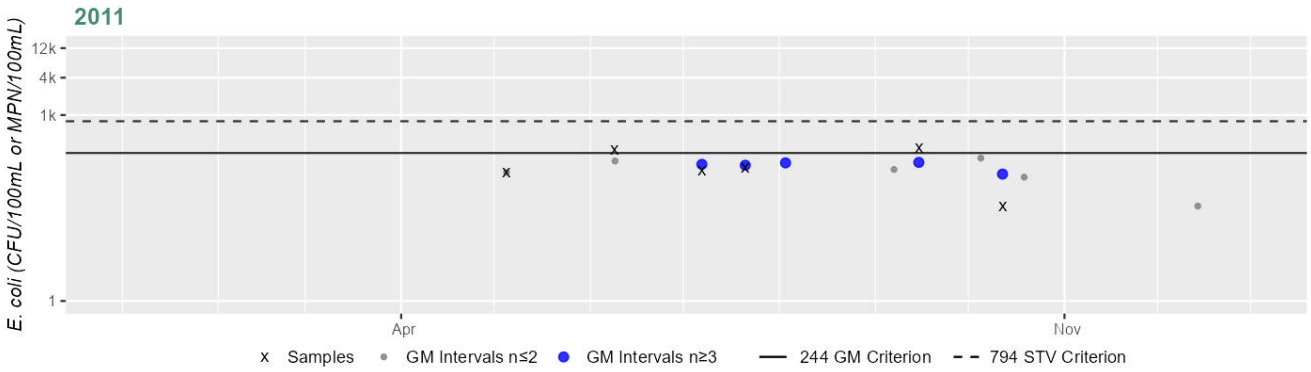
Variable*	Result
Samples	7
SeasGM	36
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2233 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	133
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

Quinebaug River (MA41-02)

Location:	Sturbridge WWTP outfall (NPDES: MA0100421), Sturbridge to confluence with Cady Brook, Southbridge.
AU Type:	RIVER
AU Size:	6.5 MILES
Classification/Qualifier:	B: CWF

No usable data were available for Quinebaug River (MA41-02) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	Algae	--	Unchanged
5	5	Lack of a Coldwater Assemblage	--	Unchanged
5	5	Trash	--	Unchanged
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (Y)	--	--	X	X	X
(Debris*)	Unspecified Urban Stormwater (N)	--	--	X	X	X
Algae	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	X	X
Algae	Municipal Point Source Discharges (N)	--	--	X	X	X
Lack of a Coldwater Assemblage	Dam or Impoundment (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Lack of a Coldwater Assemblage	Source Unknown (N)	X	--	--	--	--
Trash	Illegal Dumps or Other Inappropriate Waste Disposal (Y)	--	--	X	X	X
Trash	Unspecified Urban Stormwater (N)	--	--	X	X	X
Turbidity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	X	X
Turbidity	Municipal Point Source Discharges (N)	--	--	X	X	X

Quinebaug River (MA41-03)

Location:	Southbridge WWTP outfall (NPDES: MA0100901), Southbridge to dam (NATID: MA00114) just upstream of West Dudley Road, Dudley.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B: WWF

Quinebaug River (MA41-03)

Watershed Area: 146.88 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	131.19	12.54	52.43	4.78
Agriculture	3.4%	8.6%	2.5%	5.7%
Developed	11.3%	14.6%	10.4%	16.7%
Natural	76.1%	68%	72.4%	63.1%
Wetland	9.1%	8.8%	14.7%	14.5%
Impervious	4.6%	6%	4.6%	8.1%

**Land cover analysis only includes watershed area within Massachusetts.*

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Fecal Coliform	R1_MA_2024_04	Changed
5	5	Nutrients	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Physical Substrate Habitat Alterations*)	Dam or Impoundment (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Physical Substrate Habitat Alterations*)	Unspecified Urban Stormwater (Y)	X	--	--	--	--
Dissolved Oxygen	Dam or Impoundment (Y)	X	--	--	--	--
Dissolved Oxygen	Municipal Point Source Discharges (Y)	X	--	--	--	--
Dissolved Oxygen	Unspecified Urban Stormwater (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Impervious Surface/Parking Lot Runoff (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Unspecified Urban Stormwater (Y)	--	--	--	X	X
Fecal Coliform	Impervious Surface/Parking Lot Runoff (N)	--	--	--	X	--
Fecal Coliform	Source Unknown (N)	--	--	--	X	--
Fecal Coliform	Unspecified Urban Stormwater (Y)	--	--	--	X	--
Nutrients	Municipal Point Source Discharges (Y)	X	--	--	--	--
Nutrients	Unspecified Urban Stormwater (Y)	X	--	--	--	--

Supporting Information for Removed Impairments

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Odor, Low] Conduct follow-up site visits in this Quinebaug River AU (MA41-03) at W0058 to evaluate the status of observations of effluent odor in summer 2011 surveys. This is a low priority. {W0058}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Quinebaug River AU (MA41-03), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for this Quinebaug River AU (MA41-03) continues to be assessed as Fully Supporting based on 2011 observations at W0058 and W2234. Upon reevaluation of the data, the Alerts identified in the 2022 IR for observations of trash and filamentous algae are being removed. However, a new Alert is being identified due to observations of effluent odor at W0058 in 2011. MassDEP staff conducted sampling at two locations in this Quinebaug River AU (MA41-03) during the summer of 2011 (n=8 at each site). The sampling locations were at Dresser Hill Road bridge, downstream of the Southbridge WWTP in Southbridge (W0058) and approx. 3650 feet downstream from Dresser Hill Road (~250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond) in Dudley (W2234). While there were generally no objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field crews during site visits to these two locations there were three observations of minor trash and effluent odor in the river at Dresser Hill Road bridge.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0058	MassDEP	Water Quality	Quinebaug River	[at Dresser Hill Road bridge, downstream of the Southbridge WWTP, Southbridge]	42.067394	-72.007756
W2234	MassDEP	Water Quality	Quinebaug River	[approximately 3650 feet downstream from Dresser Hill Road (approximately 250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond), Dudley]	42.060218	-71.998509

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0058	Quinebaug River	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W0058 on Quinebaug River (MA41-03) during 8 site visits between May 2011 and Oct 2011. There were some objectionable conditions recorded, including effluent odor (n=3), which was indicative of an Alert status. Field staff also noted high turbidity (n=1) and objectionable deposits (minor trash) (n=3).
W2234	Quinebaug River	2011	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2234 on Quinebaug River (MA41-03) during 8 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0058	2011	8	6	3
W2234	2011	8	0	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0058	Quinebaug River	2011	Color	Not Recorded	2	8
W0058	Quinebaug River	2011	Color	None	1	8
W0058	Quinebaug River	2011	Color	Light Yellow/Tan	5	8
W0058	Quinebaug River	2011	Odor	None	4	8
W0058	Quinebaug River	2011	Odor	Musty (Basement)	1	8
W0058	Quinebaug River	2011	Odor	Effluent (Treated)	3	8
W0058	Quinebaug River	2011	Turbidity	None	5	8
W0058	Quinebaug River	2011	Turbidity	Slightly Turbid	2	8
W0058	Quinebaug River	2011	Turbidity	Highly Turbid	1	8
W0058	Quinebaug River	2011	Objectionable Deposits	Unobservable	2	8
W0058	Quinebaug River	2011	Objectionable Deposits	No	3	8
W0058	Quinebaug River	2011	Objectionable Deposits	Yes	3	8
W0058	Quinebaug River	2011	Scum	No	3	8
W0058	Quinebaug River	2011	Scum	Yes	5	8
W0058	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	2	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0058	Quinebaug River	2011	Aquatic Plant Density, Overall	None	5	8
W0058	Quinebaug River	2011	Aquatic Plant Density, Overall	Sparse	1	8
W0058	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	2	8
W0058	Quinebaug River	2011	Periphyton Density, Filamentous	None	5	8
W0058	Quinebaug River	2011	Periphyton Density, Filamentous	Sparse	1	8
W0058	Quinebaug River	2011	Periphyton Density, Film	Unobservable	2	8
W0058	Quinebaug River	2011	Periphyton Density, Film	None	2	8
W0058	Quinebaug River	2011	Periphyton Density, Film	Moderate	1	8
W0058	Quinebaug River	2011	Periphyton Density, Film	Dense	2	8
W0058	Quinebaug River	2011	Periphyton Density, Film	Very Dense	1	8
W2234	Quinebaug River	2011	Color	Not Recorded	1	8
W2234	Quinebaug River	2011	Color	None	1	8
W2234	Quinebaug River	2011	Color	Light Yellow/Tan	5	8
W2234	Quinebaug River	2011	Color	Brownish	1	8
W2234	Quinebaug River	2011	Odor	None	8	8
W2234	Quinebaug River	2011	Turbidity	None	3	8
W2234	Quinebaug River	2011	Turbidity	Slightly Turbid	3	8
W2234	Quinebaug River	2011	Turbidity	Moderately Turbid	1	8
W2234	Quinebaug River	2011	Turbidity	Highly Turbid	1	8
W2234	Quinebaug River	2011	Objectionable Deposits	Unobservable	1	8
W2234	Quinebaug River	2011	Objectionable Deposits	No	6	8
W2234	Quinebaug River	2011	Objectionable Deposits	Yes	1	8
W2234	Quinebaug River	2011	Scum	No	3	8
W2234	Quinebaug River	2011	Scum	Yes	5	8
W2234	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	6	8
W2234	Quinebaug River	2011	Aquatic Plant Density, Overall	None	2	8
W2234	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	8	8
W2234	Quinebaug River	2011	Periphyton Density, Film	Unobservable	8	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for this Quinebaug River AU (MA41-03) continues to be assessed as Not Supporting with the prior Escherichia Coli (E. Coli) and Fecal Coliform impairments being carried forward. The prior Alerts for two aesthetic concerns (trash and dense/very dense filamentous algae) are being removed from the recreational uses but continue to be maintained under the Aesthetics Use.
MassDEP staff collected *E. coli* bacteria samples at two locations in this Quinebaug River AU (MA41-03) between May and October 2011 (n= 7/station). The sampling locations were at Dresser Hill Road bridge downstream of the Southbridge WWTP in Southbridge (W0058), and approx. 3650 feet downstream from Dresser Hill Road (~250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond) in Dudley (W2234). Analysis of these moderate frequency datasets indicated that at both sites >60% of intervals had GMs >126 CFU/100mL (100% and 75%), and both sites had three samples that exceeded the 410 CFU/100mL STV (the seasonal GMs were 323 and 292 CFU/100mL, respectively).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0058	MassDEP	Water Quality	Quinebaug River	[at Dresser Hill Road bridge, downstream of the Southbridge WWTP, Southbridge]	42.067394	-72.007756
W2234	MassDEP	Water Quality	Quinebaug River	[approximately 3650 feet downstream from Dresser Hill Road (approximately 250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond), Dudley]	42.060218	-71.998509

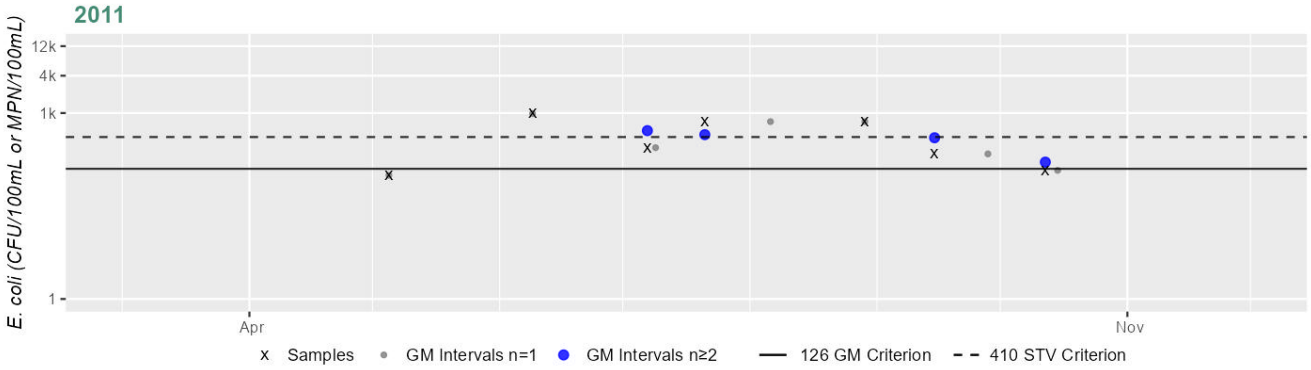
Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0058	MassDEP	E. coli	05/05/11	10/12/11	7	99	980	323
W2234	MassDEP	E. coli	05/05/11	10/12/11	7	99	770	292

Station MASSDEP_W0058 - Escherichia coli

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



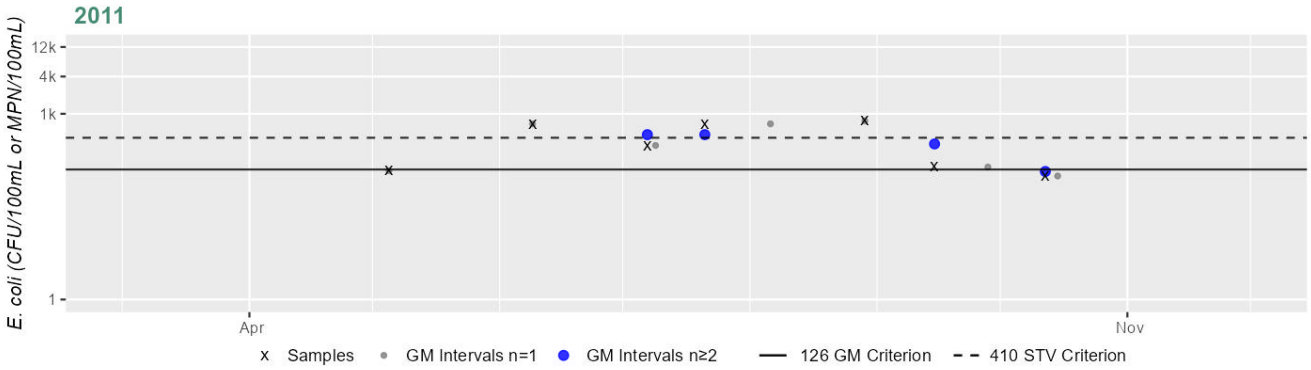
Variable*	Result
Samples	7
SeasGM	323
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	3
%n>STV	42%

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

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

Station MASSDEP_W2234 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	292
#GMI	4
#GMI Ex	3
%GMI Ex	75%
n>STV	3
%n>STV	42%

Cumulative %GMI Exceedance
Current (2011-2022)
75%

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for this Quinebaug River AU (MA41-03) is assessed as Not Supporting with a new impairment being added for Escherichia Coli (E. Coli) based on this reevaluation of the 2011 *E. coli* data from W0058 and W2234 using lower thresholds. The prior Alerts for two aesthetic concerns (trash and dense/very dense filamentous algae) are being removed from the recreational uses but continue to be maintained under the Aesthetics Use. MassDEP staff collected *E. coli* bacteria samples at two locations in this Quinebaug River AU (MA41-03) between May and October 2011 (n= 7/station). The sampling locations were at Dresser Hill Road bridge, downstream of the Southbridge WWTP in Southbridge (W0058) and approx. 3650 feet downstream from Dresser Hill Road (~250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond) in Dudley (W2234). Analysis of these moderate frequency datasets indicated the sites had 100% and 88% of intervals, respectively, with GMs >244 CFU/100mL, and the upstream site had one sample that exceeded the 794 CFU/100mL STV (the downstream site had no STV exceedances). The overall GMs were 323 and 292 CFU/100mL.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0058	MassDEP	Water Quality	Quinebaug River	[at Dresser Hill Road bridge, downstream of the Southbridge WWTP, Southbridge]	42.067394	-72.007756
W2234	MassDEP	Water Quality	Quinebaug River	[approximately 3650 feet downstream from Dresser Hill Road (approximately 250 feet downstream of the confluence of the unnamed tributary exiting Sylvestri Pond), Dudley]	42.060218	-71.998509

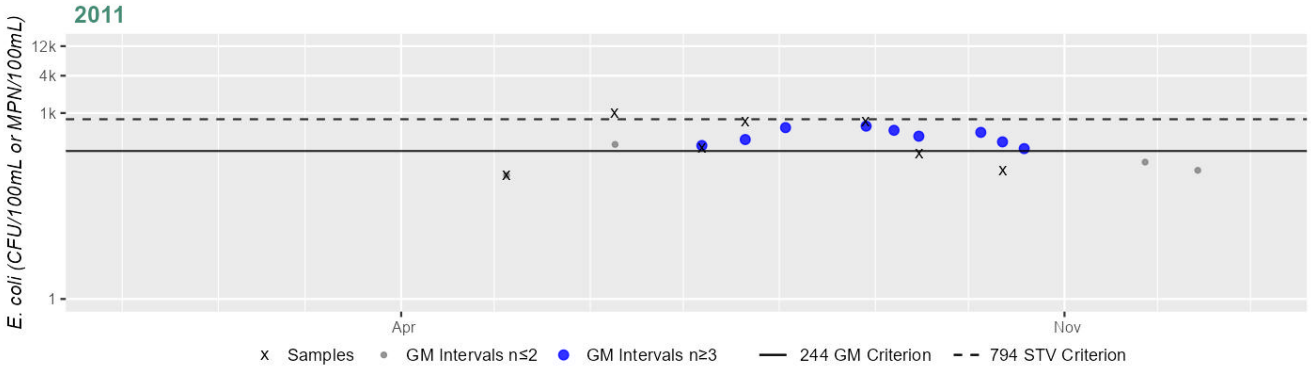
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0058	MassDEP	E. coli	05/05/11	10/12/11	7	99	980	323
W2234	MassDEP	E. coli	05/05/11	10/12/11	7	99	770	292

Station MASSDEP_W0058 - Escherichia coli

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



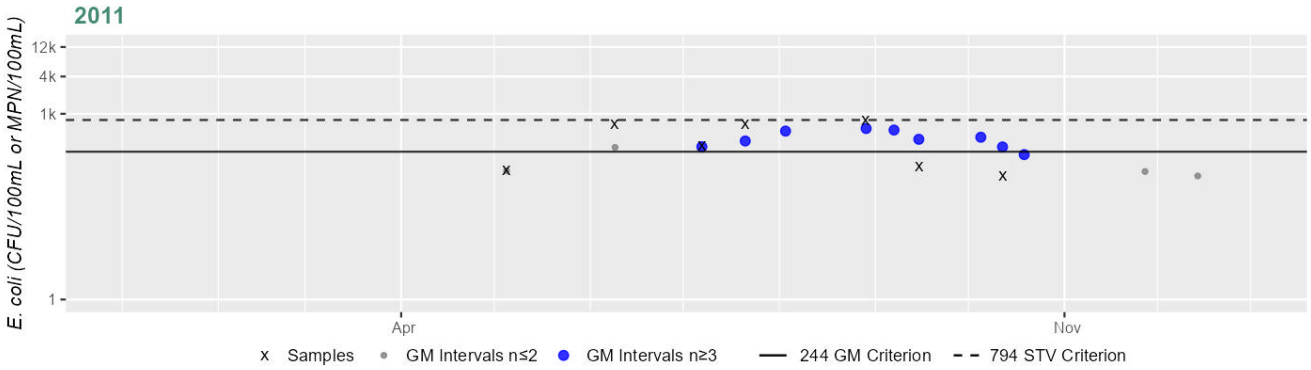
Variable*	Result
Samples	7
SeasGM	323
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	1
%n>STV	14%

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

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

Station MASSDEP_W2234 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	292
#GMI	9
#GMI Ex	8
%GMI Ex	88%
n>STV	0
%n>STV	0%

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

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

Quinebaug River (MA41-04)

Location:	From dam (NATID: MA00114) just upstream of West Dudley Road, Dudley to Connecticut state line, Dudley.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B: WWF

Quinebaug River (MA41-04)

Watershed Area: 150.56 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	134.54	6.57	53.71	2.54
Agriculture	3.7%	11%	2.7%	9.1%
Developed	11.3%	10.1%	10.4%	10.4%
Natural	76%	69.5%	72.2%	65.1%
Wetland	9.1%	9.3%	14.7%	15.4%
Impervious	4.6%	3.4%	4.5%	3.7%

**Land cover analysis only includes watershed area within Massachusetts.*

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Fecal Coliform	R1_MA_2024_04	Changed

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

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Quinebaug River AU (MA41-04), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for this Quinebaug River AU (MA41-04) continues to be assessed as Fully Supporting. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during the surveys conducted between March 2011 and September 2013 (n= 4-6/yr) just downstream from this Quinebaug River AU at the Rt. 197 bridge, Thompson, Connecticut (W0600), except for reports of minor trash in 2012 and 2013 (n=5).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0600	MassDEP	Water Quality	Quinebaug River	[Route 197 bridge, Thompson, Connecticut]	42.022027	-71.954356

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0600	Quinebaug River	2011	5	Aesthetic observations were made by MassDEP field sampling crews at Station W0600 on Quinebaug River (MA41-04) during 5 site visits between Mar 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W0600	Quinebaug River	2012	6	Aesthetic observations were made by MassDEP field sampling crews at Station W0600 on Quinebaug River (MA41-04) during 6 site visits between Jan 2012 and Nov 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=2).
W0600	Quinebaug River	2013	4	Aesthetic observations were made by MassDEP field sampling crews at Station W0600 on Quinebaug River (MA41-04) during 4 site visits between Feb 2013 and Sep 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0600	2011	5	1	0
W0600	2012	6	4	0
W0600	2013	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0600	Quinebaug River	2011	Color	None	2	5
W0600	Quinebaug River	2011	Color	Reddish	3	5
W0600	Quinebaug River	2011	Odor	None	4	5
W0600	Quinebaug River	2011	Odor	Musty (Basement)	1	5
W0600	Quinebaug River	2011	Turbidity	Unobservable	3	5
W0600	Quinebaug River	2011	Turbidity	None	2	5
W0600	Quinebaug River	2012	Color	None	2	6
W0600	Quinebaug River	2012	Color	Light Yellow/Tan	2	6
W0600	Quinebaug River	2012	Color	Reddish	2	6
W0600	Quinebaug River	2012	Odor	None	6	6
W0600	Quinebaug River	2012	Turbidity	Unobservable	1	6
W0600	Quinebaug River	2012	Turbidity	None	4	6
W0600	Quinebaug River	2012	Turbidity	Slightly Turbid	1	6
W0600	Quinebaug River	2013	Color	None	4	4
W0600	Quinebaug River	2013	Odor	None	4	4
W0600	Quinebaug River	2013	Turbidity	None	4	4
W0600	Quinebaug River	2011	Objectionable Deposits	Unobservable	4	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0600	Quinebaug River	2011	Objectionable Deposits	No	1	5
W0600	Quinebaug River	2011	Scum	Yes	5	5
W0600	Quinebaug River	2012	Objectionable Deposits	Unobservable	2	6
W0600	Quinebaug River	2012	Objectionable Deposits	No	2	6
W0600	Quinebaug River	2012	Objectionable Deposits	Yes	2	6
W0600	Quinebaug River	2012	Scum	No	1	6
W0600	Quinebaug River	2012	Scum	Yes	5	6
W0600	Quinebaug River	2013	Objectionable Deposits	No	1	4
W0600	Quinebaug River	2013	Objectionable Deposits	Yes	3	4
W0600	Quinebaug River	2013	Scum	No	1	4
W0600	Quinebaug River	2013	Scum	Yes	3	4
W0600	Quinebaug River	2011	Aquatic Plant Density, Overall	Unobservable	4	5
W0600	Quinebaug River	2011	Aquatic Plant Density, Overall	None	1	5
W0600	Quinebaug River	2012	Aquatic Plant Density, Overall	Unobservable	2	6
W0600	Quinebaug River	2012	Aquatic Plant Density, Overall	None	4	6
W0600	Quinebaug River	2013	Aquatic Plant Density, Overall	None	4	4
W0600	Quinebaug River	2011	Periphyton Density, Filamentous	Unobservable	4	5
W0600	Quinebaug River	2011	Periphyton Density, Filamentous	None	1	5
W0600	Quinebaug River	2011	Periphyton Density, Film	Unobservable	4	5
W0600	Quinebaug River	2011	Periphyton Density, Film	None	1	5
W0600	Quinebaug River	2012	Periphyton Density, Filamentous	Unobservable	2	6
W0600	Quinebaug River	2012	Periphyton Density, Filamentous	None	4	6
W0600	Quinebaug River	2012	Periphyton Density, Film	Unobservable	2	6
W0600	Quinebaug River	2012	Periphyton Density, Film	None	1	6
W0600	Quinebaug River	2012	Periphyton Density, Film	Sparse	1	6
W0600	Quinebaug River	2012	Periphyton Density, Film	Moderate	2	6
W0600	Quinebaug River	2013	Periphyton Density, Filamentous	None	4	4
W0600	Quinebaug River	2013	Periphyton Density, Film	None	4	4
W0600	Quinebaug River	2013	Aesthetics Impaired?	Not Recorded	2	4
W0600	Quinebaug River	2013	Aesthetics Impaired?	No	2	4

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Quinebaug River (MA41-04) continues to be assessed as Not Supporting. The prior Fecal Coliform impairment is being carried forward. MassDEP staff collected 3-4 *E. coli* bacteria samples per year during the primary contact recreational seasons 2011 through 2013 just downstream from this Quinebaug River AU (MA41-04) at the Route 197 bridge in Thompson, Connecticut (W0600). Because the samples were collected roughly bimonthly, the data were too limited to calculate usable GMs according to the 2024 CALM. Two samples in 2013 exceeded the STV of 410 CFU/100mLs (there were no exceedances in the other years), which is some cause for concern. The seasonal GMs were 67, 99, and 276 CFU/100mL in 2011, 2012, and 2013, respectively.

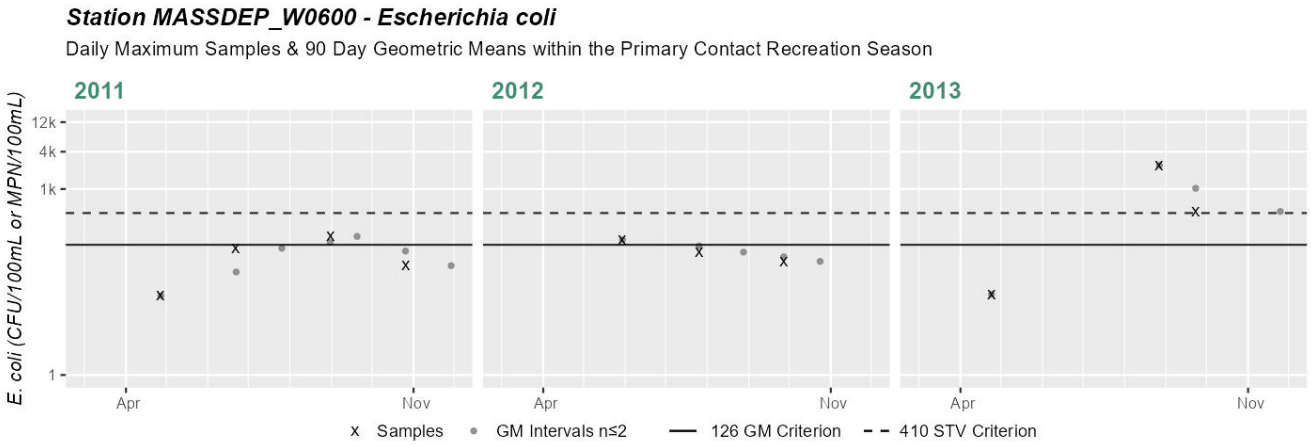
Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0600	MassDEP	Water Quality	Quinebaug River	[Route 197 bridge, Thompson, Connecticut]	42.022027	-71.954356

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0600	MassDEP	E. coli	04/27/11	10/26/11	4	19	172	67
W0600	MassDEP	E. coli	05/29/12	09/26/12	3	68	152	99
W0600	MassDEP	E. coli	04/24/13	09/23/13	3	20	2419	276



Variable*	Result
Samples	4
SeasGM	67
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	99
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	276
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	66%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
There is Insufficient Information to assess the Secondary Contact Recreation Use for this Quinebaug River AU (MA41-04) since the available bacteria data were limited. MassDEP staff collected 2-6 *E. coli* bacteria samples per year (32 in total) from 2007 through 2013 just downstream from this Quinebaug River AU (MA41-04) at the Route 197 bridge in Thompson, Connecticut (W0600). Because the samples were collected roughly bimonthly, the data were too limited to calculate usable GMs according to the 2024 CALM. Only 1 sample exceeded the STV of 410 CFU/100mLs during the three years in the current IR window, 2011-2022.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0600	MassDEP	Water Quality	Quinebaug River	[Route 197 bridge, Thompson, Connecticut]	42.022027	-71.954356

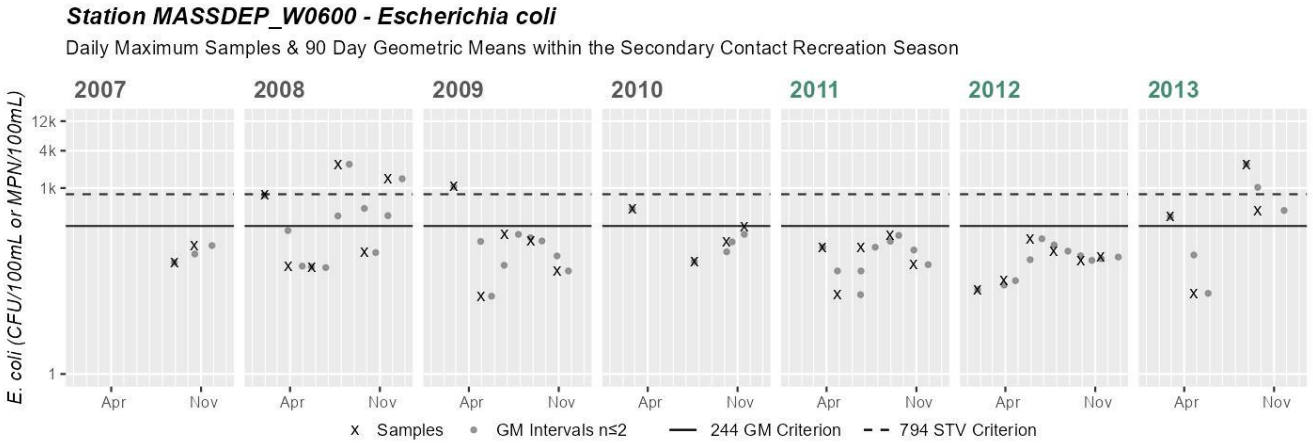
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0600	MassDEP	E. coli	08/29/07	10/17/07	2	63	118	86
W0600	MassDEP	E. coli	01/30/08	11/19/08	6	52	2419	296
W0600	MassDEP	E. coli	02/24/09	10/28/09	5	18	1050	116
W0600	MassDEP	E. coli	02/23/10	11/17/10	4	65	461	176
W0600	MassDEP	E. coli	03/23/11	10/26/11	5	19	172	74
W0600	MassDEP	E. coli	01/25/12	11/14/12	6	23	152	61
W0600	MassDEP	E. coli	02/27/13	09/23/13	4	20	2419	291



Variable*	Result
Samples	2
SeasGM	86
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	296
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	33%

Variable*	Result
Samples	5
SeasGM	116
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

Variable*	Result
Samples	4
SeasGM	176
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	74
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	4
SeasGM	291
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	25%

Cumulative %GMI Exceedance Historic (1997-2010)	Cumulative %GMI Exceedance Current (2011-2022)
0%	0%

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

Quinebaug River (MA41-09)

Location:	From confluence with Cady Brook, Southbridge to Southbridge WWTP outfall (NPDES: MA0100901), Southbridge.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B: WWF

No usable data were available for Quinebaug River (MA41-09) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	Ambient Bioassays - Chronic Aquatic Toxicity	--	Unchanged
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Trash	--	Unchanged
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Debris*)	Unspecified Urban Stormwater (Y)	--	--	X	X	X
Ambient Bioassays - Chronic Aquatic Toxicity	Source Unknown (N)	X	--	--	--	--
Benthic Macroinvertebrates	Dam or Impoundment (Y)	X	--	--	--	--
Benthic Macroinvertebrates	Unspecified Urban Stormwater (Y)	X	--	--	--	--
Trash	Unspecified Urban Stormwater (Y)	--	--	X	X	X
Turbidity	Unspecified Urban Stormwater (Y)	--	--	X	X	X

Railroad Pond (MA41058)

Location:	Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	7 ACRES
Classification/Qualifier:	B

No usable data were available for Railroad Pond (MA41058) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

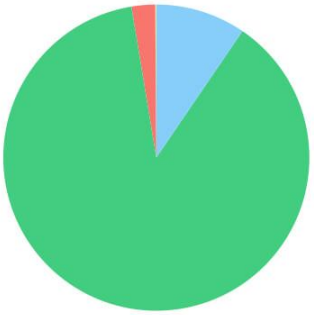
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

Rocky Brook (MA41-22)

Location:	Headwaters east of Chamberlain Pond (excluding intermittent portion), Douglas to the state line Douglas, MA/Thompson, CT.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Rocky Brook (MA41-22)

Watershed Area: 4.95 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	4.51	4.51	1.59	1.59
Agriculture	0.1%	0.1%	0%	0%
Developed	2.5%	2.5%	0.9%	0.9%
Natural	87.9%	87.9%	79.4%	79.4%
Wetland	9.5%	9.5%	19.7%	19.7%
Impervious	1.3%	1.3%	0.6%	0.6%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Rocky Brook (MA41-22), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Rocky Brook (MA41-22) continues to be assessed as Fully Supporting based on the observations at W2221 (in 2011) and W2903 (in 2019).
MassDEP staff surveyed this Rocky Brook AU (MA41-22) in Douglas State Forest both approx. 350 feet (W2221) and approx. 2,400 feet (W2903) downstream of the footbridge on the unnamed easterly extension of High Street in Douglas during the summers of 2011 (n=3) and 2019 (n=4), respectively. There were generally no objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2221	MassDEP	Water Quality	Rocky Brook	[in Douglas State Forest approximately 350 feet downstream of footbridge on the unnamed easterly extension of High Street, Douglas]	42.019941	-71.794344
W2903	MassDEP	Water Quality	Rocky Brook	[in Douglas State Forest approximately 2400 feet downstream of footbridge on unnamed easterly extention of High Street, Douglas]	42.015422	-71.798412

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2221	Rocky Brook	2011	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2221 on Rocky Brook (MA41-22) during 3 site visits between Jun 2011 and Aug 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2903	Rocky Brook	2019	4	Aesthetic observations were made by MassDEP field sampling crews at Station W2903 on Rocky Brook (MA41-22) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2221	2011	3	3	0
W2903	2019	4	4	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2221	Rocky Brook	2011	Color	Light Yellow/Tan	2	3
W2221	Rocky Brook	2011	Color	Brownish	1	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2221	Rocky Brook	2011	Odor	None	3	3
W2221	Rocky Brook	2011	Turbidity	None	2	3
W2221	Rocky Brook	2011	Turbidity	Slightly Turbid	1	3
W2221	Rocky Brook	2011	Objectionable Deposits	No	3	3
W2221	Rocky Brook	2011	Scum	No	2	3
W2221	Rocky Brook	2011	Scum	Yes	1	3
W2221	Rocky Brook	2011	Aquatic Plant Density, Overall	None	2	3
W2221	Rocky Brook	2011	Aquatic Plant Density, Overall	Moderate	1	3
W2221	Rocky Brook	2011	Periphyton Density, Filamentous	None	3	3
W2221	Rocky Brook	2011	Periphyton Density, Film	None	2	3
W2221	Rocky Brook	2011	Periphyton Density, Film	Moderate	1	3
W2903	Rocky Brook	2019	Color	Light Yellow/Tan	3	4
W2903	Rocky Brook	2019	Color	Reddish	1	4
W2903	Rocky Brook	2019	Odor	None	4	4
W2903	Rocky Brook	2019	Turbidity	None	2	4
W2903	Rocky Brook	2019	Turbidity	Slightly Turbid	2	4
W2903	Rocky Brook	2019	Objectionable Deposits	No	4	4
W2903	Rocky Brook	2019	Scum	No	3	4
W2903	Rocky Brook	2019	Scum	Yes	1	4
W2903	Rocky Brook	2019	Aquatic Plant Density, Overall	None	4	4
W2903	Rocky Brook	2019	Periphyton Density, Filamentous	None	4	4
W2903	Rocky Brook	2019	Periphyton Density, Film	None	4	4
W2903	Rocky Brook	2019	Aesthetics Impaired?	No	4	4

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Bacteria data were not collected recently in Rocky Brook (MA41-22) and available aesthetics observations for this AU did not result in any impairments, so there is Insufficient Information to assess the Primary Contact Recreation Use.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary

While the *E. coli* concentrations measured in Rocky Brook (MA41-22) at W1187 in 2004 were indicative of good water quality, these data were collected prior to the current IR window (2011-2022) and current available aesthetics observations for two other stations in this AU did not result in any impairments, so there is Insufficient Information to assess the Primary Contact Recreation Use.
MassDEP staff historically collected *E. coli* bacteria samples in Rocky Brook (MA41-22) in Douglas State Forest downstream of the footbridge on the unnamed easterly extension of High Street in Douglas (W1187) between May and September 2004 (n=5). Analysis of this limited frequency dataset indicated that none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 18 CFU/100mL). Since these data were collected prior to the current IR window (2011-2022) they cannot be used to positively assess the Secondary Contact Recreation Use of Rocky Brook (MA41-22).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1187	MassDEP	Water Quality	Rocky Brook	[in Douglas State Forest downstream of footbridge on the unnamed easterly extension of High Street, Douglas]	42.020476	-71.793446

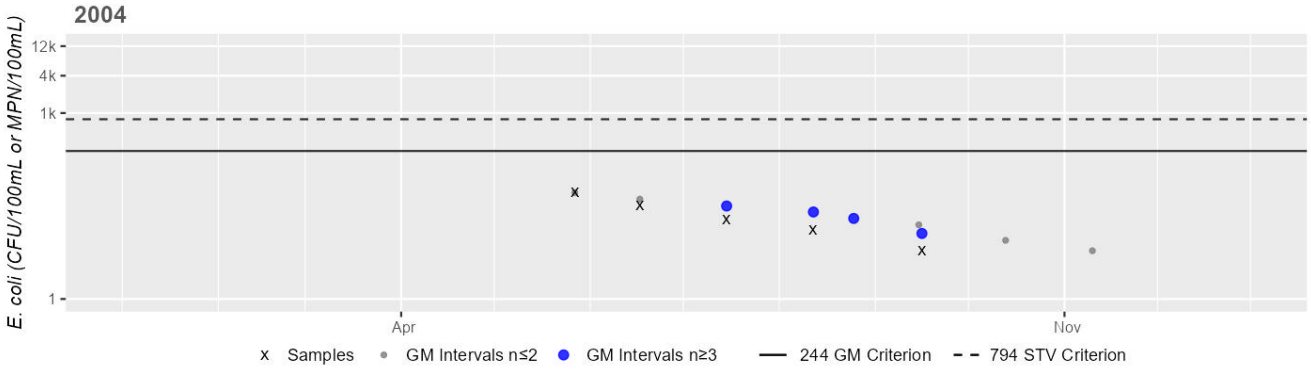
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1187	MassDEP	E. coli	05/26/04	09/15/04	5	6	52	18

Station MASSDEP_W1187 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	18
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Sherman Pond (MA41046)

Location:	Brimfield.
AU Type:	FRESHWATER LAKE
AU Size:	76 ACRES
Classification/Qualifier:	B

No usable data were available for Sherman Pond (MA41046) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

Sibley Pond (MA41047)

Location:	North Basin, Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	22 ACRES
Classification/Qualifier:	B

No usable data were available for Sibley Pond (MA41047) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

Sibley Pond (MA41048)

Location:	South Basin, Charlton.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	B

No usable data were available for Sibley Pond (MA41048) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

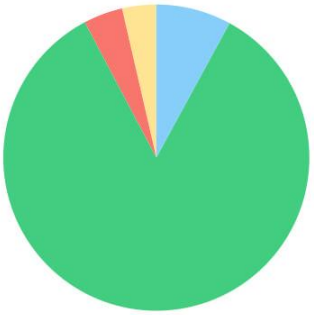
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Turbidity	Source Unknown (N)	--	--	X	X	X

Stevens Brook (MA41-19)

Location:	From the state line Wales, MA/Stafford, CT to mouth at inlet of Hamilton Reservoir, Holland.
AU Type:	RIVER
AU Size:	4.7 MILES
Classification/Qualifier:	B

Stevens Brook (MA41-19)

Watershed Area: 4.43 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	3.86	3.55	1.37	1.26
Agriculture	3.6%	3.7%	4.1%	4%
Developed	4.1%	4.5%	4.6%	4.9%
Natural	84.3%	83.4%	75.2%	74.1%
Wetland	7.9%	8.4%	16.1%	17.1%
Impervious	1.8%	1.9%	2.1%	2.2%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Stevens Brook (MA41-19), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Stevens Brook (MA41-19) continues to be assessed as Fully Supporting based on aesthetics observations at W2191 during summer 2011. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field crews in Stevens Brook approx. 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road in Holland (W2191) during summer 2011 (n=6).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2191	MassDEP	Water Quality	Stevens Brook	[approximately 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road, Holland]	42.057726	-72.187518

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2191	Stevens Brook	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2191 on Stevens Brook (MA41-19) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2191	2011	6	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2191	Stevens Brook	2011	Color	Light Yellow/Tan	4	6
W2191	Stevens Brook	2011	Color	Dark Tan	1	6
W2191	Stevens Brook	2011	Color	Brownish	1	6
W2191	Stevens Brook	2011	Odor	None	6	6
W2191	Stevens Brook	2011	Turbidity	None	6	6
W2191	Stevens Brook	2011	Objectionable Deposits	No	6	6
W2191	Stevens Brook	2011	Scum	No	3	6
W2191	Stevens Brook	2011	Scum	Yes	3	6
W2191	Stevens Brook	2011	Aquatic Plant Density, Overall	Unobservable	1	6
W2191	Stevens Brook	2011	Aquatic Plant Density, Overall	None	5	6
W2191	Stevens Brook	2011	Periphyton Density, Filamentous	Unobservable	1	6
W2191	Stevens Brook	2011	Periphyton Density, Filamentous	None	5	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2191	Stevens Brook	2011	Periphyton Density, Film	Unobservable	1	6
W2191	Stevens Brook	2011	Periphyton Density, Film	None	5	6

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Stevens Brook (MA41-19) is assessed as Fully Supporting since the *E. coli* concentrations measured at W2191 in 2011 were below thresholds. MassDEP staff collected *E. coli* bacteria samples from Stevens Brook (MA41-19) approx. 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road in Holland (W2191) between May and October 2011 (n=6). Analysis of this single year, limited frequency dataset indicated none of the intervals had GMs >126 CFU/100mL and none of the samples exceeded the 410 CFU/100mL STV (the seasonal GM was 54 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2191	MassDEP	Water Quality	Stevens Brook	[approximately 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road, Holland]	42.057726	-72.187518

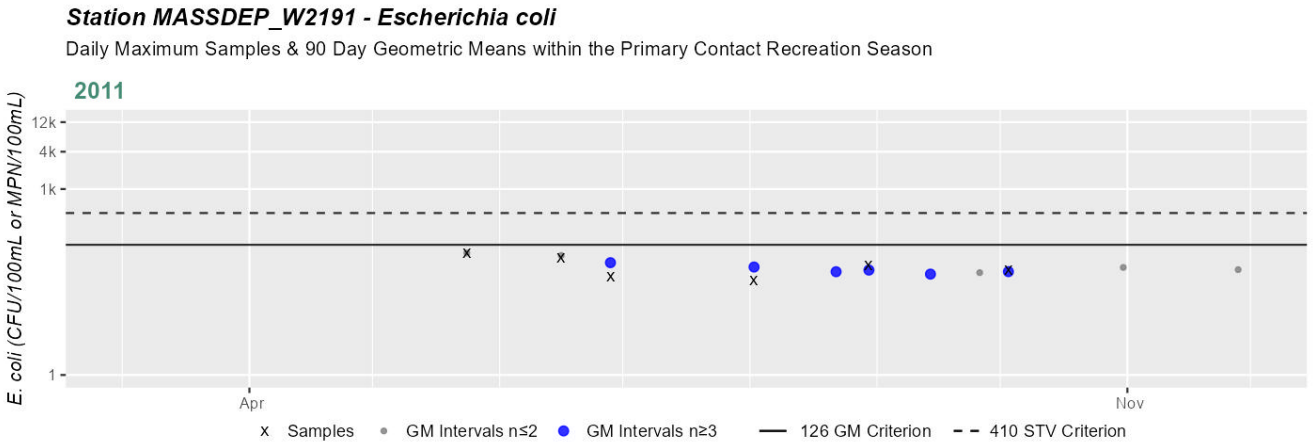
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2191	MassDEP	E. coli	05/24/11	10/03/11	6	34	93	54



Variable*	Result
Samples	6
SeasGM	54
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Stevens Brook (MA41-19) is assessed as Fully Supporting since the *E. coli* concentrations measured at W2191 in 2011 were below thresholds.MassDEP staff collected *E. coli* bacteria samples from Stevens Brook (MA41-19) approx. 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road in Holland (W2191) between May and October 2011 (n=6). Analysis of this single year, limited frequency dataset indicated none of the intervals had GMs >244 CFU/100mL and none of the samples exceeded the 794 CFU/100mL STV (the overall GM was 54 CFU/100mL). DEP staff also collected historical data near the mouth of the brook upstream/west of the Mashapaug Rd crossing in Holland (W1173) between May and September 2004 (n=5) with similar results (the overall GM was 73 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1173	MassDEP	Water Quality	Stevens Brook	[upstream/west at Mashapaug Road crossing, Holland]	42.061376	-72.161729

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2191	MassDEP	Water Quality	Stevens Brook	[approximately 510 feet downstream from the Old Stafford Road crossing nearest Howlett Road, Holland]	42.057726	-72.187518

Bacteria Data

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

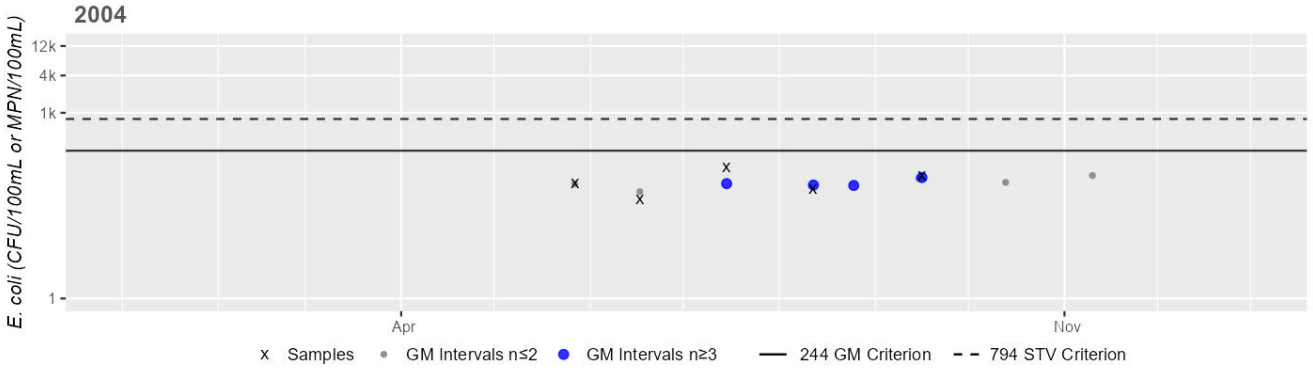
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1173	MassDEP	E. coli	05/26/04	09/15/04	5	40	130	73
W2191	MassDEP	E. coli	05/24/11	10/03/11	6	34	93	54

Station MASSDEP_W1173 - Escherichia coli

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



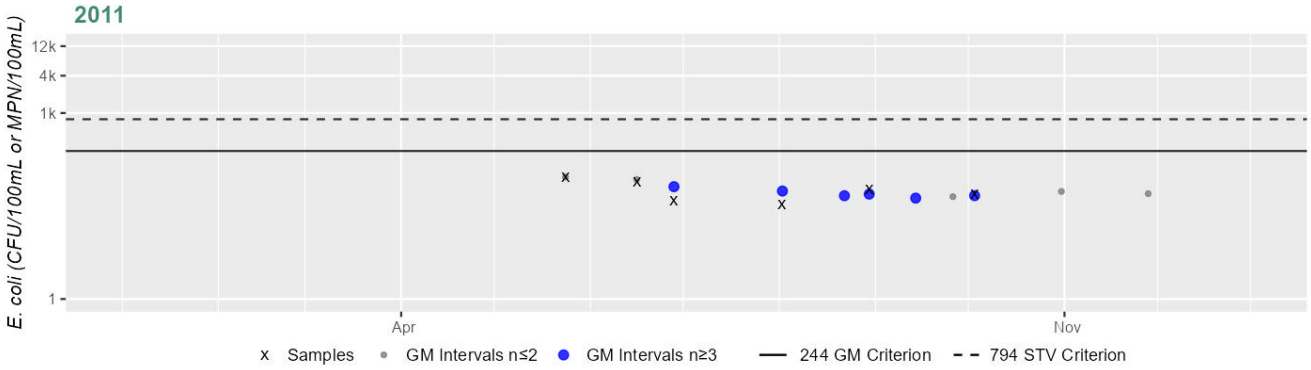
Variable*	Result
Samples	5
SeasGM	73
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2191 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	54
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Sylvestri Pond (MA41049)

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

No usable data were available for Sylvestri Pond (MA41049) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

Tufts Branch (MA41-10)

Location:	Headwaters, north of Dudley-Southbridge Road, Dudley to the state line, Dudley, MA/Thompson, CT.
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	B: CWF

Tufts Branch (MA41-10)

Watershed Area: 3.51 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	3.48	3.44	1.34	1.33
Agriculture	13.3%	13.1%	10.6%	10.2%
Developed	16.2%	16.2%	14%	14.1%
Natural	60.2%	60.2%	62.1%	62.4%
Wetland	10.3%	10.4%	13.3%	13.4%
Impervious	5.3%	5.4%	4.1%	4.1%

**Land cover analysis only includes watershed area within Massachusetts.*

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Tufts Branch (MA41-10), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Tufts Branch (MA41-10) is Not Assessed since no aesthetics data are available.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Tufts Branch (MA41-10) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Tufts Branch (MA41-10) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected E. coli bacteria samples in Tufts Branch (MA41-10) at W1172 [Rt. 197 (W Main St) crossing, Dudley] from May-Sep 2004 (n=5). Analysis of this historic single year limited frequency E. coli dataset from W1172 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 82 CFU/100ml. Historic E. coli data from W1172 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1172	MassDEP	Water Quality	Tufts Branch	[Route 197 (West Main Street) crossing, Dudley]	42.027896	-71.937813

Bacteria Data

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

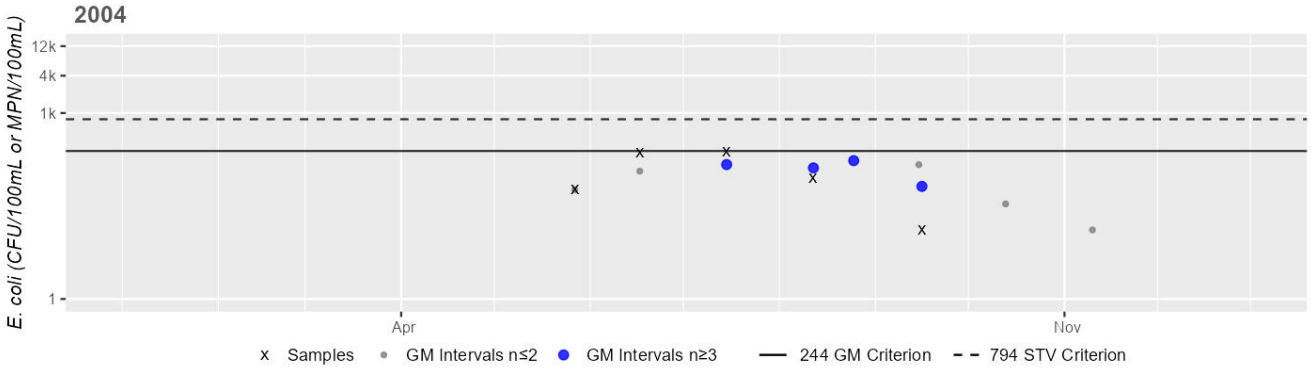
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1172	MassDEP	E. coli	05/26/04	09/15/04	5	13	240	82

Station MASSDEP_W1172 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	82
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

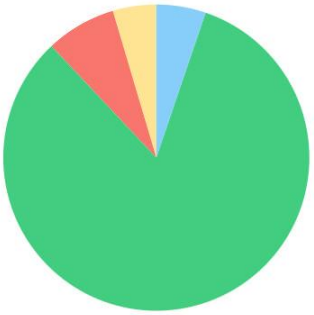
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA41-16)

Location:	Unnamed tributary to Mill Brook, headwaters, outlet Sherman Pond, Brimfield to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	1.2 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA41-16)

Watershed Area: 6.11 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	6.11	4.45	2.08	1.61
Agriculture	4.6%	6%	4.9%	6.3%
Developed	7.4%	8.4%	9.3%	10.3%
Natural	82.8%	79.3%	74.8%	70.5%
Wetland	5.2%	6.4%	11.1%	13%
Impervious	3.2%	3.2%	3.9%	3.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
5	5	Sedimentation/Siltation	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Escherichia Coli (E. Coli)	Non-Point Source (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

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

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted at this Unnamed Tributary AU (MA41-16), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No recent aesthetics data are available for this Unnamed Tributary AU (MA41-16), so the Aesthetics Use is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No recent bacteria data are available, so the Primary Contact Recreation Use for this Unnamed Tributary AU (MA41-16) continues to be assessed as Not Supporting with the prior Escherichia Coli (E. Coli) impairment being carried forward.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
Since no recent bacteria data are available, the Secondary Contact Recreation Use for this Unnamed Tributary AU (MA41-16) continues to be assessed as Not Supporting (based on *E. coli* data collected at W1183 in 2004) with the prior Escherichia Coli (E. Coli) impairment being carried forward. *E. coli* bacteria data were collected historically by MassDEP staff in this Unnamed Tributary AU (MA41-16) at Sturbridge Rd (Rt 20) in Brimfield (W1183) during summer 2004 (n=5). Analysis of this single year of low frequency data indicated that 100% of intervals had GMs >244 CFU/100mL, and additionally, three samples exceeded the 794 CFU/100mL STV.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1183	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Mill Brook at Sturbridge Road (Route 20), Brimfield]	42.122084	-72.199017

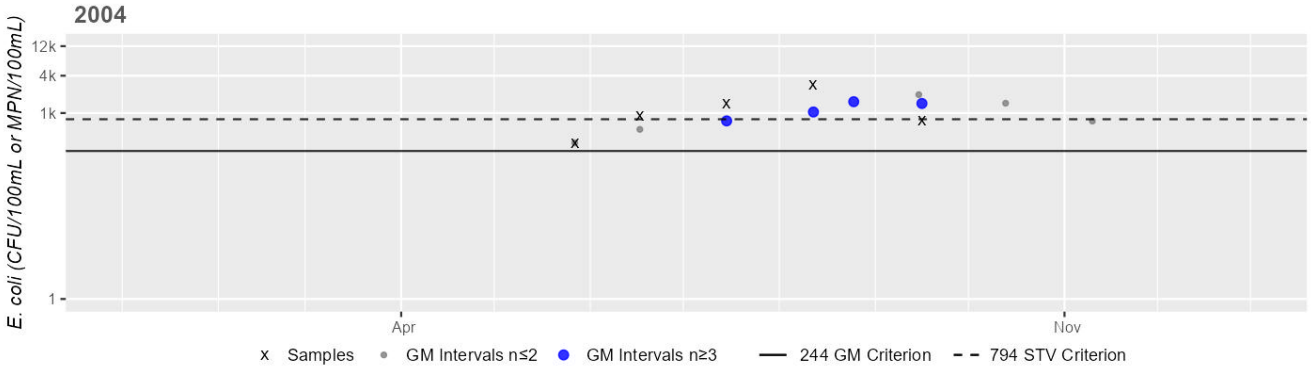
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1183	MassDEP	E. coli	05/26/04	09/15/04	5	330	2800	970

Station MASSDEP_W1183 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	970
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	3
%n>STV	60%

Cumulative %GMI Exceedance
Historic (1997-2010)
100%

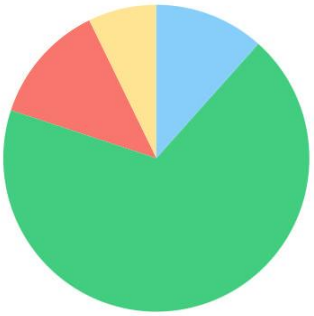
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Unnamed Tributary (MA41-23)

Location:	Unnamed tributary to the Quinebaug River from headwaters at the outlet of an unnamed pond on the Southbridge/Charlton border to mouth at confluence with the Quinebaug River, Southbridge.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA41-23)

Watershed Area: 8.34 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.34	4.54	3.14	1.69
Agriculture	7.2%	10.8%	4.4%	6.3%
Developed	12.7%	12.5%	10.2%	11.9%
Natural	68.4%	65.6%	66.1%	64.2%
Wetland	11.6%	11.1%	19.4%	17.6%
Impervious	4%	4.1%	3.6%	4.5%

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Unnamed Tributary AU (MA41-23), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available, so the Aesthetics Use for Unnamed Tributary (MA41-23) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Unnamed Tributary (MA41-23) are available, so the Primary Contact Recreation Use is Not Assessed.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data for Unnamed Tributary (MA41-23) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected E. coli bacteria samples in Unnamed Tributary (MA41-23) at W1186 [unnamed tributary to Quinebaug River W of Dresser Hill Rd, ~2100 ft upstream of confluence with Quinebaug River, Southbridge] from May-Sep 2004 (n=5). Analysis of this historic single year limited frequency E. coli dataset from W1186 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 31 CFU/100ml. Historic E. coli data from W1186 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1186	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary to Quinebaug River west of Dresser Hill Road, approximately 2100 feet upstream of confluence with Quinebaug River, Southbridge]	42.074794	-72.004920

Bacteria Data

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

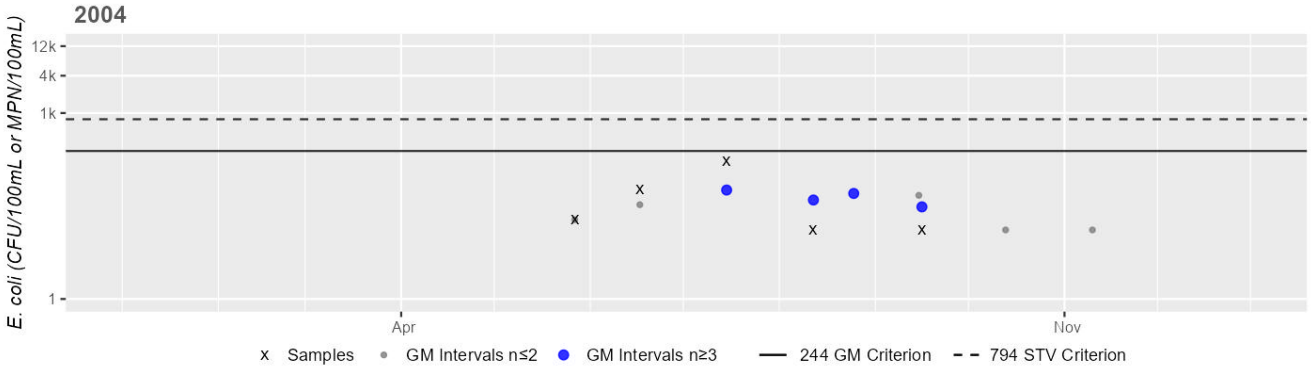
(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1186	MassDEP	E. coli	05/26/04	09/15/04	5	13	170	31

Station MASSDEP_W1186 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	31
#GMI	4
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Unnamed Tributary (MA41-25)

Location:	Unnamed tributary to Tufts Branch, headwaters, former Wielock Pond Dam (NATID# MA00218) outlet, Dudley to mouth at confluence with Tufts Branch, Dudley.
AU Type:	RIVER
AU Size:	0.2 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA41-25) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Unnamed Tributary (MA41-26)

Location:	Unnamed tributary locally known as 'Freeman's Brook' from headwaters west of Cronin Road, Warren to an unnamed tributary to Long Pond, Sturbridge.
AU Type:	RIVER
AU Size:	2.6 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA41-26) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Unnamed Tributary (MA41-27)

Location:	Unnamed tributary to Mill Brook, headwaters south of East Hill Road, Brimfield to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	1.7 MILES
Classification/Qualifier:	B

No usable data were available for Unnamed Tributary (MA41-27) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

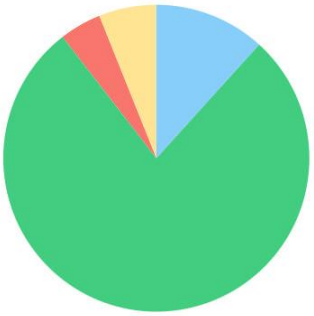
AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None	--	Unchanged

Unnamed Tributary (MA41-29)

Location:	Unnamed tributary to unnamed pond (eventually to Quinebaug River), headwaters (perennial portion) east of Arnold Road, Sturbridge to mouth at inlet unnamed pond north of Route 90, Sturbridge.
AU Type:	RIVER
AU Size:	0.6 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA41-29)

Watershed Area: 0.56 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	0.56	0.56	0.15	0.15
Agriculture	6.1%	6.1%	0.6%	0.6%
Developed	4.4%	4.4%	1.3%	1.3%
Natural	77.8%	77.8%	68.5%	68.5%
Wetland	11.7%	11.7%	29.5%	29.5%
Impervious	3.1%	3.1%	1.3%	1.3%

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Unnamed Tributary AU (MA41-29), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for this Unnamed Tributary AU (MA41-29) is assessed as Fully Supporting based on observations at W2206 in 2011. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews in this Unnamed Tributary (MA41-29) approx. 900 feet upstream from the Massachusetts Turnpike (Route 90), Sturbridge (W2206) during summer 2011 (n=6).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2206	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary eventually to the Quinebaug River approximately 900 feet upstream from the Massachusetts Turnpike (Route 90), Sturbridge]	42.136934	-72.103133

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2206	Unnamed Tributary	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2206 on Unnamed Tributary (MA41-29) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2206	2011	6	6	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2206	Unnamed Tributary	2011	Color	Not Recorded	1	6
W2206	Unnamed Tributary	2011	Color	Light Yellow/Tan	5	6

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2206	Unnamed Tributary	2011	Odor	None	6	6
W2206	Unnamed Tributary	2011	Turbidity	None	5	6
W2206	Unnamed Tributary	2011	Turbidity	Slightly Turbid	1	6
W2206	Unnamed Tributary	2011	Objectionable Deposits	No	6	6
W2206	Unnamed Tributary	2011	Scum	No	3	6
W2206	Unnamed Tributary	2011	Scum	Yes	3	6
W2206	Unnamed Tributary	2011	Aquatic Plant Density, Overall	None	6	6
W2206	Unnamed Tributary	2011	Periphyton Density, Filamentous	None	6	6
W2206	Unnamed Tributary	2011	Periphyton Density, Film	None	6	6

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for this Unnamed Tributary AU (MA41-29) is assessed as Not Supporting since the *E. coli* concentrations at W2206 exceeded the thresholds during summer 2011.

MassDEP staff collected *E. coli* bacteria samples in this Unnamed Tributary AU (MA41-29) approx. 900 feet upstream from the Massachusetts Turnpike (Route 90) in Sturbridge (W2206) between May and October 2011 (n=6). Analysis of this single year of limited frequency data indicated 100% of intervals had GMs >126 CFU/100mL and one sample exceeded the 410 CFU/100mL STV (the seasonal GM was 173 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2206	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary eventually to the Quinebaug River approximately 900 feet upstream from the Massachusetts Turnpike (Route 90), Sturbridge]	42.136934	-72.103133

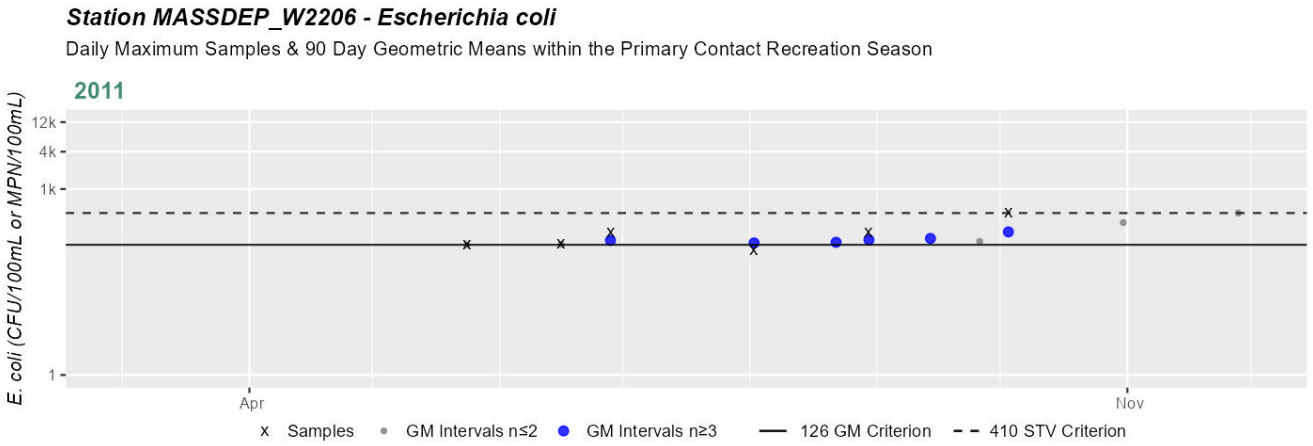
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 3)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2206	MassDEP	E. coli	05/24/11	10/03/11	6	102	411	173



Variable*	Result
Samples	6
SeasGM	173
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	1
%n>STV	16%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for this Unnamed Tributary AU (MA41-29) is assessed as Fully Supporting based on the *E. coli* concentrations measured at W2206 during summer 2011. MassDEP staff collected *E. coli* bacteria samples in this Unnamed Tributary AU (MA41-29) approx. 900 feet upstream from the Massachusetts Turnpike (Route 90), Sturbridge (W2206) between May and October 2011 (n=6). Analysis of this single year of limited frequency data indicated no intervals had GMs >244 CFU/100mL and no samples exceeded the 794 CFU/100mL STV (the overall GM was 173 CFU/100mL).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2206	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary eventually to the Quinebaug River approximately 900 feet upstream from the Massachusetts Turnpike (Route 90), Sturbridge]	42.136934	-72.103133

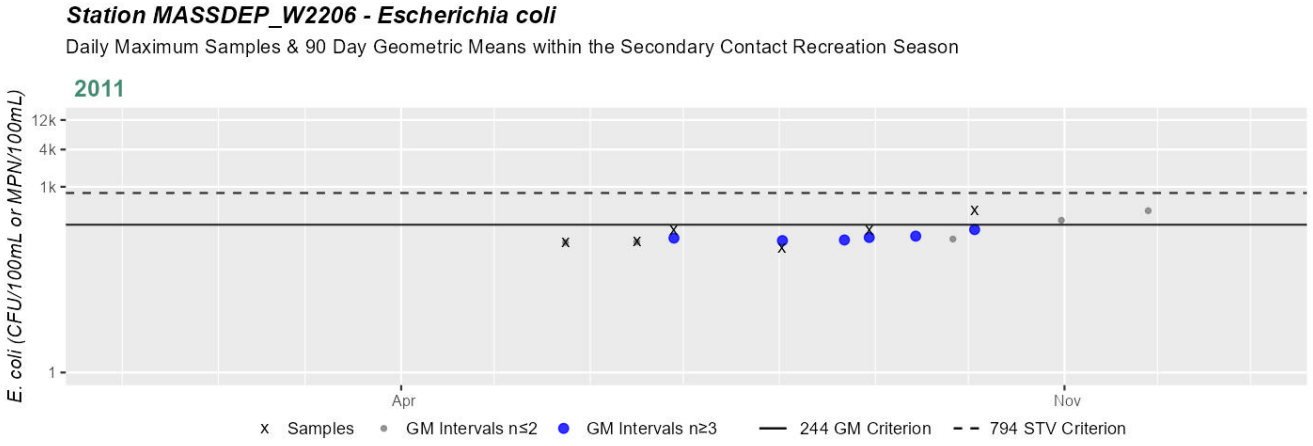
Bacteria Data

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

(MassDEP Undated 4) (MassDEP Undated 2)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2206	MassDEP	E. coli	05/24/11	10/03/11	6	102	411	173



Variable*	Result
Samples	6
SeasGM	173
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Wales Brook (MA41-08)

Location:	Headwaters, outlet Lake George, Wales to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	5.2 MILES
Classification/Qualifier:	B

No usable data were available for Wales Brook (MA41-08) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

Walker Pond (MA41052)

Location:	Sturbridge.
AU Type:	FRESHWATER LAKE
AU Size:	104 ACRES
Classification/Qualifier:	B

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

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No fish toxics sampling has been conducted in Walker Pond (MA41052), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary

No data are available to assess the status of the Aesthetics Use for Walker Pond (MA41052), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Walker Pond (MA41052) is assessed as Fully Supporting since there were few, if any, swimming advisory postings at the Wells State Park Walker Pond Beach during the last five years of available data. The prior Alert from the 2022 IR cycle, which was identified based on the 2017 postings, is being removed.
The Wells State Park Walker Pond Beach was rarely, if at all, posted for swimming between 2014 and 2022 except during the summer of 2017 when posting exceeded 10% (was 47%). During the last five years of the period of record, the percentage of postings ranged from 0-10%.

Beach Postings

MA DPH Beach Posting Data Summary (% Bathing Season Posted 2014-2022) (Bailey, Logan Feb. 2, 2021) (Bailey Sept. 10, 2023) (MassDEP Undated 1)

Beach ID	Beach Name/ Town	Left Border (Lat., Long)	Right Border (Lat., Long)	2014	2015	2016	2017	2018	2019	2020	2021	2022	# years >10%
5186	Wells State Park - Walker Pond Beach (DCR)/ Sturbridge	42.14353, -72.06090	42.14454, -72.06000	2%	0%	4%	47%	2%	0%	10%	0%	9%	1

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

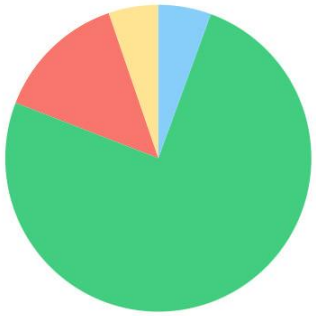
The Secondary Contact Recreation Use for Walker Pond (MA41052) is assessed as Fully Supporting since there were few, if any, swimming advisory postings at the Wells State Park Walker Pond Beach during the last five years of available data.
The Wells State Park Walker Pond Beach was rarely, if at all, posted for swimming between 2014 and 2022 except during the summer of 2017 when posting exceeded 10% (was 47%). During the last five years of the period of record, the percentage of postings ranged from 0-10%.

West Brook (MA41-17)

Location:	Headwaters, west of the Dix Hill Road/Route 19 intersection (excluding intermittent portion), Brimfield to mouth at confluence with Mill Brook, Brimfield.
AU Type:	RIVER
AU Size:	1.8 MILES
Classification/Qualifier:	B

West Brook (MA41-17)

Watershed Area: 1.41 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.41	1.41	0.53	0.53
Agriculture	5.3%	5.3%	6.9%	6.9%
Developed	13.9%	13.9%	10.6%	10.6%
Natural	75.3%	75.3%	71.8%	71.8%
Wetland	5.6%	5.6%	10.7%	10.7%
Impervious	4.2%	4.2%	2.5%	2.5%

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--

Supporting Information for Removed Impairments

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

Recommendations

2024/26 Recommendations
2024/2026 IR [Trash, Low] Conduct follow-up sampling in West Brook (MA41-17) approximately 600 feet upstream of Route 20 in Brimfield (MassDEP station W2198) to evaluate whether objectionable trash deposits have worsened or improved. This is of low priority {W2198}; 2024/2026 IR [Bacteria, Low] Conduct follow-up bacteria sampling of moderate/high frequency in West Brook (MA41-17) in the vicinity of W2198. This recommendation only pertains to the Secondary Contact Recreation Use (the Primary Use already has a bacteria impairment)- a new Alert was added in the 2024/2026 IR cycle due to an Insufficient Information use attainment decision based on mixed signals among GM and STV statistics. This is of low priority.{W2198}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No fish toxics sampling has been conducted in West Brook (MA41-17), so the Fish Consumption Use is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for West Brook (MA41-17) will continue to be assessed as Fully Supporting based on the general lack of objectionable conditions observed by MassDEP staff during the summer of 2011, and the Alert status identified in the 2022 IR will be retained (there were four observations of objectionable deposits, either minor trash or "trash, gravel from fairground pile going into stream" during the summer 2011 site visits to W2198). There were generally no odors, growths, or turbidity observed by MassDEP staff during field surveys of West Brook (MA41-17) approximately 600 feet upstream of Route 20 in Brimfield (W2198) during summer 2011 (n=6).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2198	MassDEP	Water Quality	West Brook	[approximately 600 feet upstream from Palmer Road (Route 20), Brimfield]	42.123355	-72.206693

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 3)

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

Station Code	Waterbody	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2198	West Brook	2011	6	Aesthetic observations were made by MassDEP field sampling crews at Station W2198 on West Brook (MA41-17) during 6 site visits between May 2011 and Oct 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=4).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 4) (MassDEP Undated 3)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2198	2011	6	6	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 4)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2198	West Brook	2011	Color	Light Yellow/Tan	6	6
W2198	West Brook	2011	Odor	None	6	6
W2198	West Brook	2011	Turbidity	None	5	6
W2198	West Brook	2011	Turbidity	Slightly Turbid	1	6
W2198	West Brook	2011	Objectionable Deposits	No	2	6
W2198	West Brook	2011	Objectionable Deposits	Yes	4	6
W2198	West Brook	2011	Scum	No	4	6
W2198	West Brook	2011	Scum	Yes	2	6
W2198	West Brook	2011	Aquatic Plant Density, Overall	None	6	6
W2198	West Brook	2011	Periphyton Density, Filamentous	None	6	6
W2198	West Brook	2011	Periphyton Density, Film	None	6	6

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for West Brook (MA41-17) continues to be assessed as Not Supporting with the Escherichia Coli (E. Coli) impairment being carried forward (based on the elevated *E. coli* bacteria concentrations measured at W2198 in 2011). The former Alert for the aesthetic issue (four observations of objectionable deposits, either minor trash or "trash, gravel from fairground pile going into stream) noted at W2198 in 2011 is being removed from the recreational uses but continues to be maintained under the Aesthetics Use. *E. coli* bacteria samples were collected in West Brook (MA41-17) approximately 600 feet upstream of Route 20 in Brimfield (W2198) from May to October 2011 (n=6). Analysis of this single year of limited frequency data indicated 66% of intervals had GMs >126 CFU/100mL, two samples exceeded the 410 CFU/100mL STV, and the seasonal GM was 127 CFU/100mL.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2198	MassDEP	Water Quality	West Brook	[approximately 600 feet upstream from Palmer Road (Route 20), Brimfield]	42.123355	-72.206693

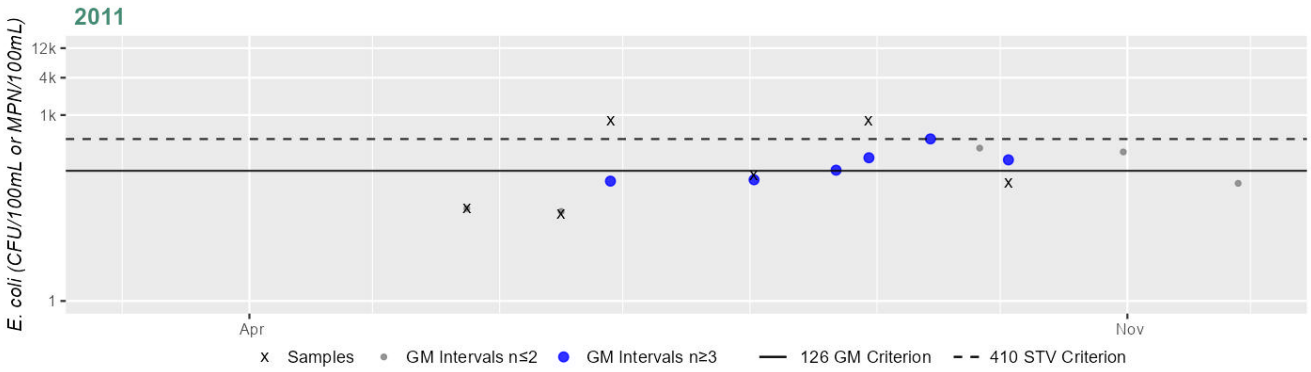
Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 3)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2198	MassDEP	E. coli	05/24/11	10/03/11	6	25	816	127

Station MASSDEP_W2198 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	127
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	2
%n>STV	33%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	YES

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for West Brook (MA41-17) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. A new Alert is being added for Escherichia Coli (E. Coli) based on the elevated *E. coli* bacteria concentrations measured at W2198 in 2011 and a recommedation will be made for follow-up sampling. The former Alert for the aesthetic issue (four observations of objectionable deposits, either minor trash or "trash, gravel from fairground pile going into stream) noted at W2198 in 2011 is being removed from the recreational uses but continues to be maintained under the Aesthetics Use.
E. coli bacteria samples were collected in West Brook (MA41-17) approximately 600 feet upstream of Route 20 in Brimfield (W2198) from May to October 2011 (n=6). Analysis of this single year of limited frequency data indicated 16% of intervals had GMs >244 CFU/100mL, two samples exceeded the 794 CFU/100mL STV, and the overall GM was 127 CFU/100mL. Because this single year, limited frequency dataset included GMs below the threshold as well as STV exceedances, the data are inconclusive according to the 2024 CALM to come to a use attainment decision for the Secondary Contact Recreation Use of West Brook and an Alert is being identified for Escherichia Coli (E. Coli) at W2198. Two stations a short distance downstream were also sampled historically by MassDEP staff in 2004: W1205 (Route 20 crossing, Brimfield; n=3) with no exceedances of the GM or STV thresholds, and W1180 (footbridge approx. 160 ft downstream/south of Route 20, Brimfield; n=2) with data that were too limited to assess (and no exceedances of the STV threshold).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1180	MassDEP	Water Quality	West Brook	[footbridge approximately 160 feet downstream/south of Main Street (Route 20), Brimfield]	42.121272	-72.207197
W1205	MassDEP	Water Quality	West Brook	[Route 20 crossing, Brimfield]	42.121616	-72.206886
W2198	MassDEP	Water Quality	West Brook	[approximately 600 feet upstream from Palmer Road (Route 20), Brimfield]	42.123355	-72.206693

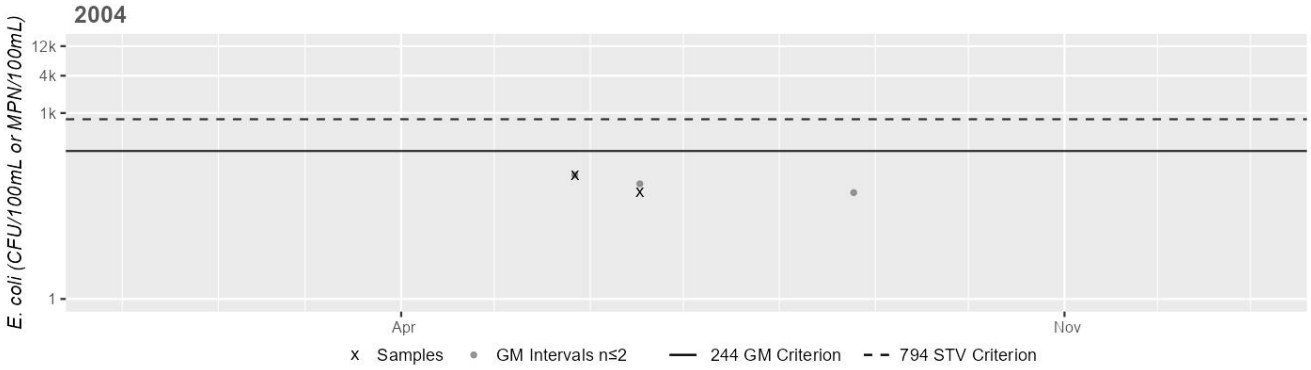
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 4) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1180	MassDEP	E. coli	05/26/04	06/16/04	2	52	100	72
W1205	MassDEP	E. coli	07/14/04	09/15/04	3	58	120	91
W2198	MassDEP	E. coli	05/24/11	10/03/11	6	25	816	127

Station MASSDEP_W1180 - Escherichia coli

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



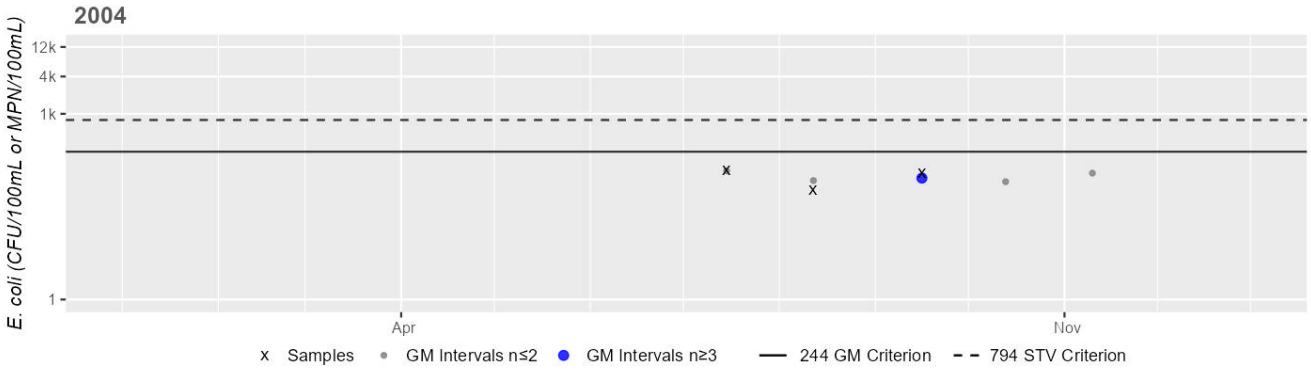
Variable*	Result
Samples	2
SeasGM	72
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W1205 - Escherichia coli

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



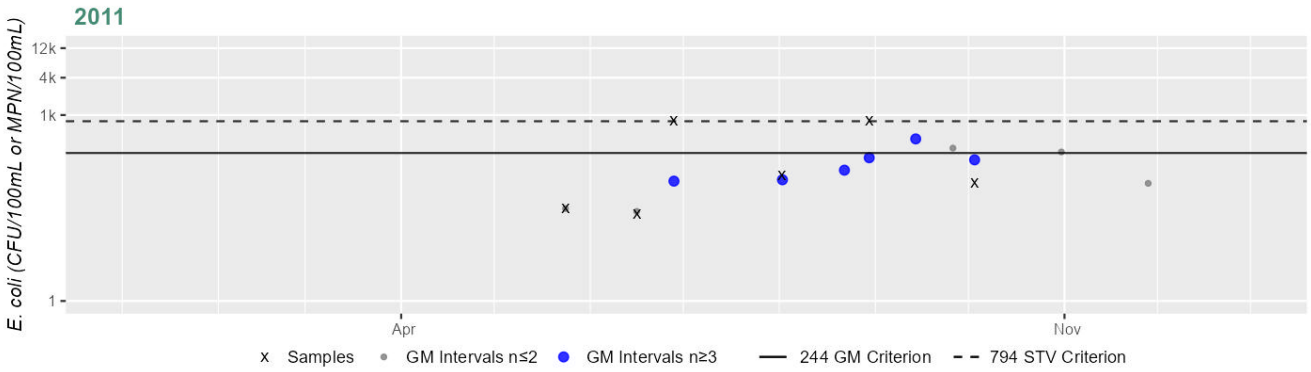
Variable*	Result
Samples	3
SeasGM	91
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station MASSDEP_W2198 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	127
#GMI	6
#GMI Ex	1
%GMI Ex	16%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Current (2011-2022)
16%

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

Data Sources

Bailey, Logan. "DPH 2022 freshwater beach posting data provided to Laurie Kennedy and Dan Davis (MassDEP Watershed Planning Program) via Excel file (FreshwaterBeachPostings_2022) attached to email (RE: DPH Beach Posting information update needed for 2024 IR)." Additional 2020-2022 freshwater/marine beach posting data downloaded from the Mass Environmental Public Health Tracker tool or EPA BEACON tool, respectively, Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, Sept. 10, 2023.

Bailey, Logan. "Email providing Harmful Algal Bloom advisory data (2015-2022) in the attached spreadsheet "CyanoHAB_Advisories.csv"." Email to Dan Davis and Laurie Kennedy (MassDEP Watershed Planning Program) with subject line "RE: DPH Beach Posting information update needed for 2024 IR", Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, April 26, 2023.

Bailey, Logan. "RE: Beaches Bill reporting data." Email to Dan Davis (MassDEP Watershed Planning Program) providing an Excel file (DEP_BeachDataRequest) with 2014-2019 data for marine and DCR freshwater beaches, Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, Feb. 2, 2021.

Fiorentino, John F. "Technical Memorandum TM- 41/42-6 French & Quinebaug River Watershed 2004 Benthic Macroinvertebrate Bioassessment." CN 178.3, Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, 2007.

MassDEP. "French and Quinebaug River Watersheds 2004-2008 Water Quality Assessment Report." CN 178.5, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2009.

MassDEP. "Open file analysis of external water quality data (potential date range 1997-2022) using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 1.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 1997 and 2020 using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 2.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 2011 and 2020 using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 3.

MassDEP. "Open files of unpublished, validated water quality monitoring data, field sheet data, and GIS datalayers in development." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 4.