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

Appendix 29
Narragansett Bay (Shore) Drainage Area
Assessment and Listing Decision Summary

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Watershed Planning Program

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

Acknowledgements

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Disclaimer

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

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Notice of Availability

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

Overview of Appendix Contents

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

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

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

The following abbreviations are used when referencing designated uses:

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

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

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2024/26 Cycle Impairment Changes

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Bad Luck Brook	MA53-11	2	2	None	--	Unchanged
Beaverdam Brook	MA53-10	3	3	None	--	Unchanged
Bliss Brook	MA53-19	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Clear Run Brook	MA53-13	5	5	Benthic Macroinvertebrates	--	Unchanged
Clear Run Brook	MA53-13	5	5	Dissolved Oxygen	--	Unchanged
Clear Run Brook	MA53-13	5	5	Escherichia Coli (E. Coli)	35097	Unchanged
Clear Run Brook	MA53-13	5	5	Fecal Coliform	35097	Unchanged
East Branch Palmer River	MA53-08	5	5	Escherichia Coli (E. Coli)	--	Unchanged
East Branch Palmer River	MA53-08	5	5	Lead	--	Unchanged
Fullers Brook	MA53-12	4a	4a	Escherichia Coli (E. Coli)	35089	Unchanged
Oak Swamp Brook	MA53-15	4a	4a	Escherichia Coli (E. Coli)	35091	Unchanged
Palmer River	MA53-03	5	4a	Enterococcus	35085	Changed
Palmer River	MA53-03	5	4a	Fecal Coliform	35085	Unchanged
Palmer River	MA53-05	5	4a	Enterococcus	35087	Changed
Palmer River	MA53-05	5	4a	Fecal Coliform	35087	Unchanged
Palmer River	MA53-22	5	5	Benthic Macroinvertebrates	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Palmer River	MA53-22	5	5	Escherichia Coli (E. Coli)	35086	Unchanged
Palmer River	MA53-22	5	5	Fecal Coliform	35086	Unchanged
Palmer River	MA53-22	5	5	Lack of a Coldwater Assemblage	--	Unchanged
Palmer River	MA53-22	5	5	Temperature	--	Unchanged
Rocky Run	MA53-16	5	4a	Enterococcus	35096	Changed
Rocky Run	MA53-16	5	4a	Escherichia Coli (E. Coli)	35096	Unchanged
Rocky Run	MA53-16	5	4a	Fecal Coliform	35096	Unchanged
Rocky Run	MA53-18	5	5	Enterococcus	--	Unchanged
Rocky Run	MA53-18	5	5	Fecal Coliform	35096	Unchanged
Rumney Marsh Brook	MA53-09	3	3	None	--	Unchanged
Runnins River	MA53-01	5	5	(Fish Passage Barrier*)	--	Unchanged
Runnins River	MA53-01	5	5	Benthic Macroinvertebrates	--	Unchanged
Runnins River	MA53-01	5	5	Dissolved Oxygen	--	Unchanged
Runnins River	MA53-01	5	5	Escherichia Coli (E. Coli)	38903	Unchanged
Runnins River	MA53-01	5	5	Fecal Coliform	38903	Unchanged
Runnins River	MA53-01	5	5	Mercury in Fish Tissue	33880	Unchanged
Runnins River	MA53-01	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Runnins River	MA53-20	5	5	Benthic Macroinvertebrates	--	Unchanged
Runnins River	MA53-20	5	5	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

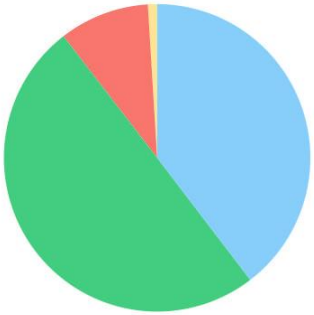
Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Shad Factory Pond	MA53005	5	5	(Dewatering*)	--	Unchanged
Shad Factory Pond	MA53005	5	5	Fecal Coliform	35086	Unchanged
Shad Factory Pond	MA53005	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Torrey Creek	MA53-14	5	5	(Alteration in Stream-side or Littoral Vegetative Covers*)	--	Unchanged
Torrey Creek	MA53-14	5	5	(Habitat Assessment*)	--	Unchanged
Torrey Creek	MA53-14	5	5	Enterococcus	--	Unchanged
Torrey Creek	MA53-14	5	5	Escherichia Coli (E. Coli)	35088	Unchanged
Torrey Creek	MA53-17	4a	4a	Fecal Coliform	35088	Unchanged
Unnamed Tributary	MA53-21	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Warren River Pond	MA53-06	4a	4a	Fecal Coliform	38904	Unchanged
West Branch Palmer River	MA53-07	5	5	(Fish Passage Barrier*)	--	Unchanged
West Branch Palmer River	MA53-07	5	5	Dissolved Oxygen	--	Unchanged

Bad Luck Brook (MA53-11)

Location:	Headwaters, outlet Warren Upper Reservoir, Rehoboth to confluence with East Branch Palmer River, Rehoboth.
AU Type:	RIVER
AU Size:	1.7 MILES
Classification/Qualifier:	B

Bad Luck Brook (MA53-11)

Watershed Area: 4.80 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.80	4.80	1.01	1.01
Agriculture	1%	1%	1.4%	1.4%
Developed	9.5%	9.5%	6.5%	6.5%
Natural	49.9%	49.9%	51.9%	51.9%
Wetland	39.6%	39.6%	40.1%	40.1%
Impervious	3.8%	3.8%	2.7%	2.7%

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Bad Luck Brook (MA53-11) 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 Bad Luck Brook (MA53-11) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Primary Contact Recreation Use for Bad Luck Brook (MA53-11) so it is assessed as having Insufficient Information. EPA staff collected *E. coli* bacteria samples in Bad Luck Brook (MA53-11) from 2012-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_BL12 [Bad Luck Brook at Kelton St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BL11 [Bad Luck Brook at Elm St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BL10 [Bad Luck Brook at County St, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_BL12, EPA_BL11, and EPA_BL10 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_BL10	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ County Street, Rehoboth	41.842018	-71.233902
EPA_BL11	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ Elm Street, Rehoboth	41.838653	-71.232656
EPA_BL12	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ Kelton Street, Rehoboth	41.831414	-71.223928

Bacteria Data

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

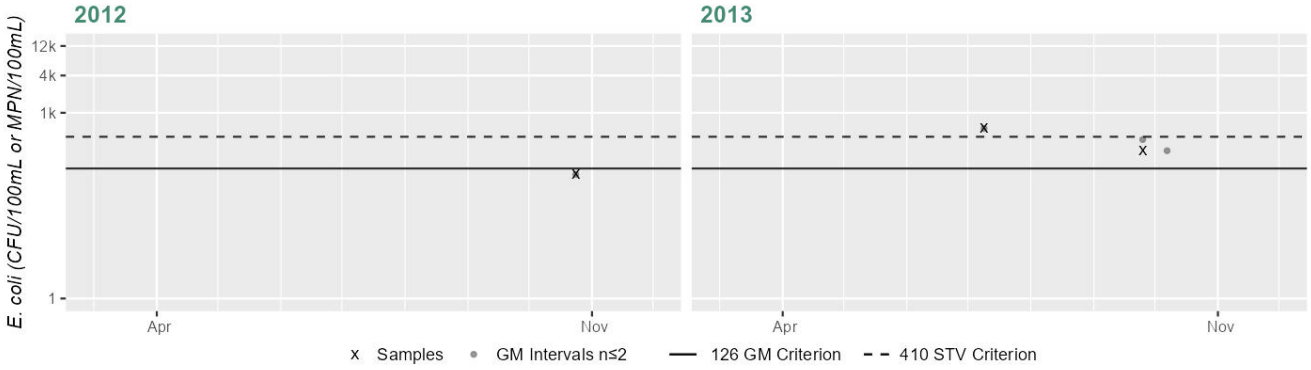
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BL10	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	101	101	101
EPA_BL10	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	244	560	369
EPA_BL11	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	334	334	334
EPA_BL11	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	285	1045	545

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BL12	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_BL12	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	30	30

Station EPA_BL10 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	101
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

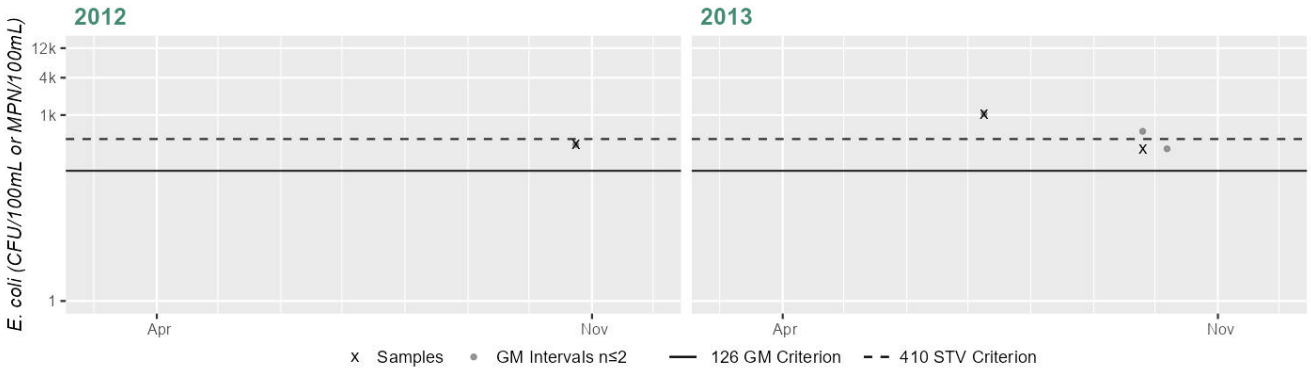
Variable*	Result
Samples	2
SeasGM	369
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_BL11 & MASSDEP_W1959 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	334
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

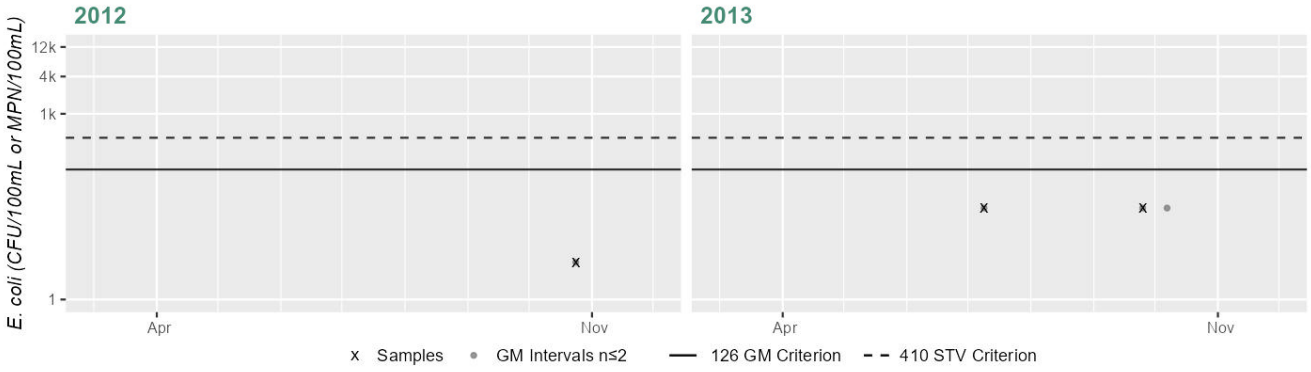
Variable*	Result
Samples	2
SeasGM	545
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_BL12 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	30
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Bad Luck Brook (MA53-11) so it is assessed as having Insufficient Information. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Bad Luck Brook (MA53-11) from 2009-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_BL12 [Bad Luck Brook at Kelton St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BL11 & W1959 [Elm St, Rehoboth & Bad Luck Brook at Elm St, Rehoboth] from May-Sep 2009 (historic n=6) and 2012-2013 (current n=1-2/yr), EPA_BL10 [Bad Luck Brook at County St, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_BL12, EPA_BL11 & W1959, and EPA_BL10 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from EPA_BL11 & W1959 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, too limited bacteria data from the current IR window (2011-2022) are available to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1959	MassDEP	Water Quality	Bad Luck Brook	[Elm Street, Rehoboth]	41.838662	-71.232636
EPA_BL10	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ County Street, Rehoboth	41.842018	-71.233902
EPA_BL11	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ Elm Street, Rehoboth	41.838653	-71.232656
EPA_BL12	US Environmental Protection Agency	Water Quality	Bad Luck Brook	Bad Luck Brook @ Kelton Street, Rehoboth	41.831414	-71.223928

Bacteria Data

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

(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (MassDEP Undated 2)

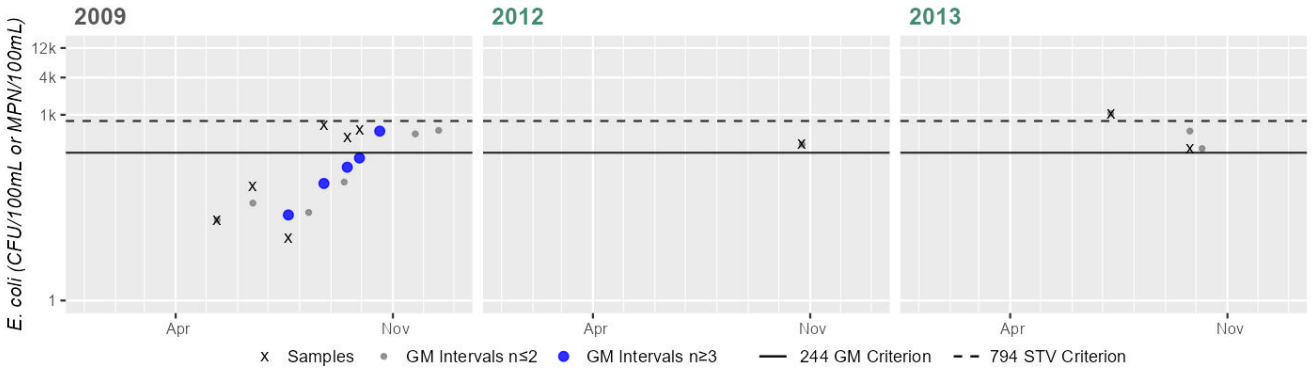
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1959	MassDEP	E. coli	05/12/09	09/29/09	6	10	670	114

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BL10	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	101	101	101
EPA_BL10	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	244	560	369
EPA_BL11	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	334	334	334
EPA_BL11	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	285	1045	545
EPA_BL12	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_BL12	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	30	30

Station EPA_BL11 & MASSDEP_W1959 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	114
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	334
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	545
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

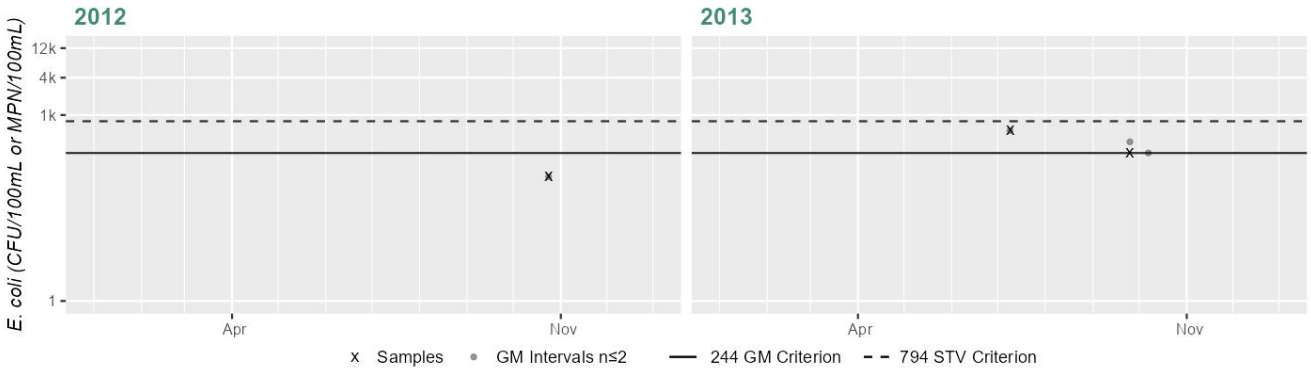
Cumulative %GMI Exceedance Historic (1997-2010)
20%

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

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

Station EPA_BL10 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	101
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

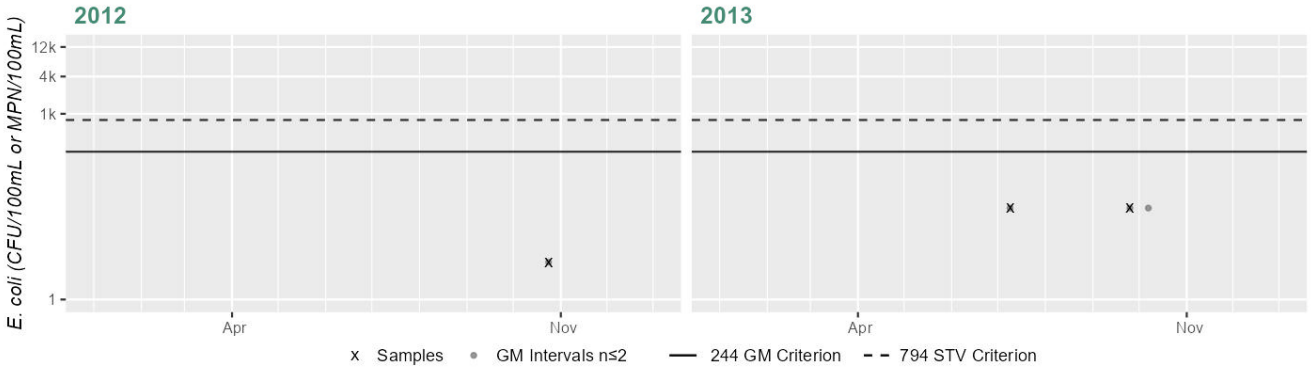
Variable*	Result
Samples	2
SeasGM	369
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_BL12 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	30
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

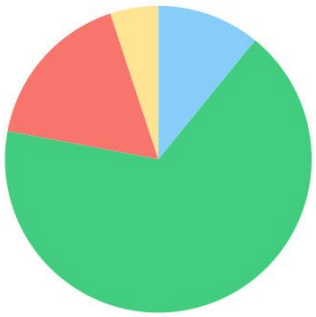
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Beaverdam Brook (MA53-10)

Location:	Headwaters, southeast of Chestnut Street, Rehoboth to confluence with Palmer River, Rehoboth.
AU Type:	RIVER
AU Size:	2.9 MILES
Classification/Qualifier:	B

Beaverdam Brook (MA53-10)

Watershed Area: 1.67 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.67	1.67	0.77	0.77
Agriculture	5.1%	5.1%	5.6%	5.6%
Developed	17%	17%	12.9%	12.9%
Natural	67.1%	67.1%	73.8%	73.8%
Wetland	10.9%	10.9%	7.7%	7.7%
Impervious	5.9%	5.9%	4.8%	4.8%

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Beaverdam Brook (MA53-10) 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 Beaverdam Brook (MA53-10) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Primary Contact Recreation Use for Beaverdam Brook (MA53-10) so it is assessed as having Insufficient Information. EPA staff collected *E. coli* bacteria samples in Beaverdam Brook (MA53-10) from 2012-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_BB15 [Beaverdam Brook at Chestnut St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BB16 [Beaverdam Brook at Summer St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BB14 [Beaverdam Brook at Pond St, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_BB15, EPA_BB16, and EPA_BB14 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_BB14	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Pond Street, Rehoboth]	41.834897	-71.270274
EPA_BB15	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Chestnut Street, Rehoboth	41.827112	-71.241183
EPA_BB16	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Summer Street, Rehoboth	41.831583	-71.259980

Bacteria Data

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

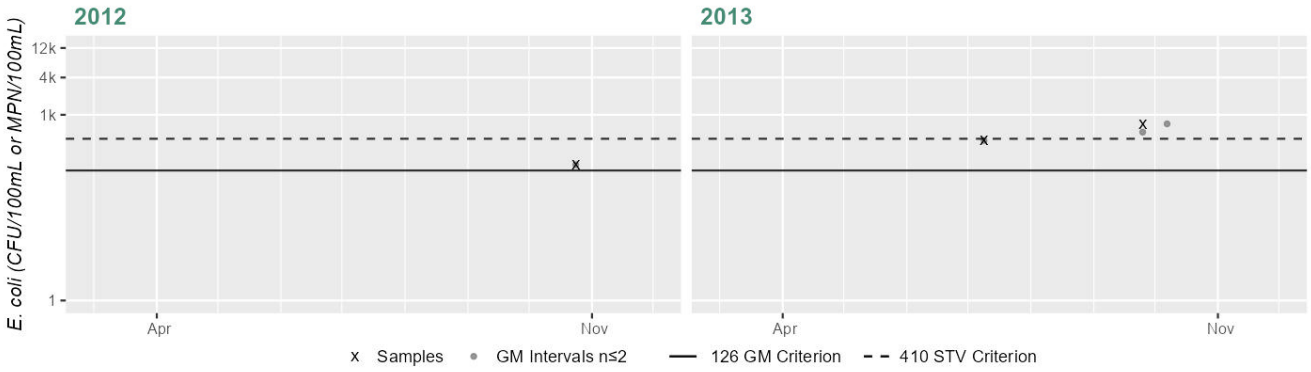
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BB14	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	156	156	156
EPA_BB14	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	384	714	523
EPA_BB15	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BB15	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	112	1379	392
EPA_BB16	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	68	68	68
EPA_BB16	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	76	47

Station EPA_BB14 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	156
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	523
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Cumulative %GMI Exceedance

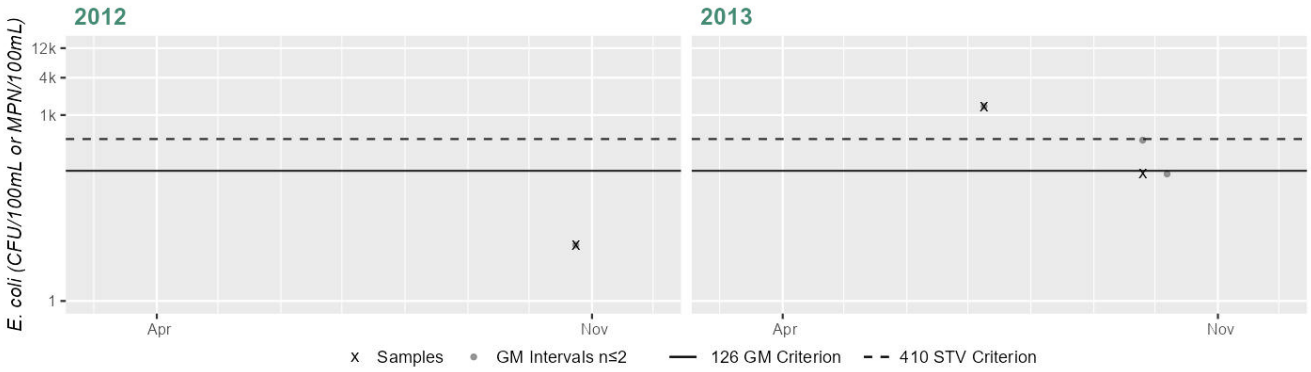
Current (2011-2022)

0%

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

Station EPA_BB15 - Escherichia coli

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



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

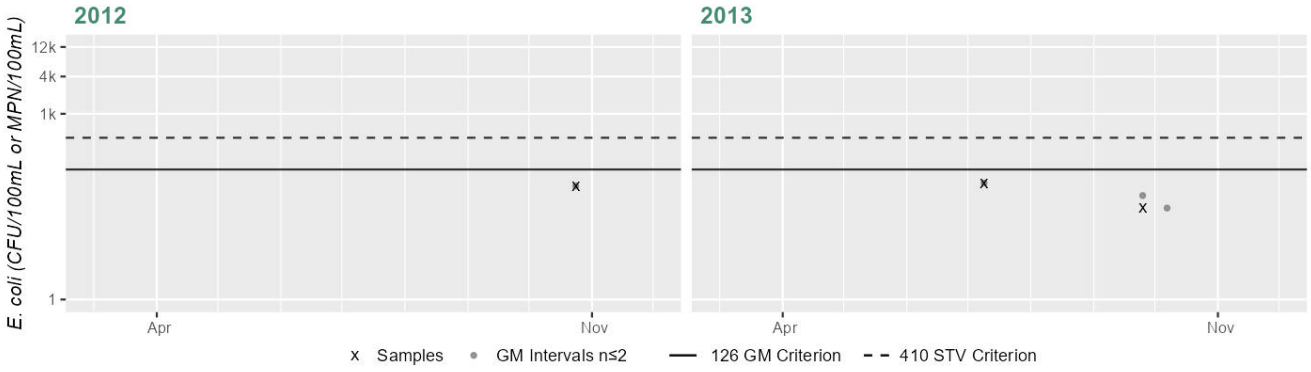
Variable*	Result
Samples	2
SeasGM	392
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_BB16 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	47
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Beaverdam Brook (MA53-10) so it is assessed as having Insufficient Information. EPA staff collected *E. coli* bacteria samples in Beaverdam Brook (MA53-10) from 2012-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_BB15 [Beaverdam Brook at Chestnut St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BB16 [Beaverdam Brook at Summer St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_BB14 [Beaverdam Brook at Pond St, Rehoboth]] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_BB15, EPA_BB16, and EPA_BB14 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_BB14	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Pond Street, Rehoboth]	41.834897	-71.270274
EPA_BB15	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Chestnut Street, Rehoboth	41.827112	-71.241183
EPA_BB16	US Environmental Protection Agency	Water Quality	Beaverdam Brook	Beaverdam Brook @ Summer Street, Rehoboth	41.831583	-71.259980

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2020) (MassDEP Undated 2)

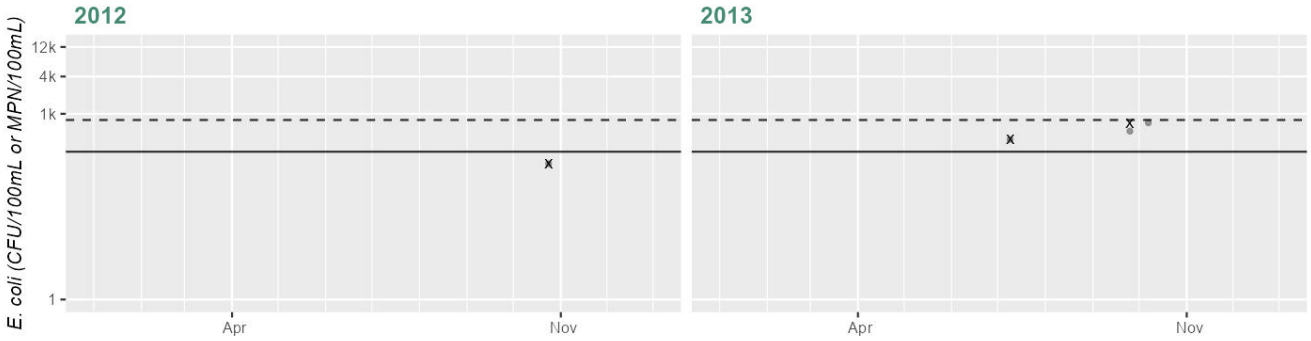
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BB14	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	156	156	156
EPA_BB14	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	384	714	523
EPA_BB15	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7
EPA_BB15	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	112	1379	392

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_BB16	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	68	68	68
EPA_BB16	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	76	47

Station EPA_BB14 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	156
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

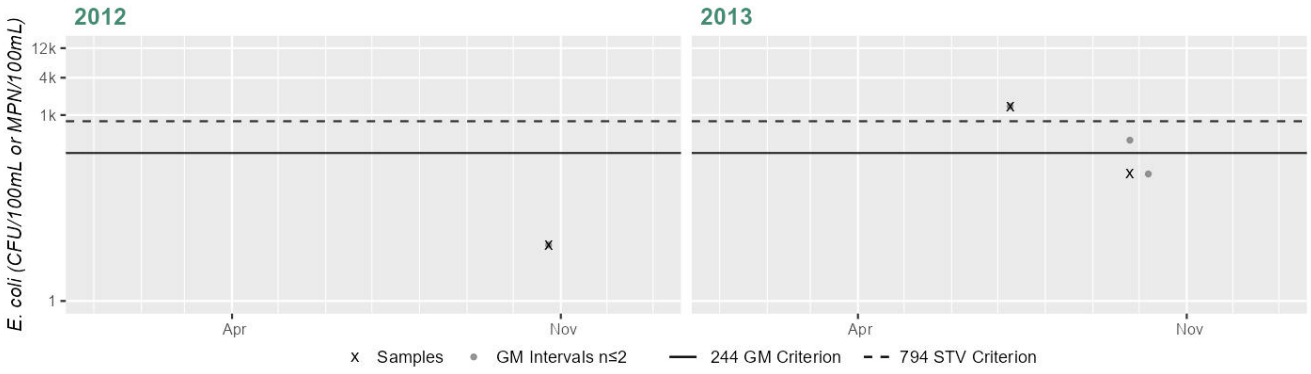
Variable*	Result
Samples	2
SeasGM	523
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_BB15 - Escherichia coli

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



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

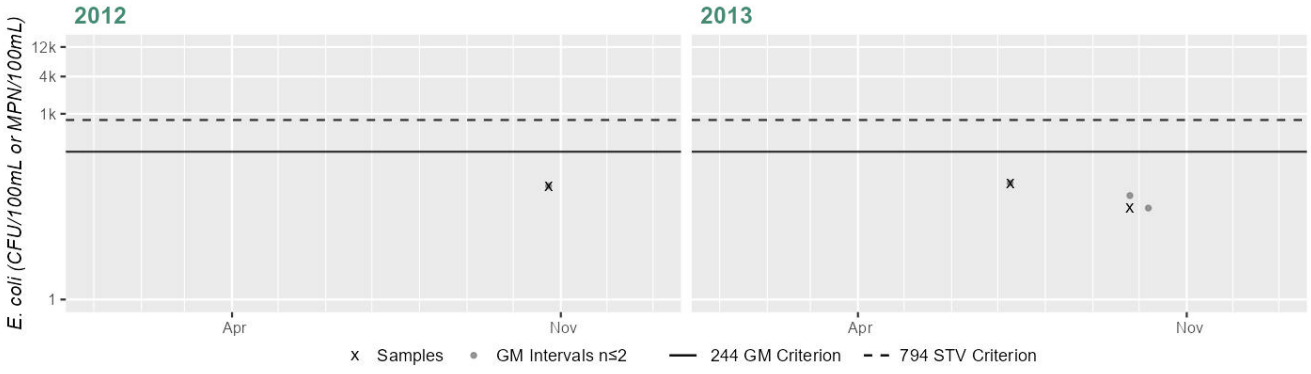
Variable*	Result
Samples	2
SeasGM	392
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_BB16 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	47
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

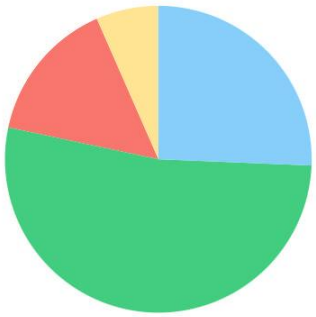
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Bliss Brook (MA53-19)

Location:	Headwaters north of Tremont Street, Rehoboth to mouth at confluence with West Branch Palmer River, Rehoboth.
AU Type:	RIVER
AU Size:	2.4 MILES
Classification/Qualifier:	B

Bliss Brook (MA53-19)

Watershed Area: 2.17 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.17	2.17	0.69	0.69
Agriculture	6.6%	6.6%	9.9%	9.9%
Developed	15.1%	15.1%	10.4%	10.4%
Natural	52.7%	52.7%	38.7%	38.7%
Wetland	25.6%	25.6%	41.1%	41.1%
Impervious	5.3%	5.3%	3.7%	3.7%

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

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

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Bliss Brook (MA53-19) 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 Bliss Brook (MA53-19) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Bliss Brook (MA53-19) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. EPA staff collected *E. coli* bacteria samples in Bliss Brook (MA53-19) at EPA_WB34 [Bliss Brook at Ash St, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_WB34 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

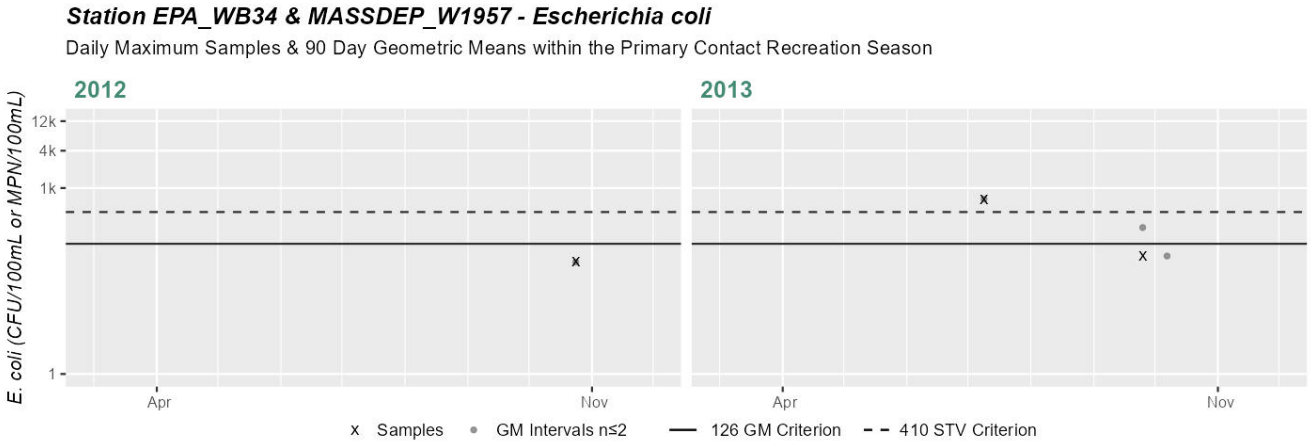
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_WB34	US Environmental Protection Agency	Water Quality	Bliss Brook	Bliss Brook @ Ash Street, Rehoboth	41.885179	-71.264872

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2020) (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
EPA_WB34	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	64	64	63
EPA_WB34	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	80	663	230



Variable*	Result
Samples	1
SeasGM	64
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	230
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Bliss Brook (MA53-19) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at EPA_WB34 & W1957. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Bliss Brook (MA53-19) at EPA_WB34 & W1957 [Ash St, Rehoboth & Bliss Brook at Ash St, Rehoboth] from May-Sep 2009 (historic n=6) and 2012-2013 (current n=1-2/yr*). E. coli* data from EPA_WB34 & W1957 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Analysis of this historic single year limited frequency *E. coli* dataset from EPA_WB34 & W1957 indicated 80% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 173 CFU/100ml. Historic *E. coli* data from EPA_WB34 & W1957 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1957	MassDEP	Water Quality	Bliss Brook	[Ash Street, Rehoboth]	41.885219	-71.264980
EPA_WB34	US Environmental Protection Agency	Water Quality	Bliss Brook	Bliss Brook @ Ash Street, Rehoboth	41.885179	-71.264872

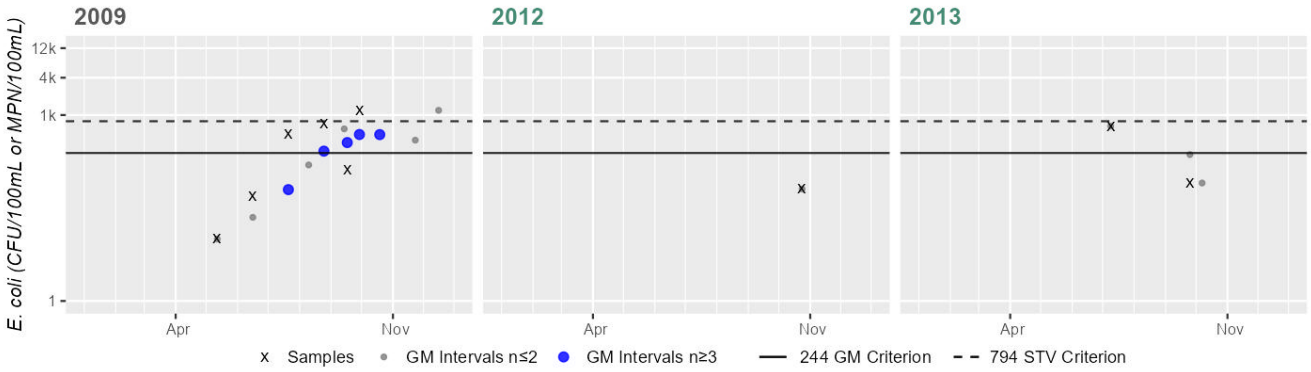
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W1957	MassDEP	E. coli	05/12/09	09/29/09	6	10	1190	173
EPA_WB34	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	64	64	63
EPA_WB34	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	80	663	230

Station EPA_WB34 & MASSDEP_W1957 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	173
#GMI	5
#GMI Ex	4
%GMI Ex	80%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	1
SeasGM	64
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	230
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)
80%

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

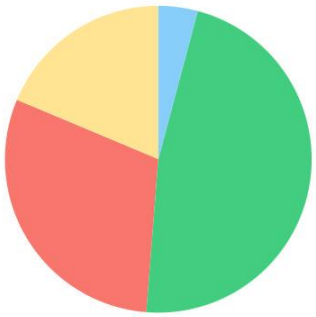
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Clear Run Brook (MA53-13)

Location:	Headwaters, outlet unnamed pond northwest of Miller Street, Seekonk to confluence with Palmer River, Rehoboth.
AU Type:	RIVER
AU Size:	1.6 MILES
Classification/Qualifier:	B

Clear Run Brook (MA53-13)

Watershed Area: 1.66 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.66	1.66	0.57	0.57
Agriculture	18.7%	18.7%	28.8%	28.8%
Developed	30.1%	30.1%	16.4%	16.4%
Natural	47.1%	47.1%	45.9%	45.9%
Wetland	4.2%	4.2%	8.9%	8.9%
Impervious	11.3%	11.3%	6.9%	6.9%

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)	35097	Unchanged
5	5	Fecal Coliform	35097	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)	Agriculture (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Waterfowl (N)	--	--	--	X	X

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

Recommendations

2024/26 Recommendations
2022 IR [Turbidity, low] Additional sampling is recommended due to moderate turbidity observed during three of four site visits in the middle of the AU, at Miller Street crossing (nearest the Rehoboth town line), Seekonk {W0621} during the summer of 2015.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Clear Run Brook (MA53-13) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
The Aesthetics Use for Clear Run Brook (MA53-13) is assessed as Fully Supporting. The Alert status identified in the 2022IR will be retained, i.e. moderate turbidity observed during three of four site visits in the middle of the AU, at Miller Street crossing (nearest the Rehoboth town line), Seekonk (W0621) during the summer of 2015. MassDEP staff recorded aesthetics observations at four stations along Clear Run Brook between the summers of 2013 and 2015 as follows: Miller Street crossing nearest Fieldwood Avenue, Seekonk (W1531; 2015 n=4), ~1750 feet downstream Miller Street, Seekonk (W2383; 2013 n=8), Miller Street crossing (nearest the Rehoboth town line), Seekonk (W0621; 2015 n=3), and Providence Street, Rehoboth (W0622; 2013 n=2, 2015 n=4). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews during the surveys at most stations.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0621	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing (nearest the Rehoboth town line), Seekonk]	41.805818	-71.297692
W0622	MassDEP	Water Quality	Clear Run Brook	[Providence Street, Rehoboth]	41.810221	-71.291692
W1531	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing nearest Fieldwood Avenue, Seekonk]	41.802721	-71.309281
W2383	MassDEP	Water Quality	Clear Run Brook	[approximately 1750 feet downstream/southeast from Miller Street, Seekonk]	41.800693	-71.304341

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0621	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W0621 on Clear Run Brook (MA53-13) during 4 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted moderate turbidity (n=3).
W0622	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0622 on Clear Run Brook (MA53-13) during 2 site visits between May 2013 and Sep 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W0622	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W0622 on Clear Run Brook (MA53-13) during 4 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W1531	2015	4	Aesthetic observations were made by MassDEP field sampling crews at Station W1531 on Clear Run Brook (MA53-13) during 4 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2383	2013	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2383 on Clear Run Brook (MA53-13) during 8 site visits between May 2013 and Sep 2013. 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 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0621	2015	4	2	0

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0622	2013	2	1	0
W0622	2015	4	1	0
W1531	2015	4	2	0
W2383	2013	8	8	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0621	Clear Run Brook	2015	Aquatic Plant Density, Overall	None	1	4
W0621	Clear Run Brook	2015	Aquatic Plant Density, Overall	Sparse	1	4
W0621	Clear Run Brook	2015	Aquatic Plant Density, Overall	Unobservable	2	4
W0621	Clear Run Brook	2015	Color	None	4	4
W0621	Clear Run Brook	2015	Odor	None	3	4
W0621	Clear Run Brook	2015	Odor	Other (Farm/Animals)	1	4
W0621	Clear Run Brook	2015	Periphyton Density, Filamentous	Moderate	1	4
W0621	Clear Run Brook	2015	Periphyton Density, Filamentous	None	1	4
W0621	Clear Run Brook	2015	Periphyton Density, Filamentous	Unobservable	2	4
W0621	Clear Run Brook	2015	Periphyton Density, Film	Moderate	1	4
W0621	Clear Run Brook	2015	Periphyton Density, Film	None	1	4
W0621	Clear Run Brook	2015	Periphyton Density, Film	Unobservable	2	4
W0621	Clear Run Brook	2015	Turbidity	Moderately Turbid	3	4
W0621	Clear Run Brook	2015	Turbidity	Slightly Turbid	1	4
W0622	Clear Run Brook	2013	Aquatic Plant Density, Overall	Moderate	1	2
W0622	Clear Run Brook	2013	Aquatic Plant Density, Overall	Unobservable	1	2
W0622	Clear Run Brook	2013	Color	Light Yellow/Tan	1	2
W0622	Clear Run Brook	2013	Color	None	1	2
W0622	Clear Run Brook	2013	Odor	None	2	2
W0622	Clear Run Brook	2013	Periphyton Density, Filamentous	Sparse	1	2
W0622	Clear Run Brook	2013	Periphyton Density, Filamentous	Unobservable	1	2
W0622	Clear Run Brook	2013	Periphyton Density, Film	Moderate	1	2
W0622	Clear Run Brook	2013	Periphyton Density, Film	Unobservable	1	2
W0622	Clear Run Brook	2013	Turbidity	Moderately Turbid	1	2
W0622	Clear Run Brook	2013	Turbidity	Unobservable	1	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0622	Clear Run Brook	2015	Aquatic Plant Density, Overall	Sparse	1	4
W0622	Clear Run Brook	2015	Aquatic Plant Density, Overall	Unobservable	3	4
W0622	Clear Run Brook	2015	Color	None	4	4
W0622	Clear Run Brook	2015	Odor	None	4	4
W0622	Clear Run Brook	2015	Periphyton Density, Filamentous	None	1	4
W0622	Clear Run Brook	2015	Periphyton Density, Filamentous	Unobservable	3	4
W0622	Clear Run Brook	2015	Periphyton Density, Film	Sparse	1	4
W0622	Clear Run Brook	2015	Periphyton Density, Film	Unobservable	3	4
W0622	Clear Run Brook	2015	Turbidity	Moderately Turbid	1	4
W0622	Clear Run Brook	2015	Turbidity	Slightly Turbid	3	4
W1531	Clear Run Brook	2015	Aquatic Plant Density, Overall	None	1	4
W1531	Clear Run Brook	2015	Aquatic Plant Density, Overall	Sparse	1	4
W1531	Clear Run Brook	2015	Aquatic Plant Density, Overall	Unobservable	2	4
W1531	Clear Run Brook	2015	Color	None	4	4
W1531	Clear Run Brook	2015	Odor	None	4	4
W1531	Clear Run Brook	2015	Periphyton Density, Filamentous	Moderate	1	4
W1531	Clear Run Brook	2015	Periphyton Density, Filamentous	Sparse	1	4
W1531	Clear Run Brook	2015	Periphyton Density, Filamentous	Unobservable	2	4
W1531	Clear Run Brook	2015	Periphyton Density, Film	Moderate	1	4
W1531	Clear Run Brook	2015	Periphyton Density, Film	Unobservable	3	4
W1531	Clear Run Brook	2015	Turbidity	Moderately Turbid	1	4
W1531	Clear Run Brook	2015	Turbidity	Slightly Turbid	2	4
W1531	Clear Run Brook	2015	Turbidity	Unobservable	1	4
W2383	Clear Run Brook	2013	Aesthetics Impaired?	No	7	8
W2383	Clear Run Brook	2013	Aesthetics Impaired?	NR	1	8
W2383	Clear Run Brook	2013	Aquatic Plant Density, Overall	None	6	8
W2383	Clear Run Brook	2013	Aquatic Plant Density, Overall	NR	1	8
W2383	Clear Run Brook	2013	Aquatic Plant Density, Overall	Sparse	1	8
W2383	Clear Run Brook	2013	Color	Light Yellow/Tan	2	8
W2383	Clear Run Brook	2013	Color	None	6	8
W2383	Clear Run Brook	2013	Objectionable Deposits	No	7	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2383	Clear Run Brook	2013	Objectionable Deposits	Yes	1	8
W2383	Clear Run Brook	2013	Odor	None	8	8
W2383	Clear Run Brook	2013	Periphyton Density, Filamentous	None	8	8
W2383	Clear Run Brook	2013	Periphyton Density, Film	None	8	8
W2383	Clear Run Brook	2013	Scum	No	8	8
W2383	Clear Run Brook	2013	Turbidity	None	7	8
W2383	Clear Run Brook	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Clear Run Brook (MA53-13) 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 W2383, EPA_CR02 & W0621, and EPA_CR03 & W0622. The prior Fecal Coliform impairment is being carried forward. The prior turbidity Alert is being removed and will be retained under the Aesthetics Use. EPA and MassDEP staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in Clear Run Brook (MA53-13) from 2012-2019 at 7 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_CR01 & W1531 [Miller St crossing nearest Fieldwood Avenue, Seekonk & Clear Run Brook at Miller St crossing below pond nearest Fieldwood Avenue, Seekonk] from 2012-2013 and 2015-2019 (EC n=1-7/yr), EPA_CR01 [Clear Run Brook at Miller St crossing below pond nearest Fieldwood Avenue, Seekonk] from 2016 (Ent n=1), W2383 [~1750 ft downstream/SE from Miller St, Seekonk] from 2013 (EC n=5), EPA_CR02 & W0621 [Miller St crossing (nearest the Rehoboth town line), Seekonk & Clear Run Brook at Miller St crossing (nearest the Rehoboth town line), Seekonk] from 2012-2013 and 2015-2019 (EC n=1-7/yr), EPA_CR02 [Clear Run Brook at Miller St crossing (nearest the Rehoboth town line), Seekonk] from 2016 (Ent n=1), EPA_CR03 & W0622 [Providence St, Rehoboth & Clear Run Brook at Providence St, Rehoboth] from 2012-2013 and 2015-2019 (EC n=1-7/yr), EPA_CR03 [Clear Run Brook at Providence St, Rehoboth] from 2016 (Ent n=1). Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR01 & W1531 indicated 2 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2015 and 2019, 66 & 40%), 2 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2015 and 2019, n=2 & 2), and cumulatively across years 17% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2383 indicated 100% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 231 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR02 & W0621 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2015-2019, 83-100%), 5 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2015-2019, n=2-3), and cumulatively across years 93% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR03 & W0622 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2015-2019, 55-100%), 3 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2016 and 2018-2019, n=2), and cumulatively across years 79% of intervals had GMs >126 CFU/100ml. *Enterococcus* data from EPA_CR01, EPA_CR02, and EPA_CR03 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. While *E. coli* data from EPA_CR01 & W1531 meet 2024 CALM guidance, *E. coli* data from W2383, EPA_CR02 & W0621, and EPA_CR03 & W0622 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0621	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing (nearest the Rehoboth town line), Seekonk]	41.805818	-71.297692
W0622	MassDEP	Water Quality	Clear Run Brook	[Providence Street, Rehoboth]	41.810221	-71.291692

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1531	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing nearest Fieldwood Avenue, Seekonk]	41.802721	-71.309281
W2383	MassDEP	Water Quality	Clear Run Brook	[approximately 1750 feet downstream/southeast from Miller Street, Seekonk]	41.800693	-71.304341
EPA_CR01	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Miller Street crossing below pond nearest Fieldwood Avenue, Seekonk	41.802679	-71.309187
EPA_CR02	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Miller Street crossing (nearest the Rehoboth town line), Seekonk	41.805811	-71.297687
EPA_CR03	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Providence Street, Rehoboth	41.810224	-71.291907

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

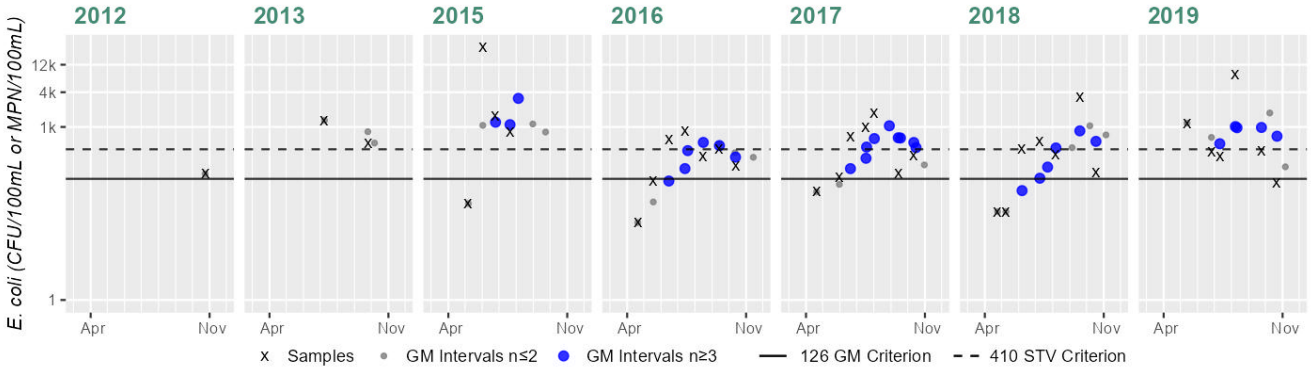
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0621	MassDEP	E. coli	05/07/15	07/21/15	4	47	24196	1095
W0622	MassDEP	E. coli	05/06/13	09/09/13	2	432	512	470
W0622	MassDEP	E. coli	05/07/15	07/21/15	4	44	24196	515
W1531	MassDEP	E. coli	05/07/15	07/21/15	4	2	4880	181
W2383	MassDEP	E. coli	05/30/13	09/23/13	5	110	404	231
EPA_CR01	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	202	202	202
EPA_CR01	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	24	189	67
EPA_CR01	US Environmental Protection Agency	E. coli	04/19/16	10/12/16	7	4	114	23
EPA_CR01	US Environmental Protection Agency	Enterococci	04/19/16	04/19/16	1	10	10	10
EPA_CR01	US Environmental Protection Agency	E. coli	04/20/17	10/12/17	7	4	384	47
EPA_CR01	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	7	4	384	25
EPA_CR01	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	6	8	2747	203
EPA_CR02	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	154	154	154
EPA_CR02	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	526	1302	827
EPA_CR02	US Environmental Protection Agency	E. coli	04/19/16	10/12/16	7	22	839	230
EPA_CR02	US Environmental Protection Agency	Enterococci	04/19/16	04/19/16	1	10	10	10
EPA_CR02	US Environmental Protection Agency	E. coli	04/20/17	10/12/17	7	75	1741	343
EPA_CR02	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	7	34	3266	242
EPA_CR02	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	6	108	7945	594

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_CR03	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	12	12	12
EPA_CR03	US Environmental Protection Agency	E. coli	04/19/16	10/12/16	7	59	717	214
EPA_CR03	US Environmental Protection Agency	Enterococci	04/19/16	04/19/16	1	41	41	41
EPA_CR03	US Environmental Protection Agency	E. coli	04/20/17	10/12/17	7	25	362	92
EPA_CR03	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	7	21	1549	194
EPA_CR03	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	6	110	9678	527

Station EPA_CR02 & MASSDEP_W0621 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	154
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	827
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	4
SeasGM	1095
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	3
%n>STV	75%

Variable*	Result
Samples	7
SeasGM	230
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	343
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	242
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	6
SeasGM	594
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance

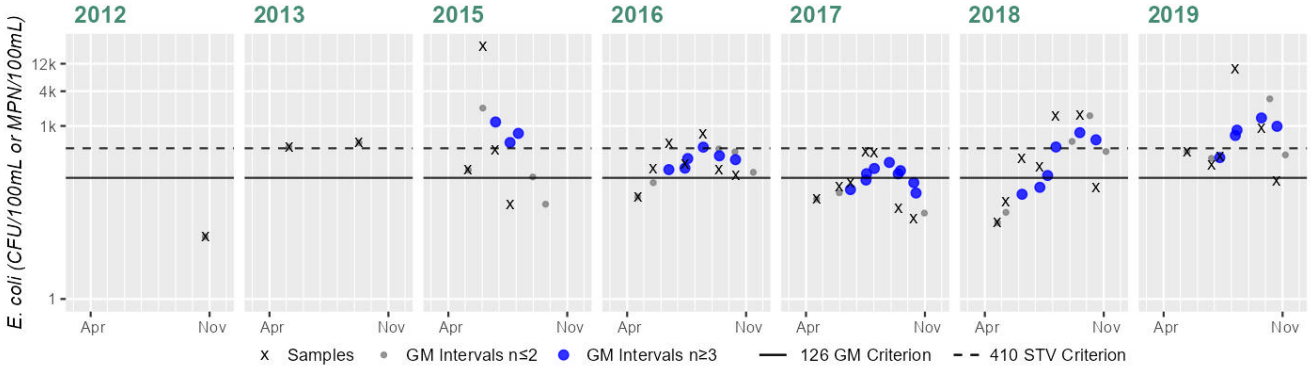
Current (2011-2022)

93%

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

Station EPA_CR03 & MASSDEP_W0622 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	470
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	4
SeasGM	515
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	1
%n>STV	25%

Variable*	Result
Samples	7
SeasGM	214
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	28%

Variable*	Result
Samples	7
SeasGM	92
#GMI	9
#GMI Ex	5
%GMI Ex	55%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	194
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	2
%n>STV	28%

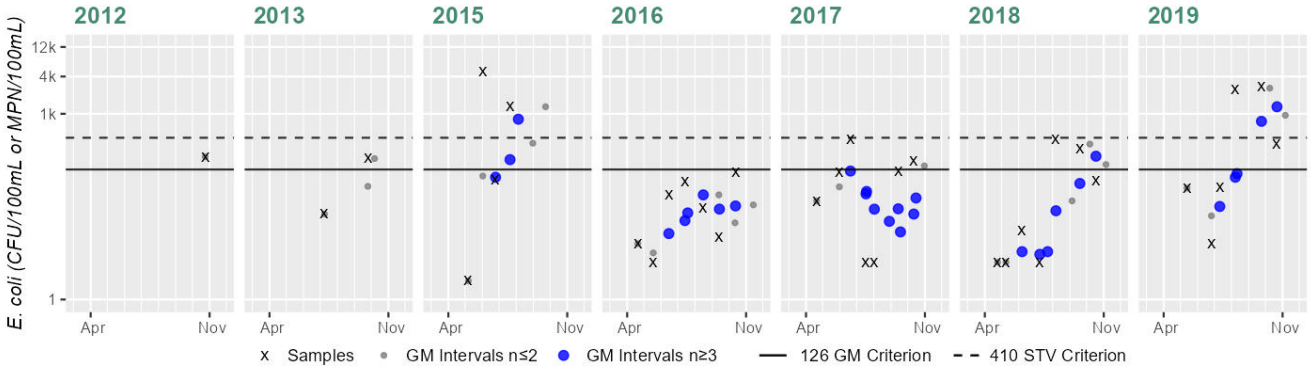
Variable*	Result
Samples	6
SeasGM	527
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Current (2011-2022)
79%

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

Station EPA_CR01 & MASSDEP_W1531 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	202
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	67
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	181
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	7
SeasGM	23
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	7
SeasGM	25
#GMI	6
#GMI Ex	1
%GMI Ex	16%
n>STV	0
%n>STV	0%

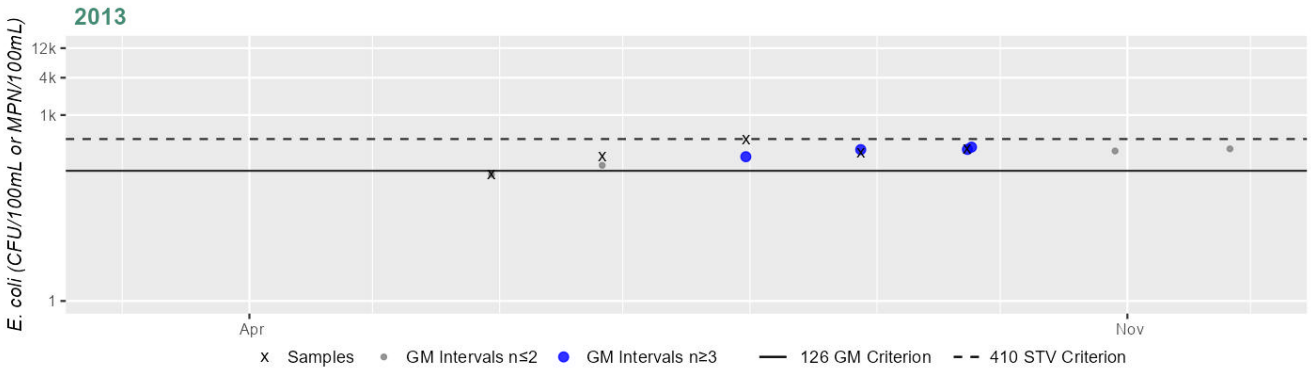
Variable*	Result
Samples	6
SeasGM	203
#GMI	5
#GMI Ex	2
%GMI Ex	40%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance
Current (2011-2022)
17%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W2383 - Escherichia coli

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



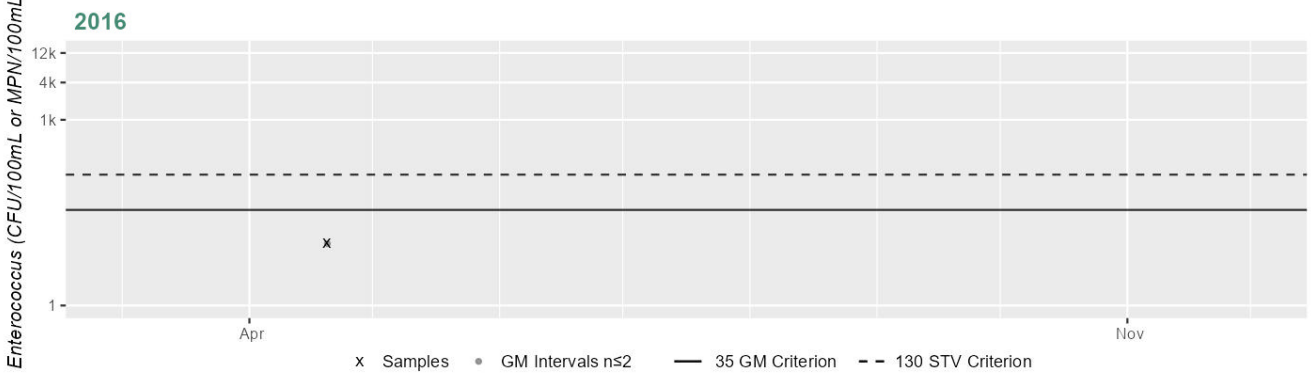
Variable*	Result
Samples	5
SeasGM	231
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	0
%n>STV	0%

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

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

Station EPA_CR01 - Enterococcus

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



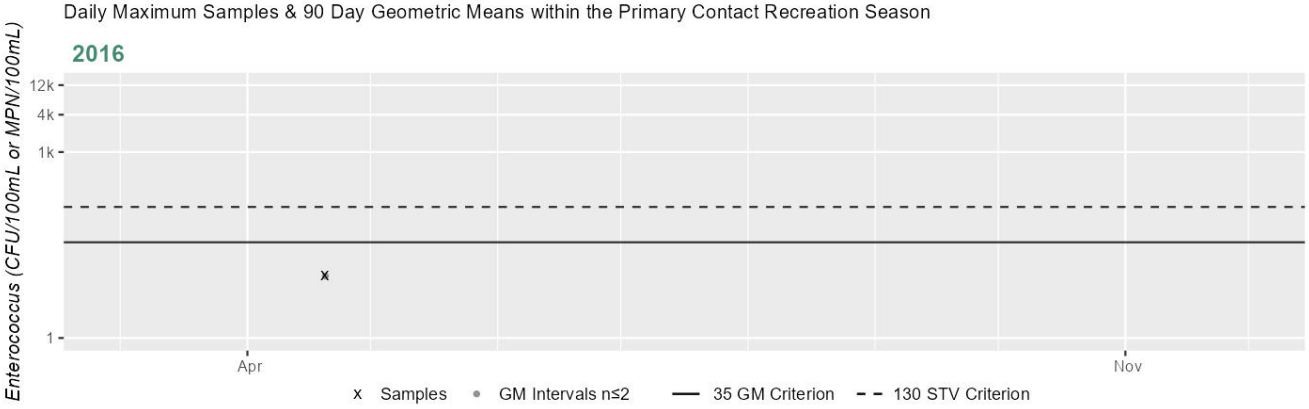
Variable*	Result
Samples	1
SeasGM	10
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station EPA_CR02 - Enterococcus

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



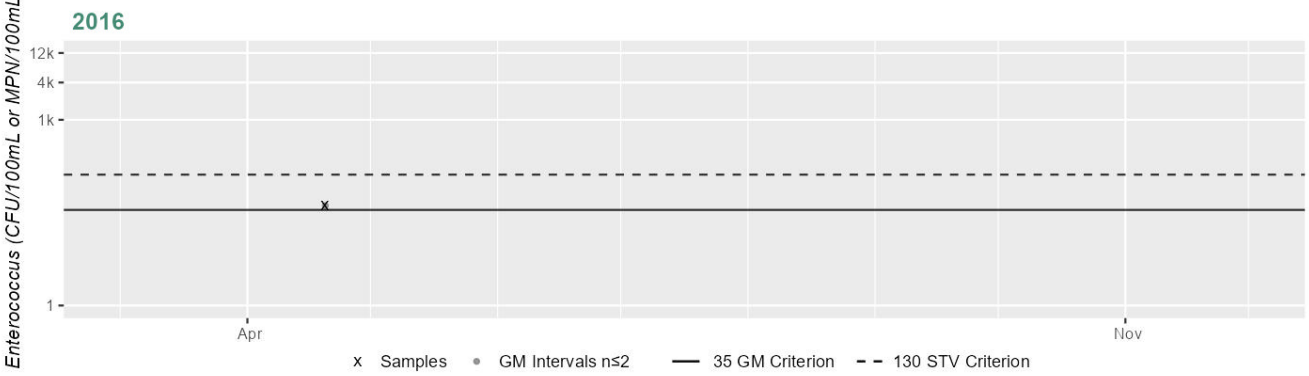
Variable*	Result
Samples	1
SeasGM	10
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station EPA_CR03 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	41
#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.*

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
Prior to 2011, BST work was conducted along the Clear Run Brook AU (MA53-13), with a max dry weather *E. coli* concentration of 1,986MPN in the middle of the AU at Miller Street. Additional BST work was conducted in 2013 and 2015 at 3 sites along Clear Run Brook, with *E. coli* concentrations ranging 2 to 24,196MPN. The highest concentrations were recorded in the middle and downstream end of the AU (Providence Street). It was noted that there is heavy agricultural land-use upstream of Providence Street, which may explain the elevated concentrations at this location.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Clear Run Brook (MA53-13) 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 EPA_CR02 & W0621 and EPA_CR03 & W0622. The prior turbidity Alert is being removed and will be retained under the Aesthetics Use. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Clear Run Brook (MA53-13) from 1999-2019 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_CR01 & W1531 [Miller St crossing nearest Fieldwood Avenue, Seekonk & Clear Run Brook at Miller St crossing below pond nearest Fieldwood Avenue, Seekonk] from May-Sep 2006 (historic n=6) and 2012-2013 and 2015-2019 (current n=1-8/yr), W2383 [~1750 ft downstream/SE from Miller St, Seekonk] from May-Sep 2013 (n=5), EPA_CR02 & W0621 [Miller St crossing (nearest the Rehoboth town line), Seekonk & Clear Run Brook at Miller St crossing (nearest the Rehoboth town line), Seekonk] from 1999 and 2006 (historic n=1-6/yr) and 2012-2013 and 2015-2019 (current n=1-8/yr), EPA_CR03 & W0622 [Providence St, Rehoboth & Clear Run Brook at Providence St, Rehoboth] from 1999, 2006, and 2009 (historic n=2-6/yr) and 2012-2013 and 2015-2019 (current n=1-8/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR01 & W1531 indicated 2 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2015 and 2019, 33 & 50%), 2 yrs had ≥2 samples exceed the 794 CFU/100ml STV (2015 and 2019, n=2 & 2), and cumulatively across years 14% of intervals had GMs >244 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2383 indicated 75% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 231 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR02 & W0621 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2015-2019, 50-100%), 3 yrs had ≥2 samples exceed the 794 CFU/100ml STV (2015, 2017, and 2019, n=2-3), and cumulatively across years 76% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_CR03 & W0622 indicated 4 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2015-2016 and 2018-2019, 50-100%), 2 yrs had ≥2 samples exceed the 794 CFU/100ml STV (2018 and 2019, n=2 & 2), and cumulatively across years 50% of intervals had GMs >244 CFU/100ml. While *E. coli* data from EPA_CR01 & W1531 and W2383 meet 2024 CALM guidance*, E. coli* data from EPA_CR02 & W0621 and EPA_CR03 & W0622 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0621	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing (nearest the Rehoboth town line), Seekonk]	41.805818	-71.297692
W0622	MassDEP	Water Quality	Clear Run Brook	[Providence Street, Rehoboth]	41.810221	-71.291692
W1531	MassDEP	Water Quality	Clear Run Brook	[Miller Street crossing nearest Fieldwood Avenue, Seekonk]	41.802721	-71.309281
W2383	MassDEP	Water Quality	Clear Run Brook	[approximately 1750 feet downstream/southeast from Miller Street, Seekonk]	41.800693	-71.304341

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_CR01	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Miller Street crossing below pond nearest Fieldwood Avenue, Seekonk	41.802679	-71.309187
EPA_CR02	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Miller Street crossing (nearest the Rehoboth town line), Seekonk	41.805811	-71.297687
EPA_CR03	US Environmental Protection Agency	Water Quality	Clear Run Brook	Clear Run Brook @ Providence Street, Rehoboth	41.810224	-71.291907

Bacteria Data

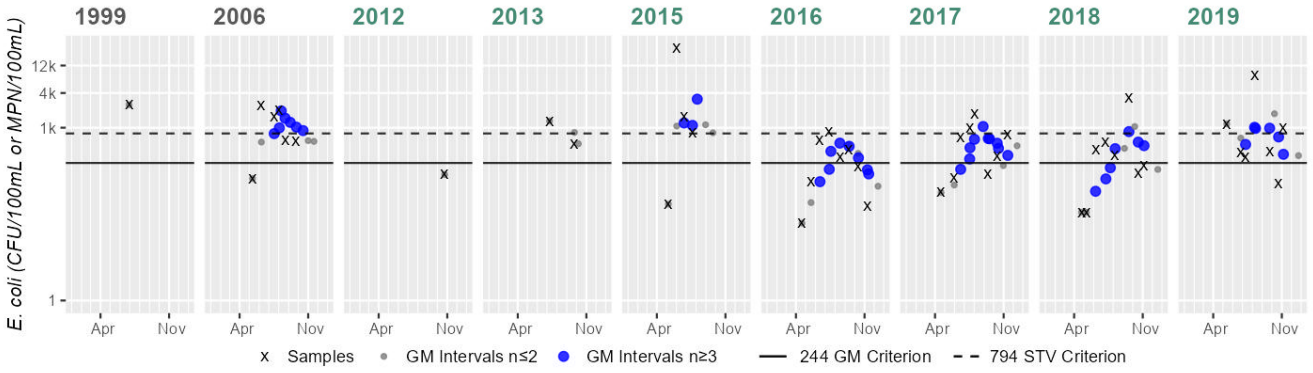
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0621	MassDEP	E. coli	06/29/99	06/29/99	1	2500	2500	2499
W0621	MassDEP	E. coli	05/11/06	09/25/06	6	131	2419	838
W0621	MassDEP	E. coli	05/07/15	07/21/15	4	47	24196	1095
W0622	MassDEP	E. coli	06/29/99	08/31/99	2	150	380	238
W0622	MassDEP	E. coli	05/11/06	09/25/06	6	1	2419	254
W0622	MassDEP	E. coli	05/12/09	09/29/09	6	180	730	428
W0622	MassDEP	E. coli	05/06/13	09/09/13	2	432	512	470
W0622	MassDEP	E. coli	05/07/15	07/21/15	4	44	24196	515
W1531	MassDEP	E. coli	05/11/06	09/25/06	6	24	2419	130
W1531	MassDEP	E. coli	05/07/15	07/21/15	4	2	4880	181
W2383	MassDEP	E. coli	05/30/13	09/23/13	5	110	404	231
EPA_CR01	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	202	202	202
EPA_CR01	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	24	189	67
EPA_CR01	US Environmental Protection Agency	E. coli	04/19/16	11/09/16	8	4	152	29
EPA_CR01	US Environmental Protection Agency	E. coli	04/20/17	11/14/17	8	4	2318	77
EPA_CR01	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	8	4	432	36
EPA_CR01	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	7	8	2747	173
EPA_CR02	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	154	154	154
EPA_CR02	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	526	1302	827
EPA_CR02	US Environmental Protection Agency	E. coli	04/19/16	11/09/16	8	22	839	187
EPA_CR02	US Environmental Protection Agency	E. coli	04/20/17	11/14/17	8	75	1741	378
EPA_CR02	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	8	34	3266	239

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_CR02	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	7	108	7945	639
EPA_CR03	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	12	12	12
EPA_CR03	US Environmental Protection Agency	E. coli	04/19/16	11/09/16	8	43	717	175
EPA_CR03	US Environmental Protection Agency	E. coli	04/20/17	11/14/17	8	25	749	120
EPA_CR03	US Environmental Protection Agency	E. coli	04/24/18	11/05/18	8	21	1549	196
EPA_CR03	US Environmental Protection Agency	E. coli	05/13/19	11/06/19	7	110	9678	486

Station EPA_CR02 & MASSDEP_W0621 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	2500
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	6
SeasGM	838
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	3
%n>STV	50%

Variable*	Result
Samples	1
SeasGM	154
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	827
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	4
SeasGM	1095
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	3
%n>STV	75%

Variable*	Result
Samples	8
SeasGM	187
#GMI	8
#GMI Ex	4
%GMI Ex	50%
n>STV	1
%n>STV	12%

Variable*	Result
Samples	8
SeasGM	378
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	239
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	1
%n>STV	12%

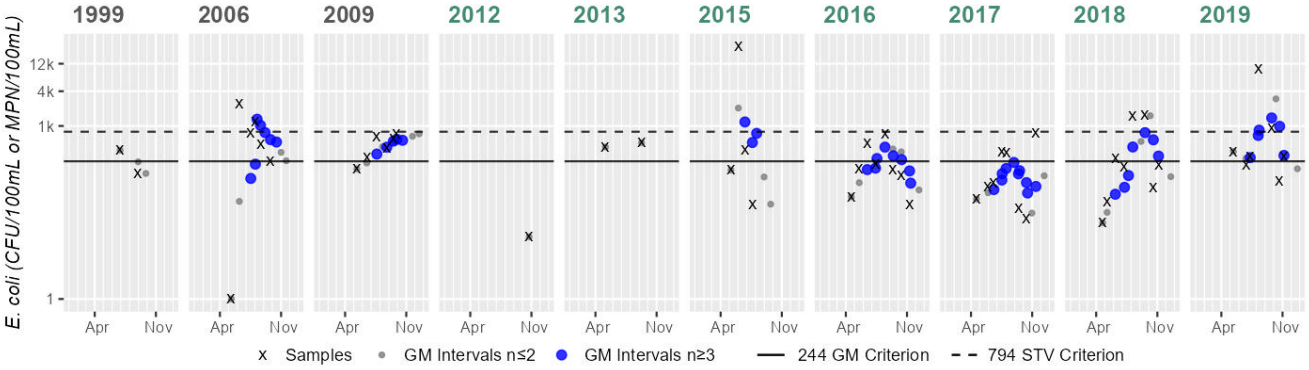
Variable*	Result
Samples	7
SeasGM	639
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	3
%n>STV	42%

Cumulative %GMI Exceedance Historic (1997-2010)	Cumulative %GMI Exceedance Current (2011-2022)
100%	76%

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

Station EPA_CR03 & MASSDEP_W0622 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	238
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	6
SeasGM	254
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	2
%n>STV	33%

Variable*	Result
Samples	6
SeasGM	428
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	470
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	515
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	1
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	175
#GMI	8
#GMI Ex	4
%GMI Ex	50%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	120
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	196
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	7
SeasGM	486
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	28%

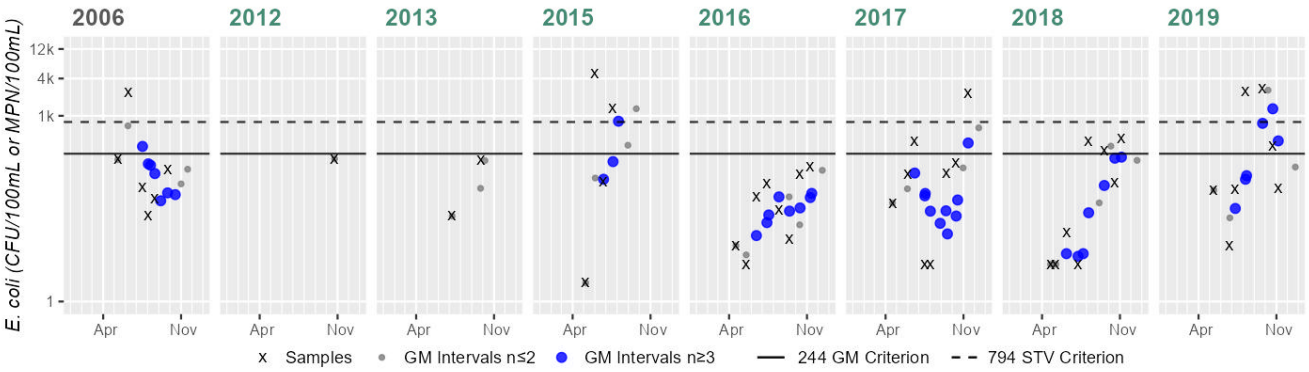
Cumulative %GMI Exceedance
Historic (1997-2010)
83%

Cumulative %GMI Exceedance
Current (2011-2022)
50%

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

Station EPA_CR01 & MASSDEP_W1531 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	130
#GMI	7
#GMI Ex	1
%GMI Ex	14%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	1
SeasGM	202
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	67
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	181
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	8
SeasGM	29
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	77
#GMI	10
#GMI Ex	1
%GMI Ex	10%
n>STV	1
%n>STV	12%

Variable*	Result
Samples	8
SeasGM	36
#GMI	7
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	173
#GMI	6
#GMI Ex	3
%GMI Ex	50%
n>STV	2
%n>STV	28%

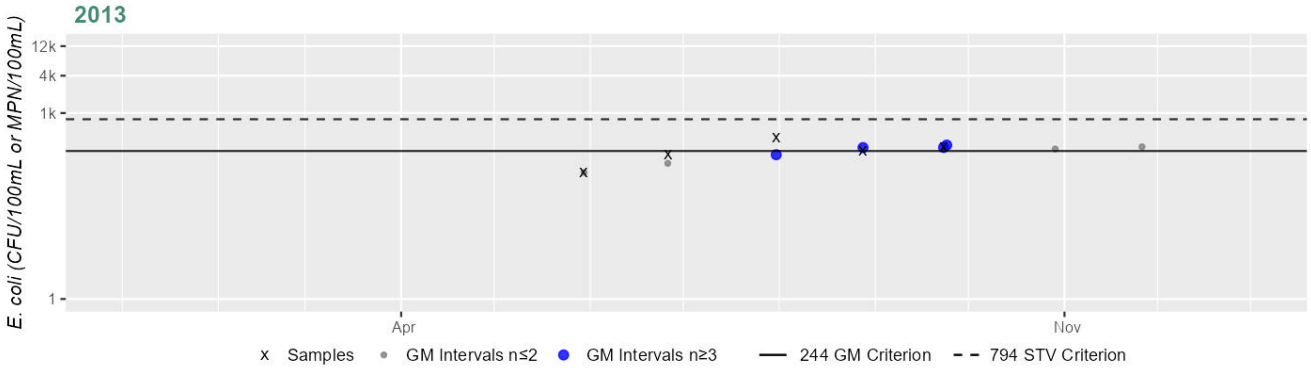
Cumulative %GMI Exceedance
Historic (1997-2010)
14%

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

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

Station MASSDEP_W2383 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	231
#GMI	4
#GMI Ex	3
%GMI Ex	75%
n>STV	0
%n>STV	0%

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.*

East Branch Palmer River (MA53-08)

Location:	Headwaters, near Stevens Corner Cemetery, Rehoboth to confluence with West Branch Palmer River (forming Palmer River), Rehoboth.
AU Type:	RIVER
AU Size:	7.2 MILES
Classification/Qualifier:	B

East Branch Palmer River (MA53-08)

Watershed Area: 13.29 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	13.29	8.38	3.38	2.07
Agriculture	3%	2.7%	3.4%	3.1%
Developed	10.8%	10.1%	9.4%	10.2%
Natural	56.5%	55.1%	50.3%	50.9%
Wetland	29.7%	32.1%	36.9%	35.8%
Impervious	4.2%	4.2%	4%	4.6%

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

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for East Branch Palmer River (MA53-08) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for the East Branch Palmer River (MA53-08) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations for East Branch Palmer River ~1600 feet upstream of Williams St., Rehoboth (W2398) during the summer of 2013 (n=8). 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
W2398	MassDEP	Water Quality	East Branch (Palmer River)	[approximately 1600 feet upstream/north from Williams Street, Rehoboth]	41.864782	-71.229186

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)

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

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2398	2013	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2398 on East Branch Palmer River (MA53-08) during 8 site visits between May 2013 and Sep 2013. 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 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2398	2013	8	7	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2398	East Branch Palmer River	2013	Aesthetics Impaired?	No	7	8
W2398	East Branch Palmer River	2013	Aesthetics Impaired?	NR	1	8
W2398	East Branch Palmer River	2013	Aquatic Plant Density, Overall	None	5	8
W2398	East Branch Palmer River	2013	Aquatic Plant Density, Overall	Sparse	2	8
W2398	East Branch Palmer River	2013	Aquatic Plant Density, Overall	Unobservable	1	8
W2398	East Branch Palmer River	2013	Color	Dark Tan	1	8
W2398	East Branch Palmer River	2013	Color	Light Yellow/Tan	4	8
W2398	East Branch Palmer River	2013	Color	None	1	8
W2398	East Branch Palmer River	2013	Color	Reddish	2	8
W2398	East Branch Palmer River	2013	Objectionable Deposits	No	8	8
W2398	East Branch Palmer River	2013	Odor	Fishy	1	8
W2398	East Branch Palmer River	2013	Odor	None	7	8
W2398	East Branch Palmer River	2013	Periphyton Density, Filamentous	None	6	8
W2398	East Branch Palmer River	2013	Periphyton Density, Filamentous	Sparse	1	8
W2398	East Branch Palmer River	2013	Periphyton Density, Filamentous	Unobservable	1	8
W2398	East Branch Palmer River	2013	Periphyton Density, Film	None	7	8
W2398	East Branch Palmer River	2013	Periphyton Density, Film	Unobservable	1	8
W2398	East Branch Palmer River	2013	Scum	No	8	8
W2398	East Branch Palmer River	2013	Turbidity	None	7	8
W2398	East Branch Palmer River	2013	Turbidity	Slightly Turbid	1	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the East Branch Palmer River (MA53-08) continues to be assessed as Not Supporting. The prior Escherichia coli (E. coli) impairment is being carried forward and elevated data from Station W2398 is reflective of the existing Escherichia coli (E. coli) impairment. EPA and MassDEP staff collected *E. coli* bacteria samples in the East Branch Palmer River (MA53-08) from 2012-2013 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2398 [~1600 ft upstream/N from Williams St, Rehoboth] from May-Sep 2013 (n=5), EPA_EB38 [E Branch Palmer River mainstem at Rt.44, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_EB40 [E Branch Palmer River mainstem at Rt.118 Moulton St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_EB39 [E Branch Palmer River mainstem at Rt.44, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_EB38, EPA_EB40, and EPA_EB39 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. Elevated *E. coli* data from W2398 are reflective of the prior impairment (max STV=3280 CFU/100ml). Analysis of the single year limited frequency *E. coli* dataset from W2398 indicated 33% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 147 CFU/100ml. The prior *E. coli* impairment is being carried forward.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2398	MassDEP	Water Quality	East Branch (Palmer River)	[approximately 1600 feet upstream/north from Williams Street, Rehoboth]	41.864782	-71.229186
EPA_EB38	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.44, Rehoboth	41.859784	-71.229204
EPA_EB39	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.44, Rehoboth	41.846528	-71.253522
EPA_EB40	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.118 Moulton Street, Rehoboth	41.842427	-71.242212

Bacteria Data

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

(MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

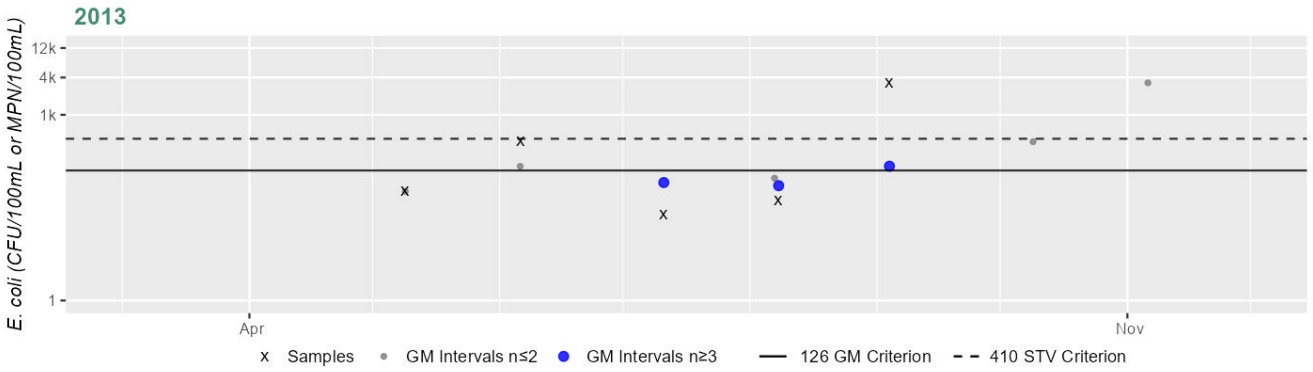
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2398	MassDEP	E. coli	05/09/13	09/04/13	5	24	3280	147
EPA_EB38	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	48	48	48

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_EB38	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	100	202	142
EPA_EB39	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	16	16	15
EPA_EB39	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	39	92	59
EPA_EB40	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_EB40	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	148	223	181

Station MASSDEP_W2398 - Escherichia coli

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



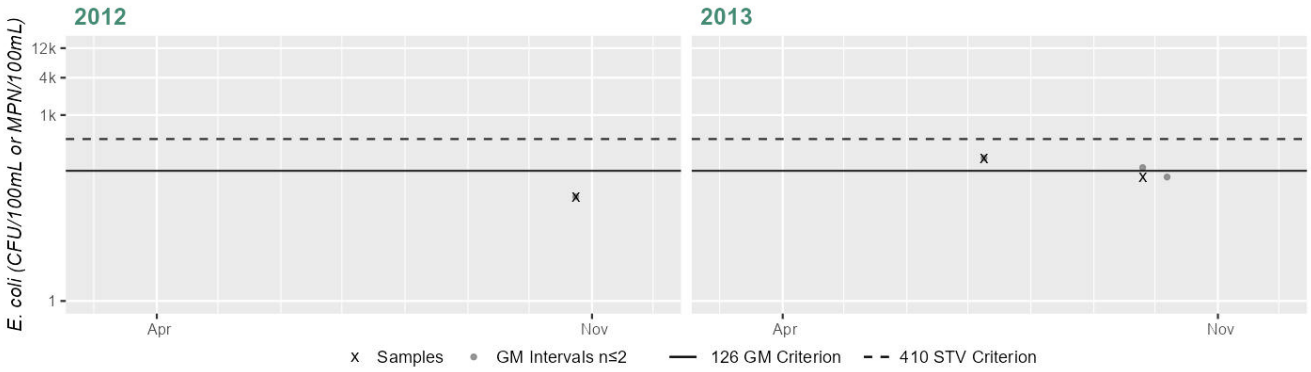
Variable*	Result
Samples	5
SeasGM	147
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
33%

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

Station EPA_EB38 & MASSDEP_W0630 - Escherichia coli

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



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

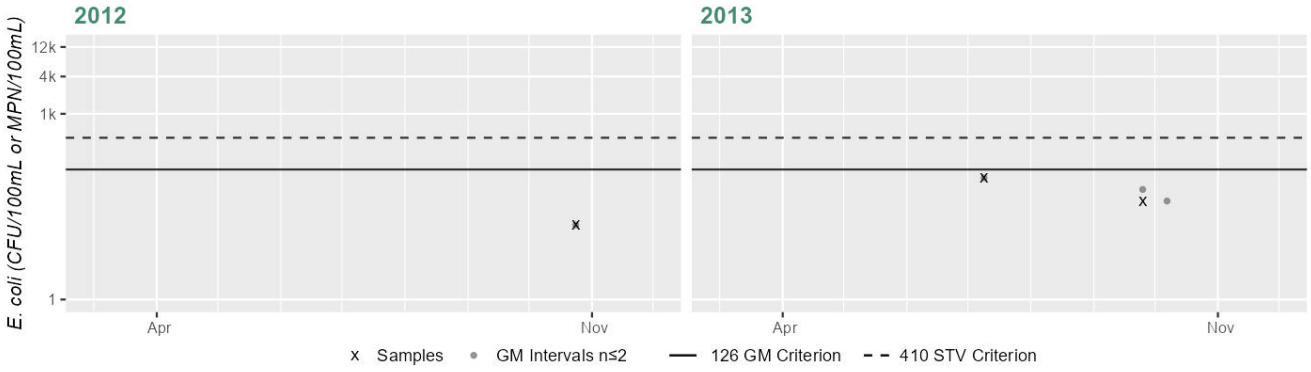
Variable*	Result
Samples	2
SeasGM	142
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_EB39 - Escherichia coli

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



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

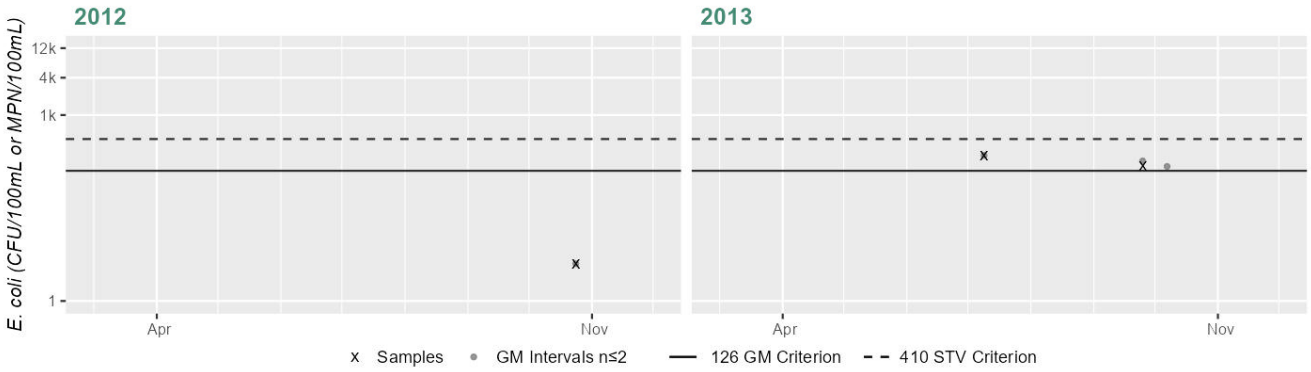
Variable*	Result
Samples	2
SeasGM	59
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_EB40 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	181
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the East Branch Palmer River (MA53-08) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the East Branch Palmer River (MA53-08) from 1999-2013 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2398 [~1600 ft upstream/N from Williams St, Rehoboth] from May-Sep 2013 (n=5), W0625 [downstream/S at Williams St, Rehoboth] from Jun 1999 (n=1), EPA_EB38 & W0630 [downstream/S at Rt. 44, Rehoboth, (E of Rt. 118, S of Williams St) & E Branch Palmer River mainstem at Rt.44, Rehoboth] from Jun 1999 (historic n=1) and 2012-2013 (current n=1-2/yr), EPA_EB40 [E Branch Palmer River mainstem at Rt.118 Moulton St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_EB39 [E Branch Palmer River mainstem at Rt.44, Rehoboth] from 2012-2013 (n=1-2/yr), W1958 [at the Beckwith Middle School outdoor classroom, ~720 ft downstream from the Winthrop St (Rt. 44) crossing nearest river mouth, Rehoboth] from May-Sep 2009 (n=6). *E. coli* data from EPA_EB38 & W0630, EPA_EB40, and EPA_EB39 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. *E. coli* data from W2398 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. Historic *E. coli* data from W0625 and EPA_EB38 & W0630 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W1958 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, the limited bacteria data from the current IR window (2011-2022) are insufficient to delist the prior *Escherichia coli (E. coli)* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0625	MassDEP	Water Quality	East Branch (Palmer River)	[downstream/south at Williams Street, Rehoboth]	41.861622	-71.230323
W0630	MassDEP	Water Quality	East Branch (Palmer River)	[downstream/south at Route 44, Rehoboth, (east of Route 118, south of Williams Street)]	41.859866	-71.229235
W1958	MassDEP	Water Quality	East Branch (Palmer River)	[at the Beckwith Middle School outdoor classroom, approximately 720 feet downstream from the Winthrop Street (Route 44) crossing nearest river mouth, Rehoboth]	41.846892	-71.255519
W2398	MassDEP	Water Quality	East Branch (Palmer River)	[approximately 1600 feet upstream/north from Williams Street, Rehoboth]	41.864782	-71.229186
EPA_EB38	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.44, Rehoboth	41.859784	-71.229204

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_EB39	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.44, Rehoboth	41.846528	-71.253522
EPA_EB40	US Environmental Protection Agency	Water Quality	East Branch Palmer R	East Branch Palmer River mainstem @ Rt.118 Moulton Street, Rehoboth	41.842427	-71.242212

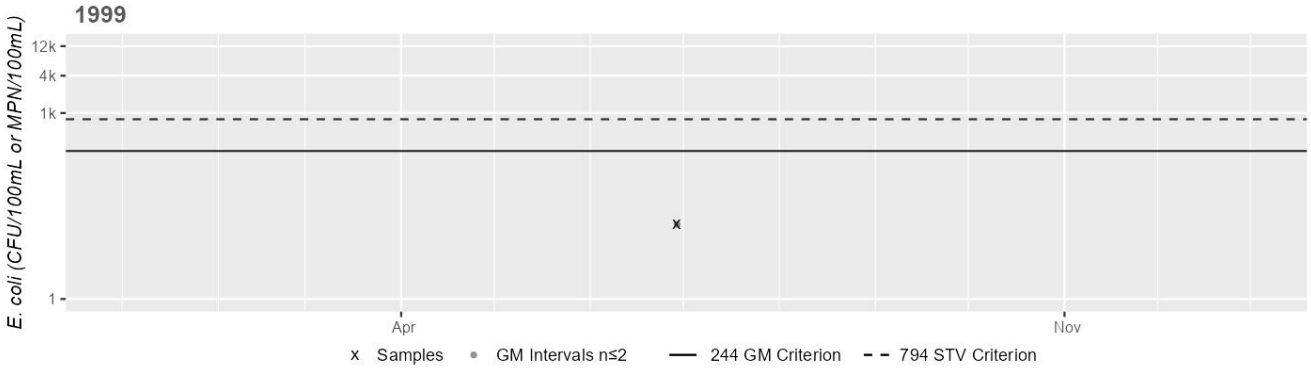
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W0625	MassDEP	E. coli	06/29/99	06/29/99	1	16	16	15
W0630	MassDEP	E. coli	06/29/99	06/29/99	1	1400	1400	1399
W1958	MassDEP	E. coli	05/12/09	09/29/09	6	40	540	115
W2398	MassDEP	E. coli	05/09/13	09/04/13	5	24	3280	147
EPA_EB38	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	48	48	48
EPA_EB38	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	100	202	142
EPA_EB39	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	16	16	15
EPA_EB39	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	39	92	59
EPA_EB40	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_EB40	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	148	223	181

Station MASSDEP_W0625 - Escherichia coli

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



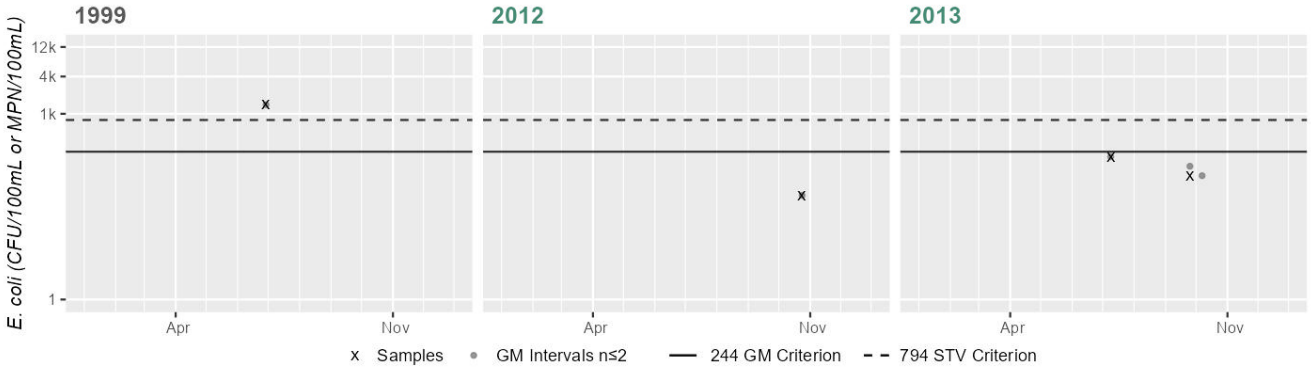
Variable*	Result
Samples	1
SeasGM	16
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_EB38 & MASSDEP_W0630 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	1400
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

Variable*	Result
Samples	2
SeasGM	142
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

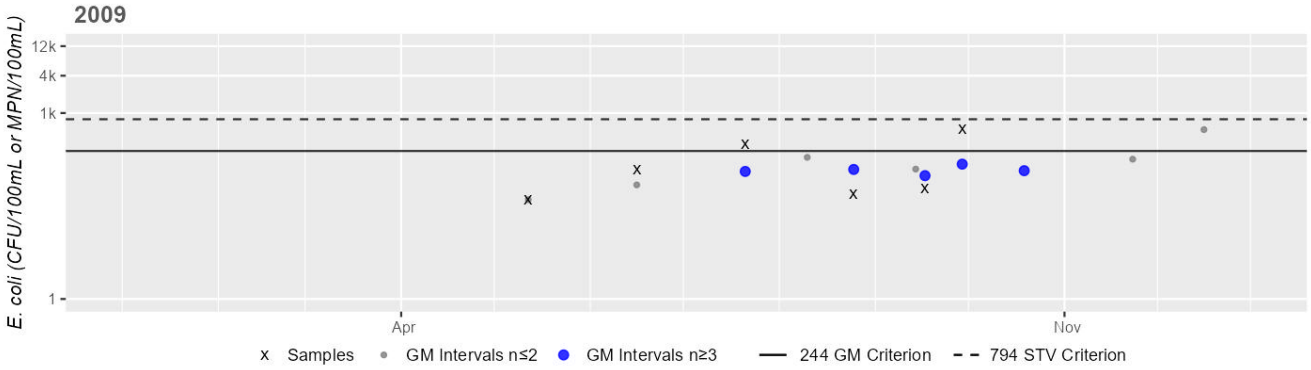
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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_W1958 - Escherichia coli

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



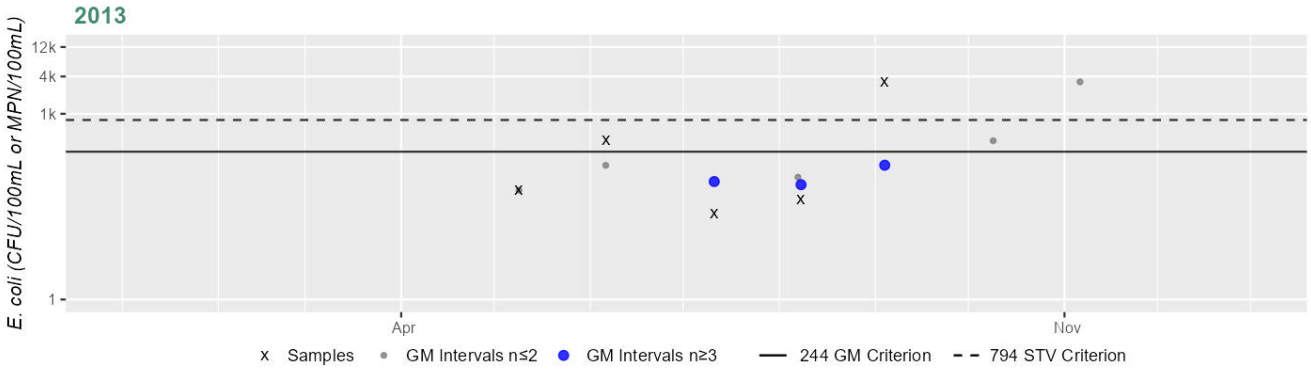
Variable*	Result
Samples	6
SeasGM	115
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2398 - Escherichia coli

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



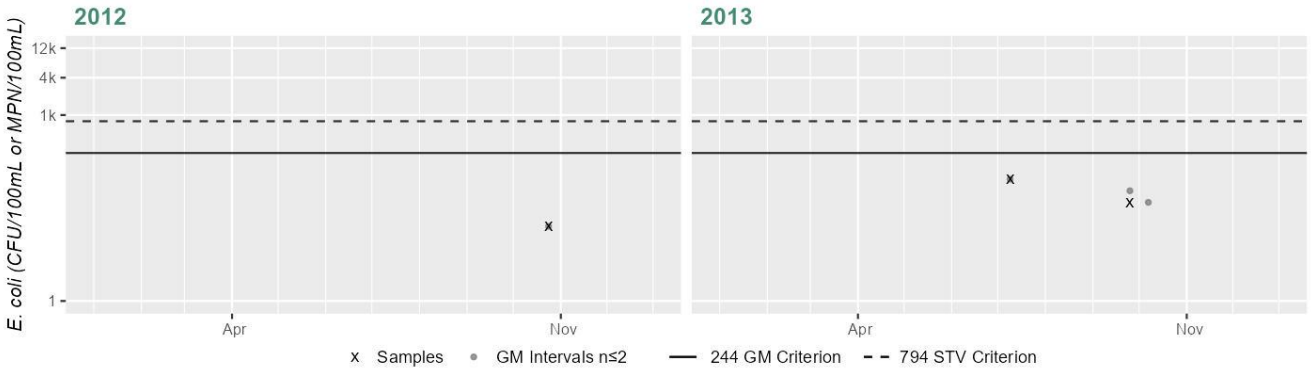
Variable*	Result
Samples	5
SeasGM	147
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

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

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

Station EPA_EB39 - Escherichia coli

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



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

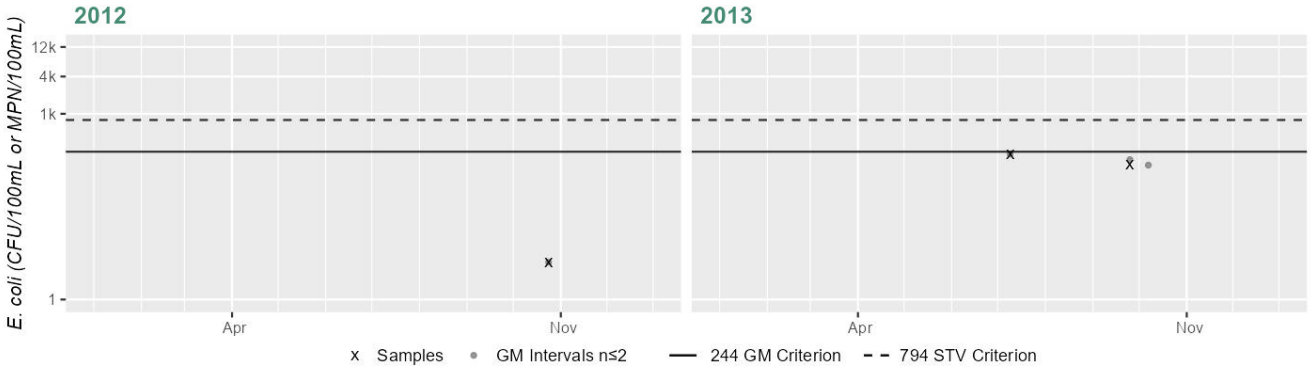
Variable*	Result
Samples	2
SeasGM	59
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_EB40 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	181
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

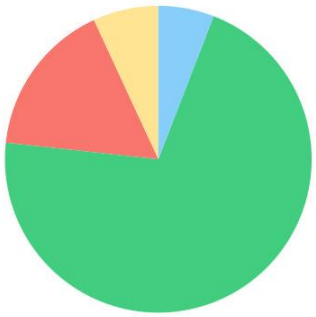
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Fullers Brook (MA53-12)

Location:	Headwaters in wetland north of Jacobs Street, Seekonk to confluence with Palmer River, Rehoboth.
AU Type:	RIVER
AU Size:	1.7 MILES
Classification/Qualifier:	B

Fullers Brook (MA53-12)

Watershed Area: 1.89 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.89	1.89	0.61	0.61
Agriculture	6.9%	6.9%	5.3%	5.3%
Developed	16.4%	16.4%	11.7%	11.7%
Natural	70.8%	70.8%	73.3%	73.3%
Wetland	5.9%	5.9%	9.8%	9.8%
Impervious	6.7%	6.7%	5.1%	5.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Escherichia Coli (E. Coli)	35089	Unchanged

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Fullers Brook (MA53-12) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Fullers Brook (MA53-12) continues to be assessed as Fully Supporting. MassDEP staff recorded observations related to aesthetics at two stations (data years) in Fullers Brook as follows: Blanding Road (W2472; 2014 n=1 & 2015 n=1) and Winthrop Street Rt. 44, (W1956; 2014 n=2 & 2015 n=1) in Rehoboth. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crew at either station.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1956	MassDEP	Water Quality	Fullers Brook	[Winthrop Street (Route 44), Rehoboth]	41.835046	-71.288982
W2472	MassDEP	Water Quality	Fullers Brook	[Blanding Road, Rehoboth]	41.836801	-71.293374

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1956	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W1956 on Fullers Brook (MA53-12) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1). However, aesthetic observations are limited (n<3).

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1956	2015	1	Aesthetic observations were made by MassDEP field sampling crews at Station W1956 on Fullers Brook (MA53-12) during 1 site visit on May 14, 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2472	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2472 on Fullers Brook (MA53-12) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2472	2015	1	Aesthetic observations were made by MassDEP field sampling crews at Station W2472 on Fullers Brook (MA53-12) during 1 site visit on May 14, 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1956	2014	2	1	0
W1956	2015	1	0	0
W2472	2014	2	2	0
W2472	2015	1	1	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1956	Fullers Brook	2014	Aquatic Plant Density, Overall	None	1	2
W1956	Fullers Brook	2014	Aquatic Plant Density, Overall	Unobservable	1	2
W1956	Fullers Brook	2014	Color	None	2	2
W1956	Fullers Brook	2014	Odor	None	2	2
W1956	Fullers Brook	2014	Periphyton Density, Filamentous	None	1	2
W1956	Fullers Brook	2014	Periphyton Density, Filamentous	Unobservable	1	2
W1956	Fullers Brook	2014	Periphyton Density, Film	None	1	2
W1956	Fullers Brook	2014	Periphyton Density, Film	Unobservable	1	2
W1956	Fullers Brook	2014	Turbidity	Highly Turbid	1	2
W1956	Fullers Brook	2014	Turbidity	Moderately Turbid	1	2
W1956	Fullers Brook	2015	Aquatic Plant Density, Overall	Unobservable	1	1
W1956	Fullers Brook	2015	Color	Light Yellow/Tan	1	1

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1956	Fullers Brook	2015	Odor	None	1	1
W1956	Fullers Brook	2015	Periphyton Density, Filamentous	Unobservable	1	1
W1956	Fullers Brook	2015	Periphyton Density, Film	Unobservable	1	1
W1956	Fullers Brook	2015	Turbidity	Slightly Turbid	1	1
W2472	Fullers Brook	2014	Aquatic Plant Density, Overall	None	2	2
W2472	Fullers Brook	2014	Color	Light Yellow/Tan	1	2
W2472	Fullers Brook	2014	Color	None	1	2
W2472	Fullers Brook	2014	Odor	Musty (Basement)	1	2
W2472	Fullers Brook	2014	Odor	None	1	2
W2472	Fullers Brook	2014	Periphyton Density, Filamentous	None	2	2
W2472	Fullers Brook	2014	Periphyton Density, Film	Sparse	2	2
W2472	Fullers Brook	2014	Turbidity	Slightly Turbid	2	2
W2472	Fullers Brook	2015	Aquatic Plant Density, Overall	Sparse	1	1
W2472	Fullers Brook	2015	Color	Light Yellow/Tan	1	1
W2472	Fullers Brook	2015	Odor	None	1	1
W2472	Fullers Brook	2015	Periphyton Density, Filamentous	Sparse	1	1
W2472	Fullers Brook	2015	Periphyton Density, Film	Sparse	1	1
W2472	Fullers Brook	2015	Turbidity	Slightly Turbid	1	1

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Fullers Brook (MA53-12) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. EPA and MassDEP staff collected *E. coli* bacteria samples in Fullers Brook (MA53-12) from 2012-2015 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_FB19 [Fullers Brook at Jacob St, Rehoboth] from 2012-2013 (n=1/yr), W2472 [Blanding Rd, Rehoboth] from 2014-2015 (n=1-2/yr), W1956 [Winthrop St (Rt. 44), Rehoboth] from 2014-2015 (n=1-2/yr), EPA_FB17 [Fullers Brook at Rt.44, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_FB20 [Fullers Brook at Trim St, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_FB19, W2472, W1956, EPA_FB17, and EPA_FB20 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1956	MassDEP	Water Quality	Fullers Brook	[Winthrop Street (Route 44), Rehoboth]	41.835046	-71.288982
W2472	MassDEP	Water Quality	Fullers Brook	[Blanding Road, Rehoboth]	41.836801	-71.293374
EPA_FB17	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Rt.44, Rehoboth	41.835098	-71.288745
EPA_FB19	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Jacob Street, Rehoboth	41.838243	-71.298625
EPA_FB20	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Trim Street, Rehoboth	41.833301	-71.281618

Bacteria Data

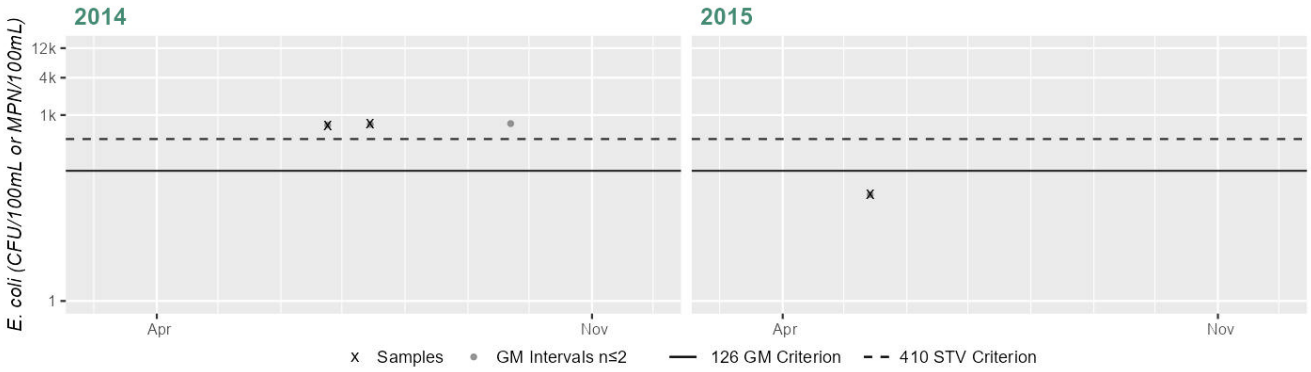
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

[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
W1956	MassDEP	E. coli	06/24/14	07/15/14	2	687	727	706
W1956	MassDEP	E. coli	05/14/15	05/14/15	1	52	52	52
W2472	MassDEP	E. coli	06/24/14	07/15/14	2	548	921	710
W2472	MassDEP	E. coli	05/14/15	05/14/15	1	5	5	4
EPA_FB17	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	64	64	63
EPA_FB17	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	606	1844	1057
EPA_FB19	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7
EPA_FB19	US Environmental Protection Agency	E. coli	07/09/13	07/09/13	1	20	20	19
EPA_FB20	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	34	34	34
EPA_FB20	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	236	255	245

Station MASSDEP_W1956 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	706
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

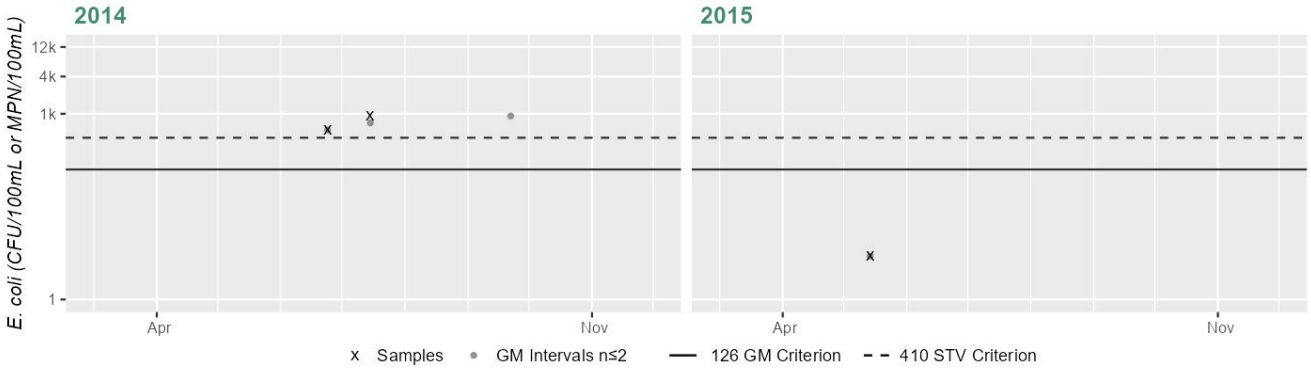
Variable*	Result
Samples	1
SeasGM	52
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2472 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	710
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

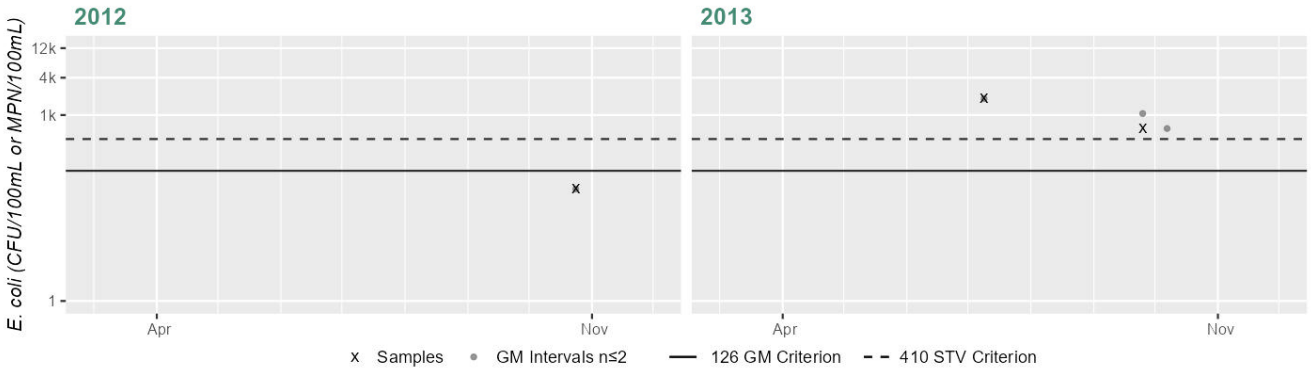
Variable*	Result
Samples	1
SeasGM	5
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_FB17 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	64
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

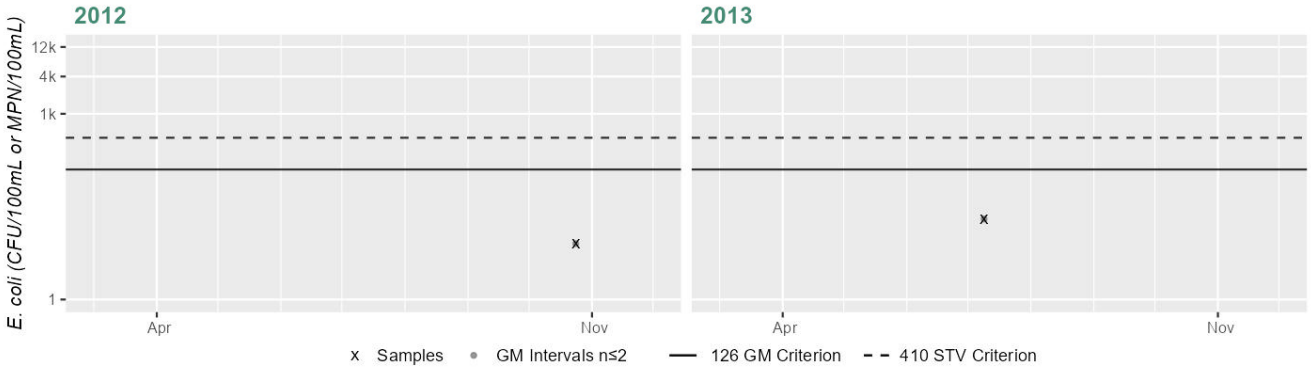
Variable*	Result
Samples	2
SeasGM	1057
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

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

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

Station EPA_FB19 - Escherichia coli

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



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

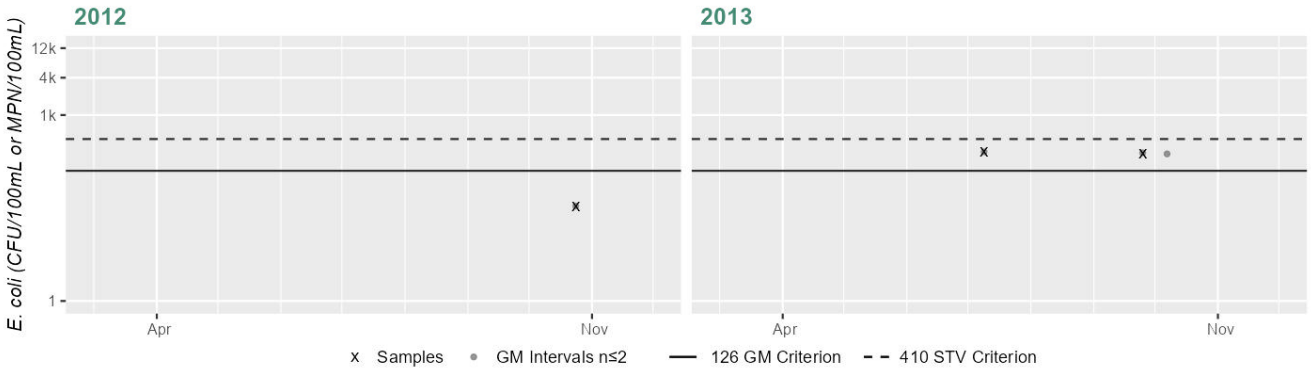
Variable*	Result
Samples	1
SeasGM	20
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_FB20 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	245
#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.*

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted between 2014 and 2015 at 2 sites along the Fullers Brook AU (MA53-12) and an additional unnamed tributary site; with *E. coli* concentrations ranging 5 to 1,300MPN. It was concluded that there is no evidence of human sources in the Fullers Brook watershed.

Secondary Contact Recreation

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

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Fullers Brook (MA53-12) 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 W1956. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Fullers Brook (MA53-12) from 2009-2015 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_FB19 [Fullers Brook at Jacob St, Rehoboth] from 2012-2013 (n=1/yr), W2472 [Blanding Rd, Rehoboth] from 2014-2015 (n=1-2/yr), W1956 [Winthrop St (Rt. 44), Rehoboth] from May-Sep 2009 (historic n=6) and 2014-2015 (current n=1-2/yr), EPA_FB17 [Fullers Brook at Rt.44, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_FB20 [Fullers Brook at Trim St, Rehoboth] from 2012-2013 (n=1-2/yr). Analysis of this historic single year limited frequency *E. coli* dataset from W1956 indicated 100% of intervals had GMs >244 CFU/100ml, 5 samples exceeded the 794 CFU/100ml STV, and the overall GM was 1783 CFU/100ml. *E. coli* data from EPA_FB19, W2472, W1956, EPA_FB17, and EPA_FB20 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W1956 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1956	MassDEP	Water Quality	Fullers Brook	[Winthrop Street (Route 44), Rehoboth]	41.835046	-71.288982
W2472	MassDEP	Water Quality	Fullers Brook	[Blanding Road, Rehoboth]	41.836801	-71.293374
EPA_FB17	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Rt.44, Rehoboth	41.835098	-71.288745
EPA_FB19	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Jacob Street, Rehoboth	41.838243	-71.298625
EPA_FB20	US Environmental Protection Agency	Water Quality	Fullers Brook	Fullers Brook @ Trim Street, Rehoboth	41.833301	-71.281618

Bacteria Data

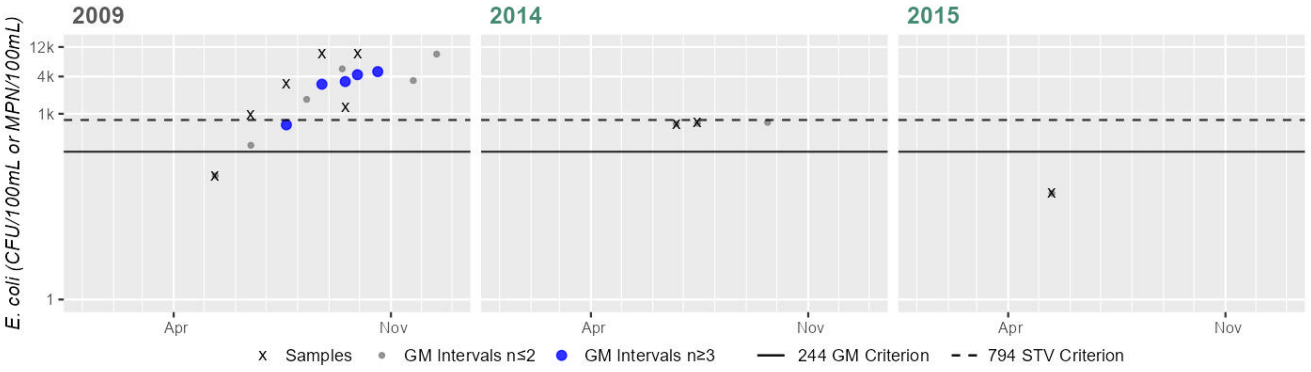
Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (MassDEP Undated 2)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1956	MassDEP	E. coli	05/12/09	09/29/09	6	100	9290	1783
W1956	MassDEP	E. coli	06/24/14	07/15/14	2	687	727	706
W1956	MassDEP	E. coli	05/14/15	05/14/15	1	52	52	52
W2472	MassDEP	E. coli	06/24/14	07/15/14	2	548	921	710

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2472	MassDEP	E. coli	05/14/15	05/14/15	1	5	5	4
EPA_FB17	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	64	64	63
EPA_FB17	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	606	1844	1057
EPA_FB19	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7
EPA_FB19	US Environmental Protection Agency	E. coli	07/09/13	07/09/13	1	20	20	19
EPA_FB20	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	34	34	34
EPA_FB20	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	236	255	245

Station MASSDEP_W1956 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	1783
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	5
%n>STV	83%

Variable*	Result
Samples	2
SeasGM	706
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

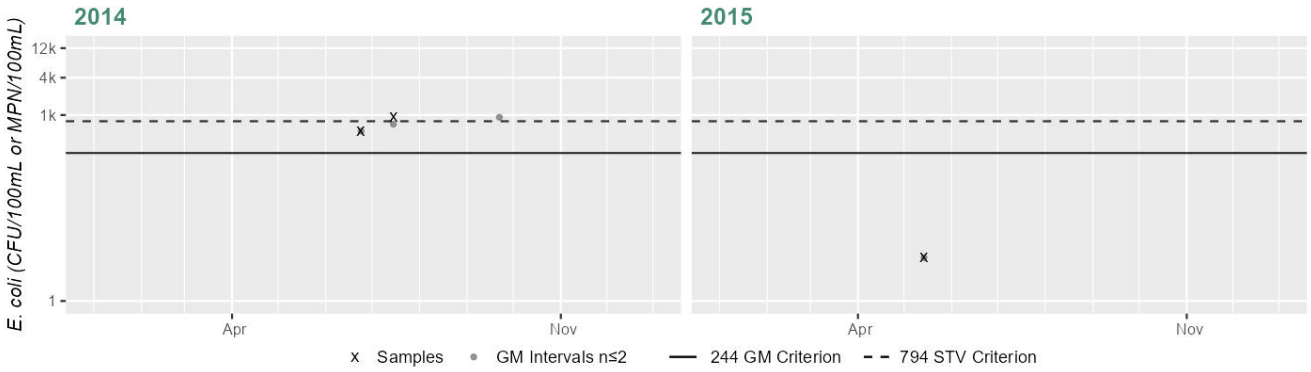
Variable*	Result
Samples	1
SeasGM	52
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)	Cumulative %GMI Exceedance Current (2011-2022)
100%	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_W2472 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	710
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

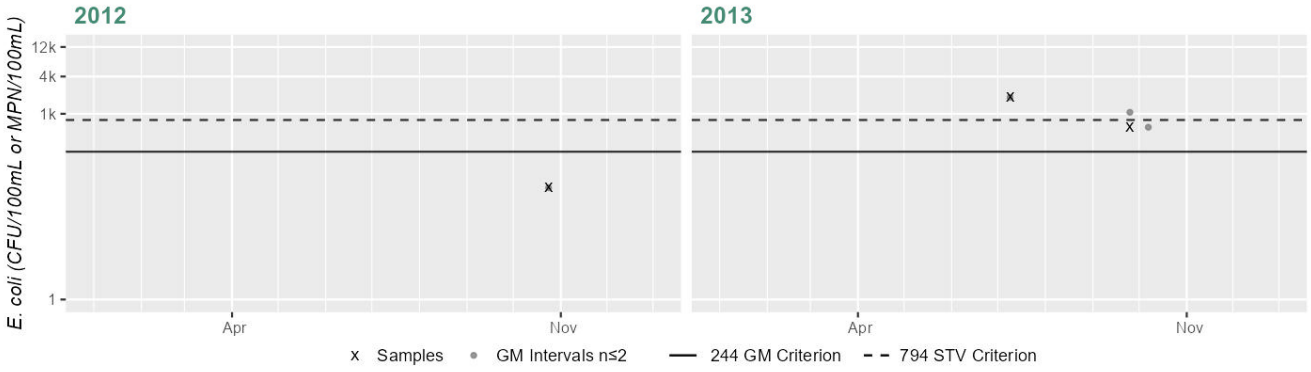
Variable*	Result
Samples	1
SeasGM	5
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_FB17 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	64
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

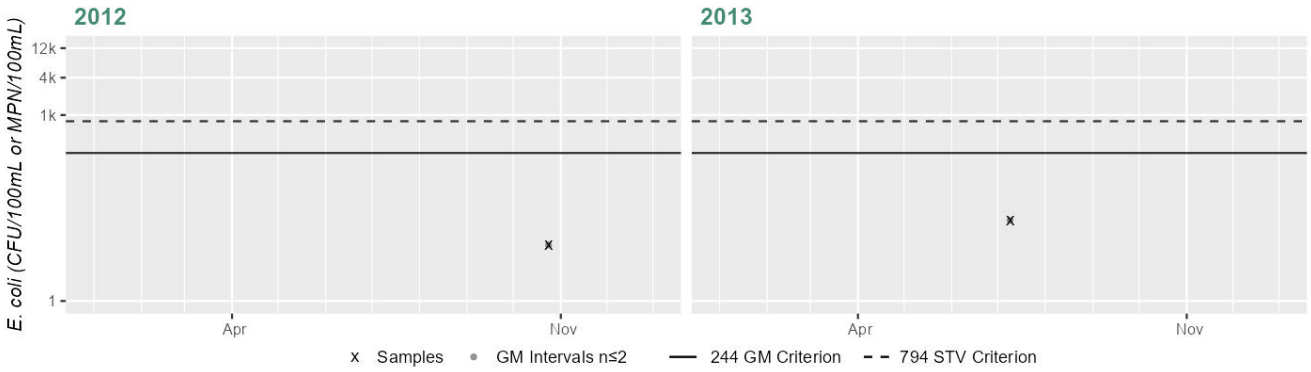
Variable*	Result
Samples	2
SeasGM	1057
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_FB19 - Escherichia coli

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



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

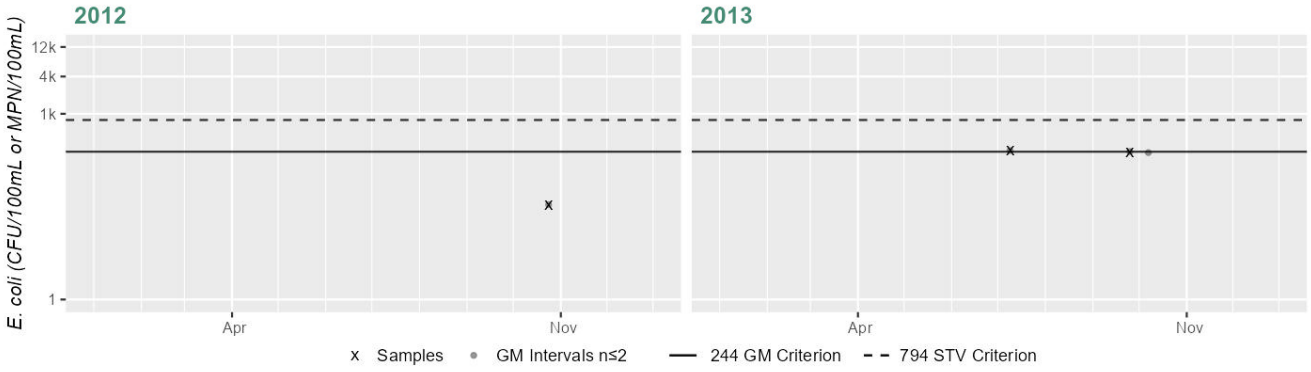
Variable*	Result
Samples	1
SeasGM	20
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_FB20 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	245
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

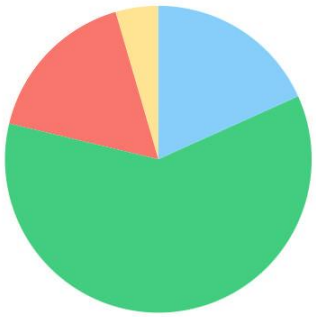
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Oak Swamp Brook (MA53-15)

Location:	Headwaters in Oak Swamp east of School Street, Rehoboth to confluence with Rocky Run, Rehoboth.
AU Type:	RIVER
AU Size:	3 MILES
Classification/Qualifier:	B

Oak Swamp Brook (MA53-15)

Watershed Area: 2.27 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.27	2.27	0.79	0.79
Agriculture	4.5%	4.5%	2%	2%
Developed	16.8%	16.7%	9.3%	9.3%
Natural	60.5%	60.4%	54%	53.9%
Wetland	18.3%	18.3%	34.7%	34.8%
Impervious	4.6%	4.6%	1.7%	1.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Escherichia Coli (E. Coli)	35091	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	--	X	--
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	--
Escherichia Coli (E. Coli)	Waterfowl (N)	--	--	--	X	--
Escherichia Coli (E. Coli)	Wildlife other than Waterfowl (N)	--	--	--	X	--

Recommendations

2024/26 Recommendations
2022 IR [Bacteria, Medium] Additional bacteria monitoring should be conducted in Oak Swamp Brook (MA53-15) as *Enterococcus* samples exceeded the 130 CFU/100ml STV in 2015 at station {EPA_OS27} located at Providence St, Rehoboth.

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Oak Swamp Brook (MA53-15) 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 Oak Swamp Brook (MA53-15) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Oak Swamp Brook (MA53-15) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. An Alert is being identified for *Enterococcus* and additional sampling is recommended for this AU. EPA staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in Oak Swamp Brook (MA53-15) from 2012-2015 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_OS28 [Oak Swamp Brook at Brook St, Rehoboth] from 2012-2013 (EC n=1-2/yr), EPA_OS27 [Oak Swamp Brook at Providence St, Rehoboth] from 2012-2013 (EC n=1-2/yr & Ent n=1). *E. coli* data from EPA_OS28 and EPA_OS27 and *Enterococcus* data from EPA_OS27 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. An Alert is being identified for *Enterococcus* at EPA_OS27.

Monitoring Stations

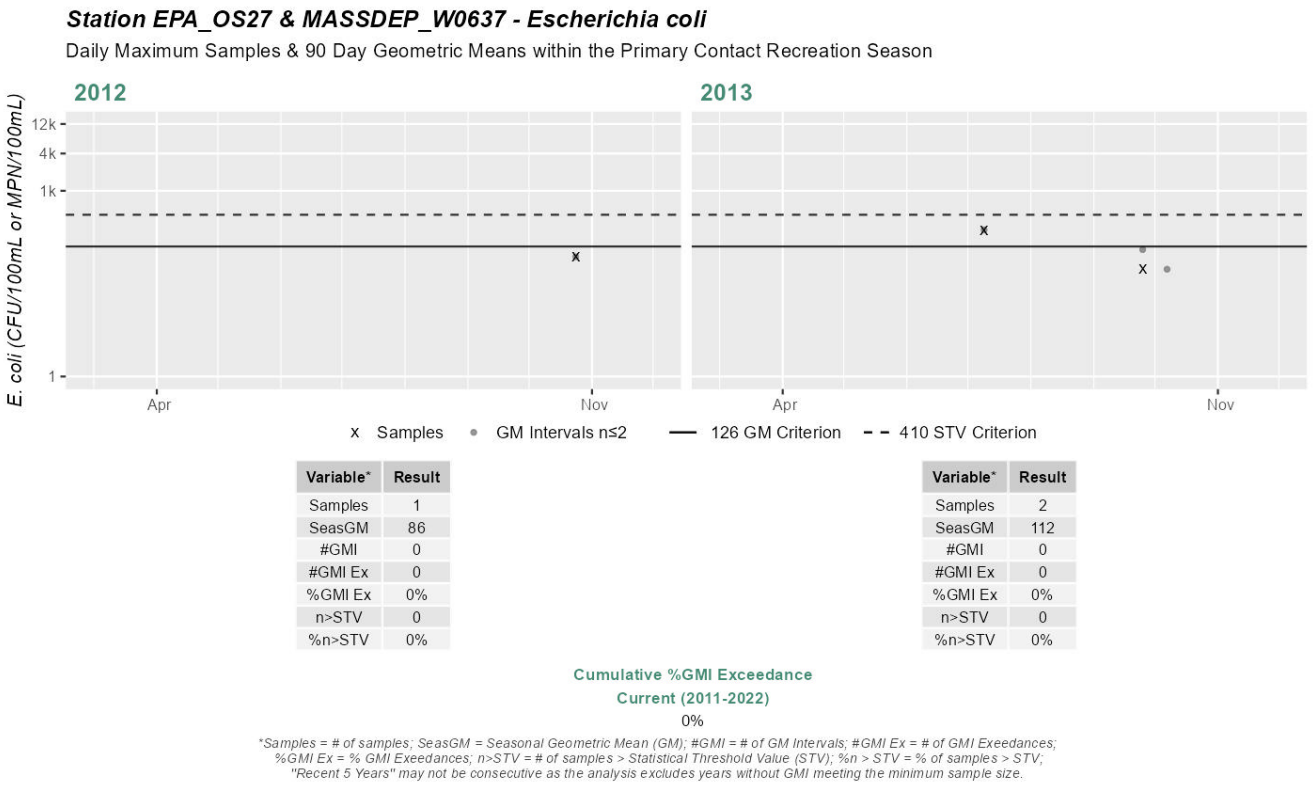
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_OS27	US Environmental Protection Agency	Water Quality	Oak Swamp Brook	Oak Swamp Brook @ Providence Street, Rehoboth	41.794734	-71.252673
EPA_OS28	US Environmental Protection Agency	Water Quality	Oak Swamp Brook	Oak Swamp Brook @ Brook Street, Rehoboth	41.806704	-71.252942

Bacteria Data

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

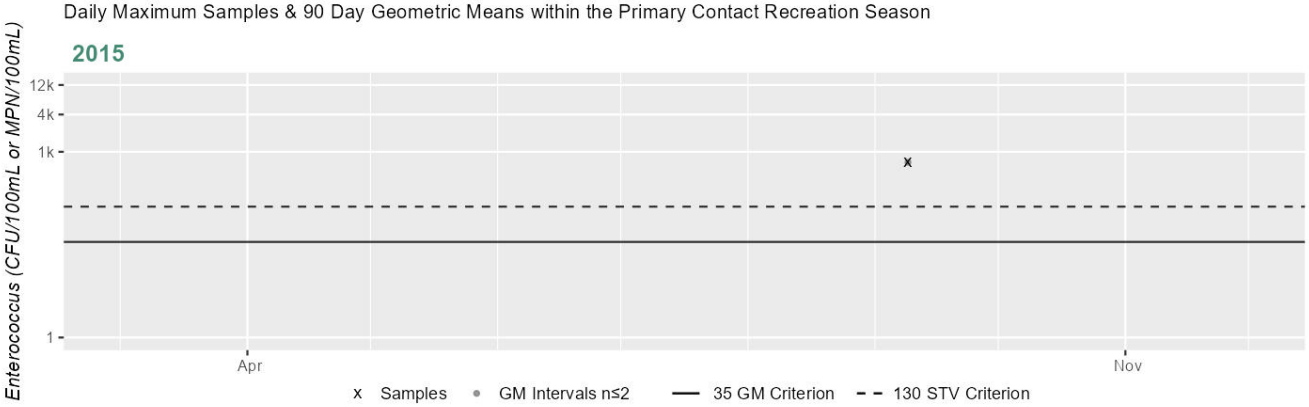
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_OS27	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	86	86	85
EPA_OS27	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	54	233	112
EPA_OS27	US Environmental Protection Agency	Enterococci	09/09/15	09/09/15	1	677	677	677
EPA_OS28	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	344	344	343
EPA_OS28	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	324	532	415



Station EPA_OS27 - Enterococcus

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



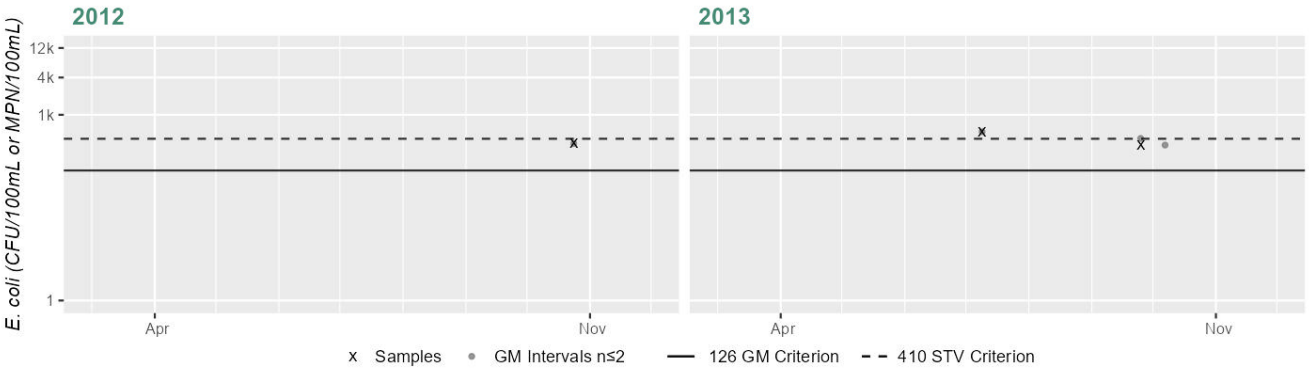
Variable*	Result
Samples	1
SeasGM	677
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station EPA_OS28 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	344
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	415
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Oak Swamp Brook (MA53-15) so it is assessed as having Insufficient Information. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Oak Swamp Brook (MA53-15) from 2009-2013 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_OS28 [Oak Swamp Brook at Brook St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_OS27 & W0637 [upstream of the unnamed tributary on eastern shore at Providence St, Rehoboth & Oak Swamp Brook at Providence St, Rehoboth] from May-Sep 2009 (historic n=6) and 2012-2013 (current n=1-2/yr). *E. coli* data from EPA_OS28 and EPA_OS27 & W0637 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0637	MassDEP	Water Quality	Oak Swamp Brook	[upstream of the unnamed tributary on eastern shore at Providence Street, Rehoboth]	41.794982	-71.252662
EPA_OS27	US Environmental Protection Agency	Water Quality	Oak Swamp Brook	Oak Swamp Brook @ Providence Street, Rehoboth	41.794734	-71.252673
EPA_OS28	US Environmental Protection Agency	Water Quality	Oak Swamp Brook	Oak Swamp Brook @ Brook Street, Rehoboth	41.806704	-71.252942

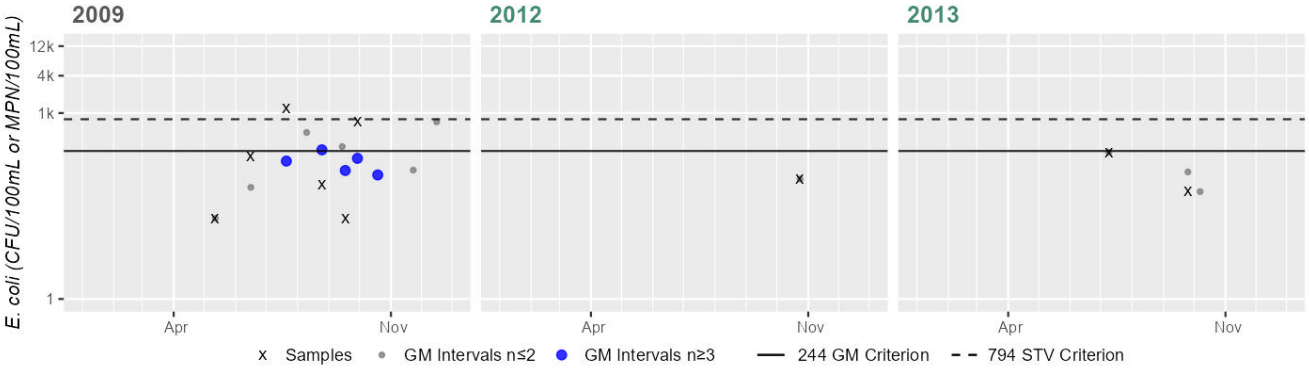
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W0637	MassDEP	E. coli	05/12/09	09/29/09	6	20	1180	129
EPA_OS27	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	86	86	85
EPA_OS27	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	54	233	112
EPA_OS28	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	344	344	343
EPA_OS28	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	324	532	415

Station EPA_OS27 & MASSDEP_W0637 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	129
#GMI	5
#GMI Ex	1
%GMI Ex	20%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	1
SeasGM	86
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	112
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

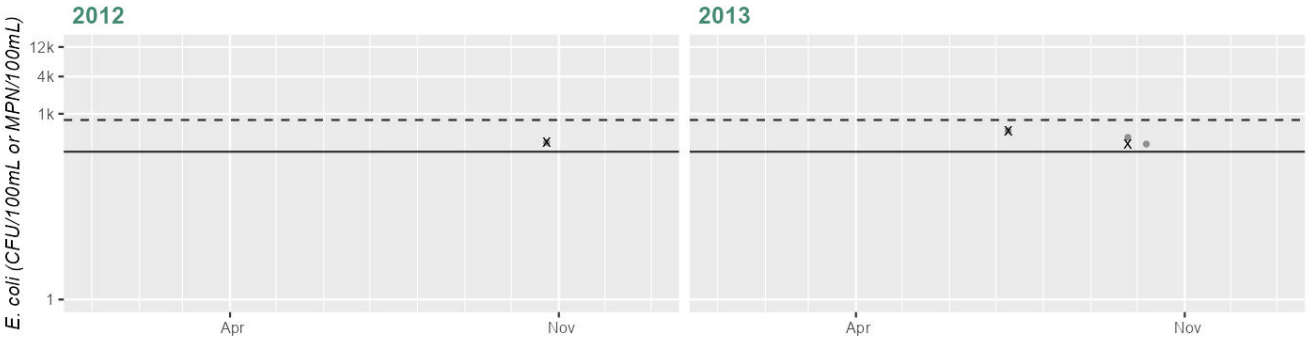
Cumulative %GMI Exceedance Historic (1997-2010)
20%

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

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

Station EPA_OS28 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	344
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	415
#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.*

Palmer River (MA53-03)

Location:	From Route 6 bridge, Rehoboth to state line, Swansea, MA/Barrington, RI.
AU Type:	ESTUARY
AU Size:	0.11 SQUARE MILES
Classification/Qualifier:	SB: SFR

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Enterococcus	35085	Changed
5	4a	Fecal Coliform	35085	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Enterococcus	Agriculture (Y)	--	--	--	--	X	X
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	--	X	X
Enterococcus	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	--	--	X	X
Enterococcus	Waterfowl (N)	--	--	--	--	X	X
Enterococcus	Wildlife other than Waterfowl (N)	--	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	X	--	--	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Fecal Coliform	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	X	--	--	--
Fecal Coliform	Waterfowl (N)	--	--	X	--	--	--
Fecal Coliform	Wildlife other than Waterfowl (N)	--	--	X	--	--	--

Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Enterococcus	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Bacteria TMDL for the Palmer River Basin (Report CN 182.0, approved 9/22/2004, ATTAINS Action ID: 35085)

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Palmer River (MA53-03) is Not Assessed.

Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

Palmer River (MA53-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1048 sq mi (96%). The sum of the approved, conditionally approved, and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.1048 sq mi (96%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved, and/or restricted. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB5.0	Palmer River	Prohibited	0.10481	96.5%

Aesthetic

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited data are available to assess the Aesthetics Use for Palmer River (MA53-03) so it is assessed as having Insufficient Information. MassDEP staff recorded aesthetics observations at one station along this Palmer River AU at Rt.6 (Fall River Avenue), Rehoboth (W2444, 2013, n=2). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2444	MassDEP	Water Quality	Palmer River	[Route 6 (Fall River Avenue), Rehoboth]	41.775454	-71.281030

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)

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

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2444	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2444 on Palmer River (MA53-03) during 2 site visits between May 2013 and Jul 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1). However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2444	2013	2	0	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2444	Palmer River	2013	Aquatic Plant Density, Overall	Unobservable	2	2
W2444	Palmer River	2013	Color	Light Yellow/Tan	1	2
W2444	Palmer River	2013	Color	None	1	2
W2444	Palmer River	2013	Odor	None	2	2
W2444	Palmer River	2013	Periphyton Density, Filamentous	Unobservable	2	2
W2444	Palmer River	2013	Periphyton Density, Film	Unobservable	2	2
W2444	Palmer River	2013	Turbidity	Highly Turbid	1	2
W2444	Palmer River	2013	Turbidity	Moderately Turbid	1	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Palmer River (MA53-03) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_PM29 & W2444 and EPA_PM43. The shellfish growing areas (0.1048 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Primary Contact Recreation Use of Palmer River (MA53-03) based on shellfish classification data. EPA and MassDEP staff collected *Enterococcus* bacteria samples in the Palmer River (MA53-03) from 2013-2019 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_PM29 & W2444 [Rt. 6 (Fall River Avenue), Rehoboth & Mainstem Palmer River at Rt. 6 bridge, downstream, Rehoboth] from 2013-2019 (n=1-7/yr), EPA_PM64 [Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~600 ft downstream of Rt.6, Swansea] from Jul 2013 (n=1), and EPA_PM43 [Mainstem Palmer River at Old Providence Rd, Swansea] from 2013-2019 (n=1-7/yr). Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM29 & W2444 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=3-6), and cumulatively across years 100% of intervals had GMs >35 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM43 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=2-5), and cumulatively across years 100% of intervals had GMs >35 CFU/100ml. The available *Enterococcus* data at EPA_PM64 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 130 CFU/100ml STV in 2013 (n=1). *Enterococcus* data from EPA_PM29 & W2444 and EPA_PM43 are indicative of an *Enterococcus* impairment.

MassDEP conducted BST work in this AU in 2013 & 2015, in support of the EPA/RIDEM/MassDEP joint effort under the "National Water Quality Initiative" (NWQI). No human source of bacteria was ever identified, though agricultural land-use was noted in the AU directly upstream (MA53-05), and this potential source was investigated/addressed by the Mass Association of Conservation Districts in partnership with NRCS, under the NWQI from 2014-2018.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2444	MassDEP	Water Quality	Palmer River	[Route 6 (Fall River Avenue), Rehoboth]	41.775454	-71.281030
EPA_PM29	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Rt. 6 bridge, downstream, Rehoboth	41.775284	-71.281005
EPA_PM43	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Old Providence Road, Swansea	41.772176	-71.282913
EPA_PM64	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~600 ft downstrm of Rt.6, Swansea	41.774014	-71.282528

Bacteria Data

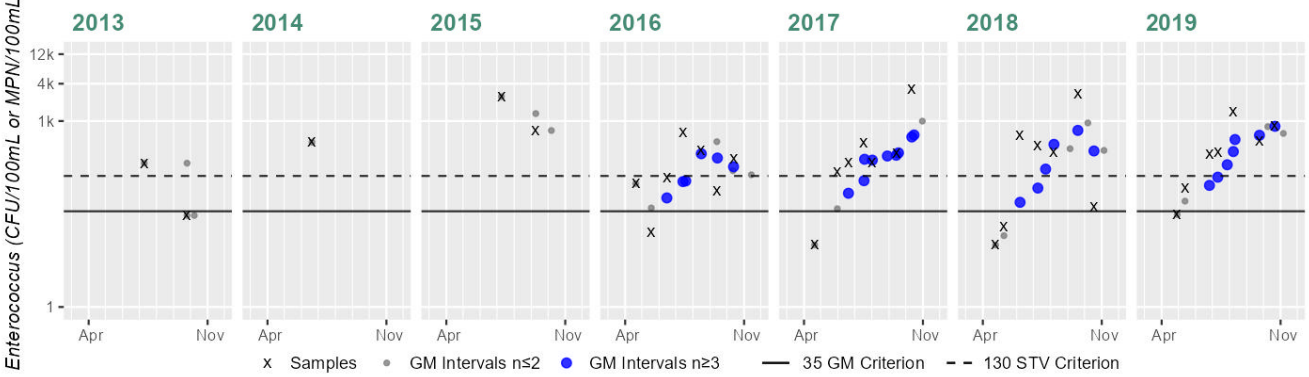
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

[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
W2444	MassDEP	Enterococci	07/10/13	07/10/13	1	209	209	208
EPA_PM29	US Environmental Protection Agency	Enterococci	09/25/13	09/25/13	1	30	30	30
EPA_PM29	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	455	455	455
EPA_PM29	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	703	2480	1320
EPA_PM29	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	16	651	133
EPA_PM29	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	10	3255	225
EPA_PM29	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	2755	149
EPA_PM29	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	31	1396	279
EPA_PM43	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	110	110	110
EPA_PM43	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	285	285	285
EPA_PM43	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	256	1940	704
EPA_PM43	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	20	922	80
EPA_PM43	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	41	1476	163
EPA_PM43	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	2755	208
EPA_PM43	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	41	323	127
EPA_PM64	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	1658	1658	1658

Station EPA_PM29 & MASSDEP_W2444 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	79
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	1
SeasGM	455
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1320
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	133
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	225
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	6
%n>STV	85%

Variable*	Result
Samples	7
SeasGM	149
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	57%

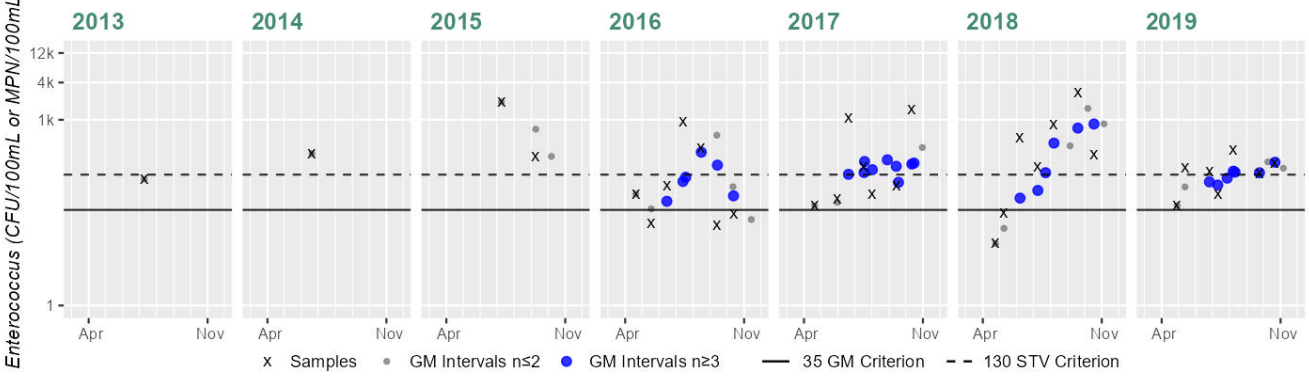
Variable*	Result
Samples	7
SeasGM	279
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	5
%n>STV	71%

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 EPA_PM43 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	110
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	285
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	704
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	80
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	28%

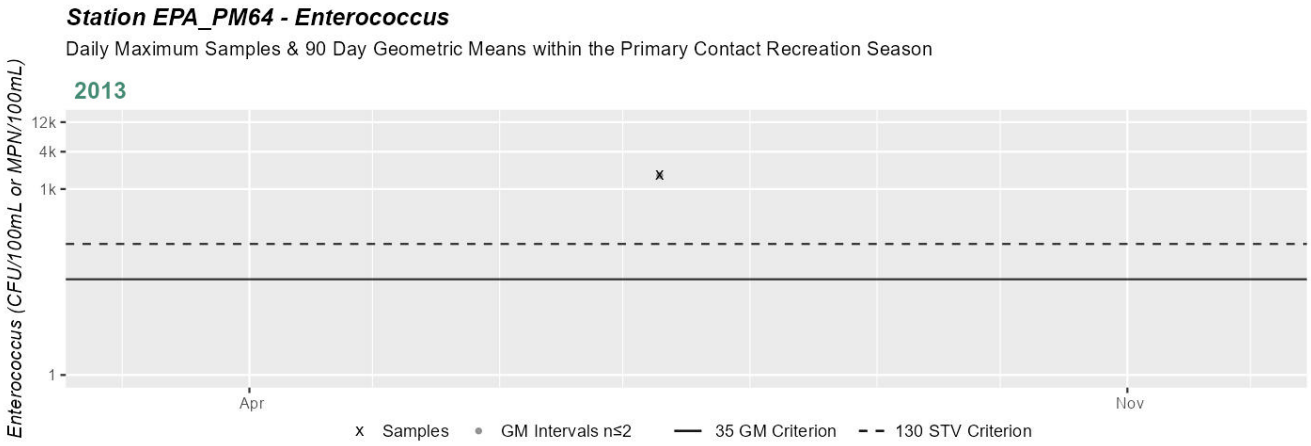
Variable*	Result
Samples	7
SeasGM	163
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	208
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	127
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	5
%n>STV	71%

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.*



Variable*	Result
Samples	1
SeasGM	1658
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted at 3 sites in the Palmer River AU (MA53-03) in 2013 & 2015, in support of the EPA/RIDEM/DEP joint effort in the Palmer River watershed (NWQI). *E. coli* concentrations ranged 20 - 1,515MPN and Enterococcus ranged 41 - 1,658MPN. No human source of bacteria was ever identified in the AU. Agricultural land-use was noted in the Palmer River watershed upstream (i.e. MA53-05) and this potential source was investigated/addressed by the Mass Association of Conservation Districts (MACD) in partnership with NRCS, under the NWQI from 2014-2018.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Palmer River (MA53-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1048 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Palmer River (MA53-03) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_PM29 & W2444 and EPA_PM43. The shellfish growing areas (0.1048 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Secondary Contact Recreation Use of Palmer River (MA53-03) based on shellfish classification data. EPA and MassDEP staff collected *Enterococcus* bacteria samples in the Palmer River (MA53-03) from 2013-2019 at 3 stations. Samples were collected from the following stations/sample years: EPA_PM29 & W2444 [Rt. 6 (Fall River Avenue), Rehoboth & Mainstem Palmer River at Rt. 6 bridge, downstream, Rehoboth] from 2013-2019 (n=1-8/yr), EPA_PM64 [Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~600 ft downstream of Rt.6, Swansea] from Jul 2013 (n=1), EPA_PM43 [Mainstem Palmer River at Old Providence Rd, Swansea] from 2013-2019 (n=1-8/yr). Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM29 & W2444 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >68 CFU/100ml (2016-2019, 85-100%), 4 yrs had ≥2 samples exceed the 252 CFU/100ml STV (2016-2019, n=2-6), and cumulatively across years 93% of intervals had GMs >68 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM43 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >68 CFU/100ml (2016-2019, 50-100%), 4 yrs had ≥2 samples exceed the 252 CFU/100ml STV (2016-2019, n=2-4), and cumulatively across years 84% of intervals had GMs >68 CFU/100ml. The available *Enterococcus* data at EPA_PM64 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 252 CFU/100ml STV in 2013 (n=1). *Enterococcus* data from EPA_PM29 & W2444 and EPA_PM43 are indicative of an *Enterococcus* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2444	MassDEP	Water Quality	Palmer River	[Route 6 (Fall River Avenue), Rehoboth]	41.775454	-71.281030
EPA_PM29	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Rt. 6 bridge, downstream, Rehoboth	41.775284	-71.281005
EPA_PM43	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Old Providence Road, Swansea	41.772176	-71.282913
EPA_PM64	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~600 ft downstrm of Rt.6, Swansea	41.774014	-71.282528

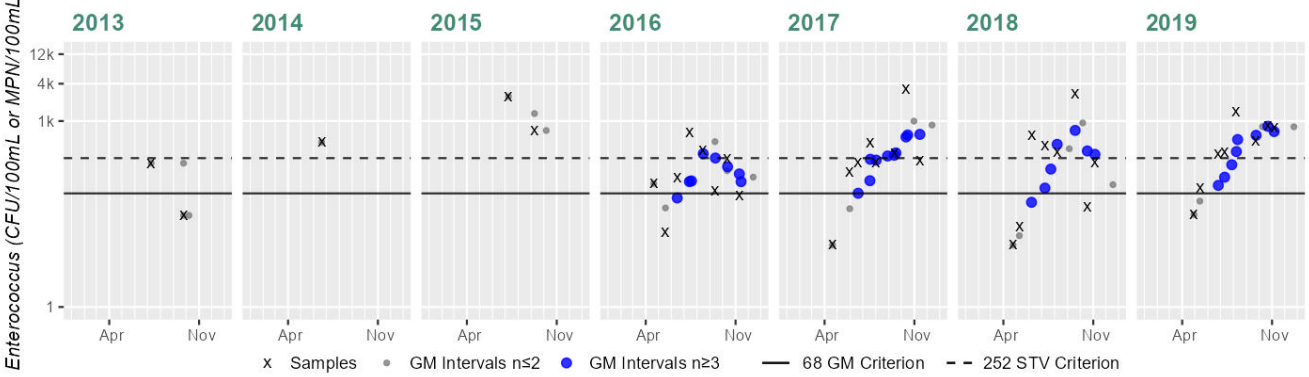
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W2444	MassDEP	Enterococci	07/10/13	07/10/13	1	209	209	208
EPA_PM29	US Environmental Protection Agency	Enterococci	09/25/13	09/25/13	1	30	30	30
EPA_PM29	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	455	455	455
EPA_PM29	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	703	2480	1320
EPA_PM29	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	16	651	121
EPA_PM29	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	10	3255	225
EPA_PM29	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	10	2755	156
EPA_PM29	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	8	31	1396	317
EPA_PM43	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	110	110	110
EPA_PM43	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	285	285	285
EPA_PM43	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	256	1940	704
EPA_PM43	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	20	922	71
EPA_PM43	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	41	1476	159
EPA_PM43	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	10	2755	197
EPA_PM43	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	8	41	355	144
EPA_PM64	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	1658	1658	1658

Station EPA_PM29 & MASSDEP_W2444 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	79
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	455
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1320
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	8
SeasGM	121
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	225
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	3
%n>STV	37%

Variable*	Result
Samples	8
SeasGM	156
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	4
%n>STV	50%

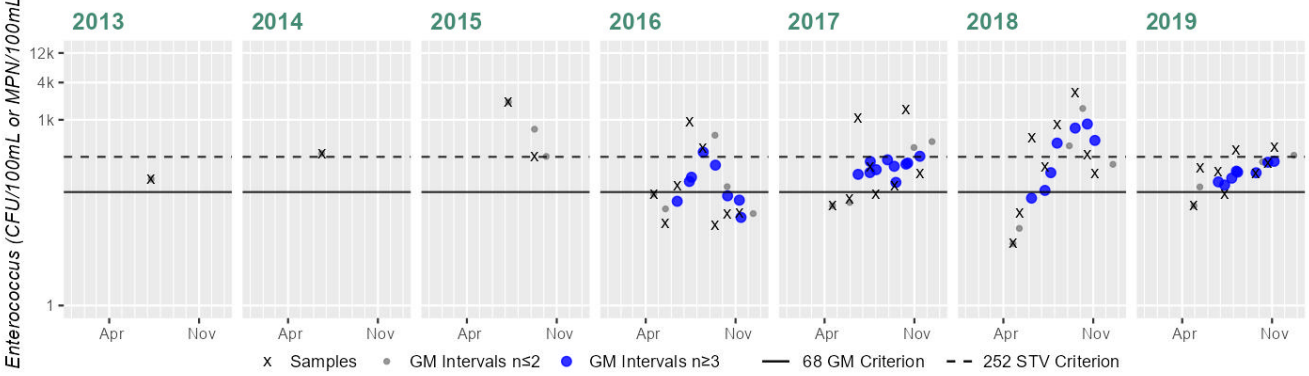
Variable*	Result
Samples	8
SeasGM	317
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	6
%n>STV	75%

Cumulative %GMI Exceedance
Current (2011-2022)
93%

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

Station EPA_PM43 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	110
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	285
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	704
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	8
SeasGM	71
#GMI	8
#GMI Ex	4
%GMI Ex	50%
n>STV	2
%n>STV	25%

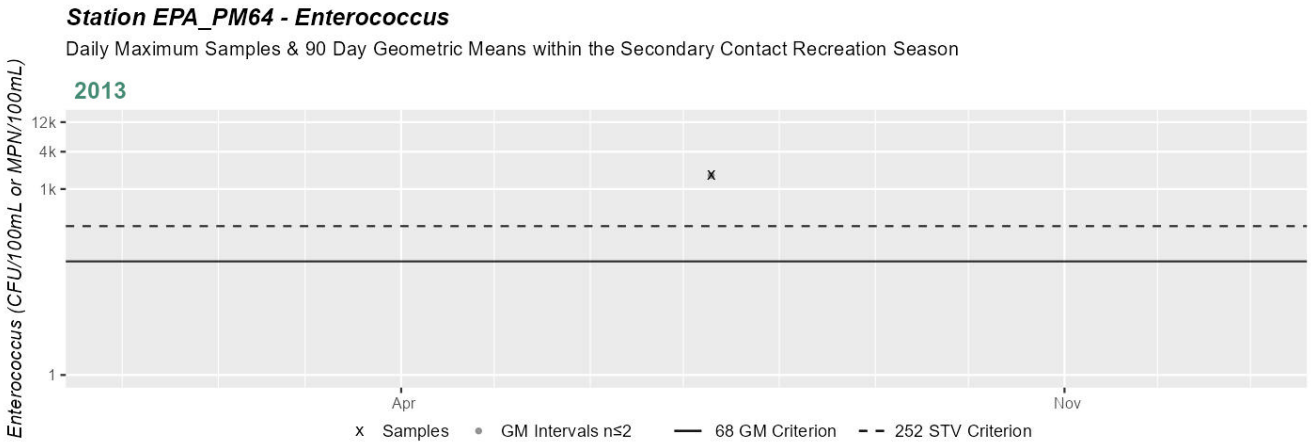
Variable*	Result
Samples	8
SeasGM	159
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	197
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	4
%n>STV	50%

Variable*	Result
Samples	8
SeasGM	144
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	2
%n>STV	25%

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

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



Variable*	Result
Samples	1
SeasGM	1658
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Palmer River (MA53-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1048 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Palmer River (MA53-05)

Location:	From the Shad Factory Pond dam (NATID: MA00787), Rehoboth to the Route 6 bridge, Rehoboth (formerly part of 2000 segment: Palmer River MA53-02).
AU Type:	ESTUARY
AU Size:	0.09 SQUARE MILES
Classification/Qualifier:	SB: SFR

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Enterococcus	35087	Changed
5	4a	Fecal Coliform	35087	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Enterococcus	Agriculture (Y)	--	--	--	--	X	X
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	--	X	X
Enterococcus	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	--	--	X	X
Enterococcus	Waterfowl (N)	--	--	--	--	X	X
Enterococcus	Wildlife other than Waterfowl (N)	--	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	X	--	--	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Fecal Coliform	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	X	--	--	--
Fecal Coliform	Waterfowl (N)	--	--	X	--	--	--
Fecal Coliform	Wildlife other than Waterfowl (N)	--	--	X	--	--	--

Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Enterococcus	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Bacteria TMDL for the Palmer River Basin (Report CN 182.0, approved 9/22/2004, ATTAINS Action ID: 35087)

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Palmer River (MA53-05) is Not Assessed.

Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

Palmer River (MA53-05): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0547 sq mi (60%). The sum of the approved, conditionally approved, and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0547 sq mi (60%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved, and/or restricted. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB5.0	Palmer River	Prohibited	0.05471	60.4%

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Palmer River (MA53-05) is assessed as Fully Supporting based on the lack of objectionable conditions at any of the sites sampled by MassDEP staff in 2013, 2014, or 2016. MassDEP staff recorded aesthetics observations at six stations along this Palmer River AU in Rehoboth from up to downstream, stations (data years) as follows: ~3060 feet upstream of Providence Street (W2485, 2014 n=1); ~1600 feet upstream Providence Street (in the downstream end of the oxbow) (W2486, 2014 n=2); ~1460 feet upstream Providence Street (W2487, 2014 n=2); ~1050 feet upstream Providence Street (W2488, 2014 n=2); upstream Providence Street (W0633 2014 n=2, 2016 n=1) and from the eastern shore just upstream of the confluence with Rocky Run (west of Mason Street) (W2443, 2013 n=2). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at during the surveys at these stations.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0633	MassDEP	Water Quality	Palmer River	[upstream/north at Providence Street, Rehoboth]	41.800469	-71.272793
W2443	MassDEP	Water Quality	Palmer River	[from the eastern shore just upstream of the confluence with Rocky Run (west of Mason Street), Rehoboth]	41.783732	-71.276178
W2485	MassDEP	Water Quality	Palmer River	[approximately 3060 feet upstream (north) of Providence Street, Rehoboth]	41.805564	-71.274192

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2486	MassDEP	Water Quality	Palmer River	[approximately 1600 feet upstream (north) of Providence Street, Rehoboth (in the downstream end of the oxbow)]	41.803718	-71.272594
W2487	MassDEP	Water Quality	Palmer River	[approximately 1460 feet upstream (north) of Providence Street, Rehoboth]	41.803430	-71.272970
W2488	MassDEP	Water Quality	Palmer River	[approximately 1050 feet upstream (north) of Providence Street, Rehoboth]	41.802400	-71.273220

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0633	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0633 on Palmer River (MA53-05) during 2 site visits between Jun 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W0633	2016	1	Aesthetic observations were made by MassDEP field sampling crews at Station W0633 on Palmer River (MA53-05) during 1 site visit on May 17, 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2443	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2443 on Palmer River (MA53-05) during 2 site visits between May 2013 and Jul 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2485	2014	1	Aesthetic observations were made by MassDEP field sampling crews at Station W2485 on Palmer River (MA53-05) during 1 site visit on Jun 30, 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2486	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2486 on Palmer River (MA53-05) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2487	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2487 on Palmer River (MA53-05) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2488	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2488 on Palmer River (MA53-05) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0633	2014	2	1	0
W0633	2016	1	1	0
W2443	2013	2	0	0
W2485	2014	1	0	0
W2486	2014	2	2	0
W2487	2014	2	0	0
W2488	2014	2	0	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0633	Palmer River	2014	Aquatic Plant Density, Overall	Sparse	1	2
W0633	Palmer River	2014	Aquatic Plant Density, Overall	Unobservable	1	2
W0633	Palmer River	2014	Color	None	2	2
W0633	Palmer River	2014	Odor	None	2	2
W0633	Palmer River	2014	Periphyton Density, Filamentous	None	1	2
W0633	Palmer River	2014	Periphyton Density, Filamentous	Unobservable	1	2
W0633	Palmer River	2014	Periphyton Density, Film	Sparse	1	2
W0633	Palmer River	2014	Periphyton Density, Film	Unobservable	1	2
W0633	Palmer River	2014	Turbidity	Slightly Turbid	2	2
W0633	Palmer River	2016	Aquatic Plant Density, Overall	Sparse	1	1
W0633	Palmer River	2016	Color	None	1	1
W0633	Palmer River	2016	Odor	None	1	1
W0633	Palmer River	2016	Periphyton Density, Filamentous	None	1	1
W0633	Palmer River	2016	Periphyton Density, Film	Sparse	1	1
W0633	Palmer River	2016	Turbidity	Slightly Turbid	1	1
W2443	Palmer River	2013	Aquatic Plant Density, Overall	Unobservable	2	2
W2443	Palmer River	2013	Color	Light Yellow/Tan	1	2
W2443	Palmer River	2013	Color	None	1	2
W2443	Palmer River	2013	Odor	None	2	2
W2443	Palmer River	2013	Periphyton Density, Filamentous	Unobservable	2	2
W2443	Palmer River	2013	Periphyton Density, Film	Unobservable	2	2
W2443	Palmer River	2013	Turbidity	Moderately Turbid	2	2
W2485	Palmer River	2014	Aquatic Plant Density, Overall	Unobservable	1	1

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2485	Palmer River	2014	Color	None	1	1
W2485	Palmer River	2014	Odor	None	1	1
W2485	Palmer River	2014	Periphyton Density, Filamentous	Unobservable	1	1
W2485	Palmer River	2014	Periphyton Density, Film	Unobservable	1	1
W2485	Palmer River	2014	Turbidity	Moderately Turbid	1	1
W2486	Palmer River	2014	Aquatic Plant Density, Overall	Sparse	2	2
W2486	Palmer River	2014	Color	None	2	2
W2486	Palmer River	2014	Odor	None	2	2
W2486	Palmer River	2014	Periphyton Density, Filamentous	None	2	2
W2486	Palmer River	2014	Periphyton Density, Film	Sparse	2	2
W2486	Palmer River	2014	Turbidity	Moderately Turbid	1	2
W2486	Palmer River	2014	Turbidity	Slightly Turbid	1	2
W2487	Palmer River	2014	Aquatic Plant Density, Overall	None	1	2
W2487	Palmer River	2014	Aquatic Plant Density, Overall	Unobservable	1	2
W2487	Palmer River	2014	Color	None	2	2
W2487	Palmer River	2014	Odor	None	2	2
W2487	Palmer River	2014	Periphyton Density, Filamentous	Unobservable	2	2
W2487	Palmer River	2014	Periphyton Density, Film	Unobservable	2	2
W2487	Palmer River	2014	Turbidity	Moderately Turbid	2	2
W2488	Palmer River	2014	Aquatic Plant Density, Overall	Unobservable	2	2
W2488	Palmer River	2014	Color	None	2	2
W2488	Palmer River	2014	Odor	None	2	2
W2488	Palmer River	2014	Periphyton Density, Filamentous	Unobservable	2	2
W2488	Palmer River	2014	Periphyton Density, Film	Unobservable	2	2
W2488	Palmer River	2014	Turbidity	Moderately Turbid	2	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Palmer River (MA53-05) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_PM30 and EPA_PM44. The shellfish growing areas (0.0547 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Primary Contact Recreation Use of Palmer River (MA53-05) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in the Palmer River (MA53-05) from 2013-2019 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_PM31 [Mainstem Palmer River at Reed St Bridge, downstream of dam, Rehoboth] from 2015-2019 (n=2-7/yr), EPA_PM30 [Mainstem Palmer River at Providence St, Rehoboth] from 2014-2019 (n=1-7/yr), EPA_PM44 [Mainstem Palmer River just upstream confluence Rocky Run, Rehoboth] from 2015-2019 (n=2-7/yr), EPA_PM59 [Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~ 0.3 miles upstream of I-195, Rehoboth] from Jul 2013 (n=1), EPA_PM60 [Palmer River Mainstem under westbound I-195, Rehoboth] from Jul 2013 (n=1), EPA_PM61 [Unnamed tributary to Palmer Mainstem discharging at left bank of mainstem, ~ 500 ft downstream I-195, Rehoboth] from Jul 2013 (n=1). *Enterococcus* data from EPA_PM59, EPA_PM60, and EPA_PM61 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM30 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 83-100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=3-5), and cumulatively across years 92% of intervals had GMs >35 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM44 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=3-6), and cumulatively across years 100% of intervals had GMs >35 CFU/100ml. While *Enterococcus* data from EPA_PM31 meet 2024 CALM guidance*, Enterococcus* data from EPA_PM30 and EPA_PM44 are indicative of an *Enterococcus* impairment.

MassDEP conducted BST work in 2013-2019, in support of the EPA/RIDEM/MassDEP joint effort under the “National Water Quality Initiative” (NWQI). No human source of bacteria was ever identified, though agricultural land-use was noted in the watershed and this potential source was investigated/addressed by the Mass Association of Conservation Districts in partnership with NRCS, under the NWQI from 2014-2018.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM30	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Providence Street, Rehoboth	41.800378	-71.272824
EPA_PM31	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Reed St Bridge, downstream of dam, Rehoboth	41.809170	-71.278281
EPA_PM44	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River just upstream confluence Rocky Run, Rehoboth	41.783752	-71.276089

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM59	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~ 0.3 miles upstream of I-195, Rehoboth	41.783689	-71.278034
EPA_PM60	US Environmental Protection Agency	Water Quality	Palmer River	Palmer River Mainstem under westbound I-195, Rehoboth	41.779038	-71.278985
EPA_PM61	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at left bank of mainstem, ~ 500 ft downstream I-195, Rehoboth	41.777730	-71.280990

Bacteria Data

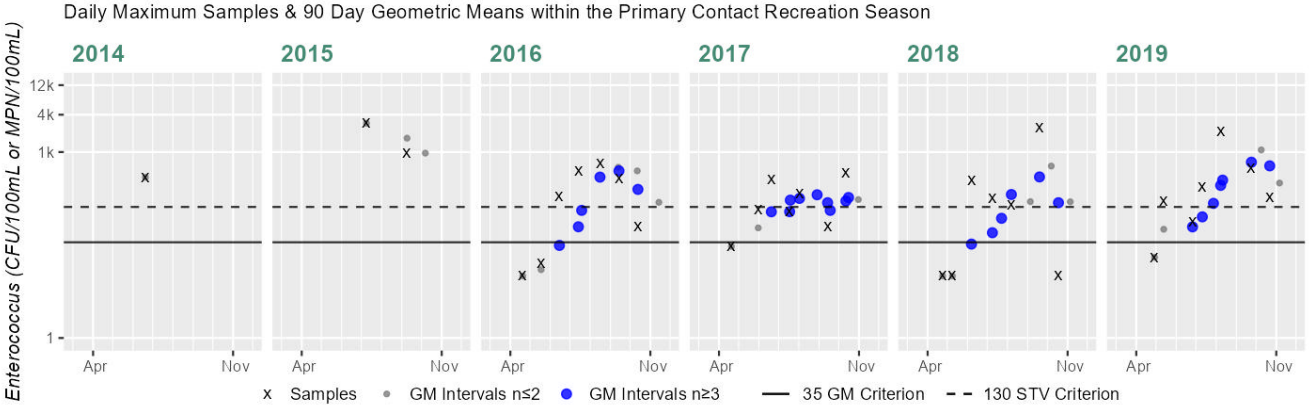
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2020) (MassDEP Undated 3)

[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
EPA_PM30	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	391	391	391
EPA_PM30	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	960	2910	1671
EPA_PM30	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	10	651	112
EPA_PM30	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	30	464	136
EPA_PM30	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	2481	80
EPA_PM30	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	20	2143	202
EPA_PM31	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	41	120	70
EPA_PM31	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	2	41	8
EPA_PM31	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	10	85	17
EPA_PM31	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	426	67
EPA_PM31	US Environmental Protection Agency	Enterococci	04/29/19	10/22/19	5	10	144	22
EPA_PM44	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	2760	3650	3173
EPA_PM44	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	54	1842	355
EPA_PM44	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	31	7701	502
EPA_PM44	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	2481	119
EPA_PM44	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	31	2064	350
EPA_PM59	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	1223	1223	1223
EPA_PM60	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	602	602	601
EPA_PM61	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	830	830	829

Station EPA_PM30 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	391
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1671
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	112
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	136
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	80
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	4
%n>STV	57%

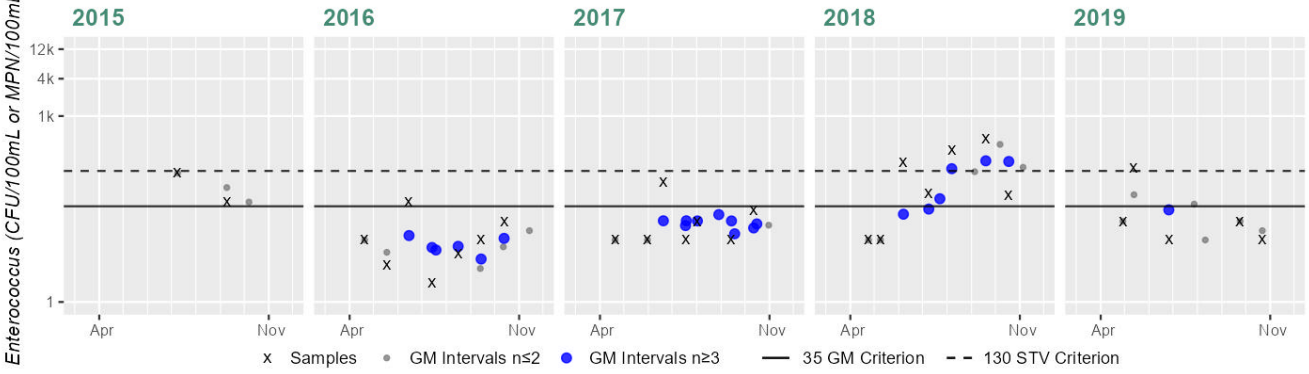
Variable*	Result
Samples	7
SeasGM	202
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	5
%n>STV	71%

Cumulative %GMI Exceedance
Current (2011-2022)
92%

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

Station EPA_PM31 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	70
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	8
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	17
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	67
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	3
%n>STV	42%

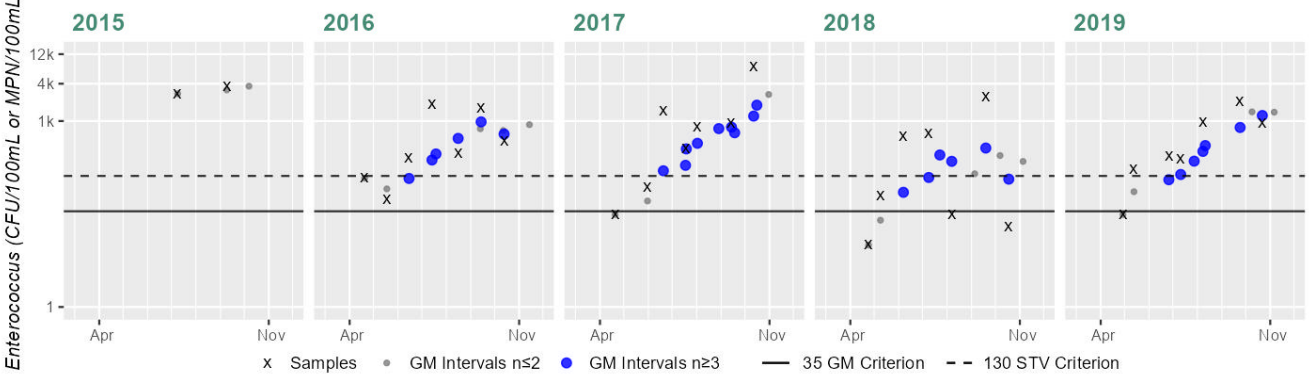
Variable*	Result
Samples	5
SeasGM	22
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
18%

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

Station EPA_PM44 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	3173
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	355
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	502
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	119
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	3
%n>STV	42%

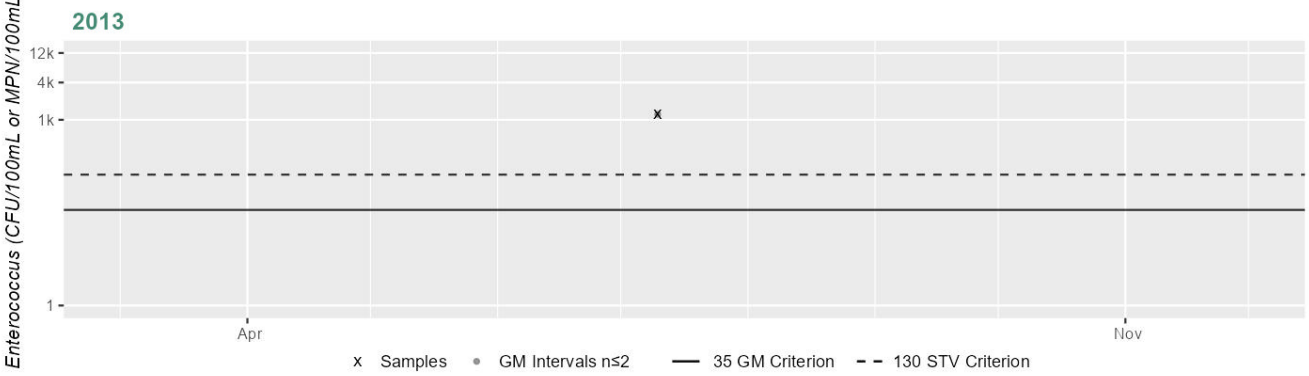
Variable*	Result
Samples	7
SeasGM	350
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	6
%n>STV	85%

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 EPA_PM59 - Enterococcus

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



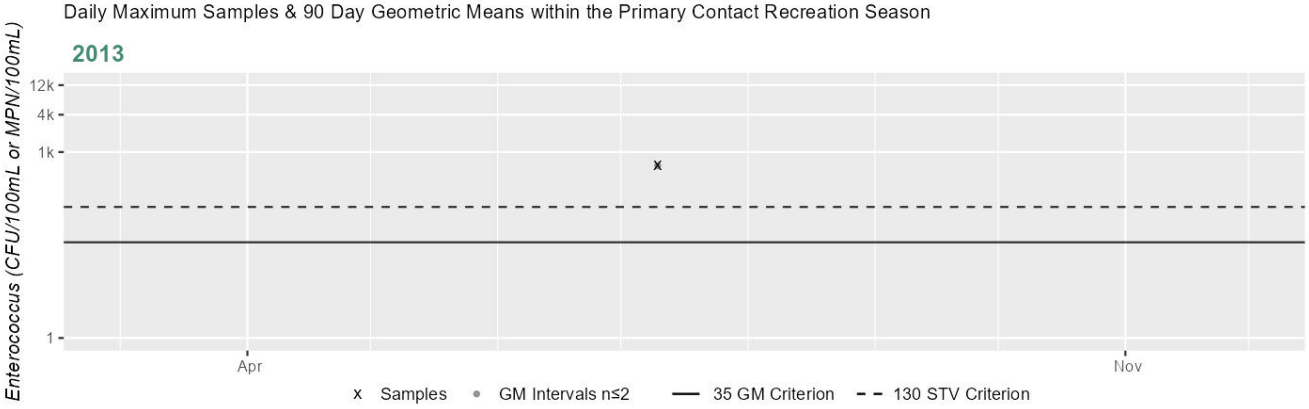
Variable*	Result
Samples	1
SeasGM	1223
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station EPA_PM60 - Enterococcus

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



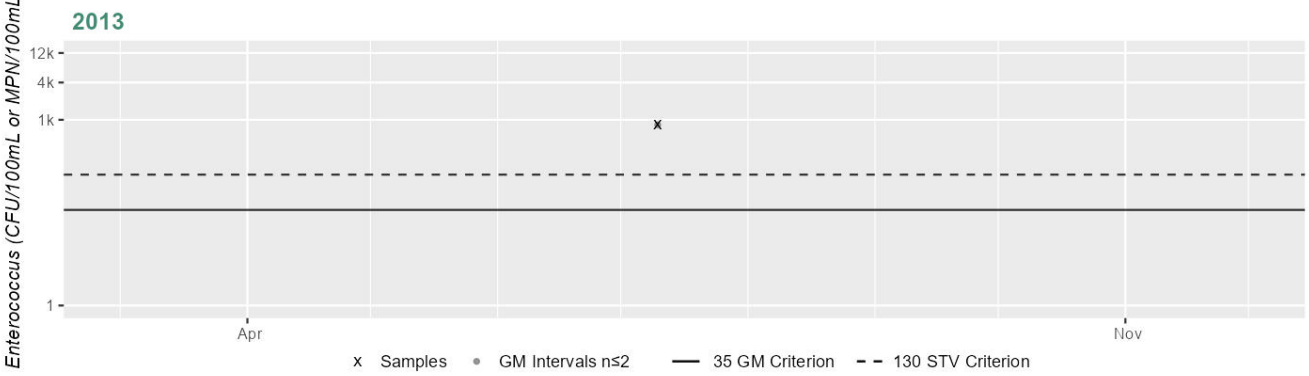
Variable*	Result
Samples	1
SeasGM	602
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station EPA_PM61 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	830
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted at 28 sites in the Palmer River AU (MA53-05) between 2013-2019, in support of the EPA/RIDEM/DEP joint effort in the Palmer River watershed (NWQI). *E. coli* concentrations ranged 10 to >24,196MPN and *Enterococcus* ranged 209 - 1,223MPN. A significant increase in *E. coli* concentrations was noted ~two-thirds of the way down the AU, (though upstream of the Rocky Run discharge) between sample sites upstream and downstream of a series of oxbows and drainage ditches in the saltmarsh. It was theorized that the decrease in flow through the oxbows and in the ditches may encourage proliferation of bacteria, especially combined with the copious phragmites and other saltmarsh vegetation which are known to harbor bacteria. No human source of bacteria was ever identified in the AU. Agricultural land-use was noted in the watershed and this potential source was investigated/addressed by the Mass Association of Conservation Districts (MACD) in partnership with NRCS, under the NWQI from 2014-2018.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Palmer River (MA53-05): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0547 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Palmer River (MA53-05) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_PM30 and EPA_PM44. The shellfish growing areas (0.0547 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Secondary Contact Recreation Use of Palmer River (MA53-05) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in the Palmer River (MA53-05) from 2013-2019 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_PM31 [Mainstem Palmer River at Reed St Bridge, downstream of dam, Rehoboth] from 2015-2019 (n=2-8/yr), EPA_PM30 [Mainstem Palmer River at Providence St, Rehoboth] from 2014-2019 (n=1-8/yr), EPA_PM44 [Mainstem Palmer River just upstream confluence Rocky Run, Rehoboth] from 2015-2019 (n=2-8/yr), EPA_PM59 [Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~ 0.3 miles upstream of I-195, Rehoboth] from Jul 2013 (n=1), EPA_PM60 [Palmer River Mainstem under westbound I-195, Rehoboth] from Jul 2013 (n=1), EPA_PM61 [Unnamed tributary to Palmer Mainstem discharging at left bank of mainstem, ~ 500 ft downstream I-195, Rehoboth] from Jul 2013 (n=1). Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM30 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >68 CFU/100ml (2016-2019, 71-100%), 4 yrs had ≥2 samples exceed the 252 CFU/100ml STV (2016-2019, n=2-3), and cumulatively across years 84% of intervals had GMs >68 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_PM44 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >68 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 252 CFU/100ml STV (2016-2019, n=4-6), and cumulatively across years 100% of intervals had GMs >68 CFU/100ml. *Enterococcus* data from EPA_PM59, EPA_PM60, and EPA_PM61 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. While *Enterococcus* data from EPA_PM31 meet 2024 CALM guidance, *Enterococcus* data from EPA_PM30 and EPA_PM44 are indicative of an *Enterococcus* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM30	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Providence Street, Rehoboth	41.800378	-71.272824
EPA_PM31	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River @ Reed St Bridge, downstream of dam, Rehoboth	41.809170	-71.278281
EPA_PM44	US Environmental Protection Agency	Water Quality	Palmer River	Mainstem Palmer River just upstream confluence Rocky Run, Rehoboth	41.783752	-71.276089

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM59	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at right bank of mainstem, ~ 0.3 miles upstream of I-195, Rehoboth	41.783689	-71.278034
EPA_PM60	US Environmental Protection Agency	Water Quality	Palmer River	Palmer River Mainstem under westbound I-195, Rehoboth	41.779038	-71.278985
EPA_PM61	US Environmental Protection Agency	Water Quality	Palmer River	Unnamed tributary to Palmer Mainstem discharging at left bank of mainstem, ~ 500 ft downstream I-195, Rehoboth	41.777730	-71.280990

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2020) (MassDEP Undated 2)

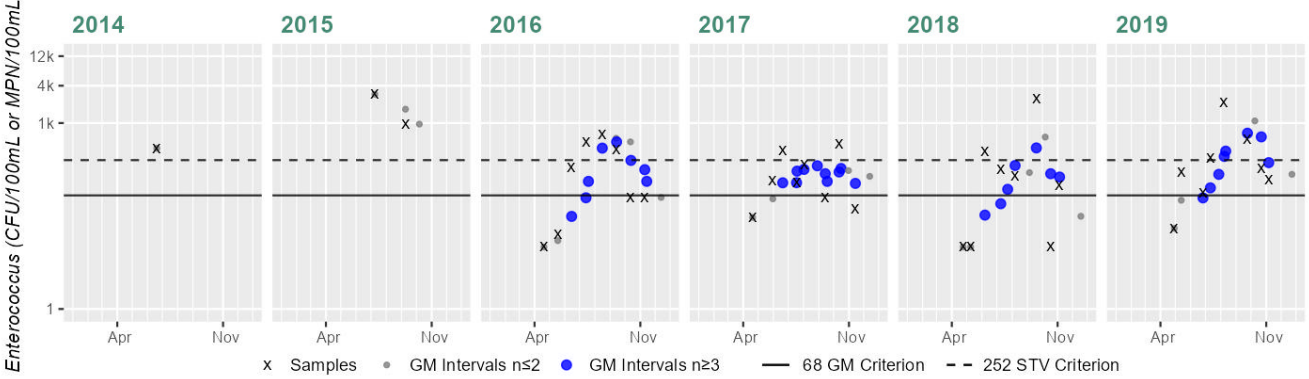
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_PM30	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	391	391	391
EPA_PM30	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	960	2910	1671
EPA_PM30	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	10	651	104
EPA_PM30	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	30	464	117
EPA_PM30	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	10	2481	82
EPA_PM30	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	8	20	2143	189
EPA_PM31	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	41	120	70
EPA_PM31	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	2	41	8
EPA_PM31	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	10	85	16
EPA_PM31	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	10	426	68
EPA_PM31	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	6	10	144	22
EPA_PM44	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	2760	3650	3173
EPA_PM44	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	54	1842	317
EPA_PM44	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	31	7701	503
EPA_PM44	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	10	2481	138
EPA_PM44	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	8	31	2064	355

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_PM59	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	1223	1223	1223
EPA_PM60	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	602	602	601
EPA_PM61	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	830	830	829

Station EPA_PM30 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	391
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1671
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	8
SeasGM	104
#GMI	8
#GMI Ex	6
%GMI Ex	75%
n>STV	3
%n>STV	37%

Variable*	Result
Samples	8
SeasGM	117
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	82
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	189
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	3
%n>STV	37%

Cumulative %GMI Exceedance

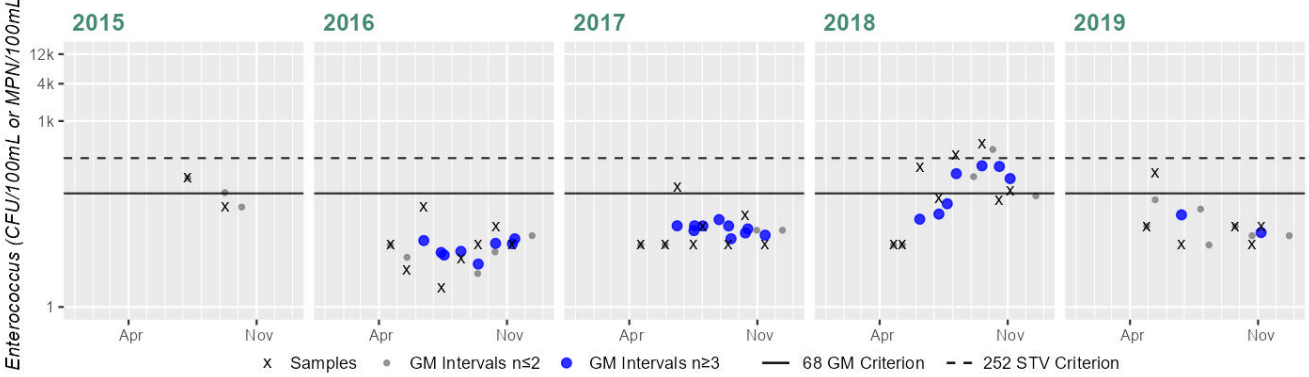
Current (2011-2022)

84%

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

Station EPA_PM31 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	70
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	8
SeasGM	16
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	68
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	2
%n>STV	25%

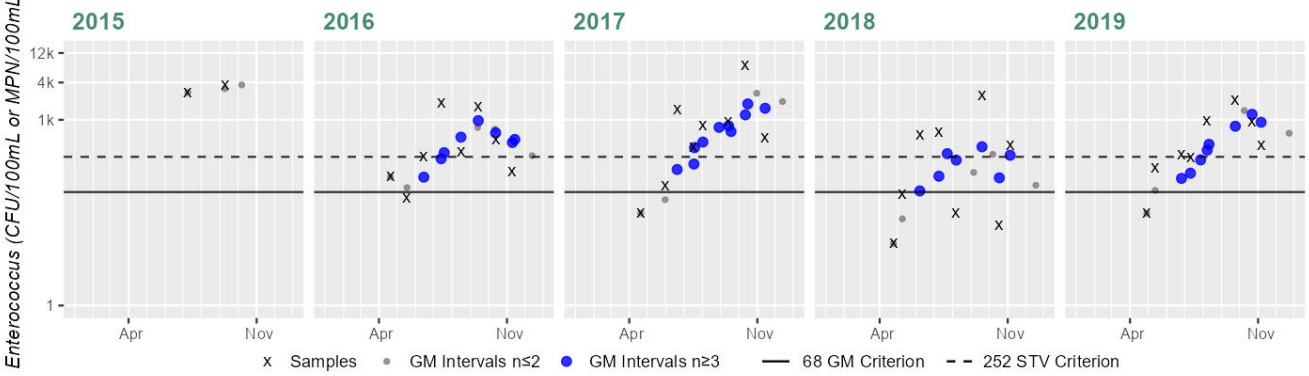
Variable*	Result
Samples	6
SeasGM	22
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Station EPA_PM44 - Enterococcus

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



Variable*	Result
Samples	2
SeasGM	3173
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	8
SeasGM	317
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	5
%n>STV	62%

Variable*	Result
Samples	8
SeasGM	503
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	6
%n>STV	75%

Variable*	Result
Samples	8
SeasGM	138
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	4
%n>STV	50%

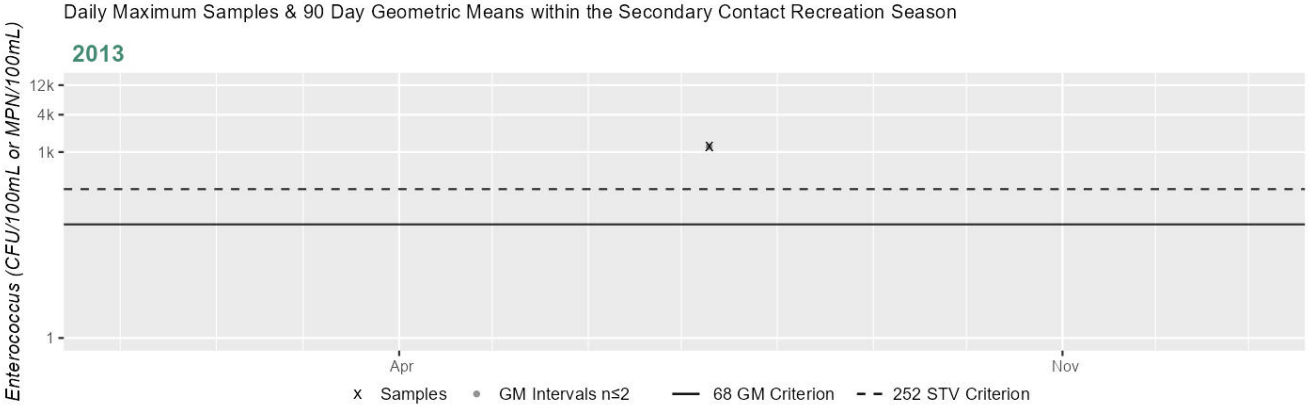
Variable*	Result
Samples	8
SeasGM	355
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	5
%n>STV	62%

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 EPA_PM59 - Enterococcus

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



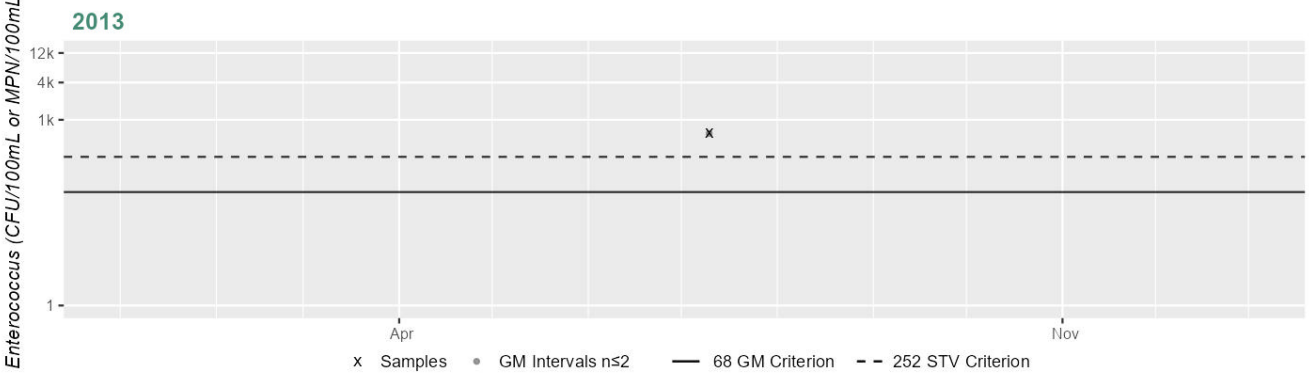
Variable*	Result
Samples	1
SeasGM	1223
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station EPA_PM60 - Enterococcus

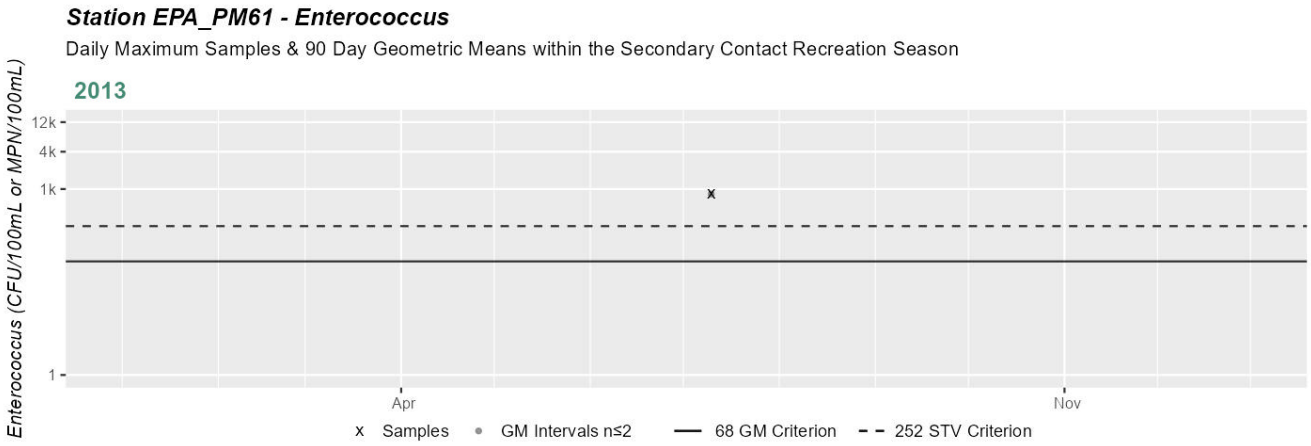
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	602
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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



Variable*	Result
Samples	1
SeasGM	830
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

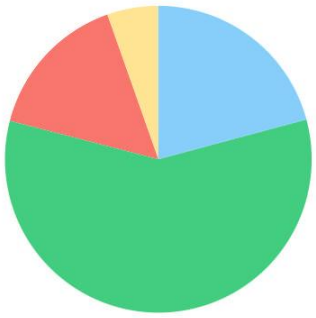
Summary
Palmer River (MA53-05): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0547 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Palmer River (MA53-22)

Location:	Headwaters, confluence of the East and West branches of the Palmer River, Rehoboth to the inlet of Shad Factory Pond, Rehoboth (formerly part of 2014 segment: Palmer River MA53-04).
AU Type:	RIVER
AU Size:	4.8 MILES
Classification/Qualifier:	B: CWF

Palmer River (MA53-22)

Watershed Area: 30.72 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	30.72	9.45	9.80	3.86
Agriculture	5.4%	8.9%	6.7%	8.9%
Developed	15.6%	23.3%	14.2%	18.7%
Natural	58.2%	60.4%	54.1%	60.9%
Wetland	20.8%	7.4%	25.1%	11.4%
Impervious	5.2%	7.2%	4.2%	5.1%

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)	35086	Unchanged
5	5	Fecal Coliform	35086	Unchanged
5	5	Lack of a Coldwater Assemblage	--	Unchanged
5	5	Temperature	--	Unchanged

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

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Agriculture (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Waterfowl (N)	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	--	X	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Fecal Coliform	Waterfowl (N)	--	--	--	X	--
Lack of a Coldwater Assemblage	Source Unknown (N)	X	--	--	--	--
Temperature	Source Unknown (N)	X	--	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Palmer River (MA53-22) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Palmer River (MA53-22) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations ~830 feet upstream of Danforth St in Rehoboth (W2380/MAP2-347) during the summer of 2013 (n=8). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) noted.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2380	MassDEP	Water Quality	Palmer River	[approximately 830 feet upstream/east from Danforth Street, Rehoboth]	41.846114	-71.262551

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)

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

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2380	2013	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2380 on Palmer River (MA53-22) during 8 site visits between May 2013 and Sep 2013. 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 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2380	2013	8	5	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2380	Palmer River	2013	Aesthetics Impaired?	No	5	8
W2380	Palmer River	2013	Aesthetics Impaired?	NR	3	8
W2380	Palmer River	2013	Aquatic Plant Density, Overall	None	2	8
W2380	Palmer River	2013	Aquatic Plant Density, Overall	Sparse	3	8
W2380	Palmer River	2013	Aquatic Plant Density, Overall	Unobservable	3	8
W2380	Palmer River	2013	Color	Light Yellow/Tan	6	8
W2380	Palmer River	2013	Color	Unobservable	2	8
W2380	Palmer River	2013	Objectionable Deposits	No	7	8
W2380	Palmer River	2013	Objectionable Deposits	Unobservable	1	8
W2380	Palmer River	2013	Odor	None	7	8
W2380	Palmer River	2013	Odor	NR	1	8
W2380	Palmer River	2013	Periphyton Density, Filamentous	Moderate	1	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2380	Palmer River	2013	Periphyton Density, Filamentous	None	2	8
W2380	Palmer River	2013	Periphyton Density, Filamentous	NR	1	8
W2380	Palmer River	2013	Periphyton Density, Filamentous	Sparse	2	8
W2380	Palmer River	2013	Periphyton Density, Filamentous	Unobservable	2	8
W2380	Palmer River	2013	Periphyton Density, Film	Moderate	1	8
W2380	Palmer River	2013	Periphyton Density, Film	None	4	8
W2380	Palmer River	2013	Periphyton Density, Film	NR	1	8
W2380	Palmer River	2013	Periphyton Density, Film	Unobservable	2	8
W2380	Palmer River	2013	Scum	No	7	8
W2380	Palmer River	2013	Scum	Yes	1	8
W2380	Palmer River	2013	Turbidity	Moderately Turbid	1	8
W2380	Palmer River	2013	Turbidity	None	4	8
W2380	Palmer River	2013	Turbidity	Slightly Turbid	2	8
W2380	Palmer River	2013	Turbidity	Unobservable	1	8

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Palmer River (MA53-22) 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 W2380. The prior Fecal Coliform impairment is being carried forward. MassDEP staff collected *E. coli* bacteria samples in the Palmer River (MA53-22) at W2380 [~830 ft upstream/E from Danforth St, Rehoboth] from May-Sep 2013 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2380 indicated 100% of intervals had GMs >126 CFU/100ml, 2 samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 426 CFU/100ml. *E. coli* data from W2380 are indicative of an *E. coli* impairment.

Monitoring Stations

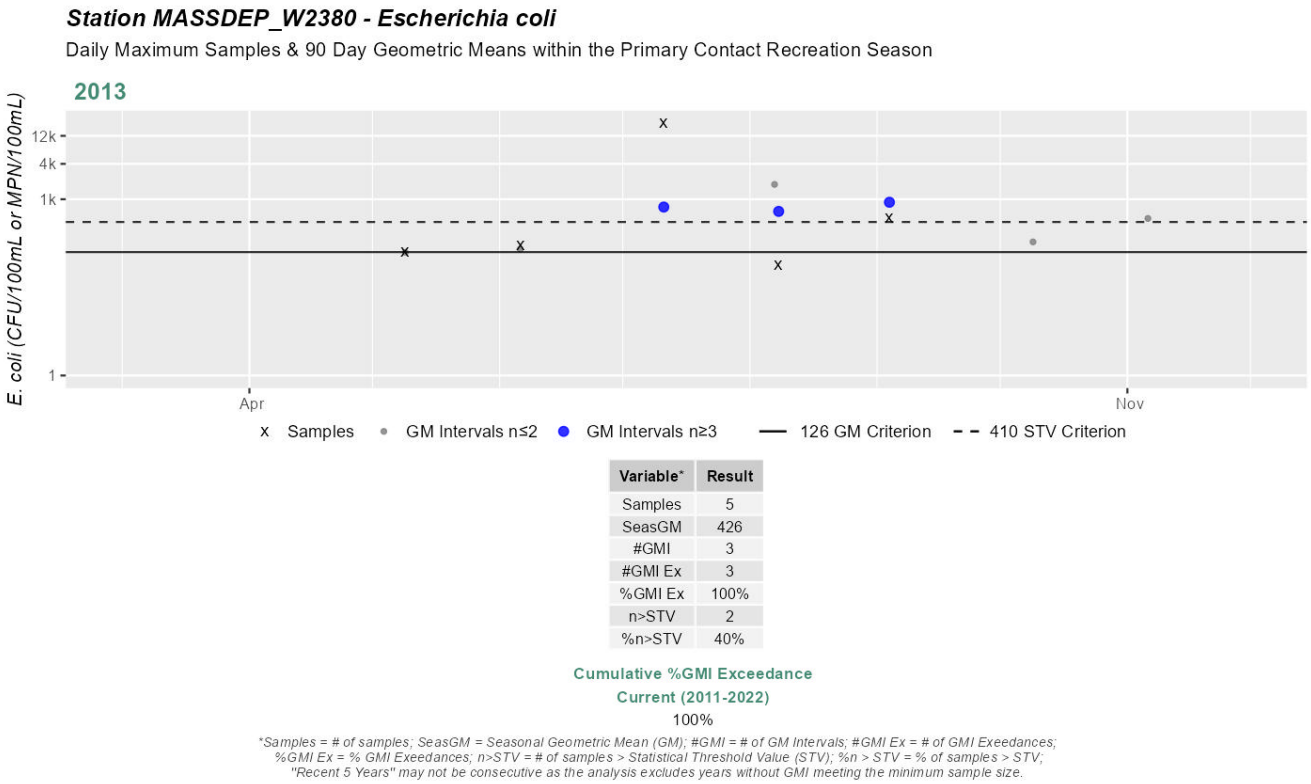
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2380	MassDEP	Water Quality	Palmer River	[approximately 830 feet upstream/east from Danforth Street, Rehoboth]	41.846114	-71.262551

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5)

[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
W2380	MassDEP	E. coli	05/09/13	09/04/13	5	75	19860	426



Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted in 2014 and 2015 on an unnamed tributary discharging to the upstream half of the Palmer River AU (MA53-22). Two sites were sampled on the tributary (at River Street and Colonial Way), with *E. coli* concentrations ranging 44 to 1,986MPN. Potential agricultural sources of bacteria were observed in this area and human sources were ruled out.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for the Palmer River (MA53-22) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at W2380. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Palmer River (MA53-22) from 1999-2013 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2380 [~830 ft upstream/E from Danforth St, Rehoboth] from May-Sep 2013 (n=5), W0626 [downstream/W at Danforth St, Rehoboth] from Jun 1999 (n=1), W0627 [downstream/S at Winthrop St (Rt. 44), Rehoboth] from Jul-Aug 1999 (n=2), W0665 [Wilmarth Bridge Rd, Rehoboth] from May-Sep 2009 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2380 indicated 100% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 426 CFU/100ml. *E. coli* data from W2380 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0626	MassDEP	Water Quality	Palmer River	[downstream/west at Danforth Street, Rehoboth]	41.845837	-71.265489
W0627	MassDEP	Water Quality	Palmer River	[downstream/south at Winthrop Street (Route 44), Rehoboth]	41.841055	-71.267858
W0665	MassDEP	Water Quality	Palmer River	[Wilmarth Bridge Road, Rehoboth]	41.833493	-71.277651
W2380	MassDEP	Water Quality	Palmer River	[approximately 830 feet upstream/east from Danforth Street, Rehoboth]	41.846114	-71.262551

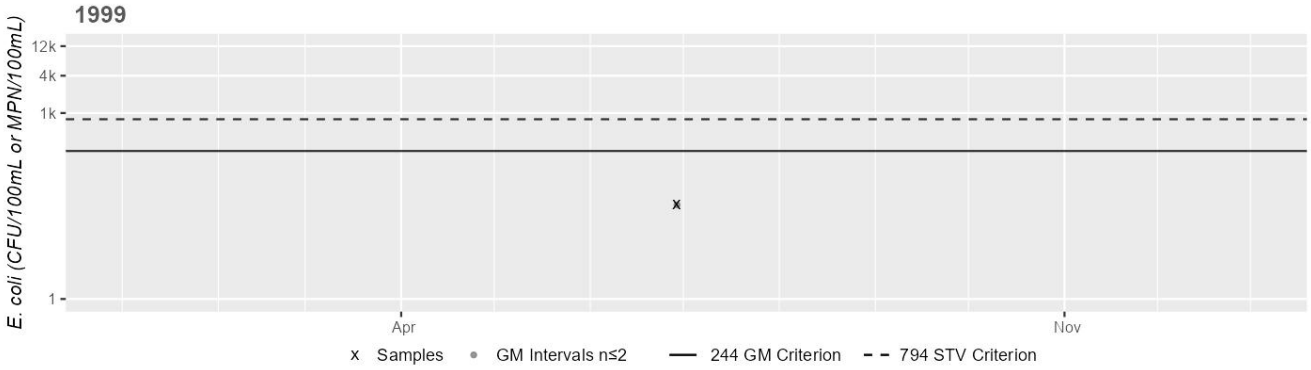
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0626	MassDEP	E. coli	06/29/99	06/29/99	1	33	33	33
W0627	MassDEP	E. coli	07/29/99	08/31/99	2	230	4100	971
W0665	MassDEP	E. coli	05/12/09	09/29/09	6	60	440	154
W2380	MassDEP	E. coli	05/09/13	09/04/13	5	75	19860	426

Station MASSDEP_W0626 - Escherichia coli

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



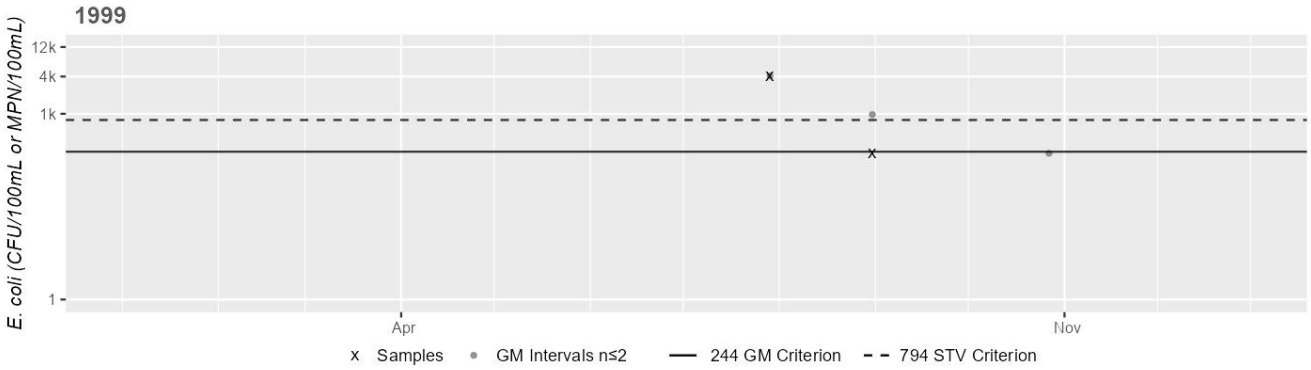
Variable*	Result
Samples	1
SeasGM	33
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W0627 - Escherichia coli

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



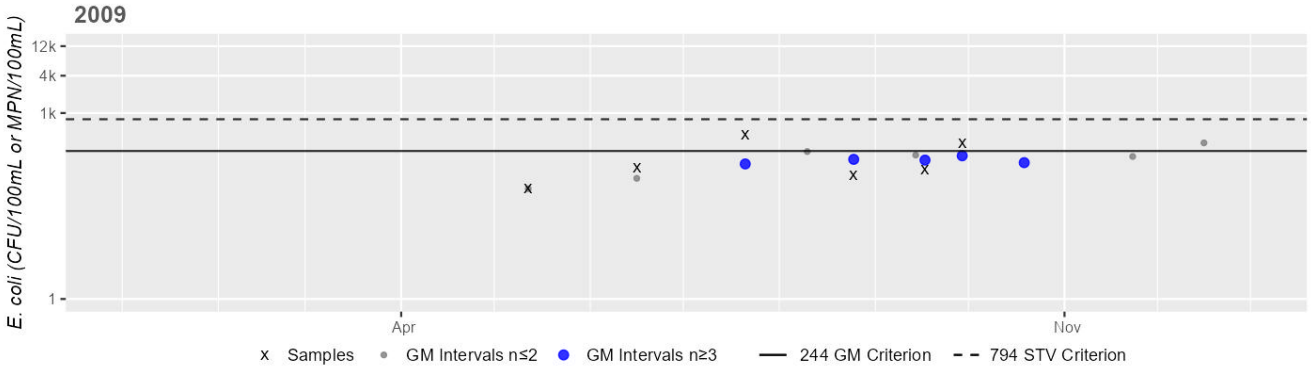
Variable*	Result
Samples	2
SeasGM	971
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W0665 - Escherichia coli

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



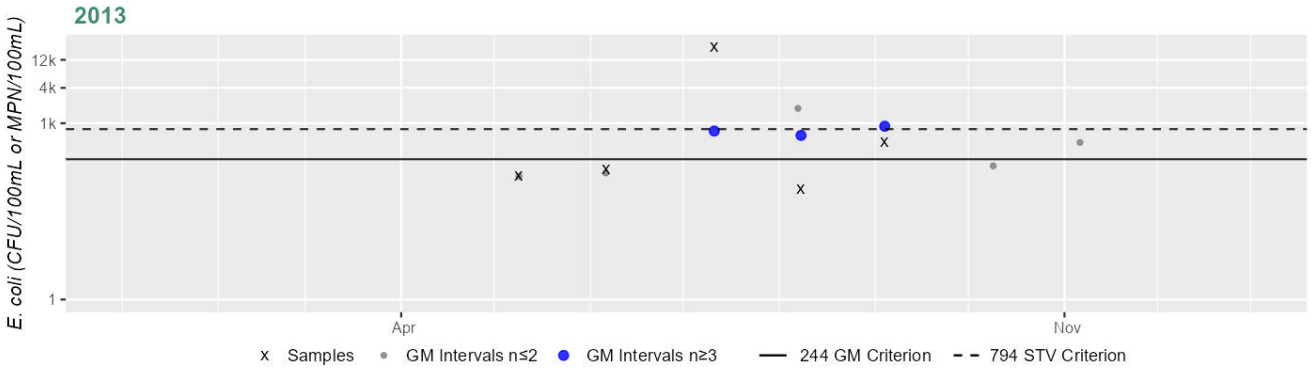
Variable*	Result
Samples	6
SeasGM	154
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2380 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	426
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	1
%n>STV	20%

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

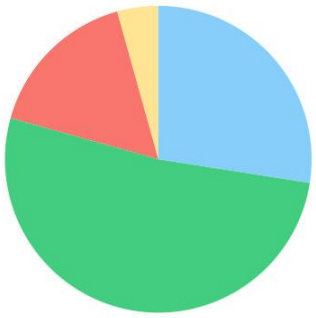
**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes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

Rocky Run (MA53-16)

Location:	Headwaters in wetland east of Simmons Street, Rehoboth to approximately 0.1 mile east of Mason Street, Rehoboth (prior to 2010 this segment included estuarine portion).
AU Type:	RIVER
AU Size:	8.6 MILES
Classification/Qualifier:	B

Rocky Run (MA53-16)

Watershed Area: 10.47 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	10.47	6.39	2.92	2.24
Agriculture	4.3%	6%	5.2%	6.5%
Developed	16.3%	20.9%	11.2%	11.9%
Natural	51.9%	52.9%	45.5%	46.8%
Wetland	27.5%	20.2%	38.2%	34.8%
Impervious	5.3%	6.6%	3.3%	3.3%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Enterococcus	35096	Changed
5	4a	Escherichia Coli (E. Coli)	35096	Unchanged
5	4a	Fecal Coliform	35096	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Enterococcus	Agriculture (Y)	--	--	--	X	--
Enterococcus	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	X	--
Enterococcus	Source Unknown (N)	--	--	--	X	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Agriculture (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	--	X	--
Fecal Coliform	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	X	--
Fecal Coliform	Source Unknown (N)	--	--	--	X	--

Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Enterococcus	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Bacteria TMDL for the Palmer River Basin (Report CN 182.0, approved 9/22/2004, ATTAINS Action ID: 35096)

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Rocky Run (MA53-16) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Rocky Run (MA53-16) is assessed as Fully Supporting. MassDEP aesthetics observations for station W0638 on Rocky Run (Davis St, Rehoboth), can be summarized as follows: there were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews during summer 2015 (n=3).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0638	MassDEP	Water Quality	Rocky Run	[at power lines crossing Davis Street, Rehoboth. (just east of First Street)]	41.781622	-71.250435

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0638	2015	3	Aesthetic observations were made by MassDEP field sampling crews at Station W0638 on Rocky Run (MA53-16) during 3 site visits between Jul 2015 and Sep 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 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0638	2015	3	3	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0638	Rocky Run	2015	Aquatic Plant Density, Overall	Sparse	3	3
W0638	Rocky Run	2015	Color	Light Yellow/Tan	2	3
W0638	Rocky Run	2015	Color	None	1	3
W0638	Rocky Run	2015	Odor	None	3	3
W0638	Rocky Run	2015	Periphyton Density, Filamentous	None	3	3
W0638	Rocky Run	2015	Periphyton Density, Film	Moderate	1	3

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0638	Rocky Run	2015	Periphyton Density, Film	Sparse	2	3
W0638	Rocky Run	2015	Turbidity	Slightly Turbid	3	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Rocky Run (MA53-16) 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 EPA_RR03 & W0638 and W2920, and the *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_RR03. The prior Fecal Coliform impairment is being carried forward. EPA and MassDEP staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in Rocky Run (MA53-16) from 2012-2019 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_RR24 [Rocky Run at Plain St, Rehoboth] from 2012-2013 (EC n=1-2/yr), EPA_RR25 [Rocky Run at Martin St, Rehoboth] from 2012-2013 (EC n=1-2/yr), EPA_RR26 [Rocky Run at Pleasant St, Rehoboth] from 2012-2013 (EC n=1-2/yr), EPA_RR03 [Rocky Run at Davis St, Rehoboth] from 2015-2019 (Ent n=1-7/yr), EPA_RR03 & W0638 [at power lines crossing Davis St, Rehoboth. (just E of First St) & Rocky Run at Davis St, Rehoboth] from 2012-2013 and 2015-2019 (EC n=1-7/yr), W2920 [N of the northern end of Meadowlark Drive, Rehoboth] from 2018-2019 (EC n=7/yr). *E. coli* data from EPA_RR24, EPA_RR25, and EPA_RR26 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_RR03 & W0638 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2015-2019, 60-100%), 3 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2016 and 2018-2019, n=2-3), and cumulatively across years 66% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from W2920 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2018 and 2019, 66 & 85%), 1 yr had ≥2 samples exceed the 410 CFU/100ml STV (2019, n=3), and cumulatively across years 76% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_RR03 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 66-100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=2-4), and cumulatively across years 95% of intervals had GMs >35 CFU/100ml. *E. coli* data from EPA_RR03 & W0638 and W2920 and *Enterococcus* data from EPA_RR03 are indicative of *E. coli* and *Enterococcus* impairments.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0638	MassDEP	Water Quality	Rocky Run	[at power lines crossing Davis Street, Rehoboth. (just east of First Street)]	41.781622	-71.250435
W2920	MassDEP	Water Quality	Rocky Run	[north of the northern end of Meadowlark Drive, Rehoboth]	41.784529	-71.261392
EPA_RR03	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Davis Street, Rehoboth	41.781562	-71.250278
EPA_RR24	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Plain Street, Rehoboth	41.811416	-71.230218
EPA_RR25	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Martin Street, Rehoboth	41.797461	-71.239522
EPA_RR26	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Pleasant Street, Rehoboth	41.779463	-71.239194

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

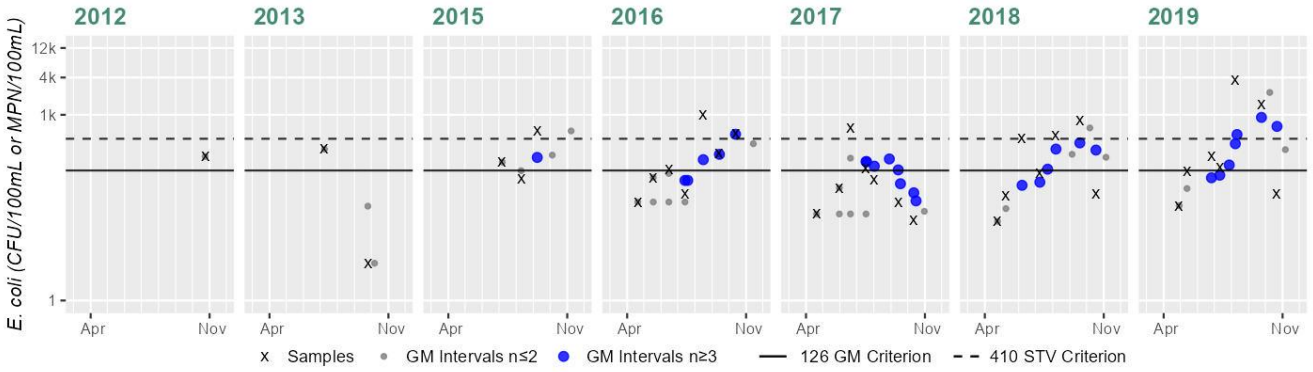
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0638	MassDEP	E. coli	07/07/15	09/08/15	3	91	548	204
W0638	MassDEP	E. coli	05/17/16	10/12/16	6	52	980	205
W0638	MassDEP	E. coli	05/31/17	10/12/17	6	20	602	84
W0638	MassDEP	E. coli	04/24/18	11/05/18	7	19	816	136
W0638	MassDEP	E. coli	04/29/19	11/06/19	7	34	3650	230
W2920	MassDEP	E. coli	04/24/18	11/05/18	7	15	816	168
W2920	MassDEP	E. coli	04/29/19	11/06/19	7	52	5480	310
EPA_RR03	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	212	212	211
EPA_RR03	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	4	279	33
EPA_RR03	US Environmental Protection Agency	Enterococci	09/09/15	09/09/15	1	185	185	184
EPA_RR03	US Environmental Protection Agency	E. coli	04/19/16	04/19/16	1	39	39	38
EPA_RR03	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	10	775	120
EPA_RR03	US Environmental Protection Agency	E. coli	04/20/17	04/20/17	1	25	25	24
EPA_RR03	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	10	776	127
EPA_RR03	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	435	63
EPA_RR03	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	5	10	3255	131
EPA_RR24	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	10	10	10
EPA_RR24	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	108	56
EPA_RR25	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_RR25	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	44	64	53
EPA_RR26	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	34	34	34
EPA_RR26	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	70	129	95

Station EPA_RR03 & MASSDEP_W0638 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	212
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	3
SeasGM	204
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	7
SeasGM	162
#GMI	5
#GMI Ex	3
%GMI Ex	60%
n>STV	2
%n>STV	28%

Variable*	Result
Samples	7
SeasGM	70
#GMI	8
#GMI Ex	5
%GMI Ex	62%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	136
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	3
%n>STV	42%

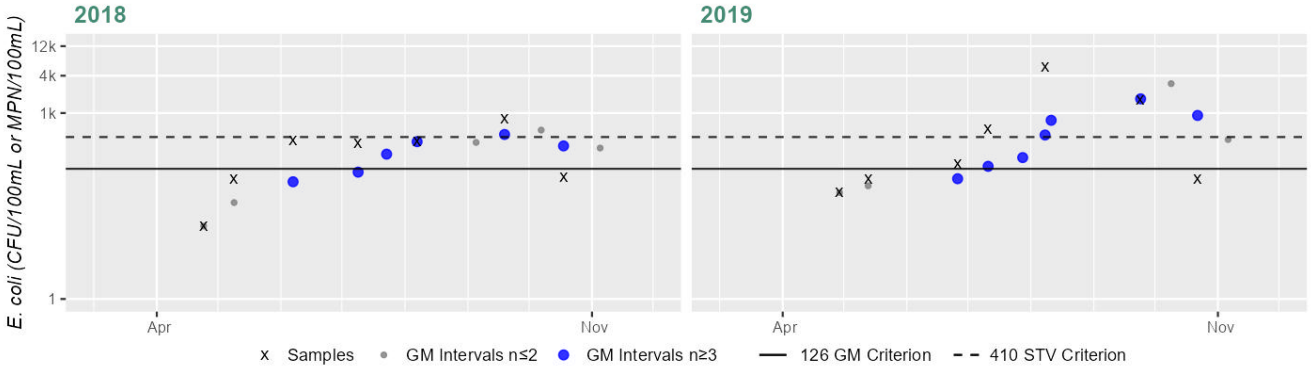
Variable*	Result
Samples	7
SeasGM	230
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	2
%n>STV	28%

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.*

Station MASSDEP_W2920 - Escherichia coli

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



Variable*	Result
Samples	7
SeasGM	168
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	1
%n>STV	14%

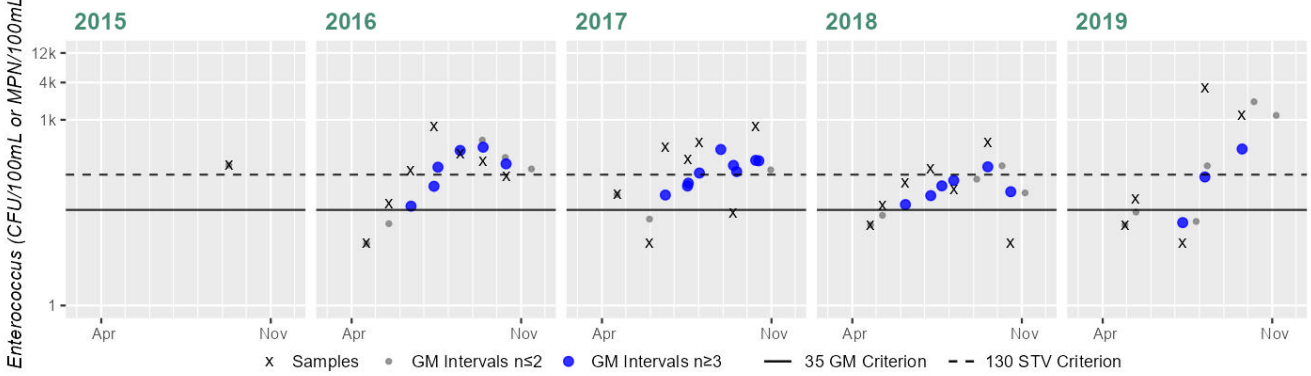
Variable*	Result
Samples	7
SeasGM	310
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	3
%n>STV	42%

Cumulative %GMI Exceedance
Current (2011-2022)
76%

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

Station EPA_RR03 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	185
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	120
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	127
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	63
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	28%

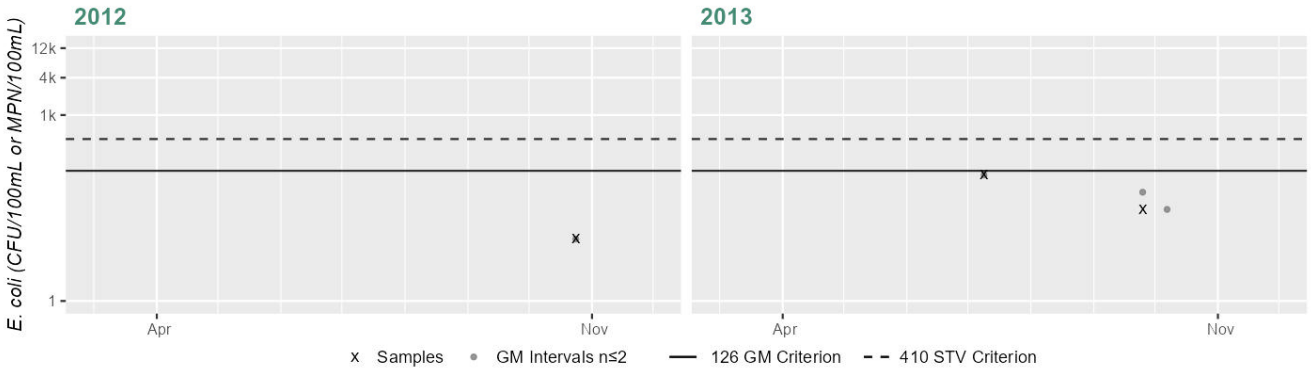
Variable*	Result
Samples	5
SeasGM	131
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	2
%n>STV	40%

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

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

Station EPA_RR24 - Escherichia coli

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



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

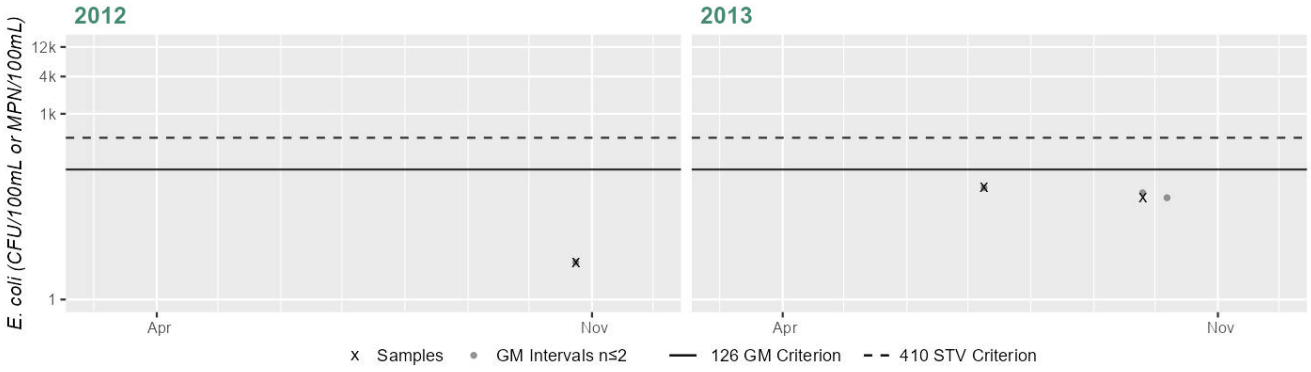
Variable*	Result
Samples	2
SeasGM	56
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_RR25 - Escherichia coli

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

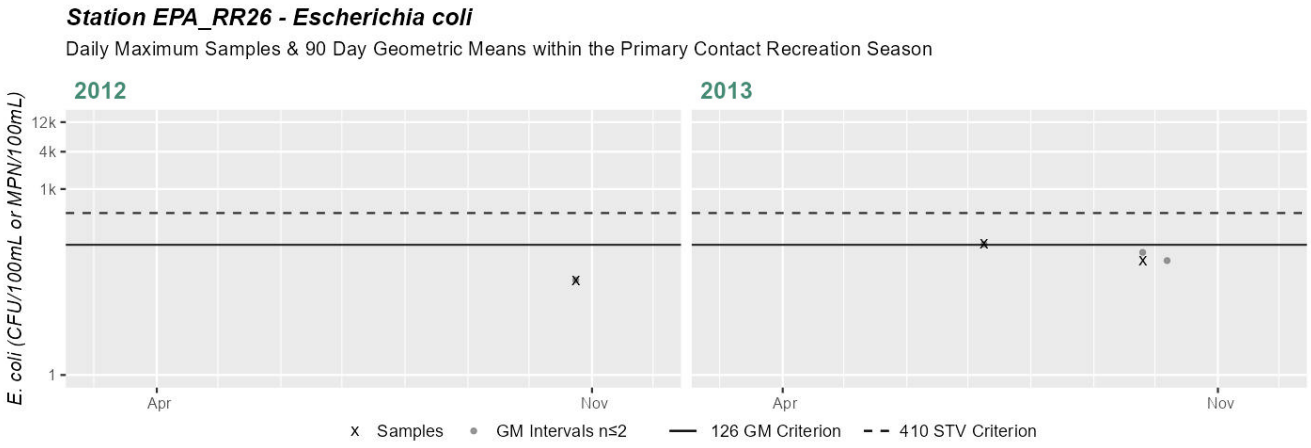


Variable*	Result
Samples	1
SeasGM	4
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	53
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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



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

Variable*	Result
Samples	2
SeasGM	95
#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.

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
Prior to 2011, BST work was conducted along the Rocky Run Brook AU (MA53-16) and on one unnamed tributary, with a max dry weather *E. coli* concentration of 24,196MPN in the unnamed tributary downstream of Davis Street. Additional BST work was conducted in 2011-2015 at 2 sites along Rocky Run Brook with *E. coli* concentrations ranging 78 - >2,419.6MPN and 5 sites on the unnamed tributary with a max *E. coli* concentration of 241,960MPN. In 2013/2014 a human source of bacteria was identified discharging from a pipe underneath Davis Street into the unnamed tributary. The source was subsequently removed by the Town of Rehoboth Board of Health. In 2015, human marker analysis at Mason Street indicated "inconclusive" evidence of a human source. Additional BST work was conducted along Rocky Run Brook from 2016-2019 as part of the EPA/RIDEM/DEP joint effort in the Palmer River watershed (NWQI); *E. coli* ranged 10 to 15,531MPN. No additional correctable sources were found after 2014.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Rocky Run (MA53-16) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at EPA_RR03 & W0638 and W2920. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Rocky Run (MA53-16) from 2009-2019 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_RR24 [Rocky Run at Plain St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_RR25 [Rocky Run at Martin St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_RR26 [Rocky Run at Pleasant St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_RR03 & W0638 [at power lines crossing Davis St, Rehoboth. (just E of First St) & Rocky Run at Davis St, Rehoboth] from May-Sep 2009 (historic n=6) and 2012-2013 and 2015-2019 (current n=1-8/yr), W2920 [N of the northern end of Meadowlark Drive, Rehoboth] from 2018-2019 (n=8/yr). *E. coli* data from EPA_RR24, EPA_RR25, and EPA_RR26 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_RR03 & W0638 indicated 2 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2018 and 2019, 42 & 50%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2019, n=2), and cumulatively across years 25% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from W2920 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2018 and 2019, 42 & 62%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2019, n=2), and cumulatively across years 53% of intervals had GMs >244 CFU/100ml. *E. coli* data from EPA_RR03 & W0638 and W2920 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0638	MassDEP	Water Quality	Rocky Run	[at power lines crossing Davis Street, Rehoboth. (just east of First Street)]	41.781622	-71.250435
W2920	MassDEP	Water Quality	Rocky Run	[north of the northern end of Meadowlark Drive, Rehoboth]	41.784529	-71.261392
EPA_RR03	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Davis Street, Rehoboth	41.781562	-71.250278
EPA_RR24	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Plain Street, Rehoboth	41.811416	-71.230218
EPA_RR25	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Martin Street, Rehoboth	41.797461	-71.239522
EPA_RR26	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Pleasant Street, Rehoboth	41.779463	-71.239194

Bacteria Data

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

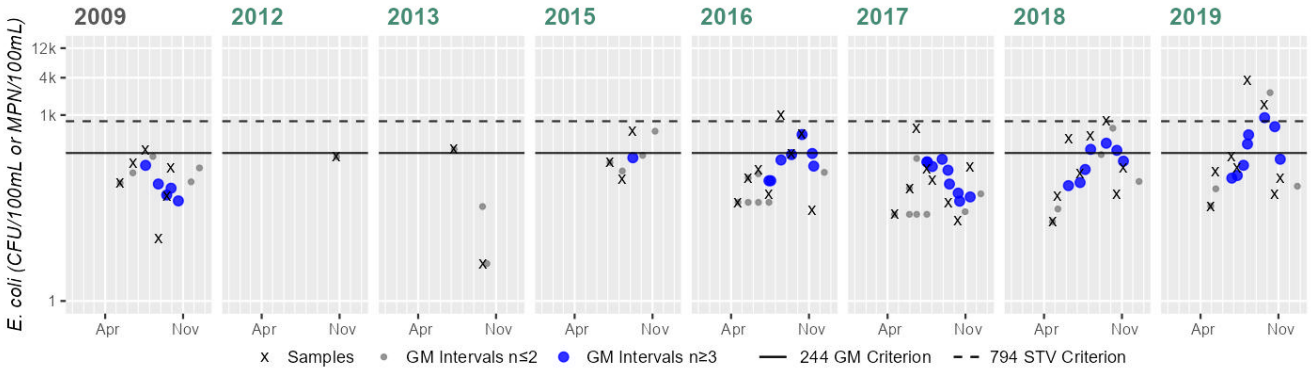
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (MassDEP Undated 2)

[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
W0638	MassDEP	E. coli	05/12/09	09/29/09	6	10	270	79
W0638	MassDEP	E. coli	07/07/15	09/08/15	3	91	548	204
W0638	MassDEP	E. coli	05/17/16	11/09/16	7	29	980	155
W0638	MassDEP	E. coli	05/31/17	11/14/17	7	20	602	91
W0638	MassDEP	E. coli	04/24/18	11/05/18	8	19	816	136
W0638	MassDEP	E. coli	04/29/19	11/06/19	8	34	3650	206
W2920	MassDEP	E. coli	04/24/18	11/05/18	8	15	816	161
W2920	MassDEP	E. coli	04/29/19	11/06/19	8	52	5480	275
EPA_RR03	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	212	212	211
EPA_RR03	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	4	279	33
EPA_RR03	US Environmental Protection Agency	E. coli	04/19/16	04/19/16	1	39	39	38
EPA_RR03	US Environmental Protection Agency	E. coli	04/20/17	04/20/17	1	25	25	24
EPA_RR24	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	10	10	10
EPA_RR24	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	30	108	56
EPA_RR25	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_RR25	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	44	64	53
EPA_RR26	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	34	34	34
EPA_RR26	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	70	129	95

Station EPA_RR03 & MASSDEP_W0638 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	79
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	212
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

Variable*	Result
Samples	3
SeasGM	204
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	130
#GMI	7
#GMI Ex	1
%GMI Ex	14%
n>STV	1
%n>STV	12%

Variable*	Result
Samples	8
SeasGM	77
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	8
SeasGM	136
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	1
%n>STV	12%

Variable*	Result
Samples	8
SeasGM	206
#GMI	8
#GMI Ex	4
%GMI Ex	50%
n>STV	2
%n>STV	25%

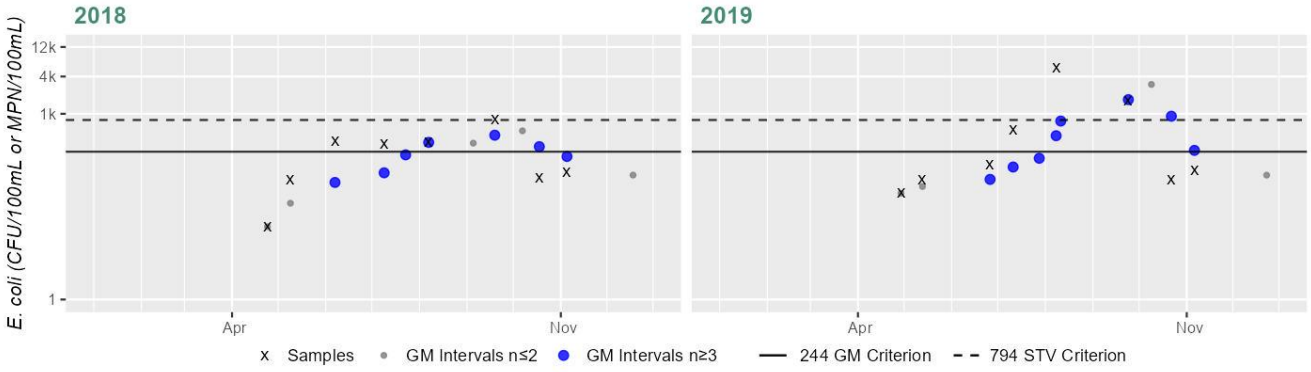
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

Cumulative %GMI Exceedance
Current (2011-2022)
25%

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

Station MASSDEP_W2920 - Escherichia coli

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



Variable*	Result
Samples	8
SeasGM	161
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	1
%n>STV	12%

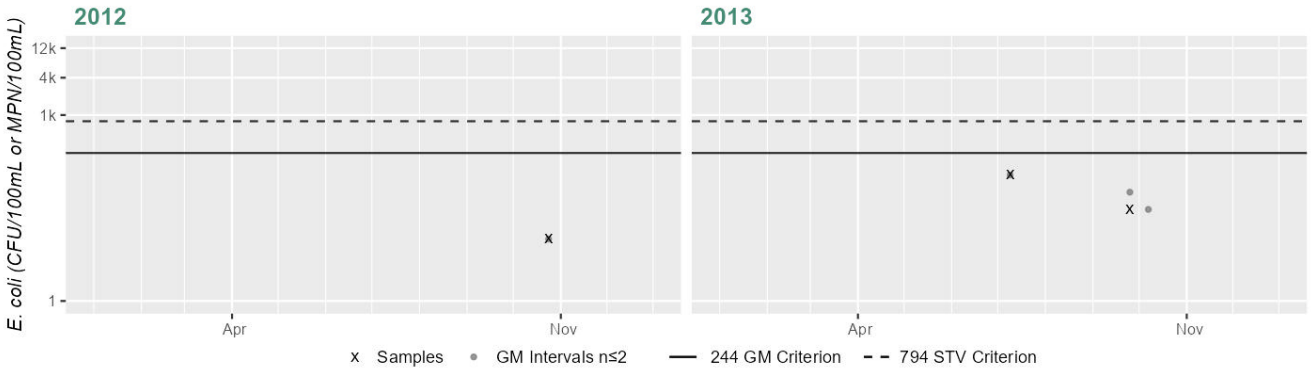
Variable*	Result
Samples	8
SeasGM	275
#GMI	8
#GMI Ex	5
%GMI Ex	62%
n>STV	2
%n>STV	25%

Cumulative %GMI Exceedance
Current (2011-2022)
53%

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

Station EPA_RR24 - Escherichia coli

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



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

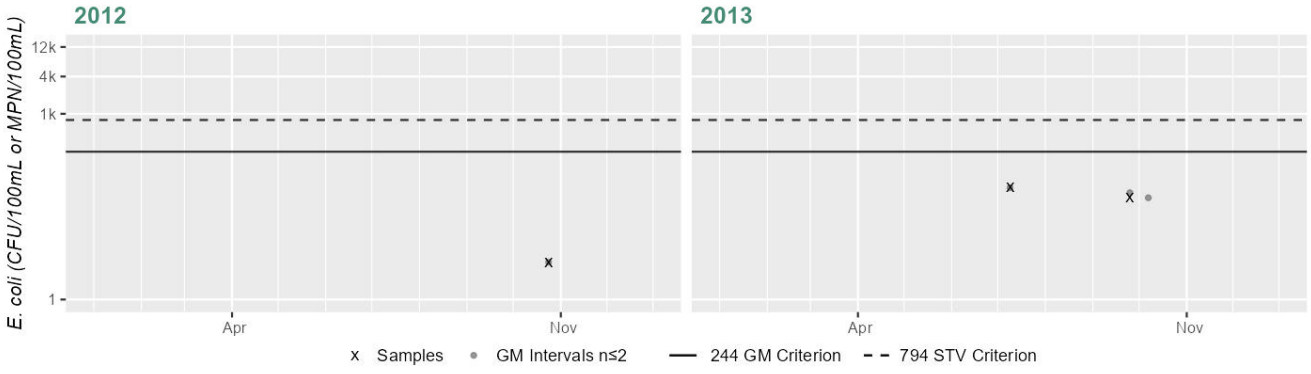
Variable*	Result
Samples	2
SeasGM	56
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_RR25 - Escherichia coli

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



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

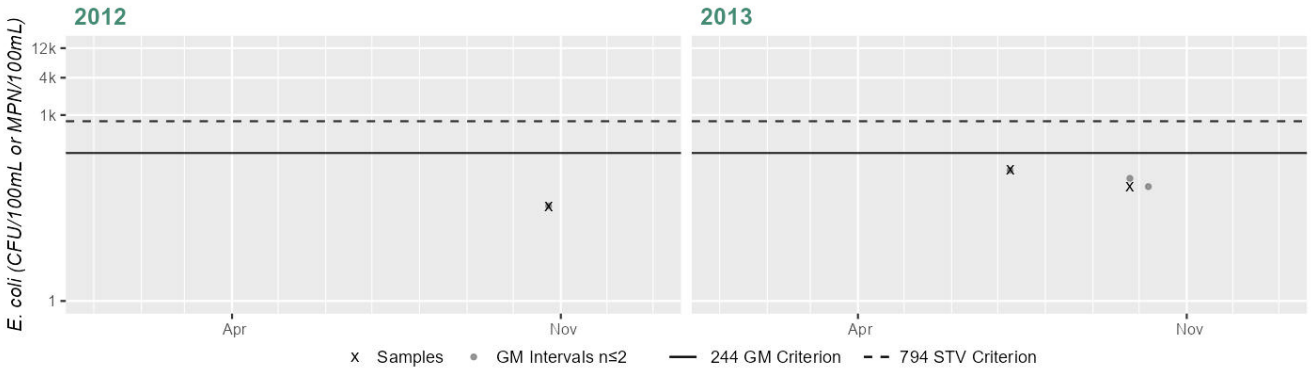
Variable*	Result
Samples	2
SeasGM	53
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_RR26 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	95
#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.*

Rocky Run (MA53-18)

Location:	approximately 0.1 mile east of Mason Street, Rehoboth to confluence with Palmer River, Rehoboth (formerly part of 2008 segment: Rocky Run MA53-16).
AU Type:	ESTUARY
AU Size:	0.003 SQUARE MILES
Classification/Qualifier:	SA: SFO

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Enterococcus	--	Unchanged
5	5	Fecal Coliform	35096	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Enterococcus	Agriculture (Y)	--	--	--	--	X	X
Enterococcus	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	--	X	X
Enterococcus	Source Unknown (N)	--	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	X	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary

Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Rocky Run (MA53-18) is Not Assessed.

Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
Rocky Run (MA53-18): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0017 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0017 sq mi (60%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB5.0	Palmer River	Prohibited	0.00166	59.5%

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Rocky Run (MA53-18) is assessed as Fully Supporting. MassDEP staff surveyed this Rocky Run AU at Mason Street, Rehoboth (W0640) once during the summer of 2014 and again during the summer 2015 (n=3). There were generally no persistent objectionable conditions (i.e., odors, deposits, growths, or turbidity) observed during the surveys.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0640	MassDEP	Water Quality	Rocky Run	[Mason Street, Rehoboth]	41.782492	-71.274457

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)

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

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0640	2014	1	Aesthetic observations were made by MassDEP field sampling crews at Station W0640 on Rocky Run (MA53-18) during 1 site visit on Jun 24, 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1). However, aesthetic observations are limited (n<3).
W0640	2015	3	Aesthetic observations were made by MassDEP field sampling crews at Station W0640 on Rocky Run (MA53-18) during 3 site visits between Jul 2015 and Sep 2015. 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 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0640	2014	1	1	0
W0640	2015	3	0	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0640	Rocky Run	2014	Aquatic Plant Density, Overall	Sparse	1	1
W0640	Rocky Run	2014	Color	Light Yellow/Tan	1	1
W0640	Rocky Run	2014	Odor	None	1	1
W0640	Rocky Run	2014	Periphyton Density, Filamentous	None	1	1
W0640	Rocky Run	2014	Periphyton Density, Film	Moderate	1	1
W0640	Rocky Run	2014	Turbidity	Highly Turbid	1	1
W0640	Rocky Run	2015	Aquatic Plant Density, Overall	Unobservable	3	3
W0640	Rocky Run	2015	Color	Light Yellow/Tan	2	3
W0640	Rocky Run	2015	Color	None	1	3
W0640	Rocky Run	2015	Odor	None	3	3
W0640	Rocky Run	2015	Periphyton Density, Filamentous	Unobservable	3	3
W0640	Rocky Run	2015	Periphyton Density, Film	Unobservable	3	3
W0640	Rocky Run	2015	Turbidity	Highly Turbid	1	3
W0640	Rocky Run	2015	Turbidity	Moderately Turbid	1	3
W0640	Rocky Run	2015	Turbidity	Slightly Turbid	1	3

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Rocky Run (MA53-18) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_RR01. The shellfish growing areas (0.0017 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Primary Contact Recreation Use of Rocky Run (MA53-18) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in Rocky Run (MA53-18) at EPA_RR01 [Rocky Run at Mason St, Rehoboth] from 2013-2019 (n=1-7/yr). Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_RR01 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=3-5), and cumulatively across years 100% of intervals had GMs >35 CFU/100ml. *Enterococcus* data from EPA_RR01 are indicative of an *Enterococcus* impairment.

Monitoring Stations

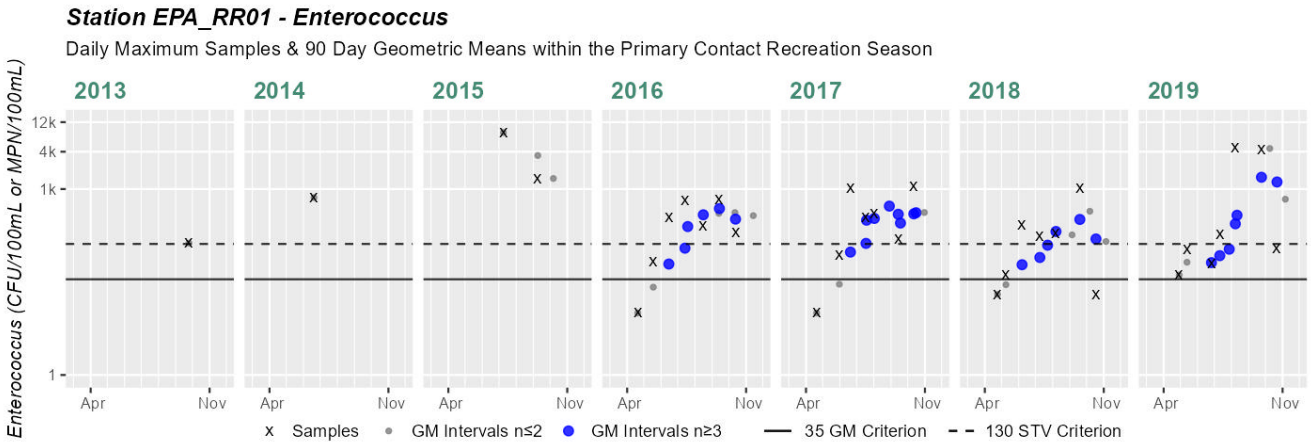
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_RR01	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Mason Street, Rehoboth	41.782417	-71.274411

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2020) (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
EPA_RR01	US Environmental Protection Agency	Enterococci	09/25/13	09/25/13	1	134	134	133
EPA_RR01	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	727	727	726
EPA_RR01	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	1480	8160	3475
EPA_RR01	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	10	689	176
EPA_RR01	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	7	10	1106	216
EPA_RR01	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	20	1014	105
EPA_RR01	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	41	4664	271



Variable*	Result
Samples	1
SeasGM	134
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	727
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	3475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	176
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	216
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	105
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	271
#GMI	7
#GMI Ex	7
%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.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Rocky Run (MA53-18): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0017 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Secondary Contact Recreation

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

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Rocky Run (MA53-18) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at EPA_RR01. The shellfish growing areas (0.0017 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Secondary Contact Recreation Use of Rocky Run (MA53-18) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in Rocky Run (MA53-18) at EPA_RR01 [Rocky Run at Mason St, Rehoboth] from 2013-2019 (n=1-8/yr). Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_RR01 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >68 CFU/100ml (2016-2019, 85-100%), 4 yrs had ≥2 samples exceed the 252 CFU/100ml STV (2016-2019, n=2-4), and cumulatively across years 90% of intervals had GMs >68 CFU/100ml. *Enterococcus* data from EPA_RR01 are indicative of an *Enterococcus* impairment.

Monitoring Stations

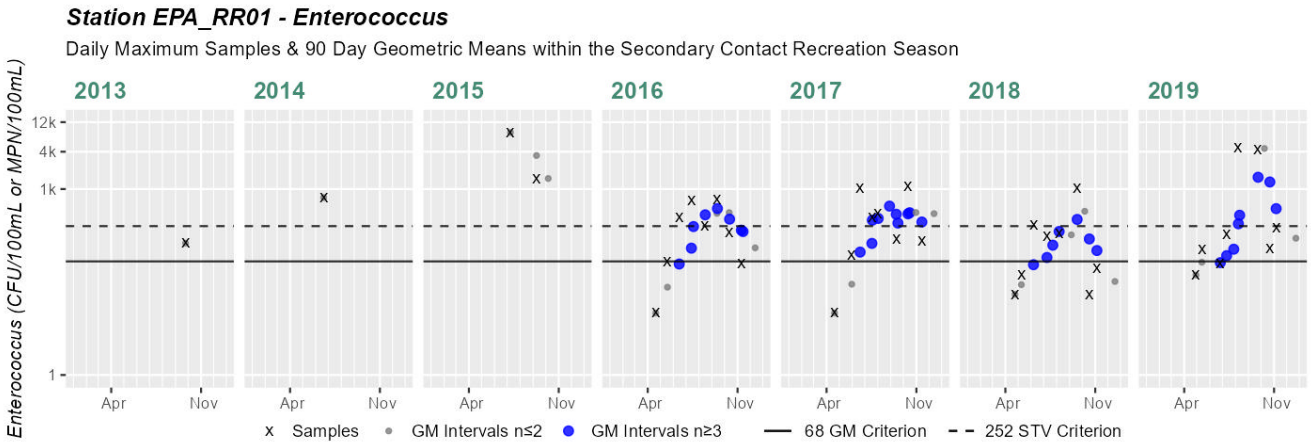
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_RR01	US Environmental Protection Agency	Water Quality	Rocky Run	Rocky Run @ Mason Street, Rehoboth	41.782417	-71.274411

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2020) (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
EPA_RR01	US Environmental Protection Agency	Enterococci	09/25/13	09/25/13	1	134	134	133
EPA_RR01	US Environmental Protection Agency	Enterococci	06/20/14	06/20/14	1	727	727	726
EPA_RR01	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	1480	8160	3475
EPA_RR01	US Environmental Protection Agency	Enterococci	04/19/16	11/09/16	8	10	689	155
EPA_RR01	US Environmental Protection Agency	Enterococci	04/20/17	11/14/17	8	10	1106	205
EPA_RR01	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	8	20	1014	96
EPA_RR01	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	8	41	4664	267



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

Variable*	Result
Samples	1
SeasGM	727
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	3475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	8
SeasGM	155
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	3
%n>STV	37%

Variable*	Result
Samples	8
SeasGM	205
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	4
%n>STV	50%

Variable*	Result
Samples	8
SeasGM	96
#GMI	7
#GMI Ex	6
%GMI Ex	85%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	267
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	2
%n>STV	25%

Cumulative %GMI Exceedance
Current (2011-2022)
90%

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

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Rocky Run (MA53-18): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0017 sq mi (60%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Rumney Marsh Brook (MA53-09)

Location:	Headwaters, east of Locust Avenue, Rehoboth to confluence with Beaverdam Brook, Rehoboth.
AU Type:	RIVER
AU Size:	1.3 MILES
Classification/Qualifier:	B

No usable data were available for Rumney Marsh Brook (MA53-09) 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
3	3	None	--	Unchanged

Runnins River (MA53-01)

Location:	Route 44, Seekonk to Mobile Dam, Seekonk, MA/East Providence, RI (through former 2008 segment: Burrs Pond MA53001).
AU Type:	RIVER
AU Size:	3.7 MILES
Classification/Qualifier:	B

Runnins River (MA53-01)

Watershed Area: 9.72 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area* (square miles)	7.45	3.51	2.33	1.05
Agriculture	3.4%	1.3%	3.5%	1.6%
Developed	34.4%	49.6%	23.8%	37.6%
Natural	55.2%	45.5%	60.4%	51.9%
Wetland	7%	3.6%	12.2%	9%
Impervious	17.4%	28.4%	12.2%	21.4%

**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	(Fish Passage Barrier*)	--	Unchanged
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Escherichia Coli (E. Coli)	38903	Unchanged
5	5	Fecal Coliform	38903	Unchanged
5	5	Mercury in Fish Tissue	33880	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X	--	--	--	--
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Escherichia Coli (E. Coli)	Agriculture (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	X	X
Fecal Coliform	Agriculture (Y)	--	--	--	X	X
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Fecal Coliform	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (Y)	--	--	--	X	X
Mercury in Fish Tissue	Atmospheric Deposition (Y)	--	X	--	--	--
Mercury in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	--	--	--

Recommendations

2024/26 Recommendations
2022 IR [Bacteria, Medium] Additional bacteria monitoring should be conducted in Runnins River (MA53-01) as *Enterococcus* samples exceeded the 130 CFU/100ml STV in 2013 at stations W2427 and W0065. {W2427; W0651}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Runnins River (MA53-01) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Runnins River (referred to by MDPH as ''Burr's 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
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited data are available to assess the Aesthetics Use for Runnins River (MA53-01) so it is assessed as having Insufficient Information. MassDEP staff recorded two sets of observations at two stations along this Runnins River AU in Seekonk, during the summer of 2013: Mink Street (W2427) and School Street (W0651). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by MassDEP field sampling crews at either of these stations (n=2 in both cases).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0651	MassDEP	Water Quality	Runnins River	[School Street, Seekonk]	41.788377	-71.329520
W2427	MassDEP	Water Quality	Runnins River	[Mink Street, Seekonk]	41.789748	-71.331999

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W0651	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W0651 on Runnins River (MA53-01) during 2 site visits between Jun 2013 and Jul 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted dense/very dense aquatic plants (n=2). However, aesthetic observations are limited (n<3).
W2427	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2427 on Runnins River (MA53-01) during 2 site visits between Jun 2013 and Jul 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1) and dense/very dense aquatic plants (n=2). However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W0651	2013	2	1	0
W2427	2013	2	1	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W0651	Runnins River	2013	Aquatic Plant Density, Overall	Dense	2	2
W0651	Runnins River	2013	Color	Light Yellow/Tan	2	2
W0651	Runnins River	2013	Odor	None	1	2
W0651	Runnins River	2013	Odor	Sulfide (rotten egg)	1	2
W0651	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W0651	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	2
W0651	Runnins River	2013	Periphyton Density, Film	Unobservable	2	2
W0651	Runnins River	2013	Turbidity	Moderately Turbid	1	2
W0651	Runnins River	2013	Turbidity	Slightly Turbid	1	2
W2427	Runnins River	2013	Aquatic Plant Density, Overall	Dense	2	2
W2427	Runnins River	2013	Color	Light Yellow/Tan	2	2
W2427	Runnins River	2013	Odor	Sulfide (rotten egg)	2	2
W2427	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W2427	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	2
W2427	Runnins River	2013	Periphyton Density, Film	Unobservable	2	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2427	Runnins River	2013	Turbidity	Highly Turbid	1	2
W2427	Runnins River	2013	Turbidity	Slightly Turbid	1	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Runnins River (MA53-01) continues to be assessed as Not Supporting. The prior Escherichia coli (E. coli) impairment is being carried forward and elevated data from Station W0651 is reflective of the existing Escherichia coli (E. coli) impairment. The prior Fecal Coliform impairment is also being carried forward. An Alert is being identified for *Enterococcus* and additional sampling is recommended for this AU. MassDEP staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in the Runnins River (MA53-01) from 2013 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2427 [Mink St, Seekonk] from 2013 (EC n = 2 & Ent n=1), W0651 [School St, Seekonk] from 2013 (EC n = 2 & Ent n=1). *E. coli* data from W2427 and *Enterococcus* data from W2427 and W0651 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. An Alert is being identified for *Enterococcus* at W2427 and W0651. Elevated *E. coli* data from W0651 are reflective of the prior impairment (max STV=2190 CFU/100ml). MassDEP staff also conducted Bacteria Source Tracking (BST) work on the river and a summary of that effort's notes is as follows: Despite the identification of hotspot areas (in particular the "triangle area" between Mink and School Streets); human marker analysis for the triangle area in 2013 and 2017, indicated "inconclusive" evidence of a human source. Since the analysis indicated no caffeine or detergents (only the bacteroidetes markers were present), this can be indicative of a bird bacteria source. No correctable human source was ever found, and stormwater management was recommended.

Monitoring Stations

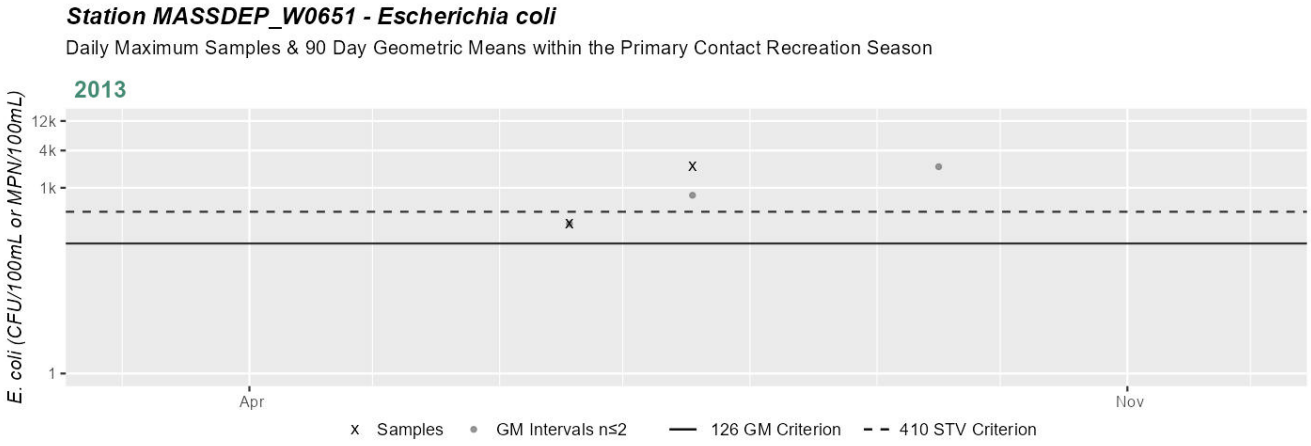
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0651	MassDEP	Water Quality	Runnins River	[School Street, Seekonk]	41.788377	-71.329520
W2427	MassDEP	Water Quality	Runnins River	[Mink Street, Seekonk]	41.789748	-71.331999

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5)

[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
W0651	MassDEP	E. coli	06/18/13	07/18/13	2	262	2190	757
W0651	MassDEP	Enterococci	10/01/13	10/01/13	1	1300	1300	1300
W2427	MassDEP	E. coli	06/18/13	07/18/13	2	262	1240	569
W2427	MassDEP	Enterococci	10/01/13	10/01/13	1	630	630	630



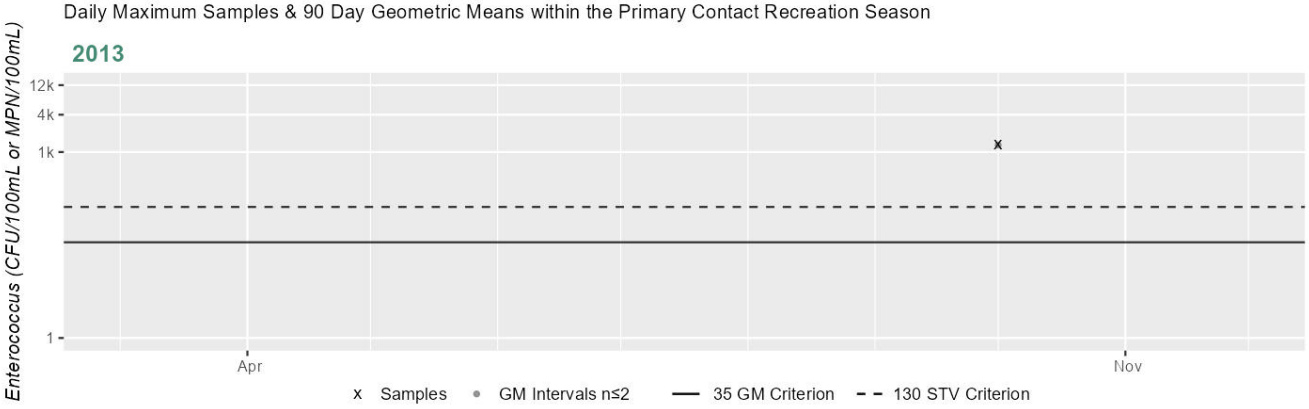
Variable*	Result
Samples	2
SeasGM	757
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station MASSDEP_W0651 - Enterococcus

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



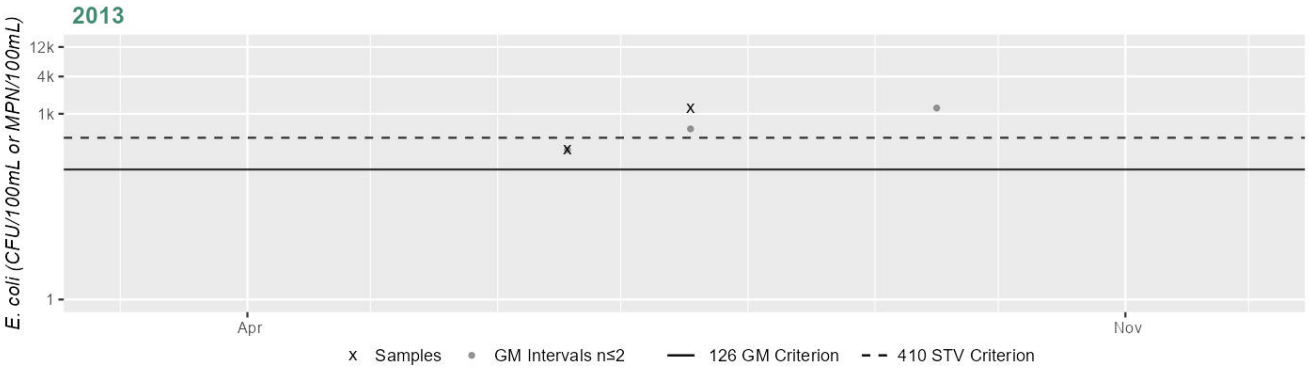
Variable*	Result
Samples	1
SeasGM	1300
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station MASSDEP_W2427 - Escherichia coli

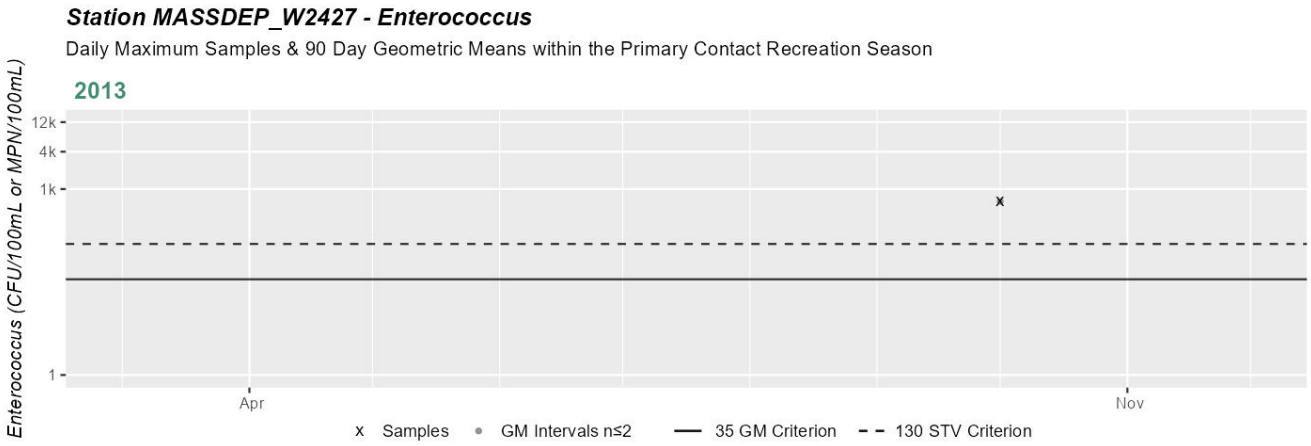
Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	569
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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



Variable*	Result
Samples	1
SeasGM	630
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
Prior to 2011, BST work was conducted along the Runnins River AU (MA53-01) and in 4 unnamed tributaries; with a max *E. coli* concentration of 12,033MPN at School Street. Additional BST work was conducted between 2012-2014 and in 2017, at 6 sites along Runnins River and on 3 unnamed tributaries, with *E. coli* concentrations ranging 10 to 7,701MPN. Despite the identification of hotspot areas (in particular the "triangle area" between Mink and School Streets); human marker analysis for the triangle area in 2013 and 2017, indicated "inconclusive" evidence of a human source. It was further noted that since the human marker analysis indicated no caffeine or detergents, but only the bacteroidetes markers, this can be indicative of a bird bacteria source. Based on the human marker results and the low dry weather bacteria concentrations at all the tributaries and stormdrains in the triangle area, further BST work was halted. Stormwater management was recommended. No correctable source was ever found.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Runnins River (MA53-01) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward based on bacteria data not meeting the threshold at W0651. The prior Fecal Coliform impairment is being carried forward. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Runnins River (MA53-01) from 1999-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0649 [upstream/N at Brook Hill Drive, Seekonk] from Jul 1999 (n=1), W2427 [Mink St, Seekonk] from Jun-Jul 2013 (n=2), W0651 [School St, Seekonk] from 1999 and 2009 (historic n=1-6/yr) and Jun-Jul 2013 (current n=2). Analysis of this historic single year limited frequency *E. coli* dataset from W0651 indicated 100% of intervals had GMs >244 CFU/100ml, 4 samples exceeded the 794 CFU/100ml STV, and the overall GM was 1103 CFU/100ml. *E. coli* data from W2427 and W0651 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from W0651 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0649	MassDEP	Water Quality	Runnins River	[upstream/north at Brook Hill Drive, Seekonk]	41.822499	-71.332742
W0651	MassDEP	Water Quality	Runnins River	[School Street, Seekonk]	41.788377	-71.329520
W2427	MassDEP	Water Quality	Runnins River	[Mink Street, Seekonk]	41.789748	-71.331999

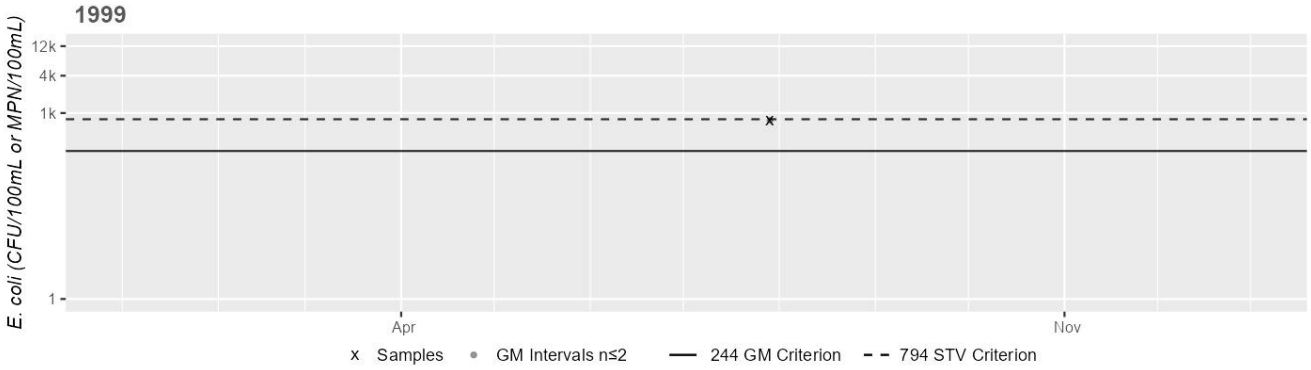
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4)
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W0649	MassDEP	E. coli	07/29/99	07/29/99	1	760	760	760
W0651	MassDEP	E. coli	07/29/99	07/29/99	1	3900	3900	3899
W0651	MassDEP	E. coli	05/12/09	09/29/09	6	80	11060	1103
W0651	MassDEP	E. coli	06/18/13	07/18/13	2	262	2190	757
W2427	MassDEP	E. coli	06/18/13	07/18/13	2	262	1240	569

Station MASSDEP_W0649 - Escherichia coli

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



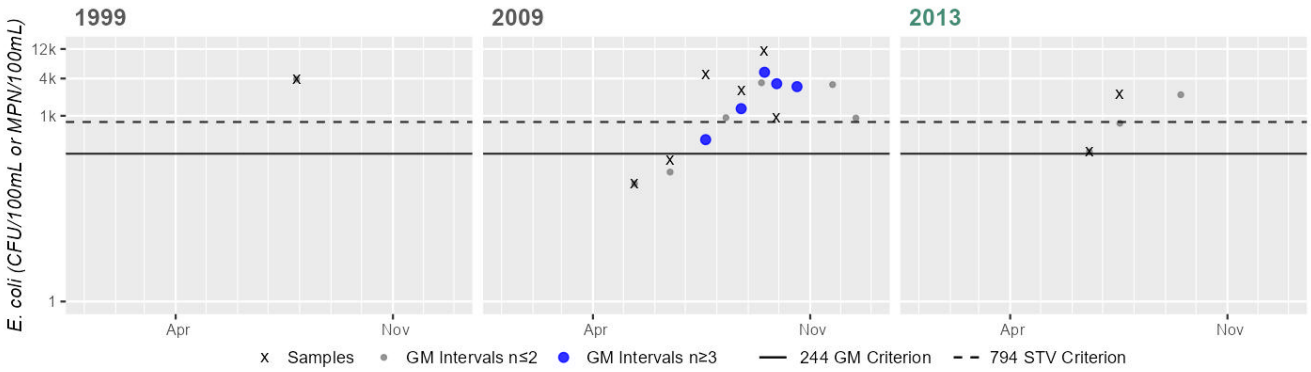
Variable*	Result
Samples	1
SeasGM	760
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W0651 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	3900
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	6
SeasGM	1103
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	4
%n>STV	66%

Variable*	Result
Samples	2
SeasGM	757
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

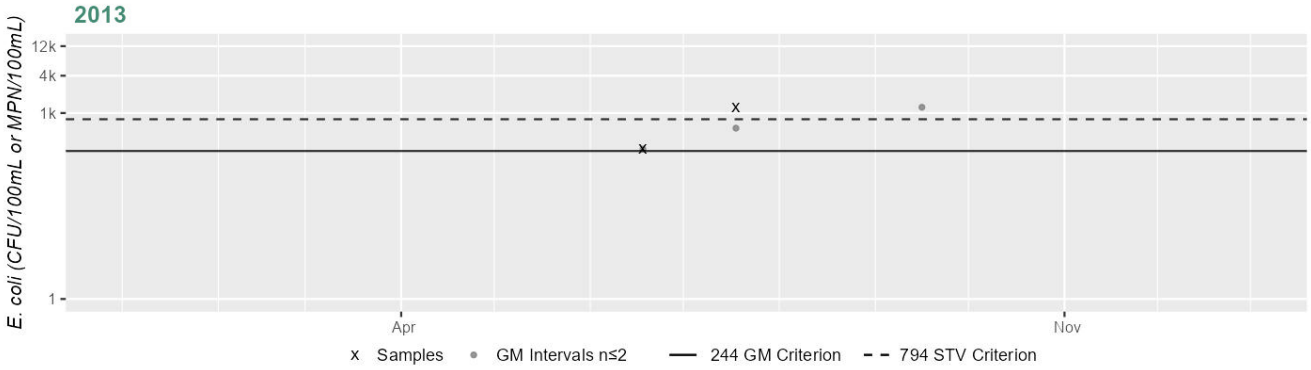
Cumulative %GMI Exceedance
Historic (1997-2010)
100%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W2427 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	569
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

Runnins River (MA53-20)

Location:	Headwaters just north of Walmut Street, Rehoboth to Route 44, Seekonk.
AU Type:	RIVER
AU Size:	3.5 MILES
Classification/Qualifier:	B

Runnins River (MA53-20)

Watershed Area: 4.11 square miles

Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.11	3.70	1.34	1.28
Agriculture	5.1%	5.4%	4.9%	5.2%
Developed	21.8%	23.2%	12.4%	12.5%
Natural	63.5%	63%	68.4%	69.2%
Wetland	9.7%	8.4%	14.3%	13.1%
Impervious	8.1%	8.7%	4.7%	4.8%

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

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

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 [Bacteria, Medium] Additional bacteria monitoring should be conducted in Runnins River (MA53-20) as *Enterococcus* samples exceeded the 130 CFU/100ml STV in 2013 at station W2441. {W2441}

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Runnins River (MA53-20) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary

The Aesthetics Use for Runnins River (MA53-20) continues to be assessed as Fully Supporting. MassDEP staff recorded observation information along this Runnins River AU in Seekonk, consisting of the following stations (data years): Greenwood Avenue (W2442; 2013 n=2); ~ 700 feet upstream Ledge Road (W2449; 2013 n=2); ~370 feet upstream Ledge Road (W2505; 2014-2015 n=4); ~260 feet upstream Ledge Road (W2568; 2015 n=2); ~150 feet upstream Ledge Road (W2567; 2015 n=2); Ledge Road (W2441; 2013-2015 n=6); Arcade Avenue (W1955; 2013 n=2) & ~50 feet downstream Arcade Avenue, Seekonk (W2408; 2013 n=9). While data were limited to two observations at most stations/sampling years, there were many observations of the river at Arcade Ave, Seekonk (W2408) during the summer 2013. There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at any of the stations for any of the data years.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1955	MassDEP	Water Quality	Runnins River	[Arcade Avenue, Seekonk]	41.830667	-71.329713
W2408	MassDEP	Water Quality	Runnins River	[approximately 50 feet downstream/southwest from Arcade Avenue, Seekonk (upstream of unnamed tributary on northwestern bank)]	41.830588	-71.329937
W2441	MassDEP	Water Quality	Runnins River	[Ledge Road, Seekonk]	41.836247	-71.323196
W2442	MassDEP	Water Quality	Runnins River	[Greenwood Avenue, Seekonk]	41.835710	-71.316507
W2449	MassDEP	Water Quality	Runnins River	[approximately 700 feet upstream/northeast of Ledge Road, Seekonk (upstream of private road crossing)]	41.835765	-71.321287
W2505	MassDEP	Water Quality	Runnins River	[approximately 370 feet upstream/east of Ledge Road, Seekonk]	41.836297	-71.322141
W2567	MassDEP	Water Quality	Runnins River	[approximately 150 feet upstream/north of Ledge Road, Seekonk]	41.836467	-71.322721
W2568	MassDEP	Water Quality	Runnins River	[approximately 260 feet upstream/north of Ledge Road, Seekonk]	41.836486	-71.322396

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1955	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W1955 on Runnins River (MA53-20) during 2 site visits between Jul 2013 and Sep 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted dense/very dense aquatic plants (n=2). However, aesthetic observations are limited (n<3).

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2408	2013	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2408 on Runnins River (MA53-20) during 8 site visits between May 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).
W2441	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2441 on Runnins River (MA53-20) during 2 site visits between Sep 2013 and Oct 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2441	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2441 on Runnins River (MA53-20) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2441	2015	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2441 on Runnins River (MA53-20) during 2 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2442	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2442 on Runnins River (MA53-20) during 2 site visits between Sep 2013 and Oct 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2449	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2449 on Runnins River (MA53-20) during 2 site visits between Oct 2013 and Nov 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2505	2014	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2505 on Runnins River (MA53-20) during 2 site visits between Jun 2014 and Jul 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2505	2015	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2505 on Runnins River (MA53-20) during 2 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2567	2015	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2567 on Runnins River (MA53-20) during 2 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2568	2015	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2568 on Runnins River (MA53-20) during 2 site visits between May 2015 and Jul 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W1955	2013	2	2	0
W2408	2013	8	7	0
W2441	2013	2	1	0
W2441	2014	2	1	0
W2441	2015	2	0	0
W2442	2013	2	1	0
W2449	2013	2	1	0
W2505	2014	2	0	0
W2505	2015	2	1	0
W2567	2015	2	2	0
W2568	2015	2	1	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1955	Runnins River	2013	Aquatic Plant Density, Overall	Dense	2	2
W1955	Runnins River	2013	Color	Light Yellow/Tan	2	2
W1955	Runnins River	2013	Odor	None	2	2
W1955	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W1955	Runnins River	2013	Periphyton Density, Filamentous	Sparse	1	2
W1955	Runnins River	2013	Periphyton Density, Film	Sparse	2	2
W1955	Runnins River	2013	Turbidity	Moderately Turbid	1	2
W1955	Runnins River	2013	Turbidity	Slightly Turbid	1	2
W2408	Runnins River	2013	Aesthetics Impaired?	No	4	8
W2408	Runnins River	2013	Aesthetics Impaired?	NR	4	8
W2408	Runnins River	2013	Aquatic Plant Density, Overall	None	6	8
W2408	Runnins River	2013	Aquatic Plant Density, Overall	Sparse	1	8
W2408	Runnins River	2013	Aquatic Plant Density, Overall	Unobservable	1	8
W2408	Runnins River	2013	Color	Dark Tan	1	8
W2408	Runnins River	2013	Color	Light Yellow/Tan	4	8
W2408	Runnins River	2013	Color	None	1	8
W2408	Runnins River	2013	Color	Reddish	2	8
W2408	Runnins River	2013	Objectionable Deposits	No	4	8
W2408	Runnins River	2013	Objectionable Deposits	Unobservable	1	8
W2408	Runnins River	2013	Objectionable Deposits	Yes	3	8
W2408	Runnins River	2013	Odor	None	8	8

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2408	Runnins River	2013	Periphyton Density, Filamentous	None	7	8
W2408	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	8
W2408	Runnins River	2013	Periphyton Density, Film	None	7	8
W2408	Runnins River	2013	Periphyton Density, Film	Unobservable	1	8
W2408	Runnins River	2013	Scum	No	7	8
W2408	Runnins River	2013	Scum	Yes	1	8
W2408	Runnins River	2013	Turbidity	None	8	8
W2441	Runnins River	2013	Aquatic Plant Density, Overall	None	2	2
W2441	Runnins River	2013	Color	Light Yellow/Tan	1	2
W2441	Runnins River	2013	Color	None	1	2
W2441	Runnins River	2013	Odor	None	2	2
W2441	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W2441	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	2
W2441	Runnins River	2013	Periphyton Density, Film	Sparse	1	2
W2441	Runnins River	2013	Periphyton Density, Film	Unobservable	1	2
W2441	Runnins River	2013	Turbidity	Moderately Turbid	1	2
W2441	Runnins River	2013	Turbidity	Slightly Turbid	1	2
W2441	Runnins River	2014	Aquatic Plant Density, Overall	None	1	2
W2441	Runnins River	2014	Aquatic Plant Density, Overall	Unobservable	1	2
W2441	Runnins River	2014	Color	Light Yellow/Tan	1	2
W2441	Runnins River	2014	Color	None	1	2
W2441	Runnins River	2014	Odor	None	2	2
W2441	Runnins River	2014	Periphyton Density, Filamentous	None	1	2
W2441	Runnins River	2014	Periphyton Density, Filamentous	Unobservable	1	2
W2441	Runnins River	2014	Periphyton Density, Film	Moderate	1	2
W2441	Runnins River	2014	Periphyton Density, Film	Unobservable	1	2
W2441	Runnins River	2014	Turbidity	Slightly Turbid	2	2
W2441	Runnins River	2015	Aquatic Plant Density, Overall	None	1	2
W2441	Runnins River	2015	Aquatic Plant Density, Overall	Unobservable	1	2
W2441	Runnins River	2015	Color	Light Yellow/Tan	2	2
W2441	Runnins River	2015	Odor	None	2	2
W2441	Runnins River	2015	Periphyton Density, Filamentous	Unobservable	2	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2441	Runnins River	2015	Periphyton Density, Film	Unobservable	2	2
W2441	Runnins River	2015	Turbidity	Slightly Turbid	2	2
W2442	Runnins River	2013	Aquatic Plant Density, Overall	None	2	2
W2442	Runnins River	2013	Color	Light Yellow/Tan	1	2
W2442	Runnins River	2013	Color	None	1	2
W2442	Runnins River	2013	Odor	None	2	2
W2442	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W2442	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	2
W2442	Runnins River	2013	Periphyton Density, Film	Sparse	1	2
W2442	Runnins River	2013	Periphyton Density, Film	Unobservable	1	2
W2442	Runnins River	2013	Turbidity	Moderately Turbid	1	2
W2442	Runnins River	2013	Turbidity	Slightly Turbid	1	2
W2449	Runnins River	2013	Aquatic Plant Density, Overall	None	2	2
W2449	Runnins River	2013	Color	None	2	2
W2449	Runnins River	2013	Odor	None	2	2
W2449	Runnins River	2013	Periphyton Density, Filamentous	None	1	2
W2449	Runnins River	2013	Periphyton Density, Filamentous	Unobservable	1	2
W2449	Runnins River	2013	Periphyton Density, Film	None	1	2
W2449	Runnins River	2013	Periphyton Density, Film	Unobservable	1	2
W2449	Runnins River	2013	Turbidity	Moderately Turbid	1	2
W2449	Runnins River	2013	Turbidity	Slightly Turbid	1	2
W2505	Runnins River	2014	Aquatic Plant Density, Overall	None	1	2
W2505	Runnins River	2014	Aquatic Plant Density, Overall	Unobservable	1	2
W2505	Runnins River	2014	Color	Light Yellow/Tan	1	2
W2505	Runnins River	2014	Color	None	1	2
W2505	Runnins River	2014	Odor	None	2	2
W2505	Runnins River	2014	Periphyton Density, Filamentous	Unobservable	2	2
W2505	Runnins River	2014	Periphyton Density, Film	Unobservable	2	2
W2505	Runnins River	2014	Turbidity	Slightly Turbid	2	2
W2505	Runnins River	2015	Aquatic Plant Density, Overall	None	2	2
W2505	Runnins River	2015	Color	Light Yellow/Tan	2	2
W2505	Runnins River	2015	Odor	None	2	2
W2505	Runnins River	2015	Periphyton Density, Filamentous	None	1	2

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2505	Runnins River	2015	Periphyton Density, Filamentous	Unobservable	1	2
W2505	Runnins River	2015	Periphyton Density, Film	None	1	2
W2505	Runnins River	2015	Periphyton Density, Film	Unobservable	1	2
W2505	Runnins River	2015	Turbidity	Slightly Turbid	2	2
W2567	Runnins River	2015	Aquatic Plant Density, Overall	None	2	2
W2567	Runnins River	2015	Color	Light Yellow/Tan	2	2
W2567	Runnins River	2015	Odor	None	2	2
W2567	Runnins River	2015	Periphyton Density, Filamentous	None	2	2
W2567	Runnins River	2015	Periphyton Density, Film	None	2	2
W2567	Runnins River	2015	Turbidity	Slightly Turbid	2	2
W2568	Runnins River	2015	Aquatic Plant Density, Overall	None	2	2
W2568	Runnins River	2015	Color	Light Yellow/Tan	2	2
W2568	Runnins River	2015	Odor	None	2	2
W2568	Runnins River	2015	Periphyton Density, Filamentous	None	1	2
W2568	Runnins River	2015	Periphyton Density, Filamentous	Unobservable	1	2
W2568	Runnins River	2015	Periphyton Density, Film	None	1	2
W2568	Runnins River	2015	Periphyton Density, Film	Unobservable	1	2
W2568	Runnins River	2015	Turbidity	Slightly Turbid	2	2

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Runnins River (MA53-20) continues to be assessed as Not Supporting. The prior *Escherichia Coli (E. Coli)* impairment is being carried forward. An Alert is being identified for *Enterococcus* and additional sampling is recommended for this AU. MassDEP staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in the Runnins River (MA53-20) from 2013-2015 at 8 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2442 [Greenwood Avenue, Seekonk] from 2013 (EC n=2), W2449 [~700 ft upstream/NE of Ledge Rd, Seekonk (upstream of private Rd crossing)] from 2013 (EC n=1), W2505 [~370 ft upstream/E of Ledge Rd, Seekonk] from 2014-2015 (EC n=2/yr), W2568 [~260 ft upstream/N of Ledge Rd, Seekonk] from 2015 (EC n=2), W2567 [~150 ft upstream/N of Ledge Rd, Seekonk] from 2015 (EC n=2), W2441 [Ledge Rd, Seekonk] from 2013-2015 (EC n=2/yr & Ent n=1), W1955 [Arcade Avenue, Seekonk] from 2013 (EC n=2), W2408 [~50 ft downstream/southwest from Arcade Avenue, Seekonk (upstream of unnamed tributary on northwestern bank)] from 2013 (EC n=5*). E. coli* data from W2442, W2449, W2505, W2568, W2567, W2441, and W1955 and *Enterococcus* data from W2441 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. *E. coli* data from W2408 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold. An Alert is being identified for *Enterococcus* at W2441. Too limited bacteria data from the current IR window (2011-2022) are available to assess the Primary Contact Recreation Use.
MassDEP staff also conducted Bacteria Source Tracking (BST) work on the river and a summary of that effort's notes is as follows: Despite the identification of hotspot areas (the Arcade Ave/Ledge Rd area), human marker analysis at Ledge Rd in 2015, indicated 'none', for evidence of a human source. No correctable source was ever found.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1955	MassDEP	Water Quality	Runnins River	[Arcade Avenue, Seekonk]	41.830667	-71.329713
W2408	MassDEP	Water Quality	Runnins River	[approximately 50 feet downstream/southwest from Arcade Avenue, Seekonk (upstream of unnamed tributary on northwestern bank)]	41.830588	-71.329937
W2441	MassDEP	Water Quality	Runnins River	[Ledge Road, Seekonk]	41.836247	-71.323196
W2442	MassDEP	Water Quality	Runnins River	[Greenwood Avenue, Seekonk]	41.835710	-71.316507
W2449	MassDEP	Water Quality	Runnins River	[approximately 700 feet upstream/northeast of Ledge Road, Seekonk (upstream of private road crossing)]	41.835765	-71.321287
W2505	MassDEP	Water Quality	Runnins River	[approximately 370 feet upstream/east of Ledge Road, Seekonk]	41.836297	-71.322141

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2567	MassDEP	Water Quality	Runnins River	[approximately 150 feet upstream/north of Ledge Road, Seekonk]	41.836467	-71.322721
W2568	MassDEP	Water Quality	Runnins River	[approximately 260 feet upstream/north of Ledge Road, Seekonk]	41.836486	-71.322396

Bacteria Data

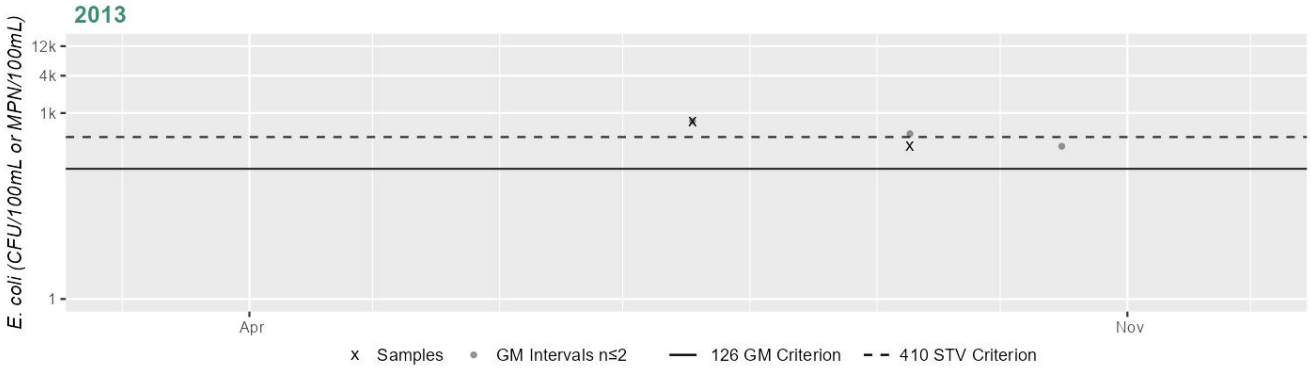
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (MassDEP Undated 7) (MassDEP Undated 5)

[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
W1955	MassDEP	E. coli	07/18/13	09/09/13	2	291	738	463
W2408	MassDEP	E. coli	05/16/13	09/11/13	5	30	417	108
W2441	MassDEP	E. coli	09/09/13	10/22/13	2	816	2419	1405
W2441	MassDEP	E. coli	06/09/14	07/31/14	2	199	7270	1202
W2441	MassDEP	Enterococci	08/19/14	08/19/14	1	1800	1800	1800
W2441	MassDEP	E. coli	05/07/15	07/07/15	2	58	461	163
W2442	MassDEP	E. coli	09/09/13	10/22/13	2	7	166	34
W2449	MassDEP	E. coli	10/22/13	10/22/13	1	14	14	13
W2505	MassDEP	E. coli	06/09/14	07/31/14	2	185	2419	669
W2505	MassDEP	E. coli	05/07/15	07/07/15	2	68	261	133
W2567	MassDEP	E. coli	05/07/15	07/07/15	2	71	365	160
W2568	MassDEP	E. coli	05/07/15	07/07/15	2	48	548	162

Station MASSDEP_W1955 - Escherichia coli

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



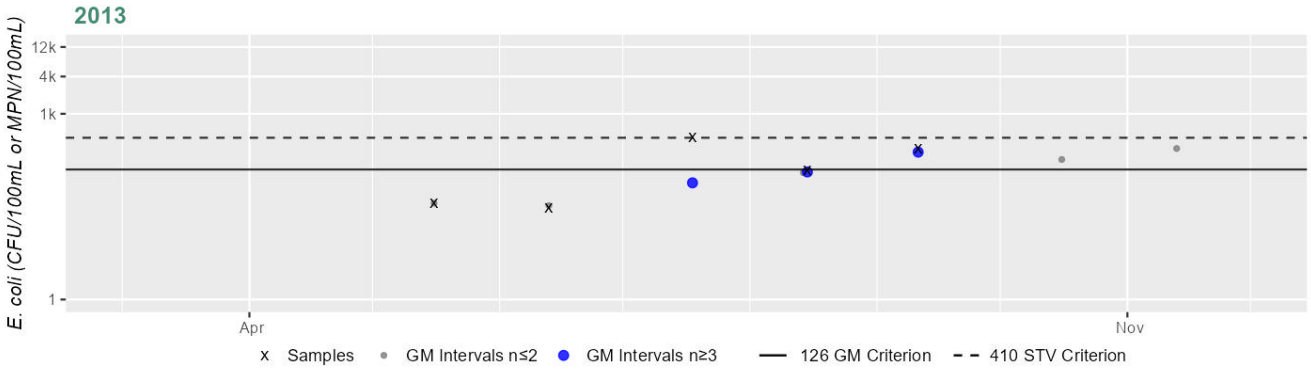
Variable*	Result
Samples	2
SeasGM	463
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station MASSDEP_W2408 - Escherichia coli

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



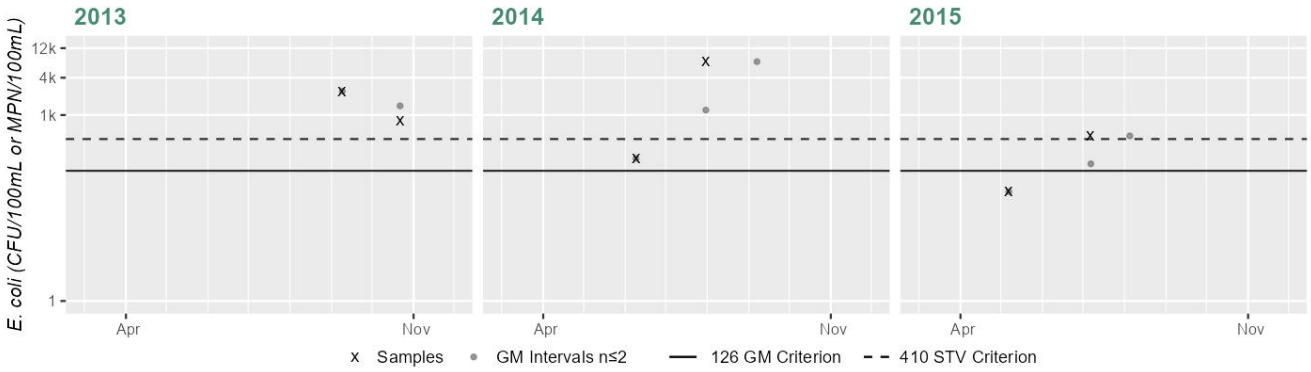
Variable*	Result
Samples	5
SeasGM	108
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	1
%n>STV	20%

Cumulative %GMI Exceedance
Current (2011-2022)
33%

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

Station MASSDEP_W2441 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	1405
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1202
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

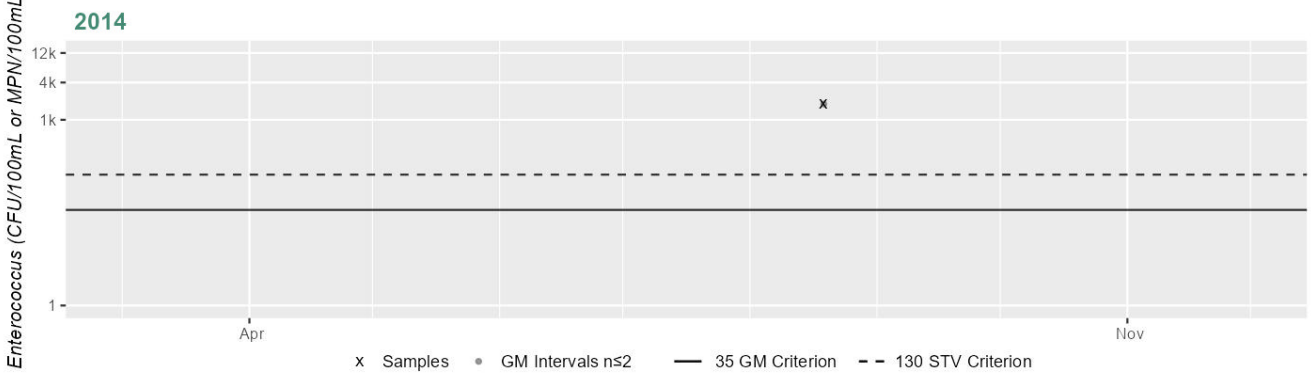
Variable*	Result
Samples	2
SeasGM	163
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station MASSDEP_W2441 - Enterococcus

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



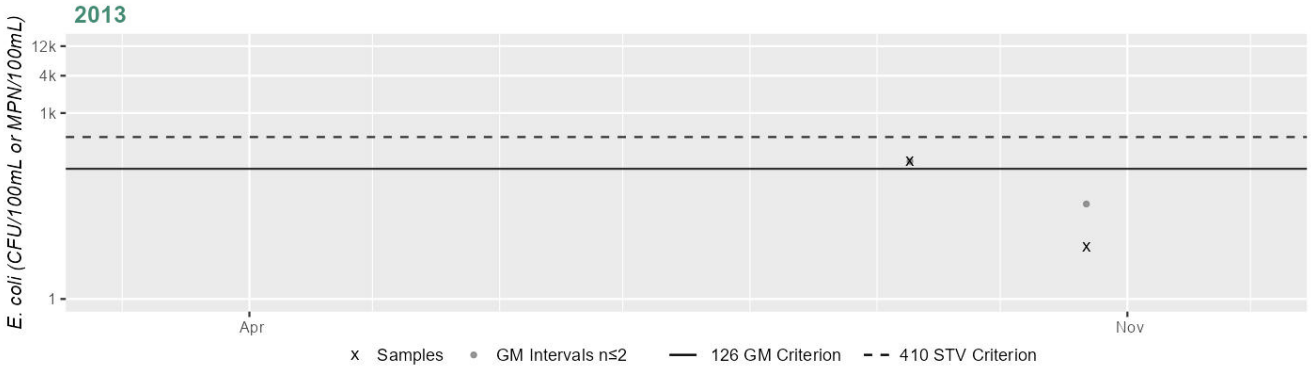
Variable*	Result
Samples	1
SeasGM	1800
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Station MASSDEP_W2442 - Escherichia coli

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



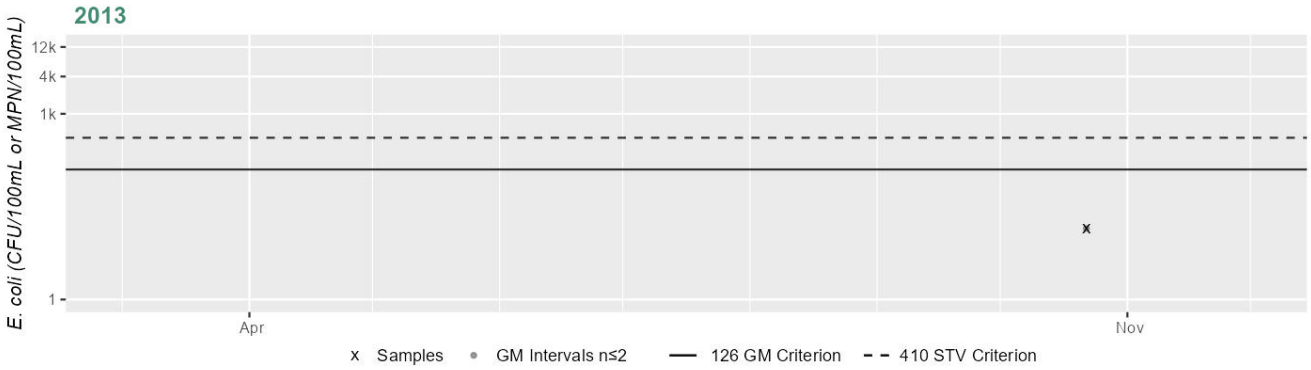
Variable*	Result
Samples	2
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W2449 - Escherichia coli

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



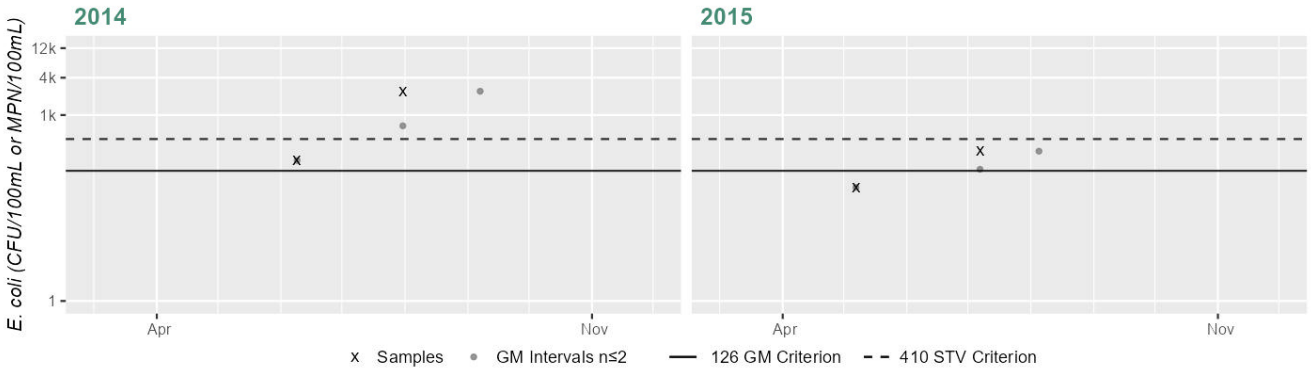
Variable*	Result
Samples	1
SeasGM	14
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2505 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	669
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

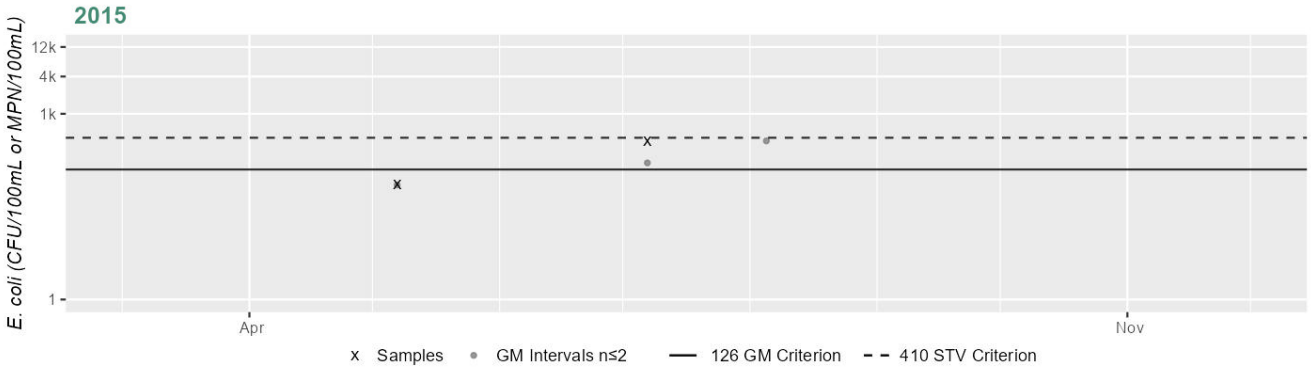
Variable*	Result
Samples	2
SeasGM	133
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2567 - Escherichia coli

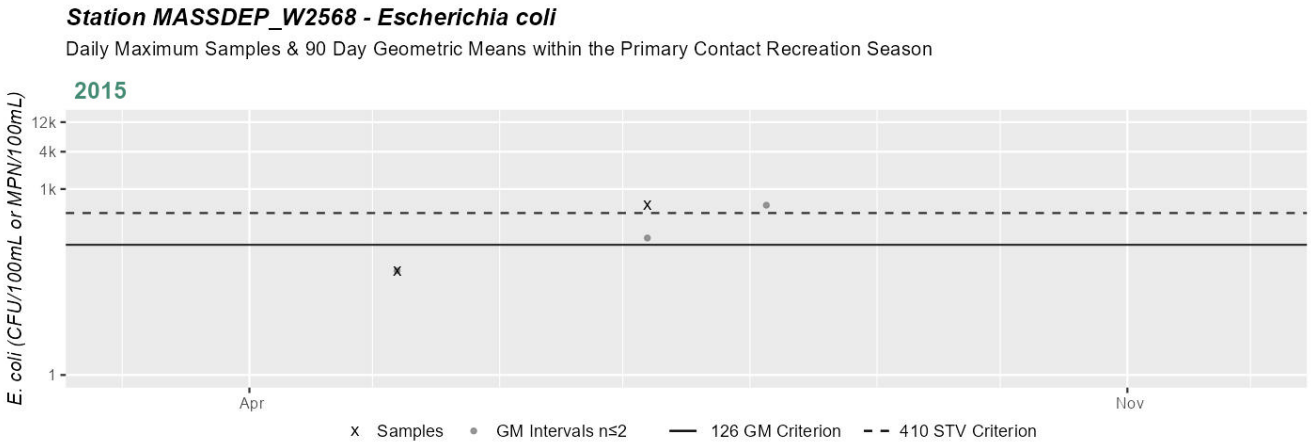
Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	160
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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



Variable*	Result
Samples	2
SeasGM	162
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
Prior to 2011, BST work was conducted along the Runnins River AU (MA53-20) and in 1 unnamed tributary; with a max *E. coli* concentration of >2,419.6MPN at Arcade Ave. Additional BST work was conducted between 2012-2015, at 11 sites along Runnins River and in 1 unnamed tributary, with a max *E. coli* concentration of 8,664MPN. Despite the identification of hotspot areas (in particular the Arcade Ave/Ledge Rd area); human marker analysis at Ledge Rd in 2015, indicated "none", for evidence of a human source. No correctable source was ever found.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Runnins River (MA53-20) is assessed as Not Supporting. *An Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at W1955 and the prior Alert is being removed. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Runnins River (MA53-20) from 2009-2015 at 8 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2442 [Greenwood Avenue, Seekonk] from Sep-Oct 2013 (n=2), W2449 [~700 ft upstream/NE of Ledge Rd, Seekonk (upstream of private Rd crossing)] from Oct-Nov 2013 (n=2), W2505 [~370 ft upstream/E of Ledge Rd, Seekonk] from 2014-2015 (n=2/yr), W2568 [~260 ft upstream/N of Ledge Rd, Seekonk] from May-Jul 2015 (n=2), W2567 [~150 ft upstream/N of Ledge Rd, Seekonk] from May-Jul 2015 (n=2), W2441 [Ledge Rd, Seekonk] from 2013-2015 (n=2/yr), W1955 [Arcade Avenue, Seekonk] from May-Sep 2009 (historic n=5) and Jul-Sep 2013 (current n=2), W2408 [~50 ft downstream/southwest from Arcade Avenue, Seekonk (upstream of unnamed tributary on northwestern bank)] from May-Sep 2013 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2408 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 108 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1955 indicated 100% of intervals had GMs >244 CFU/100ml, 2 samples exceeded the 794 CFU/100ml STV, and the overall GM was 585 CFU/100ml. *E. coli* data from W2442, W2449, W2505, W2568, W2567, W2441, and W1955 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. *E. coli* data from W2408 meet 2024 CALM guidance. Historic *E. coli* data from W1955 are indicative of an *E. coli* impairment. While recent data indicated generally good conditions, data from W1955 are indicative of an *Escherichia coli* impairment and poor water quality conditions in the historic window (1997-2010) and no recent data are available to assess the location in the current window (2011-2022).

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1955	MassDEP	Water Quality	Runnins River	[Arcade Avenue, Seekonk]	41.830667	-71.329713
W2408	MassDEP	Water Quality	Runnins River	[approximately 50 feet downstream/southwest from Arcade Avenue, Seekonk (upstream of unnamed tributary on northwestern bank)]	41.830588	-71.329937
W2441	MassDEP	Water Quality	Runnins River	[Ledge Road, Seekonk]	41.836247	-71.323196
W2442	MassDEP	Water Quality	Runnins River	[Greenwood Avenue, Seekonk]	41.835710	-71.316507
W2449	MassDEP	Water Quality	Runnins River	[approximately 700 feet upstream/northeast of Ledge Road, Seekonk (upstream of private road crossing)]	41.835765	-71.321287
W2505	MassDEP	Water Quality	Runnins River	[approximately 370 feet upstream/east of Ledge Road, Seekonk]	41.836297	-71.322141
W2567	MassDEP	Water Quality	Runnins River	[approximately 150 feet upstream/north of Ledge Road, Seekonk]	41.836467	-71.322721
W2568	MassDEP	Water Quality	Runnins River	[approximately 260 feet upstream/north of Ledge Road, Seekonk]	41.836486	-71.322396

Bacteria Data

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

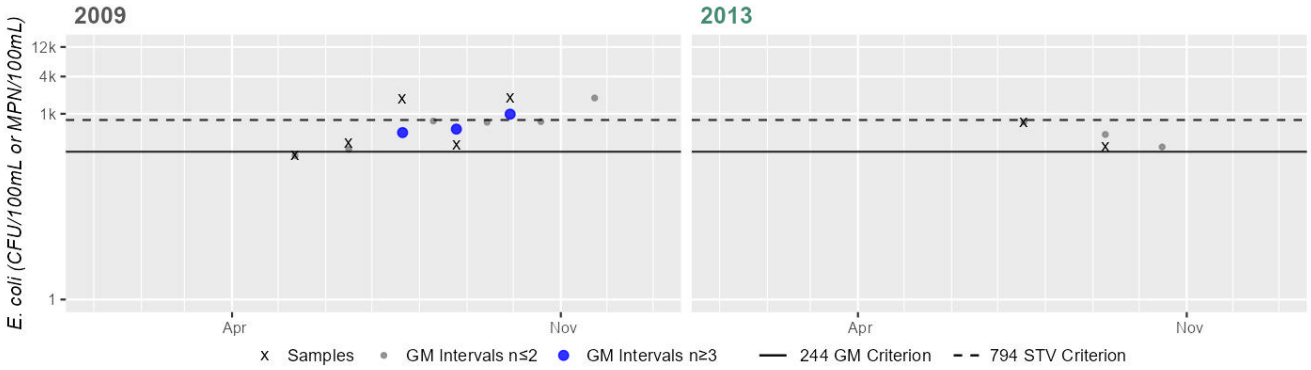
(MassDEP Undated 7) (MassDEP Undated 4)

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

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1955	MassDEP	E. coli	05/12/09	09/29/09	5	210	1800	585
W1955	MassDEP	E. coli	07/18/13	09/09/13	2	291	738	463
W2408	MassDEP	E. coli	05/16/13	09/11/13	5	30	417	108
W2441	MassDEP	E. coli	09/09/13	10/22/13	2	816	2419	1405
W2441	MassDEP	E. coli	06/09/14	07/31/14	2	199	7270	1202
W2441	MassDEP	E. coli	05/07/15	07/07/15	2	58	461	163
W2442	MassDEP	E. coli	09/09/13	10/22/13	2	7	166	34
W2449	MassDEP	E. coli	10/22/13	11/06/13	2	14	39	23
W2505	MassDEP	E. coli	06/09/14	07/31/14	2	185	2419	669
W2505	MassDEP	E. coli	05/07/15	07/07/15	2	68	261	133
W2567	MassDEP	E. coli	05/07/15	07/07/15	2	71	365	160
W2568	MassDEP	E. coli	05/07/15	07/07/15	2	48	548	162

Station MASSDEP_W1955 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	585
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	2
%n>STV	40%

Variable*	Result
Samples	2
SeasGM	463
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)

100%

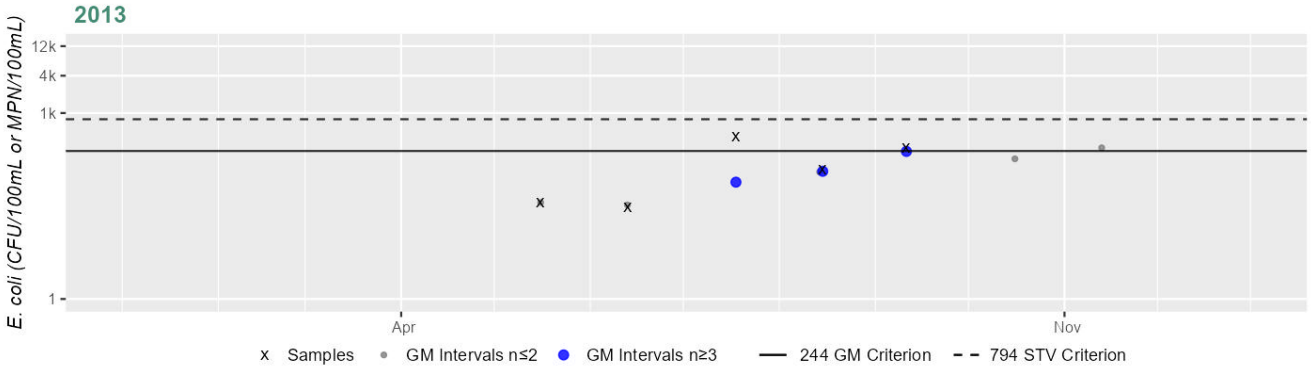
Cumulative %GMI Exceedance Current (2011-2022)

0%

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W2408 - Escherichia coli

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



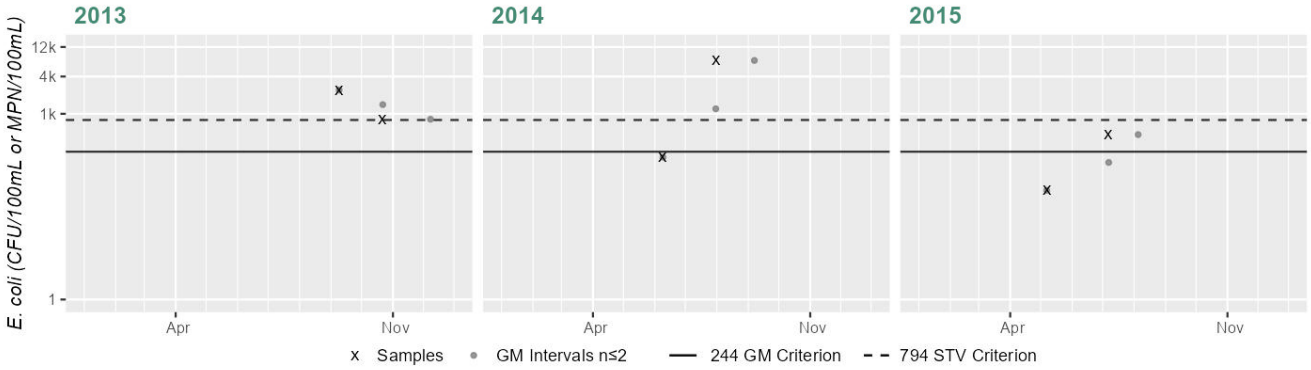
Variable*	Result
Samples	5
SeasGM	108
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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.*

Station MASSDEP_W2441 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	1405
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	1202
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

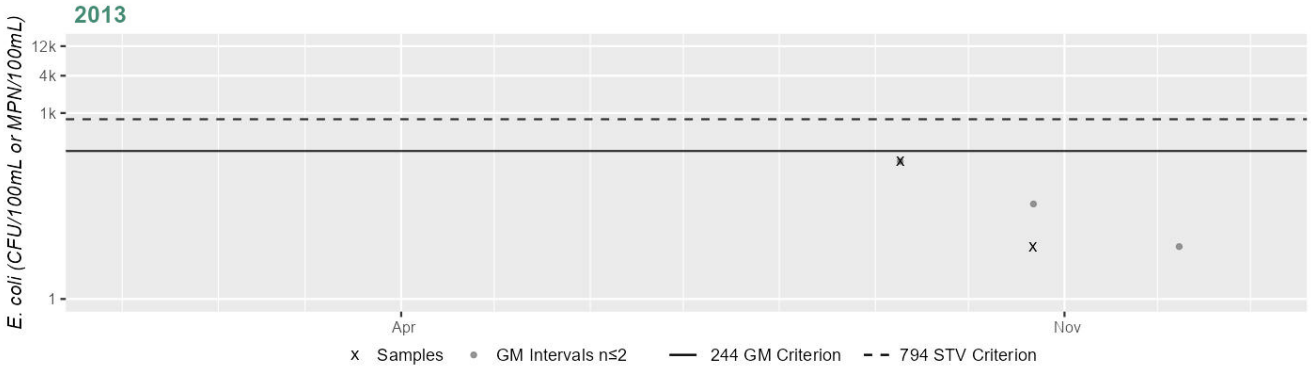
Variable*	Result
Samples	2
SeasGM	163
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2442 - Escherichia coli

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



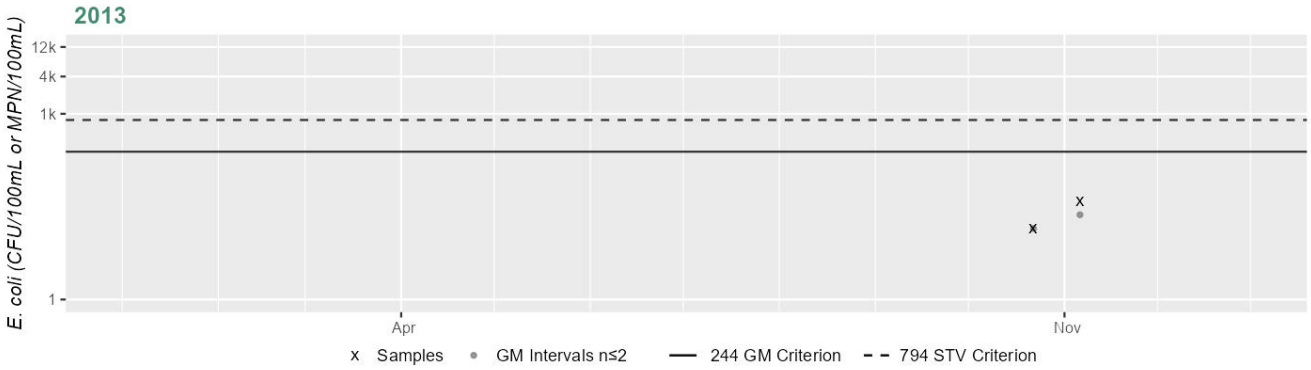
Variable*	Result
Samples	2
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

**Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exeedances; %GMI Ex = % GMI Exeedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > 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_W2449 - Escherichia coli

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



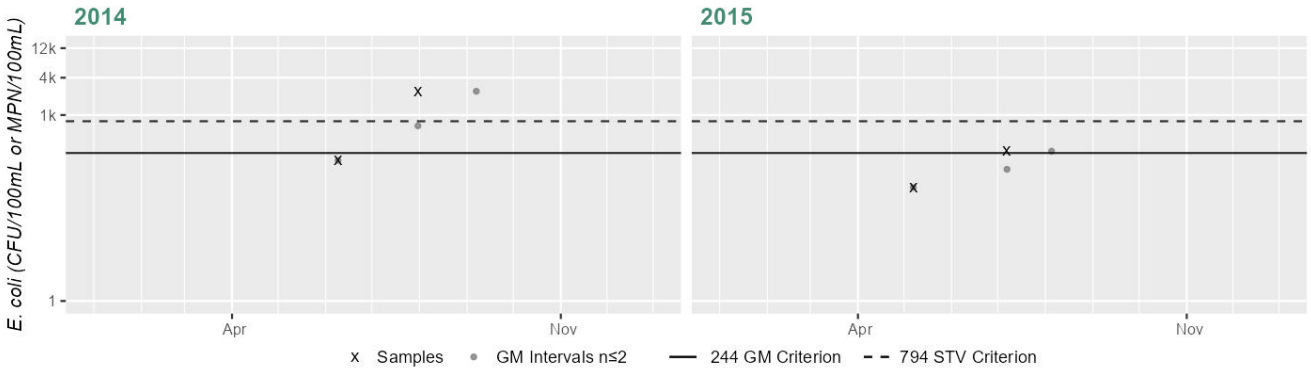
Variable*	Result
Samples	2
SeasGM	23
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2505 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	669
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

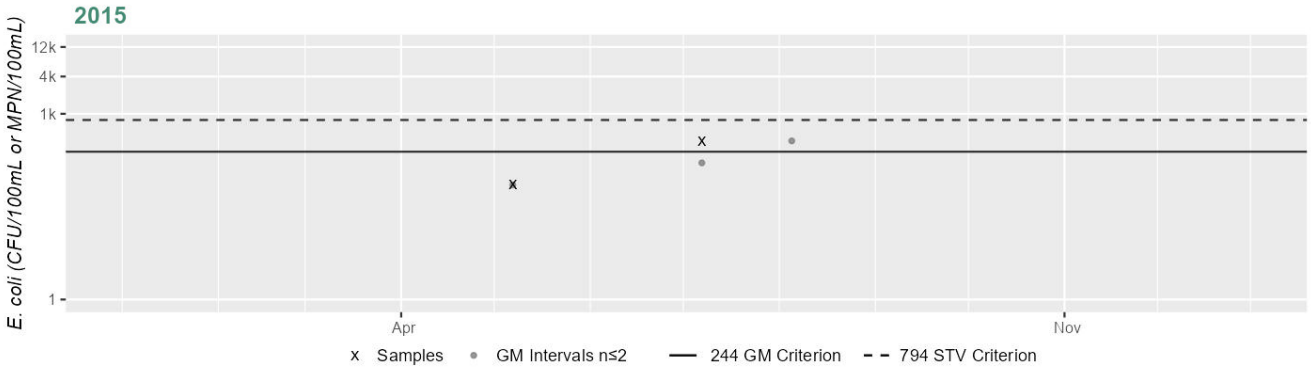
Variable*	Result
Samples	2
SeasGM	133
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2567 - Escherichia coli

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



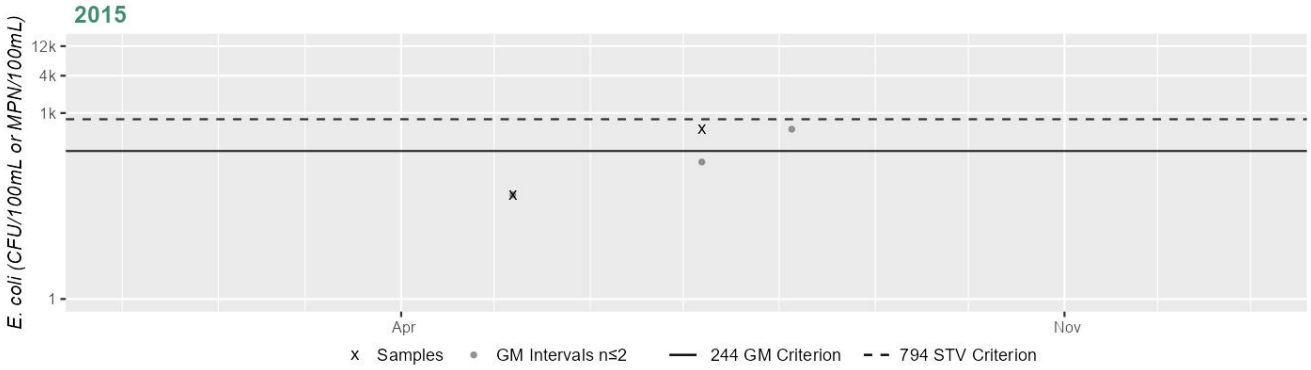
Variable*	Result
Samples	2
SeasGM	160
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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_W2568 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	162
#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.*

Shad Factory Pond (MA53005)

Location:	Rehoboth (formerly part of 2014 segment: Palmer River MA53-04).
AU Type:	FRESHWATER LAKE
AU Size:	31 ACRES
Classification/Qualifier:	B: TWS, CWF

No usable data were available for Shad Factory Pond (MA53005) 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	(Dewatering*)	--	Unchanged
5	5	Fecal Coliform	35086	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

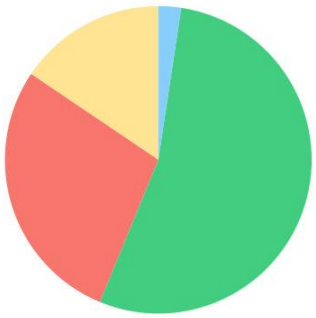
Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Dewatering*)	Source Unknown (N)	X	--	--	--	--
Fecal Coliform	Agriculture (Y)	--	--	--	X	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Fecal Coliform	Waterfowl (N)	--	--	--	X	--
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	--	--	--

Torrey Creek (MA53-14)

Location:	Headwaters in wetland east of Benson Avenue, Seekonk to just downstream of Barney Avenue, Rehoboth (includes culverted section [approximately 1200 feet] near Seekonk Speedway, Seekonk) (prior to 2010 this segment included estuarine portion).
AU Type:	RIVER
AU Size:	2.1 MILES
Classification/Qualifier:	B

Torrey Creek (MA53-14)

Watershed Area: 2.11 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.11	2.11	1.11	1.11
Agriculture	15.6%	15.6%	15.1%	15.1%
Developed	28.2%	28.2%	22%	22%
Natural	53.8%	53.8%	60.4%	60.4%
Wetland	2.4%	2.4%	2.6%	2.6%
Impervious	13.3%	13.3%	9.9%	9.9%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Alteration in Stream-side or Littoral Vegetative Covers*)	--	Unchanged
5	5	(Habitat Assessment*)	--	Unchanged
5	5	Enterococcus	--	Unchanged
5	5	Escherichia Coli (E. Coli)	35088	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Alteration in Stream-side or Littoral Vegetative Covers*)	Habitat Modification - other than Hydromodification (Y)	X	--	--	--	--
(Habitat Assessment*)	Habitat Modification - other than Hydromodification (Y)	X	--	--	--	--
Enterococcus	Agriculture (Y)	--	--	--	X	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Enterococcus	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	--	X	--
Enterococcus	Waterfowl (Y)	--	--	--	X	--
Escherichia Coli (E. Coli)	Agriculture (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Waterfowl (Y)	--	--	--	X	X

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Torrey Creek (MA53-14) is Not Assessed.

Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Torrey Creek (MA53-14) is assessed as Fully Supporting based on the lack of any objectionable conditions documented by MassDEP staff during the summers of 2013, 2015, and 2016. MassDEP staff surveyed this Torrey Creek AU just downstream of culvert southeast of Barney Avenue, Rehoboth (W2447) during the summers of 2013 (n=2), 2015 (n=3), and 2016 (n=1). There were generally no persistent 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
W2447	MassDEP	Water Quality	Torrey Creek	[just downstream of culvert southeast of Barney Avenue, Rehoboth]	41.780692	-71.288306

Aesthetic Observations

Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 5)
[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2447	2013	2	Aesthetic observations were made by MassDEP field sampling crews at Station W2447 on Torrey Creek (MA53-14) during 2 site visits between May 2013 and Sep 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).
W2447	2015	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2447 on Torrey Creek (MA53-14) during 3 site visits between Jul 2015 and Sep 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2447	2016	1	Aesthetic observations were made by MassDEP field sampling crews at Station W2447 on Torrey Creek (MA53-14) during 1 site visit on May 17, 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).

Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020) (MassDEP Undated 7) (MassDEP Undated 5)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2447	2013	2	2	0
W2447	2015	3	3	0

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2447	2016	1	1	0

MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 7)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2447	Torrey Creek	2013	Aquatic Plant Density, Overall	None	2	2
W2447	Torrey Creek	2013	Color	None	2	2
W2447	Torrey Creek	2013	Odor	None	2	2
W2447	Torrey Creek	2013	Periphyton Density, Filamentous	None	2	2
W2447	Torrey Creek	2013	Periphyton Density, Film	Moderate	1	2
W2447	Torrey Creek	2013	Periphyton Density, Film	None	1	2
W2447	Torrey Creek	2013	Turbidity	Moderately Turbid	2	2
W2447	Torrey Creek	2015	Aquatic Plant Density, Overall	None	1	3
W2447	Torrey Creek	2015	Aquatic Plant Density, Overall	Sparse	2	3
W2447	Torrey Creek	2015	Color	None	3	3
W2447	Torrey Creek	2015	Odor	None	3	3
W2447	Torrey Creek	2015	Periphyton Density, Filamentous	None	3	3
W2447	Torrey Creek	2015	Periphyton Density, Film	None	1	3
W2447	Torrey Creek	2015	Periphyton Density, Film	Sparse	2	3
W2447	Torrey Creek	2015	Turbidity	Moderately Turbid	1	3
W2447	Torrey Creek	2015	Turbidity	Slightly Turbid	2	3
W2447	Torrey Creek	2016	Aquatic Plant Density, Overall	None	1	1
W2447	Torrey Creek	2016	Color	None	1	1
W2447	Torrey Creek	2016	Odor	None	1	1
W2447	Torrey Creek	2016	Periphyton Density, Filamentous	None	1	1
W2447	Torrey Creek	2016	Periphyton Density, Film	Sparse	1	1
W2447	Torrey Creek	2016	Turbidity	Slightly Turbid	1	1

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Torrey Creek (MA53-14) continues to be assessed as Not Supporting. The prior *Enterococcus* and *Escherichia coli* (*E. coli*) impairments are being carried forward based on bacteria data not meeting the threshold at EPA_TC07 & W2447. EPA and MassDEP staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in Torrey Creek (MA53-14) from 2012-2019 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_TC05 [On Seekonk Speedway property, Seekonk] from 2012-2013 (EC n=1-2/yr), EPA_TC07 & W2447 [just downstream of culvert SE of Barney Avenue, Rehoboth & Torrey Creek at access rd off Barney Ave, ~350ft SSW from RT.195, Rehoboth] from 2012-2013 and 2015-2019 (EC n=1-7/yr & Ent n=1-7/yr*).* Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_TC07 & W2447 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2015-2019, 66-100%), 4 yrs had ≥2 samples exceed the 410 CFU/100ml STV (2015-2017 and 2019, n=2-5), and cumulatively across years 92% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *Enterococcus* dataset from EPA_TC07 & W2447 indicated 4 out of 4 sufficient data yrs had intervals where >20% of the GMs were >35 CFU/100ml (2016-2019, 100%), 4 yrs had ≥2 samples exceed the 130 CFU/100ml STV (2016-2019, n=4-5), and cumulatively across years 100% of intervals had GMs >35 CFU/100ml. *E. coli* data from EPA_TC05 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use. *E. coli* data from EPA_TC07 & W2447 and *Enterococcus* data from EPA_TC07 & W2447 are indicative of *E. coli* and *Enterococcus* impairments.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2447	MassDEP	Water Quality	Torrey Creek	[just downstream of culvert southeast of Barney Avenue, Rehoboth]	41.780692	-71.288306
EPA_TC05	US Environmental Protection Agency	Water Quality	Torrey Creek	On Seekonk Speedway property, Seekonk	41.785509	-71.298848
EPA_TC07	US Environmental Protection Agency	Water Quality	Torrey Creek	Torrey Creek @ access rd off Barney Ave, approximately 350ft SSW from RT.195, Rehoboth	41.780662	-71.288315

Bacteria Data

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

(MassDEP Undated 7) (MassDEP Undated 5) (EPA 2020) (MassDEP Undated 3)

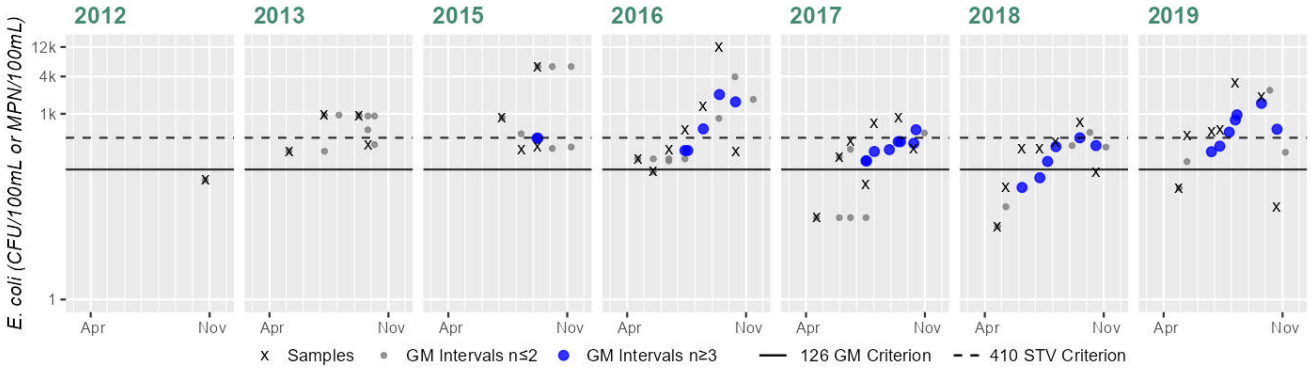
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2447	MassDEP	E. coli	05/06/13	09/09/13	2	248	921	477
W2447	MassDEP	Enterococci	10/01/13	10/01/13	1	610	610	610
W2447	MassDEP	E. coli	07/07/15	09/08/15	3	261	866	403
W2447	MassDEP	E. coli	05/17/16	10/12/16	6	116	12000	630
W2447	MassDEP	E. coli	05/31/17	10/12/17	6	73	866	309
W2447	MassDEP	E. coli	04/24/18	11/05/18	7	15	727	154
W2447	MassDEP	E. coli	04/29/19	11/06/19	7	31	3130	392

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_TC05	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	16	16	15
EPA_TC05	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	4	147	24
EPA_TC07	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	85	85	85
EPA_TC07	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	318	953	550
EPA_TC07	US Environmental Protection Agency	Enterococci	07/09/15	09/09/15	2	2480	7700	4369
EPA_TC07	US Environmental Protection Agency	E. coli	09/09/15	09/09/15	1	5794	5794	5793
EPA_TC07	US Environmental Protection Agency	E. coli	04/19/16	04/19/16	1	187	187	187
EPA_TC07	US Environmental Protection Agency	Enterococci	04/19/16	10/12/16	7	16	6488	217
EPA_TC07	US Environmental Protection Agency	E. coli	04/20/17	04/20/17	1	21	21	21
EPA_TC07	US Environmental Protection Agency	Enterococci	04/20/17	10/12/17	6	41	798	260
EPA_TC07	US Environmental Protection Agency	Enterococci	04/24/18	11/05/18	7	10	749	124
EPA_TC07	US Environmental Protection Agency	Enterococci	04/29/19	11/06/19	7	31	4106	247

Station EPA_TC07 & MASSDEP_W2447 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	85
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	512
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	4
SeasGM	785
#GMI	2
#GMI Ex	2
%GMI Ex	100%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	7
SeasGM	530
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	3
%n>STV	42%

Variable*	Result
Samples	7
SeasGM	210
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	2
%n>STV	28%

Variable*	Result
Samples	7
SeasGM	154
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	392
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	5
%n>STV	71%

Cumulative %GMI Exceedance

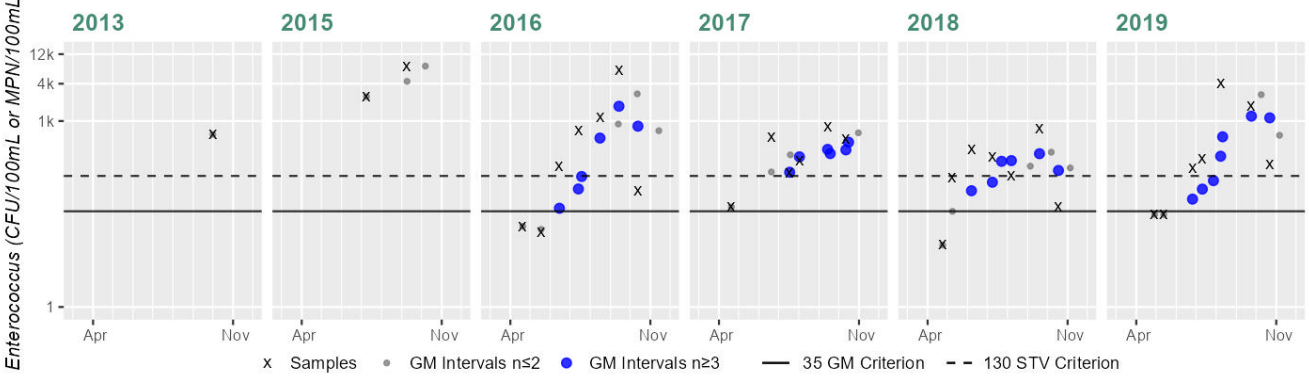
Current (2011-2022)

92%

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

Station EPA_TC07 & MASSDEP_W2447 - Enterococcus

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



Variable*	Result
Samples	1
SeasGM	610
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	4369
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	7
SeasGM	217
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	6
SeasGM	260
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	5
%n>STV	83%

Variable*	Result
Samples	7
SeasGM	124
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	57%

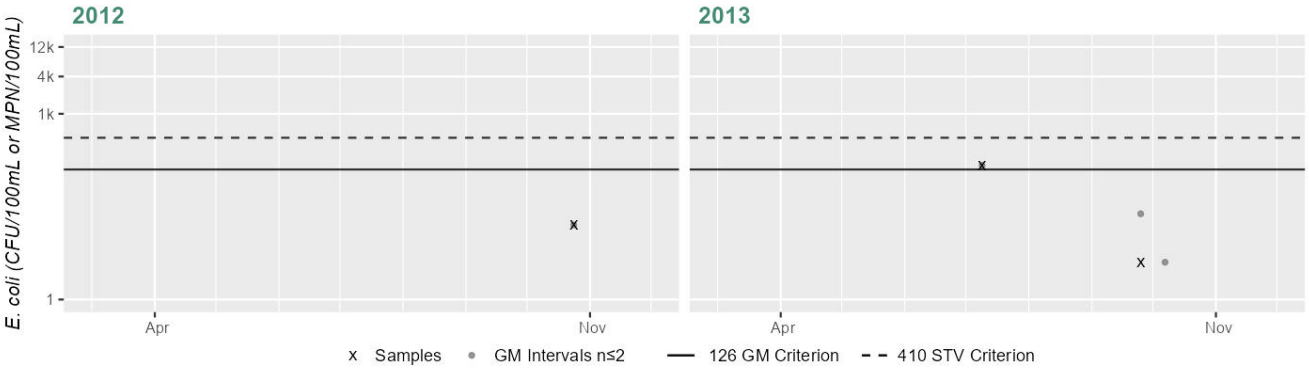
Variable*	Result
Samples	7
SeasGM	247
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	5
%n>STV	71%

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 EPA_TC05 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	24
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Secondary Contact Recreation Use for Torrey Creek (MA53-14) is assessed as Not Supporting. An *Escherichia coli (E. coli)* impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at EPA_TC07 & W2447. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Torrey Creek (MA53-14) from 2009-2019 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_TC05 [On Seekonk Speedway property, Seekonk] from 2012-2013 (n=1-2/yr), W1960 [off the Old Barney Avenue culdesac, ~170 ft upstream from Barney Avenue, Rehoboth] from May-Sep 2009 (n=6), EPA_TC07 & W2447 [just downstream of culvert SE of Barney Avenue, Rehoboth & Torrey Creek at access rd off Barney Ave, ~350ft SSW from RT.195, Rehoboth] from 2012-2013 and 2015-2019 (n=1-8/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from EPA_TC07 & W2447 indicated 5 out of 5 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml (2015-2019, 42-100%), 3 yrs had ≥2 samples exceed the 794 CFU/100ml STV (2015-2016 and 2019, n=2), and cumulatively across years 75% of intervals had GMs >244 CFU/100ml. *E. coli* data from EPA_TC05 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. *E. coli* data from EPA_TC07 & W2447 are indicative of an *E. coli* impairment.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1960	MassDEP	Water Quality	Torrey Creek	[off the Old Barney Avenue culdesac, approximately 170 feet upstream from Barney Avenue, Rehoboth]	41.781263	-71.289017
W2447	MassDEP	Water Quality	Torrey Creek	[just downstream of culvert southeast of Barney Avenue, Rehoboth]	41.780692	-71.288306
EPA_TC05	US Environmental Protection Agency	Water Quality	Torrey Creek	On Seekonk Speedway property, Seekonk	41.785509	-71.298848
EPA_TC07	US Environmental Protection Agency	Water Quality	Torrey Creek	Torrey Creek @ access rd off Barney Ave, approximately 350ft SSW from RT.195, Rehoboth	41.780662	-71.288315

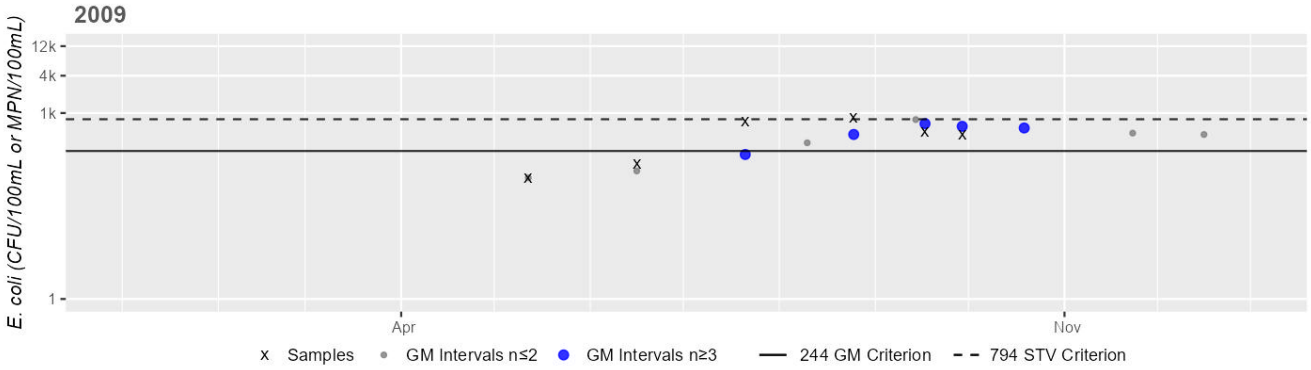
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W1960	MassDEP	E. coli	05/12/09	09/29/09	6	90	840	350
W2447	MassDEP	E. coli	05/06/13	09/09/13	2	248	921	477
W2447	MassDEP	E. coli	07/07/15	09/08/15	3	261	866	403
W2447	MassDEP	E. coli	05/17/16	11/09/16	7	74	12000	464
W2447	MassDEP	E. coli	05/31/17	11/14/17	7	73	866	256
W2447	MassDEP	E. coli	04/24/18	11/05/18	8	15	727	134
W2447	MassDEP	E. coli	04/29/19	11/06/19	8	31	3130	346
EPA_TC05	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	16	16	15
EPA_TC05	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	4	147	24
EPA_TC07	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	85	85	85
EPA_TC07	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	318	953	550
EPA_TC07	US Environmental Protection Agency	E. coli	09/09/15	09/09/15	1	5794	5794	5793
EPA_TC07	US Environmental Protection Agency	E. coli	04/19/16	04/19/16	1	187	187	187
EPA_TC07	US Environmental Protection Agency	E. coli	04/20/17	04/20/17	1	21	21	21

Station MASSDEP_W1960 - Escherichia coli

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



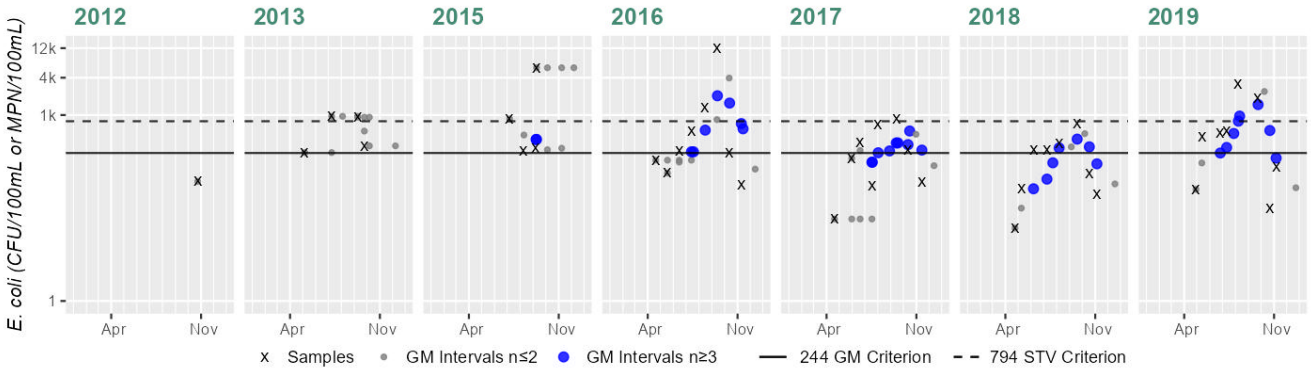
Variable*	Result
Samples	6
SeasGM	350
#GMI	5
#GMI Ex	4
%GMI Ex	80%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance
Historic (1997-2010)
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.*

Station EPA_TC07 & MASSDEP_W2447 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	85
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	512
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	4
SeasGM	785
#GMI	2
#GMI Ex	2
%GMI Ex	100%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	8
SeasGM	414
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	2
%n>STV	25%

Variable*	Result
Samples	8
SeasGM	187
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	1
%n>STV	12%

Variable*	Result
Samples	8
SeasGM	134
#GMI	7
#GMI Ex	3
%GMI Ex	42%
n>STV	0
%n>STV	0%

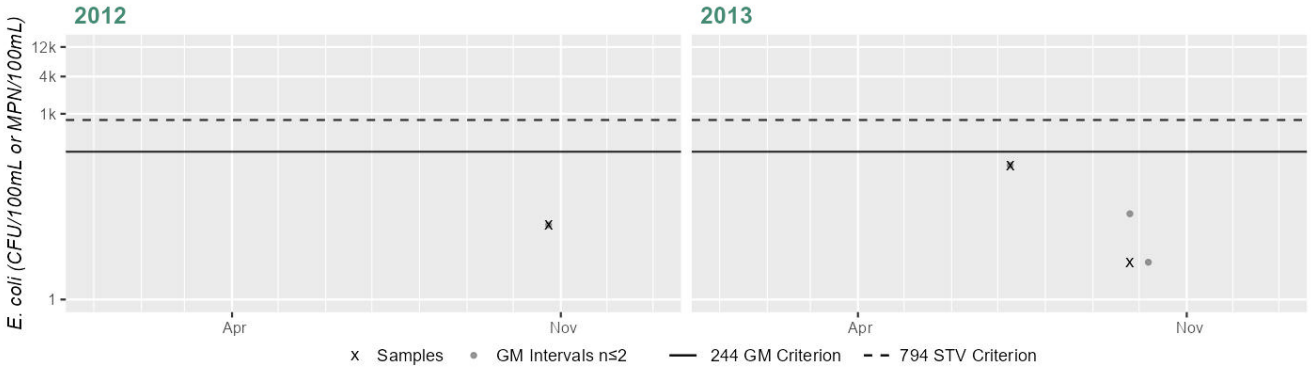
Variable*	Result
Samples	8
SeasGM	346
#GMI	8
#GMI Ex	6
%GMI Ex	75%
n>STV	2
%n>STV	25%

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.*

Station EPA_TC05 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	24
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance
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.*

Torrey Creek (MA53-17)

Location:	From just downstream of Barney Avenue, Rehoboth to confluence with Palmer River, Rehoboth (formerly part of 2008 segment: Torrey Creek MA53-14).
AU Type:	ESTUARY
AU Size:	0.004 SQUARE MILES
Classification/Qualifier:	SA: SFO

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Fecal Coliform	35088	Unchanged

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Torrey Creek (MA53-17) is Not Assessed.

Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
Torrey Creek (MA53-17): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0012 sq mi (28%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0012 sq mi (28%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB5.0	Palmer River	Prohibited	0.00117	28.1%

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available to assess the status of the Aesthetic Use for this Torrey Creek AU (MA53-17), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Primary Contact Recreation Use for Torrey Creek (MA53-17) so it is assessed as having Insufficient Information. The shellfish growing areas (0.0012 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Primary Contact Recreation Use of Torrey Creek (MA53-17) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in Torrey Creek (MA53-17) at EPA_PM62 [Torrey Creek outlet to Palmer Mainstem, discharging at right bank of mainstem, ~ 0.2 mi downstream I-195, Rehoboth] from Jul 2013 (n=1). *Enterococcus* data from EPA_PM62 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

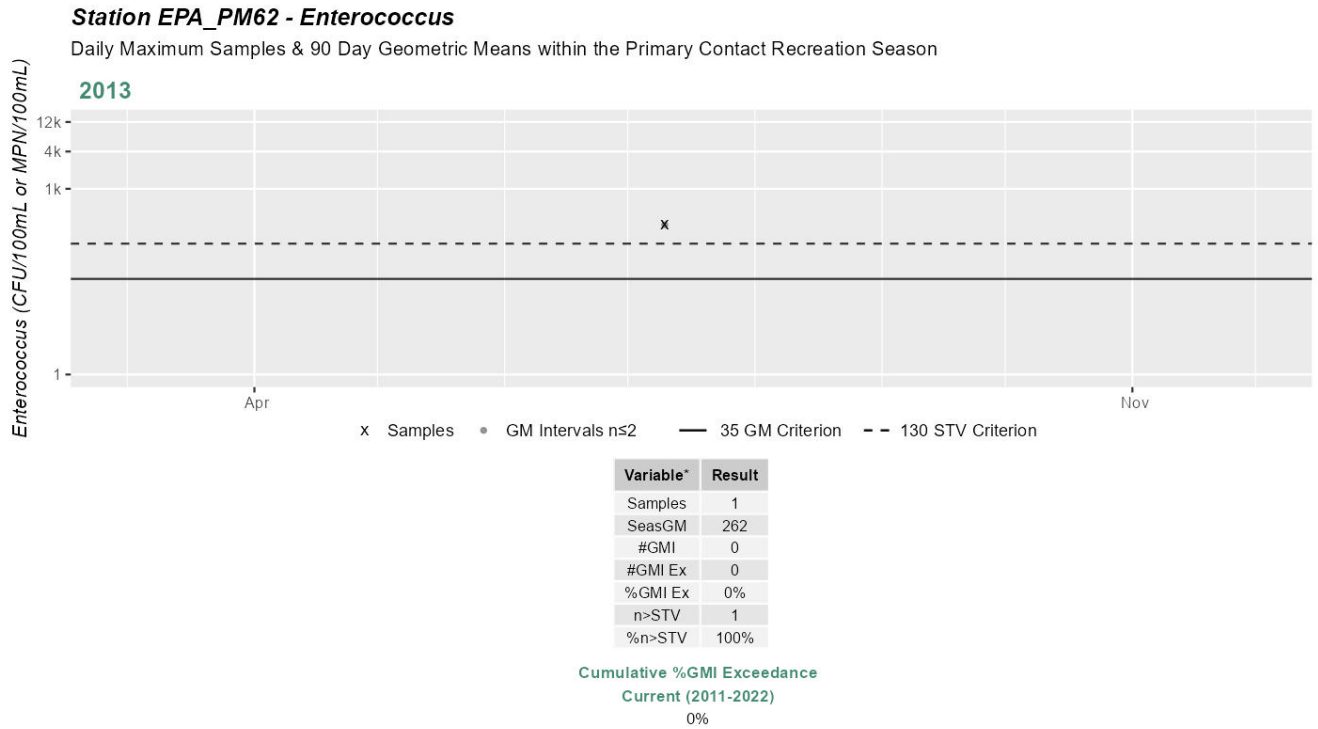
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM62	US Environmental Protection Agency	Water Quality	Palmer River	Torrey Creek outlet to Palmer Mainstem, discharging at right bank of mainstem, ~ 0.2 mi downstrm I-195, Rehoboth	41.776854	-71.283571

Bacteria Data

Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2020) (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
EPA_PM62	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	262	262	261



Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted in 2011 and 2013-2019 at 1 site along the Torrey Creek AU (MA53-17) at Barney Ave, with *E. coli* ranging 15 to 12,033MPN. BST work was also conducted over the same time range on 5 unnamed tributaries, with *E. coli* concentrations ranging 13 to 4,106MPN. In 2013 human marker analysis at Barney Ave indicated "inconclusive" evidence of a human source. The most significant hotspot and contributor of bacteria to the AU was noted to be the southern most tributary (an intermittent trib which also crosses Barney Ave). Human marker analysis was run for this tributary in 2013 ("weak" result) and 2015 ("inconclusive" result), but no correctable source was ever found. It should also be noted that agriculture and geese were observed sources of bacteria in the watershed. Additionally, the Seekonk Speedway and Oldcastle Precast property were ruled out as sources of bacteria to the AU during dry weather conditions.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Torrey Creek (MA53-17): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0012 sq mi (28%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Torrey Creek (MA53-17) so it is assessed as having Insufficient Information. The shellfish growing areas (0.0012 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Secondary Contact Recreation Use of Torrey Creek (MA53-17) based on shellfish classification data. EPA staff collected *Enterococcus* bacteria samples in Torrey Creek (MA53-17) at EPA_PM62 [Torrey Creek outlet to Palmer Mainstem, discharging at right bank of mainstem, ~ 0.2 mi downstream I-195, Rehoboth] from Jul 2013 (n=1). *Enterococcus* data from EPA_PM62 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use.

Monitoring Stations

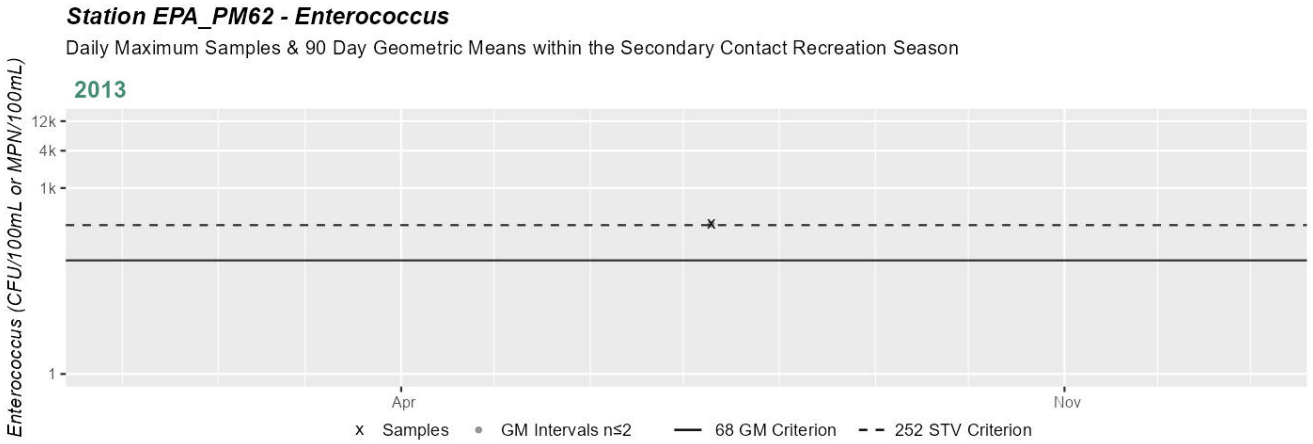
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_PM62	US Environmental Protection Agency	Water Quality	Palmer River	Torrey Creek outlet to Palmer Mainstem, discharging at right bank of mainstem, ~ 0.2 mi downstrm I-195, Rehoboth	41.776854	-71.283571

Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2020) (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
EPA_PM62	US Environmental Protection Agency	Enterococci	07/10/13	07/10/13	1	262	262	261



Variable*	Result
Samples	1
SeasGM	262
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

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

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

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

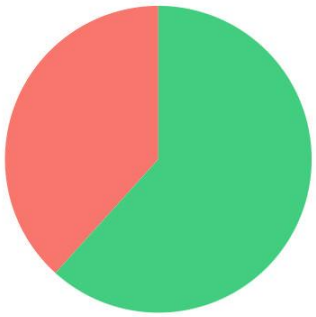
Summary
Torrey Creek (MA53-17): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0012 sq mi (28%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Unnamed Tributary (MA53-21)

Location:	Headwaters east of Agawam Court, Seekonk to inlet of unnamed pond south of Sagamore Road, Seekonk.
AU Type:	RIVER
AU Size:	0.6 MILES
Classification/Qualifier:	B

Unnamed Tributary (MA53-21)

Watershed Area: 0.33 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	0.33	0.33	0.08	0.08
Agriculture	0%	0%	0%	0%
Developed	38.3%	38.3%	22.4%	22.4%
Natural	61.7%	61.7%	77.6%	77.6%
Wetland	0%	0%	0%	0%
Impervious	16.9%	16.9%	8.3%	8.3%

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

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

Supporting Information for Removed Impairments

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Unnamed Tributary (MA53-21) 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 (MA53-21) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Unnamed Tributary (MA53-21) continues to be assessed as Not Supporting. The prior *Escherichia coli (E. coli)* impairment is being carried forward. EPA staff collected *E. coli* bacteria samples in Unnamed Tributary (MA53-21) at EPA_CR04 [Unnamed Tributary at Sagamore Rd, Seekonk] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_CR04 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_CR04	US Environmental Protection Agency	Water Quality	Clear Run Brook	Unnamed Tributary @ Sagamore Road, Seekonk	41.805617	-71.310738

Bacteria Data

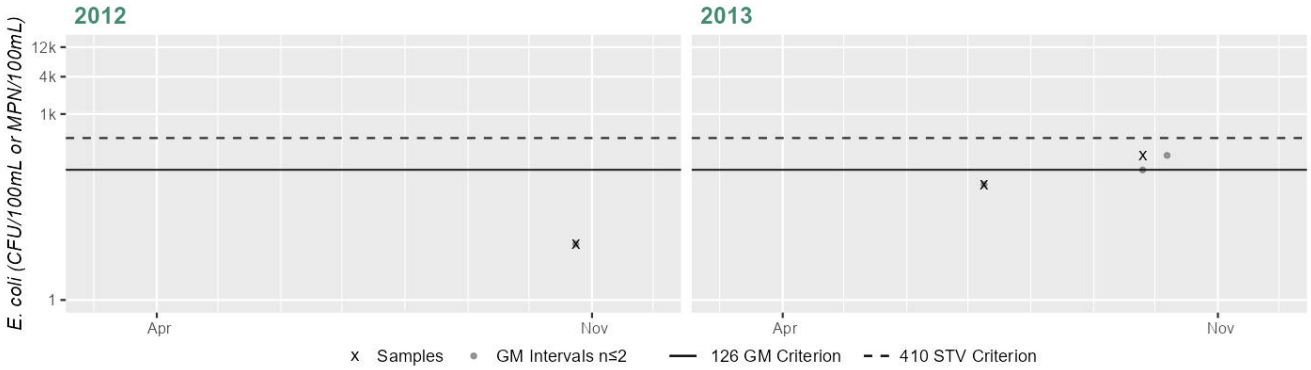
Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2020) (MassDEP Undated 3)

[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
EPA_CR04	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7
EPA_CR04	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	73	215	125

Station EPA_CR04 & MASSDEP_W1532 - Escherichia coli

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



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

Variable*	Result
Samples	2
SeasGM	125
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Unnamed Tributary (MA53-21) so it is assessed as having Insufficient Information. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Unnamed Tributary (MA53-21) at EPA_CR04 & W1532 [unnamed Clear Run Brook tributary, Sagamore Rd crossing, Seekonk & Unnamed Tributary at Sagamore Rd, Seekonk] from May-Sep 2006 (historic n=5) and 2012-2013 (current n=1-2/yr). *E. coli* data from EPA_CR04 & W1532 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from EPA_CR04 & W1532 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, too limited bacteria data from the current IR window (2011-2022) are available to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1532	MassDEP	Water Quality	Unnamed Tributary	[unnamed Clear Run Brook tributary, Sagamore Road crossing, Seekonk]	41.805682	-71.310856
EPA_CR04	US Environmental Protection Agency	Water Quality	Clear Run Brook	Unnamed Tributary @ Sagamore Road, Seekonk	41.805617	-71.310738

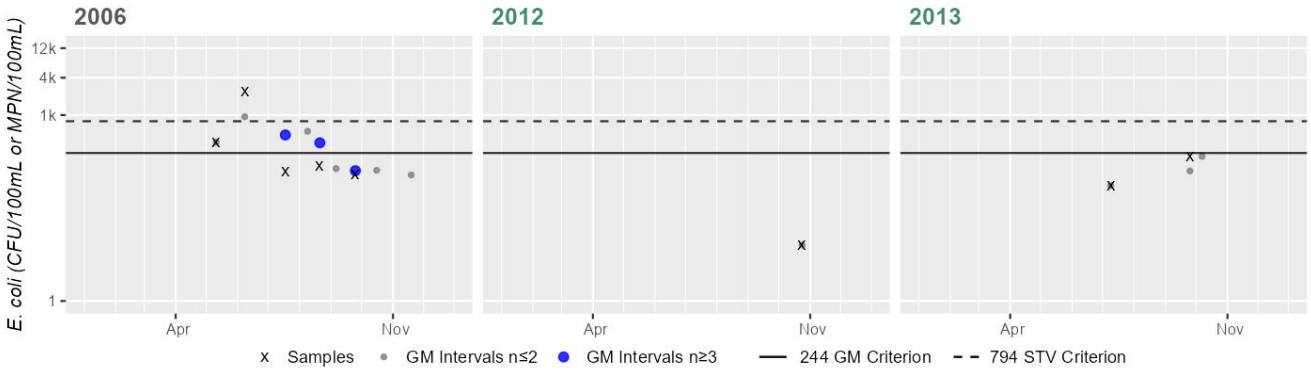
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W1532	MassDEP	E. coli	05/11/06	09/25/06	5	108	2419	281
EPA_CR04	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	8	8	7
EPA_CR04	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	73	215	125

Station EPA_CR04 & MASSDEP_W1532 - Escherichia coli

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



Variable*	Result
Samples	5
SeasGM	281
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	1
%n>STV	20%

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

Variable*	Result
Samples	2
SeasGM	125
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance Historic (1997-2010)
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.*

Warren River Pond (MA53-06)

Location:	Salt pond in Swansea on MA/RI border (portion in MA only).
AU Type:	ESTUARY
AU Size:	0.06 SQUARE MILES
Classification/Qualifier:	SA: SFO

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Fecal Coliform	38904	Unchanged

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

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Warren River Pond (MA53-06) is Not Assessed.

Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary

Warren River Pond (MA53-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0 sq mi (0%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0 sq mi (0.1%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as Not Supporting.

Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
MHB5.0	Palmer River	Prohibited	0.00004	0.1%

Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No data are available to assess the status of the Aesthetic Use for Warren River Pond (MA53-06), so it is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Primary Contact Recreation Use for the Warren River Pond (MA53-06) so it is assessed as having Insufficient Information. The shellfish growing areas (0 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Primary Contact Recreation Use of Warren River Pond (MA53-06) based on shellfish classification data.

Bacteria Data

Summary Statement for 2011-2019 MassDEP Bacteria Source Tracking (BST) Data (MassDEP Undated 1)

Summary
BST work was conducted at 1 site in the Warren Pond AU (MA53-06) in 2013, at the point where the pond discharges to the Palmer River (MA53-03), with an *E. coli* concentration of <10MPN (n=2). BST work was also conducted on an unnamed tributary (in effect a series of small ponds) to the Warren Pond AU in 2013, with *E. coli* concentrations ranging <1 to 3,654MPN. No correctable source was ever found.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

Summary
Warren River Pond (MA53-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0 sq mi (0%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Secondary Contact Recreation Use for the Warren River Pond (MA53-06) so it is assessed as having Insufficient Information. The shellfish growing areas (0 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). The data were too limited to assess Secondary Contact Recreation Use of Warren River Pond (MA53-06) based on shellfish classification data.

Shellfish Growing Area Classifications

Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 6)

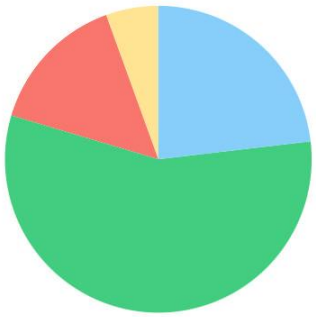
Summary
Warren River Pond (MA53-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0 sq mi (0%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than "approved", the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

West Branch Palmer River (MA53-07)

Location:	Headwaters just north of Fairfield Street, Rehoboth to confluence with East Branch Palmer River (forming Palmer River), Rehoboth.
AU Type:	RIVER
AU Size:	4.4 MILES
Classification/Qualifier:	B

West Branch Palmer River (MA53-07)

Watershed Area: 7.78 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	7.78	5.02	2.67	1.85
Agriculture	5.5%	4%	7.7%	5.9%
Developed	14.9%	13%	14.3%	14.3%
Natural	56.5%	60.8%	46.9%	51.2%
Wetland	23.1%	22.1%	31.2%	28.5%
Impervious	4.8%	4.3%	3.6%	3.3%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fish Passage Barrier*)	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--

Designated Use Attainment Decisions

Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for West Branch Palmer River (MA53-07) 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 West Branch Palmer River (MA53-07) is Not Assessed.

Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Primary Contact Recreation Use for the West Branch Palmer River (MA53-07) so it is assessed as having Insufficient Information. EPA staff collected *E. coli* bacteria samples in the West Branch Palmer River (MA53-07) from 2012-2013 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_WB33 [W Branch Palmer R at Ash St, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_WB36 [W Branch Palmer River mainstem at Perryville Rd, Rehoboth] from 2012-2013 (n=1-2/yr), EPA_WB37 [W Branch Palmer River mainstem at Carpenter Rd, Rehoboth] from 2012-2013 (n=1-2/yr). *E. coli* data from EPA_WB33, EPA_WB36, and EPA_WB37 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

Monitoring Stations

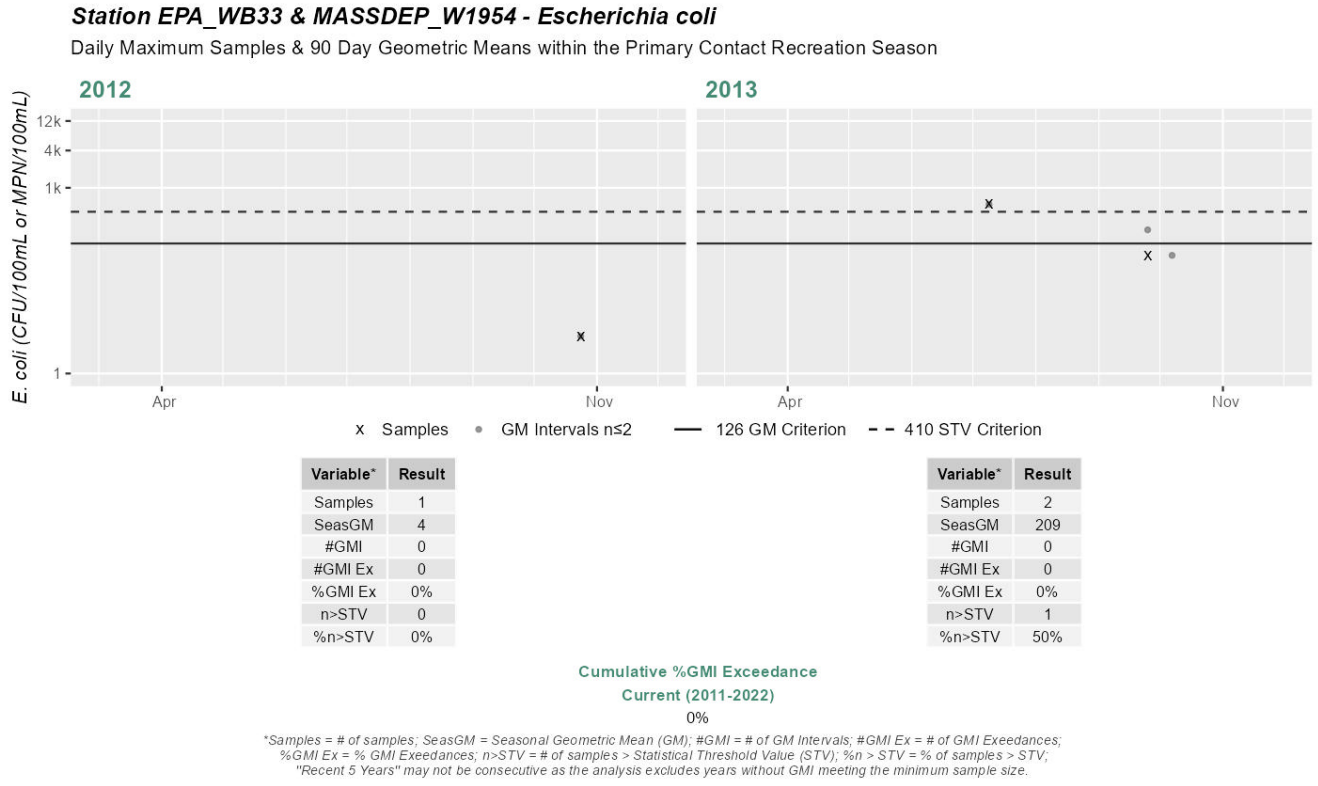
Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_WB33	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer R @ Ash Street, Rehoboth	41.887273	-71.257581
EPA_WB36	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer River mainstem @ Perryville Rd, Rehoboth	41.870341	-71.260755
EPA_WB37	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer River mainstem @ Carpenter Rd, Rehoboth	41.855134	-71.255732

Bacteria Data

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

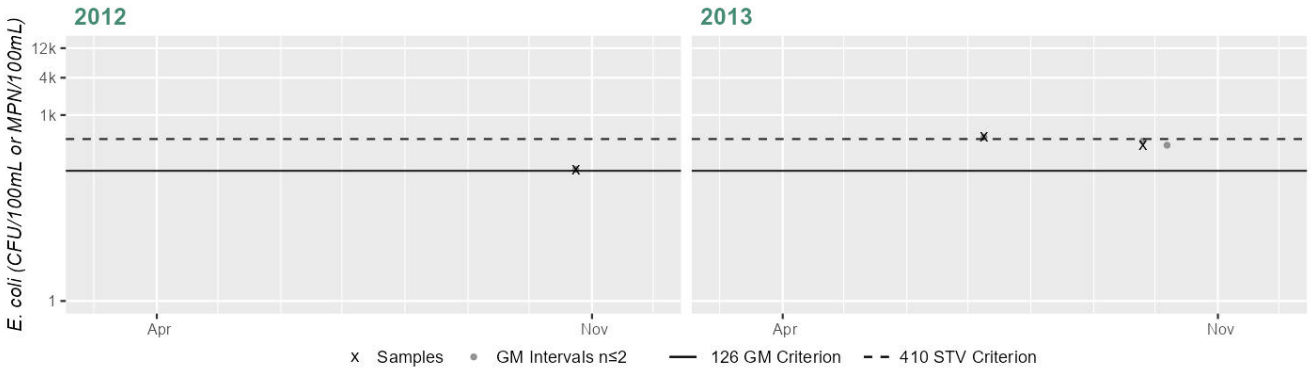
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
EPA_WB33	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_WB33	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	81	542	209
EPA_WB36	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	133	133	133
EPA_WB36	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	326	442	379
EPA_WB37	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	12	12	12
EPA_WB37	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	76	93	84



Station EPA_WB36 & MASSDEP_W0623 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	133
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

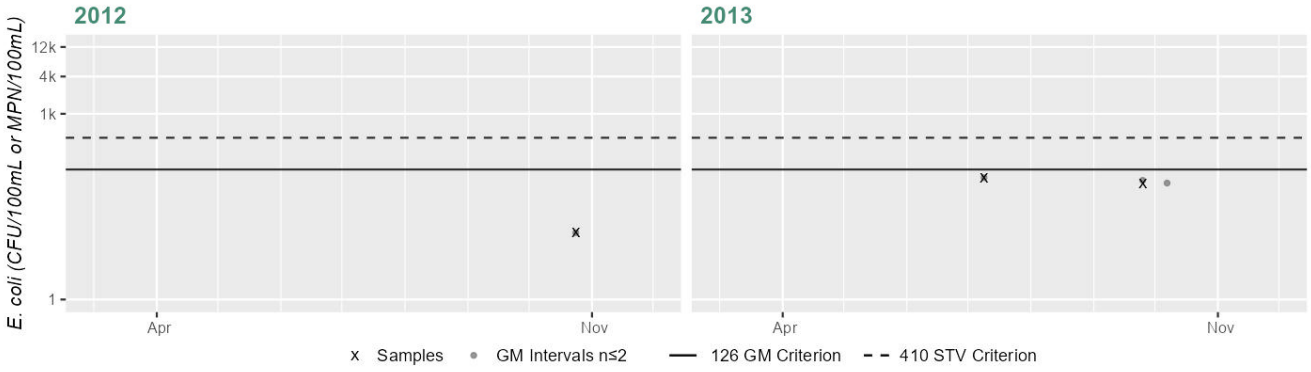
Variable*	Result
Samples	2
SeasGM	379
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

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

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

Station EPA_WB37 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	84
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
Too limited bacteria data are available to assess the Secondary Contact Recreation Use for the West Branch Palmer River (MA53-07) so it is assessed as having Insufficient Information. EPA and MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the West Branch Palmer River (MA53-07) from 1999-2013 at 4 stations. Samples were collected from the following stations/sample years from upstream to downstream: EPA_WB33 & W1954 [Ash St, Rehoboth & W Branch Palmer R at Ash St, Rehoboth] from May-Sep 2009 (historic n=6) and 2012-2013 (current n=1-2/yr), EPA_WB36 & W0623 [upstream/N at Perryville Rd, Rehoboth & W Branch Palmer River mainstem at Perryville Rd, Rehoboth] from Jun 1999 (historic n=1) and 2012-2013 (current n=1-2/yr), EPA_WB37 [W Branch Palmer River mainstem at Carpenter Rd, Rehoboth] from 2012-2013 (n=1-2/yr), W0624 [Carpenter St, Rehoboth] from 1999 and 2009 (n=2-6/yr). *E. coli* data from EPA_WB33 & W1954, EPA_WB36 & W0623, and EPA_WB37 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from EPA_WB36 & W0623 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Historic *E. coli* data from EPA_WB33 & W1954 and W0624 meet 2024 CALM guidance. While the historic bacteria concentrations meet 2024 CALM guidance, too limited bacteria data from the current IR window (2011-2022) are available to assess the Secondary Contact Recreation Use.

Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W0623	MassDEP	Water Quality	West Branch (Palmer River)	[upstream/north at Perryville Road, Rehoboth]	41.870484	-71.260981
W0624	MassDEP	Water Quality	West Branch (Palmer River)	[Carpenter Street, Rehoboth]	41.854891	-71.255975
W1954	MassDEP	Water Quality	West Branch (Palmer River)	[Ash Street, Rehoboth]	41.887301	-71.257555
EPA_WB33	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer R @ Ash Street, Rehoboth	41.887273	-71.257581
EPA_WB36	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer River mainstem @ Perryville Rd, Rehoboth	41.870341	-71.260755

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
EPA_WB37	US Environmental Protection Agency	Water Quality	West Branch Palmer R	West Branch Palmer River mainstem @ Carpenter Rd, Rehoboth	41.855134	-71.255732

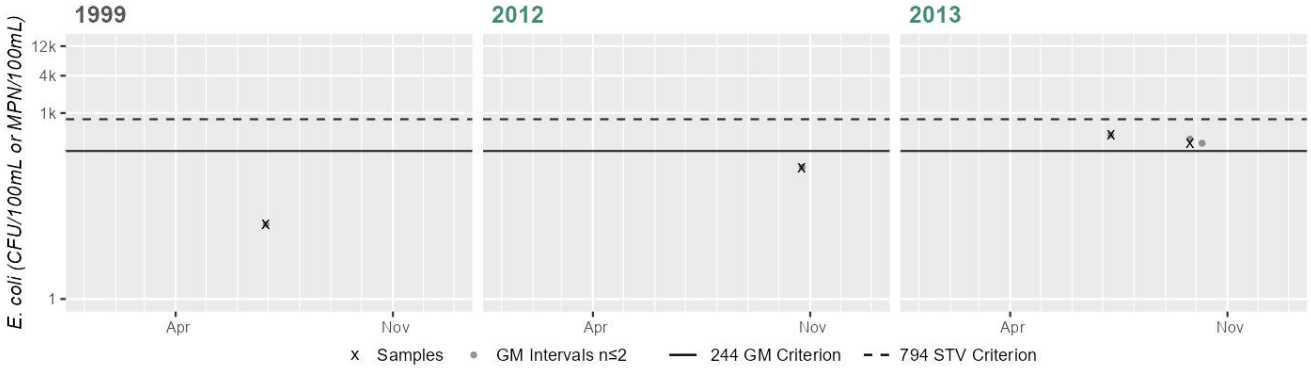
Bacteria Data

Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)
(MassDEP Undated 7) (MassDEP Undated 4) (EPA 2020) (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
W0623	MassDEP	E. coli	06/29/99	06/29/99	1	16	16	15
W0624	MassDEP	E. coli	06/29/99	08/31/99	2	66	81	73
W0624	MassDEP	E. coli	05/12/09	09/29/09	6	10	90	37
W1954	MassDEP	E. coli	05/12/09	09/29/09	6	10	250	34
EPA_WB33	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	4	4	4
EPA_WB33	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	81	542	209
EPA_WB36	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	133	133	133
EPA_WB36	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	326	442	379
EPA_WB37	US Environmental Protection Agency	E. coli	10/23/12	10/23/12	1	12	12	12
EPA_WB37	US Environmental Protection Agency	E. coli	07/09/13	09/25/13	2	76	93	84

Station EPA_WB36 & MASSDEP_W0623 - Escherichia coli

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



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

Variable*	Result
Samples	1
SeasGM	133
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	379
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

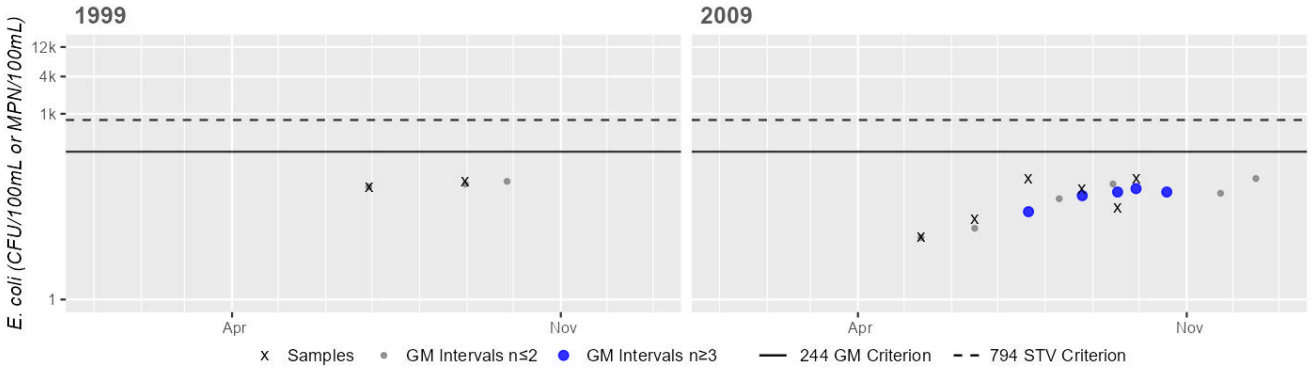
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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_W0624 - Escherichia coli

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



Variable*	Result
Samples	2
SeasGM	73
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

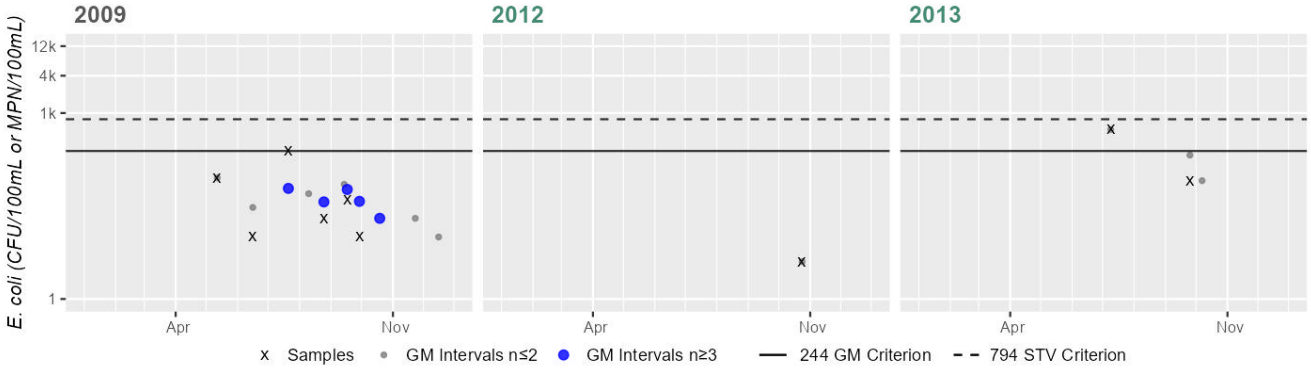
Variable*	Result
Samples	6
SeasGM	37
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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 EPA_WB33 & MASSDEP_W1954 - Escherichia coli

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



Variable*	Result
Samples	6
SeasGM	34
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

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

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

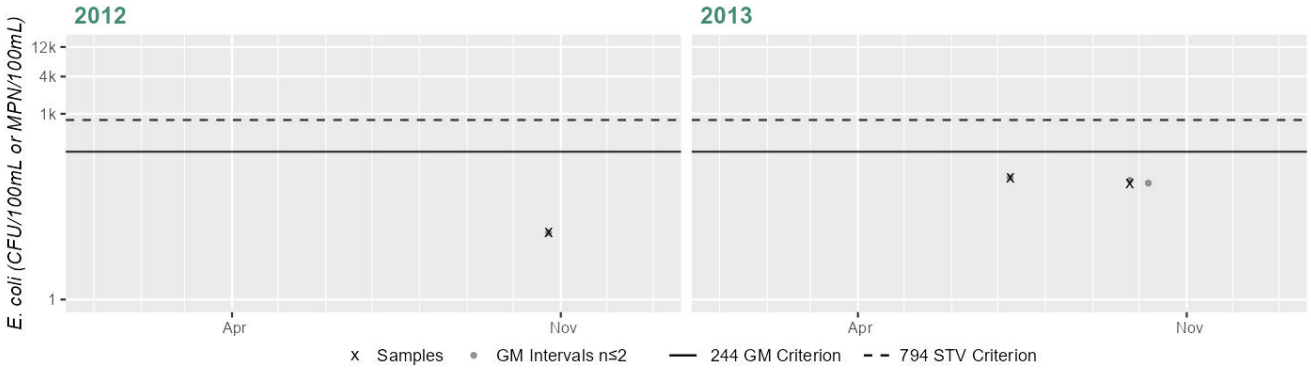
Cumulative %GMI Exceedance
Historic (1997-2010)
0%

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 EPA_WB37 - Escherichia coli

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



Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	84
#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.*

Data Sources

EPA. "2012-2019 Palmer River watershed bacteria data submitted to MassDEP on 9/21/2020." United States Environmental Protection Agency, Chelmsford, MA, 2020.

MassDEP. "Open file analysis of 2011-2019 bacteria source tracking data collected by MassDEP Southeast Regional Office staff." Southeast Regional Office, Massachusetts Department of Environmental Protection, Lakeville, MA, Undated 1.

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 2.

MassDEP. "Open file analysis of external water quality data (potential date range 2011-2022) using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 3.

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 4.

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 5.

MassDEP. "Open file analysis of shellfish growing area classifications using 2024 CALM guidance." Data published June 2024 and available on MassGIS website, Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 6.

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 7.

MassGIS. "MassGIS Data: Designated Shellfish Growing Areas, Data provided by Massachusetts Department of Fish and Game's Division of Marine Fisheries." Bureau of Geographic Information, Boston, MA. June 2024. https://www.mass.gov/info-details/massgis-data-designated-shellfish-growing-areas (accessed July 2024).