

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

**Appendix 27  
Millers River Basin  
Assessment and Listing Decision Summary**

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## **Watershed Planning Program**

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

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## **Disclaimer**

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

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## **Notice of Availability**

[This report is available on the Massachusetts Department of Environmental Protection website.](#)

## **Overview of Appendix Contents**

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

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

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

The following abbreviations are used when referencing designated uses:

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

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

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## 2024/26 Cycle Impairment Changes

| Waterbody           | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                      | ATTAINS Action ID | Impairment Change Summary |
|---------------------|---------|------------------|---------------------|---------------------------------|-------------------|---------------------------|
| Bassett Pond        | MA35002 | 3                | 3                   | None                            | --                | Unchanged                 |
| Beaver Brook        | MA35-09 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Beaver Brook        | MA35-09 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Beaver Brook        | MA35-28 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Beaver Brook        | MA35-28 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Beaver Flowage Pond | MA35005 | 3                | 3                   | None                            | --                | Unchanged                 |
| Bents Pond          | MA35006 | 3                | 3                   | None                            | --                | Unchanged                 |
| Bents Pond          | MA35007 | 4a               | 4a                  | Algae                           | 4115              | Unchanged                 |
| Bents Pond          | MA35007 | 4a               | 4a                  | Turbidity                       | 4115              | Unchanged                 |
| Bourn-Hadley Pond   | MA35008 | 4c               | 4c                  | (Aquatic Plants (Macrophytes)*) | --                | Unchanged                 |
| Bowens Pond         | MA35009 | 3                | 3                   | None                            | --                | Unchanged                 |
| Boyce Brook         | MA35-17 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Boyce Brook         | MA35-17 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Brazell Pond        | MA35010 | 4c               | 4c                  | (Aquatic Plants (Macrophytes)*) | --                | Unchanged                 |
| Briggs Brook        | MA35-32 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Briggs Brook        | MA35-32 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Cheney Brook        | MA35-33 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Cheney Brook        | MA35-33 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Collar Brook        | MA35-34 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Collar Brook        | MA35-34 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Coolidge Brook      | MA35-35 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |

| Waterbody               | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                                       | ATTAINS Action ID | Impairment Change Summary |
|-------------------------|---------|------------------|---------------------|--------------------------------------------------|-------------------|---------------------------|
| Coolidge Brook          | MA35-35 | 5                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| Cowee Pond              | MA35013 | 3                | 3                   | None                                             | --                | Unchanged                 |
| Crow Hill Brook         | MA35-36 | 3                | 3                   | None                                             | --                | Unchanged                 |
| Crystal Lake            | MA35014 | 3                | 3                   | None                                             | --                | Unchanged                 |
| Davenport Pond          | MA35015 | 3                | 3                   | None                                             | --                | Unchanged                 |
| Depot Pond              | MA35018 | 4c               | 4c                  | (Aquatic Plants (Macrophytes)*)                  | --                | Unchanged                 |
| Dunn Brook              | MA35-37 | 5                | 5                   | PCBs in Fish Tissue                              | --                | Unchanged                 |
| Dunn Brook              | MA35-37 | 5                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| Dunn Pond               | MA35021 | 2                | 5                   | Harmful Algal Blooms                             | --                | Added                     |
| Dunn Pond               | MA35021 | 2                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| East Branch Tully River | MA35-29 | 5                | 5                   | PCBs in Fish Tissue                              | --                | Unchanged                 |
| East Branch Tully River | MA35-29 | 5                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| East Branch Tully River | MA35-30 | 5                | 5                   | PCBs in Fish Tissue                              | --                | Unchanged                 |
| East Branch Tully River | MA35-30 | 5                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| East Templeton Pond     | MA35022 | 3                | 3                   | None                                             | --                | Unchanged                 |
| Ellinwood Brook         | MA35-22 | 5                | 5                   | PCBs in Fish Tissue                              | --                | Unchanged                 |
| Ellinwood Brook         | MA35-22 | 5                | 5                   | PFAS in Fish Tissue                              | --                | Added                     |
| Ellis Pond              | MA35023 | 4c               | 4c                  | (Aquatic Plants (Macrophytes)*)                  | --                | Unchanged                 |
| Ellis Pond              | MA35023 | 4c               | 4c                  | (Eurasian Water Milfoil, Myriophyllum Spicatum*) | --                | Unchanged                 |

| Waterbody       | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                      | ATTAINS Action ID | Impairment Change Summary |
|-----------------|---------|------------------|---------------------|---------------------------------|-------------------|---------------------------|
| Ellis Pond      | MA35023 | 4c               | 4c                  | (Fanwort*)                      | --                | Unchanged                 |
| Ellis Pond      | MA35023 | 4c               | 4c                  | (Non-Native Aquatic Plants*)    | --                | Unchanged                 |
| Fish Brook      | MA35-38 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Fish Brook      | MA35-38 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Gales Pond      | MA35024 | 5                | 5                   | Mercury in Fish Tissue          | 33880             | Unchanged                 |
| Gales Pond      | MA35024 | 5                | 5                   | Turbidity                       | --                | Unchanged                 |
| Gate Hill Brook | MA35-39 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Gate Hill Brook | MA35-39 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Greenwood Pond  | MA35025 | 3                | 3                   | None                            | --                | Unchanged                 |
| Greenwood Pond  | MA35026 | 4c               | 4c                  | (Aquatic Plants (Macrophytes)*) | --                | Unchanged                 |
| Hastings Pond   | MA35028 | 3                | 3                   | None                            | --                | Unchanged                 |
| Hilchey Pond    | MA35029 | 4a               | 4a                  | Turbidity                       | 4128              | Unchanged                 |
| Hoyt Brook      | MA35-40 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Hoyt Brook      | MA35-40 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Jacks Brook     | MA35-31 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Jacks Brook     | MA35-31 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Kendall Pond    | MA35034 | 3                | 3                   | None                            | --                | Unchanged                 |
| Kenny Brook     | MA35-41 | 3                | 5                   | PCBs in Fish Tissue             | --                | Added                     |
| Kenny Brook     | MA35-41 | 3                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Keyup Brook     | MA35-16 | 5                | 5                   | Escherichia Coli (E. Coli)      | R1_MA_2024_04     | Changed                   |
| Keyup Brook     | MA35-16 | 5                | 5                   | PCBs in Fish Tissue             | --                | Unchanged                 |
| Keyup Brook     | MA35-16 | 5                | 5                   | PFAS in Fish Tissue             | --                | Added                     |
| Lake Denison    | MA35017 | 5                | 5                   | Dissolved Oxygen                | 4123              | Unchanged                 |
| Lake Denison    | MA35017 | 5                | 5                   | Enterococcus                    | --                | Removed                   |
| Lake Denison    | MA35017 | 5                | 5                   | Mercury in Fish Tissue          | 33880             | Unchanged                 |



| Waterbody      | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                                    | ATTAINS Action ID | Impairment Change Summary |
|----------------|---------|------------------|---------------------|-----------------------------------------------|-------------------|---------------------------|
| Lake Denison   | MA35017 | 5                | 5                   | PFAS in Fish Tissue                           | --                | Added                     |
| Lake Mattawa   | MA35112 | 4c               | 4c                  | (Non-Native Aquatic Plants*)                  | --                | Unchanged                 |
| Lake Monomonac | MA35047 | 5                | 5                   | (Non-Native Aquatic Plants*)                  | --                | Unchanged                 |
| Lake Monomonac | MA35047 | 5                | 5                   | Mercury in Fish Tissue                        | --                | Unchanged                 |
| Lake Rohunta   | MA35070 | 4a               | 4a                  | (Aquatic Plants (Macrophytes)*)               | --                | Unchanged                 |
| Lake Rohunta   | MA35070 | 4a               | 4a                  | (Fanwort*)                                    | --                | Unchanged                 |
| Lake Rohunta   | MA35070 | 4a               | 4a                  | (Non-Native Aquatic Plants*)                  | --                | Unchanged                 |
| Lake Rohunta   | MA35070 | 4a               | 4a                  | Mercury in Fish Tissue                        | 33880             | Unchanged                 |
| Lake Rohunta   | MA35106 | 4a               | 4a                  | (Fanwort*)                                    | --                | Unchanged                 |
| Lake Rohunta   | MA35106 | 4a               | 4a                  | (Non-Native Aquatic Plants*)                  | --                | Unchanged                 |
| Lake Rohunta   | MA35106 | 4a               | 4a                  | Mercury in Fish Tissue                        | 33880             | Unchanged                 |
| Lake Rohunta   | MA35107 | 5                | 5                   | (Aquatic Plants (Macrophytes)*)               | --                | Unchanged                 |
| Lake Rohunta   | MA35107 | 5                | 5                   | (Fanwort*)                                    | --                | Unchanged                 |
| Lake Rohunta   | MA35107 | 5                | 5                   | (Non-Native Aquatic Plants*)                  | --                | Unchanged                 |
| Lake Rohunta   | MA35107 | 5                | 5                   | Mercury in Fish Tissue                        | 33880             | Unchanged                 |
| Lake Rohunta   | MA35107 | 5                | 5                   | Nutrient/Eutrophication Biological Indicators | --                | Unchanged                 |
| Lake Watatic   | MA35095 | 3                | 3                   | None                                          | --                | Unchanged                 |
| Laurel Lake    | MA35035 | 5                | 5                   | Dissolved Oxygen                              | --                | Unchanged                 |
| Laurel Lake    | MA35035 | 5                | 5                   | Enterococcus                                  | --                | Added                     |
| Laurel Lake    | MA35035 | 5                | 5                   | Mercury in Fish Tissue                        | --                | Unchanged                 |

| Waterbody          | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                                   | ATTAINS Action ID | Impairment Change Summary |
|--------------------|---------|------------------|---------------------|----------------------------------------------|-------------------|---------------------------|
| Lawrence Brook     | MA35-13 | 5                | 5                   | PCBs in Fish Tissue                          | --                | Unchanged                 |
| Lawrence Brook     | MA35-13 | 5                | 5                   | PFAS in Fish Tissue                          | --                | Added                     |
| Little Pond        | MA35037 | 3                | 3                   | None                                         | --                | Unchanged                 |
| Lower Naukeag Lake | MA35041 | 3                | 3                   | None                                         | --                | Unchanged                 |
| Lyons Brook        | MA35-19 | 5                | 5                   | PCBs in Fish Tissue                          | --                | Unchanged                 |
| Lyons Brook        | MA35-19 | 5                | 5                   | PFAS in Fish Tissue                          | --                | Added                     |
| Mahoney Brook      | MA35-27 | 5                | 2                   | PCBs in Fish Tissue                          | --                | Removed                   |
| Millers River      | MA35-01 | 5                | 5                   | Ambient Bioassays - Chronic Aquatic Toxicity | --                | Unchanged                 |
| Millers River      | MA35-01 | 5                | 5                   | Fish Bioassessments                          | --                | Unchanged                 |
| Millers River      | MA35-01 | 5                | 5                   | Lack of a Coldwater Assemblage               | --                | Unchanged                 |
| Millers River      | MA35-01 | 5                | 5                   | Temperature                                  | --                | Unchanged                 |
| Millers River      | MA35-02 | 5                | 5                   | (Curly-leaf Pondweed*)                       | --                | Unchanged                 |
| Millers River      | MA35-02 | 5                | 5                   | Escherichia Coli (E. Coli)                   | --                | Added                     |
| Millers River      | MA35-02 | 5                | 5                   | Fish Bioassessments                          | --                | Unchanged                 |
| Millers River      | MA35-02 | 5                | 5                   | PCBs in Fish Tissue                          | --                | Unchanged                 |
| Millers River      | MA35-03 | 5                | 5                   | Fish Bioassessments                          | --                | Unchanged                 |
| Millers River      | MA35-03 | 5                | 5                   | PCBs in Fish Tissue                          | --                | Unchanged                 |
| Millers River      | MA35-03 | 5                | 5                   | PFAS in Fish Tissue                          | --                | Added                     |
| Millers River      | MA35-04 | 5                | 5                   | (Non-Native Aquatic Plants*)                 | --                | Unchanged                 |
| Millers River      | MA35-04 | 5                | 5                   | Escherichia Coli (E. Coli)                   | --                | Added                     |
| Millers River      | MA35-04 | 5                | 5                   | Fish Bioassessments                          | --                | Unchanged                 |
| Millers River      | MA35-04 | 5                | 5                   | PCBs in Fish Tissue                          | --                | Unchanged                 |

| Waterbody                  | AU_ID   | AU Category 2022 | AU Category 2024/26 | Impairment                     | ATTAINS Action ID | Impairment Change Summary |
|----------------------------|---------|------------------|---------------------|--------------------------------|-------------------|---------------------------|
| Millers River              | MA35-04 | 5                | 5                   | PFAS in Fish Tissue            | --                | Added                     |
| Millers River              | MA35-05 | 5                | 5                   | (Curly-leaf Pondweed*)         | --                | Unchanged                 |
| Millers River              | MA35-05 | 5                | 5                   | Escherichia Coli (E. Coli)     | --                | Added                     |
| Millers River              | MA35-05 | 5                | 5                   | Fish Bioassessments            | --                | Unchanged                 |
| Millers River              | MA35-05 | 5                | 5                   | PCBs in Fish Tissue            | --                | Unchanged                 |
| Millers River              | MA35-05 | 5                | 5                   | PFAS in Fish Tissue            | --                | Added                     |
| Millers River              | MA35-20 | 5                | 5                   | Benthic Macroinvertebrates     | --                | Unchanged                 |
| Millers River              | MA35-20 | 5                | 5                   | Fish Bioassessments            | --                | Unchanged                 |
| Millers River              | MA35-20 | 5                | 5                   | Lack of a Coldwater Assemblage | --                | Unchanged                 |
| Millers River              | MA35-20 | 5                | 5                   | Lead                           | --                | Unchanged                 |
| Millers River              | MA35-20 | 5                | 5                   | Temperature                    | --                | Unchanged                 |
| Minott Pond                | MA35046 | 3                | 3                   | None                           | --                | Unchanged                 |
| Minott Pond South          | MA35045 | 3                | 3                   | None                           | --                | Unchanged                 |
| Moores Pond                | MA35048 | 4a               | 5                   | Mercury in Fish Tissue         | 42398             | Unchanged                 |
| Moores Pond                | MA35048 | 4a               | 5                   | PFAS in Fish Tissue            | --                | Added                     |
| Mormon Hollow Brook        | MA35-15 | 5                | 5                   | PCBs in Fish Tissue            | --                | Unchanged                 |
| Mormon Hollow Brook        | MA35-15 | 5                | 5                   | PFAS in Fish Tissue            | --                | Added                     |
| North Branch Millers River | MA35-21 | 5                | 5                   | Mercury in Fish Tissue         | --                | Unchanged                 |
| North Pond Brook           | MA35-23 | 5                | 5                   | PCBs in Fish Tissue            | --                | Unchanged                 |
| North Pond Brook           | MA35-23 | 5                | 5                   | PFAS in Fish Tissue            | --                | Added                     |
| North Spectacle Pond       | MA35052 | 3                | 3                   | None                           | --                | Unchanged                 |

| <b>Waterbody</b>       | <b>AU_ID</b> | <b>AU Category 2022</b> | <b>AU Category 2024/26</b> | <b>Impairment</b>                             | <b>ATTAINS Action ID</b> | <b>Impairment Change Summary</b> |
|------------------------|--------------|-------------------------|----------------------------|-----------------------------------------------|--------------------------|----------------------------------|
| Otter River            | MA35-06      | 5                       | 5                          | Ambient Bioassays - Chronic Aquatic Toxicity  | --                       | Unchanged                        |
| Otter River            | MA35-06      | 5                       | 5                          | Dissolved Oxygen                              | --                       | Unchanged                        |
| Otter River            | MA35-07      | 5                       | 5                          | Escherichia Coli (E. Coli)                    | --                       | Unchanged                        |
| Otter River            | MA35-08      | 5                       | 5                          | (Curly-leaf Pondweed*)                        | --                       | Unchanged                        |
| Otter River            | MA35-08      | 5                       | 5                          | Escherichia Coli (E. Coli)                    | --                       | Unchanged                        |
| Otter River            | MA35-08      | 5                       | 5                          | PCBs in Fish Tissue                           | --                       | Unchanged                        |
| Packard Pond           | MA35053      | 3                       | 3                          | None                                          | --                       | Unchanged                        |
| Parker Pond            | MA35056      | 4a                      | 4a                         | (Aquatic Plants (Macrophytes)*)               | --                       | Unchanged                        |
| Parker Pond            | MA35056      | 4a                      | 4a                         | (Fanwort*)                                    | --                       | Unchanged                        |
| Parker Pond            | MA35056      | 4a                      | 4a                         | Nutrient/Eutrophication Biological Indicators | 4134                     | Unchanged                        |
| Partridgeville Pond    | MA35057      | 4c                      | 4c                         | (Non-Native Aquatic Plants*)                  | --                       | Unchanged                        |
| Perley Brook Reservoir | MA35059      | 3                       | 3                          | None                                          | --                       | Unchanged                        |
| Phillipston Reservoir  | MA35060      | 3                       | 3                          | None                                          | --                       | Unchanged                        |
| Priest Brook           | MA35-10      | 2                       | 2                          | None                                          | --                       | Unchanged                        |
| Ramsdall Pond          | MA35062      | 3                       | 3                          | None                                          | --                       | Unchanged                        |
| Reservoir No. 1        | MA35063      | 4a                      | 4a                         | (Aquatic Plants (Macrophytes)*)               | --                       | Unchanged                        |
| Reservoir No. 1        | MA35063      | 4a                      | 4a                         | Nutrient/Eutrophication Biological Indicators | 4137                     | Unchanged                        |
| Reservoir No. 2        | MA35064      | 3                       | 3                          | None                                          | --                       | Unchanged                        |

| <b>Waterbody</b>        | <b>AU_ID</b> | <b>AU<br/>Category<br/>2022</b> | <b>AU<br/>Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action<br/>ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-------------------------|--------------|---------------------------------|------------------------------------|------------------------------------|------------------------------|------------------------------------------|
| Riceville Pond          | MA35065      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Rich Brook              | MA35-42      | 5                               | 5                                  | PCBs in Fish Tissue                | --                           | Unchanged                                |
| Rich Brook              | MA35-42      | 5                               | 5                                  | PFAS in Fish Tissue                | --                           | Added                                    |
| Richards<br>Reservoir   | MA35067      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Royalston Road<br>Pond  | MA35071      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Ruggles Pond            | MA35072      | 2                               | 2                                  | None                               | --                           | Unchanged                                |
| Sheomet Lake            | MA35074      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| South Athol Pond        | MA35078      | 4c                              | 4c                                 | (Aquatic Plants<br>(Macrophytes)*) | --                           | Unchanged                                |
| South Athol Pond        | MA35078      | 4c                              | 4c                                 | (Fanwort*)                         | --                           | Unchanged                                |
| South Spectacle<br>Pond | MA35081      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Sportsmans Pond         | MA35082      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Stockwell Brook         | MA35-25      | 5                               | 5                                  | PCBs in Fish Tissue                | --                           | Unchanged                                |
| Stockwell Brook         | MA35-25      | 5                               | 5                                  | PFAS in Fish Tissue                | --                           | Added                                    |
| Stoddard Pond           | MA35083      | 4c                              | 4c                                 | (Aquatic Plants<br>(Macrophytes)*) | --                           | Unchanged                                |
| Sunset Lake             | MA35086      | 3                               | 3                                  | None                               | --                           | Unchanged                                |
| Thrower Brook           | MA35-43      | 3                               | 5                                  | PCBs in Fish Tissue                | --                           | Added                                    |
| Thrower Brook           | MA35-43      | 3                               | 5                                  | PFAS in Fish Tissue                | --                           | Added                                    |
| Tully Brook             | MA35-44      | 3                               | 5                                  | PCBs in Fish Tissue                | --                           | Added                                    |
| Tully Brook             | MA35-44      | 3                               | 5                                  | PFAS in Fish Tissue                | --                           | Added                                    |
| Tully Lake              | MA35111      | 5                               | 5                                  | Harmful Algal Blooms               | --                           | Unchanged                                |
| Tully Pond              | MA35089      | 3                               | 4c                                 | (Aquatic Plants<br>(Macrophytes)*) | --                           | Added                                    |
| Tully River             | MA35-14      | 5                               | 5                                  | PCBs in Fish Tissue                | --                           | Unchanged                                |

| <b>Waterbody</b>           | <b>AU_ID</b> | <b>AU<br/>Category<br/>2022</b> | <b>AU<br/>Category<br/>2024/26</b> | <b>Impairment</b>                                | <b>ATTAINS Action<br/>ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|----------------------------|--------------|---------------------------------|------------------------------------|--------------------------------------------------|------------------------------|------------------------------------------|
| Tully River                | MA35-14      | 5                               | 5                                  | PFAS in Fish Tissue                              | --                           | Added                                    |
| Unnamed<br>Tributary       | MA35-26      | 5                               | 5                                  | Copper                                           | --                           | Unchanged                                |
| Upper Naukeag<br>Lake      | MA35090      | 4a                              | 4a                                 | Mercury in Fish Tissue                           | 33880                        | Unchanged                                |
| Upper Reservoir            | MA35091      | 4a                              | 4a                                 | Mercury in Fish Tissue                           | 33880                        | Unchanged                                |
| Wallace Pond               | MA35092      | 3                               | 3                                  | None                                             | --                           | Unchanged                                |
| Ward Pond                  | MA35093      | 3                               | 3                                  | None                                             | --                           | Unchanged                                |
| West Branch Tully<br>River | MA35-11      | 5                               | 5                                  | PCBs in Fish Tissue                              | --                           | Unchanged                                |
| West Branch Tully<br>River | MA35-11      | 5                               | 5                                  | PFAS in Fish Tissue                              | --                           | Added                                    |
| West Branch Tully<br>River | MA35-11      | 5                               | 5                                  | Temperature                                      | --                           | Unchanged                                |
| West Gulf Brook            | MA35-24      | 5                               | 5                                  | PCBs in Fish Tissue                              | --                           | Unchanged                                |
| West Gulf Brook            | MA35-24      | 5                               | 5                                  | PFAS in Fish Tissue                              | --                           | Added                                    |
| Wheeler's Pond             | MA35097      | 3                               | 3                                  | None                                             | --                           | Unchanged                                |
| Whetstone Brook            | MA35-18      | 5                               | 5                                  | PCBs in Fish Tissue                              | --                           | Unchanged                                |
| Whetstone Brook            | MA35-18      | 5                               | 5                                  | PFAS in Fish Tissue                              | --                           | Added                                    |
| White Pond                 | MA35098      | 4c                              | 4c                                 | (Fanwort*)                                       | --                           | Unchanged                                |
| Whites Mill Pond           | MA35099      | 4a                              | 4a                                 | (Aquatic Plants<br>(Macrophytes)*)               | --                           | Unchanged                                |
| Whites Mill Pond           | MA35099      | 4a                              | 4a                                 | Nutrient/Eutrophication<br>Biological Indicators | 4144                         | Unchanged                                |
| Whitney Pond               | MA35101      | 5                               | 5                                  | (Aquatic Plants<br>(Macrophytes)*)               | --                           | Unchanged                                |
| Whitney Pond               | MA35101      | 5                               | 5                                  | Mercury in Fish Tissue                           | --                           | Unchanged                                |
| Whitney Pond               | MA35101      | 5                               | 5                                  | Turbidity                                        | 4145                         | Unchanged                                |

| <b>Waterbody</b>  | <b>AU_ID</b> | <b>AU<br/>Category<br/>2022</b> | <b>AU<br/>Category<br/>2024/26</b> | <b>Impairment</b>      | <b>ATTAINS Action<br/>ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-------------------|--------------|---------------------------------|------------------------------------|------------------------|------------------------------|------------------------------------------|
| Wickett Pond      | MA35102      | 3                               | 3                                  | None                   | --                           | Unchanged                                |
| Wilson Brook      | MA35-45      | 3                               | 5                                  | PCBs in Fish Tissue    | --                           | Added                                    |
| Wilson Brook      | MA35-45      | 3                               | 5                                  | PFAS in Fish Tissue    | --                           | Added                                    |
| Wrights Reservoir | MA35104      | 5                               | 5                                  | Mercury in Fish Tissue | --                           | Unchanged                                |

## Bassett Pond (MA35002)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | New Salem.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 26 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

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

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Bassett Pond (MA35002) is Not Assessed. |

### Aesthetic

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

| <b>2024/26 Use Attainment Summary</b>                                                    |
|------------------------------------------------------------------------------------------|
| No data are available, so the Aesthetics Use for Bassett Pond (MA35002) is Not Assessed. |

### Primary Contact Recreation

| <b>2024/26 Use Attainment</b> | <b>Alert</b> |
|-------------------------------|--------------|
| Insufficient Information      | NO           |

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



Too limited bacteria data are available to assess the Primary Contact Recreation Use for Bassett Pond (MA35002) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Bassett Pond (MA35002), EPA (NARS\_WQX) collected Secchi and cyanotoxin data at NARS\_WQX-NLA\_MA-10035 (2017). Secchi depth data were too limited (n <3 or missing station depth) to evaluate water clarity using data from NARS\_WQX-NLA\_MA-10035 in 2017 (n=1, 3.45m). Analysis of microcystins and cylindrospermopsin samples from NARS\_WQX-NLA\_MA-10035 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS\_WQX) staff collected *E. coli* bacteria samples in Bassett Pond (MA35002) at NARS\_WQX-NLA\_MA-10035 [Bassett Pond] from Jul 2017 (n=1). *E. coli* data from NARS\_WQX-NLA\_MA-10035 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  |
|-----------------------|----------------------------------------------|---------------|--------------|---------------------|-----------|------------|
| NARS_WQX-NLA_MA-10035 | EPA National Aquatic Resources Survey (NARS) | Water Quality | Bassett Pond | Bassett Pond        | 42.510019 | -72.281616 |

### Bacteria Data

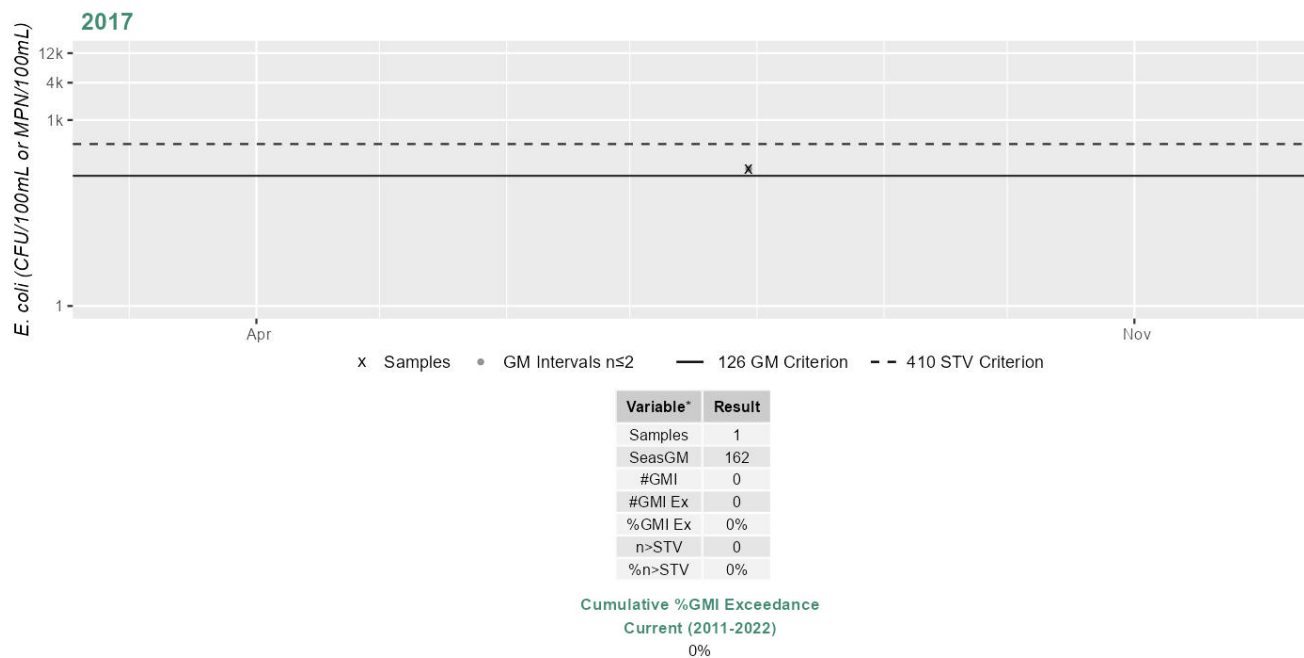
**Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2024) (MassDEP Undated 2)**

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

| Station Code          | Organization                                 | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|-----------------------|----------------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| NARS_WQX-NLA_MA-10035 | EPA National Aquatic Resources Survey (NARS) | E. coli   | 07/30/17   | 07/30/17 | 1            | 162                   | 162                   | 162                     |

### Station NARS\_WQX-NLA\_MA-10035 - Escherichia coli

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



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

### Other Indicators

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

| Data Year(s) | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017         | In Bassett Pond (MA35002), EPA (NARS_WQX) collected Secchi and cyanotoxin data at NARS_WQX-NLA_MA-10035 (2017). In 2017 at station NARS_WQX-NLA_MA-10035 (station depth=3.8 m) the Secchi depth (n=1) was measured to be 3.45 m on Jul 30, 2017 indicating water clarity meeting the 1.2 m (4 ft) threshold. Analysis of microcystins and cylindrospermopsin samples from NARS_WQX-NLA_MA-10035 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. |

### Secondary Contact Recreation

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Insufficient Information       | NO    |
| 2024/26 Use Attainment Summary |       |

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Bassett Pond (MA35002) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Bassett Pond (MA35002), EPA (NARS\_WQX) collected cyanotoxin data at NARS\_WQX-NLA\_MA-10035 (2017). Analysis of microcystins and cylindrospermopsin samples from NARS\_WQX-NLA\_MA-10035 in 2017 (n=2) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS\_WQX) staff/volunteers collected *E. coli* bacteria samples in Bassett Pond (MA35002) at NARS\_WQX-NLA\_MA-10035 [Bassett Pond] from Jul 2017 (n=1). *E. coli* data from NARS\_WQX-NLA\_MA-10035 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  |
|-----------------------|----------------------------------------------|---------------|--------------|---------------------|-----------|------------|
| NARS_WQX-NLA_MA-10035 | EPA National Aquatic Resources Survey (NARS) | Water Quality | Bassett Pond | Bassett Pond        | 42.510019 | -72.281616 |

### Bacteria Data

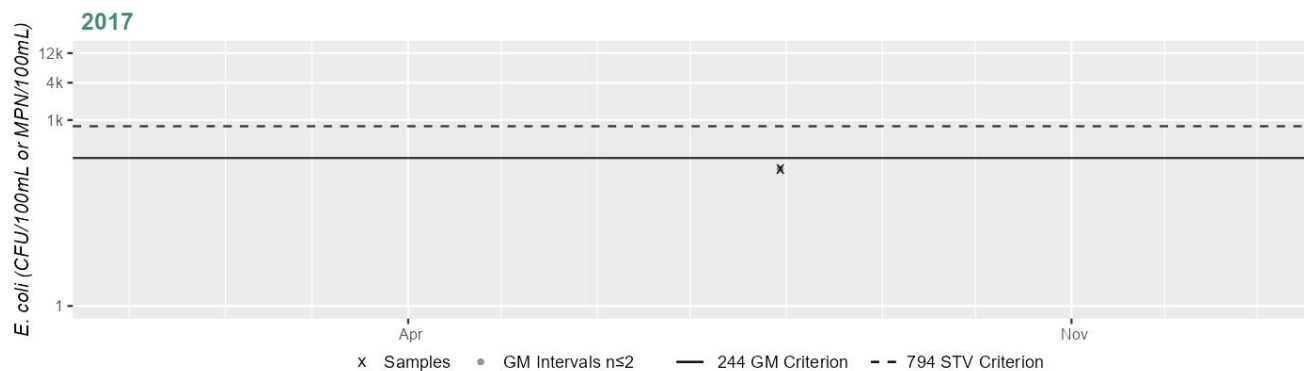
**Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2024) (MassDEP Undated 1)**

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

| Station Code          | Organization                                 | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|-----------------------|----------------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| NARS_WQX-NLA_MA-10035 | EPA National Aquatic Resources Survey (NARS) | E. coli   | 07/30/17   | 07/30/17 | 1            | 162                   | 162                   | 162                     |

# Station NARS\_WQX-NLA\_MA-10035 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 1      |
| 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 Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Beaver Brook (MA35-09)

|                                  |                                                                                         |
|----------------------------------|-----------------------------------------------------------------------------------------|
| <b>Location:</b>                 | former Fernald School discharge, Templeton to confluence with Millers River, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                                   |
| <b>AU Size:</b>                  | 3.4 MILES                                                                               |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                  |

### Beaver Brook (MA35-09)

Watershed Area: 9.50 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 9.50         | 3.86                            | 2.16                  | 0.83                   |
| Agriculture                    | 3.6%         | 7%                              | 1.6%                  | 3.6%                   |
| Developed                      | 7.5%         | 4.4%                            | 6.9%                  | 4.9%                   |
| Natural                        | 75.1%        | 75.8%                           | 62.5%                 | 63.5%                  |
| Wetland                        | 13.8%        | 12.8%                           | 29%                   | 28%                    |
| Impervious                     | 3.3%         | 2.1%                            | 3.3%                  | 2.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Beaver Brook (MA35-09) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Beaver Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List, and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Beaver Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Beaver Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Beaver Brook (MA35-09).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Aesthetics Use for Beaver Brook (MA35-09) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at two stations in the upstream half of this Beaver Brook AU during the summer of 2011; at Freight Shed Rd (south of Rt. 68) in Templeton/Phillipston (W0685, n=6) and at the downstream end of the AU near Birch Hill Dam Rd in Royalston (W2231, n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at either of these two sampling stations.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body   | Station Description                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------|-----------|------------|
| W0685        | MassDEP      | Water Quality | Beaver Brook | [Freight Shed Road (south of Route 68), Templeton/Phillipston] | 42.604553 | -72.124621 |
| W2231        | MassDEP      | Water Quality | Beaver Brook | [Birch Hill Dam Road, Royalston]                               | 42.626633 | -72.140081 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                   |
|--------------|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0685        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0685 on Beaver Brook (MA35-09) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2231        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2231 on Beaver Brook (MA35-09) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0685        | 2011      | 6                 | 6                                                          | 0                                         |
| W2231        | 2011      | 6                 | 3                                                          | 0                                         |

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

| <b>Station Code</b> | <b>Waterbody</b> | <b>Data Year</b> | <b>Parameter</b>                | <b>Result</b>    | <b>Result Count</b> | <b>Total Field Sheet Count</b> |
|---------------------|------------------|------------------|---------------------------------|------------------|---------------------|--------------------------------|
| W0685               | Beaver Brook     | 2011             | Aquatic Plant Density, Overall  | None             | 2                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Aquatic Plant Density, Overall  | Sparse           | 4                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Color                           | Brownish         | 1                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Color                           | Dark Tan         | 1                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Color                           | Light Yellow/Tan | 4                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Objectionable Deposits          | No               | 5                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Objectionable Deposits          | Yes              | 1                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Odor                            | None             | 6                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Periphyton Density, Filamentous | None             | 5                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Periphyton Density, Filamentous | Sparse           | 1                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Periphyton Density, Film        | None             | 6                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Scum                            | No               | 5                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Scum                            | Yes              | 1                   | 6                              |
| W0685               | Beaver Brook     | 2011             | Turbidity                       | None             | 6                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Aquatic Plant Density, Overall  | Sparse           | 4                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Aquatic Plant Density, Overall  | Unobservable     | 2                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Color                           | Dark Tan         | 2                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Color                           | Light Yellow/Tan | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Color                           | Reddish          | 1                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Objectionable Deposits          | No               | 5                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Objectionable Deposits          | Unobservable     | 1                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Odor                            | None             | 6                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Periphyton Density, Filamentous | None             | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Periphyton Density, Filamentous | Unobservable     | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Periphyton Density, Film        | None             | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Periphyton Density, Film        | Unobservable     | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Scum                            | No               | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Scum                            | Yes              | 3                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Turbidity                       | None             | 4                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Turbidity                       | Slightly Turbid  | 1                   | 6                              |
| W2231               | Beaver Brook     | 2011             | Turbidity                       | Unobservable     | 1                   | 6                              |



## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Beaver Brook (MA35-09) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Beaver Brook (MA35-09) in 2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0685 [Freight Shed Rd (S of Rt. 68), Templeton/Phillipston] from May-Sep 2011 (n=6), W2231 [Birch Hill Dam Rd, Royalston] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W0685 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 49 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2231 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 39 CFU/100ml. *E. coli* data from W0685 and W2231 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------|-----------|------------|
| W0685        | MassDEP      | Water Quality | Beaver Brook | [Freight Shed Road (south of Route 68), Templeton/Phillipston] | 42.604553 | -72.124621 |
| W2231        | MassDEP      | Water Quality | Beaver Brook | [Birch Hill Dam Road, Royalston]                               | 42.626633 | -72.140081 |

## Bacteria Data

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

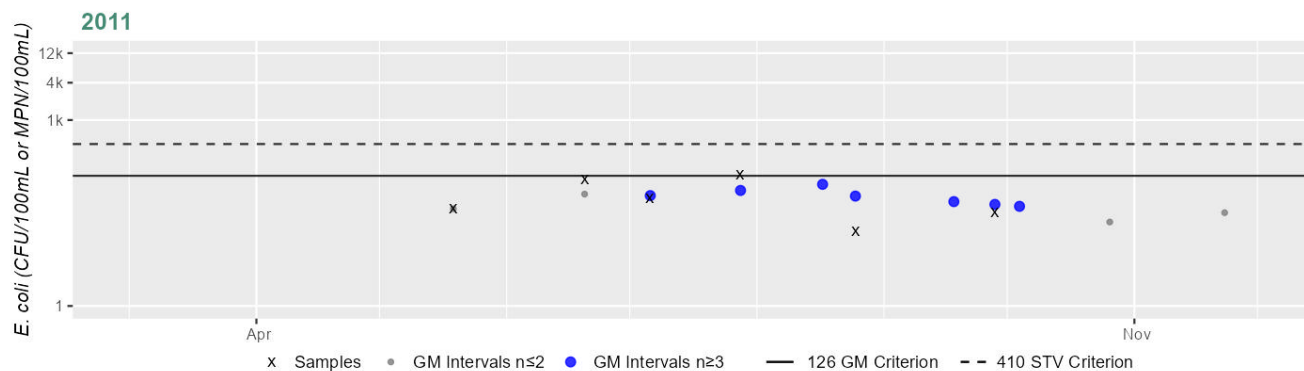
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0685        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 16                    | 130                   | 49                      |
| W2231        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 10                    | 81                    | 39                      |

### Station MASSDEP\_W0685 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 49     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

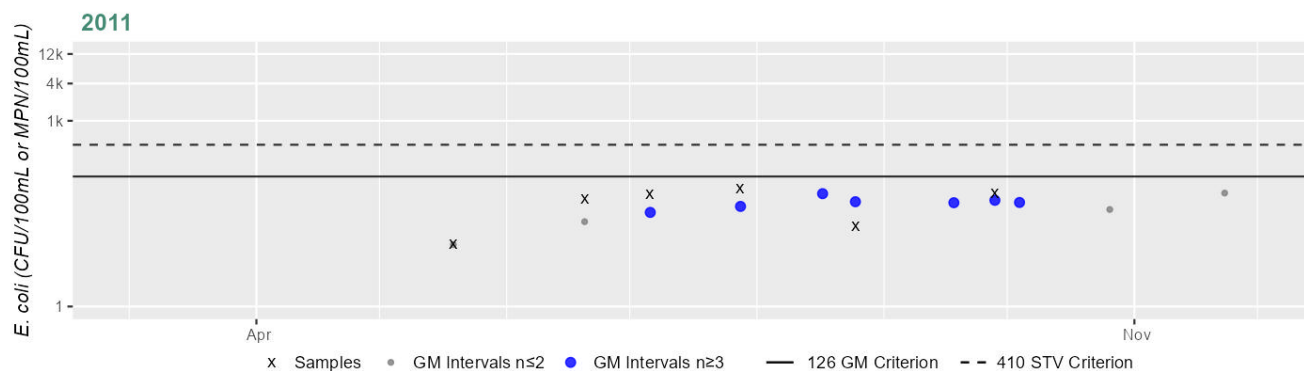
Current (2011-2022)

0%

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

### Station MASSDEP\_W2231 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 39     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Beaver Brook (MA35-09) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Beaver Brook (MA35-09) from 2005-2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0685 [Freight Shed Rd (S of Rt. 68), Templeton/Phillipston] from May-Sep 2005 (historic n=5) and May-Sep 2011 (current n=6), W2231 [Birch Hill Dam Rd, Royalston] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W0685 from the current IR window indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 49 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2231 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 39 CFU/100ml. *E. coli* data from W0685 and W2231 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------|-----------|------------|
| W0685        | MassDEP      | Water Quality | Beaver Brook | [Freight Shed Road (south of Route 68), Templeton/Phillipston] | 42.604553 | -72.124621 |
| W2231        | MassDEP      | Water Quality | Beaver Brook | [Birch Hill Dam Road, Royalston]                               | 42.626633 | -72.140081 |

## Bacteria Data

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

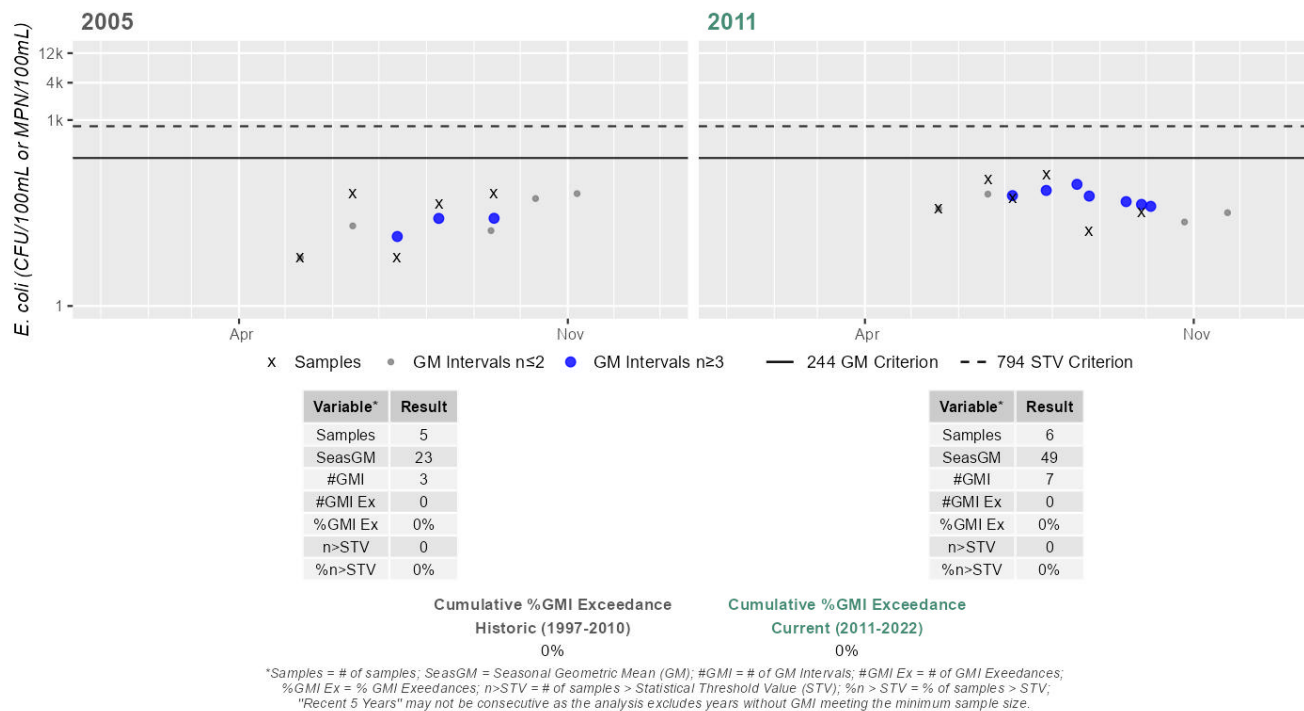
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0685        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 65                    | 23                      |
| W0685        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 16                    | 130                   | 49                      |
| W2231        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 10                    | 81                    | 39                      |

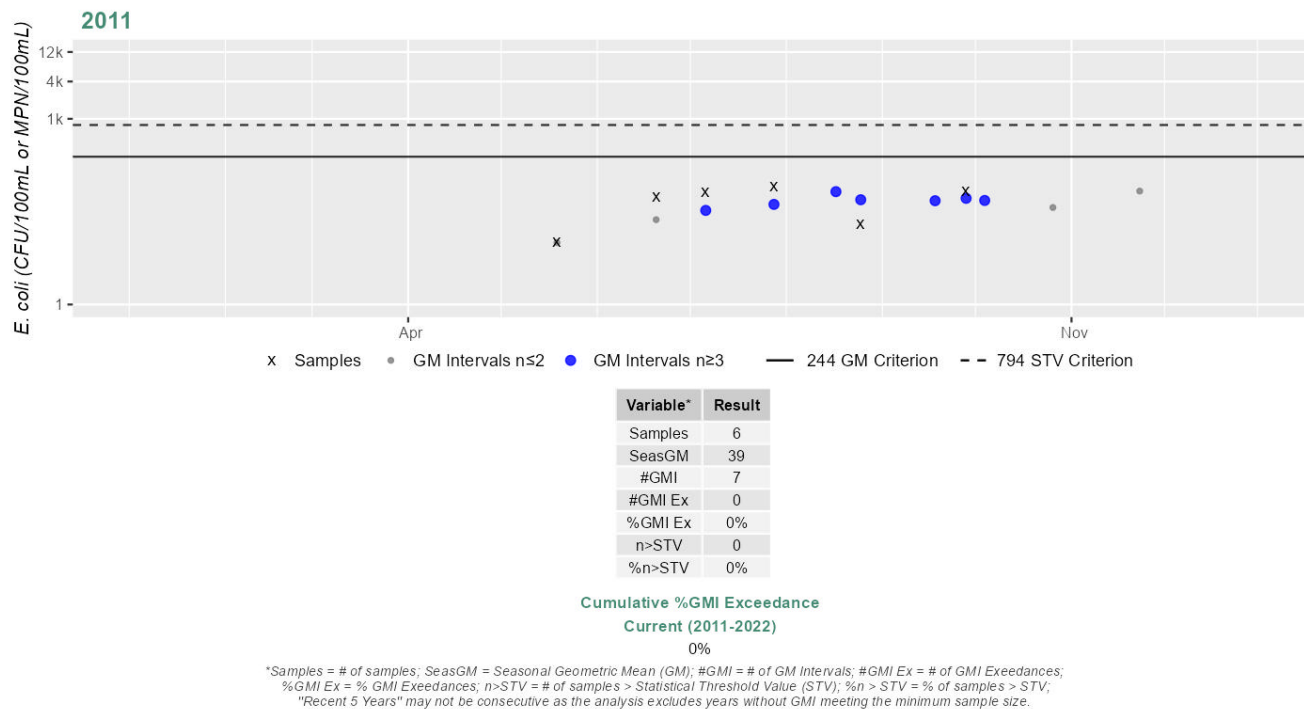
### Station MASSDEP\_W0685 - *Escherichia coli*

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



### Station MASSDEP\_W2231 - *Escherichia coli*

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



## Beaver Brook (MA35-28)

|                                  |                                                                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, confluence of Kendall and Chickering brooks, Phillipston to the former Fernald School (MA0102156) discharge, Templeton. |
| <b>AU Type:</b>                  | RIVER                                                                                                                               |
| <b>AU Size:</b>                  | 2.3 MILES                                                                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                                              |

### Beaver Brook (MA35-28)

Watershed Area: 6.21 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 6.21         | 5.29                            | 1.47                  | 1.31                   |
| Agriculture                    | 1.1%         | 1.2%                            | 0.4%                  | 0.4%                   |
| Developed                      | 9%           | 9.7%                            | 7.4%                  | 8%                     |
| Natural                        | 73.8%        | 71.6%                           | 59.3%                 | 56.1%                  |
| Wetland                        | 16.1%        | 17.4%                           | 32.9%                 | 35.4%                  |
| Impervious                     | 3.8%         | 4.1%                            | 3.6%                  | 3.9%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (N)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (N) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Beaver Brook (MA35-28) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued a site-specific advisory for PFAS in Beaver Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Beaver Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Beaver Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Beaver Brook (MA35-28).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

There are no data available to assess the status of the Aesthetics Use for this Beaver Brook AU (MA35-28), so it is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                              | Alert |
|-------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                        | NO    |
| 2024/26 Use Attainment Summary                                                                                                      |       |
| No bacteria or other indicator data for Beaver Brook (MA35-28) are available, so the Primary Contact Recreation Use is Not Assessed |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Alert |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |
| No bacteria or other indicator data for Beaver Brook (MA35-28) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in Beaver Brook (MA35-28) at W1315 [State Rd (Rt. 202/2A), Phillipston] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1315 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 48 CFU/100ml. Historic <i>E. coli</i> data from W1315 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |       |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                      | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|------------------------------------------|-----------|------------|
| W1315        | MassDEP      | Water Quality | Beaver Brook | [State Road (Route 202/2A), Phillipston] | 42.571905 | -72.127408 |

## Bacteria Data

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

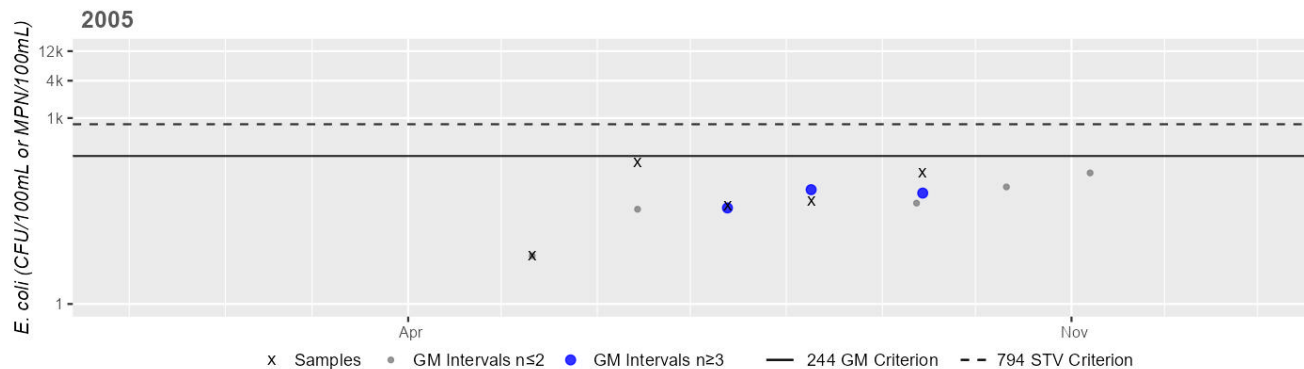
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1315        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 190                   | 48                      |

# Station MASSDEP\_W1315 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 48     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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



## Beaver Flowage Pond (MA35005)

|                                  |                          |
|----------------------------------|--------------------------|
| <b>Location:</b>                 | (Beaver Pond) Royalston. |
| <b>AU Type:</b>                  | FRESHWATER LAKE          |
| <b>AU Size:</b>                  | 38 ACRES                 |
| <b>Classification/Qualifier:</b> | B                        |

No usable data were available for Beaver Flowage Pond (MA35005) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Bents Pond (MA35006)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Hubbardston.    |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 28 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Bents Pond (MA35006) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Bents Pond (MA35007)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 6 ACRES         |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Bents Pond (MA35007) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | Algae             | 4115                     | Unchanged                                |
| 4a                          | 4a                             | Turbidity         | 4115                     | Unchanged                                |

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

## Bourn-Hadley Pond (MA35008)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Templeton.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 26 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Bourn-Hadley Pond (MA35008) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>              | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|--------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                            | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)              | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Sand/Gravel/Rock Mining or<br>Quarries (N) | --         | --        | X          | X          | X          |

## Bowens Pond (MA35009)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Wendell.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 17 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Bowens Pond (MA35009) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

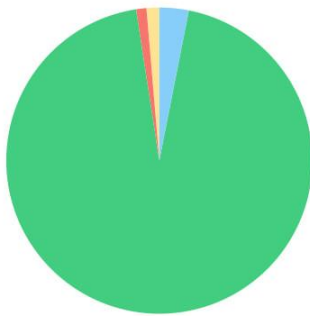
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Boyce Brook (MA35-17)

|                                  |                                                                                 |
|----------------------------------|---------------------------------------------------------------------------------|
| <b>Location:</b>                 | NH State Line, Royalston to confluence with East Branch Tully River, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                           |
| <b>AU Size:</b>                  | 3.2 MILES                                                                       |
| <b>Classification/Qualifier:</b> | B: CWF                                                                          |

### Boyce Brook (MA35-17)

Watershed Area: 5.77 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                            | 0.41                  | 0.41                   |
| Agriculture                     | 1.3%         | 1.3%                            | 2.2%                  | 2.2%                   |
| Developed                       | 1.1%         | 1.1%                            | 2.2%                  | 2.2%                   |
| Natural                         | 94.5%        | 94.5%                           | 85.5%                 | 85.5%                  |
| Wetland                         | 3.1%         | 3.1%                            | 10.1%                 | 10.1%                  |
| Impervious                      | 0.5%         | 0.5%                            | 1%                    | 1%                     |

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

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Boyce Brook (MA35-17) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued a site-specific advisory for PFAS in Boyce Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Boyce Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Boyce Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Boyce Brook (MA35-17).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                          |
|-----------------------------------------------------------------------------------------|
| No data are available, so the Aesthetics Use for Boyce Brook (MA35-17) is Not Assessed. |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Boyce Brook (MA35-17) are available, so the Primary Contact Recreation Use is Not Assessed. |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Boyce Brook (MA35-17) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in Boyce Brook (MA35-17) at W1339 [Warwick Rd (Rt. 68), Royalston] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1339 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 21 CFU/100ml. Historic <i>E. coli</i> data from W1339 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                  | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|--------------------------------------|-----------|------------|
| W1339        | MassDEP      | Water Quality | Boyce Brook | [Warwick Road (Route 68), Royalston] | 42.684985 | -72.211594 |

## Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 3)

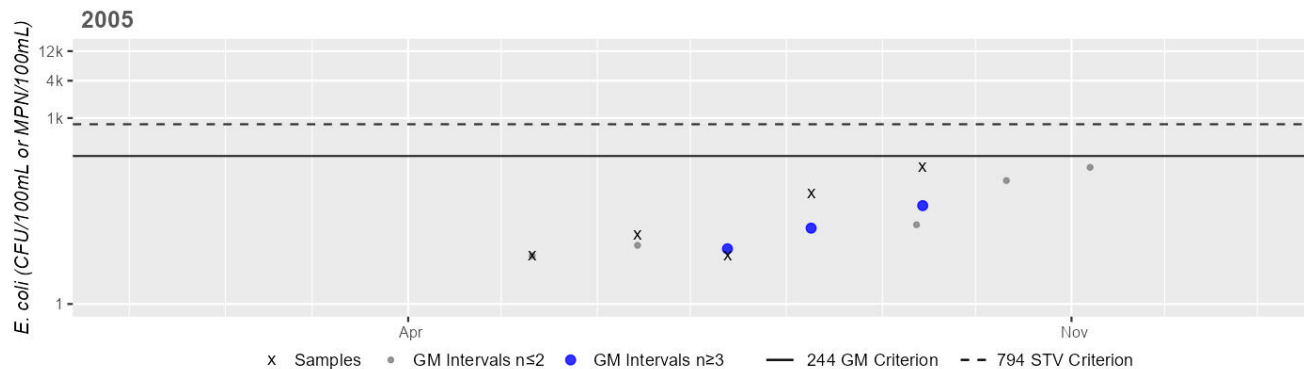
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1339        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 160                   | 21                      |



# Station MASSDEP\_W1339 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 21     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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

## Brazell Pond (MA35010)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Templeton.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 15 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Brazell Pond (MA35010) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |

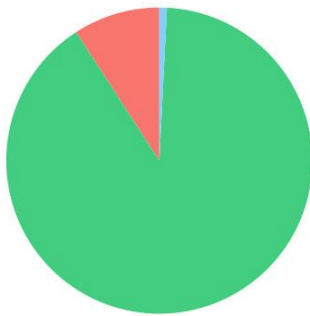
| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>       | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|-------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                     | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)       | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Unspecified Urban<br>Stormwater (Y) | --         | --        | X          | X          | X          |

## Briggs Brook (MA35-32)

|                                  |                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters north of Rattlesnake Mountain, Erving to mouth at confluence with Millers River, Erving. |
| <b>AU Type:</b>                  | RIVER                                                                                               |
| <b>AU Size:</b>                  | 0.8 MILES                                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                              |

### Briggs Brook (MA35-32)

Watershed Area: 0.40 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.40         | 0.40                            | 0.10                  | 0.10                   |
| Agriculture                    | 0%           | 0%                              | 0%                    | 0%                     |
| Developed                      | 9.2%         | 9.2%                            | 15.6%                 | 15.6%                  |
| Natural                        | 90.1%        | 90.1%                           | 83.2%                 | 83.2%                  |
| Wetland                        | 0.8%         | 0.8%                            | 1.1%                  | 1.1%                   |
| Impervious                     | 2.3%         | 2.3%                            | 4.6%                  | 4.6%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Briggs Brook (MA35-32) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Briggs Brook (MA35-32). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Briggs Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Briggs Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Briggs Brook (MA35-32). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Briggs Brook (MA35-32). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Briggs Brook (MA35-32) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Briggs Brook (MA35-32) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

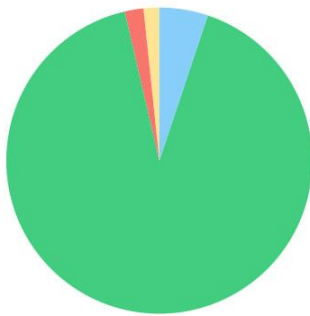
No bacteria or other indicator data for Briggs Brook (MA35-32) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Cheney Brook (MA35-33)

|                                  |                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters east of Allen Road, Warwick to mouth at confluence with West Brook, Orange. |
| <b>AU Type:</b>                  | RIVER                                                                                  |
| <b>AU Size:</b>                  | 3.5 MILES                                                                              |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                 |

### Cheney Brook (MA35-33)

Watershed Area: 3.31 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 3.31         | 3.31                            | 0.83                  | 0.83                   |
| Agriculture                    | 1.7%         | 1.7%                            | 1.1%                  | 1.1%                   |
| Developed                      | 2%           | 2%                              | 3.2%                  | 3.2%                   |
| Natural                        | 91.2%        | 91.2%                           | 83.4%                 | 83.4%                  |
| Wetland                        | 5.1%         | 5.1%                            | 12.3%                 | 12.3%                  |
| Impervious                     | 0.7%         | 0.7%                            | 1.2%                  | 1.2%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Cheney Brook (MA35-33) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Cheney Brook (MA35-33). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Cheney Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Cheney Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Cheney Brook (MA35-33). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Cheney Brook (MA35-33). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Cheney Brook (MA35-33) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Cheney Brook (MA35-33) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Cheney Brook (MA35-33) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

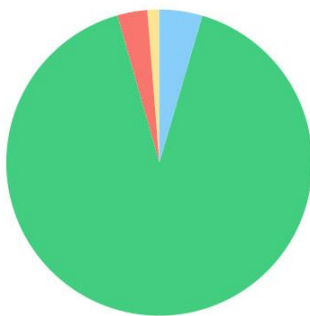


## Collar Brook (MA35-34)

|                                  |                                                                                                          |
|----------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters north of Warwick Road, Royalston to mouth at confluence with West Branch Tully River, Orange. |
| <b>AU Type:</b>                  | RIVER                                                                                                    |
| <b>AU Size:</b>                  | 3.7 MILES                                                                                                |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                   |

### Collar Brook (MA35-34)

Watershed Area: 4.03 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 4.03         | 3.79                            | 0.65                  | 0.65                   |
| Agriculture                    | 1.3%         | 1.3%                            | 0.1%                  | 0.1%                   |
| Developed                      | 3.2%         | 2.9%                            | 3.3%                  | 3.3%                   |
| Natural                        | 91%          | 91.1%                           | 83.6%                 | 83.6%                  |
| Wetland                        | 4.5%         | 4.7%                            | 13.1%                 | 13.1%                  |
| Impervious                     | 0.9%         | 0.9%                            | 0.9%                  | 0.9%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Collar Brook (MA35-34) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Collar Brook (MA35-34). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Collar Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Collar Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Collar Brook (MA35-34). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Collar Brook (MA35-34). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Collar Brook (MA35-34) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Collar Brook (MA35-34) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

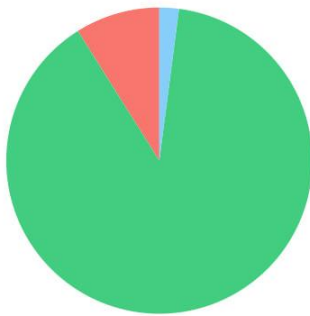
No bacteria or other indicator data for Collar Brook (MA35-34) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Coolidge Brook (MA35-35)

|                                  |                                                                                                                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, perennial portion west of Holtshire Road, Orange to mouth at confluence with North Pond Brook, Orange. |
| <b>AU Type:</b>                  | RIVER                                                                                                              |
| <b>AU Size:</b>                  | 0.3 MILES                                                                                                          |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                             |

### Coolidge Brook (MA35-35)

Watershed Area: 0.14 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.14         | 0.14                            | 0.09                  | 0.09                   |
| Agriculture                    | 0%           | 0%                              | 0%                    | 0%                     |
| Developed                      | 8.9%         | 8.9%                            | 6.8%                  | 6.8%                   |
| Natural                        | 89%          | 89%                             | 90%                   | 90%                    |
| Wetland                        | 2.1%         | 2.1%                            | 3.2%                  | 3.2%                   |
| Impervious                     | 2.2%         | 2.2%                            | 2.3%                  | 2.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for Coolidge Brook (MA35-35) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Coolidge Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Tissue Data

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

#### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Coolidge Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Coolidge Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Coolidge Brook (MA35-35).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Coolidge Brook (MA35-35) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Coolidge Brook (MA35-35) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Coolidge Brook (MA35-35) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Cowee Pond (MA35013)

|                                  |                                        |
|----------------------------------|----------------------------------------|
| <b>Location:</b>                 | Gardner.                               |
| <b>AU Type:</b>                  | FRESHWATER LAKE                        |
| <b>AU Size:</b>                  | 18 ACRES                               |
| <b>Classification/Qualifier:</b> | A: PWS, ORW (PWS and Tributary to PWS) |

No usable data were available for Cowee Pond (MA35013) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Crow Hill Brook (MA35-36)

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters west of Route 202, Templeton to mouth at confluence with Trout Brook, Templeton. |
| <b>AU Type:</b>                  | RIVER                                                                                       |
| <b>AU Size:</b>                  | 1.6 MILES                                                                                   |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                      |

No usable data were available for Crow Hill Brook (MA35-36) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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



## Crystal Lake (MA35014)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 142 ACRES       |
| <b>Classification/Qualifier:</b> | A: PWS, ORW     |

No usable data were available for Crystal Lake (MA35014) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Davenport Pond (MA35015)

|                                  |                  |
|----------------------------------|------------------|
| <b>Location:</b>                 | Petersham/Athol. |
| <b>AU Type:</b>                  | FRESHWATER LAKE  |
| <b>AU Size:</b>                  | 30 ACRES         |
| <b>Classification/Qualifier:</b> | B                |

No usable data were available for Davenport Pond (MA35015) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Depot Pond (MA35018)

|                                  |                            |
|----------------------------------|----------------------------|
| <b>Location:</b>                 | (Railroad Pond) Templeton. |
| <b>AU Type:</b>                  | FRESHWATER LAKE            |
| <b>AU Size:</b>                  | 15 ACRES                   |
| <b>Classification/Qualifier:</b> | B                          |

No usable data were available for Depot Pond (MA35018) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>                                          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Discharges from Municipal<br>Separate Storm Sewer<br>Systems (MS4) (Y) | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)                                          | --         | --        | X          | X          | X          |

## Dunn Brook (MA35-37)

|                                  |                                                                                                          |
|----------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters north of Lincoln Road, Phillipston to mouth at confluence with Chickering Brook, Phillipston. |
| <b>AU Type:</b>                  | RIVER                                                                                                    |
| <b>AU Size:</b>                  | 1.8 MILES                                                                                                |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                   |

### Dunn Brook (MA35-37)

Watershed Area: 1.20 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.20         | 1.20                            | 0.22                  | 0.22                   |
| Agriculture                    | 1%           | 1%                              | 1.5%                  | 1.5%                   |
| Developed                      | 8.4%         | 8.4%                            | 7%                    | 7%                     |
| Natural                        | 75.5%        | 75.5%                           | 55.4%                 | 55.4%                  |
| Wetland                        | 15.2%        | 15.2%                           | 36.1%                 | 36.1%                  |
| Impervious                     | 3.1%         | 3.1%                            | 2.7%                  | 2.7%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Dunn Brook (MA35-37) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Dunn Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Dunn Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Dunn Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Dunn Brook (MA35-37).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

No data are available, so the Aesthetics Use for Dunn Brook (MA35-37) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Dunn Brook (MA35-37) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Dunn Brook (MA35-37) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Dunn Pond (MA35021)

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

| AU Category<br>2022 | AU Category<br>2024/26 | Impairment           | ATTAINS Action ID | Impairment<br>Change<br>Summary |
|---------------------|------------------------|----------------------|-------------------|---------------------------------|
| 2                   | 5                      | Harmful Algal Blooms | --                | Added                           |
| 2                   | 5                      | PFAS in Fish Tissue  | --                | Added                           |

| Impairment           | Source (Confirmed Y/N)                                           | ALU | FC | AES | PCR | SCR |
|----------------------|------------------------------------------------------------------|-----|----|-----|-----|-----|
| Harmful Algal Blooms | Discharges from Municipal Separate Storm Sewer Systems (MS4) (N) | --  | -- | X   | X   | X   |
| Harmful Algal Blooms | Source Unknown (N)                                               | --  | -- | X   | X   | X   |
| PFAS in Fish Tissue  | Source Unknown (N)                                               | --  | X  | --  | --  | --  |

## Recommendations

| 2024/26 Recommendations                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [ENTEROCOCCUS, MEDIUM] Dunn Pond beach was closed for 92% of the season in 2022. Follow up sampling should be conducted for <i>Enterococcus</i> at the DCR beach {Beach ID: 5181}. |

## Designated Use Attainment Decisions

### Fish Consumption

|                        |       |
|------------------------|-------|
| 2024/26 Use Attainment | Alert |
|------------------------|-------|

|                |    |
|----------------|----|
| Not Supporting | No |
|----------------|----|

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for Dunn Pond (MA35021) is assessed as Not Supporting with a new impairment being added for PFAS in Fish Tissue. Fish toxics sampling was conducted at Dunn Pond (MA35021) in Gardner as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. DPH issued a site-specific advisory for PFAS in Dunn Pond in their February 2023 Freshwater Fish Consumption Advisory List and it was retained in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Consumption Advisories

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

##### Summary Statement

Fish toxics sampling was conducted at Dunn Pond (MA35021) in Gardner as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Dunn Pond in their February 2023 Freshwater Fish Consumption Advisory List which were retained in the 2025 list. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for PFAS in Fish Tissue for Dunn Pond (MA35021).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

#### 2024/26 Use Attainment Summary

The Aesthetics Use for Dunn Pond (MA35021) is assessed as Not Supporting with a Harmful Algal Blooms impairment being added, based on a C-HAB posting reported to MDPH in 2020. During the period 2015 through 2022, C-HAB postings for Dunn Pond were reported to MDPH based on cell count data for 63 days in 2020 and no blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the Aesthetics Use is assessed as Not Supporting.

### Algal Bloom Information

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

##### C-HAB Summary Statement

During the period 2015 through 2022, C-HAB postings for Dunn Pond (MA35021) were reported to MDPH by DCR for 63 days in 2020. No blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the Aesthetics Use and Primary/Secondary Contact Recreational Uses are assessed as Not Supporting.



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

| DEP Waterbody (DPH Waterbody) | DPH Town | Posting Days 2015 | Posting Days 2016 | Posting Days 2017 | Posting Days 2018 | Posting Days 2019 | Posting Days 2020 | Posting Days 2021 | Posting Days 2022 |
|-------------------------------|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Dunn Pond                     | Gardner  |                   |                   |                   |                   |                   | 63                |                   |                   |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | YES   |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for Dunn Pond (MA35021) is assessed as Not Supporting. A Harmful Algal Blooms impairment is being added due to the occurrence of C-HAB postings extending &gt;20 days in a yr. Dunn Pond (MA35021) has a beach with DPH Beach Closure data: Dunn Pond (DCR) [Beach ID: 5181] beach in Gardner. The beach was rarely, if at all, posted for swimming from 2018-2022. An Alert for <i>Enterococcus</i> is being identified since Dunn Pond (DCR) was posted for &gt;10% of the swimming season in 2022 (92%). Surface water sampling was conducted at Dunn Pond Beach on Dunn Pond (MA35021) in Gardner as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value (maximum average 2.4 ng/L PFOA). During the period 2015 through 2022, C-HAB postings for Dunn Pond (MA35021) were reported to MDPH by DCR for 63 days in 2020. No blooms were reported in other years. Since extended blooms (&gt;20 days in duration) were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment.</p> |

## Beach Postings

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

| Beach ID | Beach Name/<br>Town            | Left<br>Border<br>(Lat.,<br>Long.) | Right<br>Border<br>(Lat.,<br>Long.) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | # years >10% |
|----------|--------------------------------|------------------------------------|-------------------------------------|------|------|------|------|------|------|------|------|------|--------------|
| 5181     | Dunn Pond<br>(DCR)/<br>Gardner | 42.57966,<br>-71.97170             | 42.57929,<br>-71.97080              | 0%   | 8%   | 7%   | 0%   | 4%   | 2%   | 4%   | 2%   | 92%  | 1            |

## Other Indicators

### Summary of MDPH 2021 and 2022 PFAS in Water Column Data

Data Sources: (MDPH 2023, MDPH 2023)

Surface water sampling was conducted at Dunn Pond Beach on Dunn Pond (MA35021) in Gardner as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value (maximum average 2.4 ng/L PFOA).

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

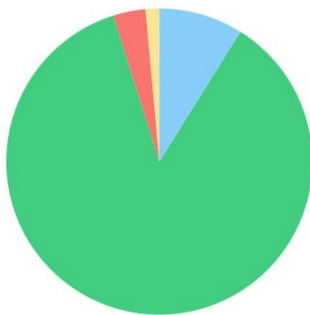
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Dunn Pond (MA35021) is assessed as Not Supporting. A Harmful Algal Blooms impairment is being added due to the occurrence of C-HAB postings extending >20 days in a yr. Dunn Pond (MA35021) has a beach with DPH Beach Closure data: Dunn Pond (DCR) [Beach ID: 5181] beach in Gardner. The beach was rarely, if at all, posted for swimming from 2018-2022. During the period 2015 through 2022, C-HAB postings for Dunn Pond (MA35021) were reported to MDPH by DCR for 63 days in 2020. No blooms were reported in other years. Since extended blooms (>20 days in duration) were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment. |

## East Branch Tully River (MA35-29)

|                                  |                                                                                                                                                                                                        |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | From the outlet of Tully Lake, Royalston to confluence with the West Branch Tully River forming headwaters Tully River, Orange/Athol (formerly part of 2014 segment: East Branch Tully River MA35-12). |
| <b>AU Type:</b>                  | RIVER                                                                                                                                                                                                  |
| <b>AU Size:</b>                  | 3.5 MILES                                                                                                                                                                                              |
| <b>Classification/Qualifier:</b> | B                                                                                                                                                                                                      |

### East Branch Tully River (MA35-29)

Watershed Area: 52.77 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 28.46        | 4.04                            | 6.38                  | 1.29                   |
| Agriculture                     | 1.5%         | 2%                              | 0.5%                  | 0%                     |
| Developed                       | 3.4%         | 10%                             | 2.4%                  | 4.5%                   |
| Natural                         | 86.2%        | 84.5%                           | 75.1%                 | 86.7%                  |
| Wetland                         | 8.9%         | 3.6%                            | 22%                   | 8.8%                   |
| Impervious                      | 1.3%         | 3.2%                            | 1%                    | 1.5%                   |

\*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                   | PCBs in Fish Tissue | --                | Unchanged                 |
| 5                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for this East Branch Tully River AU (MA35-29) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the East Branch Tully River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for this East Branch Tully River AU (MA35-29) (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the East Branch Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for this East Branch Tully River AU (MA35-29).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

There are no data available to assess the status of the Aesthetics Use for this East Branch Tully River AU (MA35-29), so it is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                              | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                        | NO    |
| 2024/26 Use Attainment Summary                                                                                                                      |       |
| No bacteria or other indicator data for the East Branch Tully River (MA35-29) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Alert |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
| No bacteria or other indicator data for the East Branch Tully River (MA35-29) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in the East Branch Tully River (MA35-29) at W1340 [Tully Rd/Pinedale Avenue, Orange/Athol] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1340 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 64 CFU/100ml. Historic <i>E. coli</i> data from W1340 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |       |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body              | Station Description                        | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------------|--------------------------------------------|-----------|------------|
| W1340        | MassDEP      | Water Quality | East Branch Tully River | [Tully Road/Pinedale Avenue, Orange/Athol] | 42.614467 | -72.238362 |

## Bacteria Data

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

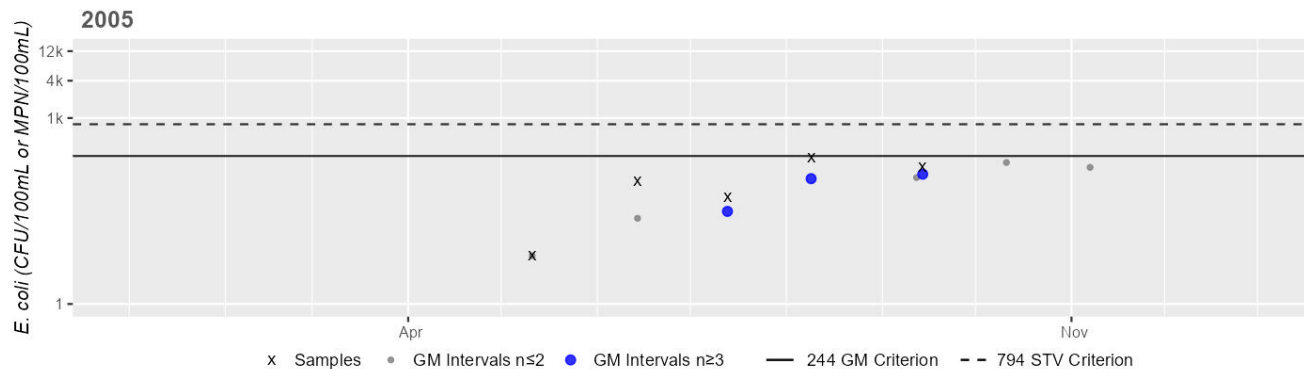
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1340        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 230                   | 64                      |

# Station MASSDEP\_W1340 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 64     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

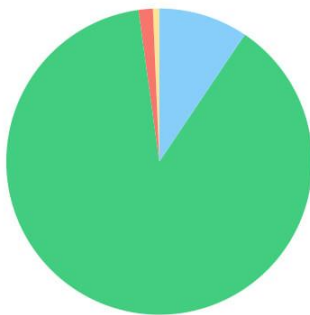
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis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

## East Branch Tully River (MA35-30)

|                                  |                                                                                                                                                                                                   |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Confluence of Tully Brook and Falls Brook in Royalston State Forest, Royalston through Long Pond to inlet Tully Lake, Royalston (formerly part of 2014 segment: East Branch Tully River MA35-12). |
| <b>AU Type:</b>                  | RIVER                                                                                                                                                                                             |
| <b>AU Size:</b>                  | 5.4 MILES                                                                                                                                                                                         |
| <b>Classification/Qualifier:</b> | B                                                                                                                                                                                                 |

### East Branch Tully River (MA35-30)

Watershed Area: 21.56 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 9.03         | 4.21                            | 1.91                  | 0.99                   |
| Agriculture                     | 0.7%         | 0.9%                            | 0.5%                  | 1%                     |
| Developed                       | 1.5%         | 1.6%                            | 1%                    | 1.6%                   |
| Natural                         | 88.4%        | 84.2%                           | 70.5%                 | 62.2%                  |
| Wetland                         | 9.4%         | 13.2%                           | 28%                   | 35.3%                  |
| Impervious                      | 0.5%         | 0.7%                            | 0.5%                  | 0.8%                   |

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

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for this East Branch Tully River AU (MA35-30) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the East Branch Tully River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Tissue Data

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

#### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for this East Branch Tully River AU (MA35-30) (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the East Branch Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for this East Branch Tully River AU (MA35-30).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

#### 2024/26 Use Attainment Summary



The Aesthetics Use for East Branch Tully River (MA35-30) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the upstream end of this East Branch Tully River AU upstream from Rt. 68 (Warwick Rd) in Royalston (W2287) during the summers of 2012, 2013, 2014, 2015 and 2019 as part of the Reference Site Network monitoring project (n=4-5/yr). No objectionable conditions (i.e., odors, deposits, growths, or turbidity) were observed during any of the surveys.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body              | Station Description                                                        | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------------|----------------------------------------------------------------------------|-----------|------------|
| W2287        | MassDEP      | Water Quality | East Branch Tully River | [approximately 2000 feet upstream from Route 68 (Warwick Road), Royalston] | 42.695393 | -72.227184 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                              |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2287        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2287 on East Branch Tully River (MA35-30) during 5 site visits between May 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2287        | 2013      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2287 on East Branch Tully River (MA35-30) during 5 site visits between May 2013 and Oct 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2287        | 2014      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2287 on East Branch Tully River (MA35-30) during 4 site visits between Jun 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2287        | 2015      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2287 on East Branch Tully River (MA35-30) during 4 site visits between May 2015 and Aug 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2287        | 2019      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2287 on East Branch Tully River (MA35-30) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2287        | 2012      | 5                 | 5                                                          | 0                                         |
| W2287        | 2013      | 5                 | 4                                                          | 0                                         |
| W2287        | 2014      | 4                 | 4                                                          | 0                                         |
| W2287        | 2015      | 4                 | 4                                                          | 0                                         |
| W2287        | 2019      | 4                 | 4                                                          | 0                                         |

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

| Station Code | Waterbody               | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-------------------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2287        | East Branch Tully River | 2012      | Aquatic Plant Density, Overall  | None             | 2            | 5                       |
| W2287        | East Branch Tully River | 2012      | Aquatic Plant Density, Overall  | NR               | 1            | 5                       |
| W2287        | East Branch Tully River | 2012      | Aquatic Plant Density, Overall  | Sparse           | 2            | 5                       |
| W2287        | East Branch Tully River | 2012      | Color                           | Light Yellow/Tan | 3            | 5                       |
| W2287        | East Branch Tully River | 2012      | Color                           | Reddish          | 2            | 5                       |
| W2287        | East Branch Tully River | 2012      | Objectionable Deposits          | No               | 5            | 5                       |
| W2287        | East Branch Tully River | 2012      | Odor                            | Musty (Basement) | 1            | 5                       |
| W2287        | East Branch Tully River | 2012      | Odor                            | None             | 3            | 5                       |
| W2287        | East Branch Tully River | 2012      | Odor                            | NR               | 1            | 5                       |
| W2287        | East Branch Tully River | 2012      | Periphyton Density, Filamentous | None             | 5            | 5                       |
| W2287        | East Branch Tully River | 2012      | Periphyton Density, Film        | Moderate         | 1            | 5                       |
| W2287        | East Branch Tully River | 2012      | Periphyton Density, Film        | None             | 4            | 5                       |
| W2287        | East Branch Tully River | 2012      | Scum                            | No               | 4            | 5                       |
| W2287        | East Branch Tully River | 2012      | Scum                            | NR               | 1            | 5                       |
| W2287        | East Branch Tully River | 2012      | Turbidity                       | None             | 5            | 5                       |
| W2287        | East Branch Tully River | 2013      | Aesthetics Impaired?            | No               | 3            | 5                       |
| W2287        | East Branch Tully River | 2013      | Aesthetics Impaired?            | NR               | 2            | 5                       |

| <b>Station Code</b> | <b>Waterbody</b>        | <b>Data Year</b> | <b>Parameter</b>                | <b>Result</b>    | <b>Result Count</b> | <b>Total Field Sheet Count</b> |
|---------------------|-------------------------|------------------|---------------------------------|------------------|---------------------|--------------------------------|
| W2287               | East Branch Tully River | 2013             | Aquatic Plant Density, Overall  | None             | 4                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Aquatic Plant Density, Overall  | NR               | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Color                           | Light Yellow/Tan | 3                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Color                           | Reddish          | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Color                           | Rusty            | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Objectionable Deposits          | No               | 5                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Odor                            | None             | 5                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Filamentous | None             | 3                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Filamentous | NR               | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Filamentous | Sparse           | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Film        | Moderate         | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Film        | NR               | 1                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Periphyton Density, Film        | Sparse           | 3                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Scum                            | No               | 3                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Scum                            | Yes              | 2                   | 5                              |
| W2287               | East Branch Tully River | 2013             | Turbidity                       | None             | 5                   | 5                              |
| W2287               | East Branch Tully River | 2014             | Aesthetics Impaired?            | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Aquatic Plant Density, Overall  | None             | 2                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Aquatic Plant Density, Overall  | Sparse           | 2                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Color                           | None             | 2                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Color                           | Reddish          | 2                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Objectionable Deposits          | No               | 4                   | 4                              |

| <b>Station Code</b> | <b>Waterbody</b>        | <b>Data Year</b> | <b>Parameter</b>                | <b>Result</b>    | <b>Result Count</b> | <b>Total Field Sheet Count</b> |
|---------------------|-------------------------|------------------|---------------------------------|------------------|---------------------|--------------------------------|
| W2287               | East Branch Tully River | 2014             | Odor                            | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Periphyton Density, Filamentous | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Periphyton Density, Film        | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Scum                            | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2014             | Turbidity                       | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Aesthetics Impaired?            | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Aquatic Plant Density, Overall  | None             | 2                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Aquatic Plant Density, Overall  | Sparse           | 2                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Color                           | Light Yellow/Tan | 1                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Color                           | Reddish          | 3                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Objectionable Deposits          | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Odor                            | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Periphyton Density, Filamentous | None             | 3                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Periphyton Density, Filamentous | Sparse           | 1                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Periphyton Density, Film        | None             | 2                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Periphyton Density, Film        | Sparse           | 2                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Scum                            | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2015             | Turbidity                       | None             | 4                   | 4                              |
| W2287               | East Branch Tully River | 2019             | Aesthetics Impaired?            | No               | 4                   | 4                              |
| W2287               | East Branch Tully River | 2019             | Aquatic Plant Density, Overall  | Sparse           | 4                   | 4                              |
| W2287               | East Branch Tully River | 2019             | Color                           | Light Yellow/Tan | 4                   | 4                              |
| W2287               | East Branch Tully River | 2019             | Objectionable Deposits          | No               | 4                   | 4                              |

| Station Code | Waterbody               | Data Year | Parameter                       | Result | Result Count | Total Field Sheet Count |
|--------------|-------------------------|-----------|---------------------------------|--------|--------------|-------------------------|
| W2287        | East Branch Tully River | 2019      | Odor                            | None   | 4            | 4                       |
| W2287        | East Branch Tully River | 2019      | Periphyton Density, Filamentous | None   | 4            | 4                       |
| W2287        | East Branch Tully River | 2019      | Periphyton Density, Film        | None   | 4            | 4                       |
| W2287        | East Branch Tully River | 2019      | Scum                            | No     | 4            | 4                       |
| W2287        | East Branch Tully River | 2019      | Turbidity                       | None   | 4            | 4                       |

### Primary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria data are available to assess the Primary Contact Recreation Use for the East Branch Tully River (MA35-30) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. |

### Secondary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria data are available to assess the Secondary Contact Recreation Use for the East Branch Tully River (MA35-30) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. |

## East Templeton Pond (MA35022)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Templeton.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 9 ACRES         |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for East Templeton Pond (MA35022) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Ellinwood Brook (MA35-22)

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, outlet unnamed pond east of Woodlawn Road, Athol to inlet of White Pond, Athol. |
| <b>AU Type:</b>                  | RIVER                                                                                       |
| <b>AU Size:</b>                  | 3.6 MILES                                                                                   |
| <b>Classification/Qualifier:</b> | B                                                                                           |

### Ellinwood Brook (MA35-22)

Watershed Area: 3.20 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 3.20         | 2.90                            | 0.56                  | 0.56                   |
| Agriculture                    | 0.8%         | 0.9%                            | 0.1%                  | 0.1%                   |
| Developed                      | 13.5%        | 14.8%                           | 9.4%                  | 9.4%                   |
| Natural                        | 76.2%        | 73.9%                           | 71.7%                 | 71.7%                  |
| Wetland                        | 9.5%         | 10.3%                           | 18.8%                 | 18.8%                  |
| Impervious                     | 3.7%         | 4%                              | 1.8%                  | 1.8%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Ellinwood Brook (MA35-22) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued a site-specific advisory for PFAS in Ellinwood Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Ellinwood Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Ellinwood Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Ellinwood Brook (MA35-22).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|



The Aesthetics Use for Ellinwood Brook (MA35-22) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Ellinwood Brook AU ~4500 feet upstream from South Athol Rd in Athol (W2199) during the summer of 2011 (n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                             | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------------|-----------|------------|
| W2199        | MassDEP      | Water Quality | Ellinwood Brook | [approximately 4500 feet upstream from South Athol Road, Athol] | 42.556236 | -72.231027 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                      |
|--------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2199        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2199 on Ellinwood Brook (MA35-22) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2199        | 2011      | 6                 | 6                                                          | 0                                         |

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

| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2199        | Ellinwood Brook | 2011      | Aquatic Plant Density, Overall  | None             | 6            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Color                           | Brownish         | 1            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Color                           | Light Yellow/Tan | 3            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Color                           | Reddish          | 2            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Objectionable Deposits          | No               | 6            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Odor                            | None             | 6            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Periphyton Density, Filamentous | None             | 6            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Periphyton Density, Film        | None             | 6            | 6                       |

| Station Code | Waterbody       | Data Year | Parameter | Result | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|-----------|--------|--------------|-------------------------|
| W2199        | Ellinwood Brook | 2011      | Scum      | No     | 4            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Scum      | Yes    | 2            | 6                       |
| W2199        | Ellinwood Brook | 2011      | Turbidity | None   | 6            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for Ellinwood Brook (MA35-22) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Ellinwood Brook (MA35-22) at W2199 [~4500 ft upstream from S Athol Rd, Athol] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2199 indicated 0% of intervals had GMs &gt;126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 25 CFU/100ml. <i>E. coli</i> data from W2199 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                             | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------------|-----------|------------|
| W2199        | MassDEP      | Water Quality | Ellinwood Brook | [approximately 4500 feet upstream from South Athol Road, Athol] | 42.556236 | -72.231027 |

## Bacteria Data

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

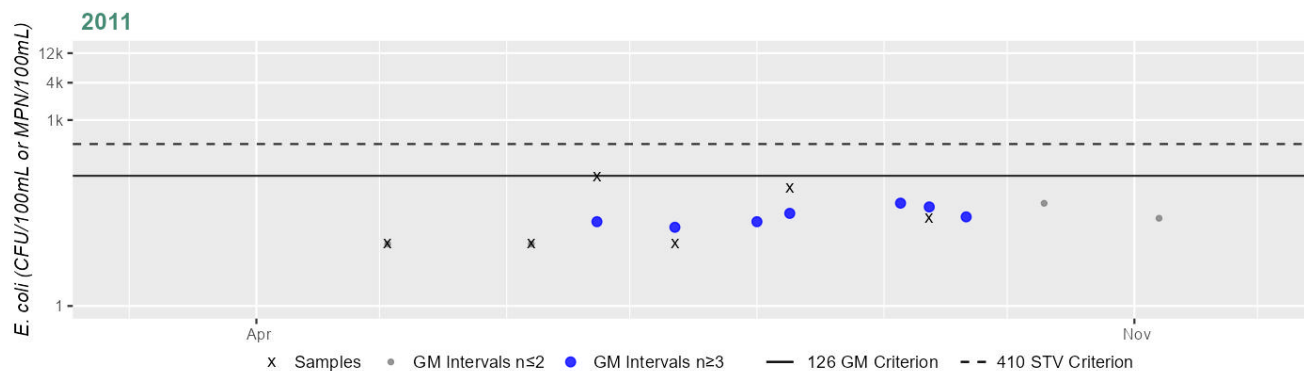
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2199        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 120                   | 25                      |

### Station MASSDEP\_W2199 - *Escherichia coli*

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



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

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Ellinwood Brook (MA35-22) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Ellinwood Brook (MA35-22) at W2199 [~4500 ft upstream from S Athol Rd, Athol] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2199 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 25 CFU/100ml. <i>E. coli</i> data from W2199 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                             | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------------|-----------|------------|
| W2199        | MassDEP      | Water Quality | Ellinwood Brook | [approximately 4500 feet upstream from South Athol Road, Athol] | 42.556236 | -72.231027 |

## Bacteria Data

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

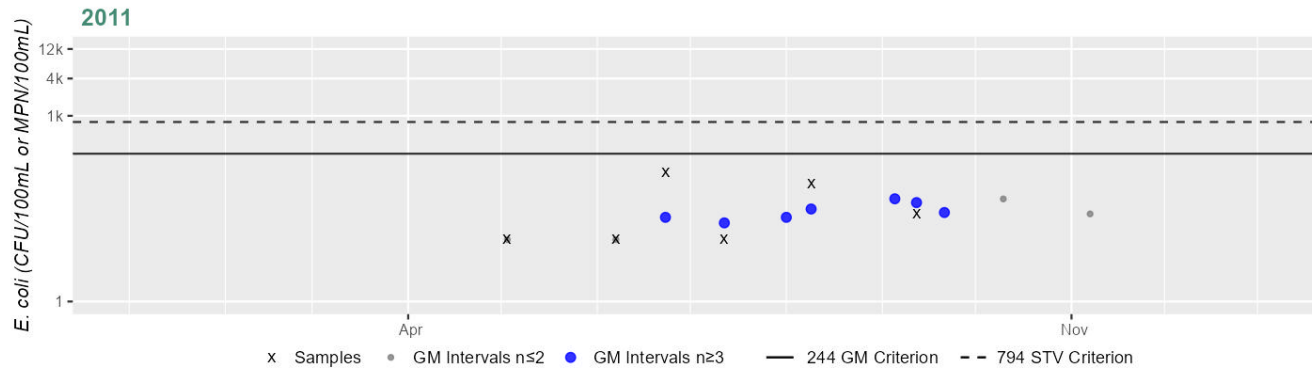
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2199        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 120                   | 25                      |

#### Station MASSDEP\_W2199 - Escherichia coli

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



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

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Ellis Pond (MA35023)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Athol.          |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 88 ACRES        |
| <b>Classification/Qualifier:</b> | A: PWS, ORW     |

No usable data were available for Ellis Pond (MA35023) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

| <b>Impairment</b>                                   | <b>Source (Confirmed Y/N)</b>                                              | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|-----------------------------------------------------|----------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*)                  | Rural (Residential Areas) (Y)                                              | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*)                  | Unspecified Urban<br>Stormwater (Y)                                        | --         | --        | X          | X          | X          |
| (Eurasian Water Milfoil,<br>Myriophyllum Spicatum*) | Introduction of Non-native<br>Organisms (Accidental or<br>Intentional) (Y) | X          | --        | --         | --         | --         |
| (Fanwort*)                                          | Introduction of Non-native<br>Organisms (Accidental or<br>Intentional) (Y) | X          | --        | --         | --         | --         |

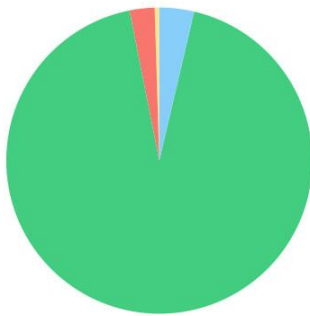
| <b>Impairment</b>            | <b>Source (Confirmed Y/N)</b>                                        | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------|----------------------------------------------------------------------|------------|-----------|------------|------------|------------|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

## Fish Brook (MA35-38)

|                                  |                                                                                                            |
|----------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters east of Bliss Hill Road, Royalston to mouth at confluence with West Branch Tully River, Orange. |
| <b>AU Type:</b>                  | RIVER                                                                                                      |
| <b>AU Size:</b>                  | 3.4 MILES                                                                                                  |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                     |

### Fish Brook (MA35-38)

Watershed Area: 2.30 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 2.29         | 1.78                            | 0.51                  | 0.51                   |
| Agriculture                     | 0.5%         | 0.6%                            | 0%                    | 0%                     |
| Developed                       | 2.6%         | 2.6%                            | 1.3%                  | 1.3%                   |
| Natural                         | 93.2%        | 93.2%                           | 89.7%                 | 89.7%                  |
| Wetland                         | 3.7%         | 3.6%                            | 8.9%                  | 8.9%                   |
| Impervious                      | 1.2%         | 1.1%                            | 0.8%                  | 0.8%                   |

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

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Fish Brook (MA35-38) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Fish Brook (MA35-38). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Fish Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.</p> |

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Fish Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Fish Brook (MA35-38). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Fish Brook (MA35-38).</p> |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                         |
|----------------------------------------------------------------------------------------|
| No data are available, so the Aesthetics Use for Fish Brook (MA35-38) is Not Assessed. |



## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                             | Alert |
|------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                       | NO    |
| 2024/26 Use Attainment Summary                                                                                                     |       |
| No bacteria or other indicator data for Fish Brook (MA35-38) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                    | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                              | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                            |       |
| No bacteria or other indicator data for Fish Brook (MA35-38) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |       |

## Gales Pond (MA35024)

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

| AU Category<br>2022 | AU Category<br>2024/26 | Impairment             | ATTAINS Action ID | Impairment<br>Change<br>Summary |
|---------------------|------------------------|------------------------|-------------------|---------------------------------|
| 5                   | 5                      | Mercury in Fish Tissue | 33880             | Unchanged                       |
| 5                   | 5                      | Turbidity              | --                | Unchanged                       |

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

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Gales Pond (MA35024) 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 Gales Pond in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

The Aesthetics Use for Gales Pond (MA35024) continues to be assessed as Not Supporting with the prior Turbidity impairment being carried forward. No new data are available to evaluate the Aesthetics Use for this Gales Pond AU.

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Gales Pond (MA35024) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity impairment (from the Aesthetics Use) is being carried forward.

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

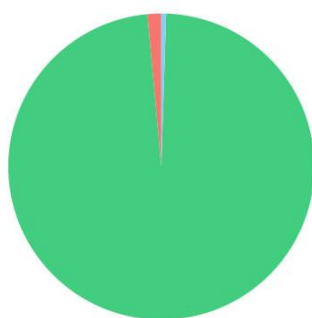
No bacteria or other indicator data for Gales Pond (MA35024) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Turbidity impairment (from the Aesthetics Use) is being carried forward.

## Gate Hill Brook (MA35-39)

|                                  |                                                                                                          |
|----------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters east of Bear Mountain Road, Wendell to mouth at confluence with Mormon Hollow Brook, Wendell. |
| <b>AU Type:</b>                  | RIVER                                                                                                    |
| <b>AU Size:</b>                  | 0.7 MILES                                                                                                |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                   |

### Gate Hill Brook (MA35-39)

Watershed Area: 0.41 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.41         | 0.41                            | 0.09                  | 0.09                   |
| Agriculture                    | 0%           | 0%                              | 0%                    | 0%                     |
| Developed                      | 1.5%         | 1.5%                            | 1.6%                  | 1.6%                   |
| Natural                        | 98%          | 98%                             | 96%                   | 96%                    |
| Wetland                        | 0.5%         | 0.5%                            | 2.3%                  | 2.3%                   |
| Impervious                     | 0.5%         | 0.5%                            | 1.1%                  | 1.1%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Gate Hill Brook (MA35-39) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Gate Hill Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Gate Hill Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Gate Hill Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Gate Hill Brook (MA35-39).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

No data are available, so the Aesthetics Use for Gate Hill Brook (MA35-39) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Gate Hill Brook (MA35-39) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Gate Hill Brook (MA35-39) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Greenwood Pond (MA35025)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Westminster.    |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 27 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Greenwood Pond (MA35025) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Greenwood Pond (MA35026)

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

No usable data were available for Greenwood Pond (MA35026) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>                                          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                                                        | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Discharges from Municipal<br>Separate Storm Sewer<br>Systems (MS4) (Y) | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)                                          | --         | --        | X          | X          | X          |



## Hastings Pond (MA35028)

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

No usable data were available for Hastings Pond (MA35028) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Hilchey Pond (MA35029)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 8 ACRES         |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Hilchey Pond (MA35029) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | Turbidity         | 4128                     | Unchanged                                |

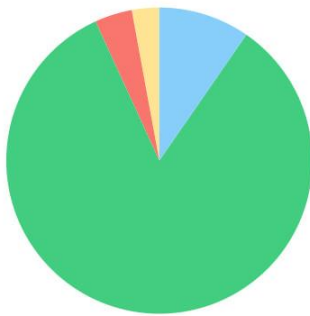
| <b>Impairment</b> | <b>Source (Confirmed Y/N)</b> | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|-------------------|-------------------------------|------------|-----------|------------|------------|------------|
| Turbidity         | Source Unknown (N)            | --        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

## Hoyt Brook (MA35-40)

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters east of Colony Road, Phillipston to mouth at confluence with Beaver Brook, Phillipston. |
| <b>AU Type:</b>                  | RIVER                                                                                              |
| <b>AU Size:</b>                  | 1.4 MILES                                                                                          |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                             |

### Hoyt Brook (MA35-40)

Watershed Area: 1.25 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.25         | 1.25                            | 0.30                  | 0.30                   |
| Agriculture                    | 2.9%         | 2.9%                            | 4.6%                  | 4.6%                   |
| Developed                      | 3.9%         | 3.9%                            | 2.1%                  | 2.1%                   |
| Natural                        | 83.5%        | 83.5%                           | 81.1%                 | 81.1%                  |
| Wetland                        | 9.6%         | 9.6%                            | 12.2%                 | 12.2%                  |
| Impervious                     | 1.8%         | 1.8%                            | 1.5%                  | 1.5%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Hoyt Brook (MA35-40) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Hoyt Brook (MA35-40). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Hoyt Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.</p> |

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Hoyt Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Hoyt Brook (MA35-40). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Hoyt Brook (MA35-40).</p> |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                         |
|----------------------------------------------------------------------------------------|
| No data are available, so the Aesthetics Use for Hoyt Brook (MA35-40) is Not Assessed. |

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                             | Alert |
|------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                       | NO    |
| 2024/26 Use Attainment Summary                                                                                                     |       |
| No bacteria or other indicator data for Hoyt Brook (MA35-40) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

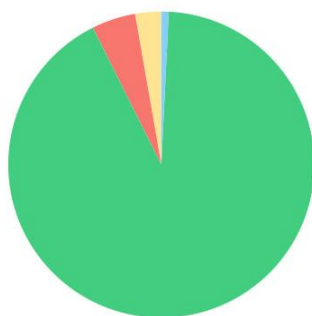
| 2024/26 Use Attainment                                                                                                                                                    | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                              | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                            |       |
| No bacteria or other indicator data for Hoyt Brook (MA35-40) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |       |

## Jacks Brook (MA35-31)

|                                  |                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters south of Orange Road, Northfield to mouth at confluence with Keyup Brook, Erving. |
| <b>AU Type:</b>                  | RIVER                                                                                        |
| <b>AU Size:</b>                  | 2.7 MILES                                                                                    |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                       |

### Jacks Brook (MA35-31)

Watershed Area: 2.04 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 2.04         | 2.04                            | 0.34                  | 0.34                   |
| Agriculture                    | 2.8%         | 2.8%                            | 4.8%                  | 4.8%                   |
| Developed                      | 4.6%         | 4.6%                            | 6.8%                  | 6.8%                   |
| Natural                        | 91.8%        | 91.8%                           | 86.8%                 | 86.8%                  |
| Wetland                        | 0.8%         | 0.8%                            | 1.5%                  | 1.5%                   |
| Impervious                     | 2.3%         | 2.3%                            | 3.2%                  | 3.2%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Jacks Brook (MA35-31) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Jacks Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Jacks Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Jacks Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Jacks Brook (MA35-31).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Aesthetics Use for Jacks Brook (MA35-31) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station at the downstream end of this Jacks Brook AU upstream from North Street in Erving (W2193) during the summer of 2011 (n=6) as part of the MAP2 Probabilistic Wadeable Streams monitoring project. No objectionable conditions (odors, deposits, growths, or turbidity) were observed during any of the surveys.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                         | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|-------------------------------------------------------------|-----------|------------|
| W2193        | MassDEP      | Water Quality | Jacks Brook | [approximately 175 feet upstream from North Street, Erving] | 42.614980 | -72.401840 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                  |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2193        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2193 on Jacks Brook (MA35-31) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2193        | 2011      | 6                 | 6                                                          | 0                                         |

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

| Station Code | Waterbody   | Data Year | Parameter                       | Result | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|--------|--------------|-------------------------|
| W2193        | Jacks Brook | 2011      | Aquatic Plant Density, Overall  | None   | 5            | 6                       |
| W2193        | Jacks Brook | 2011      | Aquatic Plant Density, Overall  | Sparse | 1            | 6                       |
| W2193        | Jacks Brook | 2011      | Color                           | None   | 6            | 6                       |
| W2193        | Jacks Brook | 2011      | Objectionable Deposits          | No     | 6            | 6                       |
| W2193        | Jacks Brook | 2011      | Odor                            | None   | 6            | 6                       |
| W2193        | Jacks Brook | 2011      | Periphyton Density, Filamentous | None   | 5            | 6                       |
| W2193        | Jacks Brook | 2011      | Periphyton Density, Filamentous | Sparse | 1            | 6                       |



| Station Code | Waterbody   | Data Year | Parameter                | Result | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|--------------------------|--------|--------------|-------------------------|
| W2193        | Jacks Brook | 2011      | Periphyton Density, Film | None   | 5            | 6                       |
| W2193        | Jacks Brook | 2011      | Periphyton Density, Film | Sparse | 1            | 6                       |
| W2193        | Jacks Brook | 2011      | Scum                     | No     | 6            | 6                       |
| W2193        | Jacks Brook | 2011      | Turbidity                | None   | 6            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for Jacks Brook (MA35-31) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Jacks Brook (MA35-31) at W2193 [~175 ft upstream from N St, Erving] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2193 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 30 CFU/100ml. <i>E. coli</i> data from W2193 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                         | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|-------------------------------------------------------------|-----------|------------|
| W2193        | MassDEP      | Water Quality | Jacks Brook | [approximately 175 feet upstream from North Street, Erving] | 42.614980 | -72.401840 |

## Bacteria Data

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

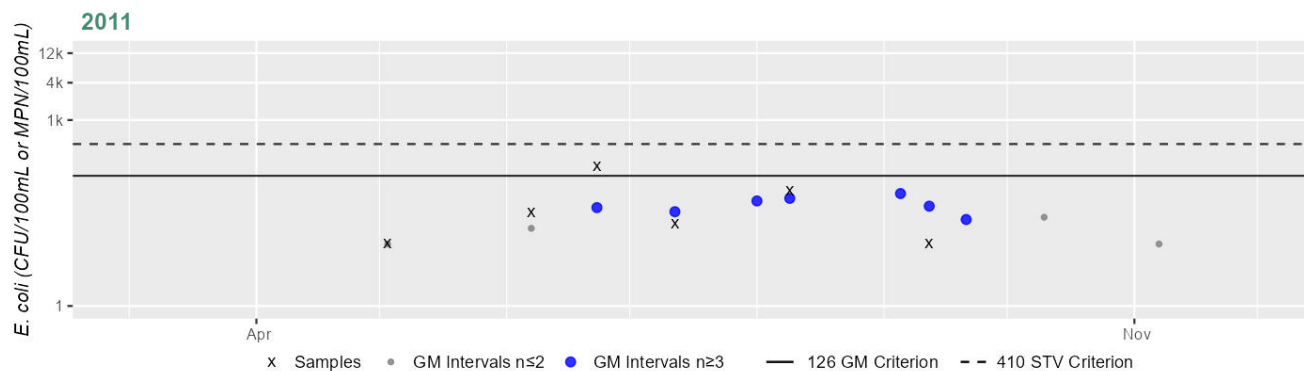
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2193        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 180                   | 30                      |

### Station MASSDEP\_W2193 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 30     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Jacks Brook (MA35-31) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Jacks Brook (MA35-31) at W2193 [~175 ft upstream from N St, Erving] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2193 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 30 CFU/100ml. <i>E. coli</i> data from W2193 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                         | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|-------------------------------------------------------------|-----------|------------|
| W2193        | MassDEP      | Water Quality | Jacks Brook | [approximately 175 feet upstream from North Street, Erving] | 42.614980 | -72.401840 |

# Bacteria Data

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

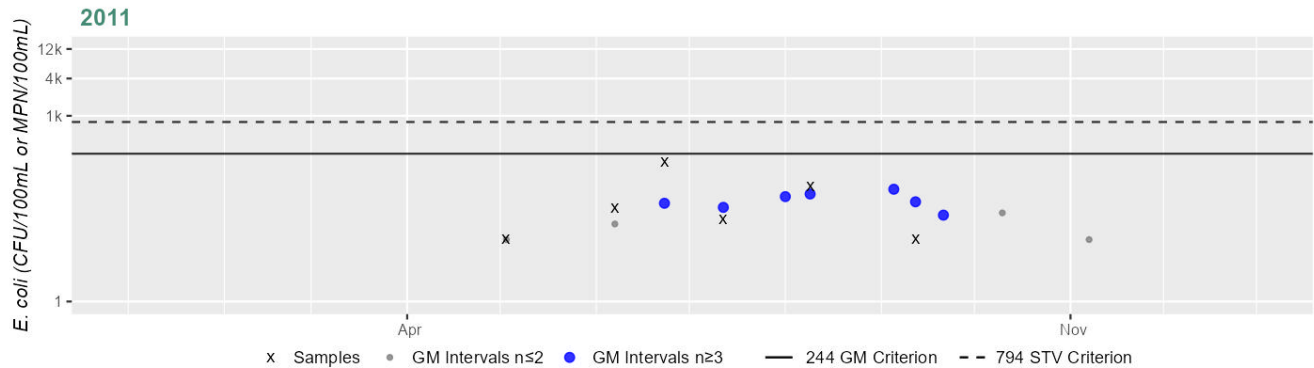
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2193        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 180                   | 30                      |

### Station MASSDEP\_W2193 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 30     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Kendall Pond (MA35034)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 22 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Kendall Pond (MA35034) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

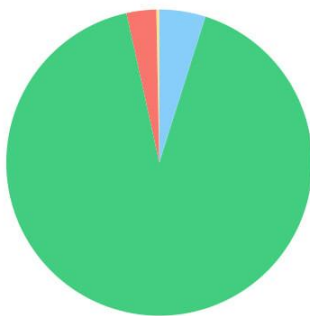
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Kenny Brook (MA35-41)

|                                  |                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters north of Greenhall Road, Royalston to mouth at confluence with Millers River, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                                               |
| <b>AU Size:</b>                  | 1.1 MILES                                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                              |

### Kenny Brook (MA35-41)

Watershed Area: 0.80 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.80         | 0.80                            | 0.16                  | 0.16                   |
| Agriculture                    | 0.3%         | 0.3%                            | 0%                    | 0%                     |
| Developed                      | 3.1%         | 3.1%                            | 1%                    | 1%                     |
| Natural                        | 91.7%        | 91.7%                           | 93.3%                 | 93.3%                  |
| Wetland                        | 4.9%         | 4.9%                            | 5.6%                  | 5.6%                   |
| Impervious                     | 1%           | 1%                              | 0.4%                  | 0.4%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Kenny Brook (MA35-41) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Kenny Brook (MA35-41). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Kenny Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Kenny Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Kenny Brook (MA35-41). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Kenny Brook (MA35-41). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Kenny Brook (MA35-41) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Kenny Brook (MA35-41) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

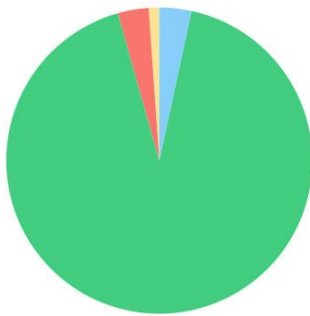
No bacteria or other indicator data for Kenny Brook (MA35-41) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Keyup Brook (MA35-16)

|                                  |                                                                                                       |
|----------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters Great Swamp Northfield State Forest, Northfield, to confluence with Millers River, Erving. |
| <b>AU Type:</b>                  | RIVER                                                                                                 |
| <b>AU Size:</b>                  | 5 MILES                                                                                               |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                |

### Keyup Brook (MA35-16)

Watershed Area: 7.07 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 7.07         | 4.05                            | 0.99                  | 0.74                   |
| Agriculture                    | 1.1%         | 1.6%                            | 1.7%                  | 2.1%                   |
| Developed                      | 3.3%         | 4.1%                            | 8.9%                  | 11.5%                  |
| Natural                        | 92.2%        | 92.9%                           | 79%                   | 81.7%                  |
| Wetland                        | 3.4%         | 1.4%                            | 10.5%                 | 4.8%                   |
| Impervious                     | 1.6%         | 2%                              | 4.7%                  | 6.2%                   |

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

| Impairment                 | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|----------------------------|----------------------------------------|-----|----|-----|-----|-----|
| Escherichia Coli (E. Coli) | Source Unknown (N)                     | --  | -- | --  | X   | --  |
| PCBs in Fish Tissue        | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue        | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue        | Source Unknown (N)                     | --  | X  | --  | --  | --  |



## Supporting Information for Removed Impairments

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

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Keyup Brook (MA35-16) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued a site-specific advisory for PFAS in Keyup Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### ***Fish Tissue Data***

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Keyup Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Keyup Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Keyup Brook (MA35-16). |

## Aesthetic

|                               |              |
|-------------------------------|--------------|
| <b>2024/26 Use Attainment</b> | <b>Alert</b> |
| Fully Supporting              | NO           |

|                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                     |
| The Aesthetics Use for Keyup Brook (MA35-16) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the downstream half of this Keyup Brook AU ~500 feet upstream/north of Laurel Lake Rd, Erving (W2895) in summer 2019 (n=4). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                                 | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|---------------------------------------------------------------------|-----------|------------|
| W2895        | MassDEP      | Water Quality | Keyup Brook | [approximately 500 feet upstream/north of Laurel Lake Road, Erving] | 42.620696 | -72.393054 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                  |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2895        | 2019      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2895 on Keyup Brook (MA35-16) during 4 site visits between Jun 2019 and Sep 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2895        | 2019      | 4                 | 4                                                          | 0                                         |

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

| Station Code | Waterbody   | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2895        | Keyup Brook | 2019      | Aesthetics Impaired?            | No               | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Aquatic Plant Density, Overall  | None             | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Color                           | Light Yellow/Tan | 3            | 4                       |
| W2895        | Keyup Brook | 2019      | Color                           | None             | 1            | 4                       |
| W2895        | Keyup Brook | 2019      | Objectionable Deposits          | No               | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Odor                            | None             | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Periphyton Density, Filamentous | None             | 3            | 4                       |
| W2895        | Keyup Brook | 2019      | Periphyton Density, Filamentous | Sparse           | 1            | 4                       |
| W2895        | Keyup Brook | 2019      | Periphyton Density, Film        | None             | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Scum                            | No               | 4            | 4                       |
| W2895        | Keyup Brook | 2019      | Turbidity                       | None             | 4            | 4                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Keyup Brook (MA35-16) continues to be assessed as Not Supporting. The prior *Escherichia coli* (*E. coli*) impairment is being carried forward.

## Secondary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

### 2024/26 Use Attainment Summary

No bacteria data are available to assess the Secondary Contact Recreation Use for Keyup Brook (MA35-16) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Keyup Brook (MA35-16) at W1344 [Church St, Erving] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency *E. coli* dataset from W1344 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 141 CFU/100ml. Historic *E. coli* data from W1344 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description     | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|-------------------------|-----------|------------|
| W1344        | MassDEP      | Water Quality | Keyup Brook | [Church Street, Erving] | 42.602457 | -72.399511 |

### Bacteria Data

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

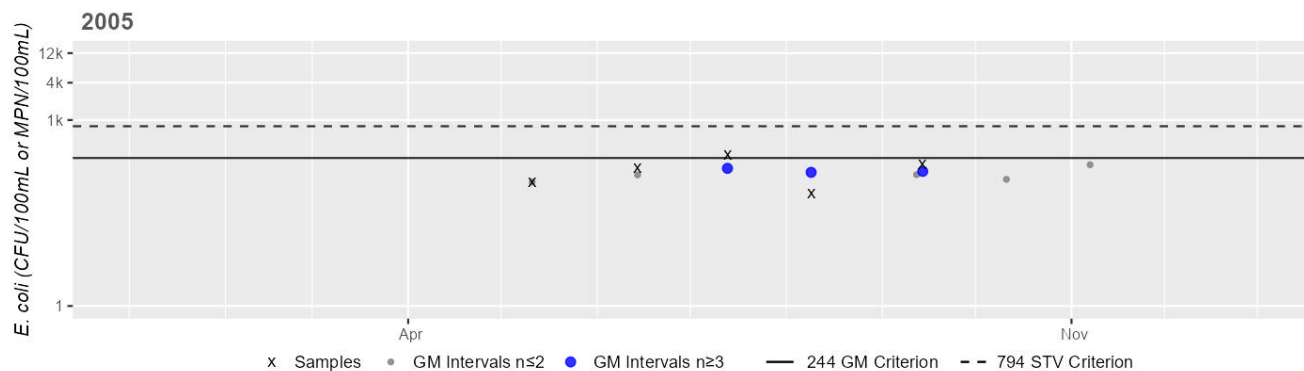
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1344        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 64                    | 270                   | 141                     |

# Station MASSDEP\_W1344 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 141    |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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

## Lake Denison (MA35017)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Winchendon.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 83 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>      | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------|--------------------------|------------------------------------------|
| 5                           | 5                              | Dissolved Oxygen       | 4123                     | Unchanged                                |
| 5                           | 5                              | Enterococcus           | --                       | Removed                                  |
| 5                           | 5                              | Mercury in Fish Tissue | 33880                    | Unchanged                                |
| 5                           | 5                              | PFAS in Fish Tissue    | --                       | Added                                    |

| <b>Impairment</b>      | <b>Source (Confirmed Y/N)</b>    | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------|----------------------------------|------------|-----------|------------|------------|------------|
| Dissolved Oxygen       | Rural (Residential Areas) (Y)    | X          | --        | --         | --         | --         |
| Dissolved Oxygen       | Unspecified Urban Stormwater (Y) | X          | --        | --         | --         | --         |
| Mercury in Fish Tissue | Atmospheric Deposition (Y)       | --         | X         | --         | --         | --         |
| Mercury in Fish Tissue | Source Unknown (N)               | --         | X         | --         | --         | --         |
| PFAS in Fish Tissue    | Source Unknown (N)               | --         | X         | --         | --         | --         |

## Supporting Information for Removed Impairments

| 2022 Removed Impairment | Removal Reason                                                    | Removal Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enterococcus            | Applicable WQS attained; original basis for listing was incorrect | The <i>Enterococcus</i> impairment from the 2022 IR cycle was based on incorrect data that suggested the Lake Dennison State Park (Beach ID 5182) had two years with more than 10% beach postings in 2014 and 2019. The correct data in this cycle shows only one year with >10% beach postings in 2019 (14%) and no postings in 2014. Because the beach had infrequent beach postings from 2014 to 2022, the <i>Enterococcus</i> impairment is being removed. |

### Enterococcus

Please see removal information above.

## Recommendations

| 2024/26 Recommendations                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [ENTEROCOCCUS, MEDIUM] There were >10% beach postings at {Beach ID: 5182} in 2019. Additional bacteria monitoring should be conducted in the future. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Lake Denison (MA35017) continues to be assessed as Not Supporting. The prior Mercury in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted at Lake Denison (MA35017) in Winchendon as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. DPH issued a site-specific advisory for PFAS in Lake Denison (referred to by MDPH as "Dennison, Lake") in their February 2023 Fish Consumption Advisory List and retained both this advisory as well as the existing Mercury advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

## ***Fish Consumption Advisories***

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

| <b>Summary Statement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted at Lake Denison (MA35017) in Winchendon as part of a June 2022 MDPH study assessing 40 PFAS analytes in fish tissue samples collected from lakes and ponds in state parks. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Lake Denison (referred to by MDPH as Dennison, Lake) in their February 2023 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for Mercury associated with Lake Denison (referred to by MDPH as Dennison, Lake) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and Mercury in Fish Tissue for Lake Denison (MA35017). |

## **Aesthetic**

| <b>2024/26 Use Attainment</b> | <b>Alert</b> |
|-------------------------------|--------------|
| Insufficient Information      | NO           |

| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Too limited data are available to assess the Aesthetics Use of Lake Denison (MA35017) so it is assessed as having Insufficient Information. During the period 2015 through 2022, C-HAB postings for Lake Denison were reported to MDPH by DCR for 14 days in 2019 and no blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. The prior Alert identified for Harmful Algal Blooms in this waterbody is being removed due to a change in Alert identification methodology. No new data are available to evaluate the Aesthetics Use for this Lake Denison AU. |

## ***Algal Bloom Information***

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

| <b>C-HAB Summary Statement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| During the period 2015 through 2022, C-HAB postings for Lake Denison (MA35017) were reported to MDPH by DCR for 14 days in 2019. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. The prior Alert identified for C-HABs in this waterbody is being removed due to a change in Alert identification methodology. |

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



| DEP Waterbody (DPH Waterbody) | DPH Town   | Posting Days 2015 | Posting Days 2016 | Posting Days 2017 | Posting Days 2018 | Posting Days 2019 | Posting Days 2020 | Posting Days 2021 | Posting Days 2022 |
|-------------------------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Lake Denison                  | Winchendon |                   |                   |                   |                   | 14                |                   |                   |                   |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | YES   |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for Lake Denison (MA35017) is assessed as Fully Supporting. An Alert is being identified for <i>Enterococcus</i> and additional sampling is recommended for this AU. Surface water sampling was conducted at the Day Use Beach and Campers Beach (called North Camp Beach by MDPH) on Lake Denison (MA35017) as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value (maximum average 6.2 ng/L PFOA). During the period 2015 through 2022, C-HAB postings for Lake Denison (MA35017) were reported to MDPH by DCR for 14 days in 2019. No blooms were reported in other years. Since no extended blooms (&gt;20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. The prior Alert identified for C-HABs in this waterbody is being removed due to a change in Alert identification methodology. Lake Denison (MA35017) has a beach with DPH Beach Closure data: Lake Dennison State Park (DCR) [Beach ID: 5182] beach in Winchendon. Lake Dennison State Park (DCR) was posted for &gt;10% of the swimming season in 2019 (14%). The prior <i>Enterococcus</i> impairment from the 2022IR cycle was based on “two years” with postings &gt;10%. This was an error and the prior impairment is being removed. The correct number of postings for 2014 is 0% and 14% in 2019. An Alert is being identified for <i>Enterococcus</i> because one year has &gt;10% postings at Lake Dennison State Park (DCR).</p> |

## Beach Postings

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

| Beach ID | Beach Name/<br>Town                                                | Left Border<br>(Lat., Long.) | Right Border<br>(Lat., Long.) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | # years >10% |
|----------|--------------------------------------------------------------------|------------------------------|-------------------------------|------|------|------|------|------|------|------|------|------|--------------|
| 5182     | Lake Dennison State Park (DCR) northern shore beach/<br>Winchendon | 42.64754,<br>-72.08893       | 42.64747,<br>-72.08880        | 0%   | 3%   | 10%  | 0%   | 9%   | 14%  | 2%   | 2%   | 9%   | 1            |
| 5182     | Lake Dennison State Park (DCR) southern shore beach/<br>Winchendon | 42.64117,<br>-72.08760       | 42.64079,<br>-72.08680        | 0%   | 3%   | 10%  | 0%   | 9%   | 14%  | 2%   | 2%   | 9%   | 1            |

## Other Indicators

### Summary of MDPH 2021 and 2022 PFAS in Water Column Data

Data Sources: (MDPH 2023, MDPH 2023)

Surface water sampling was conducted at the Day Use Beach and Campers Beach (called North Camp Beach by MDPH) on Lake Denison (MA35017) in Winchendon as part of a May 2022 MDPH study assessing 40 PFAS analytes in surface water and fish tissue samples collected from waterbodies in state parks. The average concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value (maximum average 6.2 ng/L PFOA).

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Lake Denison (MA35017) is assessed as Fully Supporting. Lake Denison (MA35017) has a beach with DPH Beach Closure data: Lake Dennison State Park (DCR) [Beach ID: 5182] beach in Winchendon. The beach was rarely, if at all, posted for swimming from 2018-2022. During the period 2015 through 2022, C-HAB postings for Lake Denison (MA35017) were reported to MDPH by DCR for 14 days in 2019. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings. The prior Alert identified for C-HABs in this waterbody is being removed due to a change in Alert identification methodology. |

## Lake Mattawa (MA35112)

|                                  |                                        |
|----------------------------------|----------------------------------------|
| <b>Location:</b>                 | Orange.                                |
| <b>AU Type:</b>                  | FRESHWATER LAKE                        |
| <b>AU Size:</b>                  | 112 ACRES                              |
| <b>Classification/Qualifier:</b> | A: PWS, ORW (PWS and Tributary to PWS) |

No usable data were available for Lake Mattawa (MA35112) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

## Lake Monomonac (MA35047)

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| <b>Location:</b>                 | Massachusetts portion only. Winchendon/Rindge, N.H. |
| <b>AU Type:</b>                  | FRESHWATER LAKE                                     |
| <b>AU Size:</b>                  | 186 ACRES                                           |
| <b>Classification/Qualifier:</b> | B                                                   |

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

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

## Designated Use Attainment Decisions

### Fish Consumption

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

The Fish Consumption Use for Lake Monomonac (MA35047) 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 Lake Monomonac (referred to by MDPH as "Monomonac, Lake and the North branch of Millers River (Between the outlet of Lake Monomonac and the inlet of Whitney Pond)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Lake Monomonac (MA35047) is assessed as Fully Supporting. Aesthetic observations were made by MassDEP field sampling crews during the summer of 2016 at two stations for this Lake Monomonac AU; at the deep hole index site, northern portion of lake, Rindge, New Hampshire (W2623, MAP2L-008) n=3 and east off Rt. 202 at New Hampshire/Massachusetts border (W2597, MAP2L-008S) n=5. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either location, though field staff noted green water color at the deep hole on two occasions. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots and during the MAP2 macrophyte mapping survey (n=1) in Sep 2016, less than 25% (6.7%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body     | Station Description                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|----------------|---------------------------------------------------------------|-----------|------------|
| W2597        | MassDEP      | Water Quality | Lake Monomonac | [east off Route 202 at New Hampshire/Massachusetts border]    | 42.714539 | -72.015052 |
| W2623        | MassDEP      | Water Quality | Lake Monomonac | [index site, northern portion of lake, Rindge, New Hampshire] | 42.726877 | -71.988702 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2597        | 2016      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2597 (MAP2L-008S) on Lake Monomonac (MA35047) during 5 site visits between May 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots.                                                                                                                  |
| W2623        | 2016      | 3                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2623 (MAP2L-008) on Lake Monomonac (MA35047) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted green water color (n=2). During the MAP2 macrophyte mapping survey (n=1) in Sep 2016, less than 25% (6.7%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%. |

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

| Station Code | Waterbody      | Data Year | Parameter                      | Result           | Result Count | Total Field Sheet Count |
|--------------|----------------|-----------|--------------------------------|------------------|--------------|-------------------------|
| W2597        | Lake Monomonac | 2016      | Aesthetics Impaired?           | No               | 5            | 5                       |
| W2597        | Lake Monomonac | 2016      | Color                          | Dark Tan         | 1            | 5                       |
| W2597        | Lake Monomonac | 2016      | Color                          | Light Yellow/Tan | 3            | 5                       |
| W2597        | Lake Monomonac | 2016      | Color                          | None             | 1            | 5                       |
| W2597        | Lake Monomonac | 2016      | Objectionable Deposits         | No               | 5            | 5                       |
| W2597        | Lake Monomonac | 2016      | Odor                           | None             | 5            | 5                       |
| W2597        | Lake Monomonac | 2016      | Scum                           | No               | 5            | 5                       |
| W2597        | Lake Monomonac | 2016      | Turbidity                      | None             | 5            | 5                       |
| W2623        | Lake Monomonac | 2016      | Aesthetics Impaired?           | No               | 3            | 3                       |
| W2623        | Lake Monomonac | 2016      | Aquatic Plant Density, Overall | None             | 1            | 3                       |
| W2623        | Lake Monomonac | 2016      | Aquatic Plant Density, Overall | NR               | 2            | 3                       |
| W2623        | Lake Monomonac | 2016      | Color                          | Greenish         | 2            | 3                       |
| W2623        | Lake Monomonac | 2016      | Color                          | Light Yellow/Tan | 1            | 3                       |

| Station Code | Waterbody      | Data Year | Parameter              | Result          | Result Count | Total Field Sheet Count |
|--------------|----------------|-----------|------------------------|-----------------|--------------|-------------------------|
| W2623        | Lake Monomonac | 2016      | Objectionable Deposits | No              | 3            | 3                       |
| W2623        | Lake Monomonac | 2016      | Odor                   | None            | 3            | 3                       |
| W2623        | Lake Monomonac | 2016      | Scum                   | No              | 3            | 3                       |
| W2623        | Lake Monomonac | 2016      | Turbidity              | None            | 2            | 3                       |
| W2623        | Lake Monomonac | 2016      | Turbidity              | Slightly Turbid | 1            | 3                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for Lake Monomonac (MA35047) is assessed as Fully Supporting. In Lake Monomonac (MA35047), MassDEP collected Secchi and cyanobacteria cell count data at W2623 [MAP2L-008, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxins data at W2597 [MAP2L-008S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2623 in 2016 (n=3, 2.86-3.9m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2597 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MassDEP staff collected <i>E. coli</i> bacteria samples in Lake Monomonac (MA35047) at W2597 [E off Rt. 202 at New Hampshire/MA border] from May-Aug 2016 (n=5). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2597 indicated 0% of intervals had GMs &gt;126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 11 CFU/100ml. <i>E. coli</i> data from W2597 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body     | Station Description                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|----------------|---------------------------------------------------------------|-----------|------------|
| W2597        | MassDEP      | Water Quality | Lake Monomonac | [east off Route 202 at New Hampshire/Massachusetts border]    | 42.714539 | -72.015052 |
| W2623        | MassDEP      | Water Quality | Lake Monomonac | [index site, northern portion of lake, Rindge, New Hampshire] | 42.726877 | -71.988702 |

## Bacteria Data

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

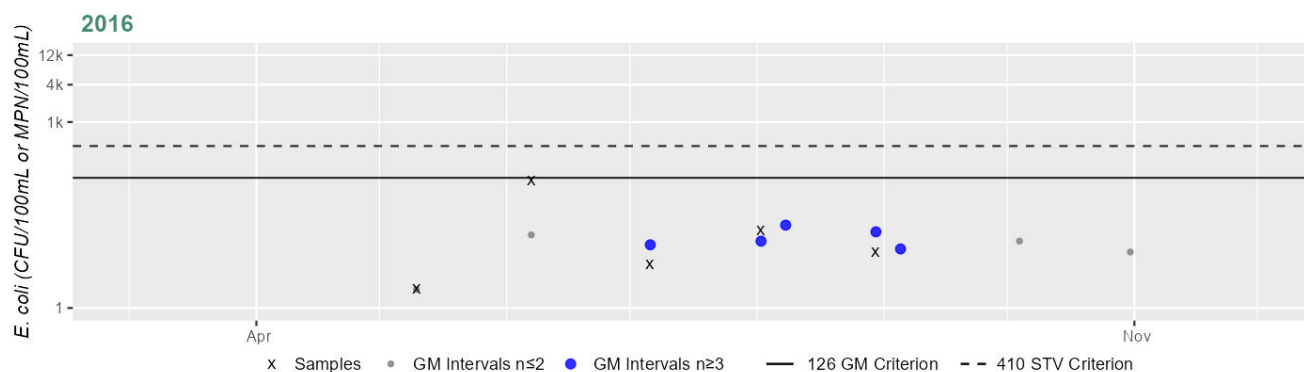
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2597        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 2                     | 114                   | 11                      |

#### Station MASSDEP\_W2597 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 11     |
| #GMI      | 5      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 6) (MassDEP Undated 4)

| Data Year(s) | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2016         | In Lake Monomonac (MA35047) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2623 [MAP2L-008, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2597 [MAP2L-008S, Shoreline]. At station W2623 (station depth=8 m) the Secchi depth measurements ranged from 2.86-3.9 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins samples from the shoreline station W2597 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. |

**MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018)** (MassDEP Undated 6) (MassDEP Undated 4)



| Station Code | Waterbody      | Station Type | Data Year | Sample Count | Count >70,000 cells/mL | Exceedance Date(s) |
|--------------|----------------|--------------|-----------|--------------|------------------------|--------------------|
| W2597        | Lake Monomonac | Shoreline    | 2016      | 3            | 0                      | NA                 |
| W2623        | Lake Monomonac | Index        | 2016      | 3            | 0                      | NA                 |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for Lake Monomonac (MA35047) is assessed as Fully Supporting. In Lake Monomonac (MA35047), MassDEP collected cyanobacteria cell count data at W2623 [MAP2L-008, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxins data at W2597 [MAP2L-008S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins samples from W2597 in 2016 (n=3) indicated that the concentrations did not exceed the threshold of 8 µg/L. MassDEP staff collected <i>E. coli</i> bacteria samples in Lake Monomonac (MA35047) at W2597 [E off Rt. 202 at New Hampshire/MA border] from May-Aug 2016 (n=5). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2597 indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 11 CFU/100ml. <i>E. coli</i> data from W2597 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body     | Station Description                                        | Latitude  | Longitude  |
|--------------|--------------|---------------|----------------|------------------------------------------------------------|-----------|------------|
| W2597        | MassDEP      | Water Quality | Lake Monomonac | [east off Route 202 at New Hampshire/Massachusetts border] | 42.714539 | -72.015052 |

## Bacteria Data

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

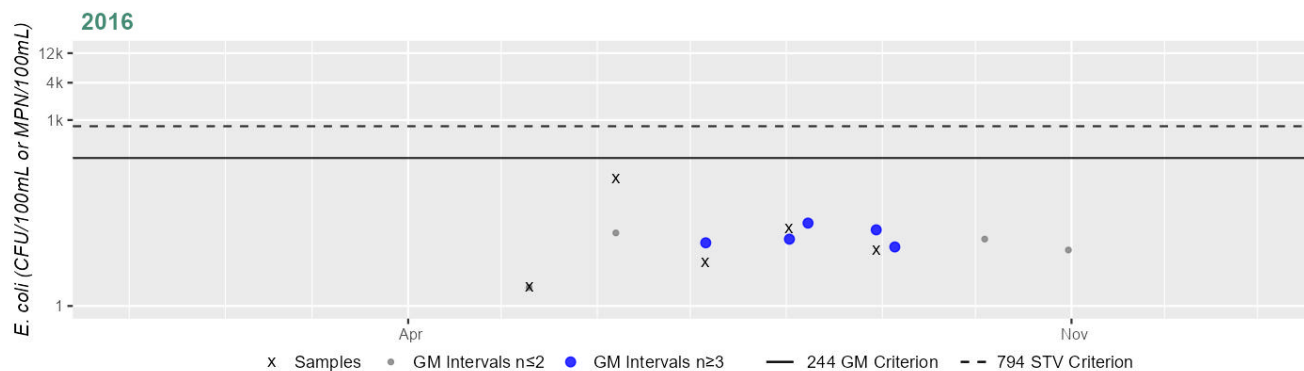
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2597        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 2                     | 114                   | 11                      |

# Station MASSDEP\_W2597 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 11     |
| #GMI      | 5      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

## Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Lake Rohunta (MA35070)

|                                  |                                        |
|----------------------------------|----------------------------------------|
| <b>Location:</b>                 | (Middle Basin) Athol/Orange/New Salem. |
| <b>AU Type:</b>                  | FRESHWATER LAKE                        |
| <b>AU Size:</b>                  | 209 ACRES                              |
| <b>Classification/Qualifier:</b> | B                                      |

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

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

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |
| <p>The Fish Consumption Use for Lake Rohunta [Middle Basin] (MA35070) 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 Lake Rohunta (referred to by MDPH as "Rohunta, Lake (Middle, North, and South Basins)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.</p> |       |

## Aesthetic

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Alert |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |
| <p>The Aesthetics Use for Lake Rohunta (Middle Basin) (MA35070) continues to be assessed as Not Supporting with the prior Aquatic Plants (Macrophytes) impairment being carried forward. Since the Non-Native Aquatic Plants impairment was redundantly duplicated across multiple uses for this waterbody, the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use. No new data are available to evaluate the Aesthetics Use for this Lake Rohunta (Middle Basin) AU.</p> |       |

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                          | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |
| <p>No bacteria or other indicator data for Lake Rohunta (MA35070) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) impairment (from the Aesthetics Use) is being carried forward. Since the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use.</p> |       |

## Secondary Contact Recreation

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

No bacteria or other indicator data for Lake Rohuntha (MA35070) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) impairment (from the Aesthetics Use) is being carried forward. Since the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

## Lake Rohunta (MA35106)

|                                  |                             |
|----------------------------------|-----------------------------|
| <b>Location:</b>                 | (North Basin) Athol/Orange. |
| <b>AU Type:</b>                  | FRESHWATER LAKE             |
| <b>AU Size:</b>                  | 34 ACRES                    |
| <b>Classification/Qualifier:</b> | B                           |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>               | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|---------------------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | (Fanwort*)                      | --                       | Unchanged                                |
| 4a                          | 4a                             | (Non-Native Aquatic<br>Plants*) | --                       | Unchanged                                |
| 4a                          | 4a                             | Mercury in Fish Tissue          | 33880                    | Unchanged                                |

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

## Designated Use Attainment Decisions

### Fish Consumption

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

**2024/26 Use Attainment Summary**

The Fish Consumption Use for Lake Rohunta [North Basin] (MA35106) 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 Lake Rohunta (referred to by MDPH as "Rohunta, Lake (Middle, North, and South Basins)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

**Aesthetic**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

**2024/26 Use Attainment Summary**

No data are available, so the Aesthetics Use for Lake Rohunta (MA35106) is Not Assessed

**Primary Contact Recreation**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

**2024/26 Use Attainment Summary**

No bacteria or other indicator data for Lake Rohunta (MA35106) are available, so the Primary Contact Recreation Use is Not Assessed.

**Secondary Contact Recreation**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

**2024/26 Use Attainment Summary**

No bacteria or other indicator data for Lake Rohunta (MA35106) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Lake Rohunta (MA35107)

|                                  |                          |
|----------------------------------|--------------------------|
| <b>Location:</b>                 | (South Basin) New Salem. |
| <b>AU Type:</b>                  | FRESHWATER LAKE          |
| <b>AU Size:</b>                  | 42 ACRES                 |
| <b>Classification/Qualifier:</b> | B                        |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                                | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|--------------------------------------------------|--------------------------|------------------------------------------|
| 5                           | 5                              | (Aquatic Plants<br>(Macrophytes)*)               | --                       | Unchanged                                |
| 5                           | 5                              | (Fanwort*)                                       | --                       | Unchanged                                |
| 5                           | 5                              | (Non-Native Aquatic<br>Plants*)                  | --                       | Unchanged                                |
| 5                           | 5                              | Mercury in Fish Tissue                           | 33880                    | Unchanged                                |
| 5                           | 5                              | Nutrient/Eutrophication<br>Biological Indicators | --                       | Unchanged                                |

| <b>Impairment</b>                                | <b>Source (Confirmed Y/N)</b>                                              | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|--------------------------------------------------|----------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*)               | Source Unknown (N)                                                         | --         | --        | X          | X          | X          |
| (Fanwort*)                                       | Introduction of Non-native<br>Organisms (Accidental or<br>Intentional) (Y) | X          | --        | --         | --         | --         |
| (Non-Native Aquatic Plants*)                     | Introduction of Non-native<br>Organisms (Accidental or<br>Intentional) (Y) | X          | --        | --         | --         | --         |
| Mercury in Fish Tissue                           | Atmospheric Deposition (Y)                                                 | --         | X         | --         | --         | --         |
| Mercury in Fish Tissue                           | Source Unknown (N)                                                         | --         | X         | --         | --         | --         |
| Nutrient/Eutrophication<br>Biological Indicators | Source Unknown (N)                                                         | --         | --        | X          | X          | X          |



## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Lake Rohunta [South Basin] (MA35107) 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 Lake Rohunta (referred to by MDPH as "Rohunta, Lake (Middle, North, and South Basins)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Lake Rohunta (MA35107) continues to be assessed as Not Supporting with the prior Nutrient/Eutrophication Biological Indicators and Aquatic Plants (Macrophytes) impairments being carried forward. Since the Non-Native Aquatic Plants impairment was redundantly duplicated across multiple uses for this waterbody, the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use. No new data are available to evaluate the Aesthetics Use for this Lake Rohunta AU. |

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Lake Rohunta (MA35107) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) and Nutrient/Eutrophication Biological Indicators impairments (from the Aesthetics Use) are being carried forward. Since the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use. |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Lake Rohunta (MA35107) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) and Nutrient/Eutrophication Biological Indicators impairments (from the Aesthetics Use) are being carried forward. Since the Non-Native Aquatic Plants impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use. |

## Lake Watatic (MA35095)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Ashburnham.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 133 ACRES       |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Lake Watatic (MA35095) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Laurel Lake (MA35035)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Erving/Warwick. |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 44 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| AU Category<br>2022 | AU Category<br>2024/26 | Impairment             | ATTAINS Action ID | Impairment<br>Change<br>Summary |
|---------------------|------------------------|------------------------|-------------------|---------------------------------|
| 5                   | 5                      | Dissolved Oxygen       | --                | Unchanged                       |
| 5                   | 5                      | Enterococcus           | --                | Added                           |
| 5                   | 5                      | Mercury in Fish Tissue | --                | Unchanged                       |

| Impairment             | Source (Confirmed Y/N)     | ALU | FC | AES | PCR | SCR |
|------------------------|----------------------------|-----|----|-----|-----|-----|
| Dissolved Oxygen       | Source Unknown (N)         | X   | -- | --  | --  | --  |
| Enterococcus           | Source Unknown (N)         | --  | -- | --  | X   | --  |
| Mercury in Fish Tissue | Atmospheric Deposition (N) | --  | X  | --  | --  | --  |
| Mercury in Fish Tissue | Source Unknown (N)         | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

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

The Fish Consumption Use for Laurel Lake (MA35035) continues to be assessed as Not Supporting and the prior Mercury in Fish Tissue impairment is being carried forward. Fish toxics sampling was conducted in Laurel Lake (MA35035) at station F0367 in 2019 as part of the MassDEP Office of Research and Standards Mercury Initiative. MDPH included a site-specific advisory for Laurel Lake in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

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

**Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories** (MA DPH 2025) (MassDEP Undated 5)

| <b>Summary Statement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in Laurel Lake (MA35035) at station F0367 in 2019 as part of the MassDEP Office of Research and Standards Mercury Initiative. MDPH retained the existing site-specific fish consumption advisories for Mercury associated with Laurel Lake in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for Mercury in Fish Tissue for Laurel Lake (MA35035). |

### **Aesthetic**

| <b>2024/26 Use Attainment</b>                                                           | <b>Alert</b> |
|-----------------------------------------------------------------------------------------|--------------|
| Not Assessed                                                                            | NO           |
| <b>2024/26 Use Attainment Summary</b>                                                   |              |
| No data are available, so the Aesthetics Use for Laurel Lake (MA35035) is Not Assessed. |              |

### **Primary Contact Recreation**

| <b>2024/26 Use Attainment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Alert</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Not Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NO           |
| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |
| The Primary Contact Recreation Use for Laurel Lake (MA35035) is assessed as Not Supporting. An <i>Enterococcus</i> impairment is being added due to DPH Beach Closures data not meeting the threshold at Laurel Lake (DCR) Beach [Beach ID: 5357]. Laurel Lake (MA35035) has a beach with DPH Beach Closure data: Laurel Lake (DCR) Beach [Beach ID: 5357] beach in Erving. Beaches were posted for >10% of the swimming season at Laurel Lake (DCR) Beach in 2021 (27%) and 2022 (29%) indicating an <i>Enterococcus</i> impairment. |              |

### ***Beach Postings***

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

| Beach ID | Beach Name/ Town                | Left Border (Lat., Long.) | Right Border (Lat., Long.) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | # years >10% |
|----------|---------------------------------|---------------------------|----------------------------|------|------|------|------|------|------|------|------|------|--------------|
| 5357     | Laurel Lake (DCR) Beach/ Erving | 42.62044, -72.36841       | 42.62117, -72.36676        | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 0%   | 27%  | 29%  | 2            |

## Secondary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

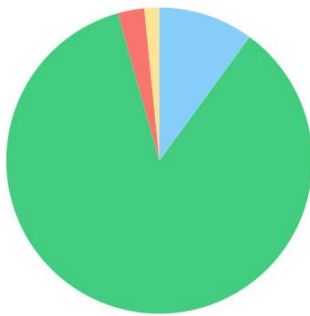
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>No bacteria data are available to assess the Secondary Contact Recreation Use for Laurel Lake (MA35035) so it is assessed as having Insufficient Information. Laurel Lake (MA35035) has a beach with DPH Beach Closure data: Laurel Lake (DCR) Beach [Beach ID: 5357] beach in Erving. Available DPH Beach Closure data cannot be used to positively assess the Secondary Contact Recreation Use since beaches were posted for &gt;10% of the swimming season: Laurel Lake (DCR) Beach in 2021 and 2022.</p> |

## Lawrence Brook (MA35-13)

|                                  |                                                                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | New Hampshire state line, Royalston through Doane Falls to confluence with East Branch Tully River at inlet Tully Lake, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                                                                              |
| <b>AU Size:</b>                  | 7.1 MILES                                                                                                                          |
| <b>Classification/Qualifier:</b> | B                                                                                                                                  |

### Lawrence Brook (MA35-13)

Watershed Area: 26.36 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 14.58        | 6.78                            | 3.11                  | 1.49                   |
| Agriculture                     | 1.6%         | 1.2%                            | 0.6%                  | 0.5%                   |
| Developed                       | 2.8%         | 3.2%                            | 2.2%                  | 2.7%                   |
| Natural                         | 85.6%        | 85.2%                           | 73%                   | 69.2%                  |
| Wetland                         | 10%          | 10.4%                           | 24.1%                 | 27.6%                  |
| Impervious                      | 1.2%         | 1.4%                            | 1%                    | 1.3%                   |

\*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                   | PCBs in Fish Tissue | --                | Unchanged                 |
| 5                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Lawrence Brook (MA35-13) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Lawrence Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Lawrence Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Lawrence Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Lawrence Brook (MA35-13).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|



No data are available, so the Aesthetics Use for Lawrence Brook (MA35-13) is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Lawrence Brook (MA35-13) are available, so the Primary Contact Recreation Use is Not Assessed.

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Lawrence Brook (MA35-13) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in Lawrence Brook (MA35-13) at W1338 [Athol Rd (upstream of Doane Falls), Royalston] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency *E. coli* dataset from W1338 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 8 CFU/100ml. Historic *E. coli* data from W1338 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body     | Station Description                               | Latitude  | Longitude  |
|--------------|--------------|---------------|----------------|---------------------------------------------------|-----------|------------|
| W1338        | MassDEP      | Water Quality | Lawrence Brook | [Athol Road (upstream of Doane Falls), Royalston] | 42.649719 | -72.200545 |

## Bacteria Data

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

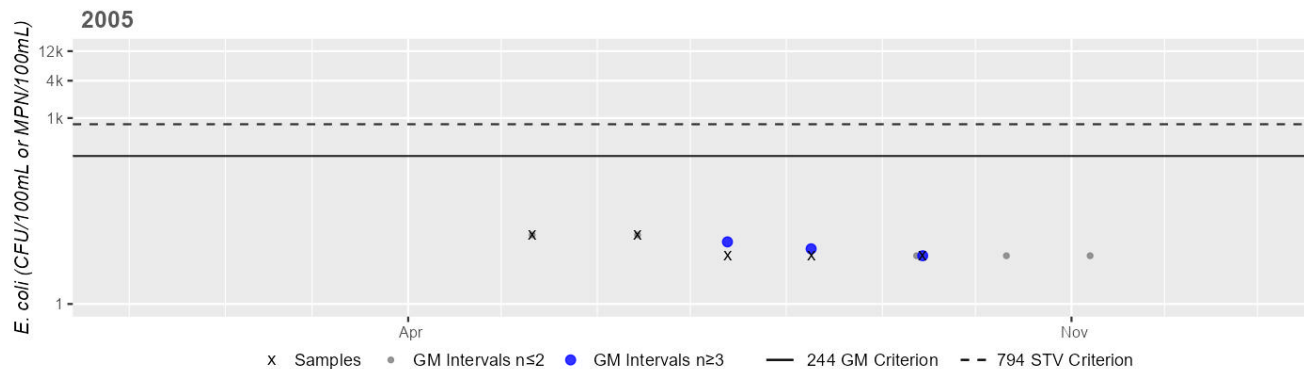
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1338        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 13                    | 8                       |

# Station MASSDEP\_W1338 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 8      |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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

# Little Pond (MA35037)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Royalston.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 10 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Little Pond (MA35037) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Lower Naukeag Lake (MA35041)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Ashburnham.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 295 ACRES       |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Lower Naukeag Lake (MA35041) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

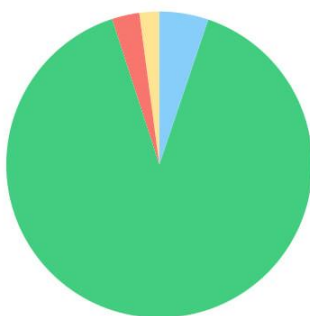
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Lyons Brook (MA35-19)

|                                  |                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Outlet of Ruggles Pond, Wendell to confluence with Millers River, Montague/Wendell. |
| <b>AU Type:</b>                  | RIVER                                                                               |
| <b>AU Size:</b>                  | 2.1 MILES                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                              |

### Lyons Brook (MA35-19)

Watershed Area: 3.51 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 3.51         | 3.47                            | 0.97                  | 0.97                   |
| Agriculture                    | 2.1%         | 2.1%                            | 2.7%                  | 2.7%                   |
| Developed                      | 2.9%         | 2.9%                            | 3.8%                  | 3.8%                   |
| Natural                        | 89.8%        | 89.8%                           | 90%                   | 90%                    |
| Wetland                        | 5.2%         | 5.2%                            | 3.5%                  | 3.5%                   |
| Impervious                     | 1.4%         | 1.4%                            | 1.4%                  | 1.4%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for Lyons Brook (MA35-19) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Lyons Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Tissue Data

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

#### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Lyons Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Lyons Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Lyons Brook (MA35-19).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

There are no data available to assess the status of the Aesthetics Use for this Lyons Brook AU (MA35-19), so it is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Lyons Brook (MA35-19) are available, so the Primary Contact Recreation Use is Not Assessed. |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Lyons Brook (MA35-19) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in Lyons Brook (MA35-19) at W1334 [Mormon Hollow Rd, Wendell] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1334 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 48 CFU/100ml. Historic <i>E. coli</i> data from W1334 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description           | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|-------------------------------|-----------|------------|
| W1334        | MassDEP      | Water Quality | Lyons Brook | [Mormon Hollow Road, Wendell] | 42.572248 | -72.463858 |

## Bacteria Data

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

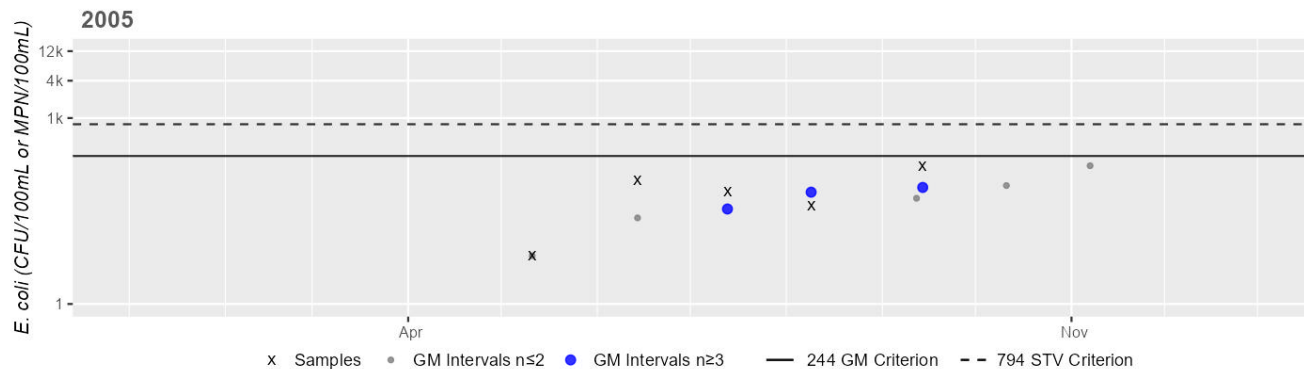
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1334        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 170                   | 48                      |

# Station MASSDEP\_W1334 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 48     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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



## Mahoney Brook (MA35-27)

|                                  |                                                                                               |
|----------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, east of Willis Road and Ray Hill, Gardner to Mahoney Pond Dam (MA02319), Gardner. |
| <b>AU Type:</b>                  | RIVER                                                                                         |
| <b>AU Size:</b>                  | 3 MILES                                                                                       |
| <b>Classification/Qualifier:</b> | B                                                                                             |

### Mahoney Brook (MA35-27)

Watershed Area: 5.05 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 5.05         | 5.05                            | 1.61                  | 1.61                   |
| Agriculture                    | 1.3%         | 1.3%                            | 0.3%                  | 0.3%                   |
| Developed                      | 13.7%        | 13.7%                           | 12.6%                 | 12.6%                  |
| Natural                        | 68.1%        | 68.1%                           | 61.9%                 | 61.9%                  |
| Wetland                        | 17%          | 17%                             | 25.1%                 | 25.1%                  |
| Impervious                     | 6.9%         | 6.9%                            | 7.2%                  | 7.2%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 5                | 2                   | PCBs in Fish Tissue | --                | Removed                   |

## Supporting Information for Removed Impairments

| 2022 Removed Impairment | Removal Reason                                                                                   | Removal Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCBs in Fish Tissue     | Data and/or information lacking to determine WQ status; original basis for listing was incorrect | This AU was assessed as Not Supporting for PCBs in Fish Tissue in the 2016 IR based on the mistaken notion that the 2013 MDPH Freshwater Fish Consumption Advisory list identified a PCBs advisory for all tributaries of the Millers River. Upon reexamination of the 2013 advisory list, it was noted that the advisory only applied to the "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)", and Mahoney Brook is located upstream of the Otters River. Therefore, the advisory did not apply to Mahoney Brook, and the PCBs in Fish Tissue impairment is being delisted. |

### PCBs in Fish Tissue

Please see the above Removal Comment.

## Recommendations

| 2024/26 Recommendations                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [E. COLI, HIGH] Additional <i>E. coli</i> sampling is recommended at {W2177}. There was insufficient information to evaluate this AU this cycle due to GMs below the criteria, but a high STV violation. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | No    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

There is Insufficient Information to assess the Fish Consumption Use for Mahoney Brook (MA35-27) since the prior PCBs in Fish Tissue impairment is being delisted. This AU was created in the 2016 IR cycle and at that time was assessed as Not Supporting for PCBs in Fish Tissue based on the mistaken notion that the 2013 MDPH Freshwater Fish Consumption Advisory list identified a PCBs advisory for all tributaries of the Millers River. Upon reexamination of the 2013 advisory list, it was noted that the advisory only applied to the "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)", and Mahoney Brook is located upstream of the Otters River. Therefore, the advisory did not apply to Mahoney Brook, and the PCBs in Fish Tissue impairment is being delisted.

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Aesthetics Use for Mahoney Brook (MA35-27) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station close to the upstream end of this Mahoney Brook AU downstream from Betty Spring Rd in Gardner (W2177) during the summer of 2011 (n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                 | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|---------------------------------------------------------------------|-----------|------------|
| W2177        | MassDEP      | Water Quality | Mahoney Brook | [approximately 340 feet downstream from Betty Spring Road, Gardner] | 42.566709 | -71.951964 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2177        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2177 on Mahoney Brook (MA35-27) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2177        | 2011      | 6                 | 5                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result            | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|-------------------|--------------|-------------------------|
| W2177        | Mahoney Brook | 2011      | Aquatic Plant Density, Overall  | None              | 6            | 6                       |
| W2177        | Mahoney Brook | 2011      | Color                           | Brownish          | 2            | 6                       |
| W2177        | Mahoney Brook | 2011      | Color                           | Light Yellow/Tan  | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Color                           | Reddish           | 2            | 6                       |
| W2177        | Mahoney Brook | 2011      | Color                           | Rusty             | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Objectionable Deposits          | No                | 6            | 6                       |
| W2177        | Mahoney Brook | 2011      | Odor                            | None              | 6            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Filamentous | None              | 4            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Filamentous | Sparse            | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Filamentous | Unobservable      | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Film        | None              | 4            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Film        | Sparse            | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Periphyton Density, Film        | Unobservable      | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Scum                            | No                | 6            | 6                       |
| W2177        | Mahoney Brook | 2011      | Turbidity                       | Moderately Turbid | 1            | 6                       |
| W2177        | Mahoney Brook | 2011      | Turbidity                       | None              | 4            | 6                       |
| W2177        | Mahoney Brook | 2011      | Turbidity                       | Slightly Turbid   | 1            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Insufficient Information       | YES   |
| 2024/26 Use Attainment Summary |       |

Too limited bacteria data are available to assess the Primary Contact Recreation Use for Mahoney Brook (MA35-27) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. An Alert is being identified for *Escherichia coli* (*E. coli*) and additional sampling is recommended for this AU. MassDEP staff collected *E. coli* bacteria samples in Mahoney Brook (MA35-27) at W2177 [~340 ft downstream from Betty Spring Rd, Gardner] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2177 indicated 14% of intervals had GMs >126 CFU/100ml, 2 samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 58 CFU/100ml. *E. coli* data from W2177 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 *Escherichia coli* at W2177.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                 | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|---------------------------------------------------------------------|-----------|------------|
| W2177        | MassDEP      | Water Quality | Mahoney Brook | [approximately 340 feet downstream from Betty Spring Road, Gardner] | 42.566709 | -71.951964 |

### Bacteria Data

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

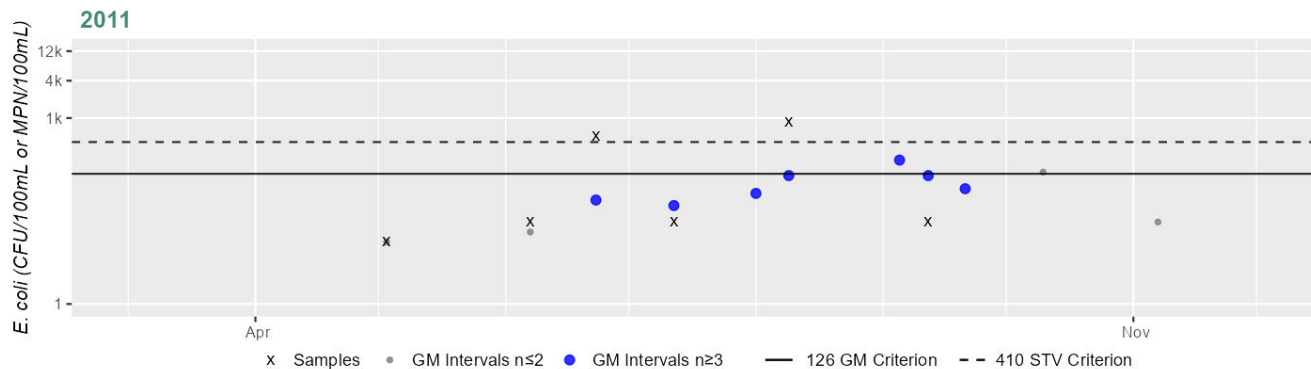
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2177        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 860                   | 58                      |

### Station MASSDEP\_W2177 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 58     |
| #GMI      | 7      |
| #GMI Ex   | 1      |
| %GMI Ex   | 14%    |
| n>STV     | 2      |
| %n>STV    | 33%    |

#### Cumulative %GMI Exceedance

Current (2011-2022)

14%

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

## 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 Mahoney Brook (MA35-27) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Mahoney Brook (MA35-27) at W2177 [~340 ft downstream from Betty Spring Rd, Gardner] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2177 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV (max STV = 860 CFU/100ml), and the overall GM was 58 CFU/100ml. *E. coli* data from W2177 are too limited 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 an STV exceedance of the threshold.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                 | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|---------------------------------------------------------------------|-----------|------------|
| W2177        | MassDEP      | Water Quality | Mahoney Brook | [approximately 340 feet downstream from Betty Spring Road, Gardner] | 42.566709 | -71.951964 |

## Bacteria Data

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

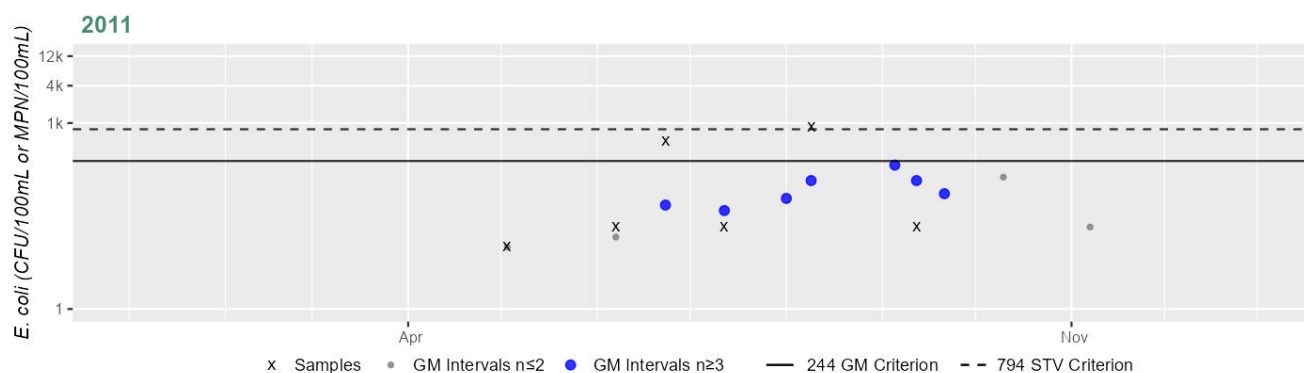
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2177        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 860                   | 58                      |

#### Station MASSDEP\_W2177 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 58     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 1      |
| %n>STV    | 16%    |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

# Millers River (MA35-01)

|                                  |                                                                    |
|----------------------------------|--------------------------------------------------------------------|
| <b>Location:</b>                 | Outlet of Whitney Pond, Winchendon to Winchendon WWTP, Winchendon. |
| <b>AU Type:</b>                  | RIVER                                                              |
| <b>AU Size:</b>                  | 3.3 MILES                                                          |
| <b>Classification/Qualifier:</b> | B: CWF                                                             |

## Millers River (MA35-01)

Watershed Area: 82.29 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 41.39        | 10.97                           | 11.00                 | 2.25                   |
| Agriculture                     | 0.8%         | 2%                              | 0.3%                  | 0.8%                   |
| Developed                       | 8.6%         | 16.3%                           | 8.1%                  | 13.4%                  |
| Natural                         | 78.9%        | 73.5%                           | 72.7%                 | 66.7%                  |
| Wetland                         | 11.7%        | 8.2%                            | 18.9%                 | 19.1%                  |
| Impervious                      | 3.7%         | 6.9%                            | 3.9%                  | 5.9%                   |

\*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                   | Ambient Bioassays - Chronic Aquatic Toxicity | --                | Unchanged                 |
| 5                | 5                   | Fish Bioassessments                          | --                | Unchanged                 |
| 5                | 5                   | Lack of a Coldwater Assemblage               | --                | Unchanged                 |
| 5                | 5                   | Temperature                                  | --                | Unchanged                 |

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



| Impairment                     | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|--------------------------------|------------------------|-----|----|-----|-----|-----|
| Fish Bioassessments            | Source Unknown (N)     | X   | -- | --  | --  | --  |
| Lack of a Coldwater Assemblage | Dam or Impoundment (Y) | X   | -- | --  | --  | --  |
| Temperature                    | Dam or Impoundment (Y) | X   | -- | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | No    |

| 2024/26 Use Attainment Summary                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for the Millers River (MA35-01) is Not Assessed. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Millers River (MA35-01) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations for two stations on this Millers River AU during the summer of 2011 from up to downstream as follows: halfway down the AU at Rt. 202 in Winchendon (W1311, n=6) and at the downstream end of the AU ~720 feet upstream of River St (~100 feet upstream of the Winchendon WWTP discharge) in Winchendon (W2228, n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at either of these two sampling stations. |

### Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description     | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|-------------------------|-----------|------------|
| W1311        | MassDEP      | Water Quality | Millers River | [Route 202, Winchendon] | 42.677855 | -72.061606 |

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                              | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W2228        | MassDEP      | Water Quality | Millers River | [approximately 720 feet upstream of River Street (approximately 100 feet upstream of the Winchendon WWTP discharge), Winchendon] | 42.685908 | -72.082945 |

## ***Aesthetic Observations***

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W1311        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W1311 on Millers River (MA35-01) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2228        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2228 on Millers River (MA35-01) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W1311        | 2011      | 6                 | 6                                                          | 2                                         |
| W2228        | 2011      | 6                 | 4                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W1311        | Millers River | 2011      | Aquatic Plant Density, Overall  | None             | 4            | 6                       |
| W1311        | Millers River | 2011      | Aquatic Plant Density, Overall  | NR               | 1            | 6                       |
| W1311        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse           | 1            | 6                       |
| W1311        | Millers River | 2011      | Color                           | Light Yellow/Tan | 6            | 6                       |
| W1311        | Millers River | 2011      | Objectionable Deposits          | No               | 6            | 6                       |
| W1311        | Millers River | 2011      | Odor                            | Musty (Basement) | 1            | 6                       |
| W1311        | Millers River | 2011      | Odor                            | None             | 5            | 6                       |
| W1311        | Millers River | 2011      | Periphyton Density, Filamentous | None             | 5            | 6                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W1311        | Millers River | 2011      | Periphyton Density, Filamentous | Sparse           | 1            | 6                       |
| W1311        | Millers River | 2011      | Periphyton Density, Film        | Dense            | 2            | 6                       |
| W1311        | Millers River | 2011      | Periphyton Density, Film        | None             | 2            | 6                       |
| W1311        | Millers River | 2011      | Periphyton Density, Film        | Sparse           | 2            | 6                       |
| W1311        | Millers River | 2011      | Scum                            | No               | 5            | 6                       |
| W1311        | Millers River | 2011      | Scum                            | Yes              | 1            | 6                       |
| W1311        | Millers River | 2011      | Turbidity                       | None             | 6            | 6                       |
| W2228        | Millers River | 2011      | Aquatic Plant Density, Overall  | None             | 1            | 6                       |
| W2228        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse           | 4            | 6                       |
| W2228        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 1            | 6                       |
| W2228        | Millers River | 2011      | Color                           | Dark Tan         | 1            | 6                       |
| W2228        | Millers River | 2011      | Color                           | Light Yellow/Tan | 4            | 6                       |
| W2228        | Millers River | 2011      | Color                           | Reddish          | 1            | 6                       |
| W2228        | Millers River | 2011      | Objectionable Deposits          | No               | 5            | 6                       |
| W2228        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 1            | 6                       |
| W2228        | Millers River | 2011      | Odor                            | None             | 6            | 6                       |
| W2228        | Millers River | 2011      | Periphyton Density, Filamentous | None             | 4            | 6                       |
| W2228        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 2            | 6                       |
| W2228        | Millers River | 2011      | Periphyton Density, Film        | None             | 3            | 6                       |
| W2228        | Millers River | 2011      | Periphyton Density, Film        | Sparse           | 1            | 6                       |
| W2228        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 2            | 6                       |
| W2228        | Millers River | 2011      | Scum                            | No               | 4            | 6                       |
| W2228        | Millers River | 2011      | Scum                            | Yes              | 2            | 6                       |
| W2228        | Millers River | 2011      | Turbidity                       | None             | 6            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Primary Contact Recreation Use for the Millers River (MA35-01) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in the Millers River (MA35-01) in 2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1311 [Rt. 202, Winchendon] from May-Sep 2011 (n=6), W2228 [~720 ft upstream of River St (~100 ft upstream of the Winchendon WWTP discharge), Winchendon] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W1311 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 73 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2228 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 46 CFU/100ml. *E. coli* data from W1311 and W2228 meet 2024 CALM guidance.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                              | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W1311        | MassDEP      | Water Quality | Millers River | [Route 202, Winchendon]                                                                                                          | 42.677855 | -72.061606 |
| W2228        | MassDEP      | Water Quality | Millers River | [approximately 720 feet upstream of River Street (approximately 100 feet upstream of the Winchendon WWTP discharge), Winchendon] | 42.685908 | -72.082945 |

### Bacteria Data

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

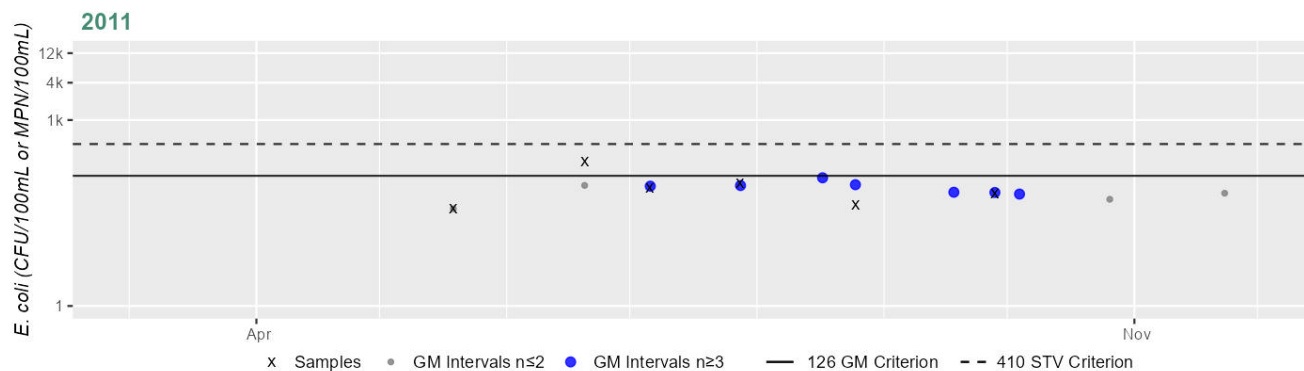
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1311        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 37                    | 210                   | 73                      |
| W2228        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 73                    | 46                      |

### Station MASSDEP\_W1311 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 73     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

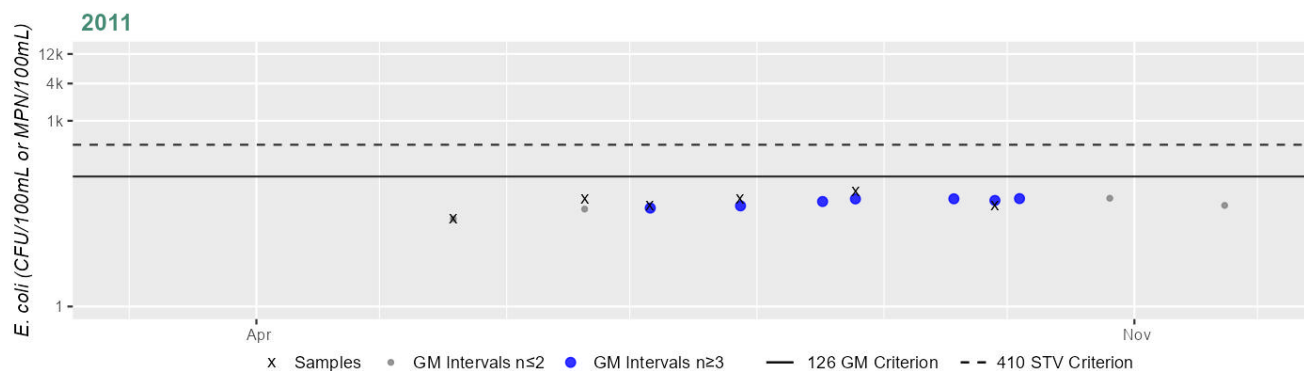
Current (2011-2022)

0%

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

### Station MASSDEP\_W2228 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 46     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Millers River (MA35-01) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Millers River (MA35-01) from 2005-2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W1311 [Rt. 202, Winchendon] from May-Sep 2005 (historic, n=5) and May-Sep 2011 (current, n=6), W2228 [~720 ft upstream of River St (~100 ft upstream of the Winchendon WWTP discharge), Winchendon] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W1311 from the current IR window indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 73 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W2228 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 46 CFU/100ml. *E. coli* data from W1311 and W2228 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                              | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W1311        | MassDEP      | Water Quality | Millers River | [Route 202, Winchendon]                                                                                                          | 42.677855 | -72.061606 |
| W2228        | MassDEP      | Water Quality | Millers River | [approximately 720 feet upstream of River Street (approximately 100 feet upstream of the Winchendon WWTP discharge), Winchendon] | 42.685908 | -72.082945 |

## Bacteria Data

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

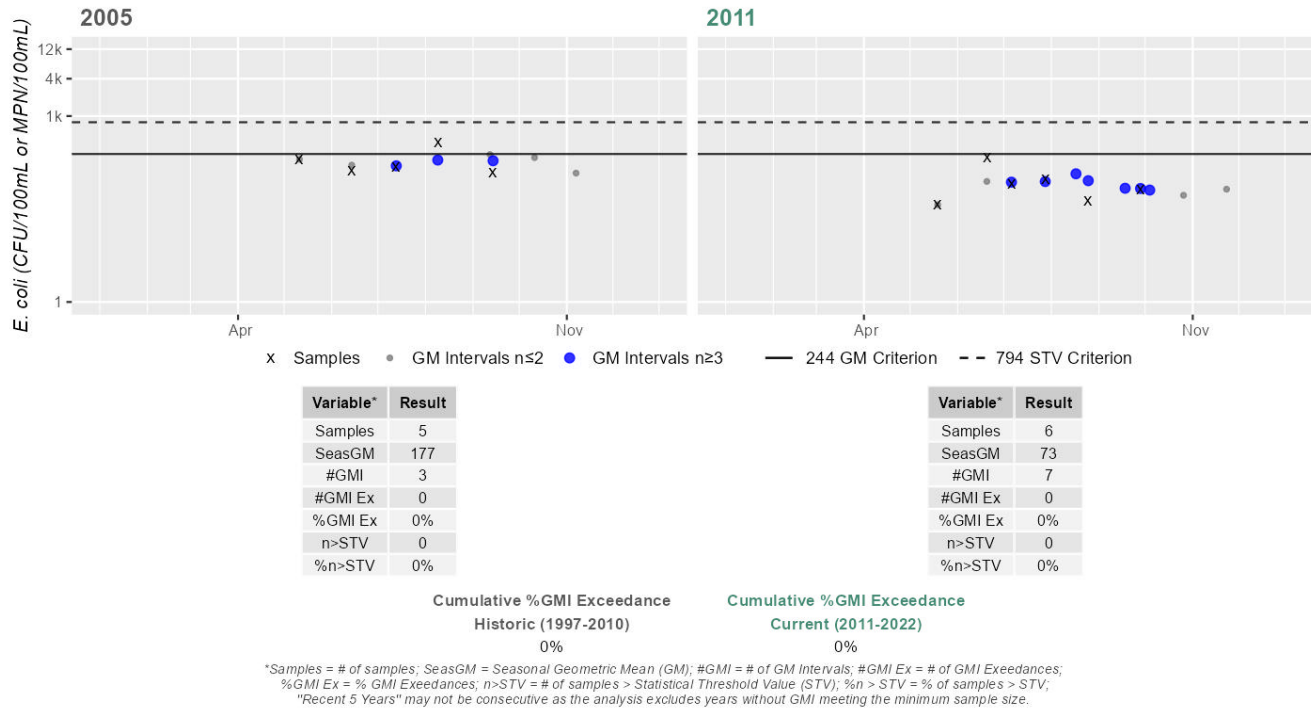
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1311        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 120                   | 380                   | 177                     |
| W1311        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 37                    | 210                   | 73                      |
| W2228        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 73                    | 46                      |

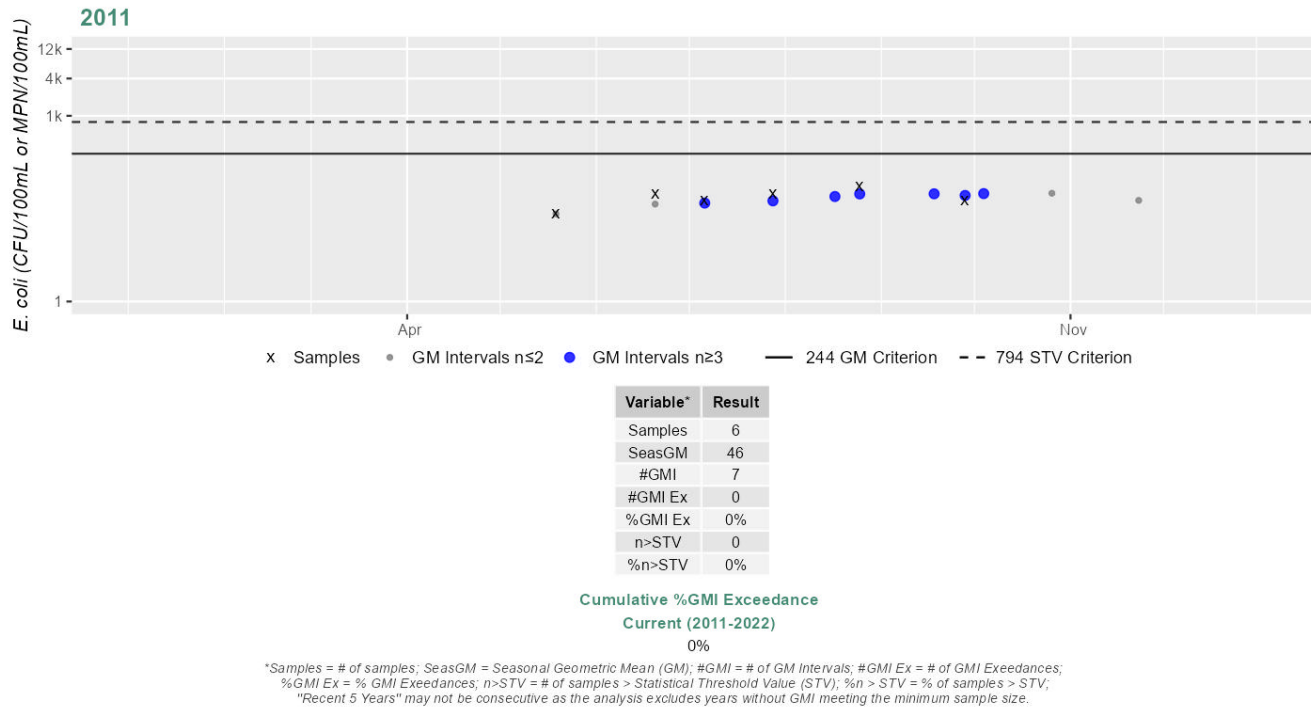
### Station MASSDEP\_W1311 - *Escherichia coli*

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



### Station MASSDEP\_W2228 - *Escherichia coli*

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



## Millers River (MA35-02)

|                                  |                                                                         |
|----------------------------------|-------------------------------------------------------------------------|
| <b>Location:</b>                 | Winchendon WWTP, Winchendon to confluence with Otter River, Winchendon. |
| <b>AU Type:</b>                  | RIVER                                                                   |
| <b>AU Size:</b>                  | 5.6 MILES                                                               |
| <b>Classification/Qualifier:</b> | B: WWF                                                                  |

### Millers River (MA35-02)

Watershed Area: 112.58 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 57.71        | 9.53                            | 14.75                 | 2.66                   |
| Agriculture                     | 0.9%         | 0.5%                            | 0.3%                  | 0.4%                   |
| Developed                       | 7.4%         | 5.8%                            | 7.1%                  | 5.4%                   |
| Natural                         | 80.4%        | 82.3%                           | 72.4%                 | 71.4%                  |
| Wetland                         | 11.4%        | 11.4%                           | 20.2%                 | 22.8%                  |
| Impervious                      | 3.1%         | 2%                              | 3.3%                  | 2.4%                   |

\*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                   | (Curly-leaf Pondweed*)     | --                | Unchanged                 |
| 5                | 5                   | Escherichia Coli (E. Coli) | --                | Added                     |
| 5                | 5                   | Fish Bioassessments        | --                | Unchanged                 |
| 5                | 5                   | PCBs in Fish Tissue        | --                | Unchanged                 |

| Impairment                 | Source (Confirmed Y/N)                                               | ALU | FC | AES | PCR | SCR |
|----------------------------|----------------------------------------------------------------------|-----|----|-----|-----|-----|
| (Curly-leaf Pondweed*)     | Introduction of Non-native Organisms (Accidental or Intentional) (Y) | X   | -- | --  | --  | --  |
| Escherichia Coli (E. Coli) | Municipal Point Source Discharges (N)                                | --  | -- | --  | X   | --  |



| <b>Impairment</b>          | <b>Source (Confirmed Y/N)</b>          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|----------------------------|----------------------------------------|------------|-----------|------------|------------|------------|
| Escherichia Coli (E. Coli) | Source Unknown (N)                     | --         | --        | --         | X          | --         |
| Fish Bioassessments        | Dam or Impoundment (N)                 | X          | --        | --         | --         | --         |
| Fish Bioassessments        | Source Unknown (N)                     | X          | --        | --         | --         | --         |
| PCBs in Fish Tissue        | Contaminated Sediments (Y)             | X          | --        | --         | --         | --         |
| PCBs in Fish Tissue        | Releases from Waste Sites or Dumps (Y) | X          | --        | --         | --         | --         |

## Designated Use Attainment Decisions

### Fish Consumption

| <b>2024/26 Use Attainment</b>                                                                                                      | <b>Alert</b> |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Not Assessed                                                                                                                       | No           |
| <b>2024/26 Use Attainment Summary</b>                                                                                              |              |
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for the Millers River (MA35-02) is Not Assessed. |              |

### Aesthetic

| <b>2024/26 Use Attainment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Alert</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fully Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NO           |
| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |
| The Aesthetics Use for Millers River (MA35-02) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the upstream half of this Millers River AU at the old bridge abutments on eastern shore of the closed dirt road (Sibley Road on 1998 Winchendon USGS quadrangle) in Winchendon (W0694) between January 2011 and March 2013 (n=11) as part of the SMART monitoring project. There were generally no persistent objectionable conditions (i.e., odors, deposits, growths, or turbidity) observed during the surveys, though staff observed minor trash on three occasions in 2012. |              |

### Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                      | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0694        | MassDEP      | Water Quality | Millers River | [old bridge abutments on eastern shore of closed dirt road (Sibley Road on 1998 Winchendon USGS quadrangle), Winchendon] | 42.672322 | -72.093055 |

## ***Aesthetic Observations***

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                           |
|--------------|-----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0694        | 2011      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0694 on Millers River (MA35-02) during 5 site visits between Mar 2011 and Nov 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                                        |
| W0694        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0694 on Millers River (MA35-02) during 5 site visits between Feb 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=3). |
| W0694        | 2013      | 1                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0694 on Millers River (MA35-02) during 1 site visit on Mar 25, 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).                    |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0694        | 2011      | 5                 | 2                                                          | 0                                         |
| W0694        | 2012      | 5                 | 4                                                          | 1                                         |
| W0694        | 2013      | 1                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                      | Result       | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|--------------------------------|--------------|--------------|-------------------------|
| W0694        | Millers River | 2011      | Aquatic Plant Density, Overall | Dense        | 1            | 5                       |
| W0694        | Millers River | 2011      | Aquatic Plant Density, Overall | Sparse       | 1            | 5                       |
| W0694        | Millers River | 2011      | Aquatic Plant Density, Overall | Unobservable | 3            | 5                       |
| W0694        | Millers River | 2011      | Color                          | Reddish      | 5            | 5                       |
| W0694        | Millers River | 2011      | Objectionable Deposits         | No           | 2            | 5                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result       | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|--------------|--------------|-------------------------|
| W0694        | Millers River | 2011      | Objectionable Deposits          | Unobservable | 3            | 5                       |
| W0694        | Millers River | 2011      | Odor                            | None         | 5            | 5                       |
| W0694        | Millers River | 2011      | Periphyton Density, Filamentous | None         | 2            | 5                       |
| W0694        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable | 3            | 5                       |
| W0694        | Millers River | 2011      | Periphyton Density, Film        | None         | 2            | 5                       |
| W0694        | Millers River | 2011      | Periphyton Density, Film        | Unobservable | 3            | 5                       |
| W0694        | Millers River | 2011      | Scum                            | No           | 2            | 5                       |
| W0694        | Millers River | 2011      | Scum                            | Yes          | 3            | 5                       |
| W0694        | Millers River | 2011      | Turbidity                       | None         | 2            | 5                       |
| W0694        | Millers River | 2011      | Turbidity                       | Unobservable | 3            | 5                       |
| W0694        | Millers River | 2012      | Aquatic Plant Density, Overall  | Moderate     | 1            | 5                       |
| W0694        | Millers River | 2012      | Aquatic Plant Density, Overall  | None         | 2            | 5                       |
| W0694        | Millers River | 2012      | Aquatic Plant Density, Overall  | Sparse       | 1            | 5                       |
| W0694        | Millers River | 2012      | Aquatic Plant Density, Overall  | Unobservable | 1            | 5                       |
| W0694        | Millers River | 2012      | Color                           | Reddish      | 5            | 5                       |
| W0694        | Millers River | 2012      | Objectionable Deposits          | No           | 1            | 5                       |
| W0694        | Millers River | 2012      | Objectionable Deposits          | Unobservable | 1            | 5                       |
| W0694        | Millers River | 2012      | Objectionable Deposits          | Yes          | 3            | 5                       |
| W0694        | Millers River | 2012      | Odor                            | None         | 5            | 5                       |
| W0694        | Millers River | 2012      | Periphyton Density, Filamentous | None         | 4            | 5                       |
| W0694        | Millers River | 2012      | Periphyton Density, Filamentous | Unobservable | 1            | 5                       |
| W0694        | Millers River | 2012      | Periphyton Density, Film        | Dense        | 1            | 5                       |
| W0694        | Millers River | 2012      | Periphyton Density, Film        | None         | 3            | 5                       |
| W0694        | Millers River | 2012      | Periphyton Density, Film        | Unobservable | 1            | 5                       |
| W0694        | Millers River | 2012      | Scum                            | No           | 2            | 5                       |
| W0694        | Millers River | 2012      | Scum                            | Yes          | 3            | 5                       |
| W0694        | Millers River | 2012      | Turbidity                       | None         | 5            | 5                       |
| W0694        | Millers River | 2013      | Aesthetics Impaired?            | NR           | 1            | 1                       |
| W0694        | Millers River | 2013      | Aquatic Plant Density, Overall  | None         | 1            | 1                       |
| W0694        | Millers River | 2013      | Color                           | Reddish      | 1            | 1                       |
| W0694        | Millers River | 2013      | Objectionable Deposits          | No           | 1            | 1                       |
| W0694        | Millers River | 2013      | Odor                            | None         | 1            | 1                       |
| W0694        | Millers River | 2013      | Periphyton Density, Filamentous | None         | 1            | 1                       |
| W0694        | Millers River | 2013      | Periphyton Density, Film        | None         | 1            | 1                       |

| Station Code | Waterbody     | Data Year | Parameter | Result | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|-----------|--------|--------------|-------------------------|
| W0694        | Millers River | 2013      | Scum      | Yes    | 1            | 1                       |
| W0694        | Millers River | 2013      | Turbidity | None   | 1            | 1                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for the Millers River (MA35-02) is assessed as Not Supporting. An <i>Escherichia coli</i> (<i>E. coli</i>) impairment is being added due to bacteria data not meeting the threshold at MRWC_MW1. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in the Millers River (MA35-02) from 2011-2015 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC_MW1 [Winchendon boat launch] from 2014-2015 (n=6-7/yr), W0694 [old bridge abutments on eastern shore of closed dirt Rd (Sibley Rd on 1998 Winchendon USGS quadrangle), Winchendon] from 2011-2012 (n=3-4/yr), MRWC_MOSF1 [New Boston Rd launch, Winchendon] from 2014-2015 (n=6-7/yr). Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from MRWC_MW1 indicated 2 out of 2 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;126 CFU/100ml (2014 and 2015, 75 &amp; 81%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 78% of intervals had GMs &gt;126 CFU/100ml. The available <i>E. coli</i> data at W0694 are too limited to assess according to the 2024 CALM. Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from MRWC_MOSF1 indicated 1 out of 2 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;126 CFU/100ml (2014, 71%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 27% of intervals had GMs &gt;126 CFU/100ml. While <i>E. coli</i> data from MRWC_MOSF1 meet 2024 CALM guidance, <i>E. coli</i> data from MRWC_MW1 are indicative of an <i>E. coli</i> impairment. The prior <i>E. coli</i> Alert is being removed and replaced with an <i>E. coli</i> impairment.</p> |

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body    | Station Description                                                                                                      | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0694        | MassDEP                              | Water Quality | Millers River | [old bridge abutments on eastern shore of closed dirt road (Sibley Road on 1998 Winchendon USGS quadrangle), Winchendon] | 42.672322 | -72.093055 |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | Water Quality | Millers River | New Boston road launch, Winchendon                                                                                       | 42.645661 | -72.098717 |

| Station Code | Organization                         | Type          | Water Body    | Station Description    | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|---------------|------------------------|-----------|------------|
| MRWC_MW1     | Millers River Watershed Council, Inc | Water Quality | Millers River | Winchendon boat launch | 42.683944 | -72.083117 |

## Bacteria Data

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

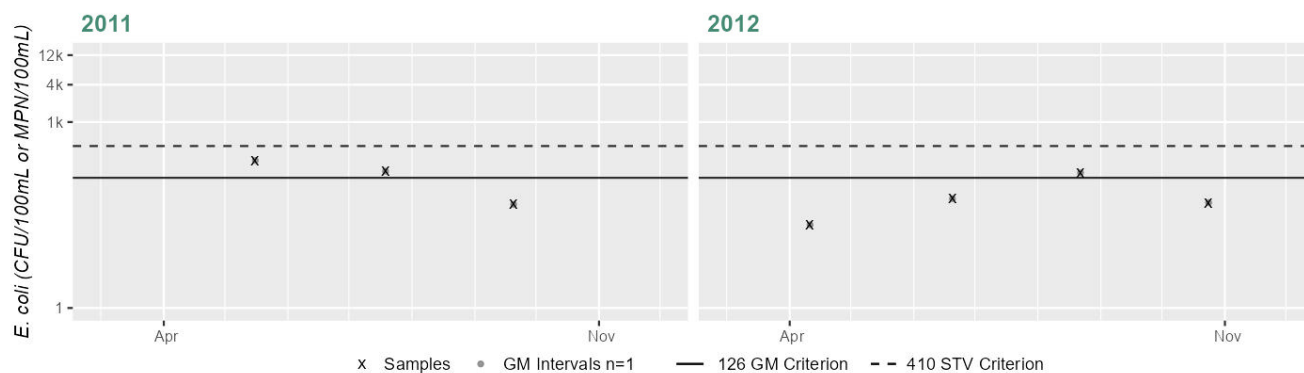
(MassDEP Undated 6) (MassDEP Undated 4) (Millers RWC 2015) (MassDEP Undated 2)

[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 |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0694        | MassDEP                              | E. coli   | 05/16/11   | 09/20/11 | 3            | 47                    | 240                   | 122                     |
| W0694        | MassDEP                              | E. coli   | 04/10/12   | 10/23/12 | 4            | 22                    | 152                   | 55                      |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 6            | 88                    | 517                   | 164                     |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 55                    | 193                   | 102                     |
| MRWC_MW1     | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 6            | 78                    | 387                   | 138                     |
| MRWC_MW1     | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 71                    | 325                   | 145                     |

### Station MASSDEP\_W0694 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 3      |
| SeasGM    | 122    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

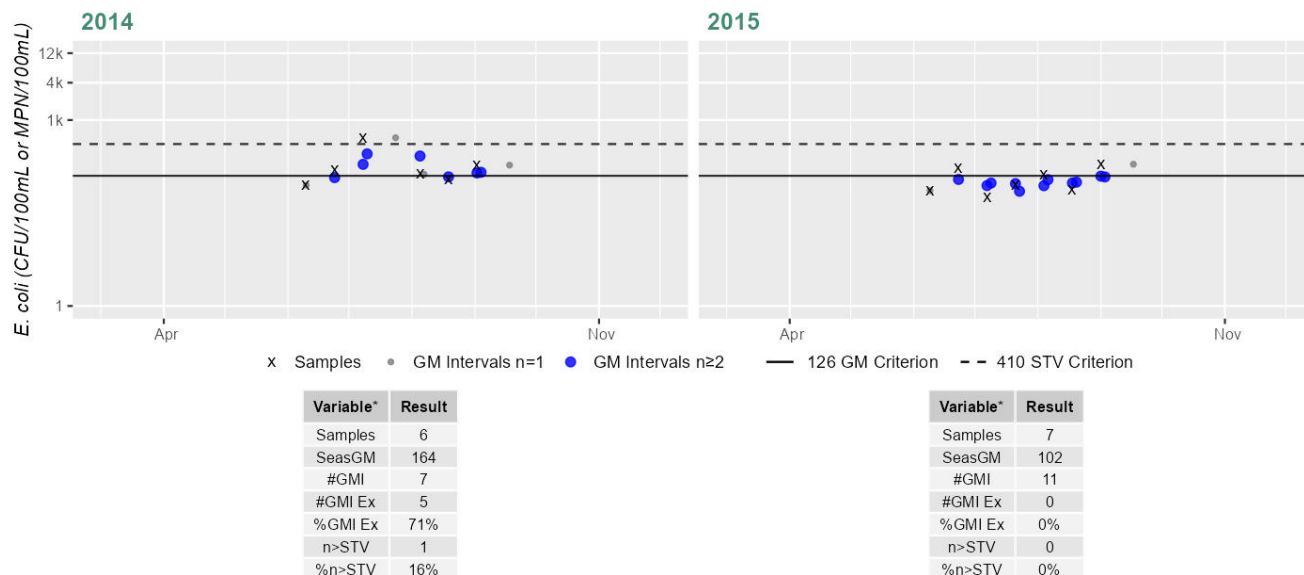
| Variable* | Result |
|-----------|--------|
| Samples   | 4      |
| SeasGM    | 55     |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

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

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

### Station MRWC\_MOSF1 - *Escherichia coli*

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



Cumulative %GMI Exceedance

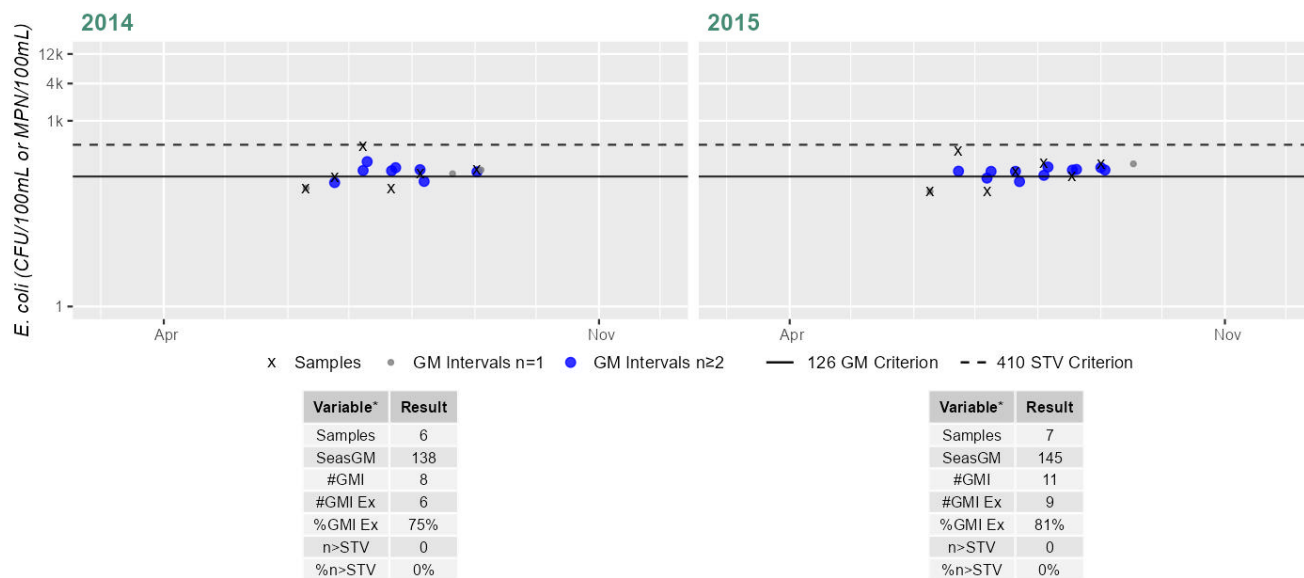
Current (2011-2022)

27%

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

### Station MRWC\_MW1 - *Escherichia coli*

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



Cumulative %GMI Exceedance

Current (2011-2022)

78%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Millers River (MA35-02) continues to be assessed as Fully Supporting. MassDEP and MRWC staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Millers River (MA35-02) from 2005-2015 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC\_MW1 [Winchendon boat launch] from 2014-2015 (n=6-7/yr), W0694 [old bridge abutments on eastern shore of closed dirt Rd (Sibley Rd on 1998 Winchendon USGS quadrangle), Winchendon] from 2005 and 2007-2010 (historic n=2-5/yr) and 2011-2013 (current n=1-5/yr), MRWC\_MOSF1 [New Boston Rd launch, Winchendon] from 2014-2015 (n=6-7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MW1 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. The available *E. coli* data at W0694 are too limited to assess according to the 2024 CALM. Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MOSF1 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from MRWC\_MW1 and MRWC\_MOSF1 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body    | Station Description                                                                                                      | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0694        | MassDEP                              | Water Quality | Millers River | [old bridge abutments on eastern shore of closed dirt road (Sibley Road on 1998 Winchendon USGS quadrangle), Winchendon] | 42.672322 | -72.093055 |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | Water Quality | Millers River | New Boston road launch, Winchendon                                                                                       | 42.645661 | -72.098717 |
| MRWC_MW1     | Millers River Watershed Council, Inc | Water Quality | Millers River | Winchendon boat launch                                                                                                   | 42.683944 | -72.083117 |

## Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1)

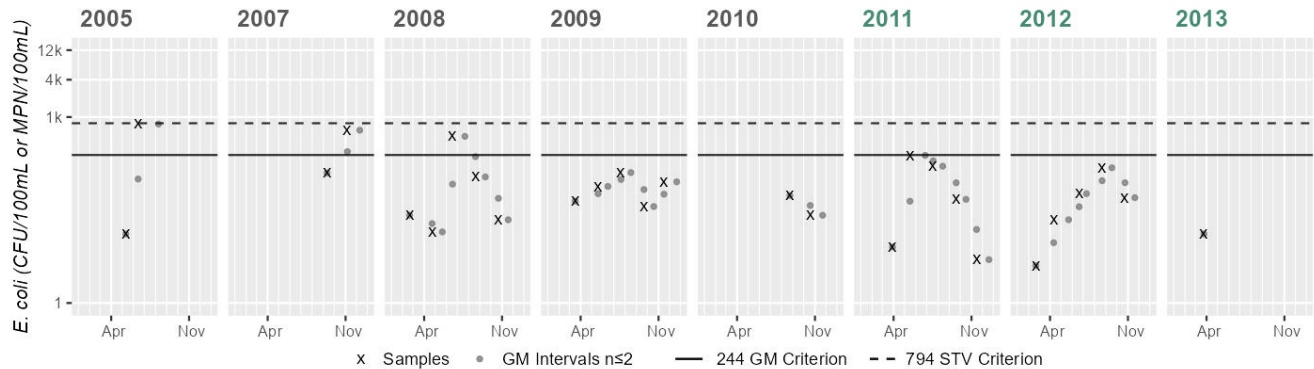
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0694        | MassDEP      | E. coli   | 05/11/05   | 06/14/05 | 2            | 13                    | 770                   | 100                     |
| W0694        | MassDEP      | E. coli   | 09/11/07   | 11/06/07 | 2            | 125                   | 613                   | 276                     |

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0694        | MassDEP                              | E. coli   | 02/20/08   | 10/21/08 | 5            | 14                    | 488                   | 53                      |
| W0694        | MassDEP                              | E. coli   | 03/17/09   | 11/16/09 | 5            | 36                    | 127                   | 67                      |
| W0694        | MassDEP                              | E. coli   | 08/24/10   | 10/19/10 | 2            | 26                    | 54                    | 37                      |
| W0694        | MassDEP                              | E. coli   | 03/29/11   | 11/15/11 | 5            | 5                     | 240                   | 37                      |
| W0694        | MassDEP                              | E. coli   | 02/21/12   | 10/23/12 | 5            | 4                     | 152                   | 32                      |
| W0694        | MassDEP                              | E. coli   | 03/25/13   | 03/25/13 | 1            | 13                    | 13                    | 13                      |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 6            | 88                    | 517                   | 164                     |
| MRWC_MOSF1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 55                    | 193                   | 102                     |
| MRWC_MW1     | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 6            | 78                    | 387                   | 138                     |
| MRWC_MW1     | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 71                    | 325                   | 145                     |

### Station MASSDEP\_W0694 - Escherichia coli

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



| Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| Samples   | 2      | Samples   | 2      | Samples   | 5      | Samples   | 5      | Samples   | 2      | Samples   | 5      | Samples   | 5      | Samples   | 5      | Samples   | 1      |
| SeasGM    | 100    | SeasGM    | 276    | SeasGM    | 53     | SeasGM    | 67     | SeasGM    | 37     | SeasGM    | 37     | SeasGM    | 32     | SeasGM    | 32     | SeasGM    | 13     |
| #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      |
| #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      |
| %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     |
| n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      |
| %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     |

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

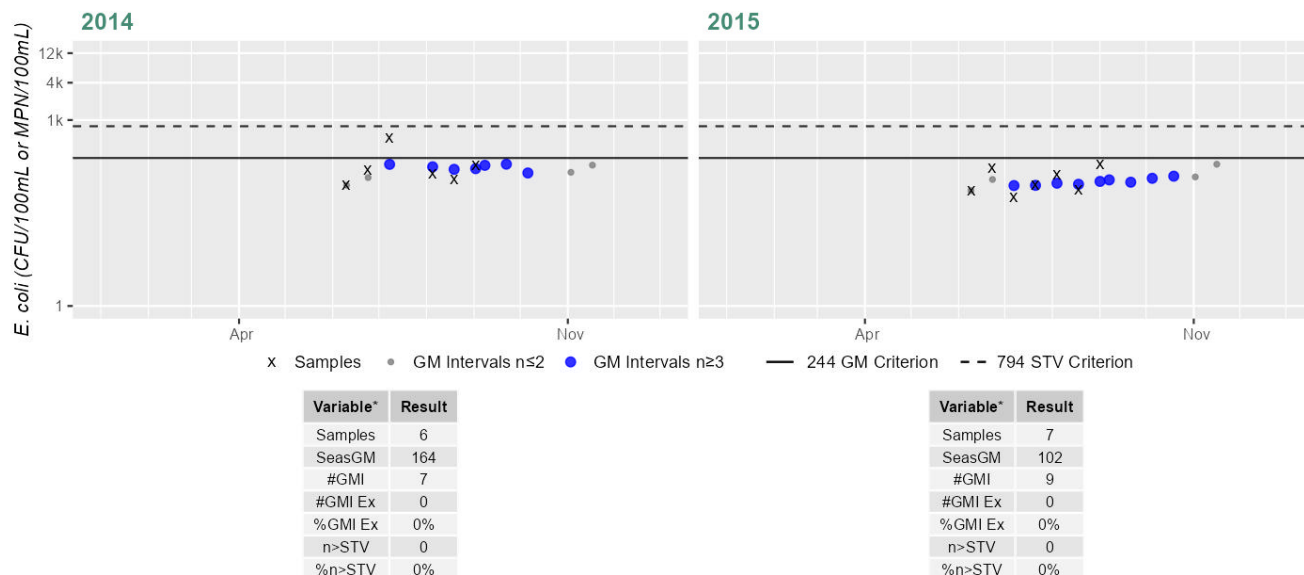
Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

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



### Station MRWC\_MOSF1 - Escherichia coli

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



Cumulative %GMI Exceedance

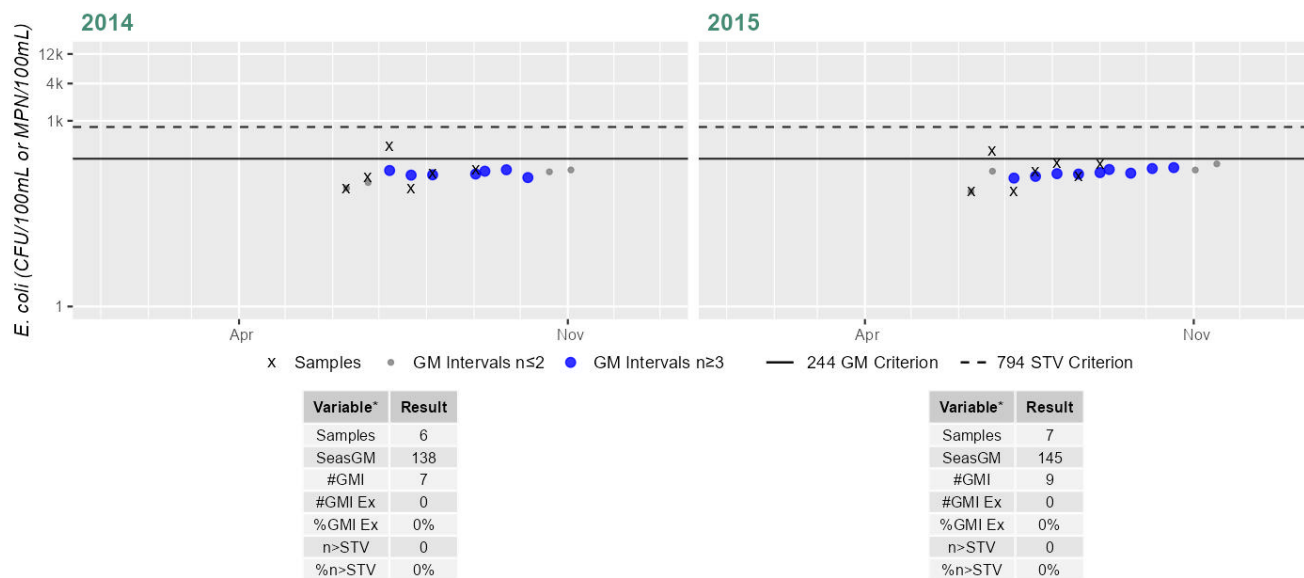
Current (2011-2022)

0%

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

### Station MRWC\_MW1 - Escherichia coli

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



Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Millers River (MA35-03)

|                                  |                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------|
| <b>Location:</b>                 | Confluence with Otter River, Winchendon to South Royalston USGS Gage, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                            |
| <b>AU Size:</b>                  | 3.5 MILES                                                                        |
| <b>Classification/Qualifier:</b> | B: WWF                                                                           |

### Millers River (MA35-03)

Watershed Area: 188.95 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 134.08       | 13.71                           | 35.58                 | 3.28                   |
| Agriculture                     | 1.4%         | 3.3%                            | 0.6%                  | 2%                     |
| Developed                       | 11%          | 3.6%                            | 8.9%                  | 4.6%                   |
| Natural                         | 75.9%        | 80.4%                           | 69.4%                 | 67.1%                  |
| Wetland                         | 11.7%        | 12.7%                           | 21.1%                 | 26.2%                  |
| Impervious                      | 4.6%         | 1.4%                            | 3.9%                  | 1.8%                   |

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

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| Fish Bioassessments | Dam or Impoundment (N)                 | X   | -- | --  | --  | --  |
| Fish Bioassessments | Source Unknown (N)                     | X   | -- | --  | --  | --  |
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | X   | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | X   | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Recommendations

| 2024/26 Recommendations                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|
| 2014 IR [ALGAE, LOW] Observations of dense or very dense algae were reported at {W0692} in 2012. Additional monitoring should be conducted. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for this Millers River AU (MA35-03) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the next downstream Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Millers River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the next downstream Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for this Millers River AU (MA35-03).</p> |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | YES   |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Aesthetics Use for Millers River (MA35-03) is assessed as Fully Supporting, however the Alert identified for occasional observations of excess algal growth is being carried forward. MassDEP staff recorded aesthetics observations at one station at the upstream end of this Millers River AU south of Blossom Street, ~450 feet west of King St at USGS flow gaging station #01164000 in Royalston (W0692) between January 2011 and March 2013 (n=11) as part of the SMART monitoring project. There were generally no persistent objectionable conditions (i.e., odors, deposits, growths, or turbidity) observed during the surveys although in 2012 there were observations of dense/very dense algae noted in three of four site visits.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                    | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0692        | MassDEP      | Water Quality | Millers River | [south of Blossom Street, approximately 450 feet west of King Street at USGS flow gaging station #01164000, Royalston] | 42.629698 | -72.150357 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                        |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0692        | 2011      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0692 on Millers River (MA35-03) during 5 site visits between Mar 2011 and Nov 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                     |
| W0692        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0692 on Millers River (MA35-03) during 5 site visits between Feb 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                     |
| W0692        | 2013      | 1                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0692 on Millers River (MA35-03) during 1 site visit on Mar 25, 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3). |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0692        | 2011      | 5                 | 1                                                          | 0                                         |
| W0692        | 2012      | 5                 | 4                                                          | 3                                         |
| W0692        | 2013      | 1                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result            | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|-------------------|--------------|-------------------------|
| W0692        | Millers River | 2011      | Aquatic Plant Density, Overall  | None              | 1            | 5                       |
| W0692        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse            | 1            | 5                       |
| W0692        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable      | 3            | 5                       |
| W0692        | Millers River | 2011      | Color                           | Reddish           | 5            | 5                       |
| W0692        | Millers River | 2011      | Objectionable Deposits          | No                | 1            | 5                       |
| W0692        | Millers River | 2011      | Objectionable Deposits          | Unobservable      | 4            | 5                       |
| W0692        | Millers River | 2011      | Odor                            | Musty (Basement)  | 2            | 5                       |
| W0692        | Millers River | 2011      | Odor                            | None              | 3            | 5                       |
| W0692        | Millers River | 2011      | Periphyton Density, Filamentous | None              | 1            | 5                       |
| W0692        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable      | 4            | 5                       |
| W0692        | Millers River | 2011      | Periphyton Density, Film        | None              | 1            | 5                       |
| W0692        | Millers River | 2011      | Periphyton Density, Film        | Unobservable      | 4            | 5                       |
| W0692        | Millers River | 2011      | Scum                            | Yes               | 5            | 5                       |
| W0692        | Millers River | 2011      | Turbidity                       | None              | 3            | 5                       |
| W0692        | Millers River | 2011      | Turbidity                       | Slightly Turbid   | 1            | 5                       |
| W0692        | Millers River | 2011      | Turbidity                       | Unobservable      | 1            | 5                       |
| W0692        | Millers River | 2012      | Aquatic Plant Density, Overall  | Sparse            | 4            | 5                       |
| W0692        | Millers River | 2012      | Aquatic Plant Density, Overall  | Unobservable      | 1            | 5                       |
| W0692        | Millers River | 2012      | Color                           | Reddish           | 4            | 5                       |
| W0692        | Millers River | 2012      | Color                           | Rusty             | 1            | 5                       |
| W0692        | Millers River | 2012      | Objectionable Deposits          | No                | 2            | 5                       |
| W0692        | Millers River | 2012      | Objectionable Deposits          | Unobservable      | 2            | 5                       |
| W0692        | Millers River | 2012      | Objectionable Deposits          | Yes               | 1            | 5                       |
| W0692        | Millers River | 2012      | Odor                            | None              | 4            | 5                       |
| W0692        | Millers River | 2012      | Odor                            | Other (Eutrophic) | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Filamentous | None              | 2            | 5                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result          | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|-----------------|--------------|-------------------------|
| W0692        | Millers River | 2012      | Periphyton Density, Filamentous | Sparse          | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Filamentous | Unobservable    | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Filamentous | Very Dense      | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Film        | Dense           | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Film        | None            | 2            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Film        | Unobservable    | 1            | 5                       |
| W0692        | Millers River | 2012      | Periphyton Density, Film        | Very Dense      | 1            | 5                       |
| W0692        | Millers River | 2012      | Scum                            | Yes             | 5            | 5                       |
| W0692        | Millers River | 2012      | Turbidity                       | None            | 2            | 5                       |
| W0692        | Millers River | 2012      | Turbidity                       | Slightly Turbid | 2            | 5                       |
| W0692        | Millers River | 2012      | Turbidity                       | Unobservable    | 1            | 5                       |
| W0692        | Millers River | 2013      | Aesthetics Impaired?            | NR              | 1            | 1                       |
| W0692        | Millers River | 2013      | Aquatic Plant Density, Overall  | None            | 1            | 1                       |
| W0692        | Millers River | 2013      | Color                           | Reddish         | 1            | 1                       |
| W0692        | Millers River | 2013      | Objectionable Deposits          | No              | 1            | 1                       |
| W0692        | Millers River | 2013      | Odor                            | None            | 1            | 1                       |
| W0692        | Millers River | 2013      | Periphyton Density, Filamentous | None            | 1            | 1                       |
| W0692        | Millers River | 2013      | Periphyton Density, Film        | None            | 1            | 1                       |
| W0692        | Millers River | 2013      | Scum                            | Yes             | 1            | 1                       |
| W0692        | Millers River | 2013      | Turbidity                       | None            | 1            | 1                       |

## Primary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Too limited bacteria data are available to assess the Primary Contact Recreation Use for the Millers River (MA35-03) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected <i>E. coli</i> bacteria samples in the Millers River (MA35-03) at W0692 [S of Blossom St, ~450 ft W of King St at USGS flow gaging station #01164000, Royalston] from 2011-2012 (n=3-4/yr). <i>E. coli</i> data from W0692 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                    | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0692        | MassDEP      | Water Quality | Millers River | [south of Blossom Street, approximately 450 feet west of King Street at USGS flow gaging station #01164000, Royalston] | 42.629698 | -72.150357 |

## Bacteria Data

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

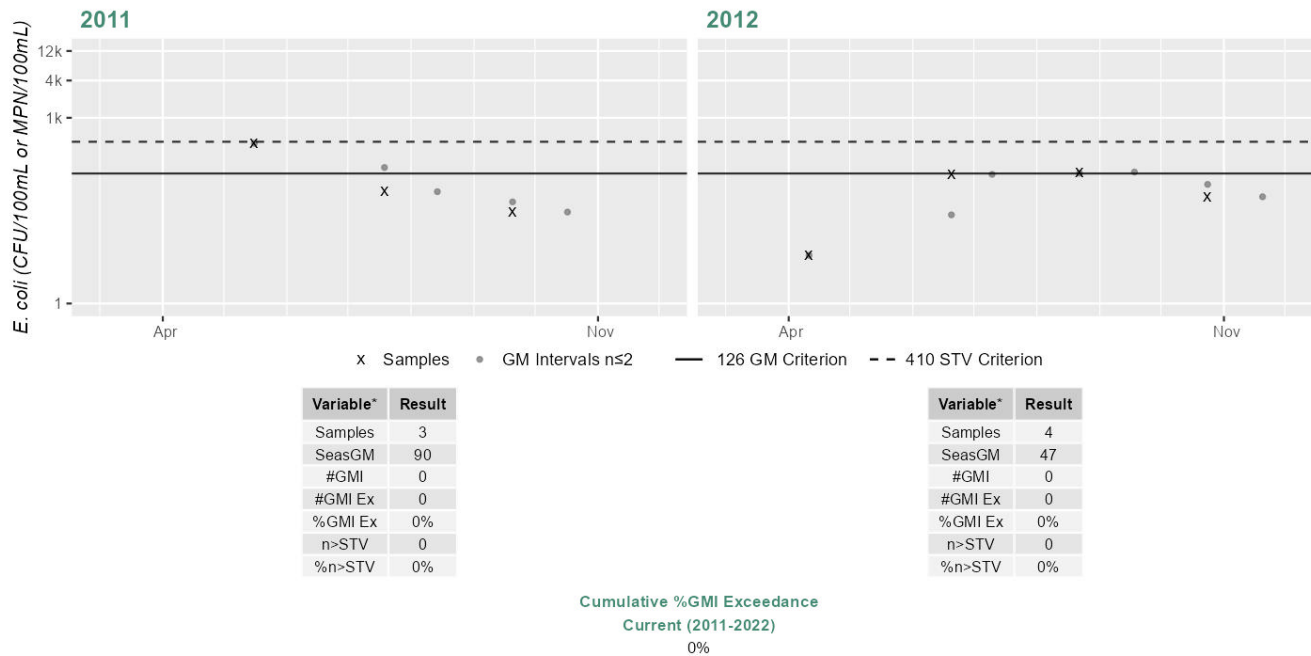
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0692        | MassDEP      | E. coli   | 05/16/11   | 09/20/11 | 3            | 30                    | 387                   | 90                      |
| W0692        | MassDEP      | E. coli   | 04/10/12   | 10/23/12 | 4            | 6                     | 133                   | 47                      |

### Station MASSDEP\_W0692 - Escherichia coli

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

### 2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for the Millers River (MA35-03) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Millers River (MA35-03) at W0692 [S of Blossom St, ~450 ft W of King St at USGS flow gaging station #01164000, Royalston] from 2005 and 2007-2010 (historic n=2-5/yr) and 2011-2013 (current n=1-5/yr). *E. coli* data from W0692 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  |
|--------------|--------------|---------------|---------------|------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0692        | MassDEP      | Water Quality | Millers River | [south of Blossom Street, approximately 450 feet west of King Street at USGS flow gaging station #01164000, Royalston] | 42.629698 | -72.150357 |

### Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 3)

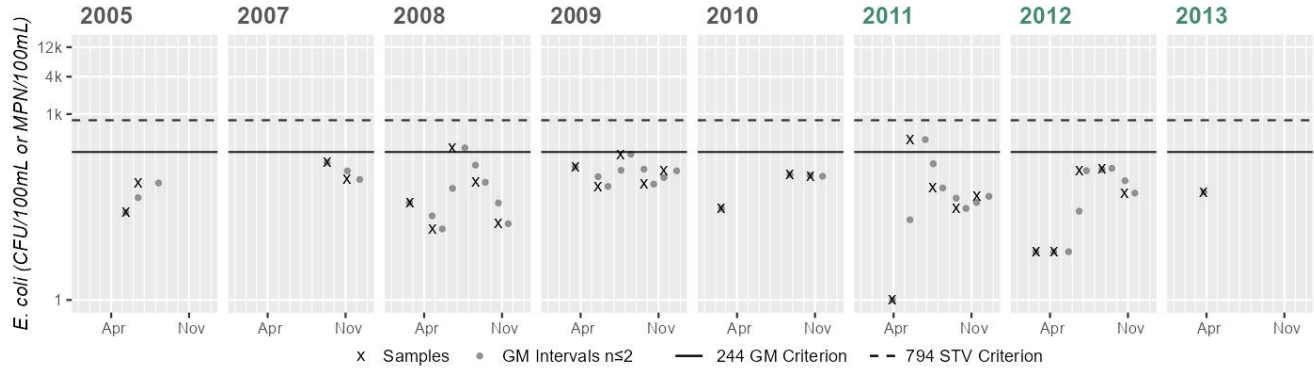
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0692        | MassDEP      | E. coli   | 05/11/05   | 06/14/05 | 2            | 26                    | 77                    | 44                      |
| W0692        | MassDEP      | E. coli   | 09/11/07   | 11/06/07 | 2            | 88                    | 166                   | 120                     |
| W0692        | MassDEP      | E. coli   | 02/20/08   | 10/21/08 | 5            | 14                    | 285                   | 45                      |
| W0692        | MassDEP      | E. coli   | 03/17/09   | 11/16/09 | 5            | 68                    | 225                   | 113                     |
| W0692        | MassDEP      | E. coli   | 02/17/10   | 10/19/10 | 3            | 30                    | 105                   | 67                      |
| W0692        | MassDEP      | E. coli   | 03/29/11   | 11/15/11 | 5            | 1                     | 387                   | 32                      |
| W0692        | MassDEP      | E. coli   | 02/21/12   | 10/23/12 | 5            | 6                     | 133                   | 31                      |
| W0692        | MassDEP      | E. coli   | 03/25/13   | 03/25/13 | 1            | 55                    | 55                    | 55                      |



# Station MASSDEP\_W0692 - *Escherichia coli*

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



| Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| Samples   | 2      | Samples   | 2      | Samples   | 5      | Samples   | 5      | Samples   | 3      | Samples   | 5      | Samples   | 5      | Samples   | 1      |
| SeasGM    | 44     | SeasGM    | 120    | SeasGM    | 45     | SeasGM    | 113    | SeasGM    | 67     | SeasGM    | 32     | SeasGM    | 31     | SeasGM    | 55     |
| #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      |
| #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      |
| %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     |
| n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      |
| %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     |

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

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

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

## Millers River (MA35-04)

|                                  |                                                                                                              |
|----------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | South Royalston USGS Gage, Royalston to Erving Center WWTP (formerly known as Erving Paper Company), Erving. |
| <b>AU Type:</b>                  | RIVER                                                                                                        |
| <b>AU Size:</b>                  | 18.5 MILES                                                                                                   |
| <b>Classification/Qualifier:</b> | B: WWF                                                                                                       |

### Millers River (MA35-04)

Watershed Area: 360.10 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 280.75       | 15.63                           | 70.67                 | 4.22                   |
| Agriculture                     | 1.7%         | 0.8%                            | 0.9%                  | 0.9%                   |
| Developed                       | 8.6%         | 3.9%                            | 7.7%                  | 5.7%                   |
| Natural                         | 80.7%        | 90.4%                           | 73.5%                 | 84.1%                  |
| Wetland                         | 9%           | 4.9%                            | 17.9%                 | 9.3%                   |
| Impervious                      | 3.6%         | 1.7%                            | 3.4%                  | 2.8%                   |

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

| AU Category 2022 | AU Category 2024/26 | Impairment                   | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|------------------------------|-------------------|---------------------------|
| 5                | 5                   | (Non-Native Aquatic Plants*) | --                | Unchanged                 |
| 5                | 5                   | Escherichia Coli (E. Coli)   | --                | Added                     |
| 5                | 5                   | Fish Bioassessments          | --                | Unchanged                 |
| 5                | 5                   | PCBs in Fish Tissue          | --                | Unchanged                 |
| 5                | 5                   | PFAS in Fish Tissue          | --                | Added                     |

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

| <b>Impairment</b>          | <b>Source (Confirmed Y/N)</b>          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|----------------------------|----------------------------------------|------------|-----------|------------|------------|------------|
| Escherichia Coli (E. Coli) | Municipal Point Source Discharges (N)  | --         | --        | --         | X          | --         |
| Escherichia Coli (E. Coli) | Source Unknown (N)                     | --         | --        | --         | X          | --         |
| Fish Bioassessments        | Dam or Impoundment (N)                 | X          | --        | --         | --         | --         |
| Fish Bioassessments        | Source Unknown (N)                     | X          | --        | --         | --         | --         |
| PCBs in Fish Tissue        | Contaminated Sediments (Y)             | X          | X         | --         | --         | --         |
| PCBs in Fish Tissue        | Releases from Waste Sites or Dumps (Y) | X          | X         | --         | --         | --         |
| PFAS in Fish Tissue        | Source Unknown (N)                     | --         | X         | --         | --         | --         |

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for this Millers River AU (MA35-04) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in this Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Millers River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Monitoring Stations

| Station Code | Organization | Type        | Water Body                       | Station Description                                                                                                     | Latitude  | Longitude  |
|--------------|--------------|-------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| F0488        | MassDEP      | Fish Toxics | Millers River/Orange Impoundment | [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] | 42.589030 | -72.307890 |

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in this Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for this Millers River AU (MA35-04). |

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

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

[Species List: P = pumpkinseed, RB = redbreast sunfish, RT = rainbow trout]

| Station Code | PFAS Study ID | Sample Date | Species | Mean PFHxS ng/g | Mean PFNA ng/g | Mean PFOA ng/g | Mean PFOS ng/g | Analytes with ≥ 1 Sample Qualified |
|--------------|---------------|-------------|---------|-----------------|----------------|----------------|----------------|------------------------------------|
| F0488        | 48            | 10/04/2022  | P       | ND              | ND             | ND             | 5.70           |                                    |
| F0488        | 48            | 10/04/2022  | RB      | ND              | ND             | ND             | 7.30           |                                    |
| F0488        | 48            | 10/04/2022  | RT      | ND              | ND             | ND             | 0.59           |                                    |

## Aesthetic

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Fully Supporting               | NO    |
| 2024/26 Use Attainment Summary |       |

The Aesthetics Use for Millers River (MA35-04) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at five stations along this Millers River AU during the summer of 2011 from up to downstream as follows: in the upstream half of the AU near the southern end of Bearsden Rd, downstream from the confluence of Gulf Brook in Athol (W2229, n=6), Rt. 2A bridge in Athol (W0684, n=6), halfway down the AU at Daniel Shays Highway bridge in Athol (W0683, n=6), in the downstream half of the AU at South Main St (Rt. 122) in Orange (W2230, n=6), and Holtshire Rd bridge in Orange (W0682, n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at any of these five sampling stations during the summer of 2011

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0682        | MassDEP      | Water Quality | Millers River | [Holtshire Road bridge, Orange]                                                                                      | 42.598155 | -72.341352 |
| W0683        | MassDEP      | Water Quality | Millers River | [Daniel Shays Highway bridge, Athol]                                                                                 | 42.575926 | -72.260640 |
| W0684        | MassDEP      | Water Quality | Millers River | [Route 2A bridge, Athol]                                                                                             | 42.592809 | -72.239114 |
| W2229        | MassDEP      | Water Quality | Millers River | [near the southern end of Bearsden Road, approximately 190 feet downstream from the confluence of Gulf Brook, Athol] | 42.623178 | -72.180736 |
| W2230        | MassDEP      | Water Quality | Millers River | [South Main Street (Route 122), Orange]                                                                              | 42.589221 | -72.309559 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0682        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0682 on Millers River (MA35-04) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0683        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0683 on Millers River (MA35-04) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0684        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0684 on Millers River (MA35-04) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2229        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2229 on Millers River (MA35-04) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2230        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2230 on Millers River (MA35-04) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0682        | 2011      | 6                 | 3                                                          | 0                                         |
| W0683        | 2011      | 6                 | 0                                                          | 0                                         |
| W0684        | 2011      | 6                 | 0                                                          | 0                                         |
| W2229        | 2011      | 6                 | 0                                                          | 0                                         |
| W2230        | 2011      | 6                 | 0                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0682        | Millers River | 2011      | Aquatic Plant Density, Overall  | None             | 2            | 6                       |
| W0682        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse           | 1            | 6                       |
| W0682        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 3            | 6                       |
| W0682        | Millers River | 2011      | Color                           | Light Yellow/Tan | 6            | 6                       |
| W0682        | Millers River | 2011      | Objectionable Deposits          | No               | 3            | 6                       |
| W0682        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 3            | 6                       |
| W0682        | Millers River | 2011      | Odor                            | None             | 6            | 6                       |
| W0682        | Millers River | 2011      | Periphyton Density, Filamentous | None             | 3            | 6                       |
| W0682        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 3            | 6                       |
| W0682        | Millers River | 2011      | Periphyton Density, Film        | Moderate         | 1            | 6                       |
| W0682        | Millers River | 2011      | Periphyton Density, Film        | None             | 2            | 6                       |
| W0682        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 3            | 6                       |
| W0682        | Millers River | 2011      | Scum                            | No               | 3            | 6                       |
| W0682        | Millers River | 2011      | Scum                            | Yes              | 3            | 6                       |
| W0682        | Millers River | 2011      | Turbidity                       | None             | 3            | 6                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0682        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 2            | 6                       |
| W0682        | Millers River | 2011      | Turbidity                       | Unobservable     | 1            | 6                       |
| W0683        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 6            | 6                       |
| W0683        | Millers River | 2011      | Color                           | Dark Tan         | 1            | 6                       |
| W0683        | Millers River | 2011      | Color                           | Light Yellow/Tan | 5            | 6                       |
| W0683        | Millers River | 2011      | Objectionable Deposits          | No               | 2            | 6                       |
| W0683        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 4            | 6                       |
| W0683        | Millers River | 2011      | Odor                            | None             | 6            | 6                       |
| W0683        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 6            | 6                       |
| W0683        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 6            | 6                       |
| W0683        | Millers River | 2011      | Scum                            | No               | 2            | 6                       |
| W0683        | Millers River | 2011      | Scum                            | Yes              | 4            | 6                       |
| W0683        | Millers River | 2011      | Turbidity                       | None             | 3            | 6                       |
| W0683        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 1            | 6                       |
| W0683        | Millers River | 2011      | Turbidity                       | Unobservable     | 2            | 6                       |
| W0684        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 6            | 6                       |
| W0684        | Millers River | 2011      | Color                           | Brownish         | 1            | 6                       |
| W0684        | Millers River | 2011      | Color                           | Dark Tan         | 1            | 6                       |
| W0684        | Millers River | 2011      | Color                           | Light Yellow/Tan | 3            | 6                       |
| W0684        | Millers River | 2011      | Color                           | NR               | 1            | 6                       |
| W0684        | Millers River | 2011      | Objectionable Deposits          | No               | 3            | 6                       |
| W0684        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 3            | 6                       |
| W0684        | Millers River | 2011      | Odor                            | None             | 5            | 6                       |
| W0684        | Millers River | 2011      | Odor                            | NR               | 1            | 6                       |
| W0684        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 6            | 6                       |
| W0684        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 6            | 6                       |
| W0684        | Millers River | 2011      | Scum                            | No               | 2            | 6                       |
| W0684        | Millers River | 2011      | Scum                            | Yes              | 4            | 6                       |
| W0684        | Millers River | 2011      | Turbidity                       | None             | 2            | 6                       |
| W0684        | Millers River | 2011      | Turbidity                       | NR               | 1            | 6                       |
| W0684        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 1            | 6                       |
| W0684        | Millers River | 2011      | Turbidity                       | Unobservable     | 2            | 6                       |
| W2229        | Millers River | 2011      | Aquatic Plant Density, Overall  | None             | 2            | 6                       |
| W2229        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 4            | 6                       |
| W2229        | Millers River | 2011      | Color                           | Dark Tan         | 1            | 6                       |
| W2229        | Millers River | 2011      | Color                           | Light Yellow/Tan | 5            | 6                       |
| W2229        | Millers River | 2011      | Objectionable Deposits          | No               | 5            | 6                       |
| W2229        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 1            | 6                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2229        | Millers River | 2011      | Odor                            | Musty (Basement) | 1            | 6                       |
| W2229        | Millers River | 2011      | Odor                            | None             | 5            | 6                       |
| W2229        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 6            | 6                       |
| W2229        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 6            | 6                       |
| W2229        | Millers River | 2011      | Scum                            | No               | 2            | 6                       |
| W2229        | Millers River | 2011      | Scum                            | Yes              | 4            | 6                       |
| W2229        | Millers River | 2011      | Turbidity                       | None             | 4            | 6                       |
| W2229        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 2            | 6                       |
| W2230        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 6            | 6                       |
| W2230        | Millers River | 2011      | Color                           | Dark Tan         | 2            | 6                       |
| W2230        | Millers River | 2011      | Color                           | Light Yellow/Tan | 4            | 6                       |
| W2230        | Millers River | 2011      | Objectionable Deposits          | No               | 2            | 6                       |
| W2230        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 4            | 6                       |
| W2230        | Millers River | 2011      | Odor                            | None             | 6            | 6                       |
| W2230        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 6            | 6                       |
| W2230        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 6            | 6                       |
| W2230        | Millers River | 2011      | Scum                            | No               | 3            | 6                       |
| W2230        | Millers River | 2011      | Scum                            | Yes              | 3            | 6                       |
| W2230        | Millers River | 2011      | Turbidity                       | None             | 3            | 6                       |
| W2230        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 1            | 6                       |
| W2230        | Millers River | 2011      | Turbidity                       | Unobservable     | 2            | 6                       |

## Primary Contact Recreation

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

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



The Primary Contact Recreation Use for the Millers River (MA35-04) is assessed as Not Supporting. An *Escherichia coli* (*E. coli*) impairment is being added due to bacteria data not meeting the threshold at MRWC\_MCM1, MRWC\_MFW1, and W0682 & MRWC\_MWO1. Surface water sampling was conducted in the Millers River (MA35-04) at station W3313 (PFAS Study ID 48) on 10/04/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. MassDEP and MRWC staff/volunteers collected *E. coli* bacteria samples in the Millers River (MA35-04) from 2011-2015 at 9 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2229 [near the southern end of Bearsden Rd, ~190 ft downstream from the confluence of Gulf Brook, Athol] from May-Sep 2011 (n=6), MRWC\_MUA1 [Upper Athol] from Jun-Sep 2011 (n=7), MRWC\_MCM1 [Cass Meadow launch, Athol] from 2011 and 2014-2015 (n=7/yr), W0684 [Rt. 2A bridge, Athol] from May-Sep 2011 (n=6), MRWC\_MFW1 [Fielding Way, Athol] from Jun-Sep 2011 (n=7), W0683 [Daniel Shays Highway bridge, Athol] from May-Sep 2011 (n=6), MRWC\_MORF1 [Orange River Front] from 2011 and 2014-2015 (n=7/yr), W2230 [S Main St (Rt. 122), Orange] from May-Sep 2011 (n=6), W0682 & MRWC\_MWO1 [Holtshire Rd bridge, Orange & W Orange] from Jun-Sep 2011 (n=13/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MCM1 indicated 2 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2011 and 2015, 63 & 45%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 39% of intervals had GMs >126 CFU/100ml. Analysis of the single year moderate frequency *E. coli* dataset from MRWC\_MFW1 indicated 72% of intervals had GMs >126 CFU/100ml and 1 sample exceeded the 410 CFU/100ml STV. Analysis of the single year moderate frequency *E. coli* dataset from W0682 & MRWC\_MWO1 indicated 40% of intervals had GMs >126 CFU/100ml and 3 samples exceeded the 410 CFU/100ml STV. While *E. coli* data from W2229, MRWC\_MUA1, W0684, W0683, MRWC\_MORF1, and W2230 meet 2024 CALM guidance, *E. coli* data from MRWC\_MCM1, MRWC\_MFW1, and W0682 & MRWC\_MWO1 are indicative of an *E. coli* impairment. The prior *E. coli* Alert is being removed and replaced with an *E. coli* impairment.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0682        | MassDEP      | Water Quality | Millers River | [Holtshire Road bridge, Orange]                                                                                      | 42.598155 | -72.341352 |
| W0683        | MassDEP      | Water Quality | Millers River | [Daniel Shays Highway bridge, Athol]                                                                                 | 42.575926 | -72.260640 |
| W0684        | MassDEP      | Water Quality | Millers River | [Route 2A bridge, Athol]                                                                                             | 42.592809 | -72.239114 |
| W2229        | MassDEP      | Water Quality | Millers River | [near the southern end of Bearsden Road, approximately 190 feet downstream from the confluence of Gulf Brook, Athol] | 42.623178 | -72.180736 |
| W2230        | MassDEP      | Water Quality | Millers River | [South Main Street (Route 122), Orange]                                                                              | 42.589221 | -72.309559 |

| Station Code | Organization                         | Type          | Water Body                       | Station Description                                                                                                                                 | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W3313        | MassDEP                              | Water Quality | Millers River/Orange Impoundment | [the default location representing co-located water/fish PFAS sampling, on Millers River in Orange Impoundment, east/upstream of Route 122, Orange] | 42.589030 | -72.307890 |
| MRWC_MCM1    | Millers River Watershed Council, Inc | Water Quality | Millers River                    | Cass Meadow launch, Athol                                                                                                                           | 42.593531 | -72.239153 |
| MRWC_MFW1    | Millers River Watershed Council, Inc | Water Quality | Millers River                    | Fielding Way, Athol                                                                                                                                 | 42.575920 | -72.259220 |
| MRWC_MORF1   | Millers River Watershed Council, Inc | Water Quality | Millers River                    | Orange River Front                                                                                                                                  | 42.588756 | -72.308147 |
| MRWC_MUA1    | Millers River Watershed Council, Inc | Water Quality | Millers River                    | Upper Athol                                                                                                                                         | 42.595150 | -72.215840 |
| MRWC_MWO1    | Millers River Watershed Council, Inc | Water Quality | Millers River                    | West Orange                                                                                                                                         | 42.598390 | -72.341460 |

## Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 4) (Millers RWC 2015) (MassDEP Undated 2)

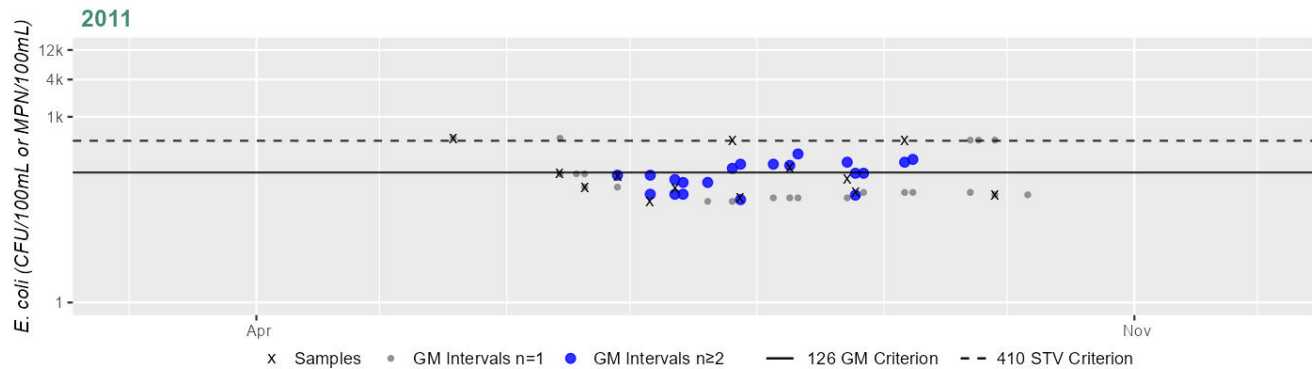
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0682        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 43                    | 450                   | 78                      |
| W0683        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 16                    | 120                   | 55                      |
| W0684        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 270                   | 69                      |
| W2229        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 67                    | 45                      |
| W2230        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 59                    | 270                   | 95                      |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 52                    | 320                   | 128                     |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 47                    | 224                   | 84                      |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 58                    | 387                   | 135                     |
| MRWC_MFW1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 64                    | 2000                  | 218                     |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 46                    | 240                   | 96                      |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 25                    | 365                   | 68                      |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 25                    | 261                   | 56                      |

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| MRWC_MUA1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 12                    | 170                   | 69                      |
| MRWC_MWO1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 70                    | 420                   | 157                     |

### Station MASSDEP\_W0682 & MRWC\_MWO1 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 13     |
| SeasGM    | 113    |
| #GMI      | 20     |
| #GMI Ex   | 8      |
| %GMI Ex   | 40%    |
| n>STV     | 3      |
| %n>STV    | 23%    |

#### Cumulative %GMI Exceedance

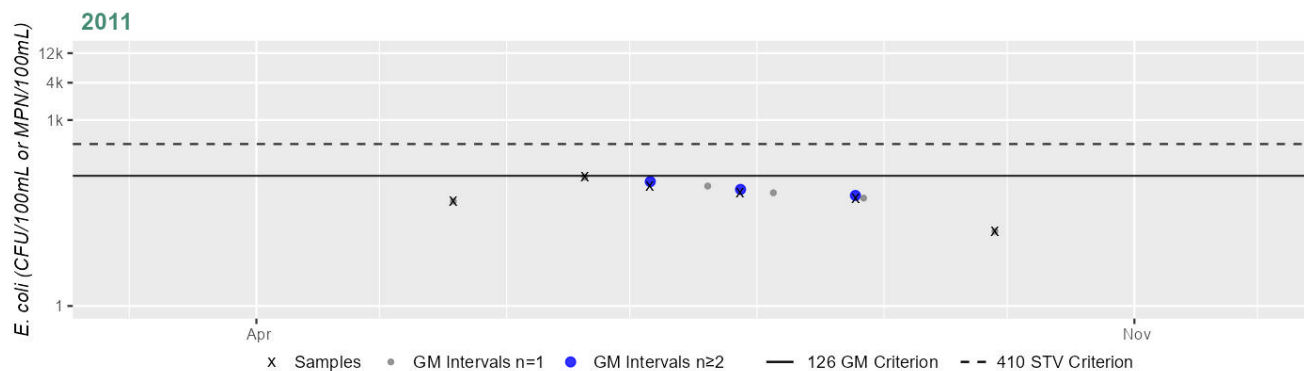
Current (2011-2022)

40%

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

### Station MASSDEP\_W0683 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 55     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

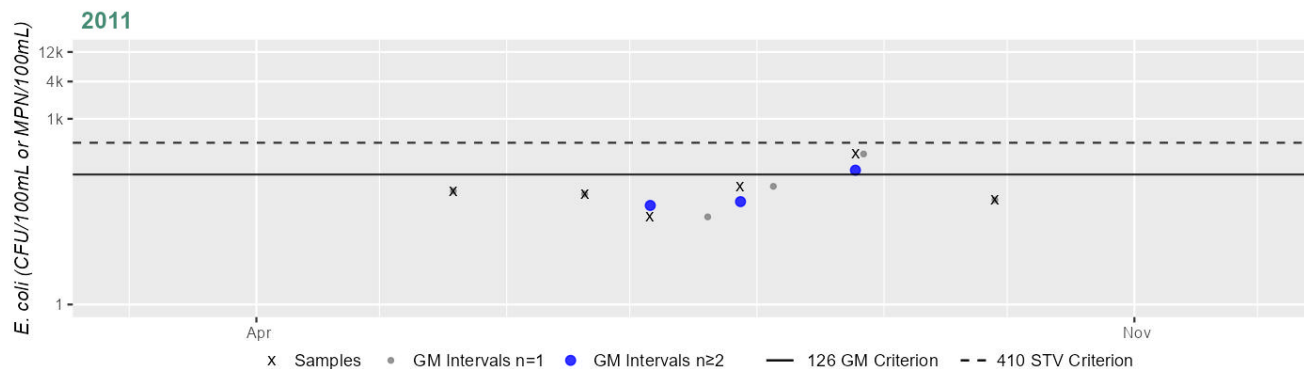
Current (2011-2022)

0%

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

### Station MASSDEP\_W0684 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 69     |
| #GMI      | 3      |
| #GMI Ex   | 1      |
| %GMI Ex   | 33%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

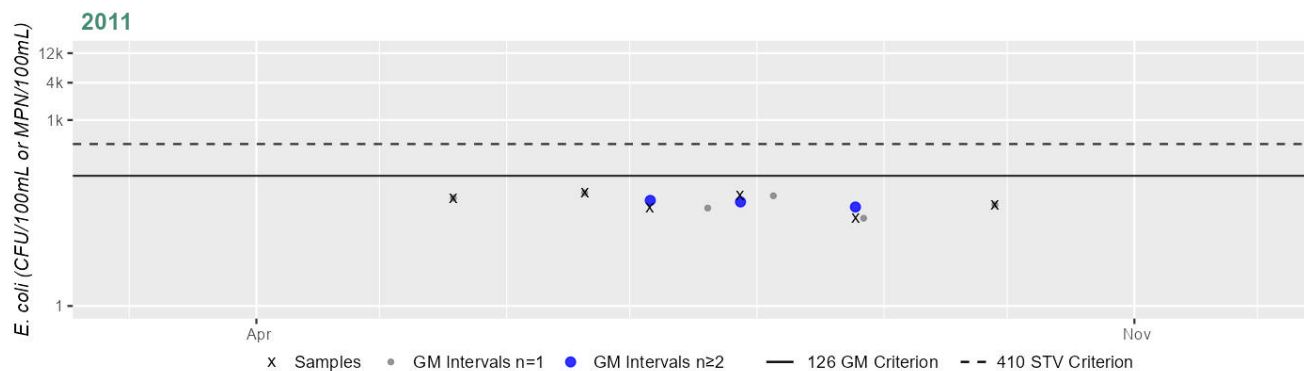
Current (2011-2022)

33%

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

### Station MASSDEP\_W2229 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 45     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

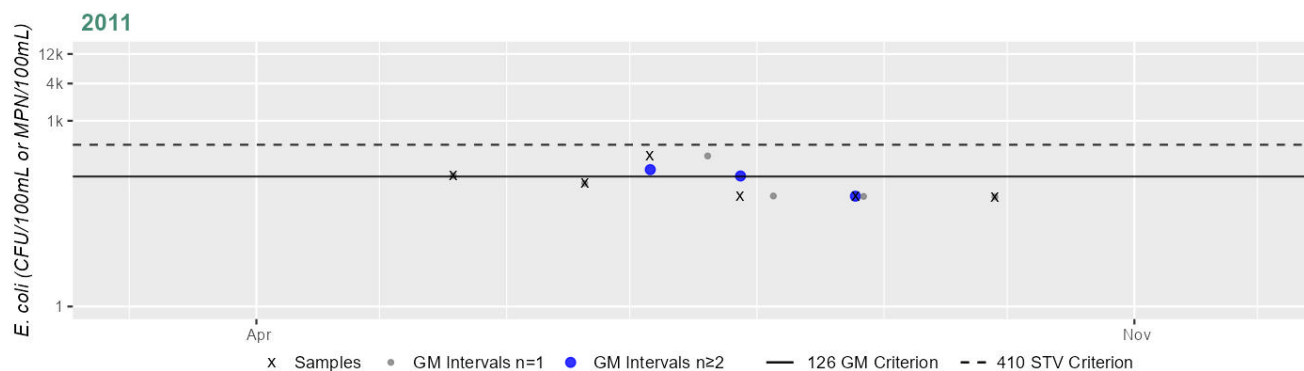
Current (2011-2022)

0%

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

### Station MASSDEP\_W2230 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 95     |
| #GMI      | 3      |
| #GMI Ex   | 2      |
| %GMI Ex   | 66%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

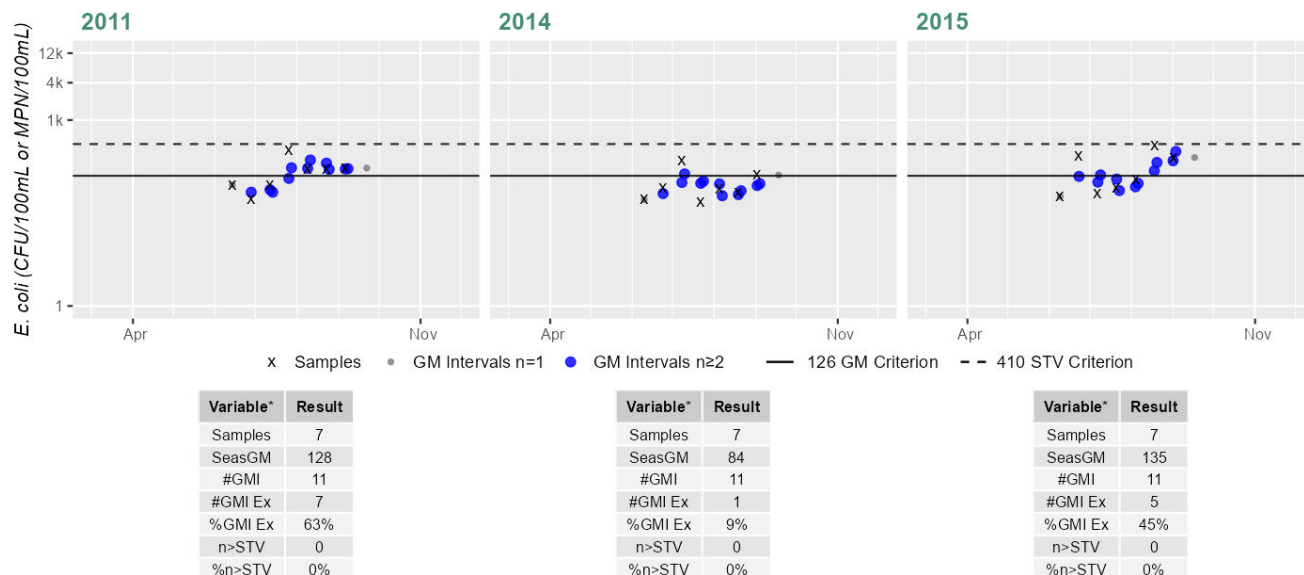
Current (2011-2022)

66%

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

### Station MRWC\_MCM1 - Escherichia coli

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



#### Cumulative %GMI Exceedance

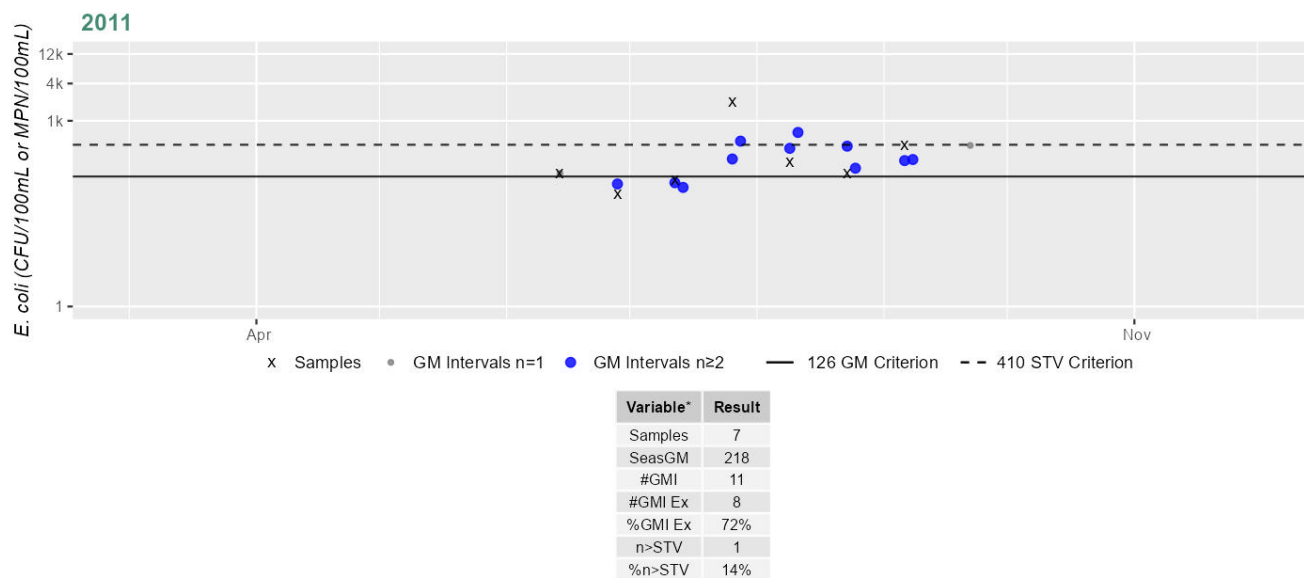
Current (2011-2022)

39%

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

### Station MRWC\_MFW1 - Escherichia coli

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



#### Cumulative %GMI Exceedance

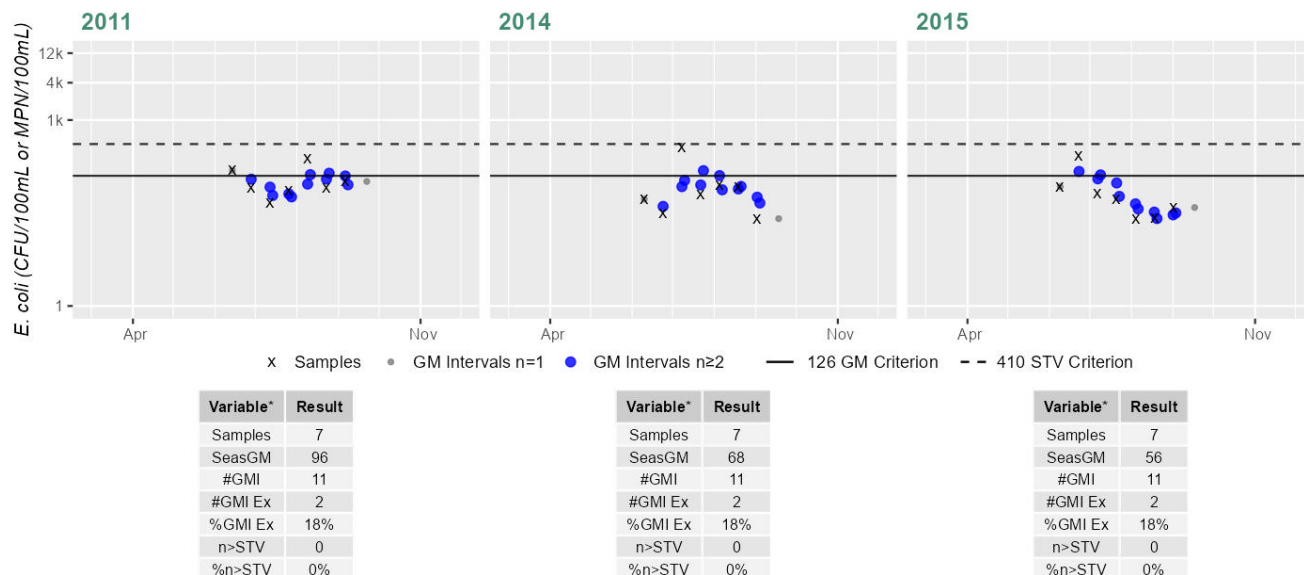
Current (2011-2022)

72%

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

### Station MRWC\_MORF1 - *Escherichia coli*

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



Cumulative %GMI Exceedance

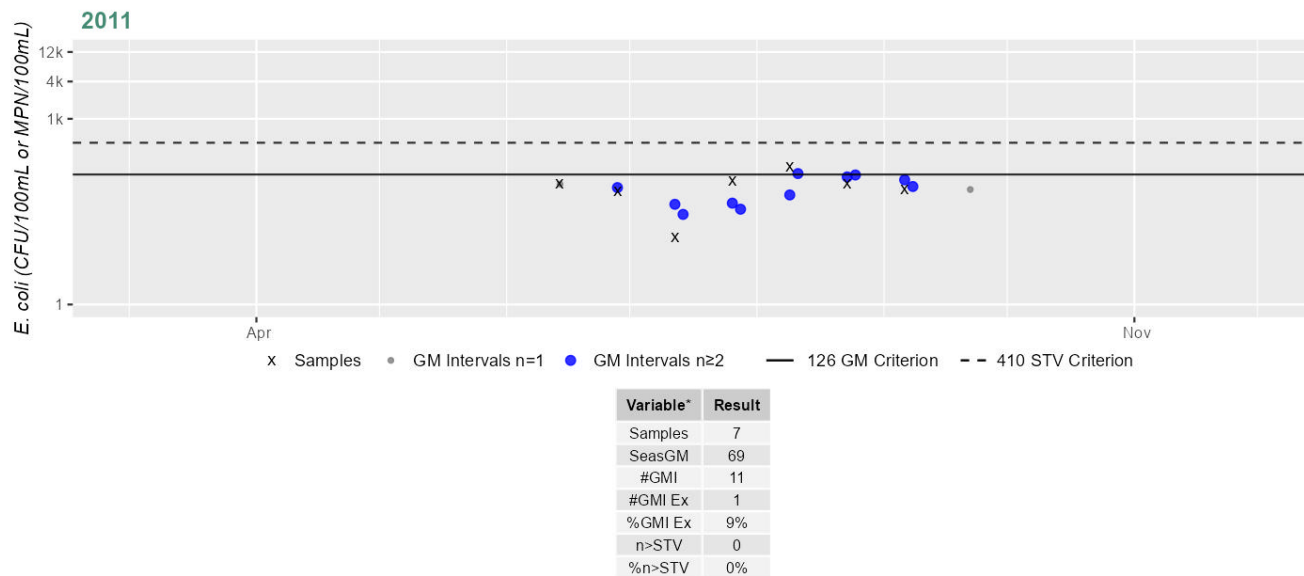
Current (2011-2022)

18%

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

### Station MRWC\_MUA1 - *Escherichia coli*

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



Cumulative %GMI Exceedance

Current (2011-2022)

9%

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

## Other Indicators

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface water sampling was conducted in the Millers River (MA35-04) at station W3313 (PFAS Study ID 48) on 10/04/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. |

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

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

| Station Code | PFAS Study ID | Sample Date | PFOA ng/L | PFOS ng/L | PFNA ng/L | PFHxS ng/L | PFBA ng/L | PFBS ng/L | HFPO-DA ng/L | $\Sigma$ PFAS6 ng/L |
|--------------|---------------|-------------|-----------|-----------|-----------|------------|-----------|-----------|--------------|---------------------|
| W3313        | 48            | 10/04/2022  | 4.8       | 2.8       | 0.77j     | 1.1j       | 2.4j      | 1.3j      | <2           | 11.9*               |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for the Millers River (MA35-04) continues to be assessed as Fully Supporting. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Millers River (MA35-04) from 2005-2015 at 9 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2229 [near the southern end of Bearsden Rd, ~190 ft downstream from the confluence of Gulf Brook, Athol] from May-Sep 2011 (n=6), MRWC_MUA1 [Upper Athol] from Jun-Sep 2011 (n=7), MRWC_MCM1 [Cass Meadow launch, Athol] from 2011 and 2014-2015 (n=7/yr), W0684 [Rt. 2A bridge, Athol] from May-Sep 2005 (historic n=5) and May-Sep 2011 (current n=6), MRWC_MFW1 [Fielding Way, Athol] from Jun-Sep 2011 (n=7), W0683 [Daniel Shays Highway bridge, Athol] from May-Sep 2011 (n=6), MRWC_MORF1 [Orange River Front] from 2011 and 2014-2015 (n=7/yr), W2230 [S Main St (Rt. 122), Orange] from May-Sep 2011 (n=6), W0682 & MRWC_MWO1 [Holtshire Rd bridge, Orange & W Orange] from May-Sep 2005 (historic n=5) and Jun-Sep 2011 (current n=13/yr). <i>E. coli</i> data from W2229, MRWC_MUA1, MRWC_MCM1, W0684, MRWC_MFW1, W0683, MRWC_MORF1, W2230, and W0682 & MRWC_MWO1 meet 2024 CALM guidance. |

## Monitoring Stations



| Station Code | Organization                         | Type          | Water Body    | Station Description                                                                                                  | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|---------------|----------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W0682        | MassDEP                              | Water Quality | Millers River | [Holtshire Road bridge, Orange]                                                                                      | 42.598155 | -72.341352 |
| W0683        | MassDEP                              | Water Quality | Millers River | [Daniel Shays Highway bridge, Athol]                                                                                 | 42.575926 | -72.260640 |
| W0684        | MassDEP                              | Water Quality | Millers River | [Route 2A bridge, Athol]                                                                                             | 42.592809 | -72.239114 |
| W2229        | MassDEP                              | Water Quality | Millers River | [near the southern end of Bearsden Road, approximately 190 feet downstream from the confluence of Gulf Brook, Athol] | 42.623178 | -72.180736 |
| W2230        | MassDEP                              | Water Quality | Millers River | [South Main Street (Route 122), Orange]                                                                              | 42.589221 | -72.309559 |
| MRWC_MCM1    | Millers River Watershed Council, Inc | Water Quality | Millers River | Cass Meadow launch, Athol                                                                                            | 42.593531 | -72.239153 |
| MRWC_MFW1    | Millers River Watershed Council, Inc | Water Quality | Millers River | Fielding Way, Athol                                                                                                  | 42.575920 | -72.259220 |
| MRWC_MORF1   | Millers River Watershed Council, Inc | Water Quality | Millers River | Orange River Front                                                                                                   | 42.588756 | -72.308147 |
| MRWC_MUA1    | Millers River Watershed Council, Inc | Water Quality | Millers River | Upper Athol                                                                                                          | 42.595150 | -72.215840 |
| MRWC_MWO1    | Millers River Watershed Council, Inc | Water Quality | Millers River | West Orange                                                                                                          | 42.598390 | -72.341460 |

## Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1)

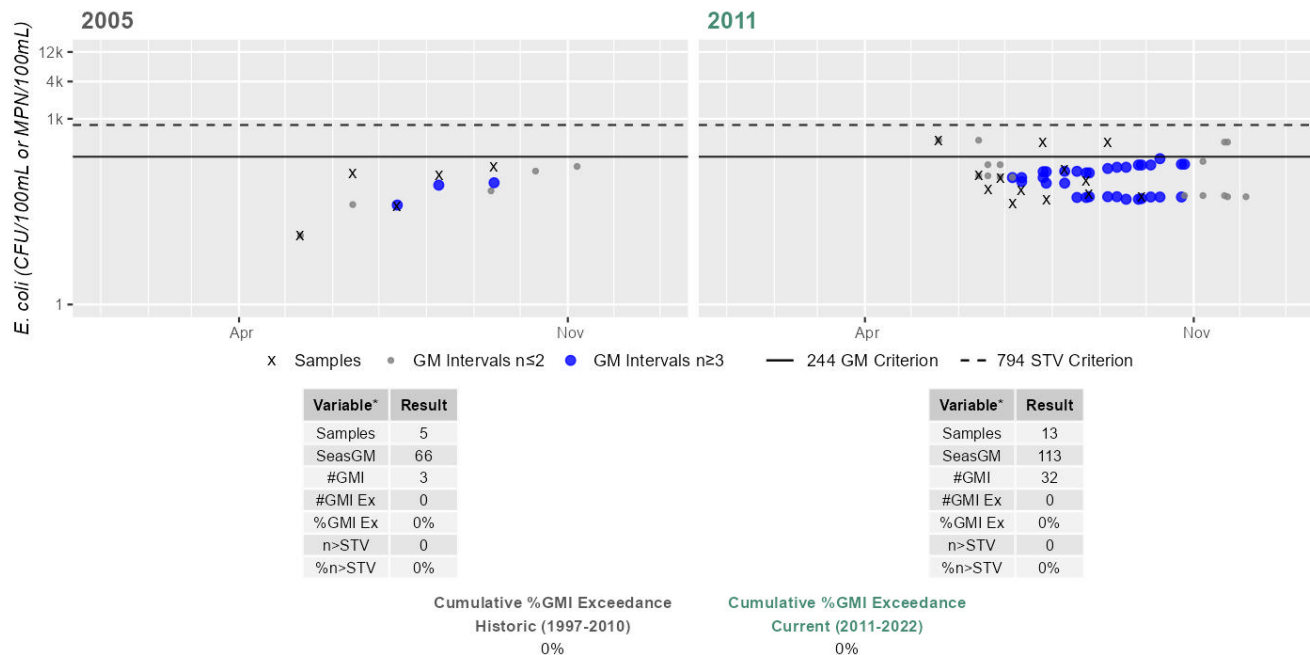
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0682        | MassDEP                              | E. coli   | 05/11/05   | 09/14/05 | 5            | 13                    | 170                   | 66                      |
| W0682        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 43                    | 450                   | 78                      |
| W0683        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 16                    | 120                   | 55                      |
| W0684        | MassDEP                              | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 97                    | 43                      |
| W0684        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 270                   | 69                      |
| W2229        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 26                    | 67                    | 45                      |
| W2230        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 59                    | 270                   | 95                      |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 52                    | 320                   | 128                     |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 47                    | 224                   | 84                      |
| MRWC_MCM1    | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 58                    | 387                   | 135                     |

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| MRWC_MFW1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 64                    | 2000                  | 218                     |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 46                    | 240                   | 96                      |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 25                    | 365                   | 68                      |
| MRWC_MORF1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 25                    | 261                   | 56                      |
| MRWC_MUA1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 12                    | 170                   | 69                      |
| MRWC_MWO1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 70                    | 420                   | 157                     |

### Station MASSDEP\_W0682 & MRWC\_MWO1 - Escherichia coli

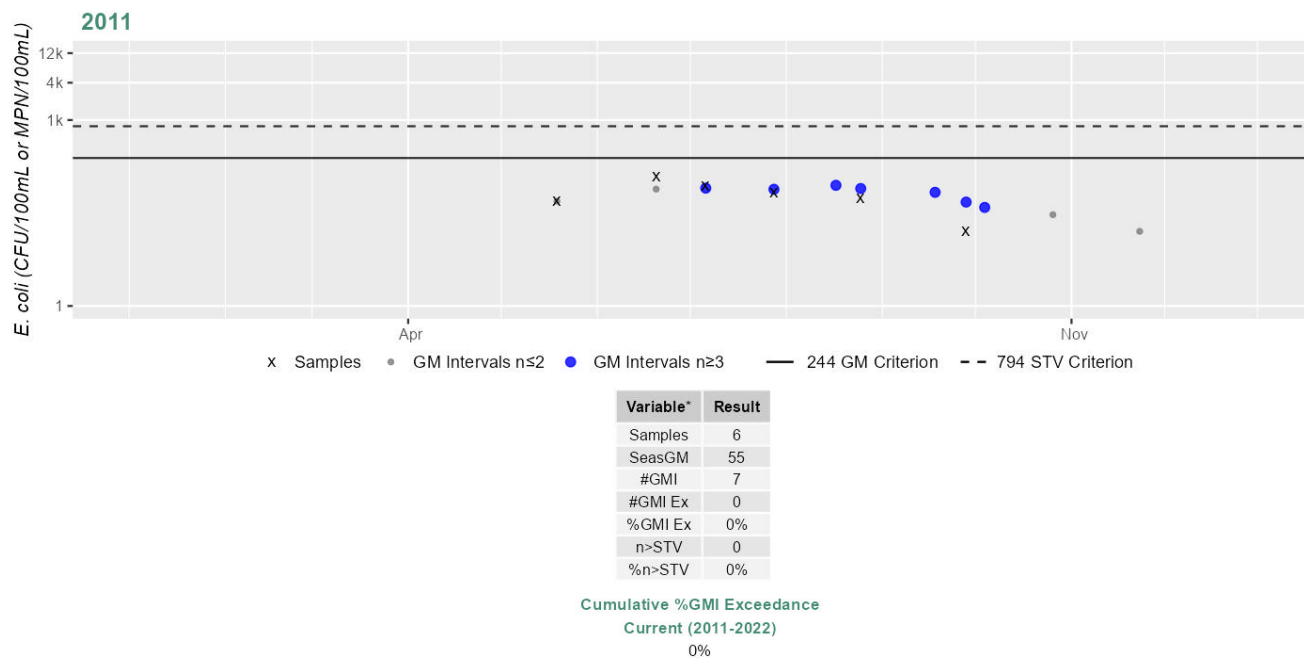
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



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

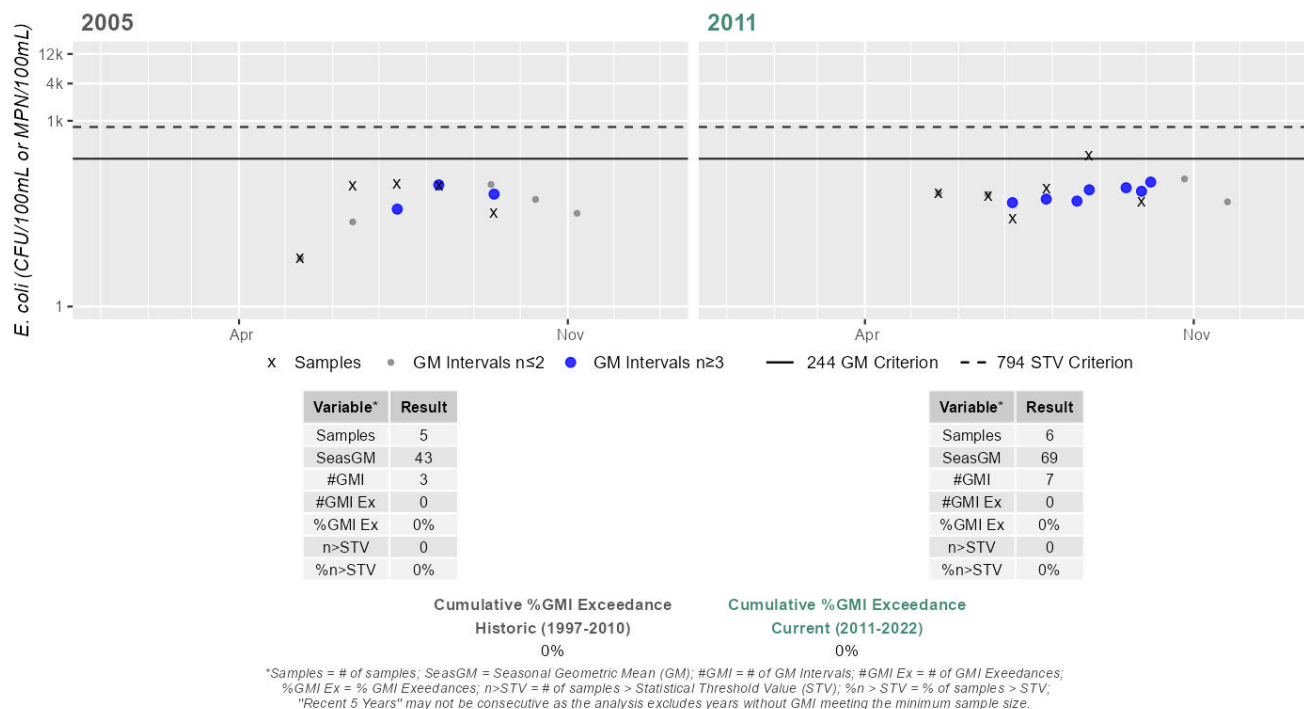
### Station MASSDEP\_W0683 - *Escherichia coli*

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



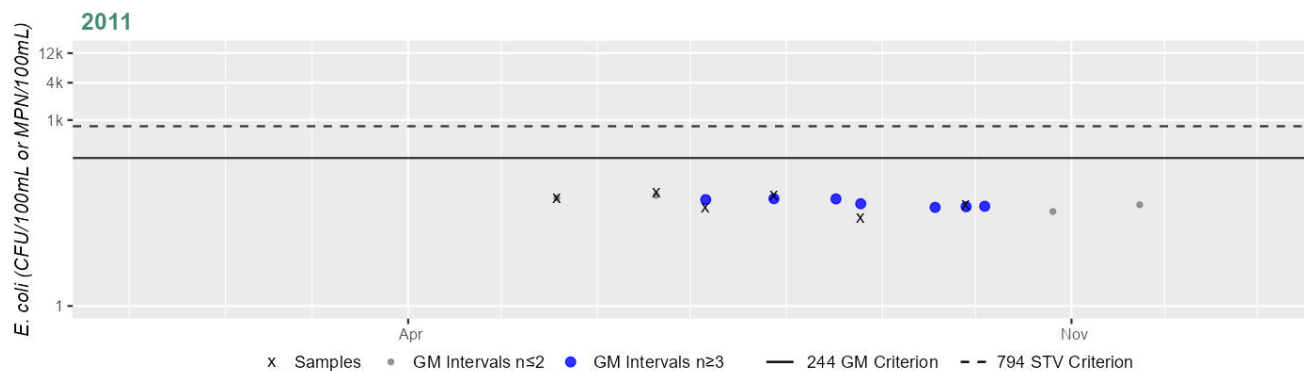
### Station MASSDEP\_W0684 - *Escherichia coli*

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



### Station MASSDEP\_W2229 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 45     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

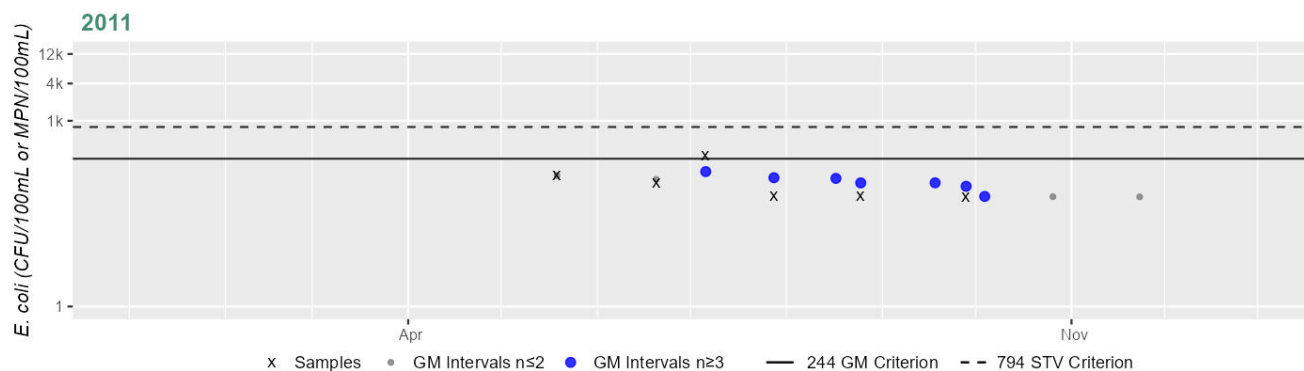
Current (2011-2022)

0%

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

### Station MASSDEP\_W2230 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 95     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

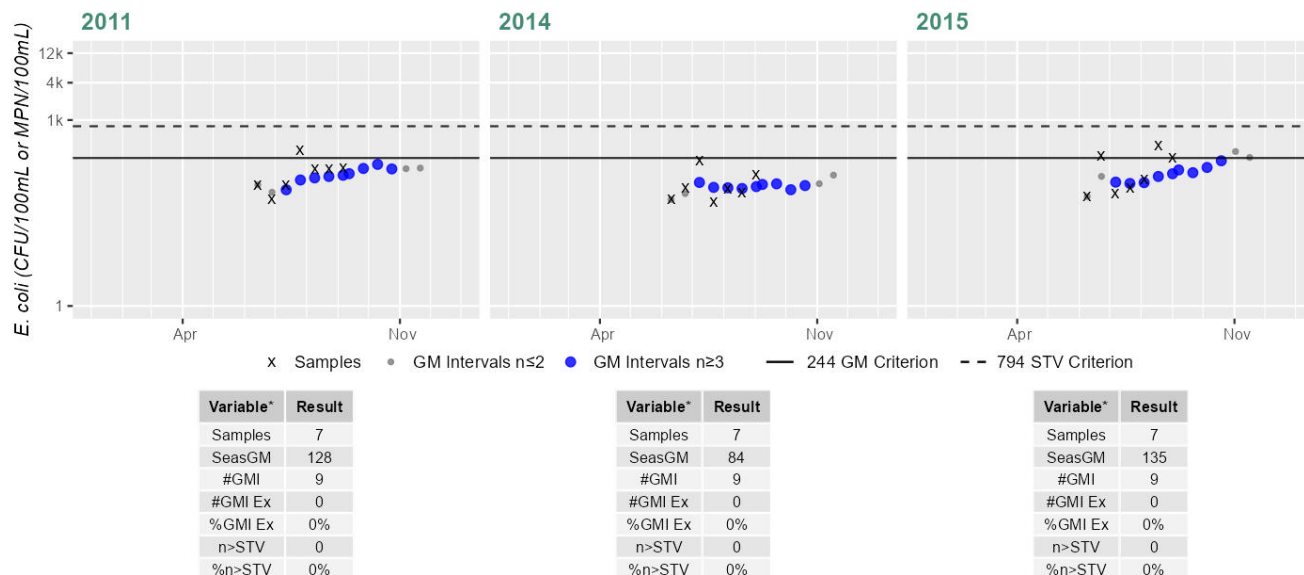
Current (2011-2022)

0%

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

### Station MRWC\_MCM1 - Escherichia coli

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



Cumulative %GMI Exceedance

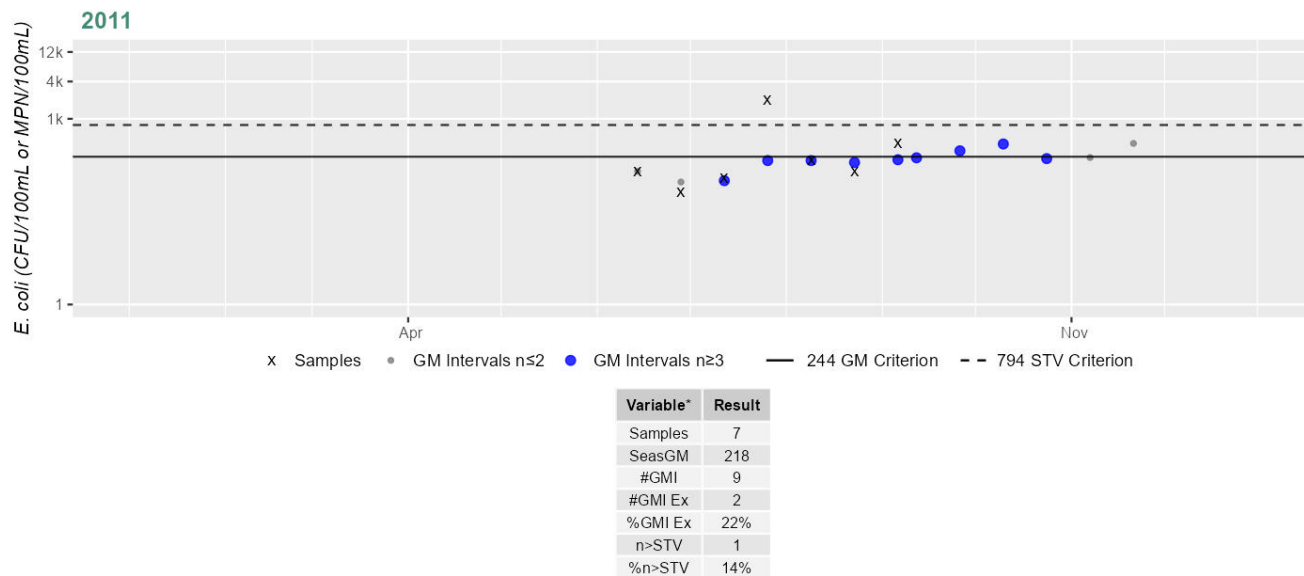
Current (2011-2022)

0%

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

### Station MRWC\_MFW1 - Escherichia coli

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



Cumulative %GMI Exceedance

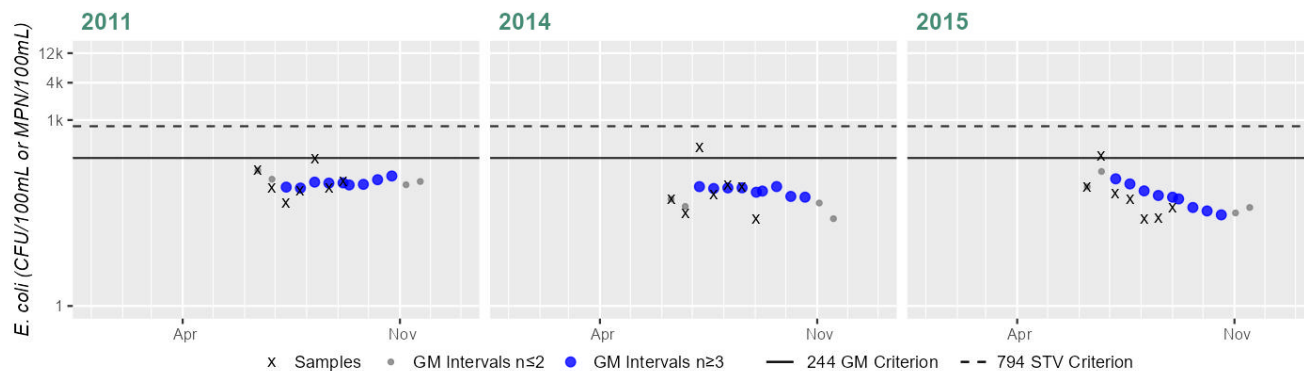
Current (2011-2022)

22%

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

### Station MRWC\_MORF1 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 96     |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 68     |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 56     |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

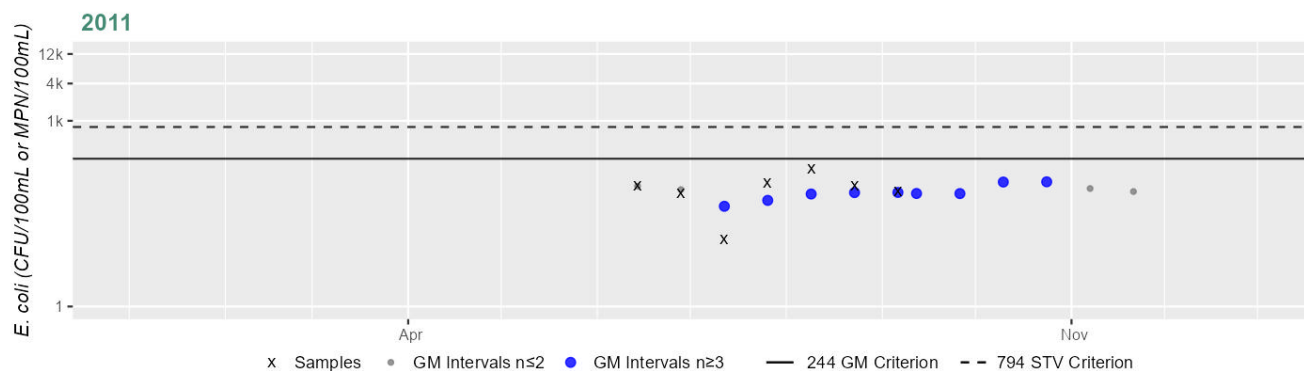
Current (2011-2022)

0%

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

### Station MRWC\_MUA1 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 69     |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Millers River (MA35-05)

|                                  |                                                                                                                            |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Erving Center WWTP (formerly known as Erving Paper Company), Erving to confluence with Connecticut River, Erving/Montague. |
| <b>AU Type:</b>                  | RIVER                                                                                                                      |
| <b>AU Size:</b>                  | 9.2 MILES                                                                                                                  |
| <b>Classification/Qualifier:</b> | B: WWF                                                                                                                     |

### Millers River (MA35-05)

Watershed Area: 389.20 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 309.86       | 8.68                            | 76.44                 | 2.06                   |
| Agriculture                     | 1.6%         | 2.1%                            | 0.9%                  | 1.6%                   |
| Developed                       | 8.3%         | 9.8%                            | 7.7%                  | 11.5%                  |
| Natural                         | 81.7%        | 86.3%                           | 74.4%                 | 83.1%                  |
| Wetland                         | 8.4%         | 1.8%                            | 17%                   | 3.8%                   |
| Impervious                      | 3.5%         | 4.8%                            | 3.4%                  | 5.3%                   |

\*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                   | (Curly-leaf Pondweed*)     | --                | Unchanged                 |
| 5                | 5                   | Escherichia Coli (E. Coli) | --                | Added                     |
| 5                | 5                   | Fish Bioassessments        | --                | Unchanged                 |
| 5                | 5                   | PCBs in Fish Tissue        | --                | Unchanged                 |
| 5                | 5                   | PFAS in Fish Tissue        | --                | Added                     |

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

| <b>Impairment</b>          | <b>Source (Confirmed Y/N)</b>          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|----------------------------|----------------------------------------|------------|-----------|------------|------------|------------|
| Escherichia Coli (E. Coli) | Municipal Point Source Discharges (N)  | --         | --        | --         | X          | --         |
| Escherichia Coli (E. Coli) | Source Unknown (N)                     | --         | --        | --         | X          | --         |
| Fish Bioassessments        | Dam or Impoundment (N)                 | X          | --        | --         | --         | --         |
| Fish Bioassessments        | Source Unknown (N)                     | X          | --        | --         | --         | --         |
| PCBs in Fish Tissue        | Contaminated Sediments (Y)             | --         | X         | --         | --         | --         |
| PCBs in Fish Tissue        | Releases from Waste Sites or Dumps (Y) | --         | X         | --         | --         | --         |
| PFAS in Fish Tissue        | Source Unknown (N)                     | --         | X         | --         | --         | --         |

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for this Millers River AU (MA35-05) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the next upstream Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Millers River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### ***Fish Tissue Data***

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



| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the next upstream Millers River AU (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the Millers River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for this Millers River AU (MA35-05). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Millers River (MA35-05) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the upstream half of this Millers River AU at USGS flow gaging station #01166500 near Bridge St/Farley Rd in Erving/Wendell (W0690) between January 2011 and March 2013 (n=13) as part of the SMART monitoring project. 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  |
|--------------|--------------|---------------|---------------|----------------------------------------------------------------------------------------|-----------|------------|
| W0690        | MassDEP      | Water Quality | Millers River | [at USGS flow gaging station #01166500 near Bridge Street/Farley Road, Erving/Wendell] | 42.597511 | -72.437840 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0690        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0690 on Millers River (MA35-05) during 6 site visits between Jan 2011 and Nov 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                       |
|--------------|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0690        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0690 on Millers River (MA35-05) during 5 site visits between Feb 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                                    |
| W0690        | 2013      | 2                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0690 on Millers River (MA35-05) during 2 site visits between Jan 2013 and Mar 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3). |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0690        | 2011      | 6                 | 5                                                          | 0                                         |
| W0690        | 2012      | 5                 | 5                                                          | 0                                         |
| W0690        | 2013      | 2                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0690        | Millers River | 2011      | Aquatic Plant Density, Overall  | None             | 2            | 6                       |
| W0690        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse           | 3            | 6                       |
| W0690        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 1            | 6                       |
| W0690        | Millers River | 2011      | Color                           | None             | 2            | 6                       |
| W0690        | Millers River | 2011      | Color                           | Reddish          | 4            | 6                       |
| W0690        | Millers River | 2011      | Objectionable Deposits          | No               | 4            | 6                       |
| W0690        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 1            | 6                       |
| W0690        | Millers River | 2011      | Objectionable Deposits          | Yes              | 1            | 6                       |
| W0690        | Millers River | 2011      | Odor                            | Musty (Basement) | 2            | 6                       |
| W0690        | Millers River | 2011      | Odor                            | None             | 4            | 6                       |
| W0690        | Millers River | 2011      | Periphyton Density, Filamentous | None             | 5            | 6                       |
| W0690        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 1            | 6                       |
| W0690        | Millers River | 2011      | Periphyton Density, Film        | None             | 4            | 6                       |
| W0690        | Millers River | 2011      | Periphyton Density, Film        | Sparse           | 1            | 6                       |
| W0690        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 1            | 6                       |
| W0690        | Millers River | 2011      | Scum                            | No               | 2            | 6                       |
| W0690        | Millers River | 2011      | Scum                            | Yes              | 4            | 6                       |

| Station Code | Waterbody     | Data Year | Parameter                       | Result             | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|--------------------|--------------|-------------------------|
| W0690        | Millers River | 2011      | Turbidity                       | None               | 5            | 6                       |
| W0690        | Millers River | 2011      | Turbidity                       | Unobservable       | 1            | 6                       |
| W0690        | Millers River | 2012      | Aquatic Plant Density, Overall  | None               | 1            | 5                       |
| W0690        | Millers River | 2012      | Aquatic Plant Density, Overall  | Sparse             | 4            | 5                       |
| W0690        | Millers River | 2012      | Color                           | Reddish            | 5            | 5                       |
| W0690        | Millers River | 2012      | Objectionable Deposits          | No                 | 4            | 5                       |
| W0690        | Millers River | 2012      | Objectionable Deposits          | Yes                | 1            | 5                       |
| W0690        | Millers River | 2012      | Odor                            | Effluent (Treated) | 1            | 5                       |
| W0690        | Millers River | 2012      | Odor                            | Musty (Basement)   | 1            | 5                       |
| W0690        | Millers River | 2012      | Odor                            | None               | 1            | 5                       |
| W0690        | Millers River | 2012      | Odor                            | Other (Eutrophic)  | 2            | 5                       |
| W0690        | Millers River | 2012      | Periphyton Density, Filamentous | None               | 5            | 5                       |
| W0690        | Millers River | 2012      | Periphyton Density, Film        | None               | 4            | 5                       |
| W0690        | Millers River | 2012      | Periphyton Density, Film        | Sparse             | 1            | 5                       |
| W0690        | Millers River | 2012      | Scum                            | No                 | 1            | 5                       |
| W0690        | Millers River | 2012      | Scum                            | Yes                | 4            | 5                       |
| W0690        | Millers River | 2012      | Turbidity                       | None               | 5            | 5                       |
| W0690        | Millers River | 2013      | Aesthetics Impaired?            | NR                 | 2            | 2                       |
| W0690        | Millers River | 2013      | Aquatic Plant Density, Overall  | None               | 1            | 2                       |
| W0690        | Millers River | 2013      | Aquatic Plant Density, Overall  | Unobservable       | 1            | 2                       |
| W0690        | Millers River | 2013      | Color                           | Reddish            | 2            | 2                       |
| W0690        | Millers River | 2013      | Objectionable Deposits          | Unobservable       | 2            | 2                       |
| W0690        | Millers River | 2013      | Odor                            | None               | 2            | 2                       |
| W0690        | Millers River | 2013      | Periphyton Density, Filamentous | None               | 1            | 2                       |
| W0690        | Millers River | 2013      | Periphyton Density, Filamentous | Unobservable       | 1            | 2                       |
| W0690        | Millers River | 2013      | Periphyton Density, Film        | None               | 1            | 2                       |
| W0690        | Millers River | 2013      | Periphyton Density, Film        | Unobservable       | 1            | 2                       |
| W0690        | Millers River | 2013      | Scum                            | No                 | 1            | 2                       |
| W0690        | Millers River | 2013      | Scum                            | Unobservable       | 1            | 2                       |
| W0690        | Millers River | 2013      | Turbidity                       | None               | 2            | 2                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

## 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Millers River (MA35-05) is assessed as Not Supporting. An *Escherichia coli* (*E. coli*) impairment is being added due to bacteria data not meeting the threshold at MRWC\_MEr1. Surface water sampling was conducted by the USGS on the Millers River (MA35-05) at station USGS\_01166630 at Bridge Street, Millers Falls, MA on three dates during September to October 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study). MassDEP, MRWC, and USGS staff/volunteers collected *E. coli* bacteria samples in the Millers River (MA35-05) from 2011-2021 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC\_MEr1 [Erving access] from 2014-2015 (n=7/yr), W0690 & USGS-01166500 [at USGS flow gaging station #01166500 near Bridge St/Farley Rd, Erving/Wendell & MILLERS RIVER AT ERVING, MA] from 2011-2012 and 2019-2021 (n=3-7/yr), MRWC\_MCf1 [Confluence w/CT river, Millers Falls] from 2014-2015 (n=7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MEr1 indicated 2 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2014 and 2015, 27 & 54%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 40% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year limited frequency *E. coli* dataset from W0690 & USGS-01166500 indicated 1 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2019, 33%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 14% of intervals had GMs >126 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MCf1 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml, 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >126 CFU/100ml. While *E. coli* data from W0690 & USGS-01166500 and MRWC\_MCf1 meet 2024 CALM guidance, *E. coli* data from MRWC\_MEr1 are indicative of an *E. coli* impairment. The prior *E. coli* Alert is being removed and replaced with an *E. coli* impairment.

## Monitoring Stations

| Station Code  | Organization                            | Type          | Water Body    | Station Description                                                                    | Latitude  | Longitude  |
|---------------|-----------------------------------------|---------------|---------------|----------------------------------------------------------------------------------------|-----------|------------|
| W0690         | MassDEP                                 | Water Quality | Millers River | [at USGS flow gaging station #01166500 near Bridge Street/Farley Road, Erving/Wendell] | 42.597511 | -72.437840 |
| MRWC_MCf1     | Millers River Watershed Council, Inc    | Water Quality | Millers River | Confluence w/CT river, Millers Falls                                                   | 42.595808 | -72.495839 |
| MRWC_MEr1     | Millers River Watershed Council, Inc    | Water Quality | Millers River | Erving access                                                                          | 42.598533 | -72.402639 |
| USGS-01166500 | USGS Massachusetts Water Science Center | Water Quality | Millers River | Millers River At Erving, MA                                                            | 42.597586 | -72.437864 |

| Station Code  | Organization                            | Type          | Water Body    | Station Description                                        | Latitude  | Longitude  |
|---------------|-----------------------------------------|---------------|---------------|------------------------------------------------------------|-----------|------------|
| USGS-01166630 | USGS Massachusetts Water Science Center | Water Quality | Millers River | MILLERS RIVER AT BRIDGE STREET, MILLERS FALLS, MA; no WWTF | 42.580000 | -72.497000 |

## ***Bacteria Data***

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

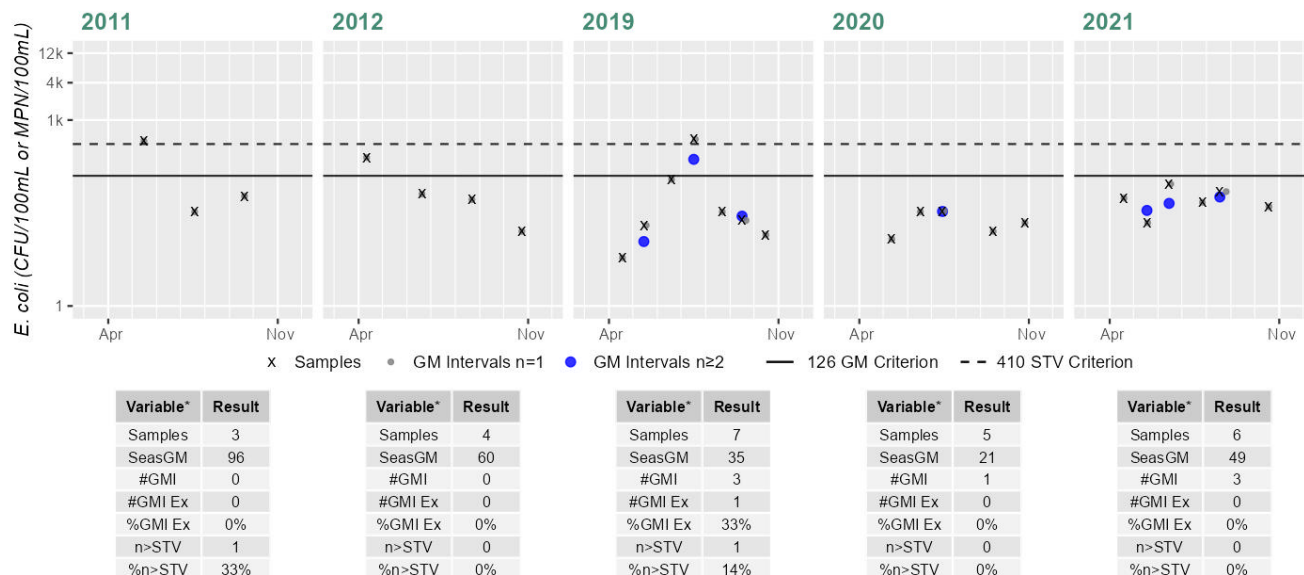
(MassDEP Undated 6) (MassDEP Undated 4) (Millers RWC 2015) (MassDEP Undated 2) (USGS 2024) (MassDEP Undated 2)

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

| Station Code  | Organization                            | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|---------------|-----------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0690         | MassDEP                                 | E. coli   | 05/16/11   | 09/20/11 | 3            | 33                    | 461                   | 96                      |
| W0690         | MassDEP                                 | E. coli   | 04/10/12   | 10/23/12 | 4            | 16                    | 249                   | 60                      |
| MRWC_MCf1     | Millers River Watershed Council, Inc    | E. coli   | 06/10/14   | 09/02/14 | 7            | 34                    | 99                    | 57                      |
| MRWC_MCf1     | Millers River Watershed Council, Inc    | E. coli   | 06/09/15   | 09/01/15 | 7            | 37                    | 193                   | 66                      |
| MRWC_MEr1     | Millers River Watershed Council, Inc    | E. coli   | 06/10/14   | 09/02/14 | 7            | 48                    | 261                   | 105                     |
| MRWC_MEr1     | Millers River Watershed Council, Inc    | E. coli   | 06/09/15   | 09/01/15 | 7            | 41                    | 344                   | 144                     |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 04/18/19   | 10/16/19 | 7            | 6                     | 490                   | 35                      |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 05/11/20   | 10/26/20 | 5            | 12                    | 34                    | 21                      |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 04/19/21   | 10/19/21 | 6            | 22                    | 93                    | 49                      |

### Station MASSDEP\_W0690 & USGS-01166500 - *Escherichia coli*

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



Cumulative %GMI Exceedance

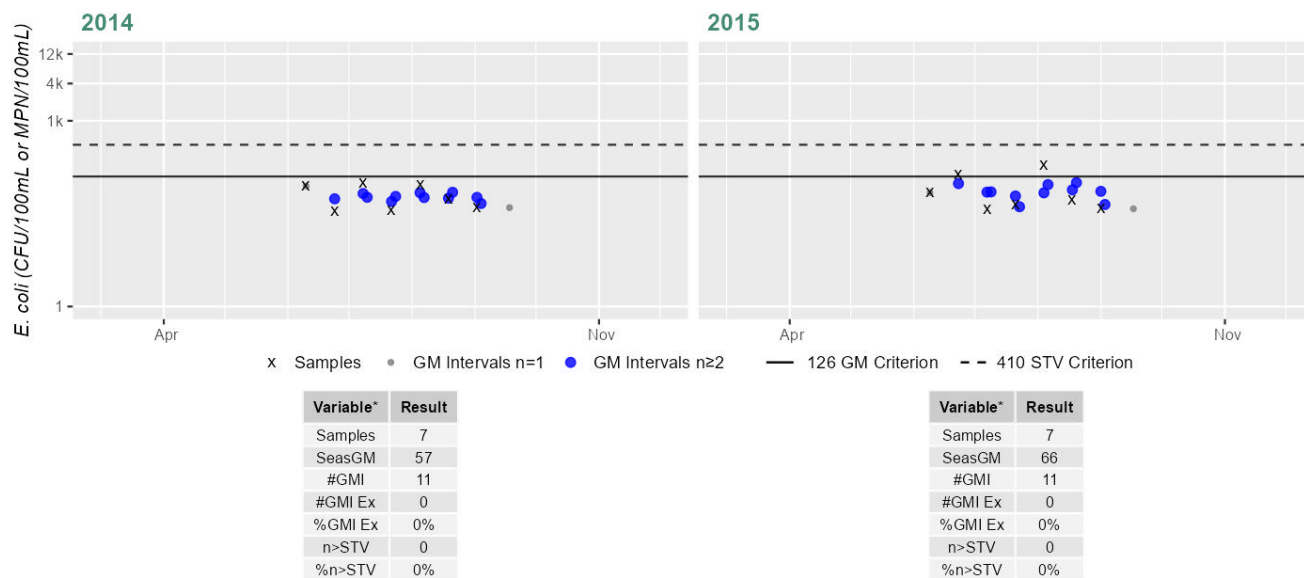
Current (2011-2022)

14%

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

### Station MASSDEP\_W1312 & MRWC\_Mcf1 - *Escherichia coli*

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



Cumulative %GMI Exceedance

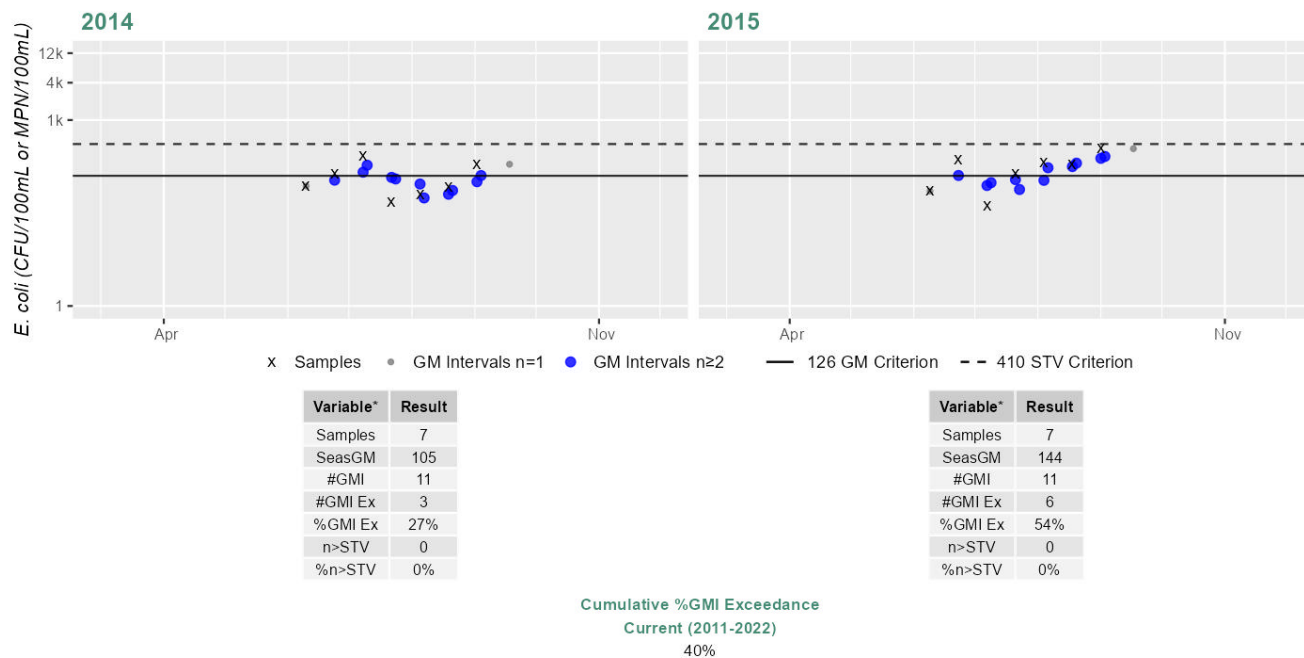
Current (2011-2022)

0%

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

### Station MRWC\_MEr1 - Escherichia coli

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



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

## Other Indicators

### Summary Statement(s) for USGS 2020 PFAS in Water Column Data (Savoie and Argue 2023) (MassDEP Undated 2)

#### Summary

Surface water sampling was conducted by the USGS on the Millers River (MA35-05) at station USGS\_01166630 at Bridge Street, Millers Falls, MA on three dates during September to October 2020 as part of a MassDEP funded project to evaluate 24 PFAS analytes in ambient water samples upstream and downstream of wastewater treatment facilities (however, this station was not associated with a WWTF). The concentrations of six of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS) were all less than the 90 ng/L (ppt) recreational screening value (HFPO-DA/GenX was not analyzed in this study).

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

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

| Station Code  | Sample Date | PFOA ng/L | PFOS ng/L | PFNA ng/L | PFHxS ng/L | PFBA ng/L | PFBS ng/L | ΣPFAS6 ng/L |
|---------------|-------------|-----------|-----------|-----------|------------|-----------|-----------|-------------|
| USGS-01166630 | 9/2/2020    | 5.64      | 4.02      | E1.14     | E1.13      | 7.68      | 2.07      | 18.5*       |
| USGS-01166630 | 9/21/2020   | 5.63      | E4.78     | E0.809    | E1.17      | 3.25      | E1.36     | 16.5*       |
| USGS-01166630 | 10/29/2020  | E4.04     | E3.19     | E0.659    | E0.859     | 1.92      | E0.98     | 12.9*       |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for the Millers River (MA35-05) continues to be assessed as Fully Supporting. MassDEP, MRWC, and USGS staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the Millers River (MA35-05) from 2005-2021 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC\_MEr1 [Erving access] from 2014-2015 (n=7/yr), W0690 & USGS-01166500 [at USGS flow gaging station #01166500 near Bridge St/Farley Rd, Erving/Wendell & MILLERS RIVER AT ERVING, MA] from 2005 and 2007-2010 (historic n=2-6/yr) and 2011-2013 and 2019-2021 (current n=2-11/yr), W1312 & MRWC\_MCf1 [E Mineral Rd /River Rd, Montague/Erving & Confluence w/CT river, Millers Falls] from May-Sep 2005 (historic n=5) and 2014-2015 (current n=7/yr). Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_MEr1 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from W0690 & USGS-01166500 indicated 0 out of 3 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. Analysis of the multi-year moderate frequency *E. coli* dataset from W1312 & MRWC\_MCf1 indicated 0 out of 2 sufficient data yrs had intervals where >20% of the GMs were >244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs >244 CFU/100ml. *E. coli* data from MRWC\_MEr1, W0690 & USGS-01166500, and W1312 & MRWC\_MCf1 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code  | Organization                            | Type          | Water Body    | Station Description                                                                    | Latitude  | Longitude  |
|---------------|-----------------------------------------|---------------|---------------|----------------------------------------------------------------------------------------|-----------|------------|
| W0690         | MassDEP                                 | Water Quality | Millers River | [at USGS flow gaging station #01166500 near Bridge Street/Farley Road, Erving/Wendell] | 42.597511 | -72.437840 |
| W1312         | MassDEP                                 | Water Quality | Millers River | [East Mineral Road /River Road, Montague/Erving]                                       | 42.595807 | -72.496165 |
| MRWC_MCf1     | Millers River Watershed Council, Inc    | Water Quality | Millers River | Confluence w/CT river, Millers Falls                                                   | 42.595808 | -72.495839 |
| MRWC_MEr1     | Millers River Watershed Council, Inc    | Water Quality | Millers River | Erving access                                                                          | 42.598533 | -72.402639 |
| USGS-01166500 | USGS Massachusetts Water Science Center | Water Quality | Millers River | Millers River At Erving, MA                                                            | 42.597586 | -72.437864 |



## Bacteria Data

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

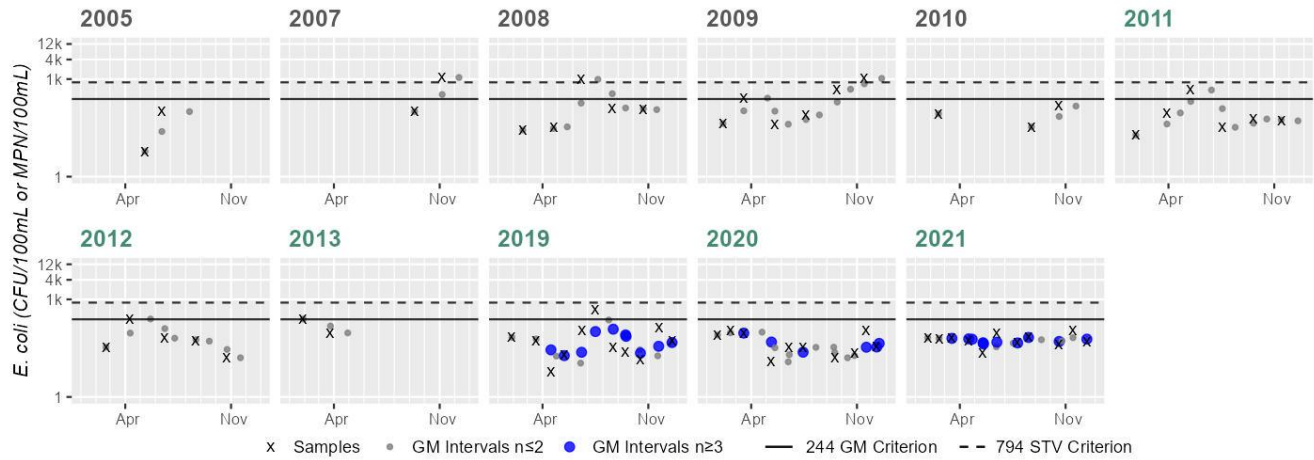
(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1) (USGS 2024) (MassDEP Undated 1)

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

| Station Code  | Organization                            | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|---------------|-----------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0690         | MassDEP                                 | E. coli   | 05/11/05   | 06/14/05 | 2            | 6                     | 100                   | 24                      |
| W0690         | MassDEP                                 | E. coli   | 09/11/07   | 11/06/07 | 2            | 101                   | 1120                  | 336                     |
| W0690         | MassDEP                                 | E. coli   | 02/20/08   | 10/21/08 | 5            | 27                    | 980                   | 105                     |
| W0690         | MassDEP                                 | E. coli   | 02/03/09   | 11/16/09 | 6            | 41                    | 1050                  | 162                     |
| W0690         | MassDEP                                 | E. coli   | 02/17/10   | 10/19/10 | 3            | 34                    | 148                   | 75                      |
| W0690         | MassDEP                                 | E. coli   | 01/25/11   | 11/15/11 | 6            | 19                    | 461                   | 65                      |
| W0690         | MassDEP                                 | E. coli   | 02/21/12   | 10/23/12 | 5            | 16                    | 249                   | 53                      |
| W0690         | MassDEP                                 | E. coli   | 01/29/13   | 03/25/13 | 2            | 93                    | 248                   | 151                     |
| W1312         | MassDEP                                 | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 90                    | 33                      |
| MRWC_MCF1     | Millers River Watershed Council, Inc    | E. coli   | 06/10/14   | 09/02/14 | 7            | 34                    | 99                    | 57                      |
| MRWC_MCF1     | Millers River Watershed Council, Inc    | E. coli   | 06/09/15   | 09/01/15 | 7            | 37                    | 193                   | 66                      |
| MRWC_MER1     | Millers River Watershed Council, Inc    | E. coli   | 06/10/14   | 09/02/14 | 7            | 48                    | 261                   | 105                     |
| MRWC_MER1     | Millers River Watershed Council, Inc    | E. coli   | 06/09/15   | 09/01/15 | 7            | 41                    | 344                   | 144                     |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 01/29/19   | 12/19/19 | 11           | 6                     | 490                   | 46                      |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 01/23/20   | 12/10/20 | 10           | 12                    | 110                   | 41                      |
| USGS-01166500 | USGS Massachusetts Water Science Center | E. coli   | 01/26/21   | 12/14/21 | 11           | 22                    | 110                   | 56                      |

# Station MASSDEP\_W0690 & USGS-01166500 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 2      |
| SeasGM    | 24     |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 2      |
| SeasGM    | 336    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 1      |
| %n>STV    | 50%    |

| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 105    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 1      |
| %n>STV    | 20%    |

| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 162    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 1      |
| %n>STV    | 16%    |

| Variable* | Result |
|-----------|--------|
| Samples   | 3      |
| SeasGM    | 75     |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 65     |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 53     |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 2      |
| SeasGM    | 151    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 11     |
| SeasGM    | 46     |
| #GMI      | 10     |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 10     |
| SeasGM    | 41     |
| #GMI      | 6      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 11     |
| SeasGM    | 56     |
| #GMI      | 10     |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

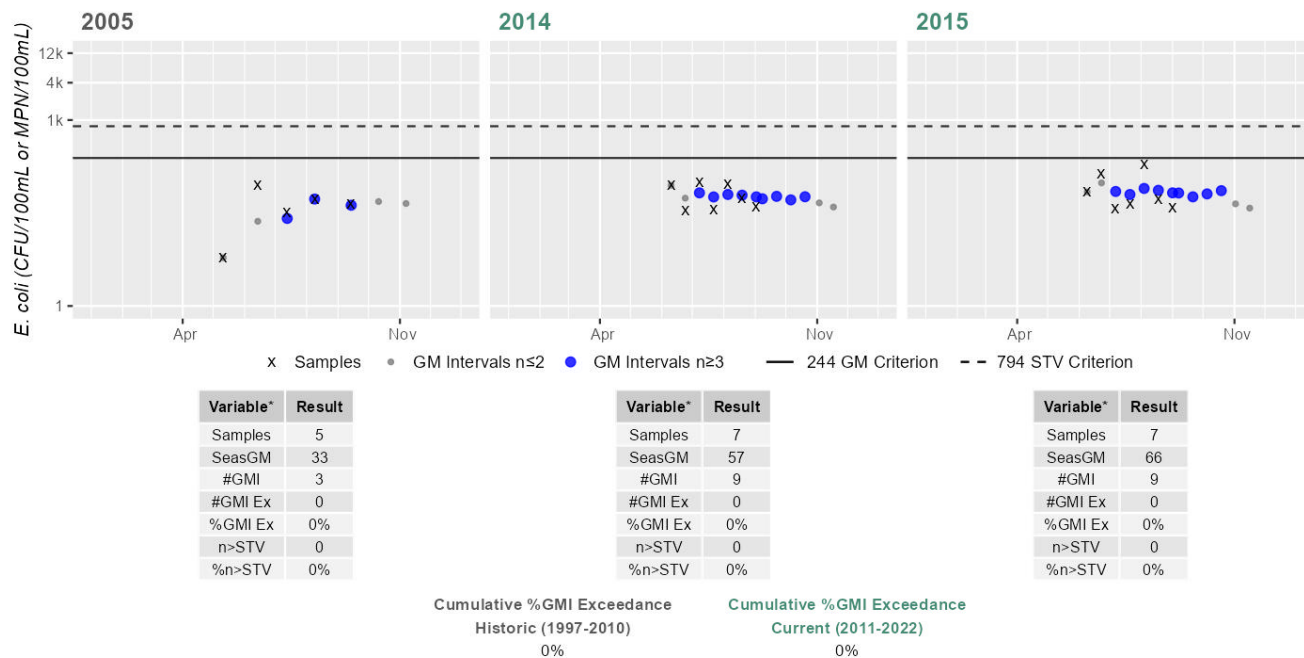
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

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

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

### Station MASSDEP\_W1312 & MRWC\_MCf1 - *Escherichia coli*

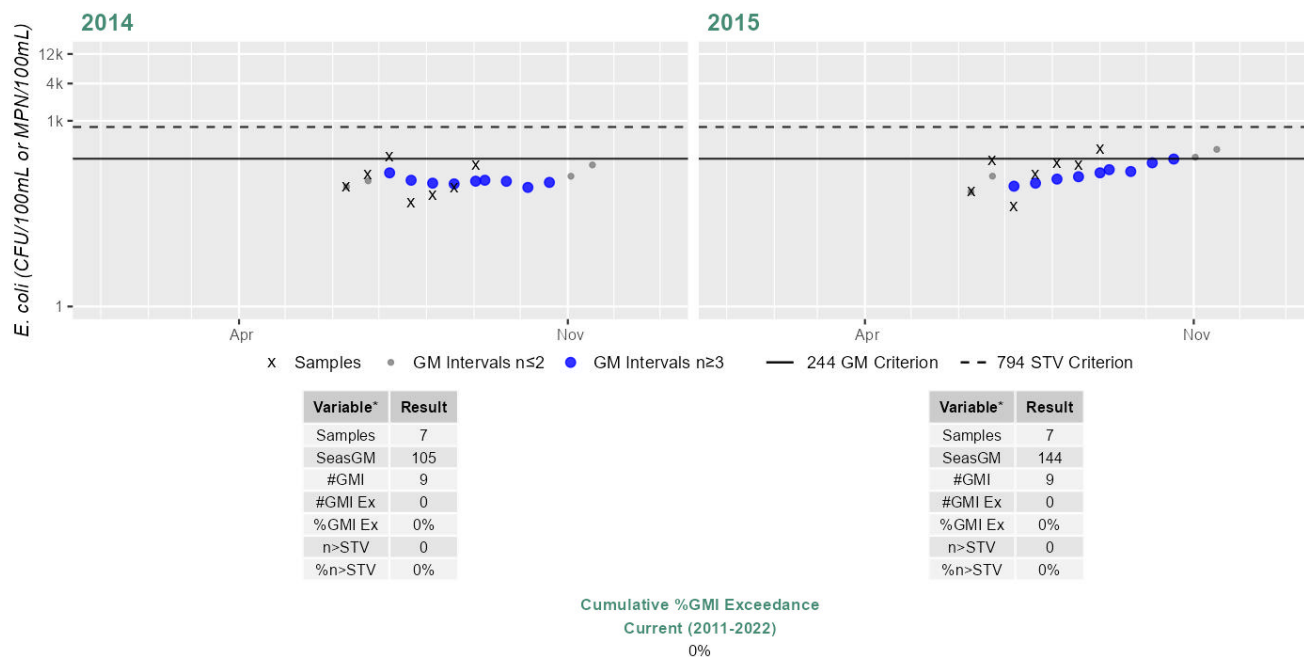
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



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

### Station MRWC\_MEr1 - *Escherichia coli*

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



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

## Millers River (MA35-20)

|                                  |                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, outlet of Sunset Lake, Ashburnham to inlet of Whitney Pond, Winchendon. |
| <b>AU Type:</b>                  | RIVER                                                                               |
| <b>AU Size:</b>                  | 6.4 MILES                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                              |

### Millers River (MA35-20)

Watershed Area: 28.66 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 25.79        | 8.42                            | 7.60                  | 2.41                   |
| Agriculture                     | 0.4%         | 0.3%                            | 0.2%                  | 0%                     |
| Developed                       | 5.9%         | 8.2%                            | 5.6%                  | 7.1%                   |
| Natural                         | 79.4%        | 77.8%                           | 73.6%                 | 73.2%                  |
| Wetland                         | 14.3%        | 13.8%                           | 20.6%                 | 19.6%                  |
| Impervious                      | 2.6%         | 3.3%                            | 2.8%                  | 3.6%                   |

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

| AU Category 2022 | AU Category 2024/26 | Impairment                     | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|--------------------------------|-------------------|---------------------------|
| 5                | 5                   | Benthic Macroinvertebrates     | --                | Unchanged                 |
| 5                | 5                   | Fish Bioassessments            | --                | Unchanged                 |
| 5                | 5                   | Lack of a Coldwater Assemblage | --                | Unchanged                 |
| 5                | 5                   | Lead                           | --                | Unchanged                 |
| 5                | 5                   | Temperature                    | --                | Unchanged                 |

| Impairment                 | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|----------------------------|------------------------|-----|----|-----|-----|-----|
| Benthic Macroinvertebrates | Source Unknown (N)     | X   | -- | --  | --  | --  |
| Fish Bioassessments        | Dam or Impoundment (Y) | X   | -- | --  | --  | --  |

| Impairment                     | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|--------------------------------|------------------------|-----|----|-----|-----|-----|
| Fish Bioassessments            | Source Unknown (N)     | X   | -- | --  | --  | --  |
| Lack of a Coldwater Assemblage | Dam or Impoundment (Y) | X   | -- | --  | --  | --  |
| Lead                           | Source Unknown (N)     | X   | -- | --  | --  | --  |
| Temperature                    | Dam or Impoundment (Y) | X   | -- | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | No    |

| 2024/26 Use Attainment Summary                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for the Millers River (MA35-20) is Not Assessed. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Millers River (MA35-20) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Millers River AU ~3430 feet downstream from the Rt. 12 crossing nearest North Ashburnham Road in Winchendon (W2211) during the summer of 2011 (n=6). There were generally persistent no 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  |
|--------------|--------------|---------------|---------------|-----------------------------------------------------------------------------------------------------------|-----------|------------|
| W2211        | MassDEP      | Water Quality | Millers River | [approximately 3430 feet downstream from the Route 12 crossing nearest North Ashburnham Road, Winchendon] | 42.667408 | -72.004141 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                    |
|--------------|-----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2211        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2211 on Millers River (MA35-20) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2211        | 2011      | 6                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody     | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|---------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2211        | Millers River | 2011      | Aquatic Plant Density, Overall  | Sparse           | 4            | 6                       |
| W2211        | Millers River | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 2            | 6                       |
| W2211        | Millers River | 2011      | Color                           | Light Yellow/Tan | 3            | 6                       |
| W2211        | Millers River | 2011      | Color                           | Reddish          | 2            | 6                       |
| W2211        | Millers River | 2011      | Color                           | Rusty            | 1            | 6                       |
| W2211        | Millers River | 2011      | Objectionable Deposits          | No               | 4            | 6                       |
| W2211        | Millers River | 2011      | Objectionable Deposits          | Unobservable     | 2            | 6                       |
| W2211        | Millers River | 2011      | Odor                            | None             | 6            | 6                       |
| W2211        | Millers River | 2011      | Periphyton Density, Filamentous | None             | 1            | 6                       |
| W2211        | Millers River | 2011      | Periphyton Density, Filamentous | Unobservable     | 5            | 6                       |
| W2211        | Millers River | 2011      | Periphyton Density, Film        | None             | 1            | 6                       |
| W2211        | Millers River | 2011      | Periphyton Density, Film        | Unobservable     | 5            | 6                       |
| W2211        | Millers River | 2011      | Scum                            | No               | 5            | 6                       |
| W2211        | Millers River | 2011      | Scum                            | Yes              | 1            | 6                       |
| W2211        | Millers River | 2011      | Turbidity                       | None             | 2            | 6                       |
| W2211        | Millers River | 2011      | Turbidity                       | Slightly Turbid  | 2            | 6                       |
| W2211        | Millers River | 2011      | Turbidity                       | Unobservable     | 2            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for the Millers River (MA35-20) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in the Millers River (MA35-20) at W2211 [~3430 ft downstream from the Rt. 12 crossing nearest N Ashburnham Rd, Winchendon] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2211 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 39 CFU/100ml. <i>E. coli</i> data from W2211 meet 2024 CALM guidance |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body    | Station Description                                                                                       | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|-----------------------------------------------------------------------------------------------------------|-----------|------------|
| W2211        | MassDEP      | Water Quality | Millers River | [approximately 3430 feet downstream from the Route 12 crossing nearest North Ashburnham Road, Winchendon] | 42.667408 | -72.004141 |

## Bacteria Data

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

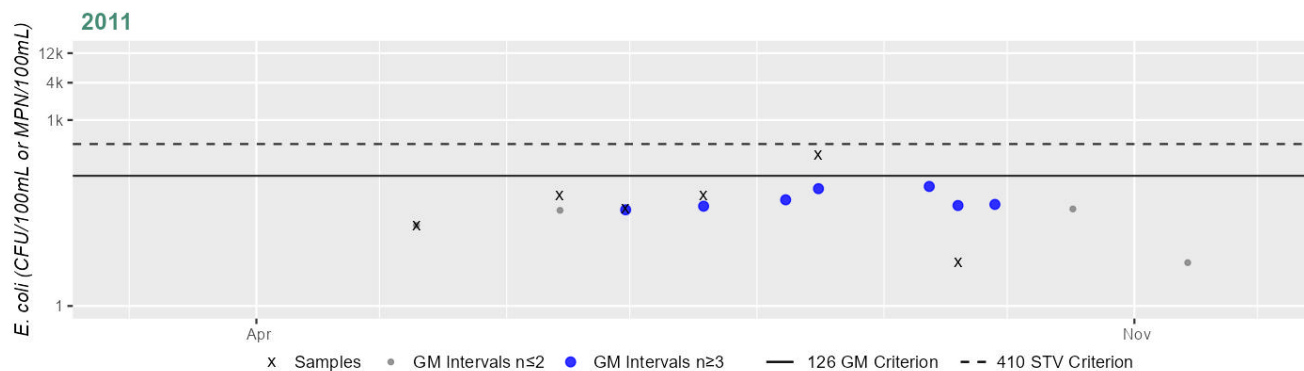
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2211        | MassDEP      | E. coli   | 05/10/11   | 09/19/11 | 6            | 5                     | 270                   | 39                      |

### Station MASSDEP\_W2211 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 39     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for the Millers River (MA35-20) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in the Millers River (MA35-20) from 2005-2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2211 [~3430 ft downstream from the Rt. 12 crossing nearest N Ashburnham Rd, Winchendon] from May-Sep 2011 (n=6), W1316 [unnamed dirt Rd #450R. Spring St (Rt. 12), Winchendon] from May-Sep 2005 (n=5). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2211 indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 39 CFU/100ml. <i>E. coli</i> data from the current IR window from W2211 meet 2024 CALM guidance.</p> |

## Monitoring Stations



| Station Code | Organization | Type          | Water Body    | Station Description                                                                                       | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------|-----------------------------------------------------------------------------------------------------------|-----------|------------|
| W1316        | MassDEP      | Water Quality | Millers River | [unnamed dirt road #450R. Spring Street (Route 12), Winchendon]                                           | 42.674309 | -72.020127 |
| W2211        | MassDEP      | Water Quality | Millers River | [approximately 3430 feet downstream from the Route 12 crossing nearest North Ashburnham Road, Winchendon] | 42.667408 | -72.004141 |

## Bacteria Data

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

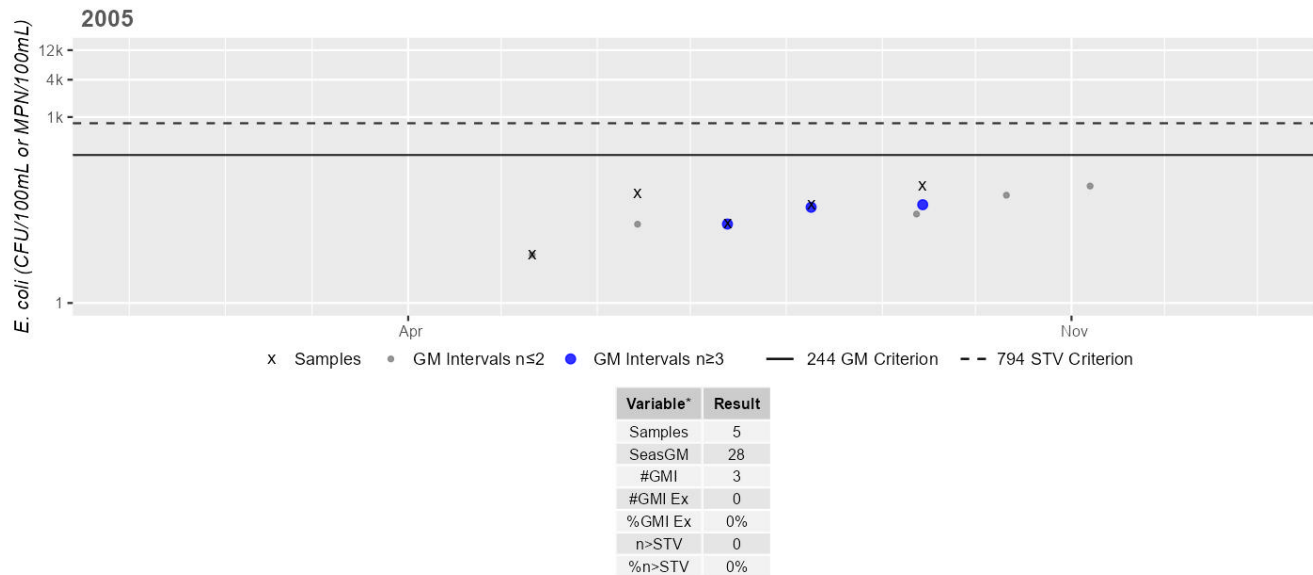
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1316        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 77                    | 28                      |
| W2211        | MassDEP      | E. coli   | 05/10/11   | 09/19/11 | 6            | 5                     | 270                   | 39                      |

#### Station MASSDEP\_W1316 - Escherichia coli

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



#### Cumulative %GMI Exceedance

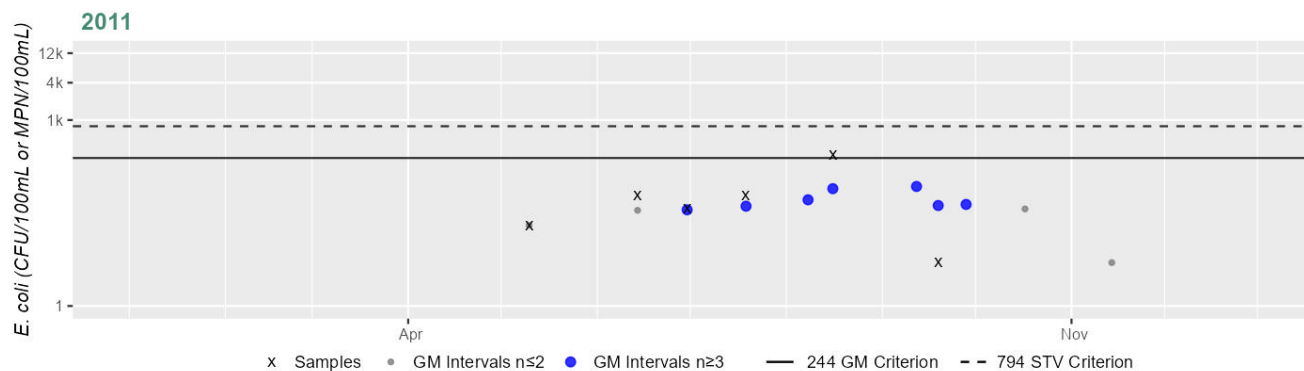
Historic (1997-2010)

0%

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

# Station MASSDEP\_W2211 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 39     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

## Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Minott Pond (MA35046)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Westminster.    |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 8 ACRES         |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Minott Pond (MA35046) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Minott Pond South (MA35045)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Westminster.    |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 27 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Minott Pond South (MA35045) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Moores Pond (MA35048)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Warwick.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 39 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>      | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------|--------------------------|------------------------------------------|
| 4a                          | 5                              | Mercury in Fish Tissue | 42398                    | Unchanged                                |
| 4a                          | 5                              | PFAS in Fish Tissue    | --                       | Added                                    |

| <b>Impairment</b>      | <b>Source (Confirmed Y/N)</b> | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------|-------------------------------|------------|-----------|------------|------------|------------|
| Mercury in Fish Tissue | Atmospheric Deposition (Y)    | --         | X         | --         | --         | --         |
| Mercury in Fish Tissue | Source Unknown (N)            | --         | X         | --         | --         | --         |
| PFAS in Fish Tissue    | Source Unknown (N)            | --         | X         | --         | --         | --         |

## Designated Use Attainment Decisions

### Fish Consumption

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

The Fish Consumption Use for Moores Pond (MA35048) continues to be assessed as Not Supporting. The prior Mercury in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in Moores Pond (MA35048) at station F0202 (PFAS Study ID 26) on 10/06/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Moores Pond in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing Mercury advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

## Monitoring Stations

| Station Code | Organization | Type        | Water Body  | Station Description                                      | Latitude  | Longitude  |
|--------------|--------------|-------------|-------------|----------------------------------------------------------|-----------|------------|
| F0202        | MassDEP      | Fish Toxics | Moores Pond | [Warwick (impounded by Moose Pond Dam, NAT ID: MA00054)] | 42.656788 | -72.347543 |

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in Moores Pond (MA35048) at station F0202 (PFAS Study ID 26) on 10/06/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Moores Pond in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for Mercury associated with Moores Pond in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and Mercury in Fish Tissue for Moores Pond (MA35048). |

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

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

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

| Station Code | PFAS Study ID | Sample Date | Species | Mean PFHxS ng/g | Mean PFNA ng/g | Mean PFOA ng/g | Mean PFOS ng/g | Analytes with ≥ 1 Sample Qualified |
|--------------|---------------|-------------|---------|-----------------|----------------|----------------|----------------|------------------------------------|
| F0202        | 26            | 10/06/2022  | B       | ND              | ND             | ND             | 1.80           | PFOS                               |
| F0202        | 26            | 10/06/2022  | LMB     | ND              | ND             | ND             | 2.70           | PFOS                               |
| F0202        | 26            | 10/06/2022  | P       | ND              | ND             | ND             | 0.38           | PFOS                               |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                          |
|-----------------------------------------------------------------------------------------|
| No data are available, so the Aesthetics Use for Moores Pond (MA35048) 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 Secondary Contact Recreation Use for Moores Pond (MA35048) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. Surface water sampling was conducted in Moores Pond (MA35048) at station W3289 (PFAS Study ID 26) on 10/06/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                                              | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|----------------------------------------------------------------------------------|-----------|------------|
| W3289        | MassDEP      | Water Quality | Moores Pond | [the default location representing co-located water/fish PFAS sampling, Warwick] | 42.656788 | -72.347543 |

## Other Indicators

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface water sampling was conducted in Moores Pond (MA35048) at station W3289 (PFAS Study ID 26) on 10/06/2022 as part of a 2022 MassDEP funded project with ERG evaluating 40 PFAS analytes in selected fresh waters. The concentrations of the seven analytes with individual toxicity criteria (PFOA, PFOS, PFNA, PFHxS, PFBA, PFBS, HFPO-DA/GenX) were all less than the 90 ng/L (ppt) recreational screening value. |

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

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

| Station Code | PFAS Study ID | Sample Date | PFOA ng/L | PFOS ng/L | PFNA ng/L | PFHxS ng/L | PFBA ng/L | PFBS ng/L | HFPO-DA ng/L | ΣPFAS6 ng/L |
|--------------|---------------|-------------|-----------|-----------|-----------|------------|-----------|-----------|--------------|-------------|
| W3289        | 26            | 10/06/2022  | 1.3j      | 0.86j     | <0.49     | <0.56      | <2        | <0.3      | <2           | 4.3*        |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No bacteria or other indicator data for Moores Pond (MA35048) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |

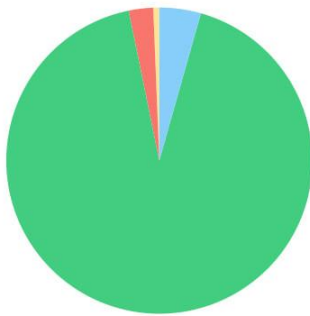


# Mormon Hollow Brook (MA35-15)

|                                  |                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters just north of Montague Road, Wendell to confluence with Millers River, Wendell. |
| <b>AU Type:</b>                  | RIVER                                                                                      |
| <b>AU Size:</b>                  | 3.8 MILES                                                                                  |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                     |

## Mormon Hollow Brook (MA35-15)

Watershed Area: 5.56 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 5.56         | 4.66                            | 1.00                  | 0.94                   |
| Agriculture                    | 0.6%         | 0%                              | 0%                    | 0%                     |
| Developed                      | 2.6%         | 2.1%                            | 1.9%                  | 1.9%                   |
| Natural                        | 92.4%        | 93.7%                           | 90%                   | 91.3%                  |
| Wetland                        | 4.4%         | 4.1%                            | 8.1%                  | 6.8%                   |
| Impervious                     | 1.3%         | 1.1%                            | 1.2%                  | 1.2%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Mormon Hollow Brook (MA35-15) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Mormon Hollow Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Mormon Hollow Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Mormon Hollow Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Mormon Hollow Brook (MA35-15).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

There are no data available to assess the status of the Aesthetics Use for this Mormon Hollow Brook AU (MA35-15), so it is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                      | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                | NO    |
| 2024/26 Use Attainment Summary                                                                                                              |       |
| No bacteria or other indicator data for Mormon Hollow Brook (MA35-15) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Alert |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |
| No bacteria or other indicator data for Mormon Hollow Brook (MA35-15) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in Mormon Hollow Brook (MA35-15) at W1335 [Mormon Hollow Rd, Wendell] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1335 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 6 CFU/100ml. Historic <i>E. coli</i> data from W1335 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |       |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body          | Station Description           | Latitude  | Longitude  |
|--------------|--------------|---------------|---------------------|-------------------------------|-----------|------------|
| W1335        | MassDEP      | Water Quality | Mormon Hollow Brook | [Mormon Hollow Road, Wendell] | 42.580353 | -72.437880 |

## Bacteria Data

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

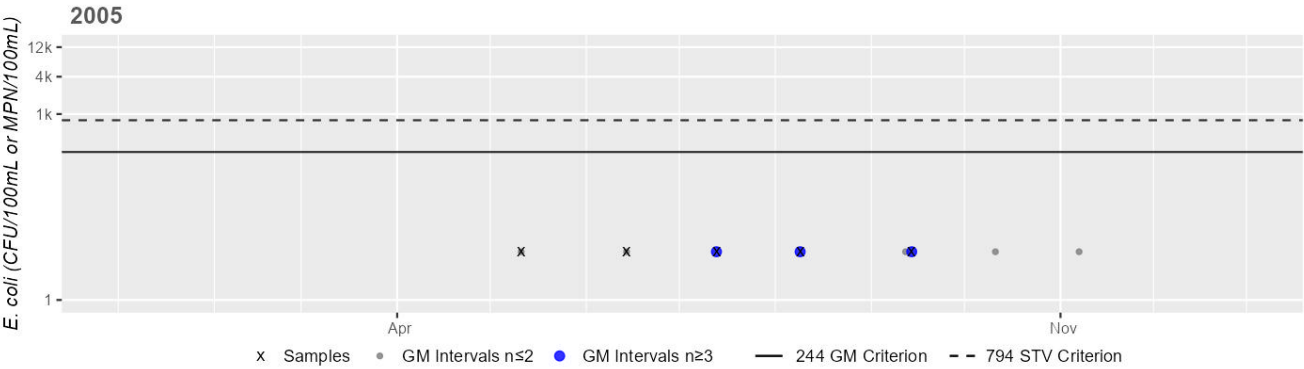
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1335        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 6                     | 6                       |

Station MASSDEP\_W1335 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 6      |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

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

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

## North Branch Millers River (MA35-21)

|                                  |                                                                            |
|----------------------------------|----------------------------------------------------------------------------|
| <b>Location:</b>                 | Outlet of Lake Mononomac, Winchendon to inlet of Whitney Pond, Winchendon. |
| <b>AU Type:</b>                  | RIVER                                                                      |
| <b>AU Size:</b>                  | 2 MILES                                                                    |
| <b>Classification/Qualifier:</b> | B                                                                          |

### North Branch Millers River (MA35-21)

Watershed Area: 20.94 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 4.45         | 4.33                            | 1.27                  | 1.27                   |
| Agriculture                     | 0.2%         | 0.2%                            | 0.1%                  | 0.1%                   |
| Developed                       | 7%           | 7.3%                            | 13.8%                 | 13.8%                  |
| Natural                         | 87.5%        | 87.1%                           | 77%                   | 77%                    |
| Wetland                         | 5.3%         | 5.4%                            | 9%                    | 9%                     |
| Impervious                      | 2.9%         | 3%                              | 6.5%                  | 6.5%                   |

\*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                   | Mercury in Fish Tissue | --                | Unchanged                 |

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

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Supporting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <p>The Fish Consumption Use for North Branch Millers River (MA35-21) 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 North Branch Millers River (referred to by MDPH as "Monomonac, Lake and the North branch of Millers River (Between the outlet of Lake Monomonac and the inlet of Whitney Pond)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.</p> |       |

## Aesthetic

| 2024/26 Use Attainment                                                                                        | Alert |
|---------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                  | NO    |
| 2024/26 Use Attainment Summary                                                                                |       |
| <p>No data are available, so the Aesthetics Use for North Branch Millers River (MA35-21) is Not Assessed.</p> |       |

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                        | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                  | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                |       |
| <p>No bacteria or other indicator data for the North Branch Millers River (MA35-21) are available, so the Primary Contact Recreation Use is Not Assessed.</p> |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Not Assessed                   | NO    |
| 2024/26 Use Attainment Summary |       |

No bacteria or other indicator data for the North Branch Millers River (MA35-21) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected *E. coli* bacteria samples in the North Branch Millers River (MA35-21) at W1313 [Glenallen St (Rt. 202), Winchendon] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency *E. coli* dataset from W1313 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 18 CFU/100ml. Historic *E. coli* data from W1313 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body                 | Station Description                        | Latitude  | Longitude  |
|--------------|--------------|---------------|----------------------------|--------------------------------------------|-----------|------------|
| W1313        | MassDEP      | Water Quality | North Branch Millers River | [Glenallen Street (Route 202), Winchendon] | 42.695319 | -72.015231 |

### Bacteria Data

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

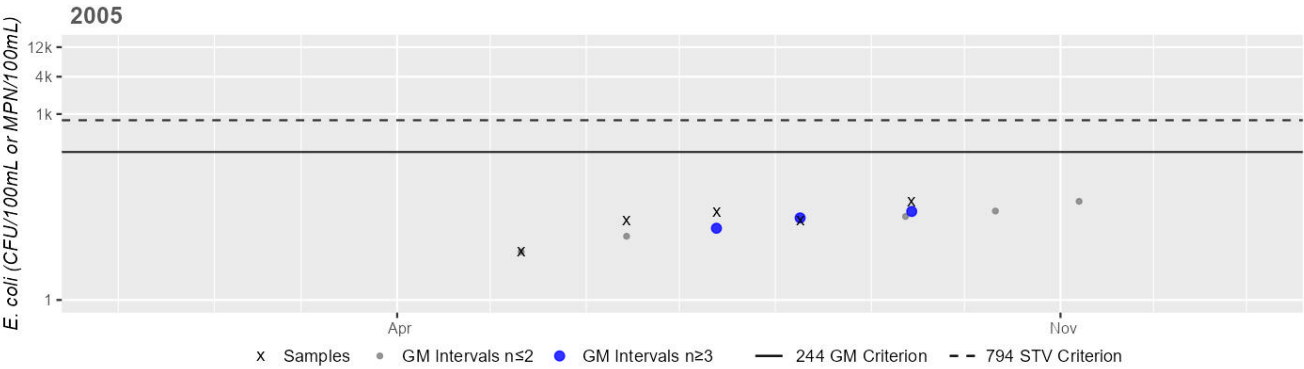
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1313        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 39                    | 18                      |

Station MASSDEP\_W1313 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 18     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

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

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



## North Pond Brook (MA35-23)

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, from northern outlet of Lake Mattawa, Orange to confluence with Millers River, Orange. |
| <b>AU Type:</b>                  | RIVER                                                                                              |
| <b>AU Size:</b>                  | 2.1 MILES                                                                                          |
| <b>Classification/Qualifier:</b> | B                                                                                                  |

### North Pond Brook (MA35-23)

Watershed Area: 1.81 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.81         | 1.81                            | 0.50                  | 0.50                   |
| Agriculture                    | 0.3%         | 0.3%                            | 0.7%                  | 0.7%                   |
| Developed                      | 10%          | 10%                             | 10%                   | 10%                    |
| Natural                        | 80.7%        | 80.7%                           | 73.6%                 | 73.6%                  |
| Wetland                        | 9%           | 9%                              | 15.8%                 | 15.8%                  |
| Impervious                     | 3.9%         | 3.9%                            | 4.3%                  | 4.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for North Pond Brook (MA35-23) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in North Pond Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for North Pond Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with North Pond Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for North Pond Brook (MA35-23).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Aesthetics Use for North Pond Brook (MA35-23) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this North Pond Brook AU upstream of the on-ramp at Holtshire Rd to Rt. 2 eastbound in Orange (W2202) during the summer of 2011 (n=6). There were no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body       | Station Description                                                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|------------------|------------------------------------------------------------------------------------------------|-----------|------------|
| W2202        | MassDEP      | Water Quality | North Pond Brook | [approximately 4200 feet upstream of the onramp - Holtshire Road to Route 2 eastbound, Orange] | 42.581789 | -72.326963 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                       |
|--------------|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2202        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2202 on North Pond Brook (MA35-23) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2202        | 2011      | 6                 | 6                                                          | 0                                         |

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

| Station Code | Waterbody        | Data Year | Parameter                      | Result           | Result Count | Total Field Sheet Count |
|--------------|------------------|-----------|--------------------------------|------------------|--------------|-------------------------|
| W2202        | North Pond Brook | 2011      | Aquatic Plant Density, Overall | None             | 6            | 6                       |
| W2202        | North Pond Brook | 2011      | Color                          | Light Yellow/Tan | 2            | 6                       |
| W2202        | North Pond Brook | 2011      | Color                          | None             | 4            | 6                       |
| W2202        | North Pond Brook | 2011      | Objectionable Deposits         | No               | 6            | 6                       |

| Station Code | Waterbody        | Data Year | Parameter                       | Result          | Result Count | Total Field Sheet Count |
|--------------|------------------|-----------|---------------------------------|-----------------|--------------|-------------------------|
| W2202        | North Pond Brook | 2011      | Odor                            | None            | 6            | 6                       |
| W2202        | North Pond Brook | 2011      | Periphyton Density, Filamentous | None            | 6            | 6                       |
| W2202        | North Pond Brook | 2011      | Periphyton Density, Film        | None            | 6            | 6                       |
| W2202        | North Pond Brook | 2011      | Scum                            | No              | 6            | 6                       |
| W2202        | North Pond Brook | 2011      | Turbidity                       | None            | 5            | 6                       |
| W2202        | North Pond Brook | 2011      | Turbidity                       | Slightly Turbid | 1            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for North Pond Brook (MA35-23) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in North Pond Brook (MA35-23) at W2202 [~4200 ft upstream of the onramp - Holtshire Rd to Rt. 2 eastbound, Orange] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2202 indicated 0% of intervals had GMs &gt;126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 22 CFU/100ml. <i>E. coli</i> data from W2202 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body       | Station Description                                                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|------------------|------------------------------------------------------------------------------------------------|-----------|------------|
| W2202        | MassDEP      | Water Quality | North Pond Brook | [approximately 4200 feet upstream of the onramp - Holtshire Road to Route 2 eastbound, Orange] | 42.581789 | -72.326963 |

## Bacteria Data

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

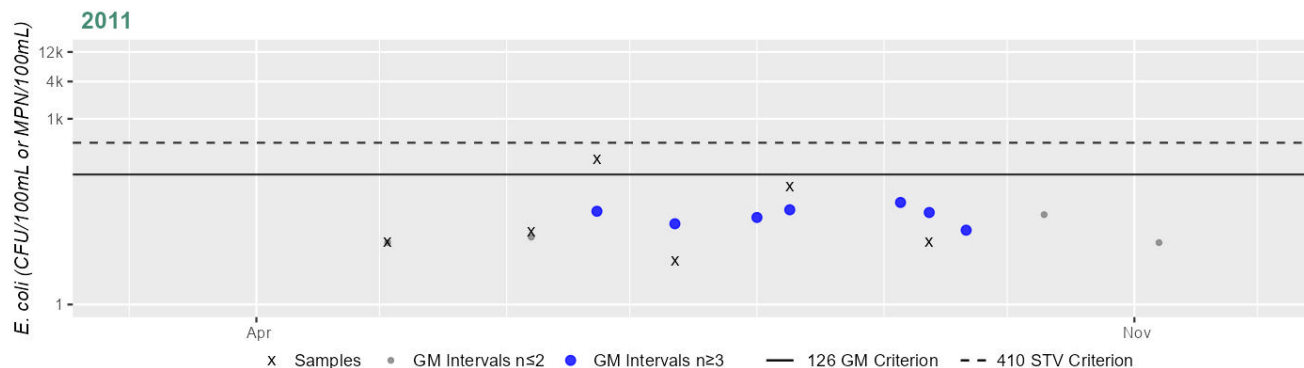
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2202        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 5                     | 220                   | 22                      |

### Station MASSDEP\_W2202 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 22     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for North Pond Brook (MA35-23) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in North Pond Brook (MA35-23) at W2202 [~4200 ft upstream of the onramp - Holtshire Rd to Rt. 2 eastbound, Orange] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2202 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 22 CFU/100ml. *E. coli* data from W2202 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body       | Station Description                                                                            | Latitude  | Longitude  |
|--------------|--------------|---------------|------------------|------------------------------------------------------------------------------------------------|-----------|------------|
| W2202        | MassDEP      | Water Quality | North Pond Brook | [approximately 4200 feet upstream of the onramp - Holtshire Road to Route 2 eastbound, Orange] | 42.581789 | -72.326963 |

## Bacteria Data

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

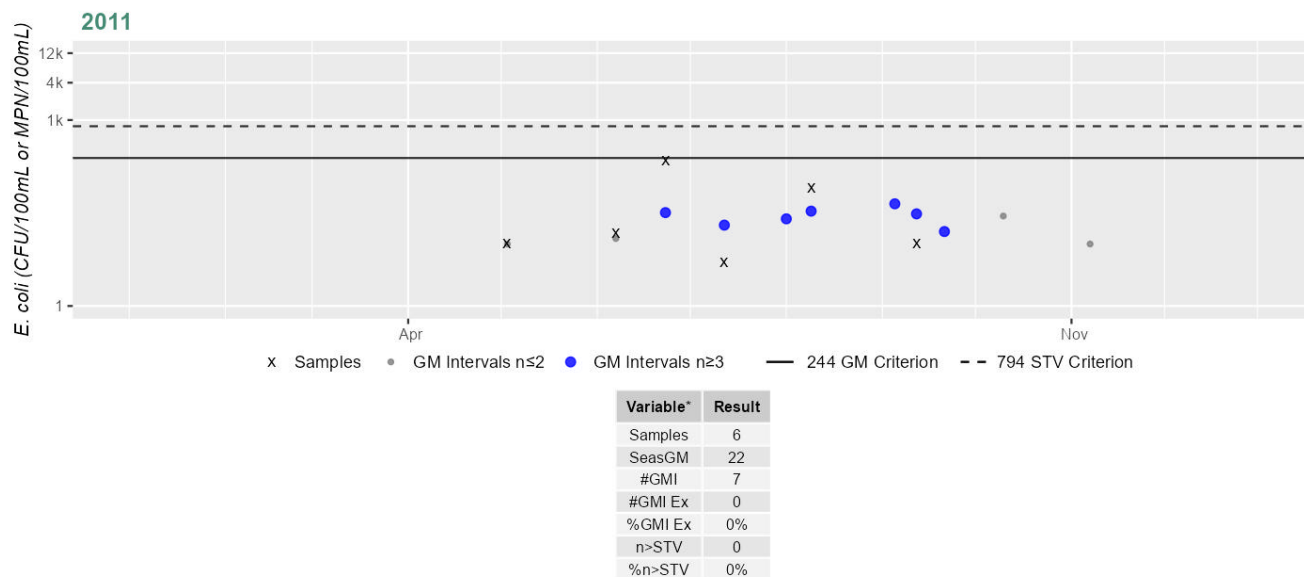
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2202        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 5                     | 220                   | 22                      |

#### Station MASSDEP\_W2202 - Escherichia coli

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



Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## North Spectacle Pond (MA35052)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | New Salem.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 43 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for North Spectacle Pond (MA35052) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

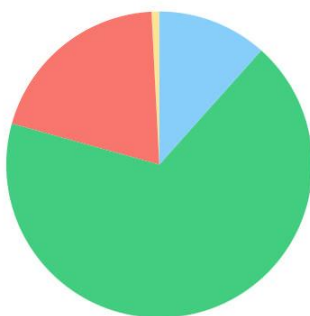
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Otter River (MA35-06)

|                                  |                                                                                      |
|----------------------------------|--------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Source, Hubbardston (north of Pitcherville Road) to Gardner WWTP, Gardner/Templeton. |
| <b>AU Type:</b>                  | RIVER                                                                                |
| <b>AU Size:</b>                  | 4.3 MILES                                                                            |
| <b>Classification/Qualifier:</b> | B: AQL                                                                               |

### Otter River (MA35-06)

Watershed Area: 20.88 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 20.88        | 13.04                           | 6.00                  | 4.05                   |
| Agriculture                    | 0.8%         | 0.7%                            | 0.2%                  | 0.3%                   |
| Developed                      | 19.9%        | 25.2%                           | 14.4%                 | 16.9%                  |
| Natural                        | 67.7%        | 62.1%                           | 65%                   | 62.2%                  |
| Wetland                        | 11.6%        | 12%                             | 20.4%                 | 20.6%                  |
| Impervious                     | 9.5%         | 12.6%                           | 6.6%                  | 7.8%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment                                   | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|----------------------------------------------|-------------------|---------------------------|
| 5                | 5                   | Ambient Bioassays - Chronic Aquatic Toxicity | --                | Unchanged                 |
| 5                | 5                   | Dissolved Oxygen                             | --                | Unchanged                 |

| Impairment                                   | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|----------------------------------------------|------------------------|-----|----|-----|-----|-----|
| Ambient Bioassays - Chronic Aquatic Toxicity | Source Unknown (N)     | 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 Otter River (MA35-06) 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 Otter River (MA35-06) is Not Assessed. |

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for the Otter River (MA35-06) continues to be assessed as Fully Supporting. MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in the Otter River (MA35-06) from 2011-2015 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC_OHWW1 [Whitney St, Templeton] from Jun-Aug 2011 (n=6), MRWC_OR2A1 [Rt 2A crossing, Gardner] in 2011 and 2014-2015 (n=7/yr). Analysis of the single year limited frequency <i>E. coli</i> dataset from MRWC_OHWW1 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 43 CFU/100ml. Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from MRWC_OR2A1 indicated 1 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2011, 44%), 0 yrs had ≥2 samples exceed the 410 CFU/100ml STV, and cumulatively across years 18% of intervals had GMs >126 CFU/100ml. <i>E. coli</i> data from MRWC_OHWW1 and MRWC_OR2A1 meet 2024 CALM guidance. |

### Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description   | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|-----------------------|-----------|------------|
| MRWC_OHWW1   | Millers River Watershed Council, Inc | Water Quality | Otter River | Whitney St, Templeton | 42.548570 | -72.009200 |

| Station Code | Organization                         | Type          | Water Body  | Station Description     | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|-------------------------|-----------|------------|
| MRWC_OR2A1   | Millers River Watershed Council, Inc | Water Quality | Otter River | Rt 2A crossing, Gardner | 42.564472 | -72.011756 |

## Bacteria Data

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

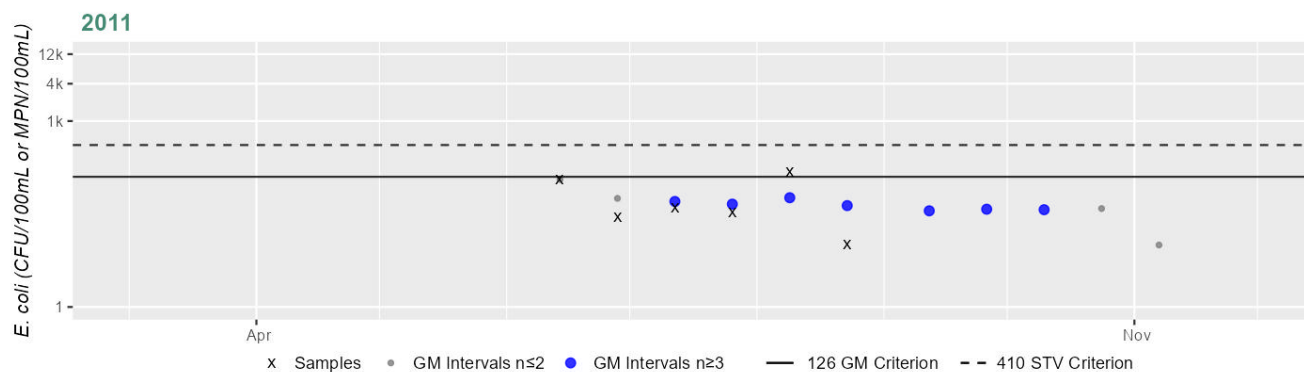
(Millers RWC 2015) (MassDEP Undated 2)

[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 |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| MRWC_OHWW1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 08/23/11 | 6            | 10                    | 150                   | 43                      |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 34                    | 580                   | 115                     |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 70                    | 235                   | 104                     |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 47                    | 99                    | 66                      |

### Station MRWC\_OHWW1 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 43     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

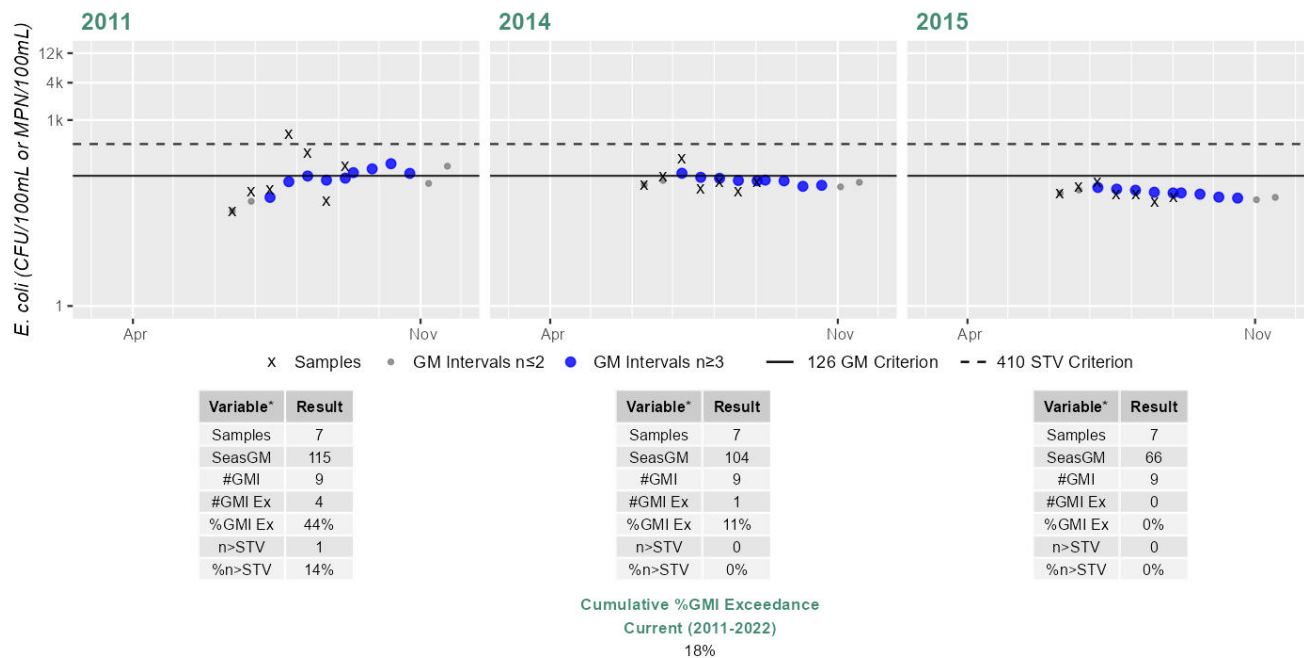
Current (2011-2022)

0%

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

### Station MASSDEP\_W0051 & MRWC\_OR2A1 - *Escherichia coli*

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for the Otter River (MA35-06) continues to be assessed as Fully Supporting. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in the Otter River (MA35-06) from 2005-2015 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC_OHWW1 [Whitney St, Templeton] from Jun-Aug 2011 (n=6), W0051 &amp; MRWC_OR2A1 [Rt. 2A bridge, Gardner &amp; Rt 2A crossing, Gardner] from May-Sep 2005 (historic n=5) and 2011 and 2014-2015 (current n=7/yr), W0051 &amp; MRWC_OR2A1 [Rt. 2A bridge, Gardner &amp; Rt 2A crossing, Gardner] in May-Sep 2005 (historic n=5) and 2011 and 2014-2015 (current n=7/yr). Analysis of the single year limited frequency <i>E. coli</i> dataset from MRWC_OHWW1 in the current IR window indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 43 CFU/100ml. Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from W0051 &amp; MRWC_OR2A1 in the current IR window indicated 0 out of 3 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;244 CFU/100ml, 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 0% of intervals had GMs &gt;244 CFU/100ml. <i>E. coli</i> data from MRWC_OHWW1 and W0051 &amp; MRWC_OR2A1 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description        | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|----------------------------|-----------|------------|
| W0051        | MassDEP                              | Water Quality | Otter River | [Route 2A bridge, Gardner] | 42.564442 | -72.011542 |
| MRWC_OHWW1   | Millers River Watershed Council, Inc | Water Quality | Otter River | Whitney St, Templeton      | 42.548570 | -72.009200 |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | Water Quality | Otter River | Rt 2A crossing, Gardner    | 42.564472 | -72.011756 |

## Bacteria Data

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

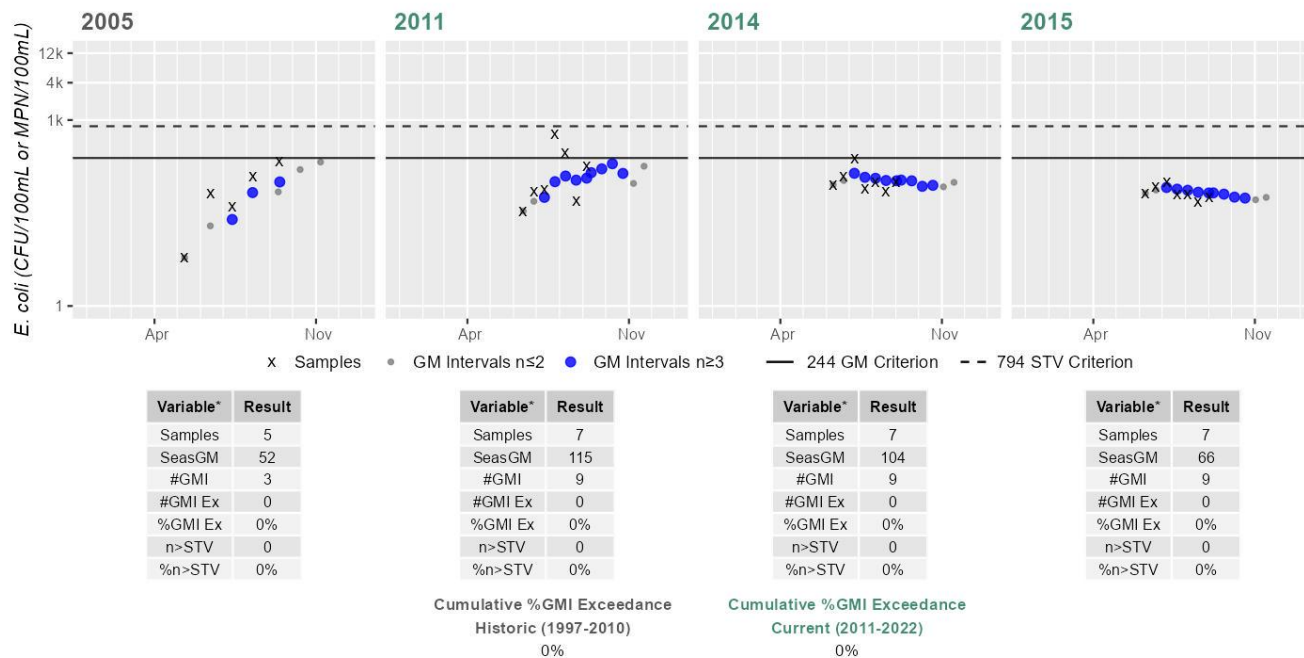
(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1)

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

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0051        | MassDEP                              | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 210                   | 52                      |
| MRWC_OHWW1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 08/23/11 | 6            | 10                    | 150                   | 43                      |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 34                    | 580                   | 115                     |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 70                    | 235                   | 104                     |
| MRWC_OR2A1   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 47                    | 99                    | 66                      |

### Station MASSDEP\_W0051 & MRWC\_OR2A1 - *Escherichia coli*

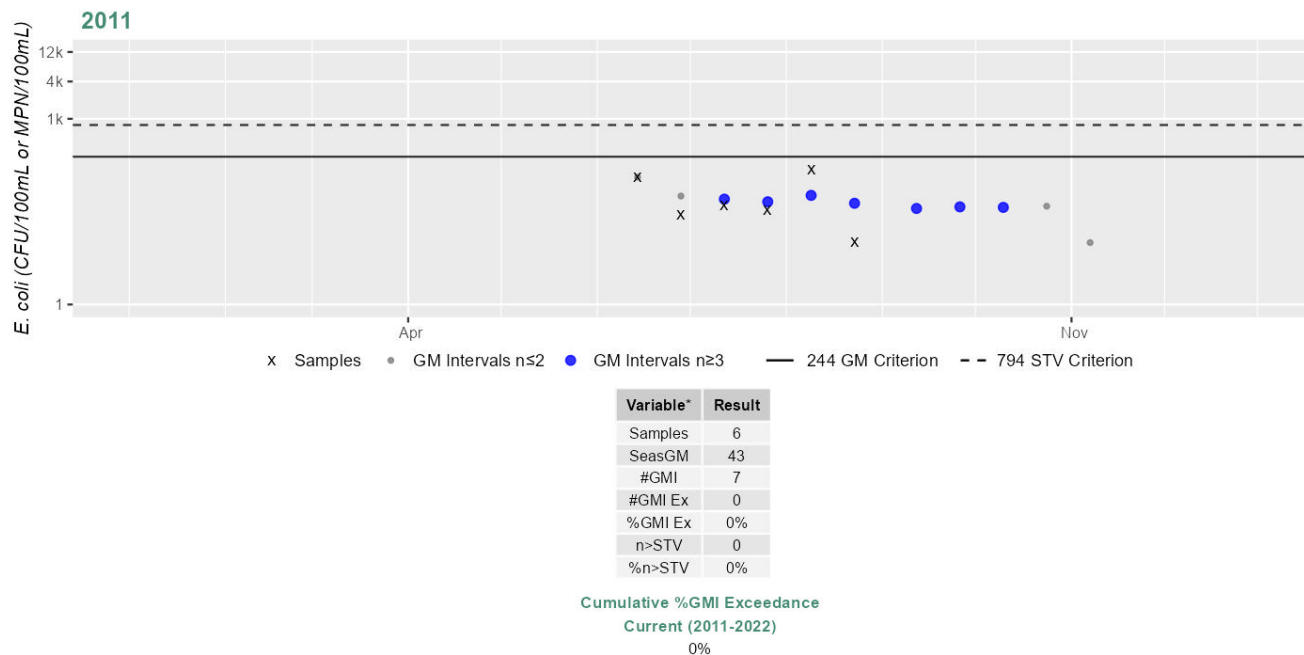
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



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

### Station MRWC\_OHWW1 - *Escherichia coli*

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



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

## Otter River (MA35-07)

|                                  |                                                                 |
|----------------------------------|-----------------------------------------------------------------|
| <b>Location:</b>                 | Gardner WWTP, Gardner/Templeton to Seaman Paper Dam, Templeton. |
| <b>AU Type:</b>                  | RIVER                                                           |
| <b>AU Size:</b>                  | 4.4 MILES                                                       |
| <b>Classification/Qualifier:</b> | B: WWF                                                          |

### Otter River (MA35-07)

Watershed Area: 37.90 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 37.90        | 12.47                           | 11.65                 | 4.24                   |
| Agriculture                    | 0.9%         | 0.9%                            | 0.3%                  | 0.3%                   |
| Developed                      | 17.6%        | 19.1%                           | 12.4%                 | 13.5%                  |
| Natural                        | 69%          | 64.2%                           | 67.1%                 | 63.8%                  |
| Wetland                        | 12.5%        | 15.9%                           | 20.1%                 | 22.4%                  |
| Impervious                     | 7.9%         | 7.5%                            | 5.4%                  | 5.1%                   |

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

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

## Recommendations

### 2024/26 Recommendations

2016 IR [ODOR, LOW] An effluent odor was identified at {W0691} that should be follow up with additional monitoring. 2016 IR [ALGAE, LOW] There were two observations of dense filamentous algae at {W0691} that should be follow up with additional monitoring.

## 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 Otter River (MA35-07) is Not Assessed. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | YES   |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Otter River (MA35-07) continues to be assessed as Fully Supporting and the prior Alert identified for Odor and Algae will be carried forward. MassDEP staff recorded aesthetics observations at one station in the downstream half of this Otter River AU at Turner St in Templeton (near USGS flow gaging station #01163200 (W0691) as part of the SMART monitoring project between January 2011 and March 2013 (n=13). There were generally no persistent objectionable conditions (i.e., odors, deposits, growths, or turbidity) observed during most of the surveys although there were two observations each of very dense filamentous and film algae and a treated effluent odor. |

### Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|----------------------------------------------------------------------|-----------|------------|
| W0691        | MassDEP      | Water Quality | Otter River | [Turner Street, Templeton (near USGS flow gaging station #01163200)] | 42.588125 | -72.040995 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                         |
|--------------|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0691        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0691 on Otter River (MA35-07) during 6 site visits between Jan 2011 and Nov 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted objectionable deposits (n=2). |

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0691        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0691 on Otter River (MA35-07) during 5 site visits between Feb 2012 and Oct 2012. There were some objectionable conditions recorded, including dense/very dense filamentous algae (n=2) and dense/very dense films algae (n=2). Field staff also noted effluent odor (n=2) and objectionable deposits (n=4). These conditions are indicative of an Alert status. |
| W0691        | 2013      | 2                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0691 on Otter River (MA35-07) during 2 site visits between Jan 2013 and Mar 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3).                                                                                                              |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0691        | 2011      | 6                 | 4                                                          | 0                                         |
| W0691        | 2012      | 5                 | 5                                                          | 4                                         |
| W0691        | 2013      | 2                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody   | Data Year | Parameter                       | Result             | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|--------------------|--------------|-------------------------|
| W0691        | Otter River | 2011      | Aquatic Plant Density, Overall  | None               | 2            | 6                       |
| W0691        | Otter River | 2011      | Aquatic Plant Density, Overall  | Sparse             | 3            | 6                       |
| W0691        | Otter River | 2011      | Aquatic Plant Density, Overall  | Unobservable       | 1            | 6                       |
| W0691        | Otter River | 2011      | Color                           | Brownish           | 2            | 6                       |
| W0691        | Otter River | 2011      | Color                           | None               | 1            | 6                       |
| W0691        | Otter River | 2011      | Color                           | Reddish            | 3            | 6                       |
| W0691        | Otter River | 2011      | Objectionable Deposits          | No                 | 1            | 6                       |
| W0691        | Otter River | 2011      | Objectionable Deposits          | Unobservable       | 3            | 6                       |
| W0691        | Otter River | 2011      | Objectionable Deposits          | Yes                | 2            | 6                       |
| W0691        | Otter River | 2011      | Odor                            | Effluent (Treated) | 1            | 6                       |
| W0691        | Otter River | 2011      | Odor                            | Musty (Basement)   | 2            | 6                       |
| W0691        | Otter River | 2011      | Odor                            | None               | 3            | 6                       |
| W0691        | Otter River | 2011      | Periphyton Density, Filamentous | None               | 3            | 6                       |
| W0691        | Otter River | 2011      | Periphyton Density, Filamentous | Sparse             | 1            | 6                       |



| Station Code | Waterbody   | Data Year | Parameter                       | Result             | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|--------------------|--------------|-------------------------|
| W0691        | Otter River | 2011      | Periphyton Density, Filamentous | Unobservable       | 2            | 6                       |
| W0691        | Otter River | 2011      | Periphyton Density, Film        | None               | 4            | 6                       |
| W0691        | Otter River | 2011      | Periphyton Density, Film        | Unobservable       | 2            | 6                       |
| W0691        | Otter River | 2011      | Scum                            | No                 | 1            | 6                       |
| W0691        | Otter River | 2011      | Scum                            | Yes                | 5            | 6                       |
| W0691        | Otter River | 2011      | Turbidity                       | Moderately Turbid  | 1            | 6                       |
| W0691        | Otter River | 2011      | Turbidity                       | None               | 3            | 6                       |
| W0691        | Otter River | 2011      | Turbidity                       | Unobservable       | 2            | 6                       |
| W0691        | Otter River | 2012      | Aquatic Plant Density, Overall  | None               | 3            | 5                       |
| W0691        | Otter River | 2012      | Aquatic Plant Density, Overall  | Sparse             | 2            | 5                       |
| W0691        | Otter River | 2012      | Color                           | Reddish            | 4            | 5                       |
| W0691        | Otter River | 2012      | Color                           | Rusty              | 1            | 5                       |
| W0691        | Otter River | 2012      | Objectionable Deposits          | No                 | 1            | 5                       |
| W0691        | Otter River | 2012      | Objectionable Deposits          | Yes                | 4            | 5                       |
| W0691        | Otter River | 2012      | Odor                            | Effluent (Treated) | 2            | 5                       |
| W0691        | Otter River | 2012      | Odor                            | Musty (Basement)   | 1            | 5                       |
| W0691        | Otter River | 2012      | Odor                            | None               | 2            | 5                       |
| W0691        | Otter River | 2012      | Periphyton Density, Filamentous | Moderate           | 1            | 5                       |
| W0691        | Otter River | 2012      | Periphyton Density, Filamentous | None               | 2            | 5                       |
| W0691        | Otter River | 2012      | Periphyton Density, Filamentous | Very Dense         | 2            | 5                       |
| W0691        | Otter River | 2012      | Periphyton Density, Film        | None               | 3            | 5                       |
| W0691        | Otter River | 2012      | Periphyton Density, Film        | Very Dense         | 2            | 5                       |
| W0691        | Otter River | 2012      | Scum                            | Yes                | 5            | 5                       |
| W0691        | Otter River | 2012      | Turbidity                       | Moderately Turbid  | 1            | 5                       |
| W0691        | Otter River | 2012      | Turbidity                       | None               | 2            | 5                       |
| W0691        | Otter River | 2012      | Turbidity                       | Slightly Turbid    | 2            | 5                       |
| W0691        | Otter River | 2013      | Aesthetics Impaired?            | NR                 | 2            | 2                       |
| W0691        | Otter River | 2013      | Aquatic Plant Density, Overall  | Sparse             | 1            | 2                       |
| W0691        | Otter River | 2013      | Aquatic Plant Density, Overall  | Unobservable       | 1            | 2                       |
| W0691        | Otter River | 2013      | Color                           | Reddish            | 2            | 2                       |
| W0691        | Otter River | 2013      | Objectionable Deposits          | No                 | 1            | 2                       |
| W0691        | Otter River | 2013      | Objectionable Deposits          | Unobservable       | 1            | 2                       |
| W0691        | Otter River | 2013      | Odor                            | None               | 2            | 2                       |
| W0691        | Otter River | 2013      | Periphyton Density, Filamentous | None               | 1            | 2                       |

| Station Code | Waterbody   | Data Year | Parameter                       | Result       | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|--------------|--------------|-------------------------|
| W0691        | Otter River | 2013      | Periphyton Density, Filamentous | Unobservable | 1            | 2                       |
| W0691        | Otter River | 2013      | Periphyton Density, Film        | Moderate     | 1            | 2                       |
| W0691        | Otter River | 2013      | Periphyton Density, Film        | Unobservable | 1            | 2                       |
| W0691        | Otter River | 2013      | Scum                            | Yes          | 2            | 2                       |
| W0691        | Otter River | 2013      | Turbidity                       | None         | 1            | 2                       |
| W0691        | Otter River | 2013      | Turbidity                       | Unobservable | 1            | 2                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for the Otter River (MA35-07) continues to be assessed as Not Supporting. The prior <i>Escherichia coli</i> (<i>E. coli</i>) impairment is being carried forward based on bacteria data not meeting the threshold at MRWC_OR101. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in the Otter River (MA35-07) from 2011-2015 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC_OR101 [Rt 101 crossing/plant Rd, Gardner] in 2011 and 2014-2015 (n=7/yr), W0691 [Turner St, Templeton (near USGS flow gaging station #01163200)] in 2011-2012 (n=3-4/yr). Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from MRWC_OR101 indicated 3 out of 3 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;126 CFU/100ml (2011 and 2014-2015, 27-81%), 1 yr had ≥2 samples exceed the 410 CFU/100ml STV (2011, n=3), and cumulatively across years 60% of intervals had GMs &gt;126 CFU/100ml. The available <i>E. coli</i> data at W0691 are too limited to assess according to the 2024 CALM. Note that samples from W0691 exceeded the 410 CFU/100ml STV in 2011 (n=1). <i>E. coli</i> data from MRWC_OR101 are indicative of an <i>E. coli</i> impairment. The prior Alerts for odor and algae are being removed from the recreational uses but continue to be maintained under the Aesthetics Use.</p> |

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|----------------------------------------------------------------------|-----------|------------|
| W0691        | MassDEP                              | Water Quality | Otter River | [Turner Street, Templeton (near USGS flow gaging station #01163200)] | 42.588125 | -72.040995 |
| MRWC_OR101   | Millers River Watershed Council, Inc | Water Quality | Otter River | Rt 101 crossing/plant Rd, Gardner                                    | 42.573881 | -72.016231 |

## Bacteria Data

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

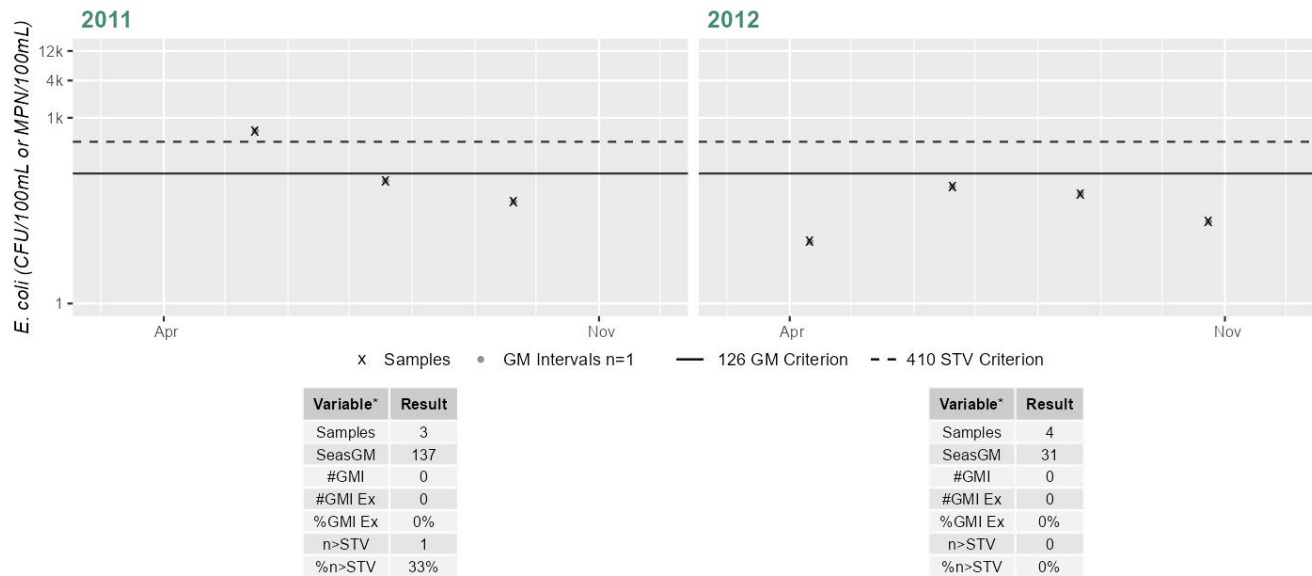
(MassDEP Undated 6) (MassDEP Undated 4) (Millers RWC 2015) (MassDEP Undated 2)

[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 |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0691        | MassDEP                              | E. coli   | 05/16/11   | 09/20/11 | 3            | 44                    | 613                   | 137                     |
| W0691        | MassDEP                              | E. coli   | 04/10/12   | 10/23/12 | 4            | 10                    | 77                    | 31                      |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 70                    | 670                   | 197                     |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 66                    | 517                   | 138                     |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 71                    | 178                   | 122                     |

### Station MASSDEP\_W0691 - Escherichia coli

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



#### Cumulative %GMI Exceedance

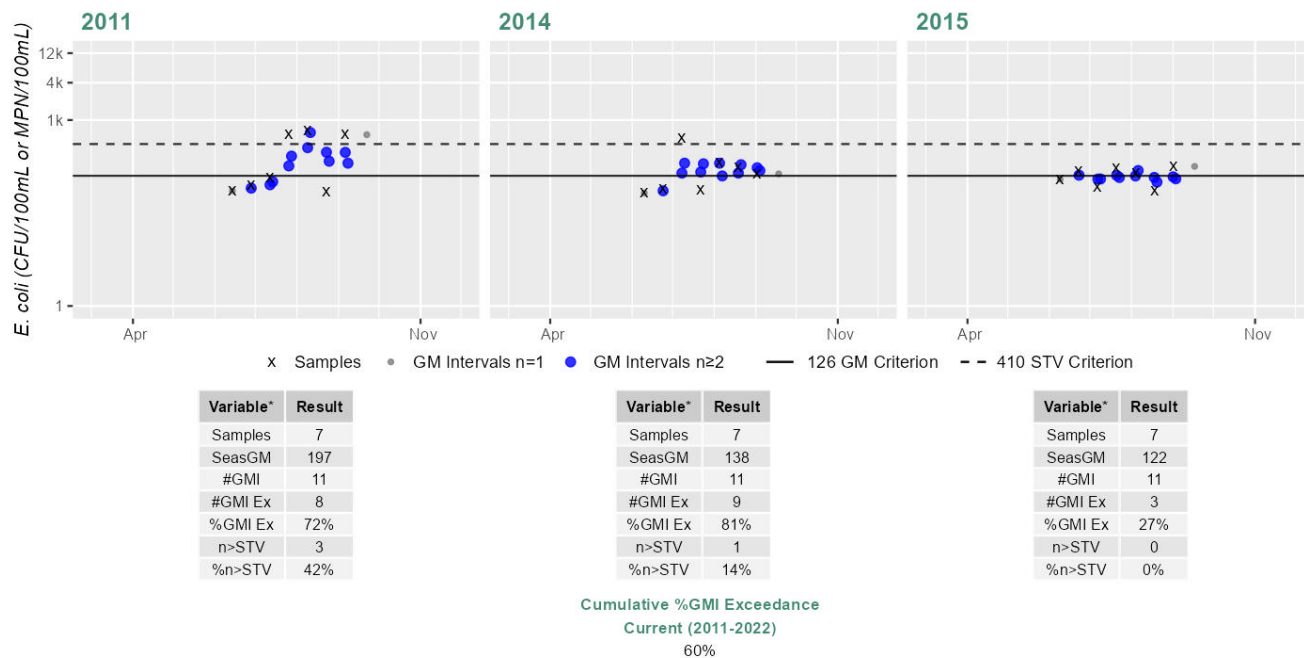
Current (2011-2022)

0%

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

### Station MRWC\_OR101 - *Escherichia coli*

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for the Otter River (MA35-07) continues to be assessed as Fully Supporting. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in the Otter River (MA35-07) from 2005-2015 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC_OR101 [Rt 101 crossing/plant Rd, Gardner] in 2011 and 2014-2015 (n=7/yr), W0691 [Turner St, Templeton (near USGS flow gaging station #01163200)] in 2005 and 2007-2010 (historic n=2-6/yr) and 2011-2013 (current n=2-6/yr). Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from MRWC_OR101 indicated 1 out of 3 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;244 CFU/100ml (2011, 33%), 0 yrs had ≥2 samples exceed the 794 CFU/100ml STV, and cumulatively across years 11% of intervals had GMs &gt;244 CFU/100ml. The available <i>E. coli</i> data from the current IR window at W0691 are too limited to assess according to the 2024 CALM. Note that samples exceeded the 794 CFU/100ml STV in 2011 (n=1) at W0691. <i>E. coli</i> data from MRWC_OR101 meet 2024 CALM guidance. The prior Alerts for odor and algae are being removed from the recreational uses but continue to be maintained under the Aesthetics Use.</p> |

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|----------------------------------------------------------------------|-----------|------------|
| W0691        | MassDEP                              | Water Quality | Otter River | [Turner Street, Templeton (near USGS flow gaging station #01163200)] | 42.588125 | -72.040995 |
| MRWC_OR101   | Millers River Watershed Council, Inc | Water Quality | Otter River | Rt 101 crossing/plant Rd, Gardner                                    | 42.573881 | -72.016231 |

## Bacteria Data

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

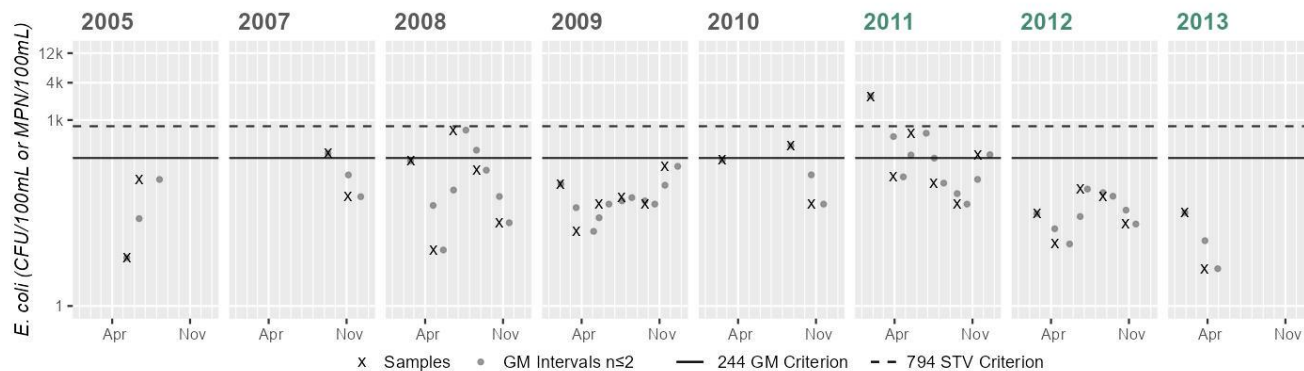
(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1)

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

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0691        | MassDEP                              | E. coli   | 05/11/05   | 06/14/05 | 2            | 6                     | 110                   | 25                      |
| W0691        | MassDEP                              | E. coli   | 09/11/07   | 11/06/07 | 2            | 58                    | 291                   | 129                     |
| W0691        | MassDEP                              | E. coli   | 02/20/08   | 10/21/08 | 5            | 8                     | 687                   | 83                      |
| W0691        | MassDEP                              | E. coli   | 02/03/09   | 11/16/09 | 6            | 16                    | 179                   | 55                      |
| W0691        | MassDEP                              | E. coli   | 02/17/10   | 10/19/10 | 3            | 44                    | 387                   | 157                     |
| W0691        | MassDEP                              | E. coli   | 01/25/11   | 11/15/11 | 6            | 44                    | 2419                  | 243                     |
| W0691        | MassDEP                              | E. coli   | 02/21/12   | 10/23/12 | 5            | 10                    | 77                    | 31                      |
| W0691        | MassDEP                              | E. coli   | 01/29/13   | 03/25/13 | 2            | 4                     | 32                    | 11                      |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 70                    | 670                   | 197                     |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 66                    | 517                   | 138                     |
| MRWC_OR101   | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 71                    | 178                   | 122                     |

### Station MASSDEP\_W0691 - *Escherichia coli*

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



| Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| Samples   | 2      | Samples   | 2      | Samples   | 5      | Samples   | 6      | Samples   | 3      | Samples   | 6      | Samples   | 5      | Samples   | 2      |
| SeasGM    | 25     | SeasGM    | 129    | SeasGM    | 83     | SeasGM    | 55     | SeasGM    | 157    | SeasGM    | 243    | SeasGM    | 31     | SeasGM    | 11     |
| #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      |
| #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      |
| %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     |
| n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 1      | n>STV     | 0      | n>STV     | 0      |
| %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 16%    | %n>STV    | 0%     | %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

Cumulative %GMI Exceedance

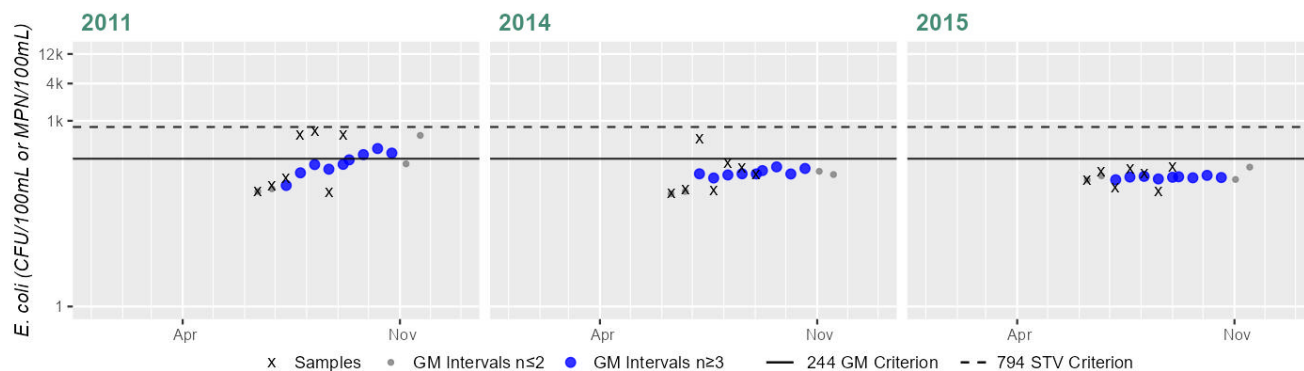
Current (2011-2022)

0%

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

### Station MRWC\_OR101 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 197    |
| #GMI      | 9      |
| #GMI Ex   | 3      |
| %GMI Ex   | 33%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 138    |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 122    |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

11%

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

## Otter River (MA35-08)

|                                  |                                                                           |
|----------------------------------|---------------------------------------------------------------------------|
| <b>Location:</b>                 | Seaman Paper Dam, Templeton to confluence with Millers River, Winchendon. |
| <b>AU Type:</b>                  | RIVER                                                                     |
| <b>AU Size:</b>                  | 5.5 MILES                                                                 |
| <b>Classification/Qualifier:</b> | B: WWF                                                                    |

### Otter River (MA35-08)

Watershed Area: 61.64 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 61.64        | 12.58                           | 17.34                 | 3.16                   |
| Agriculture                    | 1.6%         | 3.2%                            | 0.6%                  | 1.3%                   |
| Developed                      | 15.4%        | 9.6%                            | 11%                   | 5.8%                   |
| Natural                        | 71.1%        | 75.9%                           | 67.5%                 | 68.5%                  |
| Wetland                        | 11.8%        | 11.2%                           | 20.9%                 | 24.5%                  |
| Impervious                     | 6.4%         | 3.4%                            | 4.6%                  | 2.6%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment                 | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|----------------------------|-------------------|---------------------------|
| 5                | 5                   | (Curly-leaf Pondweed*)     | --                | Unchanged                 |
| 5                | 5                   | Escherichia Coli (E. Coli) | --                | Unchanged                 |
| 5                | 5                   | PCBs in Fish Tissue        | --                | Unchanged                 |

| Impairment                 | Source (Confirmed Y/N)                                               | ALU | FC | AES | PCR | SCR |
|----------------------------|----------------------------------------------------------------------|-----|----|-----|-----|-----|
| (Curly-leaf Pondweed*)     | Introduction of Non-native Organisms (Accidental or Intentional) (N) | X   | -- | --  | --  | --  |
| Escherichia Coli (E. Coli) | Source Unknown (N)                                                   | --  | -- | --  | X   | --  |
| PCBs in Fish Tissue        | Contaminated Sediments (Y)                                           | X   | X  | --  | --  | --  |

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | X   | X  | --  | --  | --  |

## Recommendations

| 2024/26 Recommendations                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022 IR [E. COLI, LOW] Conduct additional <i>E. coli</i> bacteria sampling in this Otter River AU (MA35-08) particularly at Route 202 bridge {W0047, MRWC_OBW1} since concentrations fluctuate (an <i>E. coli</i> impairment added 2022 IR cycle after being delisted in 2016 IR cycle. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Otter River (MA35-08) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue impairment is being carried forward. DPH included a site-specific advisory for Otter River (referred to by MDPH as "Otter River (between the Seaman Paper Dam in Templeton and the confluence with the Millers River in Winchendon)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|



The Aesthetics Use for Otter River (MA35-08) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at two stations in this Otter River AU during the summer of 2011; one halfway down the AU downstream of Rt. 202 bridge in Templeton (W0047, n=6) and one at the downstream end of the AU near the abandoned RR bridge (~0.2 miles upstream from confluence with Millers River) in Winchendon (W0045, n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at either of these two sampling stations.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body  | Station Description                                                                                     | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|---------------------------------------------------------------------------------------------------------|-----------|------------|
| W0045        | MassDEP      | Water Quality | Otter River | [abandoned RR bridge (approximately 0.2 miles upstream from confluence with Millers River), Winchendon] | 42.633838 | -72.094247 |
| W0047        | MassDEP      | Water Quality | Otter River | [immediately downstream of Route 202 bridge, Templeton]                                                 | 42.606609 | -72.075803 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                  |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0045        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0045 on Otter River (MA35-08) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0047        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0047 on Otter River (MA35-08) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0045        | 2011      | 6                 | 1                                                          | 0                                         |
| W0047        | 2011      | 6                 | 0                                                          | 0                                         |

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

| Station Code | Waterbody   | Data Year | Parameter                       | Result             | Result Count | Total Field Sheet Count |
|--------------|-------------|-----------|---------------------------------|--------------------|--------------|-------------------------|
| W0045        | Otter River | 2011      | Aquatic Plant Density, Overall  | Sparse             | 1            | 6                       |
| W0045        | Otter River | 2011      | Aquatic Plant Density, Overall  | Unobservable       | 5            | 6                       |
| W0045        | Otter River | 2011      | Color                           | Dark Tan           | 1            | 6                       |
| W0045        | Otter River | 2011      | Color                           | Light Yellow/Tan   | 4            | 6                       |
| W0045        | Otter River | 2011      | Color                           | NR                 | 1            | 6                       |
| W0045        | Otter River | 2011      | Objectionable Deposits          | No                 | 5            | 6                       |
| W0045        | Otter River | 2011      | Objectionable Deposits          | Unobservable       | 1            | 6                       |
| W0045        | Otter River | 2011      | Odor                            | Musty (Basement)   | 1            | 6                       |
| W0045        | Otter River | 2011      | Odor                            | None               | 5            | 6                       |
| W0045        | Otter River | 2011      | Periphyton Density, Filamentous | None               | 1            | 6                       |
| W0045        | Otter River | 2011      | Periphyton Density, Filamentous | Unobservable       | 5            | 6                       |
| W0045        | Otter River | 2011      | Periphyton Density, Film        | None               | 1            | 6                       |
| W0045        | Otter River | 2011      | Periphyton Density, Film        | Unobservable       | 5            | 6                       |
| W0045        | Otter River | 2011      | Scum                            | No                 | 6            | 6                       |
| W0045        | Otter River | 2011      | Turbidity                       | None               | 2            | 6                       |
| W0045        | Otter River | 2011      | Turbidity                       | Slightly Turbid    | 2            | 6                       |
| W0045        | Otter River | 2011      | Turbidity                       | Unobservable       | 2            | 6                       |
| W0047        | Otter River | 2011      | Aquatic Plant Density, Overall  | None               | 2            | 6                       |
| W0047        | Otter River | 2011      | Aquatic Plant Density, Overall  | Unobservable       | 4            | 6                       |
| W0047        | Otter River | 2011      | Color                           | Dark Tan           | 1            | 6                       |
| W0047        | Otter River | 2011      | Color                           | Light Yellow/Tan   | 5            | 6                       |
| W0047        | Otter River | 2011      | Objectionable Deposits          | No                 | 3            | 6                       |
| W0047        | Otter River | 2011      | Objectionable Deposits          | Unobservable       | 2            | 6                       |
| W0047        | Otter River | 2011      | Objectionable Deposits          | Yes                | 1            | 6                       |
| W0047        | Otter River | 2011      | Odor                            | Effluent (Treated) | 1            | 6                       |
| W0047        | Otter River | 2011      | Odor                            | Musty (Basement)   | 2            | 6                       |
| W0047        | Otter River | 2011      | Odor                            | None               | 3            | 6                       |
| W0047        | Otter River | 2011      | Periphyton Density, Filamentous | Unobservable       | 6            | 6                       |
| W0047        | Otter River | 2011      | Periphyton Density, Film        | Unobservable       | 6            | 6                       |
| W0047        | Otter River | 2011      | Scum                            | No                 | 3            | 6                       |
| W0047        | Otter River | 2011      | Scum                            | Unobservable       | 1            | 6                       |
| W0047        | Otter River | 2011      | Scum                            | Yes                | 2            | 6                       |
| W0047        | Otter River | 2011      | Turbidity                       | Moderately Turbid  | 1            | 6                       |
| W0047        | Otter River | 2011      | Turbidity                       | None               | 3            | 6                       |
| W0047        | Otter River | 2011      | Turbidity                       | Slightly Turbid    | 2            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for the Otter River (MA35-08) 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 MRWC\_OBW1. MassDEP and MRWC staff/volunteers collected *E. coli* bacteria samples in the Otter River (MA35-08) from 2011-2015 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MRWC\_OBW1 [Baldwinville Rt 202, Templeton] in 2011 and 2014-2015 (n=7/yr), W0047 [immediately downstream of Rt. 202 bridge, Templeton] from May-Sep 2011 (n=6), W0045 [abandoned RR bridge (~0.2 miles upstream from confluence with Millers River), Winchendon] from May-Sep 2011 (n=6). Analysis of the multi-year moderate frequency *E. coli* dataset from MRWC\_OBW1 indicated 2 out of 3 sufficient data yrs had intervals where >20% of the GMs were >126 CFU/100ml (2011 and 2014, 63 & 27%), 1 yr had ≥2 samples exceed the 410 CFU/100ml STV (2011, n=2), and cumulatively across years 36% of intervals had GMs >126 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W0047 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 65 CFU/100ml. Analysis of the single year limited frequency *E. coli* dataset from W0045 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 88 CFU/100ml. While *E. coli* data from W0047 and W0045 meet 2024 CALM guidance, *E. coli* data from MRWC\_OBW1 are indicative of an *E. coli* impairment.

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description                                                                                     | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|---------------------------------------------------------------------------------------------------------|-----------|------------|
| W0045        | MassDEP                              | Water Quality | Otter River | [abandoned RR bridge (approximately 0.2 miles upstream from confluence with Millers River), Winchendon] | 42.633838 | -72.094247 |
| W0047        | MassDEP                              | Water Quality | Otter River | [immediately downstream of Route 202 bridge, Templeton]                                                 | 42.606609 | -72.075803 |
| MRWC_OBW1    | Millers River Watershed Council, Inc | Water Quality | Otter River | Baldwinville Rt 202, Templeton                                                                          | 42.606531 | -72.075094 |

## Bacteria Data

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

(MassDEP Undated 6) (MassDEP Undated 4) (Millers RWC 2015) (MassDEP Undated 2)

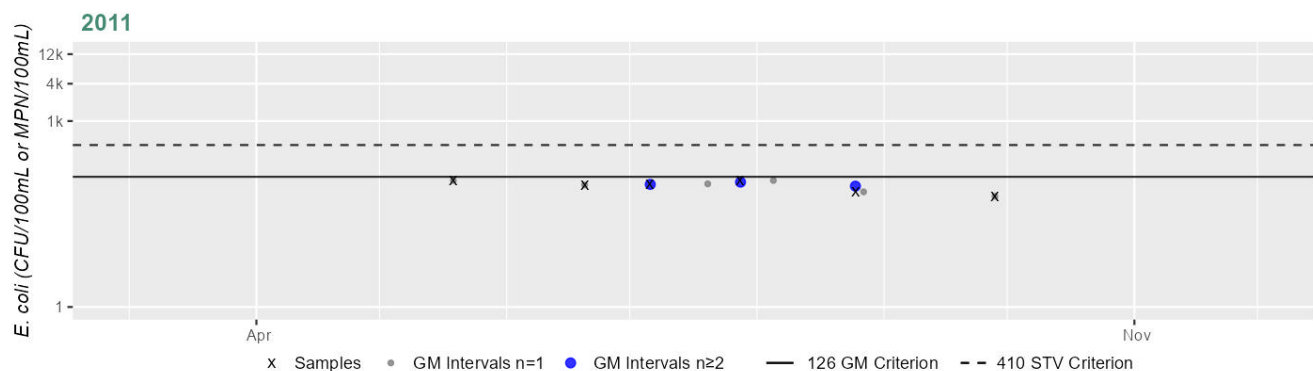
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0045        | MassDEP      | E. coli   | 05/19/11   | 09/28/11 | 6            | 61                    | 110                   | 88                      |

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0047        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 43                    | 110                   | 65                      |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 64                    | 1400                  | 219                     |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 58                    | 290                   | 101                     |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 72                    | 201                   | 108                     |

### Station MASSDEP\_W0045 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 88     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

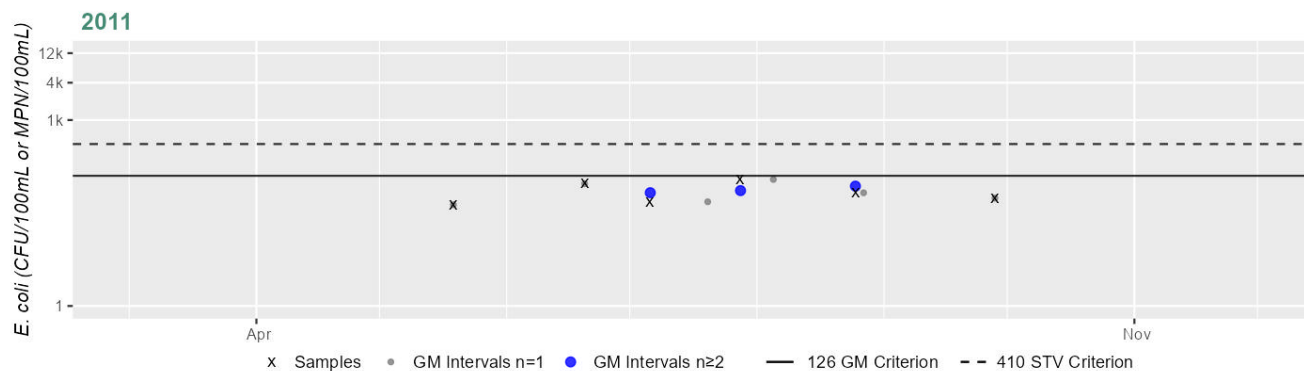
Cumulative %GMI Exceedance  
Current (2011-2022)

0%

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

### Station MASSDEP\_W0047 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 65     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

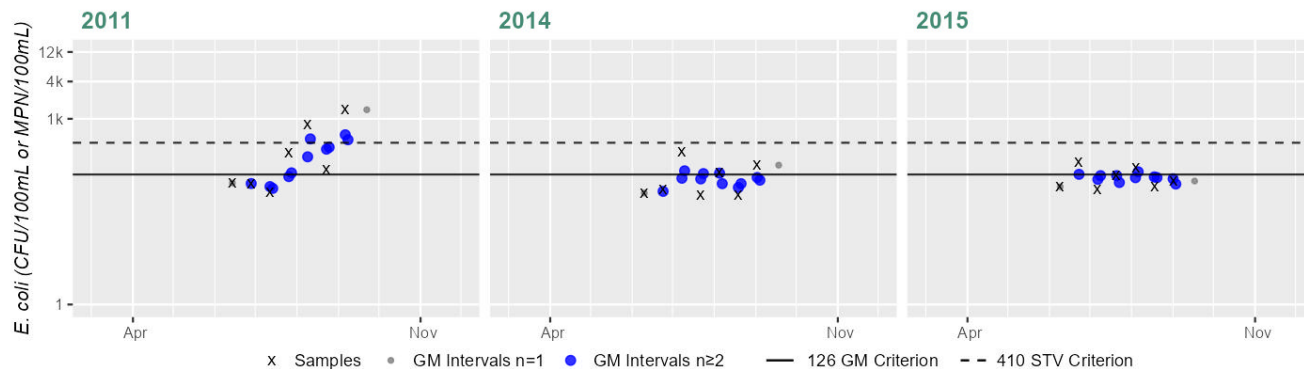
Current (2011-2022)

0%

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

### Station MASSDEP\_W0686 & MRWC\_OBW1 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 219    |
| #GMI      | 11     |
| #GMI Ex   | 7      |
| %GMI Ex   | 63%    |
| n>STV     | 2      |
| %n>STV    | 28%    |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 101    |
| #GMI      | 11     |
| #GMI Ex   | 3      |
| %GMI Ex   | 27%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 108    |
| #GMI      | 11     |
| #GMI Ex   | 2      |
| %GMI Ex   | 18%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

36%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for the Otter River (MA35-08) continues to be assessed as Fully Supporting. MassDEP and MRWC staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in the Otter River (MA35-08) from 2005-2015 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: W0686 &amp; MRWC_OBW1 [Rt. 202 bridge, Templeton &amp; Baldwinville Rt 202, Templeton] from May-Sep 2005 (historic n=5) and 2011 and 2014-2015 (current n=7/yr), W0686 &amp; MRWC_OBW1 [Rt. 202 bridge, Templeton &amp; Baldwinville Rt 202, Templeton] in May-Sep 2005 (historic n=5) and 2011 and 2014-2015 (current n=7/yr), W0047 [immediately downstream of Rt. 202 bridge, Templeton] from May-Sep 2011 (n=6), W0045 [abandoned RR bridge (~0.2 miles upstream from confluence with Millers River), Winchendon] from May-Sep 2011 (n=6). Analysis of the multi-year moderate frequency <i>E. coli</i> dataset from W0686 &amp; MRWC_OBW1 indicated 1 out of 3 sufficient data yrs had intervals where &gt;20% of the GMs were &gt;244 CFU/100ml (2011, 44%), 1 yr had ≥2 samples exceed the 794 CFU/100ml STV (2011, n=2), and cumulatively across years 14% of intervals had GMs &gt;244 CFU/100ml. Analysis of the single year limited frequency <i>E. coli</i> dataset from W0047 indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 65 CFU/100ml. Analysis of the single year limited frequency <i>E. coli</i> dataset from W0045 indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 88 CFU/100ml. <i>E. coli</i> data from W0686 &amp; MRWC_OBW1, W0047, and W0045 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization                         | Type          | Water Body  | Station Description                                                                                     | Latitude  | Longitude  |
|--------------|--------------------------------------|---------------|-------------|---------------------------------------------------------------------------------------------------------|-----------|------------|
| W0045        | MassDEP                              | Water Quality | Otter River | [abandoned RR bridge (approximately 0.2 miles upstream from confluence with Millers River), Winchendon] | 42.633838 | -72.094247 |
| W0047        | MassDEP                              | Water Quality | Otter River | [immediately downstream of Route 202 bridge, Templeton]                                                 | 42.606609 | -72.075803 |
| W0686        | MassDEP                              | Water Quality | Otter River | [Route 202 bridge, Templeton]                                                                           | 42.606580 | -72.075257 |
| MRWC_OBW1    | Millers River Watershed Council, Inc | Water Quality | Otter River | Baldwinville Rt 202, Templeton                                                                          | 42.606531 | -72.075094 |

## Bacteria Data

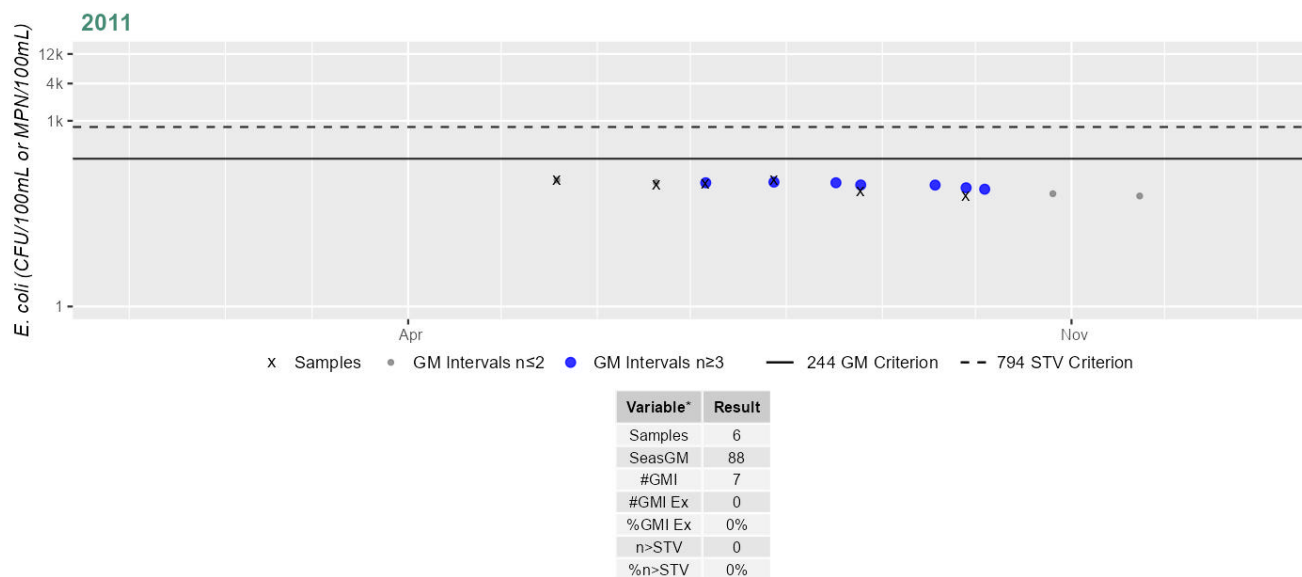
**Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**  
(MassDEP Undated 6) (MassDEP Undated 3) (Millers RWC 2015) (MassDEP Undated 1)

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

| Station Code | Organization                         | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0045        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 61                    | 110                   | 88                      |
| W0047        | MassDEP                              | E. coli   | 05/19/11   | 09/28/11 | 6            | 43                    | 110                   | 65                      |
| W0686        | MassDEP                              | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 370                   | 75                      |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/14/11   | 09/06/11 | 7            | 64                    | 1400                  | 219                     |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/10/14   | 09/02/14 | 7            | 58                    | 290                   | 101                     |
| MRWC_OBW1    | Millers River Watershed Council, Inc | E. coli   | 06/09/15   | 09/01/15 | 7            | 72                    | 201                   | 108                     |

### Station MASSDEP\_W0045 - Escherichia coli

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



#### Cumulative %GMI Exceedance

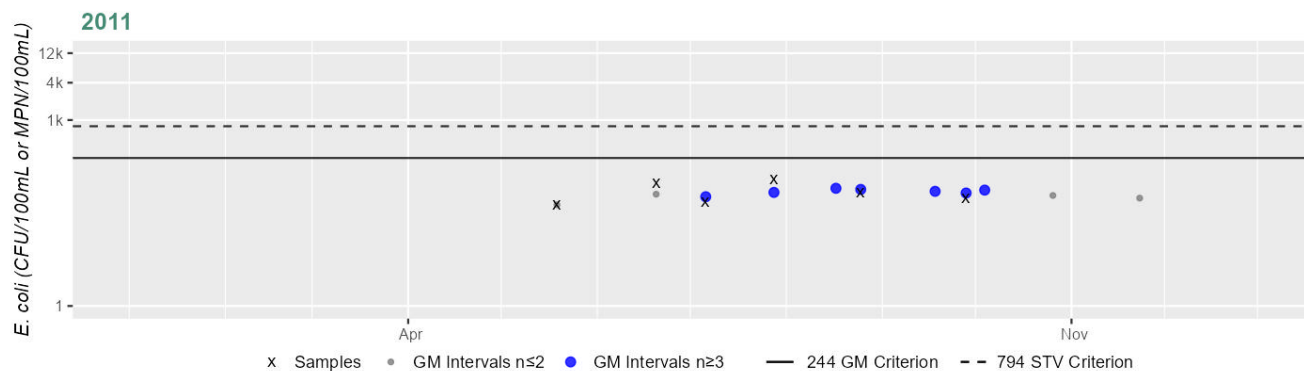
Current (2011-2022)

0%

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

### Station MASSDEP\_W0047 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 65     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

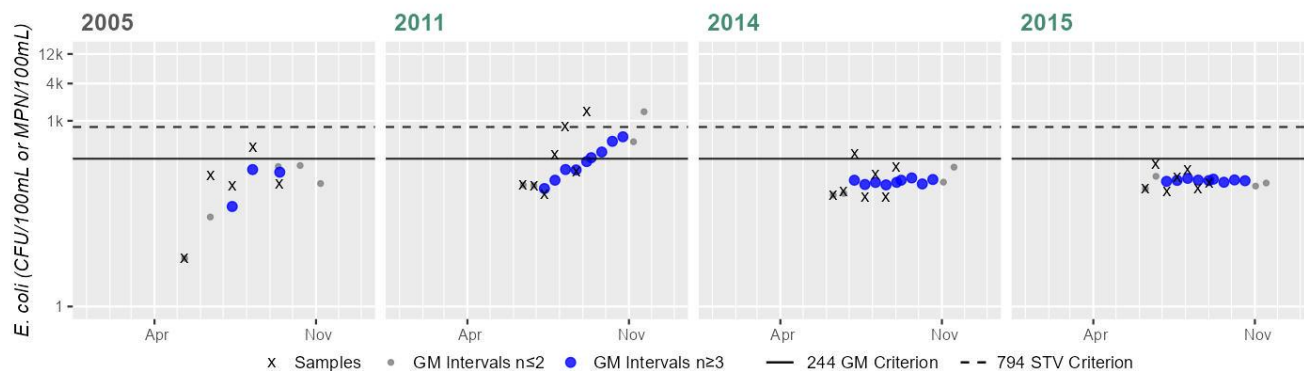
Current (2011-2022)

0%

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

### Station MASSDEP\_W0686 & MRWC\_OBW1 - *Escherichia coli*

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



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

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 219    |
| #GMI      | 9      |
| #GMI Ex   | 4      |
| %GMI Ex   | 44%    |
| n>STV     | 2      |
| %n>STV    | 28%    |

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 101    |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

14%

| Variable* | Result |
|-----------|--------|
| Samples   | 7      |
| SeasGM    | 108    |
| #GMI      | 9      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

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



## Packard Pond (MA35053)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Orange.         |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 43 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Packard Pond (MA35053) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Parker Pond (MA35056)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 32 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Parker Pond (MA35056) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category 2022</b> | <b>AU Category 2024/26</b> | <b>Impairment</b>                             | <b>ATTAINS Action ID</b> | <b>Impairment Change Summary</b> |
|-------------------------|----------------------------|-----------------------------------------------|--------------------------|----------------------------------|
| 4a                      | 4a                         | (Aquatic Plants (Macrophytes)*)               | --                       | Unchanged                        |
| 4a                      | 4a                         | (Fanwort*)                                    | --                       | Unchanged                        |
| 4a                      | 4a                         | Nutrient/Eutrophication Biological Indicators | 4134                     | Unchanged                        |

| <b>Impairment</b>                             | <b>Source (Confirmed Y/N)</b>                                        | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|-----------------------------------------------|----------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants (Macrophytes)*)               | Agriculture (Y)                                                      | --         | --        | X          | X          | X          |
| (Aquatic Plants (Macrophytes)*)               | Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)     | --         | --        | X          | X          | X          |
| (Aquatic Plants (Macrophytes)*)               | Rural (Residential Areas) (Y)                                        | --         | --        | X          | X          | X          |
| (Fanwort*)                                    | Introduction of Non-native Organisms (Accidental or Intentional) (Y) | X          | --        | --         | --         | --         |
| Nutrient/Eutrophication Biological Indicators | Agriculture (Y)                                                      | --         | --        | X          | X          | X          |

| <b>Impairment</b>                                | <b>Source (Confirmed Y/N)</b>                                          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|--------------------------------------------------|------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| Nutrient/Eutrophication<br>Biological Indicators | Discharges from Municipal<br>Separate Storm Sewer<br>Systems (MS4) (Y) | --         | --        | X          | X          | X          |
| Nutrient/Eutrophication<br>Biological Indicators | Rural (Residential Areas) (Y)                                          | --         | --        | X          | X          | X          |

## Partridgeville Pond (MA35057)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Templeton.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 38 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Partridgeville Pond (MA35057) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

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

## Perley Brook Reservoir (MA35059)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 55 ACRES        |
| <b>Classification/Qualifier:</b> | A: PWS, ORW     |

No usable data were available for Perley Brook Reservoir (MA35059) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Phillipston Reservoir (MA35060)

|                                  |                   |
|----------------------------------|-------------------|
| <b>Location:</b>                 | Philipston/Athol. |
| <b>AU Type:</b>                  | FRESHWATER LAKE   |
| <b>AU Size:</b>                  | 20 ACRES          |
| <b>Classification/Qualifier:</b> | A: PWS, ORW       |

No usable data were available for Phillipston Reservoir (MA35060) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

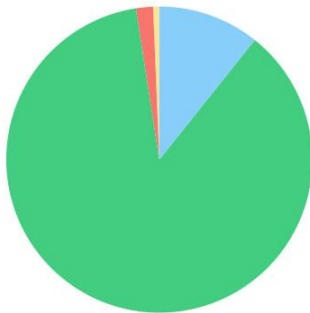
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Priest Brook (MA35-10)

|                                  |                                                                                                                                                                                      |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters at the confluence of Towne and Scott Brooks, Royalston to the confluence with the Millers River, Winchendon. (According to SARIS includes lower portion of Scott Brook.). |
| <b>AU Type:</b>                  | RIVER                                                                                                                                                                                |
| <b>AU Size:</b>                  | 6.8 MILES                                                                                                                                                                            |
| <b>Classification/Qualifier:</b> | B                                                                                                                                                                                    |

### Priest Brook (MA35-10)

Watershed Area: 23.59 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 9.62         | 4.65                            | 1.75                  | 1.02                   |
| Agriculture                     | 0.7%         | 0.1%                            | 0%                    | 0%                     |
| Developed                       | 1.8%         | 1.7%                            | 2%                    | 2.1%                   |
| Natural                         | 86.8%        | 86.3%                           | 72.5%                 | 74.9%                  |
| Wetland                         | 10.7%        | 11.9%                           | 25.5%                 | 23%                    |
| Impervious                      | 0.7%         | 0.7%                            | 1%                    | 0.9%                   |

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

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

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | No    |

| 2024/26 Use Attainment Summary                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Priest Brook (MA35-10) is Not Assessed. |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Priest Brook (MA35-10) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station about a quarter of the way down this Priest Brook AU, at Winchendon Road in Royalston (at USGS flow gaging station #01162500) (W0693) between January 2011 and March 2013 as part of the SMART monitoring project (n=13 surveys). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at this sampling location. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------------|-----------|------------|
| W0693        | MassDEP      | Water Quality | Priest Brook | [Winchendon Road, Royalston (at USGS flow gaging station #01162500)] | 42.682796 | -72.115037 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0693        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0693 on Priest Brook (MA35-10) during 6 site visits between Jan 2011 and Nov 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                                    |
| W0693        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0693 on Priest Brook (MA35-10) during 5 site visits between Feb 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.                                                    |
| W0693        | 2013      | 2                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0693 on Priest Brook (MA35-10) during 2 site visits between Jan 2013 and Mar 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. However, aesthetic observations are limited (n<3). |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0693        | 2011      | 6                 | 5                                                          | 1                                         |
| W0693        | 2012      | 5                 | 5                                                          | 0                                         |



| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0693        | 2013      | 2                 | 1                                                          | 0                                         |

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

| Station Code | Waterbody    | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|--------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0693        | Priest Brook | 2011      | Aquatic Plant Density, Overall  | Moderate         | 2            | 6                       |
| W0693        | Priest Brook | 2011      | Aquatic Plant Density, Overall  | Sparse           | 3            | 6                       |
| W0693        | Priest Brook | 2011      | Aquatic Plant Density, Overall  | Unobservable     | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Color                           | Reddish          | 6            | 6                       |
| W0693        | Priest Brook | 2011      | Objectionable Deposits          | No               | 5            | 6                       |
| W0693        | Priest Brook | 2011      | Objectionable Deposits          | Unobservable     | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Odor                            | Musty (Basement) | 2            | 6                       |
| W0693        | Priest Brook | 2011      | Odor                            | None             | 4            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Filamentous | Dense            | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Filamentous | None             | 4            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Filamentous | Unobservable     | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Film        | None             | 4            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Film        | Sparse           | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Periphyton Density, Film        | Unobservable     | 1            | 6                       |
| W0693        | Priest Brook | 2011      | Scum                            | No               | 2            | 6                       |
| W0693        | Priest Brook | 2011      | Scum                            | Yes              | 4            | 6                       |
| W0693        | Priest Brook | 2011      | Turbidity                       | None             | 5            | 6                       |
| W0693        | Priest Brook | 2011      | Turbidity                       | Unobservable     | 1            | 6                       |
| W0693        | Priest Brook | 2012      | Aquatic Plant Density, Overall  | None             | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Aquatic Plant Density, Overall  | Sparse           | 3            | 5                       |
| W0693        | Priest Brook | 2012      | Aquatic Plant Density, Overall  | Unobservable     | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Color                           | Reddish          | 5            | 5                       |
| W0693        | Priest Brook | 2012      | Objectionable Deposits          | No               | 3            | 5                       |
| W0693        | Priest Brook | 2012      | Objectionable Deposits          | Unobservable     | 2            | 5                       |
| W0693        | Priest Brook | 2012      | Odor                            | Fishy            | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Odor                            | Musty (Basement) | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Odor                            | None             | 3            | 5                       |
| W0693        | Priest Brook | 2012      | Periphyton Density, Filamentous | None             | 5            | 5                       |

| Station Code | Waterbody    | Data Year | Parameter                       | Result            | Result Count | Total Field Sheet Count |
|--------------|--------------|-----------|---------------------------------|-------------------|--------------|-------------------------|
| W0693        | Priest Brook | 2012      | Periphyton Density, Film        | None              | 5            | 5                       |
| W0693        | Priest Brook | 2012      | Scum                            | No                | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Scum                            | Yes               | 4            | 5                       |
| W0693        | Priest Brook | 2012      | Turbidity                       | Moderately Turbid | 1            | 5                       |
| W0693        | Priest Brook | 2012      | Turbidity                       | None              | 4            | 5                       |
| W0693        | Priest Brook | 2013      | Aesthetics Impaired?            | NR                | 2            | 2                       |
| W0693        | Priest Brook | 2013      | Aquatic Plant Density, Overall  | None              | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Aquatic Plant Density, Overall  | Unobservable      | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Color                           | Reddish           | 2            | 2                       |
| W0693        | Priest Brook | 2013      | Objectionable Deposits          | No                | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Objectionable Deposits          | Unobservable      | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Odor                            | None              | 2            | 2                       |
| W0693        | Priest Brook | 2013      | Periphyton Density, Filamentous | None              | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Periphyton Density, Filamentous | Unobservable      | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Periphyton Density, Film        | None              | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Periphyton Density, Film        | Unobservable      | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Scum                            | No                | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Scum                            | Yes               | 1            | 2                       |
| W0693        | Priest Brook | 2013      | Turbidity                       | None              | 2            | 2                       |

## 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 Priest Brook (MA35-10) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected <i>E. coli</i> bacteria samples in Priest Brook (MA35-10) at W0693 [Winchendon Rd, Royalston (at USGS flow gaging station #01162500)] in 2011-2012 (n=3-4/yr). The available <i>E. coli</i> data at W0693 are too limited to assess according to the 2024 CALM to assess the Primary Contact Recreation Use. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------------|-----------|------------|
| W0693        | MassDEP      | Water Quality | Priest Brook | [Winchendon Road, Royalston (at USGS flow gaging station #01162500)] | 42.682796 | -72.115037 |

## Bacteria Data

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

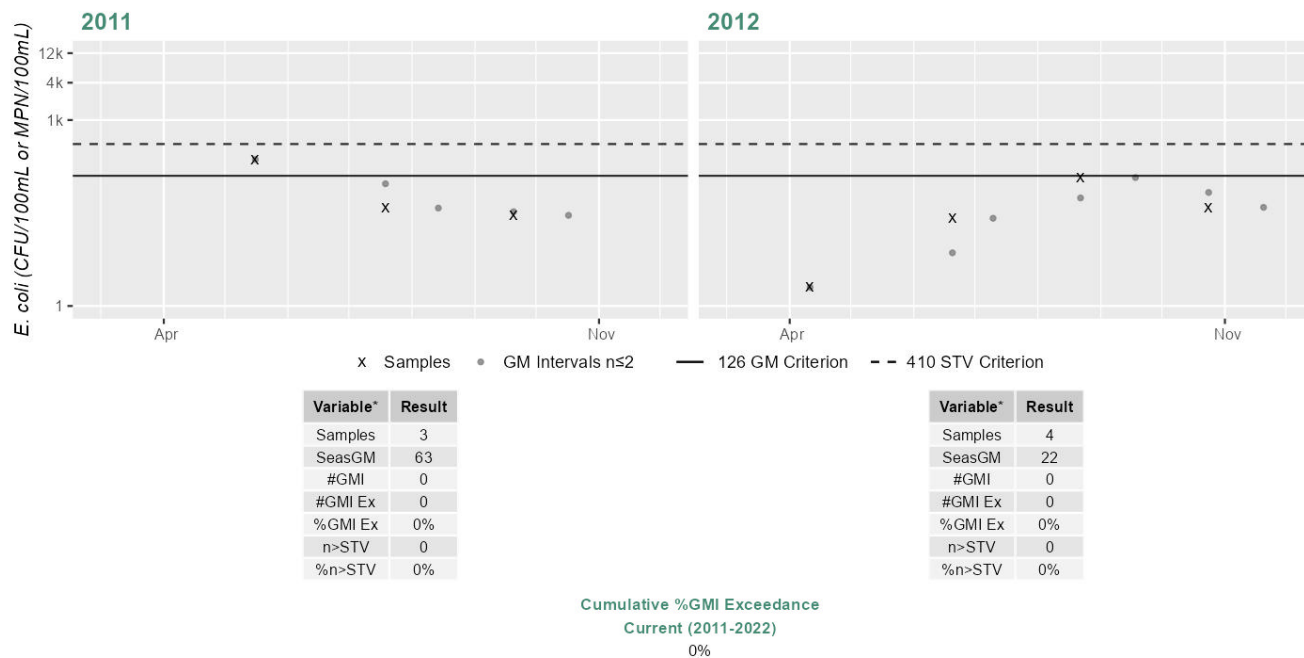
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0693        | MassDEP      | E. coli   | 05/16/11   | 09/20/11 | 3            | 29                    | 231                   | 63                      |
| W0693        | MassDEP      | E. coli   | 04/10/12   | 10/23/12 | 4            | 2                     | 118                   | 22                      |

#### Station MASSDEP\_W0693 - Escherichia coli

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Insufficient Information       | NO    |
| 2024/26 Use Attainment Summary |       |

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Priest Brook (MA35-10) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Priest Brook (MA35-10) at W0693 [Winchendon Rd, Royalston (at USGS flow gaging station #01162500)] in 2005 and 2007-2010 (historic n=2-5/yr) and 2011-2013 (current n=2-6/yr). The available *E. coli* data at W0693 are too limited to assess according to the 2024 CALM to assess the Secondary Contact Recreation Use

### Monitoring Stations

| Station Code | Organization | Type          | Water Body   | Station Description                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|--------------|----------------------------------------------------------------------|-----------|------------|
| W0693        | MassDEP      | Water Quality | Priest Brook | [Winchendon Road, Royalston (at USGS flow gaging station #01162500)] | 42.682796 | -72.115037 |

### Bacteria Data

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

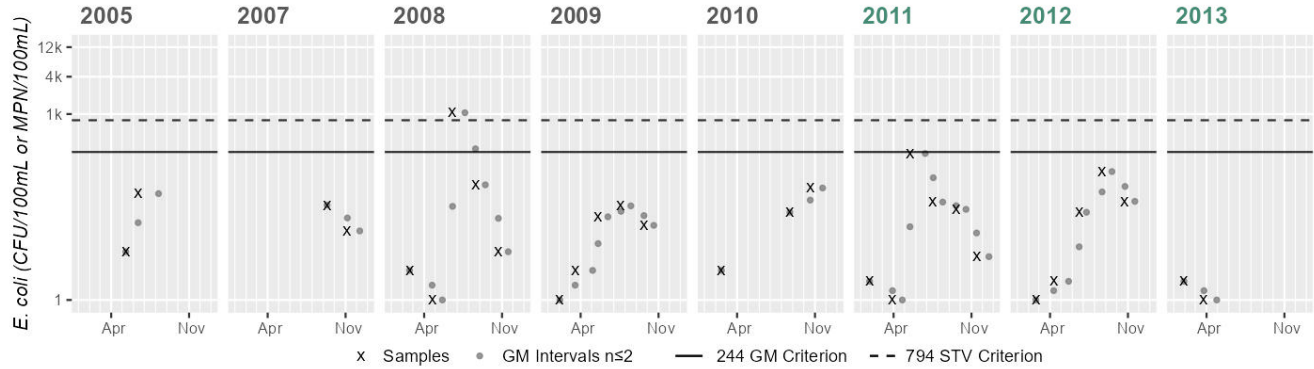
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W0693        | MassDEP      | E. coli   | 05/11/05   | 06/14/05 | 2            | 6                     | 52                    | 17                      |
| W0693        | MassDEP      | E. coli   | 09/11/07   | 11/06/07 | 2            | 13                    | 34                    | 21                      |
| W0693        | MassDEP      | E. coli   | 02/20/08   | 10/21/08 | 5            | 1                     | 1050                  | 16                      |
| W0693        | MassDEP      | E. coli   | 02/03/09   | 09/22/09 | 5            | 1                     | 33                    | 8                       |
| W0693        | MassDEP      | E. coli   | 02/17/10   | 10/19/10 | 3            | 3                     | 64                    | 17                      |
| W0693        | MassDEP      | E. coli   | 01/25/11   | 11/15/11 | 6            | 1                     | 231                   | 11                      |
| W0693        | MassDEP      | E. coli   | 02/21/12   | 10/23/12 | 5            | 1                     | 118                   | 11                      |
| W0693        | MassDEP      | E. coli   | 01/29/13   | 03/25/13 | 2            | 1                     | 2                     | 1                       |

# Station MASSDEP\_W0693 - *Escherichia coli*

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



| Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result | Variable* | Result |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| Samples   | 2      | Samples   | 2      | Samples   | 5      | Samples   | 5      | Samples   | 3      | Samples   | 6      | Samples   | 5      | Samples   | 2      |
| SeasGM    | 17     | SeasGM    | 21     | SeasGM    | 16     | SeasGM    | 8      | SeasGM    | 17     | SeasGM    | 11     | SeasGM    | 11     | SeasGM    | 1      |
| #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      | #GMI      | 0      |
| #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      | #GMI Ex   | 0      |
| %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     | %GMI Ex   | 0%     |
| n>STV     | 0      | n>STV     | 0      | n>STV     | 1      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      | n>STV     | 0      |
| %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 20%    | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     | %n>STV    | 0%     |

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

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

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

## Ramsdall Pond (MA35062)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Gardner.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 16 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Ramsdall Pond (MA35062) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Reservoir No. 1 (MA35063)

|                                  |                         |
|----------------------------------|-------------------------|
| <b>Location:</b>                 | Athol.                  |
| <b>AU Type:</b>                  | FRESHWATER LAKE         |
| <b>AU Size:</b>                  | 8 ACRES                 |
| <b>Classification/Qualifier:</b> | A: PWS, ORW (Tributary) |

No usable data were available for Reservoir No. 1 (MA35063) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                                | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|--------------------------------------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | (Aquatic Plants<br>(Macrophytes)*)               | --                       | Unchanged                                |
| 4a                          | 4a                             | Nutrient/Eutrophication<br>Biological Indicators | 4137                     | Unchanged                                |

| <b>Impairment</b>                                | <b>Source (Confirmed Y/N)</b>       | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|--------------------------------------------------|-------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*)               | Rural (Residential Areas) (Y)       | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*)               | Unspecified Urban<br>Stormwater (Y) | --         | --        | X          | X          | X          |
| Nutrient/Eutrophication<br>Biological Indicators | Rural (Residential Areas) (Y)       | --         | --        | X          | X          | X          |
| Nutrient/Eutrophication<br>Biological Indicators | Unspecified Urban<br>Stormwater (Y) | --         | --        | X          | X          | X          |

## Reservoir No. 2 (MA35064)

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Location:</b>                 | Phillipston/Athol (Secret Lake). |
| <b>AU Type:</b>                  | FRESHWATER LAKE                  |
| <b>AU Size:</b>                  | 48 ACRES                         |
| <b>Classification/Qualifier:</b> | A: PWS, ORW (Tributary)          |

No usable data were available for Reservoir No. 2 (MA35064) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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



## Riceville Pond (MA35065)

|                                  |                  |
|----------------------------------|------------------|
| <b>Location:</b>                 | Athol/Petersham. |
| <b>AU Type:</b>                  | FRESHWATER LAKE  |
| <b>AU Size:</b>                  | 61 ACRES         |
| <b>Classification/Qualifier:</b> | B                |

No usable data were available for Riceville Pond (MA35065) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

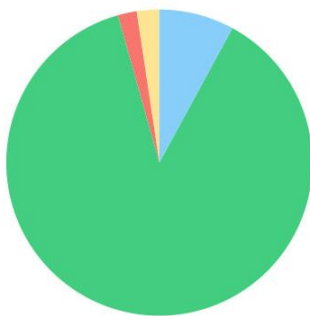
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Rich Brook (MA35-42)

|                                  |                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters west of Route 68, Royalston to mouth at confluence with Millers River, Athol. |
| <b>AU Type:</b>                  | RIVER                                                                                    |
| <b>AU Size:</b>                  | 2.2 MILES                                                                                |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                   |

### Rich Brook (MA35-42)

Watershed Area: 1.13 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.13         | 1.13                            | 0.28                  | 0.28                   |
| Agriculture                    | 2.4%         | 2.4%                            | 0%                    | 0%                     |
| Developed                      | 2%           | 2%                              | 0.6%                  | 0.6%                   |
| Natural                        | 87.7%        | 87.7%                           | 78.1%                 | 78.1%                  |
| Wetland                        | 7.9%         | 7.9%                            | 21.3%                 | 21.3%                  |
| Impervious                     | 0.7%         | 0.7%                            | 0.3%                  | 0.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Rich Brook (MA35-42) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Rich Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Rich Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Rich Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Rich Brook (MA35-42).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

No data are available, so the Aesthetics Use for Rich Brook (MA35-42) is Not Assessed.

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Rich Brook (MA35-42) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Rich Brook (MA35-42) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

## Richards Reservoir (MA35067)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Warwick.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 21 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Richards Reservoir (MA35067) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Royalston Road Pond (MA35071)

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

No usable data were available for Royalston Road Pond (MA35071) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Ruggles Pond (MA35072)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Wendell.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 15 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

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

## Recommendations

| 2024/26 Recommendations                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [ENTEROCOCCUS, LOW] Additional monitoring is recommended due to the Ruggles Pond (DCR) {Beach ID: 5187} beach in Wendell being posted for >10% of the swimming season in 2021 (27%). |

## 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 Ruggles Pond (MA35072) 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 Ruggles Pond (MA35072) is Not Assessed. |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | YES   |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for Ruggles Pond (MA35072) continues to be assessed as Fully Supporting. Ruggles Pond (MA35072) has a beach with DPH Beach Closure data: Ruggles Pond (DCR) [Beach ID: 5187] beach in Wendell. The beach was rarely, if at all, posted for swimming from 2018-2022. An Alert for <i>Enterococcus</i> is being identified since Ruggles Pond (DCR) was posted for >10% of the swimming season in 2021 (27%). |

## Beach Postings

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

| Beach ID | Beach Name/<br>Town            | Left Border<br>(Lat., Long.) | Right Border<br>(Lat., Long.) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | # years >10% |
|----------|--------------------------------|------------------------------|-------------------------------|------|------|------|------|------|------|------|------|------|--------------|
| 5187     | Ruggles Pond (DCR)/<br>Wendell | 42.55100,<br>-72.44900       | 42.55118,<br>-72.44810        | 0%   | 0%   | 0%   | 0%   | 0%   | 7%   | 2%   | 27%  | 0%   | 1            |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Ruggles Pond (MA35072) continues to be assessed as Fully Supporting. Ruggles Pond (MA35072) has a beach with DPH Beach Closure data: Ruggles Pond (DCR) [Beach ID: 5187] beach in Wendell. The beach was rarely, if at all, posted for swimming from 2018-2022. |



## Sheomet Lake (MA35074)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Warwick.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 30 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Sheomet Lake (MA35074) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## South Athol Pond (MA35078)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Athol.          |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 83 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |
| 4c                          | 4c                             | (Fanwort*)                         | --                       | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>                                              | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|----------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                                                            | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)                                              | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Source Unknown (N)                                                         | --         | --        | X          | X          | X          |
| (Fanwort*)                         | Introduction of Non-native<br>Organisms (Accidental or<br>Intentional) (Y) | X          | --        | --         | --         | --         |

## Designated Use Attainment Decisions

### Fish Consumption

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

**2024/26 Use Attainment Summary**

Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for South Athol Pond (MA35078) is Not Assessed.

**Aesthetic**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

**2024/26 Use Attainment Summary**

The Aesthetics Use for South Athol Pond (MA35078) continues to be assessed as Not Supporting with the prior Aquatic Plants (Macrophytes) impairment being carried forward. Since the Fanwort (*C. caroliniana*) impairment was redundantly duplicated across multiple uses for this waterbody, the Fanwort (*C. caroliniana*) impairment is being removed from the Aesthetics Use but will continue to be maintained under the Aquatic Life Use. No new data are available to evaluate the Aesthetics Use for this South Athol Pond AU.

**Primary Contact Recreation**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

**2024/26 Use Attainment Summary**

No bacteria or other indicator data for South Athol Pond (MA35078) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) impairment (from the Aesthetics Use) is being carried forward. Since the Fanwort impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use.

**Secondary Contact Recreation**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

**2024/26 Use Attainment Summary**

No bacteria or other indicator data for South Athol Pond (MA35078) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) impairment (from the Aesthetics Use) is being carried forward. Since the Fanwort impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

## South Spectacle Pond (MA35081)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | New Salem.      |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 38 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for South Spectacle Pond (MA35081) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Sportsmans Pond (MA35082)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Athol.          |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 93 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Sportsmans Pond (MA35082) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

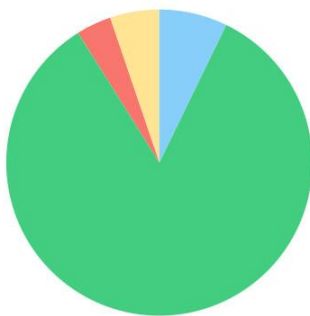
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Stockwell Brook (MA35-25)

|                                  |                                                                                       |
|----------------------------------|---------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters east of Norcross Road, Royalston to mouth at Beaver Pond inlet, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                                 |
| <b>AU Size:</b>                  | 1.3 MILES                                                                             |
| <b>Classification/Qualifier:</b> | B                                                                                     |

### Stockwell Brook (MA35-25)

Watershed Area: 0.82 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.82         | 0.82                            | 0.26                  | 0.26                   |
| Agriculture                    | 5.2%         | 5.2%                            | 3.3%                  | 3.3%                   |
| Developed                      | 3.7%         | 3.7%                            | 3.6%                  | 3.6%                   |
| Natural                        | 83.9%        | 83.9%                           | 81.6%                 | 81.6%                  |
| Wetland                        | 7.2%         | 7.2%                            | 11.5%                 | 11.5%                  |
| Impervious                     | 1.6%         | 1.6%                            | 1.3%                  | 1.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Stockwell Brook (MA35-25) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Stockwell Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Stockwell Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Stockwell Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Stockwell Brook (MA35-25).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Aesthetics Use for Stockwell Brook (MA35-25) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station at the upstream end of this Stockwell Brook AU upstream of Norcross Rd in Royalston (W2215) during the summer of 2011 (n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys, though field staff noted high turbidity on one occasion.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|---------------------------------------------------------------|-----------|------------|
| W2215        | MassDEP      | Water Quality | Stockwell Brook | [approximately 230 feet upstream of Norcross Road, Royalston] | 42.657151 | -72.132910 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2215        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2215 on Stockwell Brook (MA35-25) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted high turbidity (n=1). |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2215        | 2011      | 6                 | 5                                                          | 0                                         |

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

| Station Code | Waterbody       | Data Year | Parameter                      | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|--------------------------------|------------------|--------------|-------------------------|
| W2215        | Stockwell Brook | 2011      | Aquatic Plant Density, Overall | None             | 5            | 6                       |
| W2215        | Stockwell Brook | 2011      | Aquatic Plant Density, Overall | Unobservable     | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Color                          | Light Yellow/Tan | 2            | 6                       |
| W2215        | Stockwell Brook | 2011      | Color                          | NR               | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Color                          | Reddish          | 3            | 6                       |
| W2215        | Stockwell Brook | 2011      | Objectionable Deposits         | No               | 5            | 6                       |
| W2215        | Stockwell Brook | 2011      | Objectionable Deposits         | Unobservable     | 1            | 6                       |



| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2215        | Stockwell Brook | 2011      | Odor                            | Musty (Basement) | 2            | 6                       |
| W2215        | Stockwell Brook | 2011      | Odor                            | None             | 4            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Filamentous | Moderate         | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Filamentous | None             | 3            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Filamentous | Sparse           | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Filamentous | Unobservable     | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Film        | Moderate         | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Film        | None             | 4            | 6                       |
| W2215        | Stockwell Brook | 2011      | Periphyton Density, Film        | Unobservable     | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Scum                            | No               | 5            | 6                       |
| W2215        | Stockwell Brook | 2011      | Scum                            | Yes              | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Turbidity                       | Highly Turbid    | 1            | 6                       |
| W2215        | Stockwell Brook | 2011      | Turbidity                       | None             | 5            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for Stockwell Brook (MA35-25) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Stockwell Brook (MA35-25) at W2215 [~230 ft upstream of Norcross Rd, Royalston] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2215 indicated 71% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 80 CFU/100ml. <i>E. coli</i> data from W2215 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|---------------------------------------------------------------|-----------|------------|
| W2215        | MassDEP      | Water Quality | Stockwell Brook | [approximately 230 feet upstream of Norcross Road, Royalston] | 42.657151 | -72.132910 |

## Bacteria Data

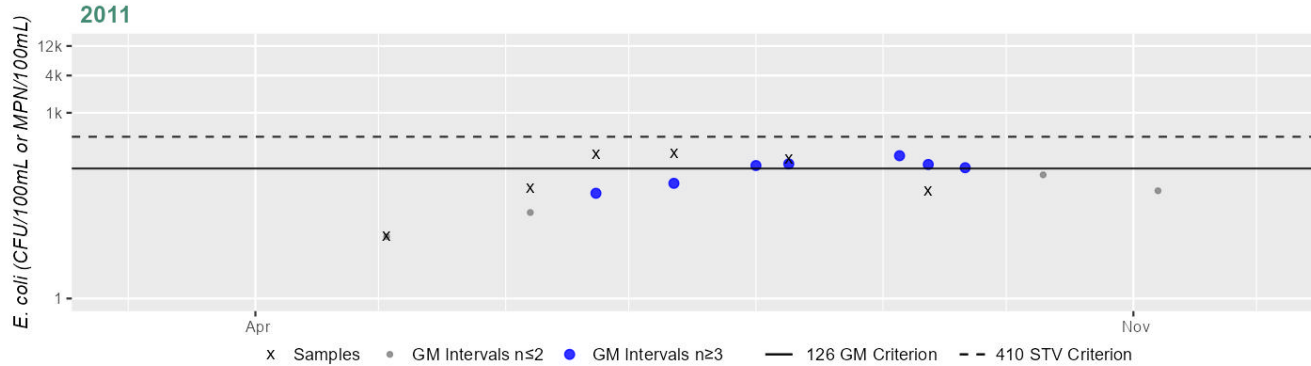
**Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**  
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2215        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 220                   | 80                      |

### Station MASSDEP\_W2215 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 80     |
| #GMI      | 7      |
| #GMI Ex   | 5      |
| %GMI Ex   | 71%    |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

71%

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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Stockwell Brook (MA35-25) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Stockwell Brook (MA35-25) at W2215 [~230 ft upstream of Norcross Rd, Royalston] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2215 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 80 CFU/100ml. *E. coli* data from W2215 meet 2024 CALM guidance.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|---------------------------------------------------------------|-----------|------------|
| W2215        | MassDEP      | Water Quality | Stockwell Brook | [approximately 230 feet upstream of Norcross Road, Royalston] | 42.657151 | -72.132910 |

## Bacteria Data

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

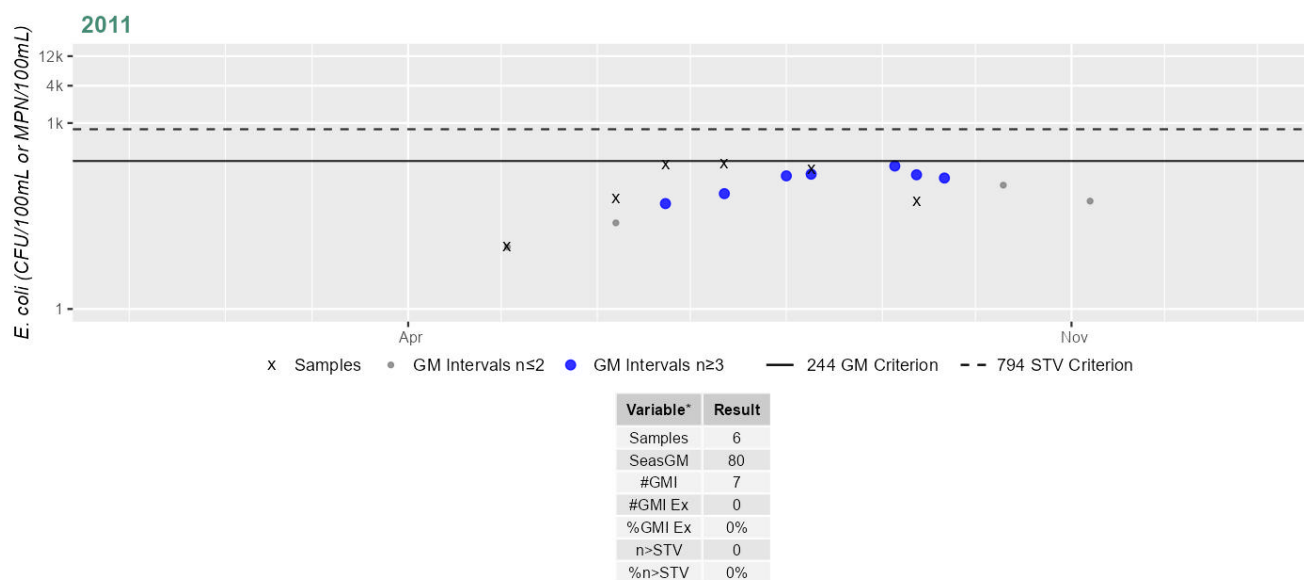
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2215        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 220                   | 80                      |

#### Station MASSDEP\_W2215 - Escherichia coli

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



Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Stoddard Pond (MA35083)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Winchendon.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 52 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Stoddard Pond (MA35083) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>       | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|-------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                     | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)       | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Unspecified Urban<br>Stormwater (Y) | --         | --        | X          | X          | X          |

## Sunset Lake (MA35086)

|                                  |                        |
|----------------------------------|------------------------|
| <b>Location:</b>                 | Ashburnham/Winchendon. |
| <b>AU Type:</b>                  | FRESHWATER LAKE        |
| <b>AU Size:</b>                  | 274 ACRES              |
| <b>Classification/Qualifier:</b> | B                      |

No usable data were available for Sunset Lake (MA35086) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Thrower Brook (MA35-43)

|                                  |                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, New Sherborn Road, Athol to mouth at inlet of South Athol Pond, Athol. |
| <b>AU Type:</b>                  | RIVER                                                                              |
| <b>AU Size:</b>                  | 2.6 MILES                                                                          |
| <b>Classification/Qualifier:</b> | B: CWF                                                                             |

### Thrower Brook (MA35-43)

Watershed Area: 1.19 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.19         | 1.19                            | 0.32                  | 0.32                   |
| Agriculture                    | 0.4%         | 0.4%                            | 0%                    | 0%                     |
| Developed                      | 10%          | 10%                             | 10.3%                 | 10.3%                  |
| Natural                        | 82%          | 82%                             | 74.9%                 | 74.9%                  |
| Wetland                        | 7.6%         | 7.6%                            | 14.9%                 | 14.9%                  |
| Impervious                     | 3.3%         | 3.3%                            | 3.2%                  | 3.2%                   |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Thrower Brook (MA35-43) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Thrower Brook. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisory for PCBs and PFAS in Thrower Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Thrower Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Thrower Brook (MA35-43). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Thrower Brook (MA35-43).

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Thrower Brook (MA35-43) is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                | Alert |
|---------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                          | NO    |
| 2024/26 Use Attainment Summary                                                                                                        |       |
| No bacteria or other indicator data for Thrower Brook (MA35-43) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                       | Alert |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                 | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                               |       |
| No bacteria or other indicator data for Thrower Brook (MA35-43) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |       |

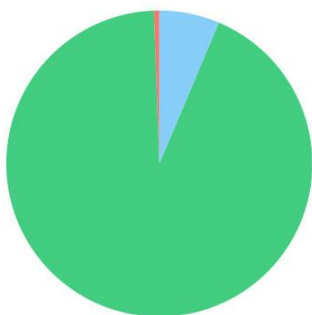


## Tully Brook (MA35-44)

|                                  |                                                                                                                                                                     |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, portion in Massachusetts north of Falls Road, Royalston to mouth at confluence with Fall Brook forming headwater of East Branch Tully River, Royalston. |
| <b>AU Type:</b>                  | RIVER                                                                                                                                                               |
| <b>AU Size:</b>                  | 1.1 MILES                                                                                                                                                           |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                                                                                              |

### Tully Brook (MA35-44)

Watershed Area: 6.75 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 0.63         | 0.63                            | 0.19                  | 0.19                   |
| Agriculture                     | 0%           | 0%                              | 0%                    | 0%                     |
| Developed                       | 0.6%         | 0.6%                            | 0%                    | 0%                     |
| Natural                         | 93.1%        | 93.1%                           | 85.3%                 | 85.3%                  |
| Wetland                         | 6.4%         | 6.4%                            | 14.7%                 | 14.7%                  |
| Impervious                      | 0.2%         | 0.2%                            | 0%                    | 0%                     |

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

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for Tully Brook (MA35-44) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Tully Brook (MA35-44). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Tully Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Tully Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Tully Brook (MA35-44). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Tully Brook (MA35-44).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
|------------------------|-------|

|              |    |
|--------------|----|
| Not Assessed | NO |
|--------------|----|

|                                                                                         |  |
|-----------------------------------------------------------------------------------------|--|
| <b>2024/26 Use Attainment Summary</b>                                                   |  |
| No data are available, so the Aesthetics Use for Tully Brook (MA35-44) is Not Assessed. |  |

## Primary Contact Recreation

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

|                                                                                                                                     |  |
|-------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>2024/26 Use Attainment Summary</b>                                                                                               |  |
| No bacteria or other indicator data for Tully Brook (MA35-44) are available, so the Primary Contact Recreation Use is Not Assessed. |  |

## Secondary Contact Recreation

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

|                                                                                                                                                                            |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>2024/26 Use Attainment Summary</b>                                                                                                                                      |  |
| No bacteria or other indicator data for Tully Brook (MA35-44) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |  |

## Tully Lake (MA35111)

|                                  |                  |
|----------------------------------|------------------|
| <b>Location:</b>                 | Royalston/Athol. |
| <b>AU Type:</b>                  | FRESHWATER LAKE  |
| <b>AU Size:</b>                  | 214 ACRES        |
| <b>Classification/Qualifier:</b> | B                |

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

| Impairment           | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|----------------------|------------------------|-----|----|-----|-----|-----|
| Harmful Algal Blooms | Source Unknown (N)     | --  | -- | X   | X   | X   |

## Recommendations

| 2024/26 Recommendations                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [CYANOBACTERIA CELL COUNT, MEDIUM] Follow-up monitoring should be conducted in Tully Lake (MA35111) to determine if Harmful Algal Blooms continue to impair the Recreational and Aesthetic uses. Monitoring should include the collection of cyanobacteria cell count data, as well as continued reporting of algal blooms to MDPH. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | No    |

| 2024/26 Use Attainment Summary                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Tully Lake (MA35111) is Not Assessed. |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Aesthetics Use for Tully Lake (MA35111) continues to be assessed as Not Supporting, with the prior Harmful Algal Blooms impairment being carried forward since extended blooms were reported in recent years. During the period 2015 through 2022, C-HAB postings for Tully Lake were reported to MDPH based on visual observations for 76 days in 2015, 73 days in 2016 (14 of those with cell count data), 29 days in 2017, and 24 days in 2018 and no blooms were reported in other years. Since extended C-HAB postings (&gt;20 days in duration) were reported, this is reflective of the existing impairment for Tully Lake. Considering the existing Harmful Algal Blooms impairment was based on visual observations and the blooms were not observed in recent years, a recommendation is being made to confirm the impairment with cyanobacteria cell count data and continue to track blooms in this waterbody (since delisting may be warranted if no additional blooms occur).</p> |

## Algal Bloom Information

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

| C-HAB Summary Statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>During the period 2015 through 2022, C-HAB postings for Tully Lake (MA35111) were reported to MDPH based on visual observations for 76 days in 2015, 73 days in 2016 (14 of those with cell count data), 29 days in 2017, and 24 days in 2018. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.</p> |

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

| DEP Waterbody (DPH Waterbody) | DPH Town        | Posting Days 2015 | Posting Days 2016 | Posting Days 2017 | Posting Days 2018 | Posting Days 2019 | Posting Days 2020 | Posting Days 2021 | Posting Days 2022 |
|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Tully Lake                    | Athol/Royalston | 76                | 73                | 29                | 24                |                   |                   |                   |                   |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for Tully Lake (MA35111) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending >20 days in 4 yrs. During the period 2015 through 2022, C-HAB postings for Tully Lake (MA35111) were reported to MDPH based on visual observations for 76 days in 2015, 73 days in 2016 (14 of those with cell count data), 29 days in 2017, and 24 days in 2018. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Bloom impairment. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data. In Tully Lake (MA35111), EPA (NARS\_WQX) collected Secchi and cyanotoxin data at NARS\_WQX-NLA\_MA-10017 (2017) and Secchi, cyanobacteria cell count, and cyanotoxin data at NARS\_WQX-NLA12\_MA-105 [42.646907, -72.218497, NLA12\_MA-105] (2012). Secchi depth data are generally indicative of water clarity meeting the 1.2m (4ft) threshold at NARS\_WQX-NLA12\_MA-105 in 2012 (n=2, 1.15-1.75m) and NARS\_WQX-NLA\_MA-10017 in 2017 (n=2, 1.85-1.95m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2012 (n=2). Analysis of microcystins and cylindrospermopsin samples from NARS\_WQX-NLA12\_MA-105 in 2012 (n=2) and NARS\_WQX-NLA\_MA-10017 in 2017 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS\_WQX) staff collected *E. coli* bacteria samples in Tully Lake (MA35111) at NARS\_WQX-NLA\_MA-10017 [Tully Lake] from Jul-Aug 2017 (n=2). *E. coli* data from NARS\_WQX-NLA\_MA-10017 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  |
|-----------------------|----------------------------------------------|---------------|------------|---------------------|-----------|------------|
| NARS_WQX-NLA_MA-10017 | EPA National Aquatic Resources Survey (NARS) | Water Quality | Tully Lake | Tully Lake          | 42.646910 | -72.218500 |

### Bacteria Data

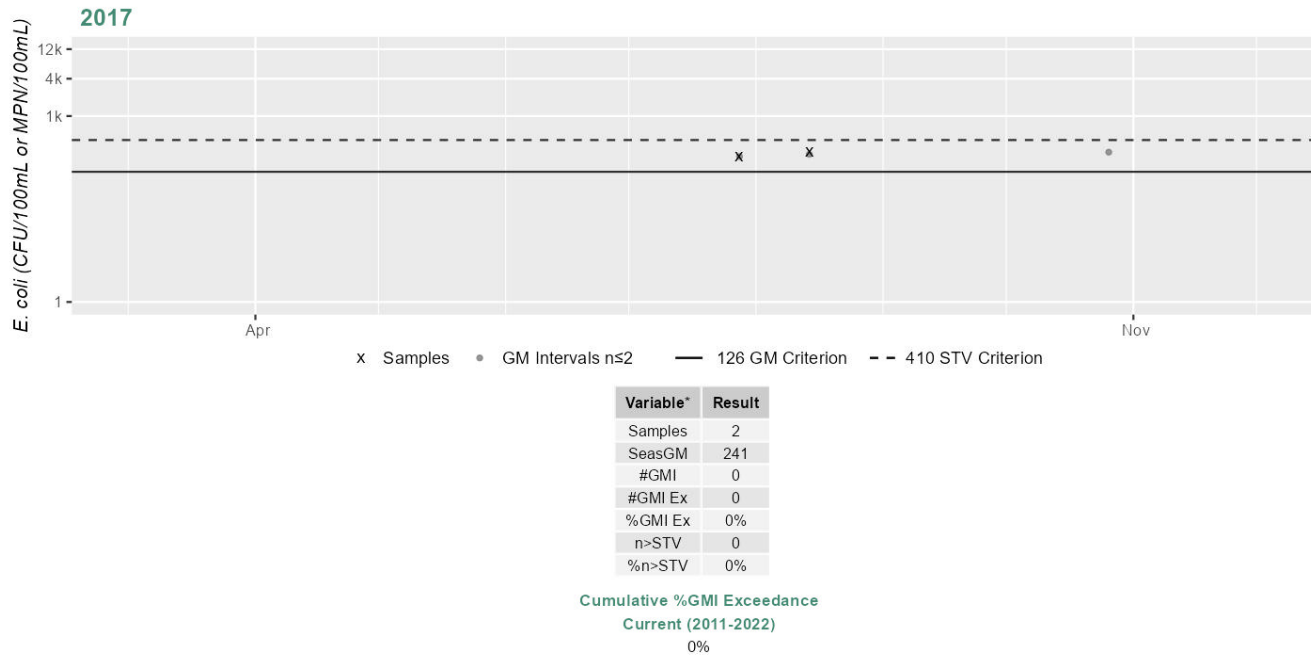
**Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis) (EPA 2024) (MassDEP Undated 2)**

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

| Station Code          | Organization                                 | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|-----------------------|----------------------------------------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| NARS_WQX-NLA_MA-10017 | EPA National Aquatic Resources Survey (NARS) | E. coli   | 07/28/17   | 08/14/17 | 2            | 222                   | 261                   | 241                     |

### Station NARS\_WQX-NLA\_MA-10017 - Escherichia coli

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



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

### Other Indicators

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

| Data Year(s) | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2012, 2017   | In Tully Lake (MA35111), EPA (NARS_WQX) collected Secchi and cyanotoxin data at NARS_WQX-NLA_MA-10017 (2017) and Secchi, cyanobacteria cell count, and cyanotoxin data at NARS_WQX-NLA12_MA-105 [42.646907, -72.218497, NLA12_MA-105] (2012). In 2012 at station NARS_WQX-NLA12_MA-105 (station depth=not recorded) the Secchi depth measurements ranged from 1.15-1.75 m (n=2) with 1 measurement taken on Sep 20, 2012 that was less than the 1.2 m (4 ft) threshold. In 2017 at station NARS_WQX-NLA_MA-10017 (station depth=12.6 m) the Secchi depth measurements ranged from 1.85-1.95 m (n=2) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2012 (n=2). Analysis of microcystins and cylindrospermopsin samples from NARS_WQX-NLA12_MA-105 in 2012 (n=2) and NARS_WQX-NLA_MA-10017 in 2017 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. |

### Secondary Contact Recreation

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

The Secondary Contact Recreation Use for Tully Lake (MA35111) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending >20 days in 4 yrs. During the period 2015 through 2022, C-HAB postings for Tully Lake (MA35111) were reported to MDPH based on visual observations for 76 days in 2015, 73 days in 2016 (14 of those with cell count data), 29 days in 2017, and 24 days in 2018. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Bloom impairment. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data. In Tully Lake (MA35111), EPA (NARS\_WQX) collected cyanobacteria cell count and cyanotoxin data at NARS\_WQX-NLA12\_MA-105 [42.646907, -72.218497, NLA12\_MA-105] (2012) and cyanotoxin data at NARS\_WQX-NLA\_MA-10017 (2017). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2012 (n=2). Analysis of microcystins and cylindrospermopsin samples from NARS\_WQX-NLA12\_MA-105 in 2012 (n=2) and NARS\_WQX-NLA\_MA-10017 in 2017 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. EPA (NARS\_WQX) staff collected *E. coli* bacteria samples in Tully Lake (MA35111) at NARS\_WQX-NLA\_MA-10017 [Tully Lake] from Jul-Aug 2017 (n=2). *E. coli* data from NARS\_WQX-NLA\_MA-10017 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  |
|-----------------------|----------------------------------------------|---------------|------------|---------------------|-----------|------------|
| NARS_WQX-NLA_MA-10017 | EPA National Aquatic Resources Survey (NARS) | Water Quality | Tully Lake | Tully Lake          | 42.646910 | -72.218500 |

### Bacteria Data

**Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis) (EPA 2024) (MassDEP Undated 1)**

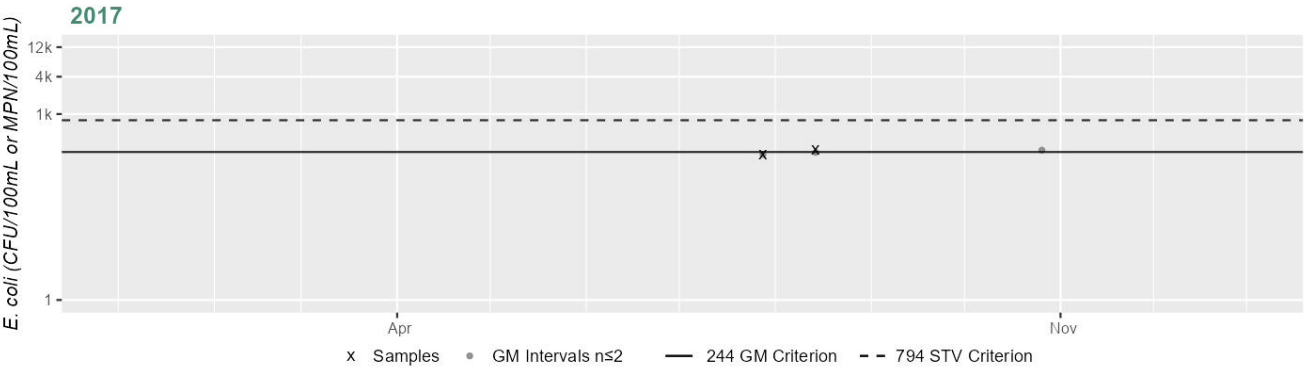
[Result units are CFU/100mL or MPN/100mL]

| Station Code          | Organization                                 | Indicator      | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|-----------------------|----------------------------------------------|----------------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| NARS_WQX-NLA_MA-10017 | EPA National Aquatic Resources Survey (NARS) | <i>E. coli</i> | 07/28/17   | 08/14/17 | 2            | 222                   | 261                   | 241                     |



Station NARS\_WQX-NLA\_MA-10017 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 2      |
| SeasGM    | 241    |
| #GMI      | 0      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Tully Pond (MA35089)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Orange.         |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 70 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 3                           | 4c                             | (Aquatic Plants<br>(Macrophytes)*) | --                       | Added                                    |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b> | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|-------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Source Unknown (N)            | --         | --        | X          | X          | X          |

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling has not been conducted recently, so the Fish Consumption Use for Tully Pond (MA35089) is Not Assessed. |

### Aesthetic

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

### 2024/26 Use Attainment Summary

The Aesthetics Use for Tully Pond (MA35089) is assessed as Not Supporting based on the observations from the 2016 MAP2 macrophyte mapping survey, with an Aquatic Plants (Macrophytes) impairment being added. Aesthetic observations were made by MassDEP field sampling crews as part of the MAP2 lake monitoring project during the summer of 2016 at two stations for this Tully Pond AU; at the deep hole index site, western lobe, Orange (W2635, MAP2L-039) n=3 and at the western edge of pond, at Tully Pond Dam (NAT ID: MA00505), east of Tully Road, Orange (W2604, MAP2L-039S) n=5. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either location. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots, however during the MAP2 macrophyte mapping survey (n=1) in Aug 2016, greater than 25% (48.6%) of the waterbody was determined to have an aquatic macrophyte biovolume >50% and the survey also noted an aesthetics impairment flag due to aquatic plants (macrophytes).

### Monitoring Stations

| Station Code | Organization | Type          | Water Body | Station Description                                                                     | Latitude  | Longitude  |
|--------------|--------------|---------------|------------|-----------------------------------------------------------------------------------------|-----------|------------|
| W2604        | MassDEP      | Water Quality | Tully Pond | [western edge of pond, at Tully Pond Dam (NAT ID: MA00505), east of Tully Road, Orange] | 42.636592 | -72.247225 |
| W2635        | MassDEP      | Water Quality | Tully Pond | [index site, western lobe, Orange]                                                      | 42.636926 | -72.246846 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2604        | 2016      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2604 (MAP2L-039S) on Tully Pond (MA35089) during 5 site visits between May 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots.                                                                                                                                                                                                                                                      |
| W2635        | 2016      | 3                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2635 (MAP2L-039) on Tully Pond (MA35089) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Aug 2016, greater than 25% (48.6%) of the waterbody was determined to have an aquatic macrophyte biovolume >50% and the survey also noted an aesthetics impairment flag due to aquatic plants (macrophytes). The observations from the MAP2 survey are indicative of an Aesthetics Use impairment. |

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

| Station Code | Waterbody  | Data Year | Parameter                      | Result           | Result Count | Total Field Sheet Count |
|--------------|------------|-----------|--------------------------------|------------------|--------------|-------------------------|
| W2604        | Tully Pond | 2016      | Aesthetics Impaired?           | No               | 5            | 5                       |
| W2604        | Tully Pond | 2016      | Color                          | Light Yellow/Tan | 2            | 5                       |
| W2604        | Tully Pond | 2016      | Color                          | None             | 3            | 5                       |
| W2604        | Tully Pond | 2016      | Objectionable Deposits         | No               | 5            | 5                       |
| W2604        | Tully Pond | 2016      | Odor                           | None             | 5            | 5                       |
| W2604        | Tully Pond | 2016      | Scum                           | No               | 5            | 5                       |
| W2604        | Tully Pond | 2016      | Turbidity                      | None             | 5            | 5                       |
| W2635        | Tully Pond | 2016      | Aesthetics Impaired?           | No               | 3            | 3                       |
| W2635        | Tully Pond | 2016      | Aquatic Plant Density, Overall | None             | 1            | 3                       |
| W2635        | Tully Pond | 2016      | Aquatic Plant Density, Overall | NR               | 1            | 3                       |
| W2635        | Tully Pond | 2016      | Aquatic Plant Density, Overall | Sparse           | 1            | 3                       |
| W2635        | Tully Pond | 2016      | Color                          | Light Yellow/Tan | 2            | 3                       |
| W2635        | Tully Pond | 2016      | Color                          | None             | 1            | 3                       |
| W2635        | Tully Pond | 2016      | Objectionable Deposits         | No               | 3            | 3                       |
| W2635        | Tully Pond | 2016      | Odor                           | None             | 3            | 3                       |
| W2635        | Tully Pond | 2016      | Scum                           | No               | 3            | 3                       |
| W2635        | Tully Pond | 2016      | Turbidity                      | None             | 3            | 3                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Primary Contact Recreation Use for Tully Pond (MA35089) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Tully Pond (MA35089), MassDEP collected Secchi and cyanobacteria cell count data at W2635 [MAP2L-039, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxins data at W2604 [MAP2L-039S, Shoreline] (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2635 in 2016 (n=3, 2.5-3.5m). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2604 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected <i>E. coli</i> bacteria samples in Tully Pond (MA35089) at W2604 [western edge of pond, at Tully Pond Dam (T ID: MA00505), E of Tully Rd, Orange] from May-Aug 2016 (n=5). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2604 indicated 0% of intervals had GMs &gt;126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 10 CFU/100ml. <i>E. coli</i> data from W2604 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body | Station Description                                                                     | Latitude  | Longitude  |
|--------------|--------------|---------------|------------|-----------------------------------------------------------------------------------------|-----------|------------|
| W2604        | MassDEP      | Water Quality | Tully Pond | [western edge of pond, at Tully Pond Dam (NAT ID: MA00505), east of Tully Road, Orange] | 42.636592 | -72.247225 |
| W2635        | MassDEP      | Water Quality | Tully Pond | [index site, western lobe, Orange]                                                      | 42.636926 | -72.246846 |

## Bacteria Data

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

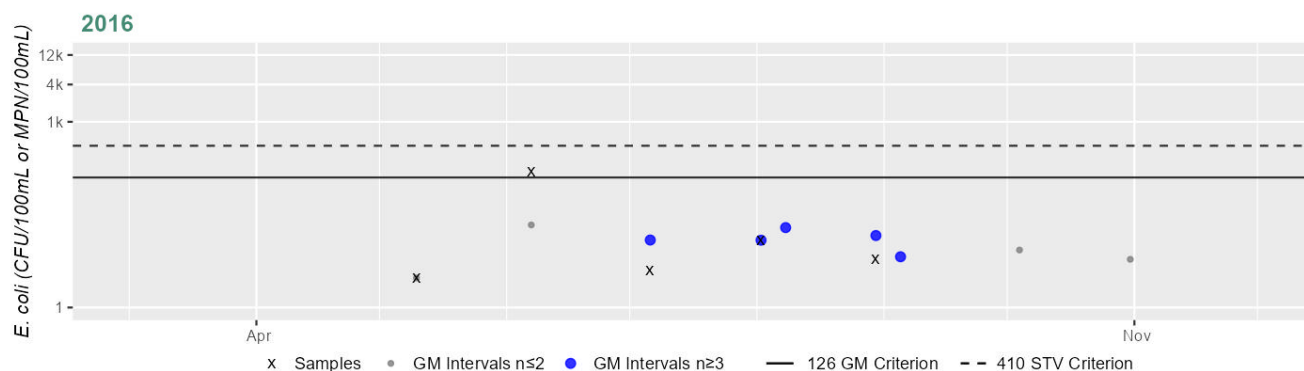
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2604        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 3                     | 155                   | 10                      |

#### Station MASSDEP\_W2604 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 10     |
| #GMI      | 5      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 6) (MassDEP Undated 4)

| Data Year(s) | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2016         | In Tully Pond (MA35089) in 2016, MassDEP collected Secchi and cyanobacteria cell count data at W2635 [MAP2L-039, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2604 [MAP2L-039S, Shoreline]. At station W2635 (station depth=4 m) the Secchi depth measurements ranged from 2.5-3.5 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins and cylindrospermopsin samples from the shoreline station W2604 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. |

**MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018)** (MassDEP Undated 6) (MassDEP Undated 4)

| Station Code | Waterbody  | Station Type | Data Year | Sample Count | Count >70,000 cells/mL | Exceedance Date(s) |
|--------------|------------|--------------|-----------|--------------|------------------------|--------------------|
| W2604        | Tully Pond | Shoreline    | 2016      | 3            | 0                      | NA                 |
| W2635        | Tully Pond | Index        | 2016      | 3            | 0                      | NA                 |

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Secondary Contact Recreation Use for Tully Pond (MA35089) is assessed as Not Supporting. An Aquatic Plants (Macrophytes) impairment is being added (from the Aesthetics Use). In Tully Pond (MA35089), MassDEP collected cyanobacteria cell count data at W2635 [MAP2L-039, Index-deep hole] (2016) and cyanobacteria cell count and cyanotoxins data at W2604 [MAP2L-039S, Shoreline] (2016). The cyanobacteria cell count did not exceed 70,000 cells/ml in any of the water samples in 2016 (n=6). Analysis of microcystins and cylindrospermopsin samples from W2604 in 2016 (n=4) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected <i>E. coli</i> bacteria samples in Tully Pond (MA35089) at W2604 [western edge of pond, at Tully Pond Dam (T ID: MA00505), E of Tully Rd, Orange] from May-Aug 2016 (n=5). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2604 indicated 0% of intervals had GMs &gt;244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 10 CFU/100ml. <i>E. coli</i> data from W2604 meet 2024 CALM guidance.</p> |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body | Station Description                                                                     | Latitude  | Longitude  |
|--------------|--------------|---------------|------------|-----------------------------------------------------------------------------------------|-----------|------------|
| W2604        | MassDEP      | Water Quality | Tully Pond | [western edge of pond, at Tully Pond Dam (NAT ID: MA00505), east of Tully Road, Orange] | 42.636592 | -72.247225 |

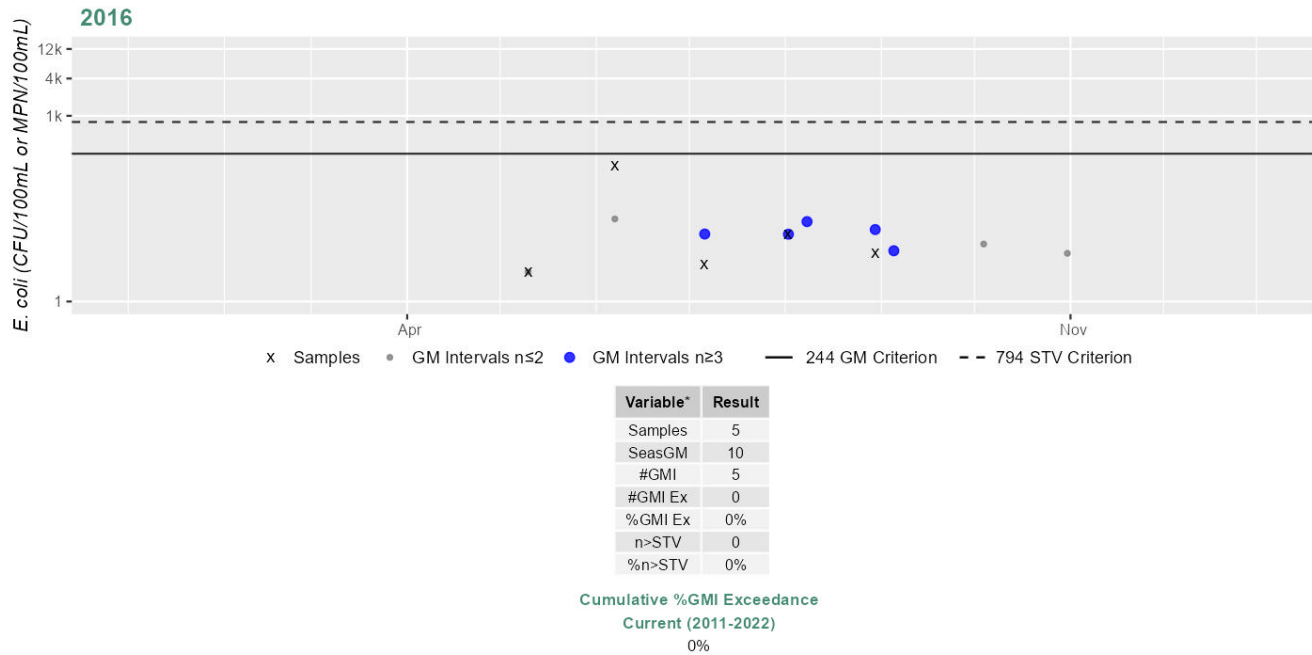
# Bacteria Data

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2604        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 3                     | 155                   | 10                      |

## Station MASSDEP\_W2604 - Escherichia coli

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



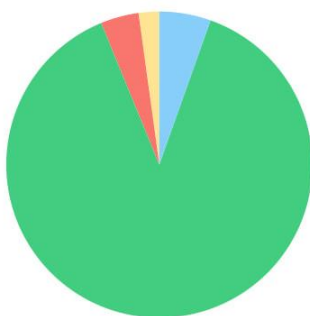
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis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

## Tully River (MA35-14)

|                                  |                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Confluence East and West Branches Tully River, Orange/Athol to confluence with Millers River, Athol. |
| <b>AU Type:</b>                  | RIVER                                                                                                |
| <b>AU Size:</b>                  | 1.6 MILES                                                                                            |
| <b>Classification/Qualifier:</b> | B                                                                                                    |

### Tully River (MA35-14)

Watershed Area: 46.91 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 34.21        | 7.28                            | 7.81                  | 2.20                   |
| Agriculture                     | 2.2%         | 4.4%                            | 1.4%                  | 3.3%                   |
| Developed                       | 4%           | 10.6%                           | 3.5%                  | 7.6%                   |
| Natural                         | 88.4%        | 80.4%                           | 80.6%                 | 78%                    |
| Wetland                         | 5.4%         | 4.6%                            | 14.6%                 | 11%                    |
| Impervious                      | 1.4%         | 3.8%                            | 1.5%                  | 3.2%                   |

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

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |



## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for the Tully River (MA35-14) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the Tully River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Tissue Data

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

#### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for the Tully River (MA35-14).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

There are no data available to assess the status of the Aesthetics Use for this Tully River AU (MA35-14), so it is Not Assessed.

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                  | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                            | NO    |
| 2024/26 Use Attainment Summary                                                                                                          |       |
| No bacteria or other indicator data for the Tully River (MA35-14) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Alert |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |
| No bacteria or other indicator data for the Tully River (MA35-14) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. MassDEP staff collected <i>E. coli</i> bacteria samples in the Tully River (MA35-14) at W1314 [E of N Orange Rd (~550 ft upstream from confluence with Millers River), Athol] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency <i>E. coli</i> dataset from W1314 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 48 CFU/100ml. Historic <i>E. coli</i> data from W1314 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data. |       |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body  | Station Description                                                                                     | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------|---------------------------------------------------------------------------------------------------------|-----------|------------|
| W1314        | MassDEP      | Water Quality | Tully River | [east of North Orange Road (approximately 550 feet upstream from confluence with Millers River), Athol] | 42.598071 | -72.240480 |

## Bacteria Data

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

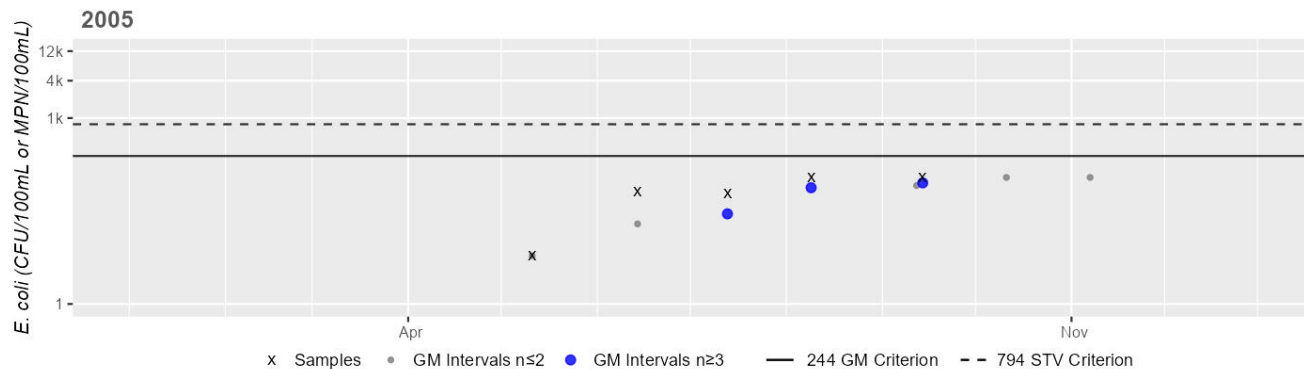
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1314        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 110                   | 48                      |

# Station MASSDEP\_W1314 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 48     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

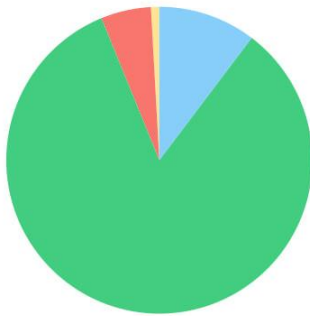
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis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

## Unnamed Tributary (MA35-26)

|                                  |                                                                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Unnamed tributary to Millers River from the outlet of Lake Wallace to the mouth at confluence with Millers River, Ashburnham (excluding Lake Watatic segment MA35095 and Lower Naukeag Lake segment MA35041). |
| <b>AU Type:</b>                  | RIVER                                                                                                                                                                                                         |
| <b>AU Size:</b>                  | 2.1 MILES                                                                                                                                                                                                     |
| <b>Classification/Qualifier:</b> | B                                                                                                                                                                                                             |

### Unnamed Tributary (MA35-26)

Watershed Area: 11.28 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 9.59         | 5.65                            | 3.44                  | 2.58                   |
| Agriculture                     | 0.9%         | 0.9%                            | 0.5%                  | 0.3%                   |
| Developed                       | 5.3%         | 7.2%                            | 6%                    | 6.6%                   |
| Natural                         | 83.5%        | 80%                             | 80.9%                 | 80.1%                  |
| Wetland                         | 10.3%        | 11.8%                           | 12.6%                 | 13%                    |
| Impervious                      | 2.6%         | 3.4%                            | 3%                    | 3.2%                   |

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

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

| Impairment | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|------------|------------------------|-----|----|-----|-----|-----|
| Copper     | 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 Unnamed Tributary (MA35-26) is Not Assessed. |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Unnamed Tributary (MA35-26) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this Unnamed Tributary AU between the outlet of Lake Watatic and the inlet of Lower Nauseag Lake, ~20 meters downstream of Cross Rd in Ashburnham (W2195) during the summer of 2011 (n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body        | Station Description                                                                                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W2195        | MassDEP      | Water Quality | Unnamed Tributary | [unnamed tributary, outlet Lake Watatic/inlet Lower Nauseag Lake, approximately 70 feet downstream of Cross Road, Ashburnham] | 42.677311 | -71.940768 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                        |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2195        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2195 on Unnamed Tributary (MA35-26) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2195        | 2011      | 6                 | 6                                                          | 0                                         |

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

| Station Code | Waterbody         | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-------------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2195        | Unnamed Tributary | 2011      | Aquatic Plant Density, Overall  | None             | 6            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Color                           | Light Yellow/Tan | 4            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Color                           | None             | 1            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Color                           | Reddish          | 1            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Objectionable Deposits          | No               | 6            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Odor                            | None             | 6            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Periphyton Density, Filamentous | None             | 6            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Periphyton Density, Film        | None             | 5            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Periphyton Density, Film        | Sparse           | 1            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Scum                            | No               | 1            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Scum                            | Yes              | 5            | 6                       |
| W2195        | Unnamed Tributary | 2011      | Turbidity                       | None             | 6            | 6                       |

**Primary Contact Recreation**

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Primary Contact Recreation Use for Unnamed Tributary (MA35-26) continues to be assessed as Fully Supporting. MassDEP staff collected *E. coli* bacteria samples in Unnamed Tributary (MA35-26) at W2195 [unnamed tributary, outlet Lake Watatic/inlet Lower Naukeag Lake, ~70 ft downstream of Cross Rd, Ashburnham] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2195 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 15 CFU/100ml. *E. coli* data from W2195 were indicative of good water quality conditions.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body        | Station Description                                                                                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W2195        | MassDEP      | Water Quality | Unnamed Tributary | [unnamed tributary, outlet Lake Watatic/inlet Lower Naukeag Lake, approximately 70 feet downstream of Cross Road, Ashburnham] | 42.677311 | -71.940768 |

### **Bacteria Data**

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

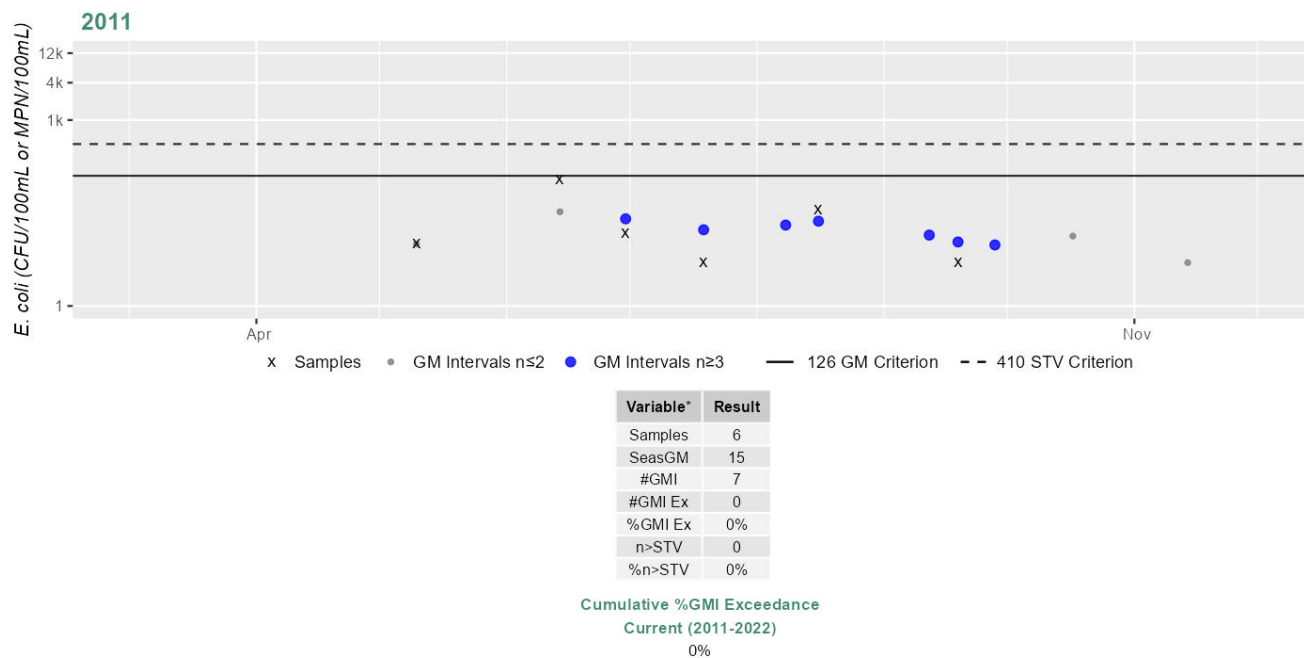
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2195        | MassDEP      | E. coli   | 05/10/11   | 09/19/11 | 6            | 5                     | 110                   | 15                      |

### Station MASSDEP\_W2195 - *Escherichia coli*

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for Unnamed Tributary (MA35-26) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in Unnamed Tributary (MA35-26) at W2195 [unnamed tributary, outlet Lake Watatic/inlet Lower Naukeag Lake, ~70 ft downstream of Cross Rd, Ashburnham] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2195 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 15 CFU/100ml. <i>E. coli</i> data from W2195 were indicative of good water quality conditions. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body        | Station Description                                                                                                           | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| W2195        | MassDEP      | Water Quality | Unnamed Tributary | [unnamed tributary, outlet Lake Watatic/inlet Lower Naukeag Lake, approximately 70 feet downstream of Cross Road, Ashburnham] | 42.677311 | -71.940768 |



# Bacteria Data

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

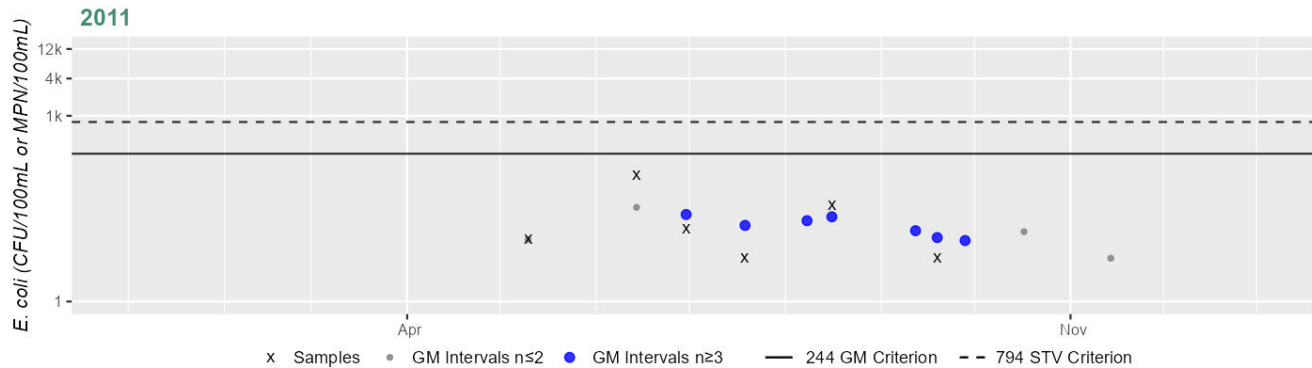
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2195        | MassDEP      | E. coli   | 05/10/11   | 09/19/11 | 6            | 5                     | 110                   | 15                      |

### Station MASSDEP\_W2195 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 15     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Upper Naukeag Lake (MA35090)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Ashburnham.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 305 ACRES       |
| <b>Classification/Qualifier:</b> | A: PWS, ORW     |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>      | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | Mercury in Fish Tissue | 33880                    | Unchanged                                |

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

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Upper Naukeag Lake (MA35090) 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 Upper Naukeag Lake in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

## Aesthetic

| 2024/26 Use Attainment                                                                         | Alert |
|------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                   | NO    |
| 2024/26 Use Attainment Summary                                                                 |       |
| No data are available, so the Aesthetics Use for Upper Naukeag Lake (MA35090) is Not Assessed. |       |

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                     | Alert |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                               | NO    |
| 2024/26 Use Attainment Summary                                                                                                             |       |
| No bacteria or other indicator data for Upper Naukeag Lake (MA35090) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                            | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                      | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                    |       |
| No bacteria or other indicator data for Upper Naukeag Lake (MA35090) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |       |

## Upper Reservoir (MA35091)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Westminster.    |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 42 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>      | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------|--------------------------|------------------------------------------|
| 4a                          | 4a                             | Mercury in Fish Tissue | 33880                    | Unchanged                                |

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

## Designated Use Attainment Decisions

### Fish Consumption

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

| <b>2024/26 Use Attainment Summary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Upper Reservoir (MA35091) 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 Upper Reservoir in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

## Aesthetic

| 2024/26 Use Attainment                                                                      | Alert |
|---------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                | NO    |
| 2024/26 Use Attainment Summary                                                              |       |
| No data are available, so the Aesthetics Use for Upper Reservoir (MA35091) is Not Assessed. |       |

## Primary Contact Recreation

| 2024/26 Use Attainment                                                                                                                  | Alert |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                            | NO    |
| 2024/26 Use Attainment Summary                                                                                                          |       |
| No bacteria or other indicator data for Upper Reservoir (MA35091) are available, so the Primary Contact Recreation Use is Not Assessed. |       |

## Secondary Contact Recreation

| 2024/26 Use Attainment                                                                                                                                                         | Alert |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Not Assessed                                                                                                                                                                   | NO    |
| 2024/26 Use Attainment Summary                                                                                                                                                 |       |
| No bacteria or other indicator data for Upper Reservoir (MA35091) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed. |       |

## Wallace Pond (MA35092)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Ashburnham.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 46 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Wallace Pond (MA35092) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

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

## Ward Pond (MA35093)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Athol.          |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 6 ACRES         |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Ward Pond (MA35093) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

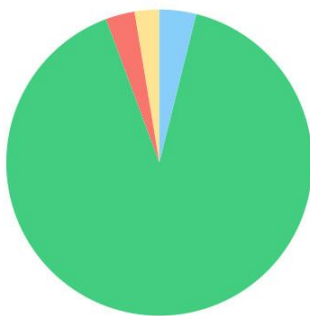
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## West Branch Tully River (MA35-11)

|                                  |                                                                                                                       |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Outlet Sheomet Lake, Warwick to confluence with East Branch Tully River forming headwaters Tully River, Orange/Athol. |
| <b>AU Type:</b>                  | RIVER                                                                                                                 |
| <b>AU Size:</b>                  | 6.6 MILES                                                                                                             |
| <b>Classification/Qualifier:</b> | B                                                                                                                     |

### West Branch Tully River (MA35-11)

Watershed Area: 18.09 square miles



| Land Cover Type                 | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|---------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area* (square miles) | 17.92        | 5.14                            | 3.83                  | 1.40                   |
| Agriculture                     | 2.6%         | 5.1%                            | 2.4%                  | 5.8%                   |
| Developed                       | 3.1%         | 5%                              | 3.5%                  | 6%                     |
| Natural                         | 90.5%        | 85%                             | 82.8%                 | 74.7%                  |
| Wetland                         | 3.9%         | 4.9%                            | 11.3%                 | 13.6%                  |
| Impervious                      | 1%           | 1.6%                            | 1.5%                  | 2.4%                   |

\*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                   | PCBs in Fish Tissue | --                | Unchanged                 |
| 5                | 5                   | PFAS in Fish Tissue | --                | Added                     |
| 5                | 5                   | Temperature         | --                | Unchanged                 |

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |
| Temperature         | Dam or Impoundment (Y)                 | X   | -- | --  | --  | --  |



## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for West Branch Tully River (MA35-11) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in the West Branch Tully River (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for the West Branch Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with the West Branch Tully River (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for the West Branch Tully River (MA35-11).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Aesthetics Use for the West Branch Tully River (MA35-11) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station halfway down this West Branch Tully River AU ~1200 feet downstream from the Tully Road crossing nearest Creamery Hill Road in Orange (W2197) during the summer of 2011 (n=6). There were no noted objectionable conditions (odors, deposits, growths, or turbidity) recorded by DEP field sampling crews at this sampling station.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body              | Station Description                                                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------------|------------------------------------------------------------------------------------------------------|-----------|------------|
| W2197        | MassDEP      | Water Quality | West Branch Tully River | [approximately 1200 feet downstream from the Tully Road crossing nearest Creamery Hill Road, Orange] | 42.642539 | -72.257365 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                              |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2197        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2197 on West Branch Tully River (MA35-11) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2197        | 2011      | 6                 | 5                                                          | 0                                         |

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

| Station Code | Waterbody               | Data Year | Parameter                      | Result       | Result Count | Total Field Sheet Count |
|--------------|-------------------------|-----------|--------------------------------|--------------|--------------|-------------------------|
| W2197        | West Branch Tully River | 2011      | Aquatic Plant Density, Overall | None         | 4            | 6                       |
| W2197        | West Branch Tully River | 2011      | Aquatic Plant Density, Overall | Sparse       | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Aquatic Plant Density, Overall | Unobservable | 1            | 6                       |

| Station Code | Waterbody               | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-------------------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2197        | West Branch Tully River | 2011      | Color                           | Light Yellow/Tan | 2            | 6                       |
| W2197        | West Branch Tully River | 2011      | Color                           | None             | 3            | 6                       |
| W2197        | West Branch Tully River | 2011      | Color                           | Reddish          | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Objectionable Deposits          | No               | 6            | 6                       |
| W2197        | West Branch Tully River | 2011      | Odor                            | None             | 6            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Filamentous | None             | 4            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Filamentous | Sparse           | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Filamentous | Unobservable     | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Film        | None             | 4            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Film        | Sparse           | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Periphyton Density, Film        | Unobservable     | 1            | 6                       |
| W2197        | West Branch Tully River | 2011      | Scum                            | No               | 6            | 6                       |
| W2197        | West Branch Tully River | 2011      | Turbidity                       | None             | 4            | 6                       |
| W2197        | West Branch Tully River | 2011      | Turbidity                       | Slightly Turbid  | 2            | 6                       |

## 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 Tully River (MA35-11) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in the West Branch Tully River (MA35-11) at W2197 [~1200 ft downstream from the Tully Rd crossing nearest Creamery Hill Rd, Orange] from May-Sep 2011 (n=6). Analysis of the single year limited frequency *E. coli* dataset from W2197 indicated 57% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 88 CFU/100ml. *E. coli* data from W2197 are inconclusive according to the 2024 CALM to assess the Primary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body              | Station Description                                                                                  | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------------|------------------------------------------------------------------------------------------------------|-----------|------------|
| W2197        | MassDEP      | Water Quality | West Branch Tully River | [approximately 1200 feet downstream from the Tully Road crossing nearest Creamery Hill Road, Orange] | 42.642539 | -72.257365 |

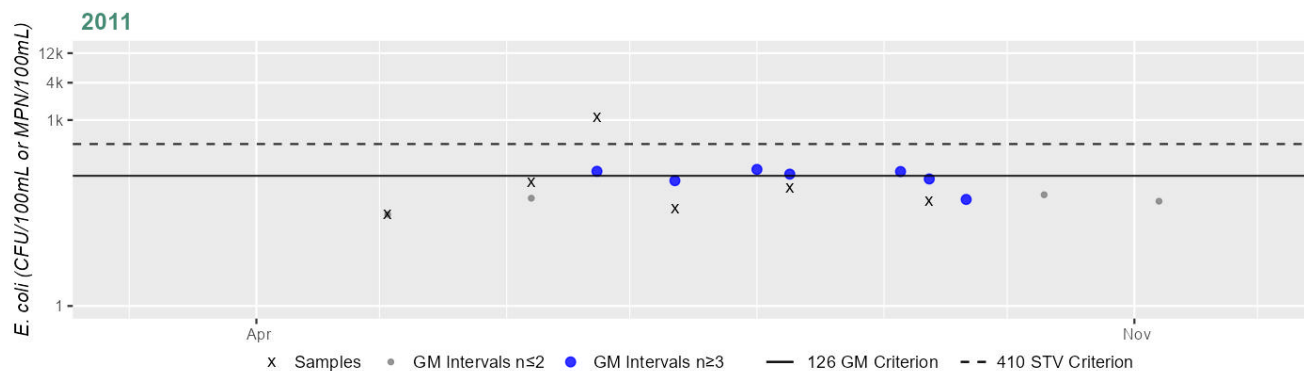
### Bacteria Data

**Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**  
(MassDEP Undated 6) (MassDEP Undated 4)  
[Result units are CFU/100mL or MPN/100mL]

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2197        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 30                    | 1100                  | 88                      |

### Station MASSDEP\_W2197 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 88     |
| #GMI      | 7      |
| #GMI Ex   | 4      |
| %GMI Ex   | 57%    |
| n>STV     | 1      |
| %n>STV    | 16%    |

#### Cumulative %GMI Exceedance

Current (2011-2022)

57%

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

## 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 Tully River (MA35-11) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in the West Branch Tully River (MA35-11) from 2005-2011 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: W2197 [~1200 ft downstream from the Tully Rd crossing nearest Creamery Hill Rd, Orange] from May-Sep 2011 (n=6), W1337 [Royalston Rd, Orange] from May-Sep 2005 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2197 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 88 CFU/100ml. Analysis of this historic single year limited frequency *E. coli* dataset from W1337 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 24 CFU/100ml. *E. coli* data from W2197 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 W1337 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  |
|--------------|--------------|---------------|-------------------------|------------------------------------------------------------------------------------------------------|-----------|------------|
| W1337        | MassDEP      | Water Quality | West Branch Tully River | [Royalston Road, Orange]                                                                             | 42.635232 | -72.251606 |
| W2197        | MassDEP      | Water Quality | West Branch Tully River | [approximately 1200 feet downstream from the Tully Road crossing nearest Creamery Hill Road, Orange] | 42.642539 | -72.257365 |

### Bacteria Data

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

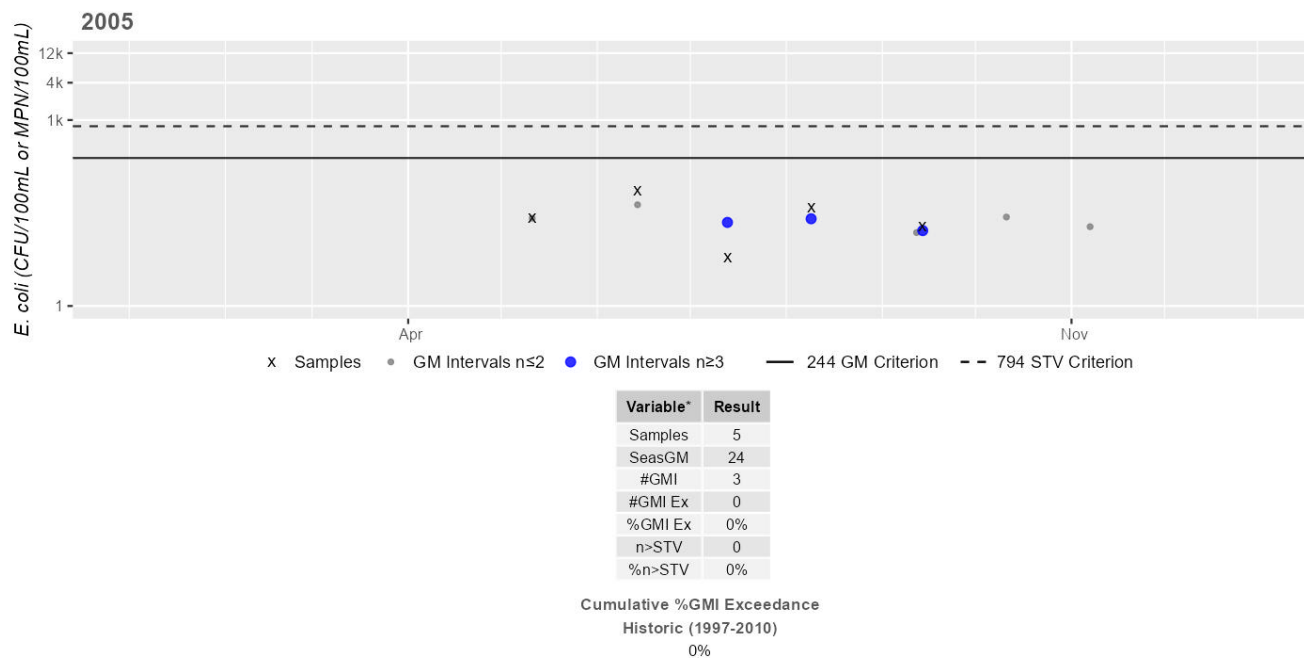
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator      | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|----------------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1337        | MassDEP      | <i>E. coli</i> | 05/11/05   | 09/14/05 | 5            | 6                     | 71                    | 24                      |
| W2197        | MassDEP      | <i>E. coli</i> | 05/03/11   | 09/12/11 | 6            | 30                    | 1100                  | 88                      |

### Station MASSDEP\_W1337 - *Escherichia coli*

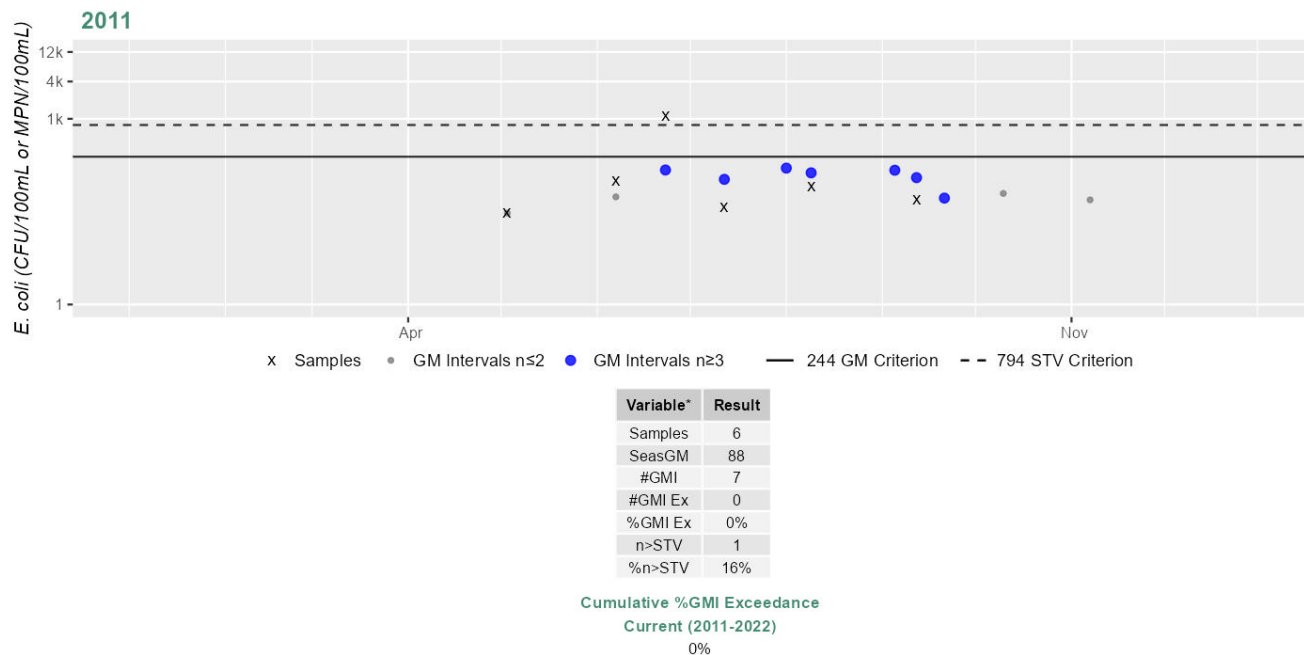
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



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

### Station MASSDEP\_W2197 - *Escherichia coli*

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



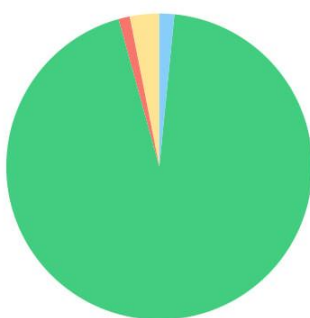
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis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

## West Gulf Brook (MA35-24)

|                                  |                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | From headwaters west of Paine Swamp Road, Athol to confluence with Millers River, Athol. |
| <b>AU Type:</b>                  | RIVER                                                                                    |
| <b>AU Size:</b>                  | 0.8 MILES                                                                                |
| <b>Classification/Qualifier:</b> | B                                                                                        |

### West Gulf Brook (MA35-24)

Watershed Area: 0.82 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 0.82         | 0.82                            | 0.10                  | 0.10                   |
| Agriculture                    | 3.1%         | 3.1%                            | 0%                    | 0%                     |
| Developed                      | 1.2%         | 1.2%                            | 0.2%                  | 0.2%                   |
| Natural                        | 94.1%        | 94.1%                           | 98.9%                 | 98.9%                  |
| Wetland                        | 1.6%         | 1.6%                            | 0.9%                  | 0.9%                   |
| Impervious                     | 0.3%         | 0.3%                            | 0%                    | 0%                     |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |



## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The Fish Consumption Use for West Gulf Brook (MA35-24) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in West Gulf Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.</p> |

### Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for West Gulf Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with West Gulf Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for West Gulf Brook (MA35-24).</p> |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

The Aesthetics Use for West Gulf Brook (MA35-24) continues to be assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the downstream half of this West Gulf Brook AU downstream from Gulf Rd in Athol (W2183) during the summer of 2011 (n=6). There were generally no noted objectionable conditions (odors, deposits, growths, or turbidity) observed during the surveys.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                       | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------|-----------|------------|
| W2183        | MassDEP      | Water Quality | West Gulf Brook | [approximately 440 feet downstream from Gulf Road, Athol] | 42.625320 | -72.195029 |

### Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                      |
|--------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2183        | 2011      | 6                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2183 on West Gulf Brook (MA35-24) during 6 site visits between May 2011 and Sep 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W2183        | 2011      | 6                 | 6                                                          | 0                                         |

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

| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W2183        | West Gulf Brook | 2011      | Aquatic Plant Density, Overall  | None             | 6            | 6                       |
| W2183        | West Gulf Brook | 2011      | Color                           | Light Yellow/Tan | 2            | 6                       |
| W2183        | West Gulf Brook | 2011      | Color                           | None             | 3            | 6                       |
| W2183        | West Gulf Brook | 2011      | Color                           | Reddish          | 1            | 6                       |
| W2183        | West Gulf Brook | 2011      | Objectionable Deposits          | No               | 6            | 6                       |
| W2183        | West Gulf Brook | 2011      | Odor                            | None             | 6            | 6                       |
| W2183        | West Gulf Brook | 2011      | Periphyton Density, Filamentous | None             | 5            | 6                       |

| Station Code | Waterbody       | Data Year | Parameter                       | Result | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|--------|--------------|-------------------------|
| W2183        | West Gulf Brook | 2011      | Periphyton Density, Filamentous | Sparse | 1            | 6                       |
| W2183        | West Gulf Brook | 2011      | Periphyton Density, Film        | None   | 6            | 6                       |
| W2183        | West Gulf Brook | 2011      | Scum                            | No     | 5            | 6                       |
| W2183        | West Gulf Brook | 2011      | Scum                            | Yes    | 1            | 6                       |
| W2183        | West Gulf Brook | 2011      | Turbidity                       | None   | 6            | 6                       |

## Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Primary Contact Recreation Use for West Gulf Brook (MA35-24) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in West Gulf Brook (MA35-24) at W2183 [~440 ft downstream from Gulf Rd, Athol] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2183 indicated 0% of intervals had GMs >126 CFU/100ml, no samples exceeded the 410 CFU/100ml STV, and the seasonal GM was 45 CFU/100ml. <i>E. coli</i> data from W2183 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                       | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------|-----------|------------|
| W2183        | MassDEP      | Water Quality | West Gulf Brook | [approximately 440 feet downstream from Gulf Road, Athol] | 42.625320 | -72.195029 |

## Bacteria Data

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

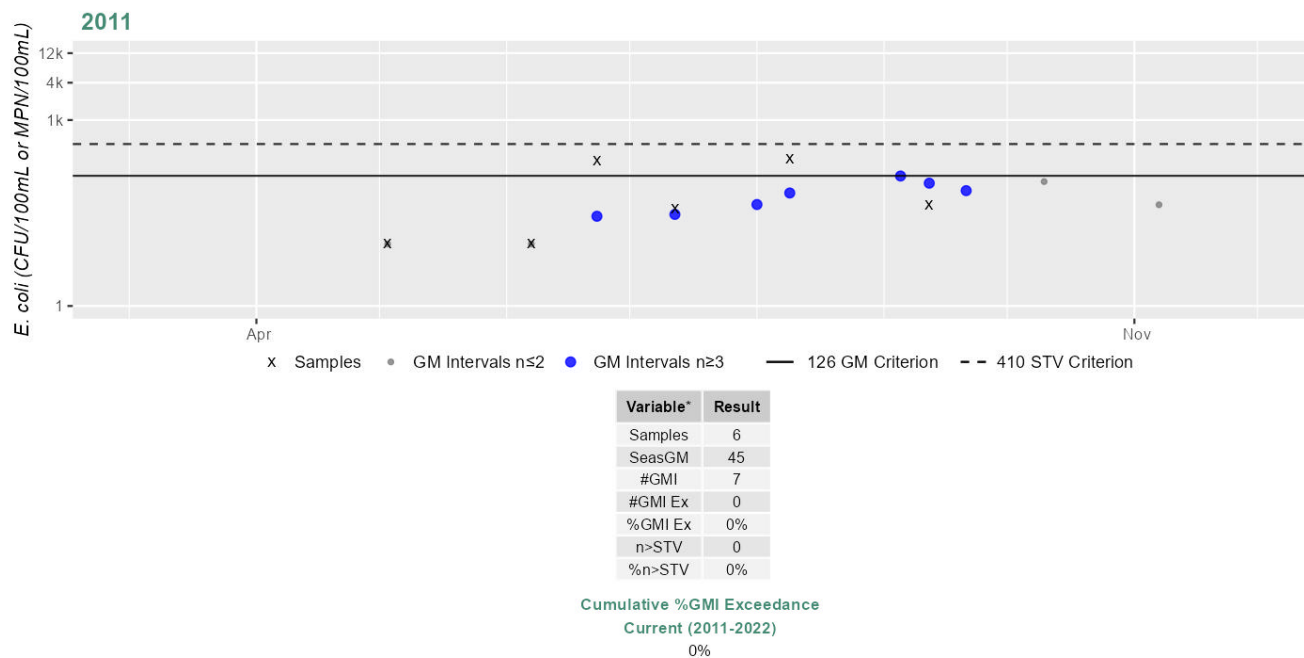
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2183        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 240                   | 45                      |

### Station MASSDEP\_W2183 - *Escherichia coli*

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



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

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Secondary Contact Recreation Use for West Gulf Brook (MA35-24) continues to be assessed as Fully Supporting. MassDEP staff collected <i>E. coli</i> bacteria samples in West Gulf Brook (MA35-24) at W2183 [~440 ft downstream from Gulf Rd, Athol] from May-Sep 2011 (n=6). Analysis of the single year limited frequency <i>E. coli</i> dataset from W2183 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 45 CFU/100ml. <i>E. coli</i> data from W2183 meet 2024 CALM guidance. |

## Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description                                       | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------------------------------------------|-----------|------------|
| W2183        | MassDEP      | Water Quality | West Gulf Brook | [approximately 440 feet downstream from Gulf Road, Athol] | 42.625320 | -72.195029 |

# Bacteria Data

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

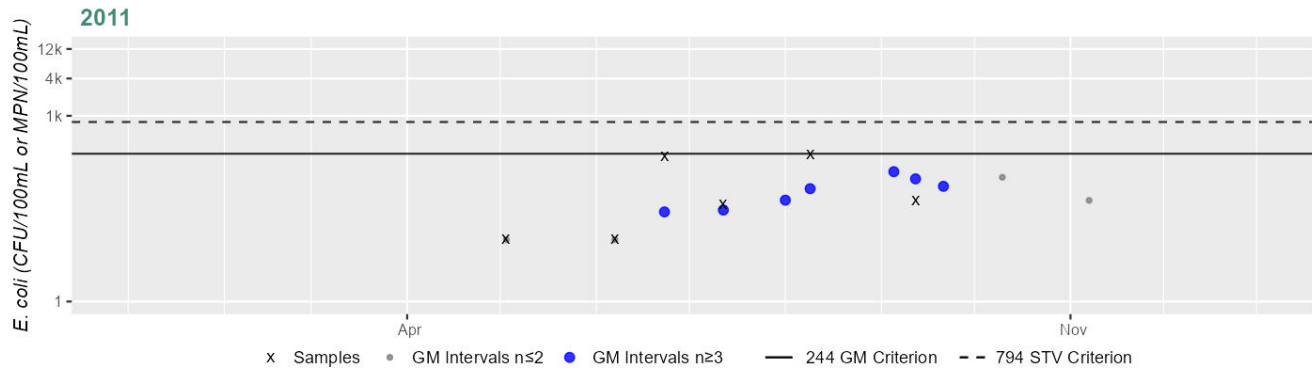
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2183        | MassDEP      | E. coli   | 05/03/11   | 09/12/11 | 6            | 10                    | 240                   | 45                      |

### Station MASSDEP\_W2183 - Escherichia coli

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



| Variable* | Result |
|-----------|--------|
| Samples   | 6      |
| SeasGM    | 45     |
| #GMI      | 7      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Wheelers Pond (MA35097)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Warwick.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 28 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Wheelers Pond (MA35097) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

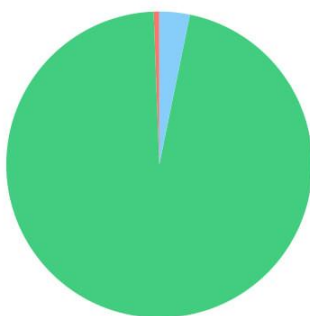
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Whetstone Brook (MA35-18)

|                                  |                                                                                                           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters northeast of Orcutt Hill near New Salem Rd, Wendell to confluence with Millers River, Wendell. |
| <b>AU Type:</b>                  | RIVER                                                                                                     |
| <b>AU Size:</b>                  | 4.9 MILES                                                                                                 |
| <b>Classification/Qualifier:</b> | B                                                                                                         |

### Whetstone Brook (MA35-18)

Watershed Area: 5.25 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 5.25         | 3.50                            | 1.30                  | 0.94                   |
| Agriculture                    | 0%           | 0%                              | 0%                    | 0%                     |
| Developed                      | 0.6%         | 0.4%                            | 0.7%                  | 0.8%                   |
| Natural                        | 96.2%        | 97.8%                           | 92.5%                 | 94.2%                  |
| Wetland                        | 3.2%         | 1.7%                            | 6.8%                  | 5%                     |
| Impervious                     | 0.3%         | 0.2%                            | 0.3%                  | 0.3%                   |

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

| Impairment          | Source (Confirmed Y/N)                 | ALU | FC | AES | PCR | SCR |
|---------------------|----------------------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Contaminated Sediments (Y)             | --  | X  | --  | --  | --  |
| PCBs in Fish Tissue | Releases from Waste Sites or Dumps (Y) | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)                     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

#### 2024/26 Use Attainment Summary

The Fish Consumption Use for Whetstone Brook (MA35-18) continues to be assessed as Not Supporting. The prior PCBs in Fish Tissue impairment is being carried forward and a new impairment is being added for PFAS in Fish Tissue. Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. MDPH issued a site-specific advisory for PFAS in Whetstone Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their May 2024 Freshwater Fish Consumption Advisory List and retained both this advisory as well as the existing PCBs advisory in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS has been identified at this time.

### Fish Tissue Data

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

#### Summary

Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Whetstone Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, MDPH retained the existing site-specific fish consumption advisories for PCBs associated with Whetstone Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Whetstone Brook (MA35-18).

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

#### 2024/26 Use Attainment Summary



The Aesthetics Use for Whetstone Brook (MA35-18) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations at one station in the downstream half of this Whetstone Brook AU downstream of Kentfield Rd (Kempfield Rd) in Wendell (W0293) during the summers of 2011, 2012, 2013, 2014, 2015, and 2017 as part of the Reference Site Network monitoring project (n=3-5/yr). Generally no persistent objectionable conditions (i.e., odors, deposits, growths, or turbidity) were observed during the surveys.

### **Monitoring Stations**

| Station Code | Organization | Type          | Water Body      | Station Description                                                             | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|---------------------------------------------------------------------------------|-----------|------------|
| W0293        | MassDEP      | Water Quality | Whetstone Brook | [approximately 160 feet downstream of Kentfield Road (Kempfield Road), Wendell] | 42.587089 | -72.357188 |

### **Aesthetic Observations**

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                      |
|--------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W0293        | 2011      | 3                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 3 site visits between Jun 2011 and Aug 2011. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0293        | 2012      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 5 site visits between May 2012 and Oct 2012. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0293        | 2013      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 5 site visits between May 2013 and Oct 2013. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0293        | 2014      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 4 site visits between Jun 2014 and Aug 2014. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0293        | 2015      | 4                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 4 site visits between May 2015 and Aug 2015. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W0293        | 2017      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W0293 on Whetstone Brook (MA35-18) during 5 site visits between May 2017 and Sep 2017. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Data Year | Field Sheet Count | Field Sheet Count w/ Film & Filamentous Algae Observations | Dense/ Very Dense Film/ Filamentous Algae |
|--------------|-----------|-------------------|------------------------------------------------------------|-------------------------------------------|
| W0293        | 2011      | 3                 | 3                                                          | 0                                         |
| W0293        | 2012      | 5                 | 5                                                          | 0                                         |
| W0293        | 2013      | 5                 | 3                                                          | 0                                         |
| W0293        | 2014      | 4                 | 4                                                          | 0                                         |
| W0293        | 2015      | 4                 | 4                                                          | 0                                         |
| W0293        | 2017      | 5                 | 5                                                          | 0                                         |

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

| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0293        | Whetstone Brook | 2011      | Aquatic Plant Density, Overall  | Moderate         | 1            | 3                       |
| W0293        | Whetstone Brook | 2011      | Aquatic Plant Density, Overall  | None             | 2            | 3                       |
| W0293        | Whetstone Brook | 2011      | Color                           | Light Yellow/Tan | 2            | 3                       |
| W0293        | Whetstone Brook | 2011      | Color                           | None             | 1            | 3                       |
| W0293        | Whetstone Brook | 2011      | Objectionable Deposits          | No               | 3            | 3                       |
| W0293        | Whetstone Brook | 2011      | Odor                            | None             | 3            | 3                       |
| W0293        | Whetstone Brook | 2011      | Periphyton Density, Filamentous | None             | 3            | 3                       |
| W0293        | Whetstone Brook | 2011      | Periphyton Density, Film        | None             | 3            | 3                       |
| W0293        | Whetstone Brook | 2011      | Scum                            | No               | 2            | 3                       |
| W0293        | Whetstone Brook | 2011      | Scum                            | Yes              | 1            | 3                       |
| W0293        | Whetstone Brook | 2011      | Turbidity                       | None             | 3            | 3                       |
| W0293        | Whetstone Brook | 2012      | Aquatic Plant Density, Overall  | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2012      | Color                           | Light Yellow/Tan | 3            | 5                       |
| W0293        | Whetstone Brook | 2012      | Color                           | None             | 2            | 5                       |
| W0293        | Whetstone Brook | 2012      | Objectionable Deposits          | No               | 5            | 5                       |

| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0293        | Whetstone Brook | 2012      | Odor                            | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2012      | Periphyton Density, Filamentous | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2012      | Periphyton Density, Film        | Moderate         | 1            | 5                       |
| W0293        | Whetstone Brook | 2012      | Periphyton Density, Film        | None             | 4            | 5                       |
| W0293        | Whetstone Brook | 2012      | Scum                            | No               | 5            | 5                       |
| W0293        | Whetstone Brook | 2012      | Turbidity                       | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2013      | Aesthetics Impaired?            | No               | 5            | 5                       |
| W0293        | Whetstone Brook | 2013      | Aquatic Plant Density, Overall  | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2013      | Color                           | Light Yellow/Tan | 4            | 5                       |
| W0293        | Whetstone Brook | 2013      | Color                           | None             | 1            | 5                       |
| W0293        | Whetstone Brook | 2013      | Objectionable Deposits          | No               | 5            | 5                       |
| W0293        | Whetstone Brook | 2013      | Odor                            | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2013      | Periphyton Density, Filamentous | None             | 2            | 5                       |
| W0293        | Whetstone Brook | 2013      | Periphyton Density, Filamentous | NR               | 3            | 5                       |
| W0293        | Whetstone Brook | 2013      | Periphyton Density, Film        | None             | 1            | 5                       |
| W0293        | Whetstone Brook | 2013      | Periphyton Density, Film        | NR               | 2            | 5                       |
| W0293        | Whetstone Brook | 2013      | Periphyton Density, Film        | Sparse           | 2            | 5                       |
| W0293        | Whetstone Brook | 2013      | Scum                            | No               | 3            | 5                       |
| W0293        | Whetstone Brook | 2013      | Scum                            | Yes              | 2            | 5                       |
| W0293        | Whetstone Brook | 2013      | Turbidity                       | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2014      | Aesthetics Impaired?            | No               | 4            | 4                       |
| W0293        | Whetstone Brook | 2014      | Aquatic Plant Density, Overall  | None             | 3            | 4                       |

| <b>Station Code</b> | <b>Waterbody</b> | <b>Data Year</b> | <b>Parameter</b>                | <b>Result</b>    | <b>Result Count</b> | <b>Total Field Sheet Count</b> |
|---------------------|------------------|------------------|---------------------------------|------------------|---------------------|--------------------------------|
| W0293               | Whetstone Brook  | 2014             | Aquatic Plant Density, Overall  | Sparse           | 1                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Color                           | Light Yellow/Tan | 1                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Color                           | None             | 3                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Objectionable Deposits          | No               | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Odor                            | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Periphyton Density, Filamentous | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Periphyton Density, Film        | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Scum                            | No               | 2                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Scum                            | Yes              | 2                   | 4                              |
| W0293               | Whetstone Brook  | 2014             | Turbidity                       | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Aesthetics Impaired?            | No               | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Aquatic Plant Density, Overall  | None             | 3                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Aquatic Plant Density, Overall  | Sparse           | 1                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Color                           | Light Yellow/Tan | 3                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Color                           | None             | 1                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Objectionable Deposits          | No               | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Odor                            | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Periphyton Density, Filamentous | None             | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Periphyton Density, Film        | None             | 3                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Periphyton Density, Film        | Sparse           | 1                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Scum                            | No               | 4                   | 4                              |
| W0293               | Whetstone Brook  | 2015             | Turbidity                       | None             | 4                   | 4                              |

| Station Code | Waterbody       | Data Year | Parameter                       | Result           | Result Count | Total Field Sheet Count |
|--------------|-----------------|-----------|---------------------------------|------------------|--------------|-------------------------|
| W0293        | Whetstone Brook | 2017      | Aesthetics Impaired?            | No               | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Aquatic Plant Density, Overall  | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Color                           | Light Yellow/Tan | 2            | 5                       |
| W0293        | Whetstone Brook | 2017      | Color                           | Reddish          | 3            | 5                       |
| W0293        | Whetstone Brook | 2017      | Objectionable Deposits          | No               | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Odor                            | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Periphyton Density, Filamentous | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Periphyton Density, Film        | None             | 5            | 5                       |
| W0293        | Whetstone Brook | 2017      | Scum                            | No               | 3            | 5                       |
| W0293        | Whetstone Brook | 2017      | Scum                            | Yes              | 2            | 5                       |
| W0293        | Whetstone Brook | 2017      | Turbidity                       | None             | 4            | 5                       |
| W0293        | Whetstone Brook | 2017      | Turbidity                       | Slightly Turbid  | 1            | 5                       |

## 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 Whetstone Brook (MA35-18) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. |

## Secondary Contact Recreation

| 2024/26 Use Attainment   | Alert |
|--------------------------|-------|
| Insufficient Information | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

No bacteria data from the current IR window are available to assess the Secondary Contact Recreation Use for Whetstone Brook (MA35-18) and available aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. MassDEP staff collected *E. coli* bacteria samples in Whetstone Brook (MA35-18) at W1336 [Depot Rd, Wendell] from May-Sep 2005 (n=5). Analysis of this historic single year limited frequency *E. coli* dataset from W1336 indicated 0% of intervals had GMs >244 CFU/100ml, no samples exceeded the 794 CFU/100ml STV, and the overall GM was 14 CFU/100ml. Historic *E. coli* data from W1336 meet 2024 CALM guidance. Since these data were collected prior to the current IR window (2011-2022) the Secondary Contact Recreation Use cannot be positively assessed using bacteria data.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body      | Station Description   | Latitude  | Longitude  |
|--------------|--------------|---------------|-----------------|-----------------------|-----------|------------|
| W1336        | MassDEP      | Water Quality | Whetstone Brook | [Depot Road, Wendell] | 42.594056 | -72.361166 |

### Bacteria Data

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

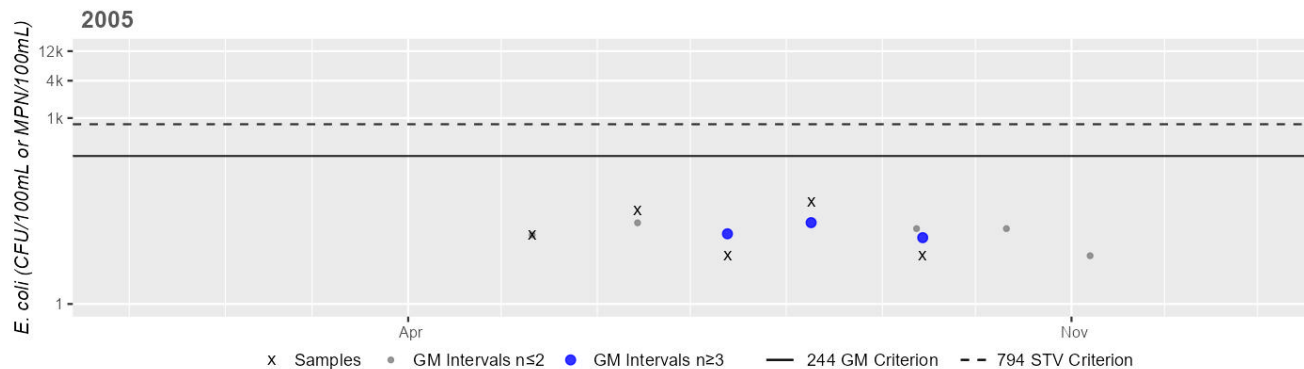
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W1336        | MassDEP      | E. coli   | 05/11/05   | 09/14/05 | 5            | 6                     | 45                    | 14                      |

# Station MASSDEP\_W1336 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 14     |
| #GMI      | 3      |
| #GMI Ex   | 0      |
| %GMI Ex   | 0%     |
| n>STV     | 0      |
| %n>STV    | 0%     |

## Cumulative %GMI Exceedance

Historic (1997-2010)

0%

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

## White Pond (MA35098)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Athol.          |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 63 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for White Pond (MA35098) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|
| 4c                          | 4c                             | (Fanwort*)        | --                       | Unchanged                                |

| <b>Impairment</b> | <b>Source (Confirmed Y/N)</b>                                        | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|-------------------|----------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Fanwort*)        | Introduction of Non-native Organisms (Accidental or Intentional) (Y) | X          | --        | --         | --         | --         |



## Whites Mill Pond (MA35099)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Winchendon.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 42 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Whites Mill Pond (MA35099) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

| <b>AU Category 2022</b> | <b>AU Category 2024/26</b> | <b>Impairment</b>                             | <b>ATTAINS Action ID</b> | <b>Impairment Change Summary</b> |
|-------------------------|----------------------------|-----------------------------------------------|--------------------------|----------------------------------|
| 4a                      | 4a                         | (Aquatic Plants (Macrophytes)*)               | --                       | Unchanged                        |
| 4a                      | 4a                         | Nutrient/Eutrophication Biological Indicators | 4144                     | Unchanged                        |

| <b>Impairment</b>                             | <b>Source (Confirmed Y/N)</b> | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|-----------------------------------------------|-------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants (Macrophytes)*)               | Agriculture (Y)               | --         | --        | X          | X          | X          |
| (Aquatic Plants (Macrophytes)*)               | Rural (Residential Areas) (Y) | --         | --        | X          | X          | X          |
| Nutrient/Eutrophication Biological Indicators | Agriculture (Y)               | --         | --        | X          | X          | X          |
| Nutrient/Eutrophication Biological Indicators | Rural (Residential Areas) (Y) | --         | --        | X          | X          | X          |

## Whitney Pond (MA35101)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Winchendon.     |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 97 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b>                  | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|------------------------------------|--------------------------|------------------------------------------|
| 5                           | 5                              | (Aquatic Plants<br>(Macrophytes)*) | --                       | Unchanged                                |
| 5                           | 5                              | Mercury in Fish Tissue             | --                       | Unchanged                                |
| 5                           | 5                              | Turbidity                          | 4145                     | Unchanged                                |

| <b>Impairment</b>                  | <b>Source (Confirmed Y/N)</b>                                          | <b>ALU</b> | <b>FC</b> | <b>AES</b> | <b>PCR</b> | <b>SCR</b> |
|------------------------------------|------------------------------------------------------------------------|------------|-----------|------------|------------|------------|
| (Aquatic Plants<br>(Macrophytes)*) | Agriculture (Y)                                                        | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Discharges from Municipal<br>Separate Storm Sewer<br>Systems (MS4) (N) | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Rural (Residential Areas) (Y)                                          | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Source Unknown (N)                                                     | --         | --        | X          | X          | X          |
| (Aquatic Plants<br>(Macrophytes)*) | Unspecified Urban<br>Stormwater (Y)                                    | --         | --        | X          | X          | X          |
| Mercury in Fish Tissue             | Atmospheric Deposition (N)                                             | --         | X         | --         | --         | --         |
| Mercury in Fish Tissue             | Source Unknown (N)                                                     | --         | X         | --         | --         | --         |
| Turbidity                          | Agriculture (Y)                                                        | --         | --        | X          | X          | X          |
| Turbidity                          | Discharges from Municipal<br>Separate Storm Sewer<br>Systems (MS4) (N) | --         | --        | X          | X          | X          |

| Impairment | Source (Confirmed Y/N)           | ALU | FC | AES | PCR | SCR |
|------------|----------------------------------|-----|----|-----|-----|-----|
| Turbidity  | Rural (Residential Areas) (Y)    | --  | -- | X   | X   | X   |
| Turbidity  | Source Unknown (N)               | --  | -- | X   | X   | X   |
| Turbidity  | Unspecified Urban Stormwater (Y) | --  | -- | X   | X   | X   |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Fish Consumption Use for Whitney Pond (MA35101) 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 Whitney Pond in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. |

### Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Aesthetics Use for Whitney Pond (MA35101) continues to be assessed as Not Supporting with the prior Turbidity and Aquatic Plants (Macrophytes) impairments being carried forward. No new data are available to evaluate the Aesthetics Use for this Whitney Pond AU. |

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

| 2024/26 Use Attainment Summary |
|--------------------------------|
|--------------------------------|

No bacteria or other indicator data for Whitney Pond (MA35101) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) and Turbidity impairments (from the Aesthetics Use) are being carried forward.

## Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | NO    |

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Whitney Pond (MA35101) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Aquatic Plants (Macrophytes) and Turbidity impairments (from the Aesthetics Use) are being carried forward.

## Wickett Pond (MA35102)

|                                  |                 |
|----------------------------------|-----------------|
| <b>Location:</b>                 | Wendell.        |
| <b>AU Type:</b>                  | FRESHWATER LAKE |
| <b>AU Size:</b>                  | 30 ACRES        |
| <b>Classification/Qualifier:</b> | B               |

No usable data were available for Wickett Pond (MA35102) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

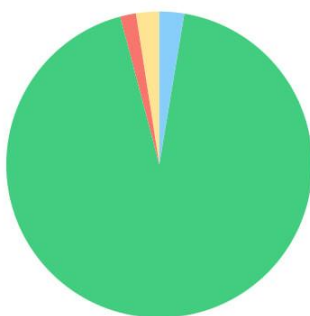
| <b>AU Category<br/>2022</b> | <b>AU Category<br/>2024/26</b> | <b>Impairment</b> | <b>ATTAINS Action ID</b> | <b>Impairment<br/>Change<br/>Summary</b> |
|-----------------------------|--------------------------------|-------------------|--------------------------|------------------------------------------|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

## Wilson Brook (MA35-45)

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| <b>Location:</b>                 | Headwaters, Chestnut Hill Road, Warwick to mouth at confluence with Darling Brook, Warwick. |
| <b>AU Type:</b>                  | RIVER                                                                                       |
| <b>AU Size:</b>                  | 1 MILES                                                                                     |
| <b>Classification/Qualifier:</b> | B: CWF                                                                                      |

### Wilson Brook (MA35-45)

Watershed Area: 1.12 square miles



| Land Cover Type                | Entire Basin | Proximal Subbasin (5 km radius) | Stream Buffer (100 m) | Proximal Stream Buffer |
|--------------------------------|--------------|---------------------------------|-----------------------|------------------------|
| Land Cover Area (square miles) | 1.12         | 1.12                            | 0.19                  | 0.19                   |
| Agriculture                    | 2.4%         | 2.4%                            | 0.3%                  | 0.3%                   |
| Developed                      | 1.7%         | 1.7%                            | 3.2%                  | 3.2%                   |
| Natural                        | 93.3%        | 93.3%                           | 90.2%                 | 90.2%                  |
| Wetland                        | 2.6%         | 2.6%                            | 6.3%                  | 6.3%                   |
| Impervious                     | 0.7%         | 0.7%                            | 1%                    | 1%                     |

| AU Category 2022 | AU Category 2024/26 | Impairment          | ATTAINS Action ID | Impairment Change Summary |
|------------------|---------------------|---------------------|-------------------|---------------------------|
| 3                | 5                   | PCBs in Fish Tissue | --                | Added                     |
| 3                | 5                   | PFAS in Fish Tissue | --                | Added                     |

| Impairment          | Source (Confirmed Y/N) | ALU | FC | AES | PCR | SCR |
|---------------------|------------------------|-----|----|-----|-----|-----|
| PCBs in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |
| PFAS in Fish Tissue | Source Unknown (N)     | --  | X  | --  | --  | --  |

## Designated Use Attainment Decisions

## Fish Consumption

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Supporting         | No    |

### 2024/26 Use Attainment Summary

The Fish Consumption Use for Wilson Brook (MA35-45) is assessed as Not Supporting with new impairments being added for PCBs in Fish Tissue and PFAS in Fish Tissue. Based on recent geographic analysis of MDPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Wilson Brook (MA35-45). Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. DPH issued site-specific advisories for PCBs and PFAS in Wilson Brook (referred to by MDPH as "Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)") in their Pre-2018 and May 2024 Freshwater Fish Consumption Advisory Lists, respectively, and retained them in the 2025 list. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations. No source of PFAS or PCBs has been identified at this time.

## Fish Tissue Data

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

| Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish toxics sampling was conducted in the Millers River (MA35-04) at station F0488 (PFAS Study ID 48) [on Millers River in Orange Impoundment east/upstream of Route 122, Orange (impounded by New Home Dam NAT ID: MA00501)] on 10/04/2022 as part of a MassDEP-funded project evaluating 40 PFAS analytes in selected fresh waters. Because of elevated PFAS measured in fish filets, MDPH issued site-specific fish consumption advisories for Wilson Brook (referred to by MDPH as Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague)) in their May 2024 Freshwater Fish Consumption Advisory List. Additionally, based on recent geographic analysis of DPH's historical PCBs advisory for the Millers River and its tributaries (between the confluence with the Otter River in Winchendon and the Connecticut River in Erving/Montague), the existing advisory for PCBs is being applied to Wilson Brook (MA35-45). The site-specific DPH advisories are indicative of Fish Consumption Use impairments for PFAS in Fish Tissue and PCBs in Fish Tissue for Wilson Brook (MA35-45). |

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

### 2024/26 Use Attainment Summary

No data are available, so the Aesthetics Use for Wilson Brook (MA35-45) is Not Assessed

### Primary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Wilson Brook (MA35-45) are available, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Not Assessed           | NO    |

#### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Wilson Brook (MA35-45) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.



## Wrights Reservoir (MA35104)

|                                  |                      |
|----------------------------------|----------------------|
| <b>Location:</b>                 | Gardner/Westminster. |
| <b>AU Type:</b>                  | FRESHWATER LAKE      |
| <b>AU Size:</b>                  | 131 ACRES            |
| <b>Classification/Qualifier:</b> | B                    |

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

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

## Recommendations

| 2024/26 Recommendations                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 IR [E. COLI, MEDIUM] Additional <i>E. coli</i> sampling is recommended at {W2595} due to an STV violation of 2419 CFU/100ml in 2016. |

## Designated Use Attainment Decisions

### Fish Consumption

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Not Supporting                 | No    |
| 2024/26 Use Attainment Summary |       |

The Fish Consumption Use for Wrights Reservoir (MA35104) 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 Wrights Reservoir in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

## Aesthetic

| 2024/26 Use Attainment | Alert |
|------------------------|-------|
| Fully Supporting       | NO    |

### 2024/26 Use Attainment Summary

The Aesthetics Use for Wrights Reservoir (MA35104) is assessed as Fully Supporting. MassDEP staff recorded aesthetics observations in summer 2016 for two stations on this Wrights Reservoir AU; at Minott Road, Westminster (W2595, n=5) and the deep hole index site, Gardner (W2636, n=3). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either station.

## Monitoring Stations

| Station Code | Organization | Type          | Water Body        | Station Description        | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|----------------------------|-----------|------------|
| W2595        | MassDEP      | Water Quality | Wrights Reservoir | [Minott Road, Westminster] | 42.541688 | -71.961489 |
| W2636        | MassDEP      | Water Quality | Wrights Reservoir | [index site, Gardner]      | 42.548625 | -71.972617 |

## Aesthetic Observations

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

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

| Station Code | Data Year | Field Sheet Count | Aesthetics Summary Statement                                                                                                                                                                                                                                                        |
|--------------|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W2595        | 2016      | 5                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2595 on Wrights Reservoir (MA35104) during 5 site visits between May 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |
| W2636        | 2016      | 3                 | Aesthetic observations were made by MassDEP field sampling crews at Station W2636 on Wrights Reservoir (MA35104) during 3 site visits between Jun 2016 and Aug 2016. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. |

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

| Station Code | Waterbody         | Data Year | Parameter                         | Result           | Result Count | Total Field Sheet Count |
|--------------|-------------------|-----------|-----------------------------------|------------------|--------------|-------------------------|
| W2595        | Wrights Reservoir | 2016      | Aesthetics Impaired?              | No               | 5            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Color                             | Dark Tan         | 1            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Color                             | Light Yellow/Tan | 3            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Color                             | None             | 1            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Objectionable Deposits            | No               | 5            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Odor                              | None             | 5            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Scum                              | No               | 5            | 5                       |
| W2595        | Wrights Reservoir | 2016      | Turbidity                         | None             | 5            | 5                       |
| W2636        | Wrights Reservoir | 2016      | Aesthetics Impaired?              | No               | 3            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Aquatic Plant Density, Overall    | None             | 1            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Aquatic Plant Density, Overall    | Unobservable     | 2            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Aquatic Plant Density, Whole Lake | NR               | 1            | 1                       |
| W2636        | Wrights Reservoir | 2016      | Color                             | Brownish         | 1            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Color                             | NR               | 2            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Duckweed Density, Whole Lake      | None             | 1            | 1                       |
| W2636        | Wrights Reservoir | 2016      | Objectionable Deposits            | No               | 3            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Odor                              | None             | 3            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Scum                              | No               | 3            | 3                       |
| W2636        | Wrights Reservoir | 2016      | Turbidity                         | None             | 3            | 3                       |

## Primary Contact Recreation

|                        |       |
|------------------------|-------|
| 2024/26 Use Attainment | Alert |
|------------------------|-------|

|                          |     |
|--------------------------|-----|
| Insufficient Information | YES |
|--------------------------|-----|

### 2024/26 Use Attainment Summary

Too limited bacteria data are available to assess the Primary Contact Recreation Use for Wrights Reservoir (MA35104) and available other indicators and aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. An Alert is being identified for *Escherichia coli* (*E. coli*) and additional sampling is recommended for this AU. In Wrights Reservoir (MA35104), MassDEP collected Secchi data at W2636 [42.548625, -71.972617, index site, Gardner] (2016) and cyanotoxin data at W2595 (2016). Secchi depth data indicated water clarity meeting the 1.2m (4ft) threshold at W2636 in 2016 (n=3, 1.35-1.5m). Analysis of microcystins and cylindrospermopsin samples from W2595 in 2016 (n=5) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Wrights Reservoir (MA35104) at W2595 [Minott Rd, Westminster] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2595 indicated 20% of intervals had GMs >126 CFU/100ml, 1 sample exceeded the 410 CFU/100ml STV, and the seasonal GM was 20 CFU/100ml. *E. coli* data from W2595 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 *Escherichia coli* at W2595.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body        | Station Description        | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|----------------------------|-----------|------------|
| W2595        | MassDEP      | Water Quality | Wrights Reservoir | [Minott Road, Westminster] | 42.541688 | -71.961489 |

### Bacteria Data

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

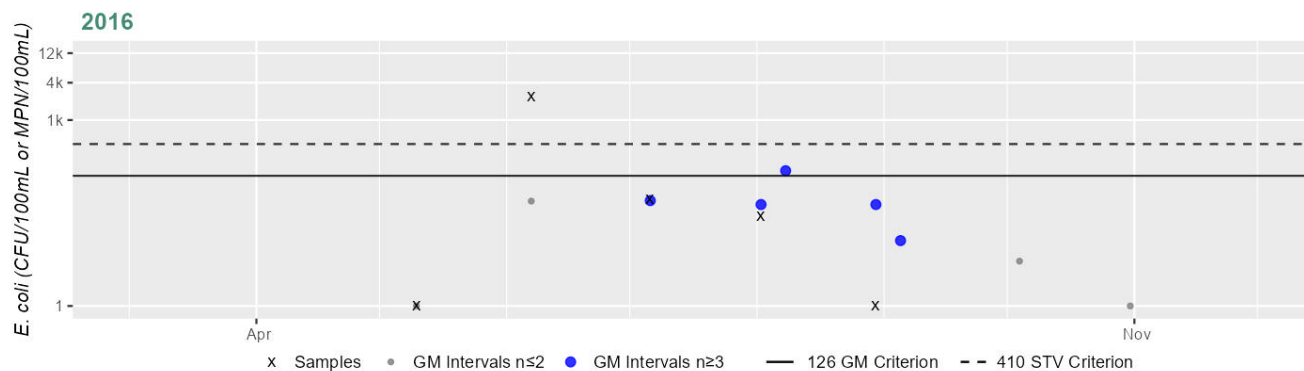
(MassDEP Undated 6) (MassDEP Undated 4)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2595        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 1                     | 2419                  | 20                      |

### Station MASSDEP\_W2595 - *Escherichia coli*

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



| Variable* | Result |
|-----------|--------|
| Samples   | 5      |
| SeasGM    | 20     |
| #GMI      | 5      |
| #GMI Ex   | 1      |
| %GMI Ex   | 20%    |
| n>STV     | 1      |
| %n>STV    | 20%    |

Cumulative %GMI Exceedance

Current (2011-2022)

20%

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

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 6) (MassDEP Undated 4)

| Data Year(s) | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2016         | In Wrights Reservoir (MA35104) in 2016, MassDEP collected Secchi data at W2636 [42.548625, -71.972617, index site, Gardner], and cyanotoxin data at W2595 (Minott Road, Westminster). At station W2636 (station depth=1.5 m) the Secchi depth measurements ranged from 1.35-1.5 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. Analysis of microcystins and cylindrospermopsin samples from W2595 (n=5) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. |

## Secondary Contact Recreation

| 2024/26 Use Attainment         | Alert |
|--------------------------------|-------|
| Insufficient Information       | NO    |
| 2024/26 Use Attainment Summary |       |

Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Wrights Reservoir (MA35104) and available other indicators and aesthetics observations for this AU did not result in any impairment, so it is assessed as having Insufficient Information. In Wrights Reservoir (MA35104), MassDEP collected cyanotoxin data at W2595 (2016). Analysis of microcystins and cylindrospermopsin samples from W2595 in 2016 (n=5) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L. MassDEP staff collected *E. coli* bacteria samples in Wrights Reservoir (MA35104) at W2595 [Minott Rd, Westminster] from May-Aug 2016 (n=5). Analysis of the single year limited frequency *E. coli* dataset from W2595 indicated 0% of intervals had GMs >244 CFU/100ml, 1 sample exceeded the 794 CFU/100ml STV, and the overall GM was 20 CFU/100ml. *E. coli* data from W2595 are inconclusive according to the 2024 CALM to assess the Secondary Contact Recreation Use because this single year, limited frequency dataset included both GMs below the threshold and STV exceedance of the threshold.

### Monitoring Stations

| Station Code | Organization | Type          | Water Body        | Station Description        | Latitude  | Longitude  |
|--------------|--------------|---------------|-------------------|----------------------------|-----------|------------|
| W2595        | MassDEP      | Water Quality | Wrights Reservoir | [Minott Road, Westminster] | 42.541688 | -71.961489 |

### Bacteria Data

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

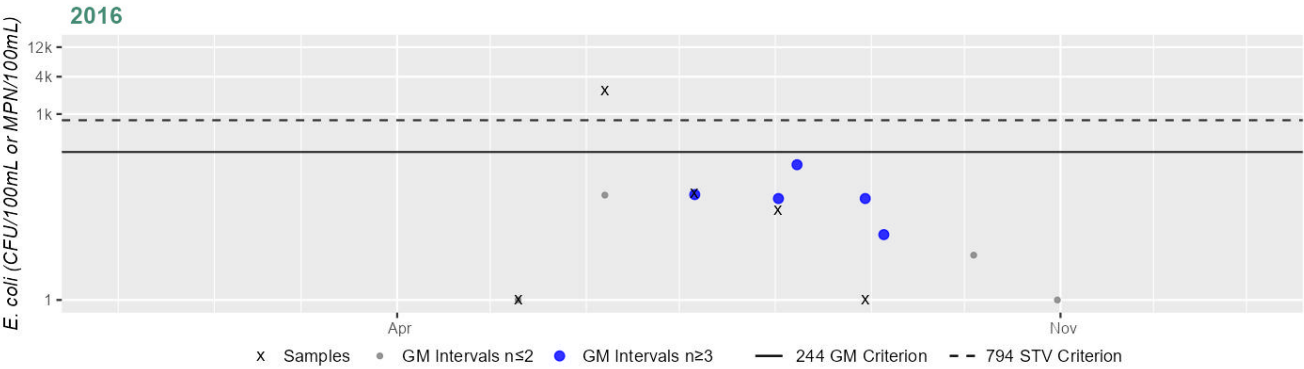
(MassDEP Undated 6) (MassDEP Undated 3)

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

| Station Code | Organization | Indicator | Start Date | End Date | Sample Count | Minimum Sample Result | Maximum Sample Result | Seasonal Geometric Mean |
|--------------|--------------|-----------|------------|----------|--------------|-----------------------|-----------------------|-------------------------|
| W2595        | MassDEP      | E. coli   | 05/09/16   | 08/29/16 | 5            | 1                     | 2419                  | 20                      |

Station MASSDEP\_W2595 - Escherichia coli

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



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

Cumulative %GMI Exceedance

Current (2011-2022)

0%

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

## Data Sources

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- MassDEP. Undated 3. "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.
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