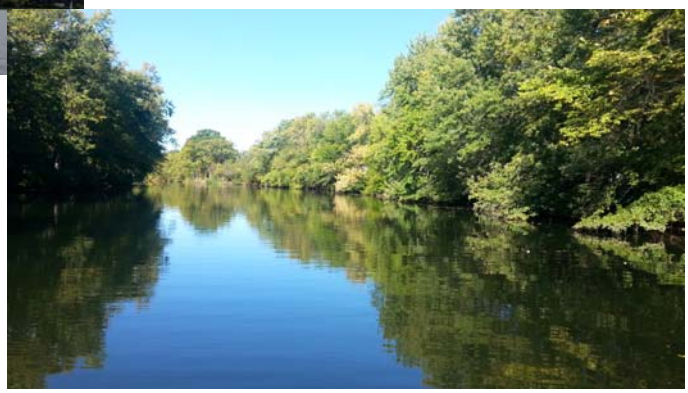
Summary of CSO Receiving Water Quality Monitoring in Upper Mystic River/Alewife Brook and Charles River, 2021



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Summary of CSO Receiving Water Quality Monitoring in Upper Mystic River/Alewife Brook and Charles River, 2021

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1 Introduction

This report summarizes data collected as part of the Massachusetts Water Resources Authority (MWRA) combined sewer overflow (CSO) receiving water monitoring program, and is produced in accordance with the variances from water quality standards for CSO discharges to the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River Basin.

The Massachusetts Department of Environmental Protection (MADEP) issued initial variances in October 1998 and March 1999, respectively, and extended both variances several times through August 2019. On August 30, 2019, MADEP issued new variances for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River Basin with a five-year term, running until August 31, 2024.[1] EPA Region 1 approved these variances on May 31, 2020. The 2019 variances are largely similar to the previous variances with regard to water quality monitoring and reporting conditions. This monitoring summary is submitted pursuant to the variance conditions and provides an assessment of water quality in 2021 in the Charles River, Upper Mystic River, and Alewife Brook, which benefitted from some of the 35 CSO projects in MWRA's Long-Term CSO Control Plan (LTCP).

In December 2021, MWRA submitted the *Task 6 Post Construction Monitoring Program and Performance Assessment Report* [2] to the United States Environmental Protection Agency (EPA) and the MADEP, documenting the results of the four-year study to measure the performance of the MWRA's Long-Term CSO Control Plan (LTCP). This was originally the final court scheduled milestone in the Boston Harbor Case (U.S. v. M.D.C, et al., No. 85-0489-RGS). The LTCP consisted of 35 CSO control projects, the last of which was completed and brought into operation in December 2015.

As described in the *Task 6* report, 70 of the 86 CSO outfalls active at the start of the program have achieved LTCP goals. In February 2022, all court parties agreed on an extension through December 2024 to complete projects and investigations relative to the sixteen outfalls not currently meeting LTCP goals. Six of these are predicted to meet LTCP goals by December 2024 and have been advancing through the design and construction process by the MWRA and CSO communities. An additional four of these outfalls have preliminary modeled designs identified that are predicted to meet LTCP goals. The final six outfalls present significant challenges and will continue to be investigated through December 2024. Developments on these investigations are discussed in MWRA's most recent annual report on CSO discharges (AECOM 2022). [3]

The four-year performance assessment also included the development of receiving water quality models for bacterial indicators in the regions covered in this report. The models were used to evaluate bacterial water

[1] Sanitary Sewer Overflows & Combined Sewer Overflows. https://www.mass.gov/guides/sanitary-sewer-systems-combined-sewer-overflows#-2019-charles-river-basin-and-alewife/upper-mystic-river-final-combined-sewer-overflow-variances-

[2] Final CSO Post Construction Monitoring Program and Performance Assessment Report. https://www.mwra.com/cso/pcmapa.html

[3] CSO Annual Report April 29, 2022: CSO Discharge Estimates and Rainfall Analyses for Calendar Year 2021. https://www.mwra.com/cso/annualdischargeestimates.html

quality impacts due to remaining CSOs in a Typical Year and under alternative CSO control scenarios, as well as the water quality impacts of upstream/baseline conditions and stormwater flows. The receiving water quality models demonstrated that the current level of CSO control does not preclude the Alewife Brook/Upper Mystic or Lower Charles River from the attainment of water quality standards. Under a model scenario where CSOs are the only source of bacteria to these regions, the Alewife Brook met standards 98.7% of the time, the Upper Mystic River 95.8% of the time, and the Charles River 99.6% of the time in a Typical Year (AECOM 2021a, 2021b). Details on the development of these models and the results of their simulations are available at MWRA's Technical Reports page. [4]

In 2006, MADEP agreed, as part of the Boston Harbor Case, to issue a series of three-year variance extensions through 2020 with no additional CSO obligations and related construction activities beyond the then-approved LTCP, to allow MWRA to complete implementation of its LTCP and three-year CSO post-construction monitoring and performance assessment. The new five-year variances issued on August 30, 2019 give MWRA and the Cities of Cambridge and Somerville more time to complete additional CSO control planning, including the evaluation and potential implementation of additional CSO reduction measures for the Lower Charles/Charles Basin and the Alewife Brook/Upper Mystic River Basin.

Variance conditions require MWRA and the municipalities with CSOs discharging to variance waters (Cambridge and Somerville[5]) to continue to implement the Nine Minimum Controls of EPA's National CSO Control Policy, and require them to report estimated CSO discharge frequencies and volumes from their respective outfalls to these receiving waters on an annual basis. MWRA is also required to submit an annual report on results for its water quality monitoring program to MADEP and EPA assessing the impacts of CSO discharges. This report is submitted pursuant to the latter requirement. The variances also include the requirement of rapid notification of the public within four hours of a CSO discharge,[6] and evaluating additional CSO control measures.

Since the beginning of MWRA's CSO control planning efforts in the late 1980s, MWRA and the CSO communities have eliminated or virtually eliminated[7] CSO discharges at 40 of the 86 discharge locations addressed in the LTCP. MWRA and the CSO communities have also greatly reduced CSO discharges at the 46 locations that remain. Along the Charles River, ten CSO outfalls were closed (including two that are closed pending additional evaluations by the City of Cambridge) and eight untreated and one treated CSO outfall remain active. Along the Alewife Brook, seven CSO outfalls were closed and six CSO outfalls remain active. Along the Upper Mystic River (Mystic Basin), two CSO outfalls were closed and one treated CSO outfall remains active (SOM007A/MWR205A is jointly permitted to Somerville and MWRA and can discharge Somerville Marginal CSO Facility flows to the Mystic River during higher tides). The Somerville

[4] MWRA Technical Reports. https://www.mwra.com/harbor/enquad/trlist.html

[5] Boston and Chelsea also have community CSOs, but they do not discharge into waters covered by the CSO variances.

[6] MWRA reports CSO discharges from MWRA-permitted outfalls via a subscriber-based system. To subscribe to the notifications, see https://www.mwra.com/harbor/html/cso_reporting.htm.

[7] Outfalls to South Boston beaches designed for 25-year storm level of control

Marginal facility primarily discharges at outfall MWR205 below the Amelia Earhart Dam in marine waters (not subject to the variance) when not restricted by the tide.

Since the early 1990s, major MWRA system improvements, such as the upgrade of the Deer Island Treatment Plant and related transport systems and the completed CSO projects, have reduced the frequency and volume of CSO discharges and have increased the percentage of discharges receiving treatment. The LTCP reduced region-wide CSO discharge volume in a Typical Year[8] from 3.3 billion gallons in 1988 to 0.4 billion gallons, an 87% reduction, with 93% of the remaining discharge volume receiving treatment at MWRA's four CSO treatment facilities. Figure 1-1 shows the estimated Typical Year CSO volume reduction system-wide since 1988, and Figure 1-2 shows the CSO volume reduction by receiving water. The estimated annual discharge volumes in Figure 1-1 are from Typical Year model runs utilizing MWRA's collection system model. MWRA updates the collection system model each year with new information about the system, including completed MWRA and community system improvements. For purposes of this report, receiving water quality data for the past 5 years (2017-2021) is considered representative of current conditions.

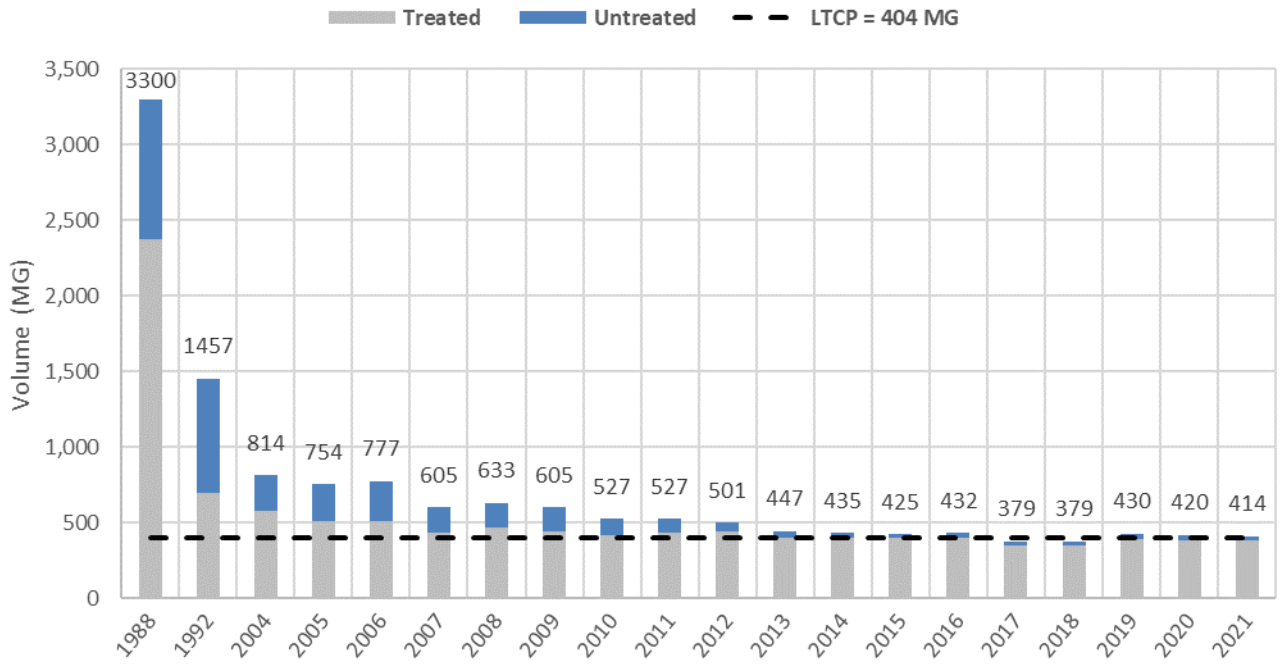

Figure 1-1. Estimated Treated, Untreated and Total CSO Volume in the Typical Year, 1988-2021.

[8] Typical Year rainfall was developed by MWRA in 1992 using a 40-year rainfall record and was approved by EPA and DEP as a basis for measuring the performance of CSO control alternatives and the water quality impacts of remaining CSO discharges. Level of CSO control in the Typical Year is a key performance objective of the LTCP.

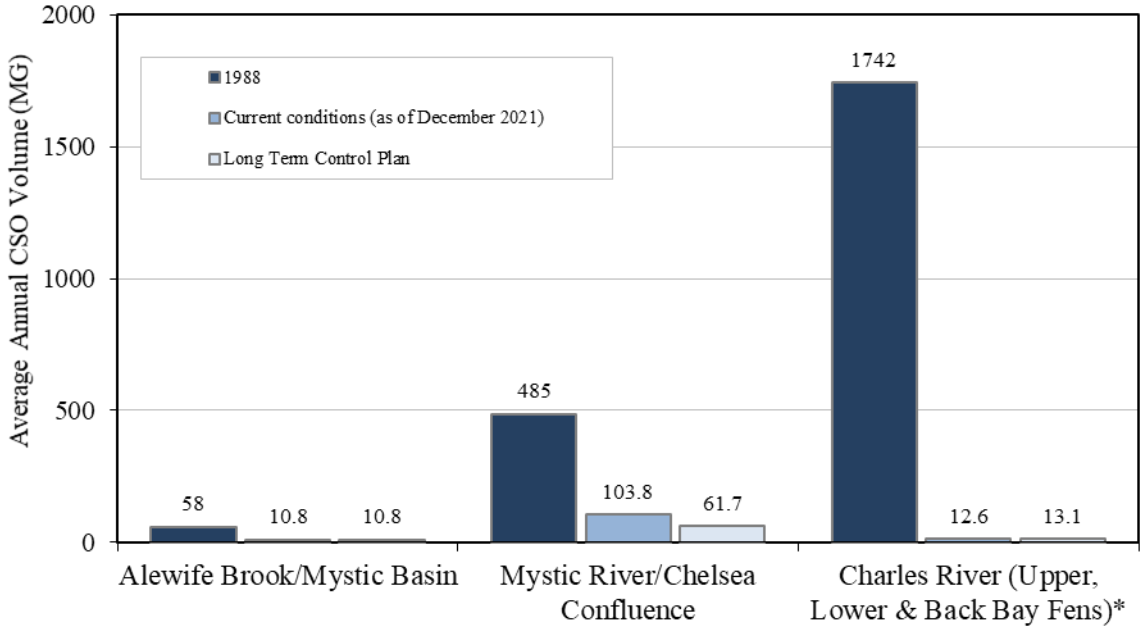

Figure 1-2. CSO Typical Year Discharge Volume Estimates for 1988, Current, and Approved Long Term Control Plan

* Back Bay Fens (Muddy River) is tributary to the Charles Basin but is not a variance water. Source: Updated from AECOM (2022)

Rainfall volumes for calendar year 2021 at various gauge locations in the MWRA service area and comparison to MWRA's approved Typical Year appear in Table 1-1. The table summarizes the frequency of rain events in 2021 within selected ranges of rainfall volume. In 2021, metropolitan Boston experienced significantly greater volume of rain, back-to-back large storms, and many storms with relatively high peak intensity. The total rainfall volume was much higher than the Typical Year (approximately 57.3 versus 46.8 inches), and several inches higher than the official average annual rainfall for the Boston area (43 inches[9]). The annual rainfall summary however does not capture the pattern of these storm events. The metropolitan Boston area experienced abnormally high rainfall totals from July through mid-September. At Ward Street Headworks gauge, 24.75 inches of rain fell in this period, with 12.74 inches in July alone. The rainfall in that two-and-a-half month period was approximately half of the total annual rainfall in the Typical Year. Storms during this period varied from short duration, high intensity events to longer duration, lower intensity events. The Northeast Regional Climate Center (NRCC)[10] declared July 2021 the wettest July on record in Massachusetts with a statewide rainfall average of 10.41 inches, which was 6.58 inches above the normal average for July.

Numbers of storms were similar or lower than the Typical Year for the <0.25 inch and 0.25-0.5 inch categories. In the 1.0-2.0 inches category, all gauges recorded more storms than the Typical Year. Large storms – those greater than or equal to two inches of rainfall – occurred at essentially the same frequency in

[9] NOAA National Centers for Environmental information, Climate at a Glance: City Time Series, published June 2022, retrieved on June 16, 2022 from https://www.ncdc.noaa.gov/cag/
[10] Northeast Regional Climate Center. Retrieved June 28, 2022. http://www.nrcc.cornell.edu/regional/tables/tables.html

2021 as the Typical Year, but two of the storms had total rainfall greater than the largest storm in the Typical Year.

Table 1-2 lists the number of storms in 2021 that had high peak rainfall intensities, which can drive CSO activations. Table 1-2 compares rainfall event relative intensities to the Typical Year using 0.4 inches/hour as a reference. At all gauges, there were more storms with high peak intensities in 2021 than the Typical Year. The average total rainfall in these storms, and the average peak intensity, were both higher than storms of similar intensity in the Typical Year. Refer to Tables 3-3 and Table 4-3 for CSO discharge estimates for the Charles and Mystic, respectively.

Table 1-1. Comparison of rain event frequency by rainfall volume, 2021 rainfall vs. Typical Year.

	Total Rainfall (in.)	Total Number of Storms	Number of storms, by rainfall volume				
			<0.25 inches	0.25 – 0.5 inches	0.5 – 1.0 inches	1.0 – 2.0 inches	≥2.0 inches
Typical Year	46.8	93	49	14	16	8	6
2021 Chelsea Creek Headworks (MWRA)	58.57	96	46	11	18	15	6
2021 Ward St. Headworks (MWRA)	60.03	100	50	15	16	13	6
2021 Somerville Marginal CSO Facility (MWRA)	55.79	91	41	15	19	10	6
2021 BWSC East Boston [11]	58.24	92	44	10	16	16	6
2021 BWSC Allston	57.26	99	51	12	20	9	7
2021 Fresh Pond (USGS)	54.13	88	39	16	16	11	6

Source: AECOM (2022)

[11] Previous reports used BWSC Charlestown. BWSC East Boston used as proxy for BWSC Charlestown in 2021.
Source: AECOM (2022) and MWRA rainfall data

Table 1-2. Number of rain events with peak intensity >0.4 inches/hour, 2021 vs. Typical Year.

	Number of storms (peak hourly intensity > 0.4 in/hr)	Average total rainfall per storm (inches)	Average peak hourly intensity (inches/hour)
Typical Year	9	1.56	0.63
2021 Chelsea Creek Headworks (MWRA)	14	1.74	0.79
2021 Ward St. Headworks (MWRA)	11	2.25	0.75
2021 Somerville Marginal CSO Facility (MWRA)	14	1.83	0.73
2021 BWSC East Boston	13	1.84	0.74
2021 BWSC Allston	12	1.88	0.70
2021 Fresh Pond (USGS)	15	1.82	0.67

1.1 Overview of the monitoring program

MWRA's CSO receiving water quality monitoring program has been ongoing since 1989, with most sampling locations monitored since 1991. All harbor and tributary areas affected by CSOs in Boston, Chelsea, Cambridge, and Somerville are included in the monitoring program. For most sampling locations included in this report, which presents sampling results for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River only, at least 20 samples have been collected each year. Due to the global COVID-19 pandemic that affected the United States right before the beginning of the 2020 field sampling season, MWRA made a number of temporary changes to the program to align with employee safety protocols recommended by the Centers for Disease Control (CDC) and the Commonwealth of Massachusetts. Some of these temporary changes continued into 2021. Chapter 2 details these changes in full.

1.2 Organization and purpose of the report

The purpose of the report is to summarize 2021 water quality in the Charles River and Alewife Brook/Upper Mystic River. The report compares sampling results to water quality standards, shows spatial and temporal variations in water quality, and differences between wet and dry weather. For some bacterial and physical parameters, data from the previous five monitoring years are analyzed and compared with the 2021 data.

Chapter 2 presents the materials and methods used in monitoring. Chapters 3 and 4 discuss the results of the CSO receiving water quality monitoring program in the Charles River and Alewife Brook/Upper Mystic River, respectively. Chapter 2 details the changes in the program due to the COVID-19 pandemic and social distancing requirements. Water quality parameters examined for each region include: bacterial indicators (*E. coli*, *Enterococcus*, and fecal coliform), water clarity (Secchi depth, total suspended solids), nutrients (phosphate, ammonium, nitrate/nitrite), and chlorophyll.

As noted in the previous report, receiving water quality results in the report that include data from before 2020 reflect the changes in the monitoring program made by MWRA in 2016-2019; in short, a switch to more storm-based sampling with the addition of weekend sampling to close temporal data gaps. This storm-based sampling was discontinued in 2020 due to COVID-19 safety concerns for the additional staff needed, and with the completion of calibration for the water quality models noted above. The storm-based sampling provided critical data for the calibration of the models. However, for tables and figures in this report that include pre-2020 data – especially ones that do not aggregate data by rainfall condition – considerably more post-storm, wet weather data was gathered in 2018 and 2019 than previously. For example, Tables 3-4 and 4-4, which break down visits to the sampling stations in the Charles River and Mystic River/Alewife Brook by rainfall condition, reflects this wet weather bias for the period before 2020. Finally, where the data are aggregated by rainfall category, most rain data come from more local rain gauges rather than the Logan Airport gauge. This provides more spatially relevant rainfall data, rather than using a single rain gauge that can be several miles distant from some of the sampling locations.

2 Materials and Methods

2.1 Field and laboratory methods

2.1.1 Selection of sampling locations

Some sampling locations were selected for their proximity to CSO discharges and others were selected to provide representative water quality measurements for a given area. Typically, all samples were collected by boat, but beginning in 2017, existing stations that were also accessible from the shore were identified so sampling could continue in inclement, non-boating weather. Complete lists of stations for the Charles River and the Alewife Brook/Mystic River, including maps and descriptions, appear in Figure 3-1 and Table 3-1 (Charles) and Figure 4-1 and Table 4-1 (Alewife/Mystic).

2.1.2 Sampling schedules

The COVID-19 pandemic disrupted the usual sampling schedule in 2021. As much of the sampling involved staff working in close proximity and in enclosed vehicles, the sampling program was modified to allow for proper social distancing when necessary or appropriate. At least 20 station visits were made to each location last year, within two separate monitoring projects described below. In 2021, eutrophication monitoring was conducted biweekly year-round, without interruptions from COVID-19, at a subset of river locations. Nutrients, chlorophyll, total suspended solids (TSS), bacteria, and physical parameters were collected as part of this program. CSO receiving water monitoring included bacteria sampling and physical parameter measurements collected roughly between March and October. Under both projects, physical measurements collected using water quality sondes were omitted until June 2021 when safety precautions lessened.

2.1.3 Sample collection

As noted above, due to COVID-19, the use of water quality sondes was omitted until June 2021. At all locations, water samples were collected near-surface (approximately 0.1 meters below surface). Surface samples were collected by grab into rinsed sample containers. Bottom samples were collected at locations with a water depth greater than 3 meters, using a Kemmerer sampler or alpha bottle at 0.5 meter above the sediment surface. Separate sampling containers were used for bacteria, and nutrient/TSS analyses.

2.1.4 Field measurements

Field measurements were made with different instruments over the course of the monitoring program. Table 2-1 lists the instruments used and the variables measured.

Table 2-1. Field measurements.

Variable	Instruments used
Temperature, conductivity/salinity, dissolved oxygen, turbidity, pH	Hydrolab Datasonde 4 (1997 - 2008) Hydrolab Datasonde 5 (2006 - 2008) YSI 600XL for temperature, conductivity, dissolved oxygen (1999 – 2013) YSI6600, YSI6820 (2009 – March 2019) YSI EXO2, EXO3 (April 2019 – present)
Secchi Depth	Wildco 8-inch limnological Secchi disk (upstream of dams) Wildco 8-inch oceanographic Secchi disk (marine waters)

2.1.5 Rainfall measurements and conditions

Most analyses use 15-minute rainfall data from rain gauges throughout the region, which may be closer in proximity to CSO outfalls and/or monitoring locations: Ward Street and Somerville Marginal (MWRA); Allston and East Boston (BWSC); and Fresh Pond (US Geological Survey). These data are also stored in the MWRA's Environmental Monitoring & Mapping System (EM&MS) database. Daily rainfall measurements were also taken from the National Weather Service (NWS) rain gauge located at Logan Airport in East Boston, as this was considered the most representative location for the entire monitoring area, and data is available for the entire monitoring period. Results from this gauge are reported in one-day intervals. Data are downloaded from the NWS website and stored in the EM&MS database.

For a number of figures in Chapters 3 and 4, rainfall conditions are used to separate bacteria results into different "bins" based on antecedent rainfall. Two different sets of conditions are used – one with three categories (dry, damp, and wet) and one with four categories (dry, damp, light rain, and heavy rain). Dry and damp conditions are identical between the two sets, and taken together, the "light rain" and "heavy rain" conditions in the four-category system are combined in the "wet" condition in the three-category system. Data from both the local gauges and the Logan gauge can be categorized in either system.

Figure 2-1 shows the two rainfall classification systems and the different conditions graphically.

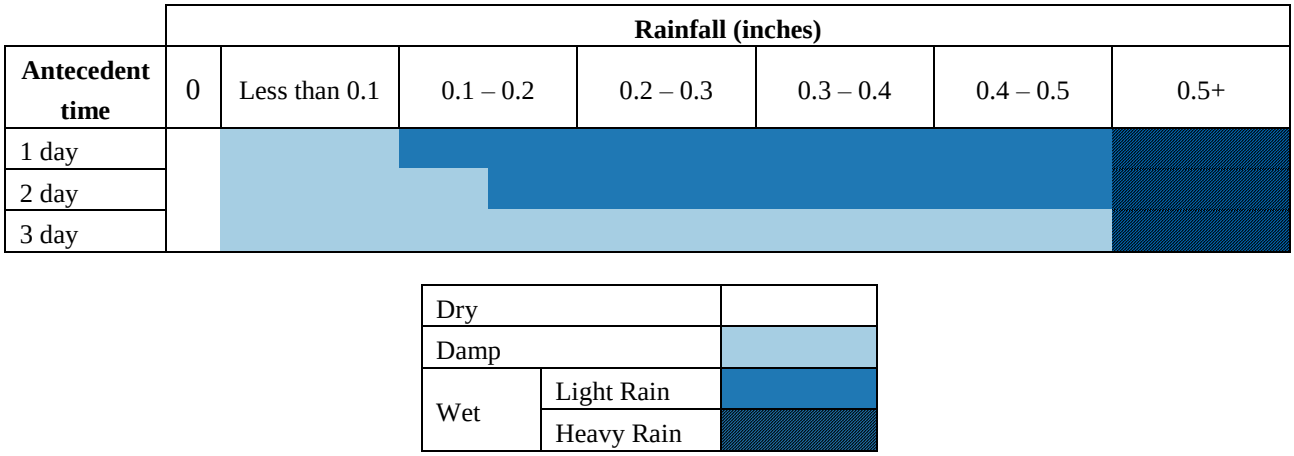

Figure 2-1. Summary and comparison of the two rainfall classification systems

2.1.6 Laboratory analyses

Samples were analyzed at the MWRA Central Laboratory. For enumeration of bacteria, chlorophyll, nutrients, and TSS, MWRA Department of Laboratory Services (DLS) Standard Operating Procedures are followed.

Detailed laboratory methods with quality assurance and quality control procedures are described in the Central Laboratory Quality Management Plan (MWRA 2020) and the DLS Standard Operating Procedures (MWRA various).

Table 2-2 lists the analytes measured and methods used in the monitoring program. MWRA discontinued *E. coli* monitoring at marine locations in 2007 due to methodological concerns with the use of the Colilert method for marine samples, replacing *E. coli* with fecal coliform.

Table 2-2. Laboratory measurements.

Analyte	Method
Enterococcus	Standard Methods 9230C 2c, membrane filtration (for samples collected 1996 – 2003) EPA Method 1600 (for samples collected 1999 – 2007) Enterolert (ASTM D-6503-99; for samples collected 2007 – present)
E. coli	Modified EPA 1103.1, membrane filtration (for samples collected 2000 – 2006) Colilert-18 (Standard Methods 9223B; for freshwater samples collected 2007 - present)
Fecal coliform	Standard Methods 9222D, membrane filtration
Total suspended solids	Clesceri et al. (1998, Method 2540D), using nucleopore filters
Total phosphorus	TP and/or TDP: Solarzano and Sharp (1980a); PP: Solarzano and Sharp (1980a), Whatman GF/F
Phosphate	Murphy and Riley (1962), modified as in Clesceri et al (1998, Method 4500-P F) Skalar SAN^{plus} autoanalyzer, Whatman GF/F filters
Total Nitrogen	TN and/or TDN: Solarzano and Sharp (1980b), Whatman G/F filters; PN: Perkin Elmer CHN analyzer, Whatman GF/F
Ammonium	Fiore and O'Brien (1962), modified as in Clesceri et al. (1998, Method 4500-NH3 H), Skalar SAN^{plus} autoanalyzer, Whatman GF/F filters
Nitrate+nitrite	Bendschneider and Robinson (1952), modified as in Clesceri et al, (1998, Method 4500-NO3 F), Skalar SAN^{plus} autoanalyzer, Whatman GF/F filters
Chlorophyll *a*	Acid-corrected (Holm-Hansen et al. 1965) as described in US EPA (1992). Trilogy fluorometer, GF/F filters

2.2 Data analysis

Descriptive Analyses. Indicator bacteria counts are typically log-normally distributed, and therefore a proper measure of central tendency for these data is the geometric mean. Geometric means and their associated 95% confidence intervals were calculated for the measurements made at each station over the sampling period.

Many results are plotted as percentile box plots, as shown in Figure 2-2. These plots present a frequency distribution of a group of measurements. Each box comprises measurements from a single sampling location. Values are shown in Figure 2-1 for the 10th, 25th, 50th, 75th, and 90th percentiles. Open circles at the top and bottom represent maximum and minimum measurements.

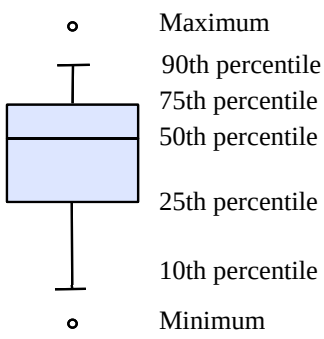

Figure 2-2. Percentile distributions indicated on percentile box plots

Box plots display the range and central tendencies of the data and allow for easy comparison of the results among stations. The 50th percentile (median) is equivalent to the geometric mean, assuming the data are log-normally distributed.

2.3 Water Quality Standards used in this report

Standards are shown in Table 2-3, and include standards and guidelines from the Massachusetts Department of Environmental Protection (MADEP) and the Environmental Protection Agency (EPA). The MADEP standard for Class B/SB waters (fishable and swimmable) are based on *E. coli* and/or *Enterococcus* counts for freshwater, and *Enterococcus* counts for marine waters, following an EPA recommendation for *Enterococcus* in marine waters (USEPA 2012). These standards, specified in 314 CMR 4.00[12], were updated and approved by EPA in January 2022. There are no public bathing beaches in the Charles or Upper Mystic/Alewife Brook, but the primary contact recreation (i.e. swimming) standards can still serve as a useful benchmark. MADEP uses a Secchi depth guideline to assess water clarity as an approximation for signs of eutrophication.

2.4 Map resources used in this report

Monitoring station and CSO outfall datalayers are produced from MWRA geographic data. The map baselayer is a combination of the following MassGIS datalayers: Dams, Hydrography, Municipalities, MassDEP Wetlands, MassDOT Roads, Ocean Mask, and Protected and Recreational Open Space.

[12] Massachusetts Surface Water Quality Standards. 314 CMR 4.00. https://www.mass.gov/regulations/314-CMR-4-the-massachusetts-surface-water-quality-standards

Table 2-3. Water quality standards for Class B and Class SB waters.[1]

Designated Use	Parameter	Standard
Inland waters (Class B) warm water fishery Massachusetts waters, MADEP	Dissolved Oxygen	≥ 5.0 mg/L
	Temperature	≤ 28.3ºC (83ºF)
	pH	6.5 to 8.3 S.U.
Coastal/marine waters (Class SB) Massachusetts waters, MADEP	Dissolved Oxygen	≥ 5.0 mg/L
	Temperature	< 26.7ºC (80ºF)
	pH	6.5 to 8.5 S.U.
Marine and freshwater primary contact recreation (designated swimming area), MADEP	*Enterococcus*	Statistical Threshold Value (STV): 130 counts/100 mL; Geometric mean: 35 counts/100 mL
Freshwater primary contact recreation (designated swimming area), MADEP	*E. coli*	Statistical Threshold Value (STV): 410 counts/100 mL; Geometric mean: 126 counts/100 mL
Former standard, primary contact recreation, MADEP (pre-2007)	Fecal coliform	Geometric mean: ≤ 200 counts/100 mL, no more than 10% of samples above 400 counts/100 mL
Primary contact recreation, aesthetics/transparency	Secchi disk depth	≥ 1.2 meters (4 feet)

[1] All receiving water areas discussed in this report are Class B according to MADEP standards current as of January 2022 (except for Mystic River mouth downstream of the Amelia Earhart Dam, which is $SB_{CSO.}$ SB_{CSO} has the same water quality standards as SB except for an allowance for CSO discharges).

From MADEP 2022:

Inland Water Class B: Those Inland Waters so designated pursuant to 314 CMR 4.06; including, without limitation, certain wetlands designated in 314 CMR 4.06(2), certain other waters designated in 314 CMR 4.06(5), and certain qualified waters designated in 314 CMR 4.06(6)(b). These waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06(1)(d)6. and (6)(b) as a "Treated Water Supply" these waters shall be suitable as a source of public water supply with appropriate treatment. Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.

Coastal and Marine Class SB: Those Coastal and Marine Waters so designated pursuant to 314 CMR 4.06; including, without limitation, 314 CMR 4.06(2) and certain surface waters designated in 314 CMR 4.06(6)(b). These waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated for shellfishing in 314 CMR 4.06(6)(b), these waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). These waters shall have consistently good aesthetic value.

3 Charles River

3.1 Sampling area

MWRA's sampling area in the Charles River (Figure 3-1) includes the river segment from the Watertown Dam in Watertown downstream to the New Charles River Dam in Boston, near the river mouth. This area, the "Charles Basin" for purposes of this report, is freshwater and designated Class B with a variance for Combined Sewer Overflows by MADEP (with the variance currently extending to August 31, 2024). The river segment is approximately 8.6 miles long. The New Charles River Dam and locks limit river flow and tidal exchange at the river mouth.

MWRA monitoring locations are primarily located midstream, bracketing CSO outfalls. Boat-accessible locations were also selected near to or downstream of outfalls: at the Stony Brook outlet and CSO (MWR023), the Faneuil Brook outlet and CSO that has since been closed (BOS032, closed in 1997), and downstream of the Cottage Farm CSO treatment facility outfall diffusers (MWR201). Results for 006 and 206 are combined in Figures 3-2, 3-5, 3-6, 3-9, 3-10 and Table 3-6. Station 005 was added as an additional nutrient monitoring station for the 2021 field season.

For purposes of this report, MWRA's monitoring area in the lower Charles is divided into three smaller reaches: Upper Basin, Mid-Basin, Lower Basin. Sampling locations and CSOs appear in Figure 3-1 with labeled reach boundaries. Table 3-1 describes the reaches, and the sampling locations and CSOs within each reach.

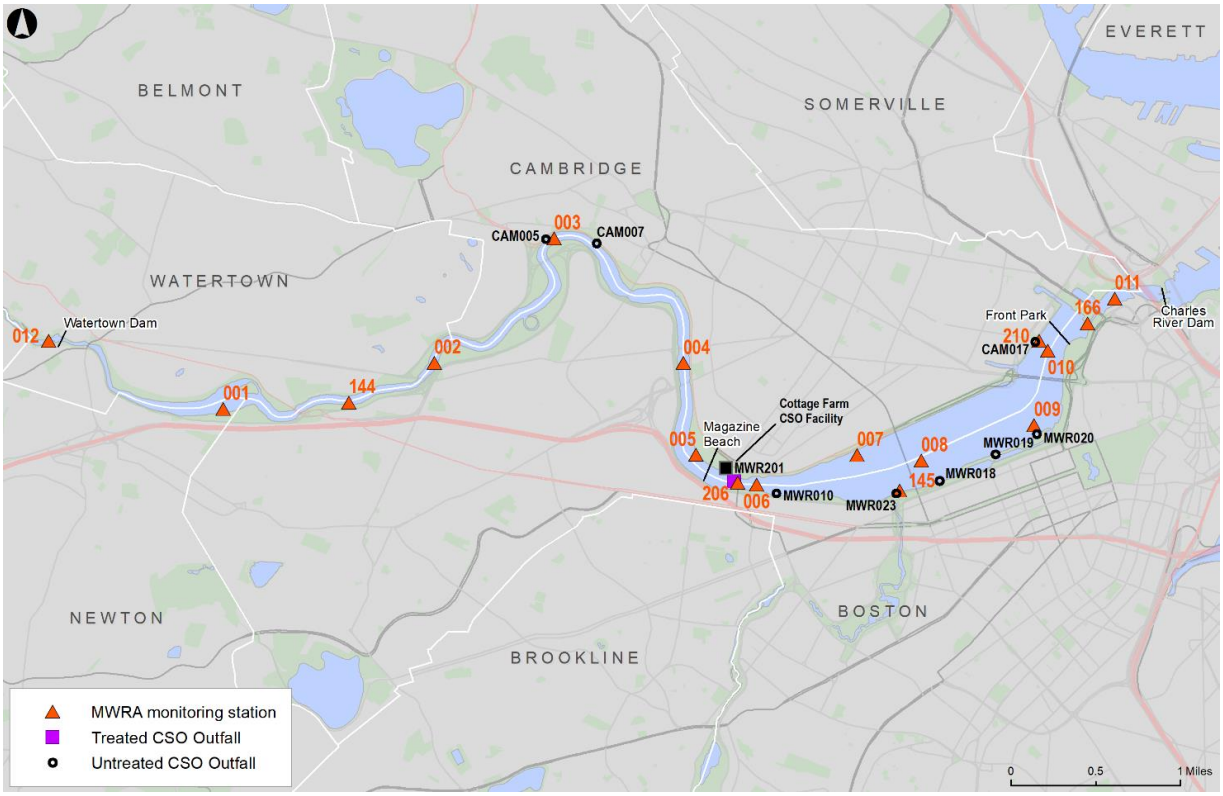

Figure 3-1. Map of MWRA Charles River monitoring stations.

Table 3-1. MWRA monitoring locations, Charles River Basin.

Reach (MADEP Classification)	Description of Reach	Sampling station	Location Description
Upper Basin (Class B/Variance, warm water fishery)	Watertown Dam in Watertown, downstream to Magazine Beach (near BU Bridge) in Cambridge	†*012, Watertown	Watertown Dam at footbridge (upstream of all CSOs)
		*001, Newton	Downstream of Newton Yacht Club (upstream of all CSOs)
		144, Allston	Faneuil Brook outlet (at BOS032, closed 11/97)
		*002, Allston	Downstream of Beacon St. Bridge (downstream of BOS033, closed 10/96)
		*003, Cambridge	Downstream of Eliot Bridge, Cambridge side (at CAM005)
		004, Cambridge/Allston	Between River St. and Western Ave. bridges
		†*005, Cambridge	Off of Magazine Beach
Mid-Basin (Class B/Variance, warm water fishery)	BU Bridge on Boston/Cambridge line to downstream of Longfellow Bridge	006, Cambridge/Boston	BU Bridge, downstream side (downstream of MWR201)
		*206, Cambridge/Boston	Mid-channel, sampled on the upstream side of the BU Bridge
		*007, Cambridge	MIT Boathouse, Cambridge side
		*145, Boston	Stony Brook outlet, Boston side (at MWR023)
		008, Cambridge/Boston	Mass. Ave Bridge, downstream side (downstream of MWR023, MWR018)
		*009, Cambridge/Boston	Longfellow Bridge, upstream side (downstream of MWR021, closed 3/00)
		010, Boston	Longfellow Bridge, downstream side (downstream of MWR022, closed 3/00)
		*210, Cambridge	Dock SE of Front Park, Cambridge Pkwy (at CAM017)
Lower Basin (Class B/Variance, warm water fishery)	Science Museum to North Station railroad bridge, near Charlestown.	†166, Boston	Science Museum, upstream of old dam (downstream of all lower basin CSOs)
		*011, Boston	Between Science Museum and New Charles River Dam/locks (downstream of all Charles CSOs)

Sampling locations are midstream unless otherwise noted.
* indicates sampling location is also a shoreline sampling location.
† indicates a sampling location sampled for nutrients, TSS, chlorophyll in eutrophication monitoring project.

3.2 Pollution sources

Known pollution sources to the Charles River Basin are shown in Table 3-2 and consist primarily of stormwater, dry weather inputs, upstream inputs, and CSOs. These sources include nine CSO outfalls, eight untreated and one treated. The treated outfall is the discharge point for MWRA's Cottage Farm CSO treatment facility. Located immediately upstream of the BU Bridge, the Cottage Farm facility treats (with screening, chlorination, and dechlorination) CSO flow before discharge and is the only source of treated CSO discharge to the river.[13] With increases in sewer system capacity and removal of large volumes of stormwater from the sewer system with sewer separation projects, the number of activations at Cottage Farm has decreased over the last two decades. In the late 1990s, more than 20 activations annually were common, but in the 2014-2017 period there were only one to three activations annually. As shown in Table 1-1, 2021 was wetter than the Typical Year, driven by a wet summer period in which 40 percent of the total annual rainfall fell (AECOM 2022). There were five activations at Cottage Farm in 2021, all occurring during this exceptionally wet period from July through September. The Stony Brook/Muddy River outlet near Kenmore Square is a source of contaminated brook flow and stormwater flows to the basin area, as well as infrequent CSO discharges. CSO discharge volumes to the Stony Brook were greatly reduced in 2006 with completion of sewer separation by BWSC.

Sanitary sewer overflows (SSOs) can also occur in rare circumstances like extreme rain events, sewer breaks, or sewer obstructions, but are not typical in a given year. SSOs are unintentional discharges of wastewater to the environment prior to reaching a treatment facility. SSOs from the MWRA system are reported on the MWRA website.[14]

Table 3-3 shows the MWRA model simulation results for CSOs affecting the Charles River Basin for 2021. Measured CSO volumes and activation frequency are available for the Cottage Farm CSO facility.

The receiving water monitoring program is designed to capture water quality in all weather conditions. Table 3-4 summarizes the proportion of samples collected in dry, damp, and wet weather. In support of the receiving water models described in Chapter 1, MWRA intensively sampled storm events from 2017 through 2019. A large portion of the samples in this time period were collected in wet weather conditions, and this wet weather bias will skew water quality impacts seen in any presentation of an overall data set that includes 2017 – 2019 data (i.e., Table 3-5). The addition of shoreline sampling locations increased the number of sampling events, as sampling could be performed in weather conditions that previously were unsafe for boat-based sampling.

[13] MWRA's Prison Point CSO facility, located near the Charles River mouth, has its discharge point on the Boston Harbor side of the New Charles River Dam

[14] MWRA Sanitary Sewer Overflow (SSO) Reporting page. http://www.mwra.com/harbor/html/sso_reporting.htm

Table 3-2. Charles River Basin pollution sources in 2021.

Source	Upper Basin	Mid-Basin	Lower Basin
CSOs (untreated)	2 active, 4 closed CAM005, CAM007 CAM009 closed 11/07[1] CAM011 closed 11/07[1] BOS032 closed 11/97 BOS033 closed 10/96	6 active, 3 closed MWR010, MWR018, MWR019, MWR020, MWR023, CAM017 BOS042 closed 5/96 MWR021 closed 3/00 MWR022 closed 3/00	3 closed BOS049 closed 7/10 BOS028 closed prior to 1997 SOM010 closed prior to 1996
CSO treatment facility (settling and detention; screened, chlorinated and dechlorinated CSO discharge)	No	Yes Cottage Farm (MWR201) activated 5 times in 2021	No
Storm drains	Yes	Yes	Yes
Upstream inputs	Yes	Yes	Yes
Dry weather inputs	Yes	Yes	Yes
Tributary brook or stream flow	Yes	Yes	Yes
Sanitary Sewer Overflows (SSOs)[2]	No	Yes[3]	No

[1] Pending continuing hydraulic evaluations by City of Cambridge.
[2] From MWRA-owned system.
[3] via Stony Brook Conduit.

Table 3-3. Charles River Basin CSO activations, results of meter data, facility records and model simulations for 2021 system conditions and 2021 rainfall.

CSO Outfall	Activation Frequency	Total Discharge Duration (hr)	Total Discharge Volume (million gallons)
Upper Charles			
CAM005[1]	8	9.75	3.34
CAM007[1]	3	4.25	3.91
TOTAL	**11**		**7.25**
Lower Charles			
CAM017[2]	6	9.42	13.00
MWR010[2]	0	0	0
MWR018[2]	4	8.00	2.98
MWR019[2]	4	5.25	1.26
MWR020[2]	4	4.75	1.21
MWR201 (Cottage Farm Facility)[3]	5	21.73	88.10
MWR023 (Stony Brook)[4]	4	10.07	1.75
TOTAL	**27**		**108.3**

[1] Results from City of Cambridge calibrated hydraulic model, deemed more reliable for this outfall than meter data (City of Cambridge 2022).
[2] Metered data are estimates of outfall discharge calculated using data from sensors, taking into account physical configurations and constraints. (AECOM 2022)
[3] Treated discharge. Activation frequency and volume are from MWRA facility records.
[4] Estimated discharge volume from CSO regulators discharging to the Stony Brook, which also conveys a large amount of stormwater, ultimately to the Charles River through MWR023.

Table 3-4. Charles River station visits by rainfall condition.

Sampling period	Dry[1]	Damp[1]	Wet[1]	Total
2016-2020[2]	21.9% 757 station visits	30.6% 1059 station visits	47.6% 1703 station visits	100% 3464 station visits
2021[3]	33.3% 130 station visits	12.8% 50 station visits	53.8% 210 station visits	100% 390 station visits

[1] See Section 2.1.5 for descriptions of rainfall conditions.
[2] 2017-2019 samples tended to be collected in wet conditions with increased focus on sampling following large storms.
[3] 2021 samples tended to be collected in wetter conditions than the previous five years.

3.3 Summary of water quality, 2017-2021

A summary of water quality results collected during the last five years is shown in Table 3-5.

Table 3-5. Summary of water quality, Charles River Basin, 2017-2021.

Parameter		MADEP Water Quality Guideline or Standard	Upper Basin				Mid-Basin				Lower Basin			
			Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n
Surface Temperature (°C)[1]	Summer	≤ 28.3	21.8 ± 4.3	99.1	7.7-28.9	642	21.9±4.1	99.5	8.4-28.5	602	21.9±3.9	99.3	9-28.4	139
	Winter		4.9±2	100.0	0.1-9.4	92	5.3±1.3	100.0	3.1-8.3	62	3.8±1.9	100.0	1-7.5	33
Bottom water dissolved oxygen (mg/L)[1]	Summer	≥ 5.0	7.1±1.4	94.3	0.8-11.7	418	4.4±2.9	47.7	0.1-10.7	551	6.2±2.2	72.2	1-11.2	115
	Winter	≥ 5.0	12.1±0.7	100.0	11-14.8	41	9.6±3.8	78.6	0.9-12.4	56	12.4±1.2	100.0	9.4-14.3	28
pH[2] (S.U.)		6.5-8.3	7.3±0.3	99.9	6.5-8.3	1576	7.2±0.4	97.7	6.1-8.5	1681	6.9±0.6	94.3	5.9-8.7	436
Water clarity	Total Suspended Solids (mg/L)	NS	3.3±3.8	-	0.2-40.7	147	-	-	-		3.5±3.1	-	0.6-30.3	124
	Secchi depth (m)[3]	NS	1±0.3	-	0.3-2.2	706	1.1±0.3	-	0.4-2.1	966	1.3±0.3	-	0.6-2.6	245
	Turbidity (NTU)	NS	6.3±5.2	-	0.1-63.6	1373	5.7±4.3	-	0.1-49	1571	5±4.2	-	0.2-40.9	339

For footnotes, see following page.

Table 3-5. Summary of water quality, Charles River Basin, 2017-2021, continued.

Parameter		MA DEP Water Quality Guideline or Standard	Upper Basin				Mid- Basin				Lower Basin			
			Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n
Bacteria (col/100mL)[4]	*E. coli*	126 / 410[5]	240 (224-258)	70.9	0-24200	1537	105 (96-114)	78.1	0-19900	1946	87 (75-100)	84.7	0-11200	511
	Enterococcus	35/ 130[5,6]	52 (47-58)	69.5	0-24200	1529	17 (15-19)	80.9	0-19900	1936	16 (14-19)	85.9	0-2760	509
Nutrients (µmol/L)	Phosphate	NS	0.7±0.4	-	0.1-2.4	149	ND	-	ND		0.6±0.4	-	0-2	126
	Ammonium	NS	3.7±2.7	-	0.3-15.4	147	ND	-	ND		5.4±4.3	-	0-16.9	124
	Nitrate+nitrite	NS	39.5±15	-	9.7-81.4	149	ND	-	ND		39.2±20.2	-	0.2-88.3	126
Algae (µg/L)	Chlorophyll	NS	3.6±4	-	0.1-20.7	149	ND	-	ND		9.5±10.9	-	0.1-51.3	126

NS: no applicable numerical standard or guideline. ND: no data. n: number of samples

[1] Summer (June-October), Winter (January-March).

[2] Median and standard error of the median are shown for pH, rather than arithmetic mean and standard deviation.

[3] Secchi guideline of ≥1.2 meters provides general benchmark for evaluating signs of eutrophication.

[4] For bacterial data, 95% confidence intervals (CI) are provided in lieu of standard deviations. "Mean" = geometric mean for bacteria data.

[5] First number is the all samples geometric mean limit - compare to the "Mean±SD" column (i.e., the Mean in that column is the geometric mean of all stations in that region for the specified indicator bacteria); the second number is the statistical threshold value - compare to the "% meeting guideline" column (i.e., the "% meeting guideline" column is the percentage of samples meeting the statistical threshold value). The "Range" column gives the range of single sample results.

[6] Either *E. coli* or *Enterococcus* are acceptable indicators for EPA or MADEP to assess suitability for swimming in freshwater.

3.4 Water quality results, 2021

This section provides an analysis of water quality parameters measured in the lower Charles during the 2021 monitoring year.

3.4.1 Physical measurements

Temperature. Summer (June to October) water temperatures for 2021 are shown for each sampling location in the top graph in Figure 3-2. Surface temperatures are relatively consistent upstream to downstream. Bottom-water temperatures are lower in the deeper waters downstream near the Longfellow Bridge, particularly stations 009 and 010, where water depth exceeds 6 meters (20 to 23 feet). Station 166 is collected in a shallow location in the basin near the Science Museum, where differences in surface and bottom temperatures are small or nonexistent. Locations upstream of station 004 (upstream of the Eliot Bridge in Cambridge) are relatively shallow, with depths ranging from 1 to 3 meters.

Dissolved Oxygen. The spatial trend in summer dissolved oxygen (DO) is shown in the center graph of Figure 3-2. All surface water DO measurements met the State standard of ≥5.0 mg/L at all locations. While mean bottom water DO measurements were ≥5.0 mg/L at Upper and Lower Basin locations in the Charles, bottom DO means at some Mid Basin locations (007, 009, 010) failed to meet the standard. Stratification, due to salt water intrusion through the river locks and cooler bottom temperatures, results in extremely low bottom-water dissolved oxygen in the lower basin area near the Longfellow Bridge. This pattern is seen in past years as well.

Water clarity. Water clarity is indicated by Secchi disk depth. Summer Secchi readings are shown for individual sampling locations in Figure 3-2. Station 012 at the further upstream end is too shallow for Secchi measurements but is typically clear to the river bottom. In 2021, most locations in the Lower Charles had relatively similar average Secchi depths, with values below the MADPH beach guideline of 1.2 meters.

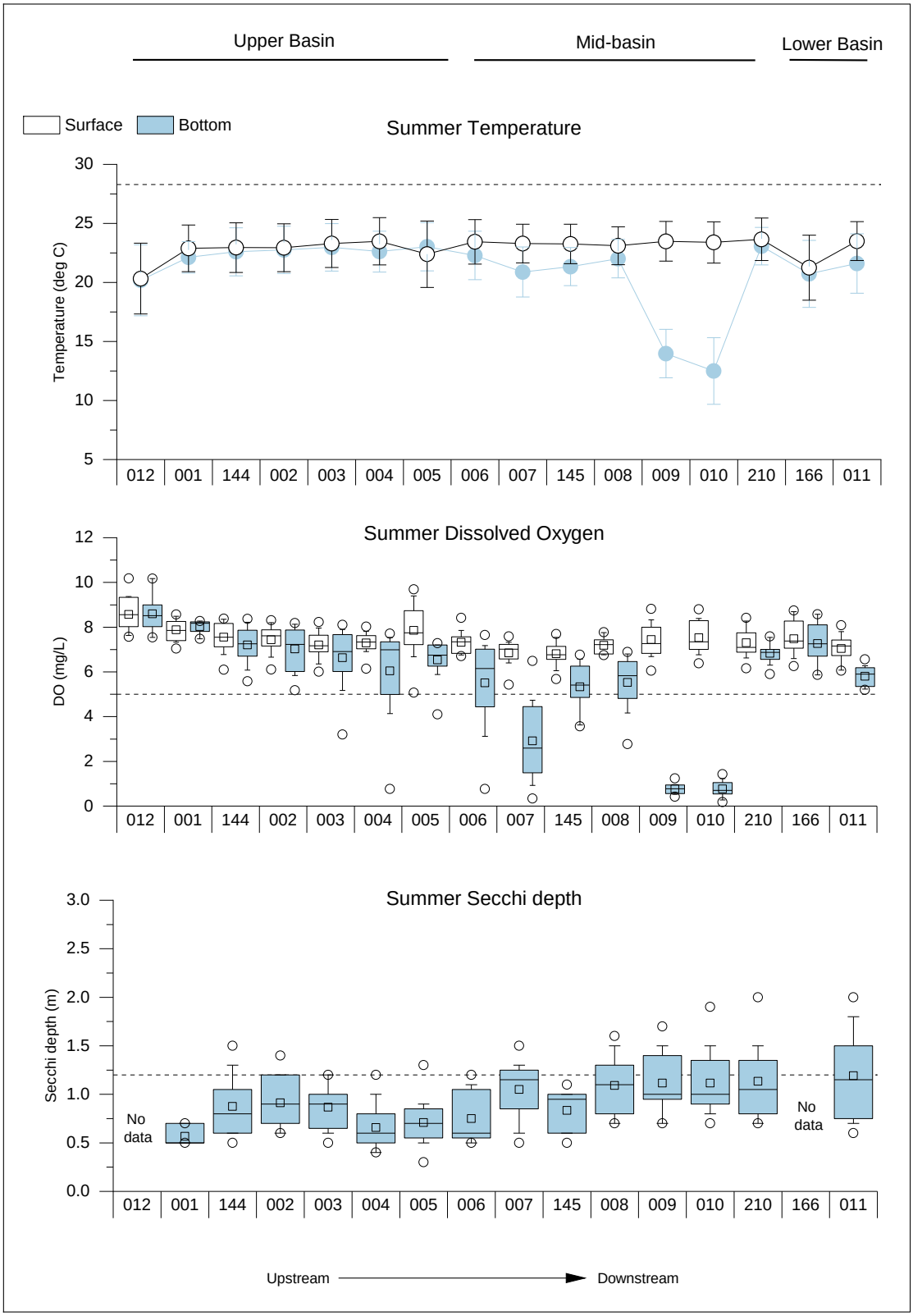

Figure 3-2. Summer temperature, dissolved oxygen and Secchi depth, Charles River Basin, 2021.
Dashed lines are State standards or guidelines (maximum for temperature, minima for DO and Secchi). No Secchi data are available for station 012 because of shallow depth; the bottom is typically visible at this site. No secchi data are available for station 166, which is collected from the shoreline. Hollow squares on the DO and Secchi plots indicate the arithmetic mean. Station 006 includes samples from nearby station 206.

3.4.2 Nutrients, TSS and chlorophyll

Monthly means for total nitrogen, ammonium, nitrate/nitrite, total phosphorus, phosphate, total suspended solids (TSS), and chlorophyll *a* at the upstream (012, 005) and downstream (166) locations in the Lower Charles are shown in Figures 3-3, 3-4, and 3-5 respectively. 2021 averages are plotted with the average of the previous five years (2016 – 2020) for comparison for stations 012 and 166; 2021 averages only for station 005. February measurements were not possible at station 166 due to the location being iced over.

Seasonal patterns for the 2021 monitoring year were similar to the 2016 – 2020 averages at stations 012 and 166, for most parameters. Total nitrogen and total phosphorus concentrations tracked closely with historical averages. Seasonal signals during 2021 were most evident for nitrate/nitrite and ammonium. At both locations, nitrate/nitrite levels were highest in winter when biological uptake is low. Both locations exhibit an increase in ammonium concentrations during the spring to summer transition. Station 166's ammonium concentrations remained above five-year average throughout the summer and into the fall. Chlorophyll *a* concentrations were quite low the past year, particularly during the summer at station 166. Unlike previous years, there were no TSS spikes captured by the sampling program in 2021.

Station 005 observed monthly averages most closely followed those at 012, with the exception of elevated chlorophyll *a* seen in May and June.

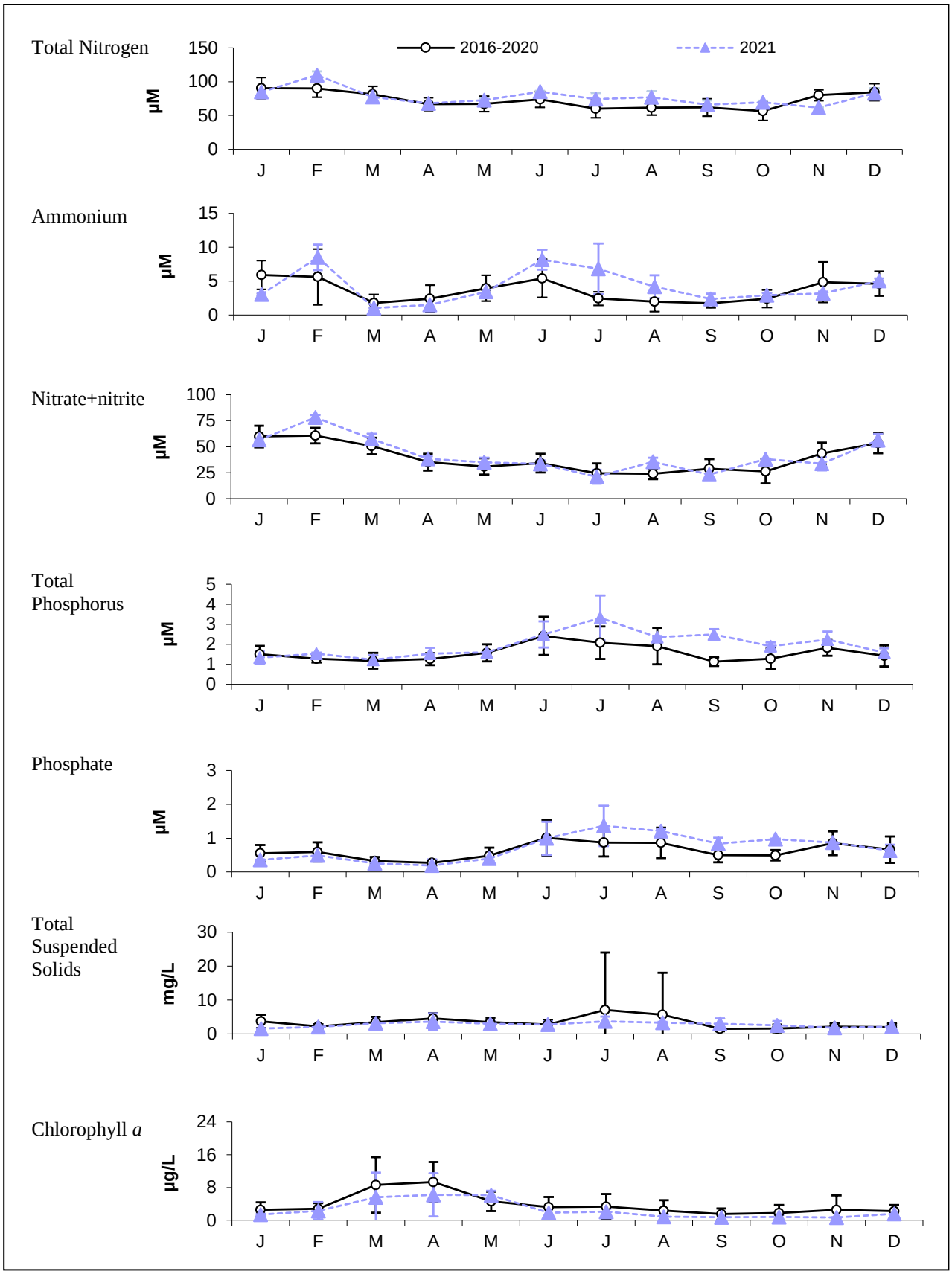

Figure 3-3. Monthly average nutrients, TSS and Chlorophyll 2016 – 2020 and 2021, Station 012, Watertown Dam.

Error bars are ± 1 SD. Note different scales than Figures 3-4, 3-5 for most parameters.

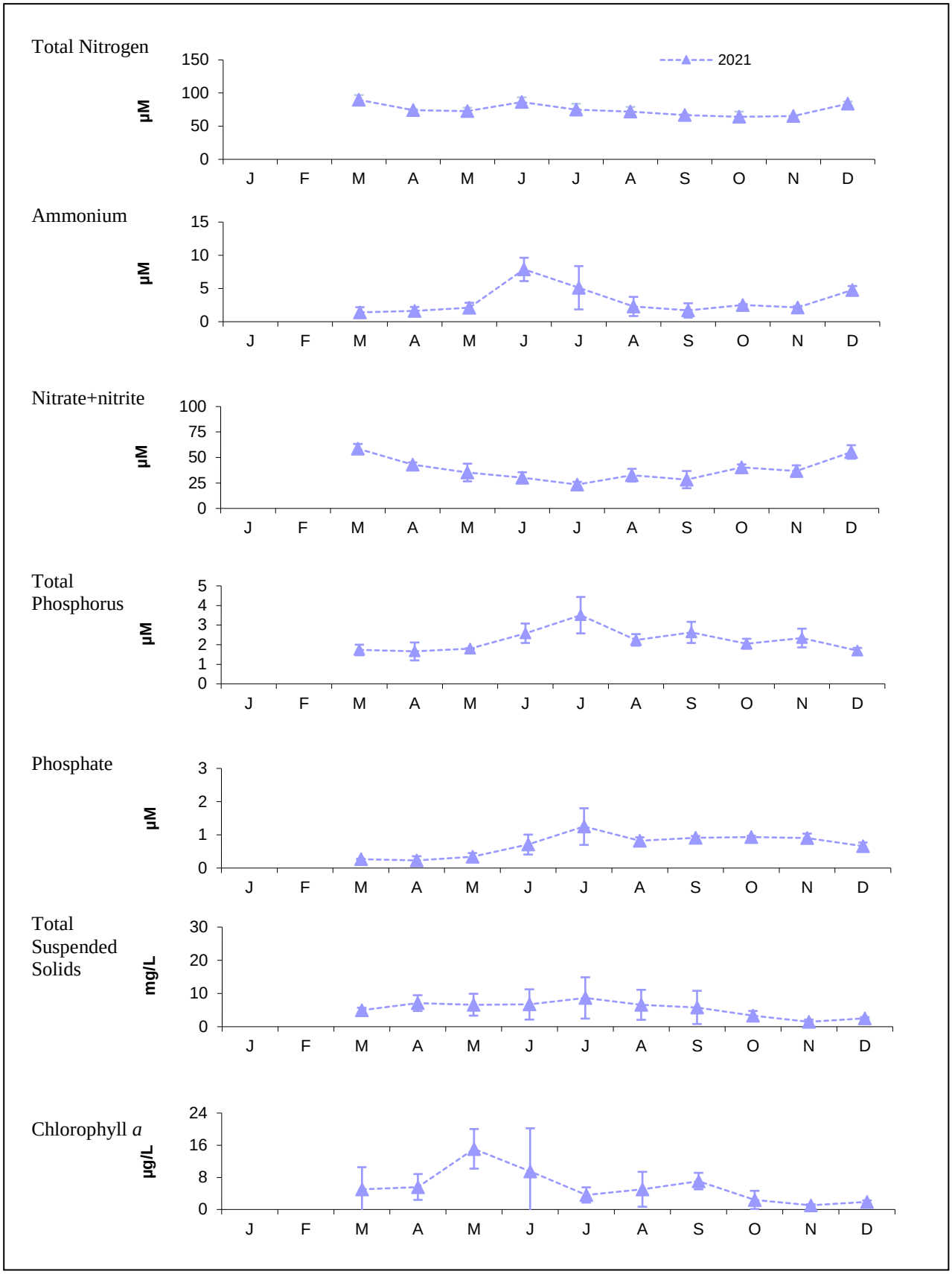

Figure 3-4. Monthly average nutrients, TSS and Chlorophyll 2021, Station 005, Magazine Beach.

Error bars are ± 1 SD. Note different scales than Figures 3-3, 3-5 for most parameters. Collection and analysis of these parameters at station 005 began in 2021.

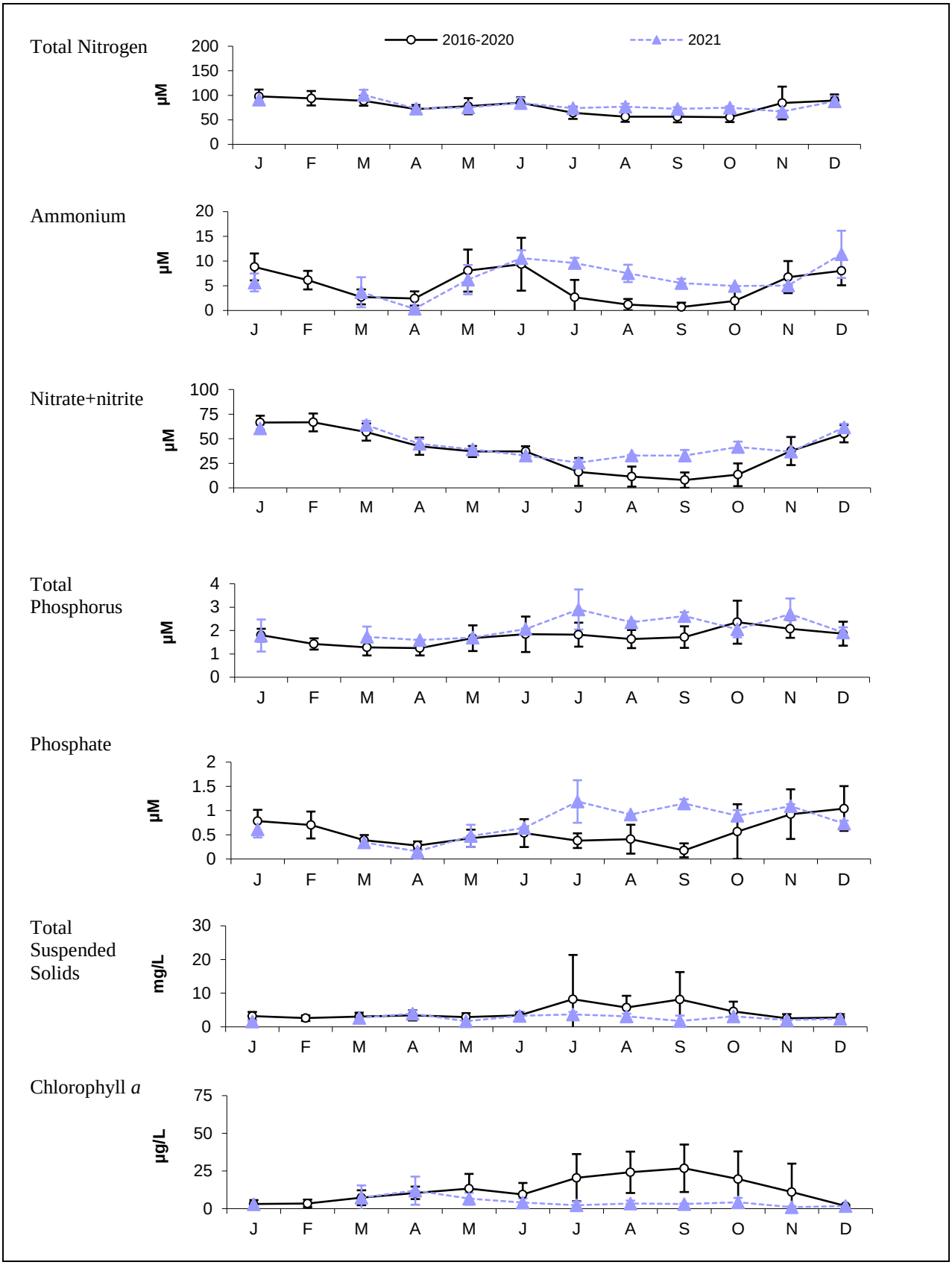

Figure 3-5. Monthly average nutrients, TSS and Chlorophyll 2016 – 2020 and 2021, Station 166, Science Museum.

Error bars are ± 1 SD. Note different scales than Figures 3-3, 3-4 for most parameters.

3.4.3 Bacterial water quality

Figure 3-6 shows the 2021 bacterial water quality at each location sampled in the Charles for dry, damp, and wet weather. The rainfall categories are derived from rainfall measured at four local rain gauges: MWRA's Ward Street, BWSC's Allston and Charlestown, and USGS's Fresh Pond gauges. Each sampling location is paired with the closest rain gauge. As shown in Table 3-4, 2021 sampling in the Charles River occurred predominantly in wet conditions, with a particular lack of data collected in damp conditions. This distribution is similar to data collected from 2017-2019 when storms were intensively sampled.

The top and bottom graphs in Figure 3-6 show percentile plots of *Enterococcus* and *E. coli* counts arranged from upstream to downstream locations for 2021 respectively (note log scale). In 2021, *Enterococcus* counts followed the historic spatial trend with more elevated bacteria counts upstream relative to downstream locations. This spatial trend was not as pronounced for dry weather *E. coli* results relative to previous years. Stations upstream of 009 had a higher prevalence of high *Enterococcus* counts in wet weather. Downstream locations had higher 25th percentile *E. coli* counts than years past. Half of the Upper Basin stations met standards in dry and damp conditions for *Enterococcus* and *E. coli*. For stations downstream of the Longfellow Bridge (009 through 011), results met standards for both indicators in all conditions.

Geometric means for each location under all rain conditions for 2016 – 2020, and 2021 appear in Table 3-6. Geometric means for 2021 are shown in a separate column from the 5-year geometric means. If confidence intervals for the two periods overlap, this generally indicates no statistically significant difference between the two means ($\alpha = 0.95$). For both indicators, 2021 geometric means were higher than the 5-year mean at nearly all locations. This is largely due to most of the samples being collected in wet conditions (Table 3-4). Annual geometric means met standards at station 004 and all locations downstream of the Longfellow Bridge for *Enterococcus*. All but station 004, 210 and the Lower Basin *E. coli* annual geometric means exceeded the DEP standard.

Figure 3-7 shows the impact of rainfall on the three Lower Charles reaches on *Enterococcus* densities (upper figure), along with results for individual locations near CSO outfalls (lower figure). Here, wet weather is broken down further into light and heavy rain conditions. The upper figure shows that for 2021, bacterial concentrations in the Upper Basin – where there are no CSO discharges - were routinely higher than Mid-Basin and Lower Basin stations in wet weather. The 2021 geometric means, the line within the box, met the state standard in dry and damp rain conditions, but typically exceeded in light and heavy rain. The lower figure shows that stations upstream of the Longfellow Bridge had elevated *Enterococcus* levels in all conditions relative to others downstream.

The change in *Enterococcus* concentrations since 1989 in the Upper Charles Basin (upstream of most CSO influences) and the lower Charles (including the Mid- and Lower-Basin locations) appear in Figure 3-8 and Figure 3-9. Results are grouped by phases of the LTCP improvements with the last period (2014-2021) after the completion of all LTCP-related projects in the Charles. The plot includes the counts for all locations in the Charles combined, in each rainfall condition. These figures show change over time in both regions, with significant improvement in water quality from the initial phase to the latest phase. Looking at the current phase, the Upper Basin shows improvement in both dry and wet conditions and meets the geometric mean swimming standard in dry and damp weather, although individual high counts are still seen in all conditions.

The most pronounced change is in the Middle and Lower Charles Basins, which met the geometric mean swimming standard in all conditions besides heavy rain.

2021 compliance rates with State statistical threshold values by rainfall condition are shown in Figures 3-10 (*Enterococcus*) and 3-11 (*E. coli*). All stations exhibited high compliance for *Enterococcus* and *E. coli* in dry and damp weather with little difference. Given the predominantly wet conditions that samples were collected in, all stations upstream of the Longfellow Bridge had low compliance rates. In drier years, stations at the widest portion of the river have exhibited higher compliance rates in wet weather, even those immediately downstream of untreated CSOs (stations 009 and 210).

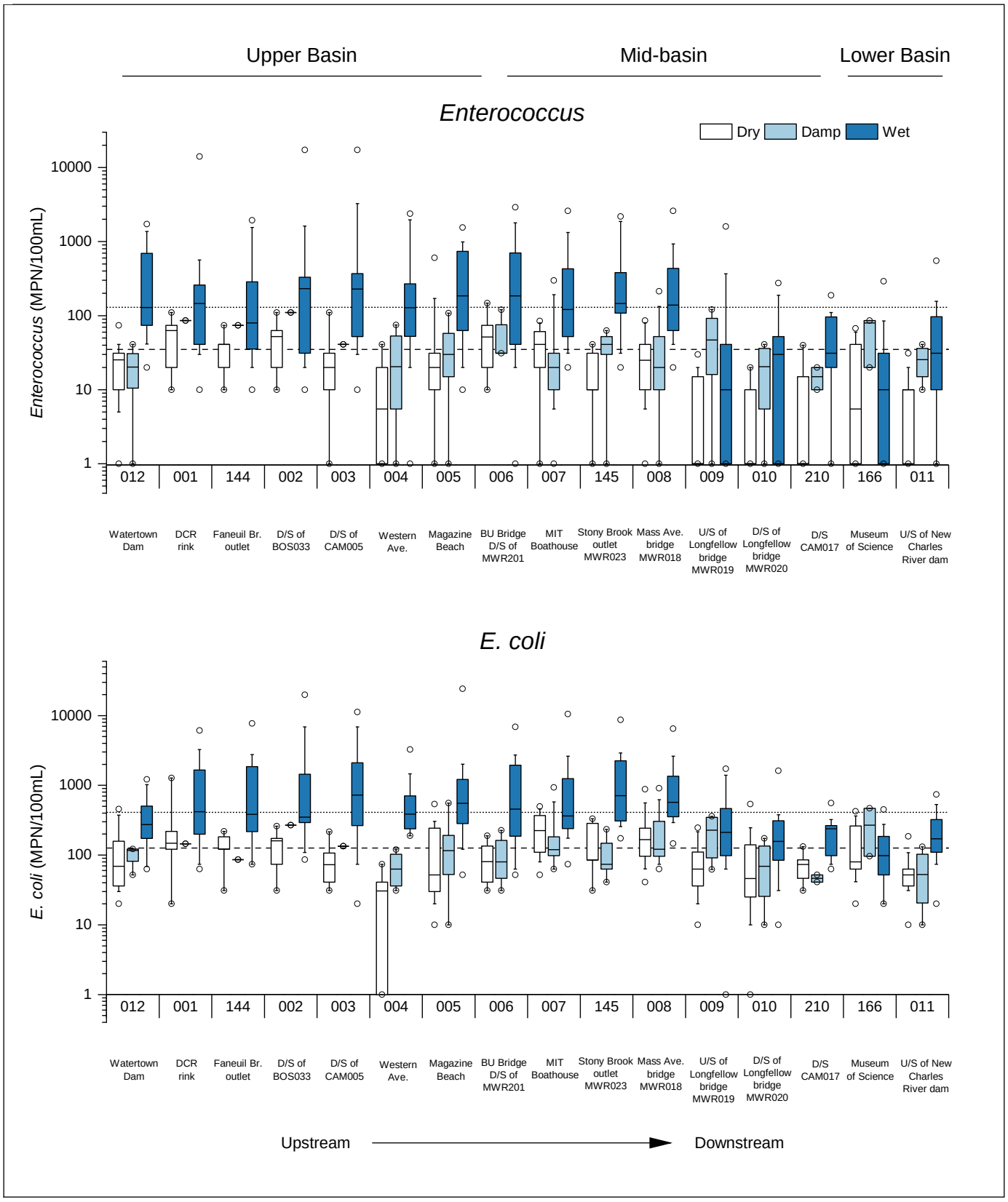

Figure 3-6. Indicator bacteria concentrations, Charles River Basin, 2021.
Dashed lines show MADEP *Enterococcus* and *E. coli* geometric mean standards, dotted lines show statistical threshold values. See Section 2.1.5 for definitions of rainfall conditions. "D/S" and "U/S": downstream and upstream, respectively. Station 006 includes samples from nearby station 206.

Table 3-6. Geometric mean indicator bacteria, Charles River Basin, 2016 – 2020 and 2021.

Stations designated for shoreline sampling (weekends or unsafe boating conditions) are shaded.

Station	Location	Surface or Bottom	Number of samples		*Enterococcus* (95% CI) [1] MPN/100 mL DEP limit: 35 MPN/100 mL		*E. coli* (95% CI) [1] MPN/100 mL DEP limit: 126 MPN/100 mL	
			2016 – 20	2021	2016 – 20	2021	2016 – 20	2021
012	Newton/Watertown, footbridge upstream of Watertown Dam	S	195	26	50 (38-65)	38 (19-76)	175 (147-208)	133 (89-200)
001	Newton, near Nonantum Rd., rear of DCR skating rink	S	245	23	64 (49-83)	87 (46-164)	298 (253-352)	310 (173-555)
144	Brighton, downstream of N. Beacon St. bridge, Faneuil Brook outlet, BOS032 (closed 1999)	S	145	22	33 (23-49)	63 (35-114)	240 (194-297)	256 (144-453)
002	Allston, downstream of Arsenal Street bridge, BOS033	S	247	23	45 (34-60)	97 (48-196)	239 (201-284)	303 (163-559)
003	Allston/Cambridge, midstream, near Mt. Auburn Street, between CAM005 and CAM007	S	247	23	34 (26-46)	71 (30-168)	248 (211-292)	254 (125-514)
004	Allston/Cambridge, midstream, between River Street and Western Avenue bridges	S	147	22	15 (10-22)	31 (11-85)	131 (98-175)	119 (51-277)
005	Cambridge, near Magazine Beach, upstream of Cottage Farm	S	340	44	34 (27-43)	59 (32-106)	192 (165-224)	230 (145-366)
006[2]	Cambridge/Boston, midstream, downstream of Cottage Farm, BU bridge	S	184	23	27 (19-38)	89 (42-186)	163 (133-200)	226 (118-432)
007	Cambridge, near Memorial Dr., MIT Boathouse	S	246	23	22 (16-29)	58 (27-126)	132 (107-162)	281 (167-473)
		B	147	22	24 (17-35)	73 (36-147)	117 (88-156)	389 (237-638)
145	Boston (Charlesgate), Muddy River/Stony Brook outlet	S	247	23	38 (29-51)	63 (28-139)	243 (197-300)	328 (182-590)
008	Cambridge/Boston, midstream, downstream of Harvard Bridge	S	147	22	13 (8-19)	47 (24-90)	84 (61-116)	295 (186-466)
		B	147	22	16 (11-25)	71 (31-158)	92 (66-129)	439 (262-733)
009	Cambridge/Boston, midstream, upstream of Longfellow Bridge near Community Sailing	S	250	23	11 (8-15)	12 (5-30)	83 (65-106)	204 (135-310)
		B	147	22	1 (1-2)	3 (1-9)	11 (8-15)	72 (37-139)
010	Boston, downstream of Longfellow Bridge, MWR022	S	147	22	6 (4-8)	13 (6-29)	36 (26-50)	157 (106-234)
		B	147	22	6 (4-9)	3 (1-8)	15 (11-21)	48 (26-88)
210	Cambridge, Cambridge Pkwy (at CAM017)	S	158	23	12 (9-17)	11 (5-24)	89 (67-117)	115 (83-159)
166	Boston, old Charles River dam, rear of Science Museum	S	128	24	7 (4-9)	9 (4-21)	67 (51-89)	113 (77-165)
011	Boston, upstream of river locks (New Charles River Dam) and I-93, near Nashua St.	S	247	23	16 (12-21)	9 (3-21)	86 (69-107)	106 (68-166)
		B	147	22	20 (14-27)	17 (8-34)	51 (39-67)	94 (62-141)

[1] The MADEP limits are geometric means for both *Enterococcus* and *E. coli*.

[2] Includes samples taken at both 006 and 206.

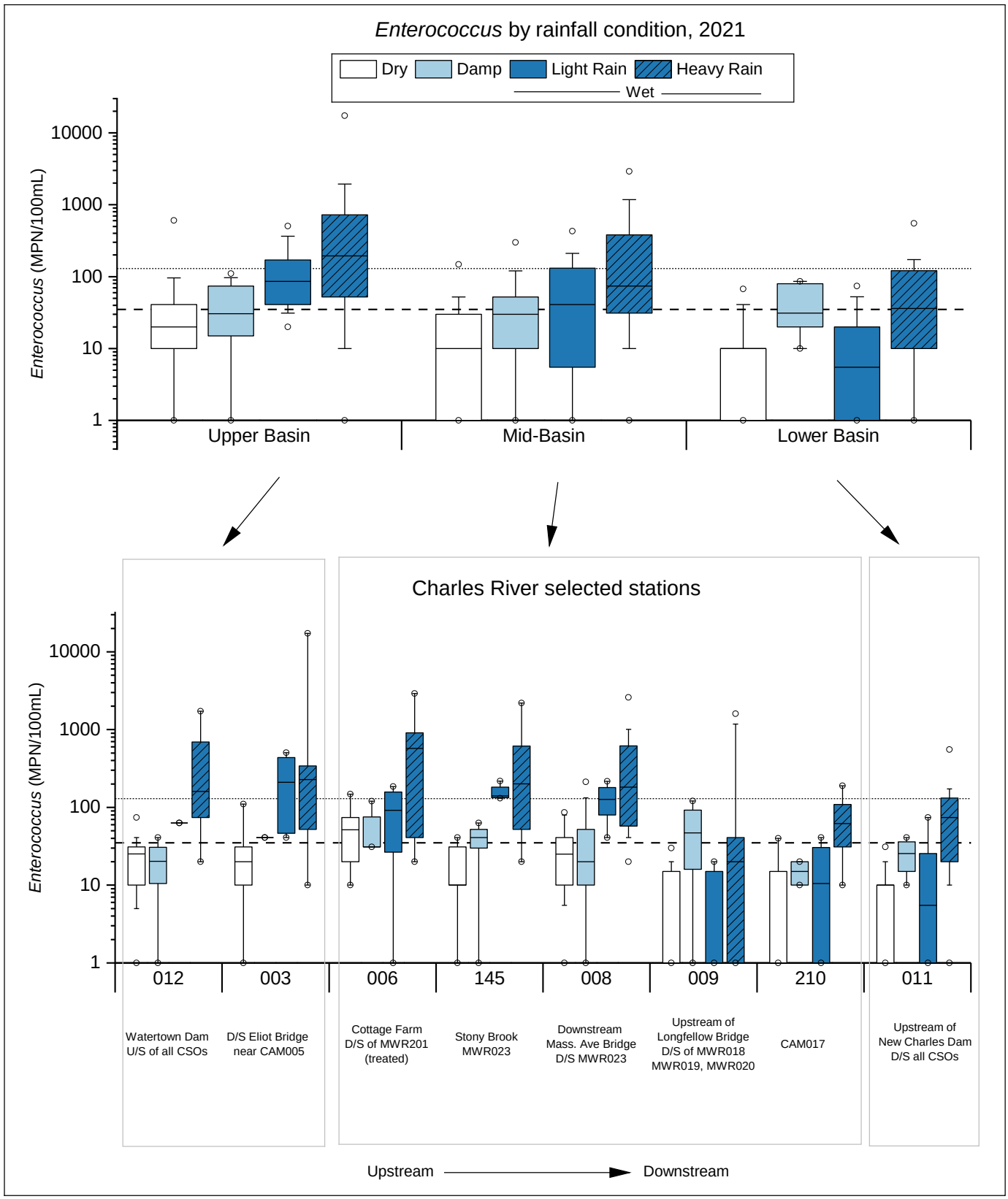

Figure 3-7. *Enterococcus* by rainfall condition, Charles Basin, 2021.

Dashed line shows State geometric mean standard (35 MPN/100mL), dotted line shows statistical threshold value (130 MPN/100mL). Rainfall is from the nearest rainfall gauge. See Section 2.1.5 for definitions of rainfall conditions. "D/S": downstream. Station 006 includes samples from nearby station 206.

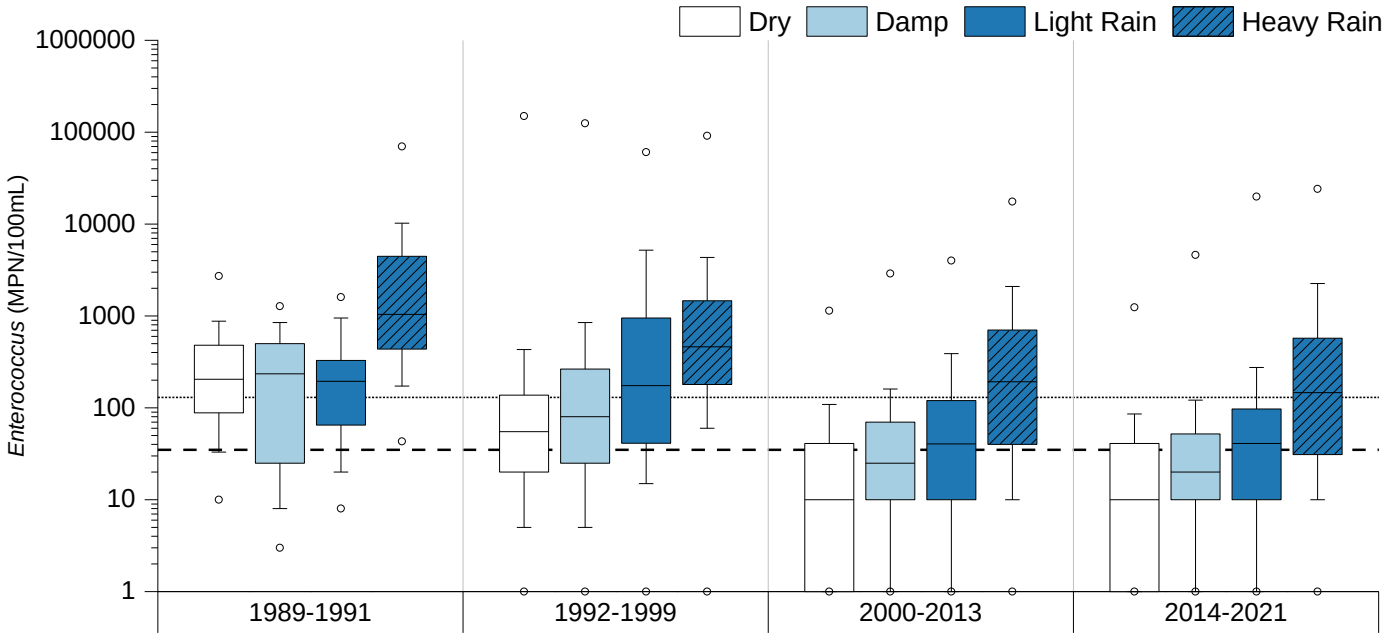

Figure 3-8. *Enterococcus* over time, Upper Charles Basin (upstream of most CSOs) by phase of Long Term CSO Plan and rainfall condition.

Dashed line shows State geometric mean standard (35 MPN/100mL), dotted line shows statistical threshold value (130 MPN/100mL). Data includes results for stations 012, 001, 144, 002, 004, and 005. Rainfall is NOAA rainfall from Logan airport. See Section 2.1.5 for definitions of rainfall conditions.

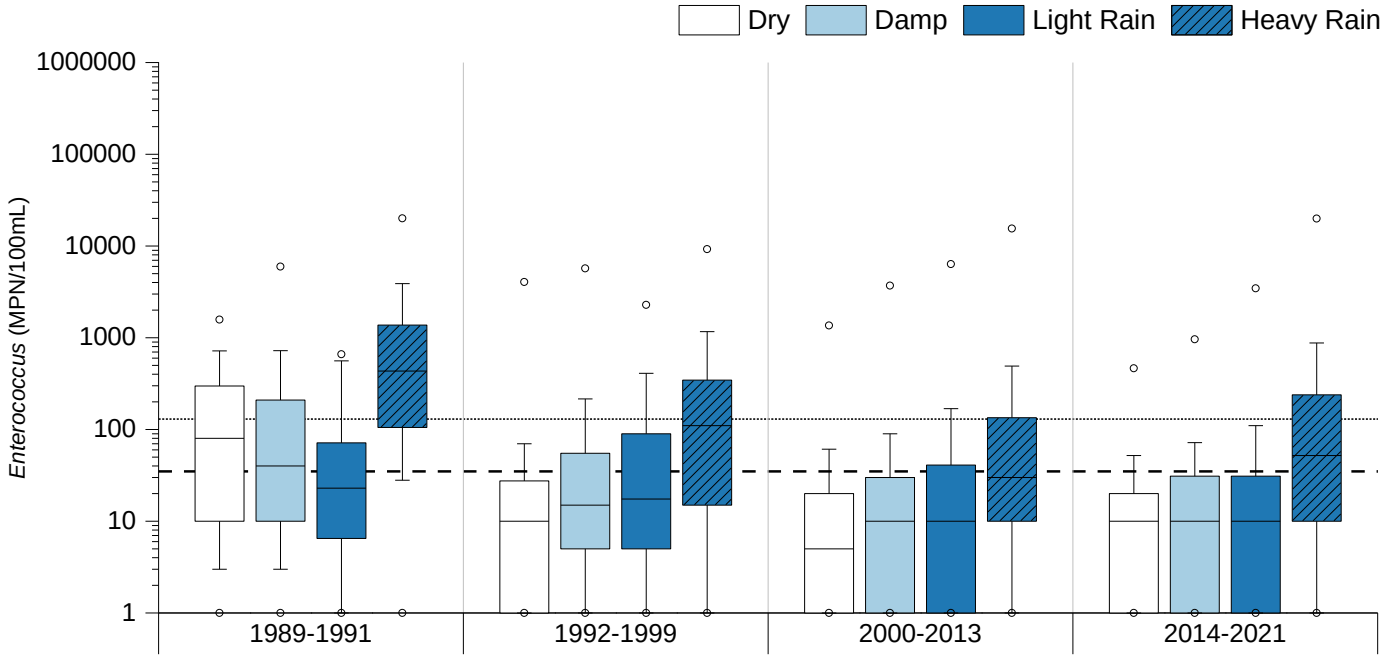

Figure 3-9. *Enterococcus* over time, Lower and Middle Charles Basin by phase of Long Term CSO Plan and rainfall condition.

Dashed line shows State geometric mean standard (35 MPN/100mL), dotted line shows statistical threshold value (130 MPN/100mL). Data includes results for all stations from 006 (BU Bridge) downstream. Rainfall is NOAA rainfall from Logan airport. See Section 2.1.5 for definitions of rainfall conditions.

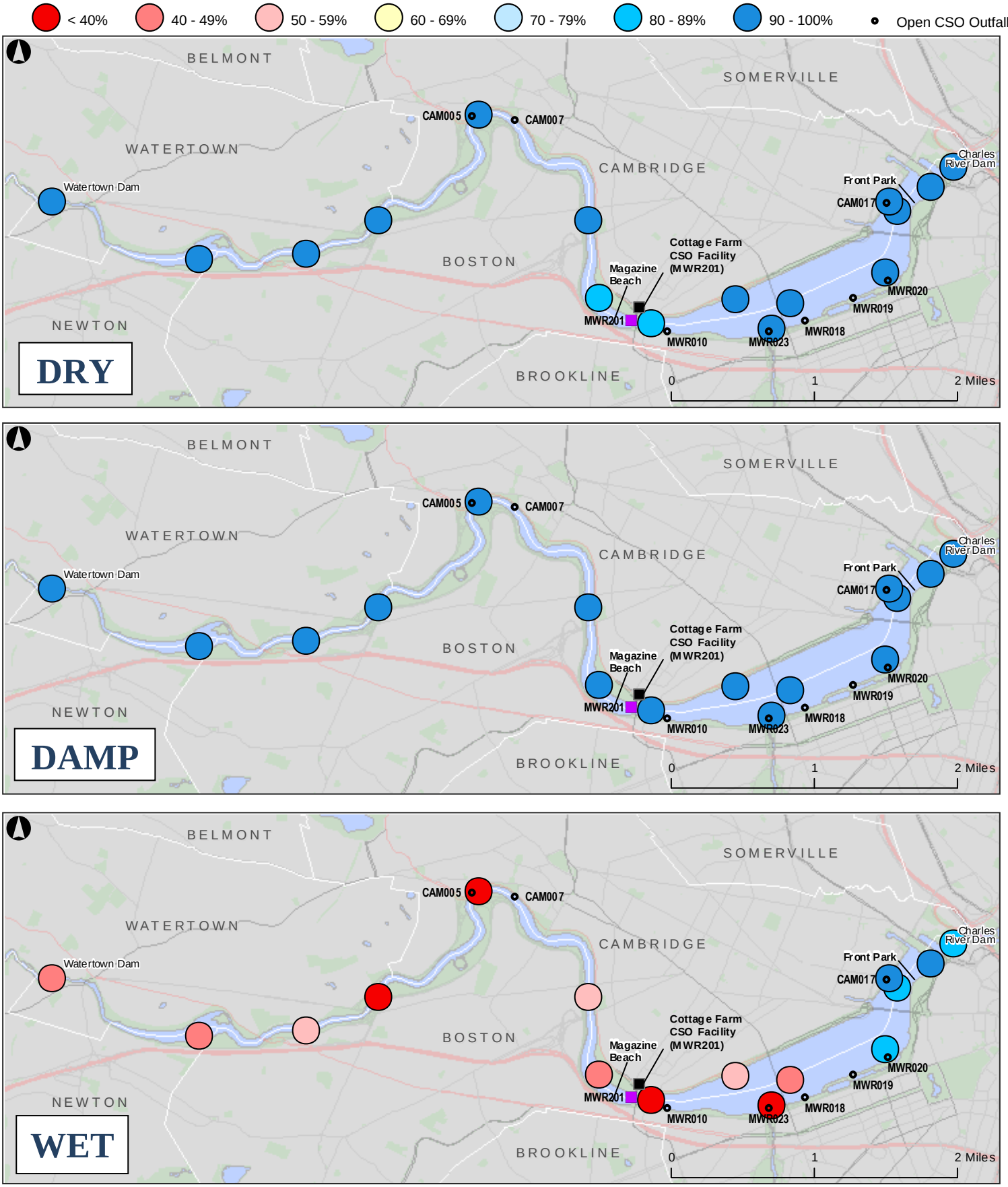

Figure 3-10. Charles River *Enterococcus* percent compliance by weather condition, 2021.

Compliance with 130 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. See Section 2.1.5 for definitions of rainfall conditions. Dots are the monitoring locations pictured in Figure 3-1 and listed in Table 3-1.

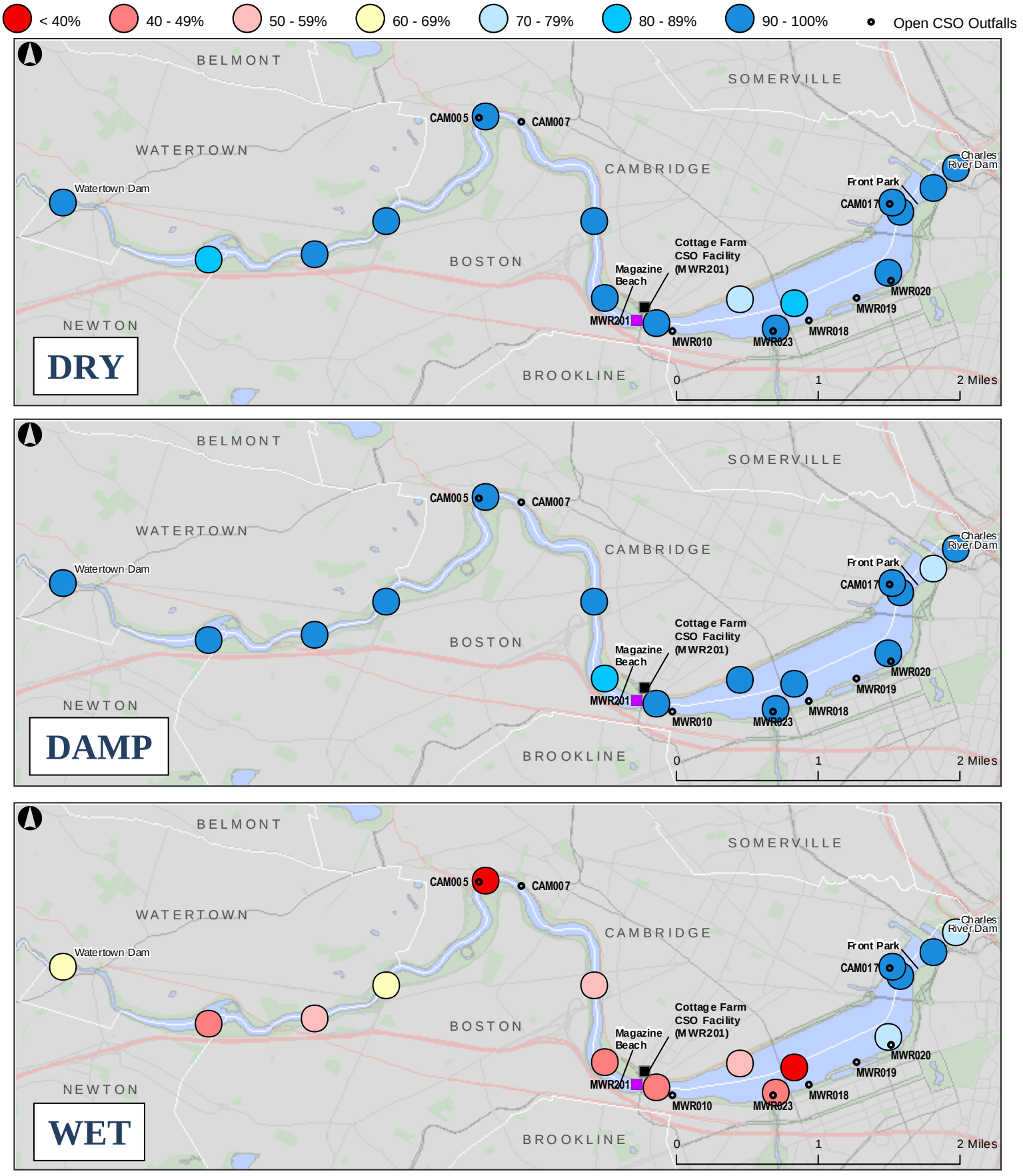

Figure 3-11. Charles River *E. coli* percent compliance by weather condition, 2021.

Compliance with 410 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. See Section 2.1.5 for definitions of rainfall conditions. Dots are the monitoring locations pictured in Figure 3-1 and listed in Table 3-1.

3.5 Summary of Charles River Water Quality

Spatial differences of 2021 bacterial water quality in the Charles across rain conditions were more pronounced than in past wet years. Annual geometric means from Longfellow Bridge and points downstream generally met standards for *Enterococcus* and *E. coli*. All stations routinely met *Enterococcus* and *E. coli* standards in dry weather and followed historic trends of exceedances in wet weather at Upper Basin and Mid-Basin stations upstream of Longfellow Bridge. Percent compliance rates were low for most stations in wet weather. Chapter 5 provides a detailed analysis of bacteria concentrations following storms of various sizes, and the time it takes for bacteria counts to return to baseline.

As shown in Figure 3-8 and 3-9, *Enterococcus* counts have generally decreased in all regions of the Charles River, in all weather conditions, through the progression of MWRA's Long Term CSO Plan. In the 2014-2021 period, after completion of all construction projects in the study area, the geometric mean of *Enterococcus* in all regions meets state standards in all but heavy rain.

Bottom-water dissolved oxygen met standards in the Upper Charles Basin, but failed to meet standards in the deeper waters of the Mid-Basin. Any saltier harbor water that is trapped within the Charles after entering through the locks settles into deeper parts of the river basin and contributes to stratification, which limits exchange with surface waters. Surface water dissolved oxygen met standards at all stations in the Charles River.

Nutrients exhibited seasonal signals as expected with historic nutrient stations matching long term averages overall. Elevated chlorophyll *a* was only observed at station 005 in May and June.

4 Mystic River and Alewife Brook

4.1 Sampling area

Monitoring results of the Mystic River and tributaries are divided into four reaches. Sampling locations and CSO outfalls are shown on the map in Figure 4-1 with reach extent labels. Table 4-1 describes the reaches and the sampling locations within each reach.

In 2021, nutrient sampling was added to station 177 in the lower Mystic River basin. In 2019, station 308 was added at the CAM401A outfall, the beginning of Alewife Brook. This station joins 277 and 276 among sampling locations added to support the CSO performance assessment described in Chapter 1. Sampling at station 308 was discontinued in mid-2020 due to safety concerns and access issues.

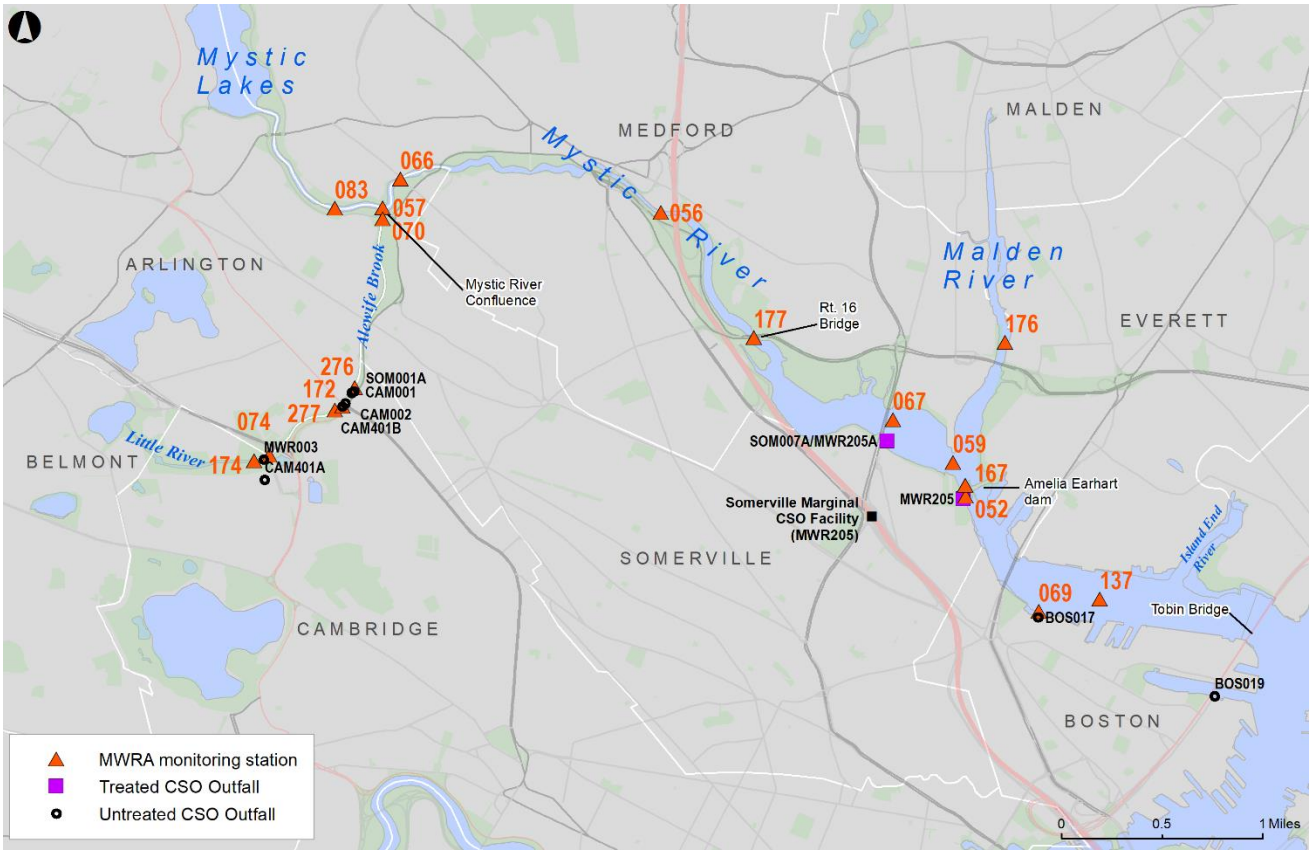

Figure 4-1. Map of Mystic River sampling locations.

4.2 Pollution sources

Known pollution sources to the Mystic River/Alewife Brook are shown in Table 4-2 and consist primarily of stormwater, upstream inputs and CSOs. Upstream of the Amelia Earhart Dam, there are seven CSO outfalls located in Cambridge and Somerville. This includes six active CSO outfalls in Alewife Brook, and one treated CSO outfall in the Lower Mystic basin (Somerville Marginal CSO, MWR205A/SOM007A). MWR205A/SOM007A discharges screened, chlorinated, and dechlorinated flow from the Somerville Marginal CSO Treatment Facility during an activation occurring at high tide. At low tide, the Somerville Marginal facility discharges screened, chlorinated, and dechlorinated flow downstream of the Amelia Earhart dam from CSO outfall MWR205. MWR205 is the only source of treated CSO discharge to the Mystic River below the Amelia Earhart dam, although there is an untreated outfall (BOS017) as well. This area downstream of the dam is not in the variance area for the Alewife Brook/Upper Mystic River. In 2021, Somerville Marginal MWR205A/SOM007A had 17 discharge events, and Somerville Marginal MWR205 had 28 activations resulting in discharge below the dam. BOS017 discharged six times in 2021. CAM401A is the most frequent CSO discharge to Alewife Brook, discharging 18 times in 2021.

Sanitary sewer overflows (SSOs) can also occur in rare circumstances like extreme rain events, sewer breaks, or sewer obstructions, but are not typical in a given year. SSOs are unintentional discharges of wastewater to the environment prior to reaching a treatment facility. SSOs from the MWRA system are reported on the MWRA website.[15]

Table 4-3 shows the MWRA model simulation results for CSOs affecting the Mystic River and Alewife Brook in calendar year 2021. Measured CSO volumes and activation frequency are available for the Somerville Marginal CSO facility. Table 4-4 summarizes the proportion of samples collected in dry, damp, and wet weather.

[15] MWRA Sanitary Sewer Overflow (SSO) Reporting page. http://www.mwra.com/harbor/html/sso_reporting.htm

Table 4-1. MWRA monitoring locations, Mystic River and Alewife Brook.

Reach	Description of Reach	Sampling station	Location Description
Alewife Brook (Class B/Variance, warm water fishery)	Tributary to Mystic River. From confluence at Little River in Cambridge/Arlington to confluence with Mystic River in Arlington/Somerville	*174, Cambridge/Arlington	Little River, upstream of Rt. 2 and off ramp to Alewife T station. Upstream of all CSOs
		*308, Cambridge	Alewife Brook at CAM401A outfall
		*074, Cambridge/Arlington	Downstream of CAM401A, MWR003
		*277, Cambridge/Arlington	Upstream of CAM401B
		*172, Cambridge/Arlington	Downstream of CAM401B
		*276, Cambridge/Arlington	Downstream of SOM001A
		*070, Arlington/Somerville	Mystic Valley Parkway bridge. Downstream of all Alewife CSOs
Upper Mystic River (Class B/Variance, warm water fishery)	Downstream of Lower Mystic Lake in Arlington/Medford to Route 16 bridge in Medford	†*083, Arlington/Medford	Upstream of confluence of Mystic River and Alewife Brook
		*057, Medford	Confluence of Mystic River and Alewife Brook
		†066, Medford	Boston Ave bridge, downstream side
		*056, Medford	Upstream of I-93 bridge, near Medford Square off ramp
Lower Mystic River basin (Class B/Variance, warm water fishery)	Route 16 bridge in Medford to Amelia Earhart Dam in Somerville/Everett, including the Malden River	†177, Medford	Downstream of Rt. 16 bridge
		*067, Medford	Rt. 28 bridge, downstream side, near Somerville Marginal MWR205A outfall
		*176, Medford/Everett	Malden River, upstream of Rt. 16 bridge
		059, Somerville/Everett	Confluence of Mystic and Malden Rivers
		†*167, Somerville/Everett	Amelia Earhart Dam, upstream side
Mystic River mouth (Class SB_{CSO}, marine)	Downstream of Amelia Earhart Dam in Somerville/Everett to Tobin Bridge, Chelsea R. confluence in Chelsea/East Boston	052, Somerville	Downstream of Amelia Earhart dam, near Somerville Marginal CSO facility outfall (MWR205)
		069, Charlestown	Rear of Schrafft's Center at BOS017 outfall
		†137, Charlestown/Everett	Upstream of Tobin Bridge near confluence of Mystic, Chelsea Rivers and upper inner harbor

Sampling locations are midstream unless otherwise noted.
* indicates sampling location is also a shoreline sampling location.
† indicates a sampling location sampled for nutrients, TSS, chlorophyll in eutrophication monitoring project.

Table 4-2. Mystic River/Alewife Brook pollution sources in 2021.

Source	Alewife Brook	Upper Mystic River	Lower Mystic Basin	Mystic River mouth
CSOs (untreated)	6 active, 7 closed CAM401A, MWR003, CAM001, CAM002, CAM401B, SOM001A CAM004 closed 12/15 CAM400 closed 3/11 SOM001 closed 12/96 SOM002 closed 1994 SOM002A closed 8/95 SOM003 closed 8/95 SOM004 closed 12/95	2 closed SOM006 closed 12/96 SOM007 closed 12/96	No	1 active BOS017
CSO treatment facility (screened, chlorinated and dechlorinated CSO discharge)	No	No	Yes Somerville Marginal (MWR205A/SOM007A, high tide only) Activated 17 times in 2021	Yes Somerville Marginal (MWR205) Activated 28 times in 2021
Storm drains	Yes	Yes	Yes	Yes
Upstream inputs (elevated bacteria counts upstream)	Yes	Yes	Yes	Yes
Dry weather inputs (elevated bacteria counts in dry weather)	Yes	Yes	Yes	Yes
Tributary brook or stream flow	Yes	Yes	Yes	Yes
Sanitary Sewer Overflows (SSOs) [1]	Yes	Yes	No	No

[1] From MWRA-owned system.

Table 4-3. Mystic River/Alewife Brook CSO activations, results of meter data, facility records and model simulations and facility records for 2021 system conditions and 2021 rainfall.[1]

CSO Outfall	Activation Frequency	Total Discharge Duration (hr)	Total Discharge Volume (Million Gallons)
Alewife Brook			
CAM001[1]	4	5	0.20
CAM002[1]	0	0	0.00
MWR003[2]	5	10.5	6.77
CAM401A[2]	18	29.65	21.7
CAM401B[1]	5	10.5	1.59
SOM001A[2]	8	11.66	17.98
TOTAL	**40**		**48.24**
Mystic River (upstream of dam)			
SOM007A/MWR205A (Somerville Marginal, high tide discharge only)[3]	17	37.02	67.57
TOTAL	**17**	**37.02**	**67.57**
Mystic River mouth (downstream of dam, marine outfalls)			
MWR205 (Somerville Marginal Facility)[3]	28	121.78	211.27
BOS017[2]	6		2.76
TOTAL	**34**		**214.03**

[1] Results from City of Cambridge calibrated hydraulic model, deemed more reliable for this outfall than meter data (City of Cambridge 2022).
[2] Metered data are estimates of outfall discharge calculated using data from sensors, taking into account physical configurations and constraints. (AECOM 2022)
[3] Treated discharge. Activation frequency and MWR205 volume are from MWRA facility records. SOM007A/MWR205A volume estimate is calculated using data from a sensor at the outfall, and includes stormwater that enters the conduit downstream of the facility as well as treated CSO.

Table 4-4. Mystic River/Alewife Brook station visits by rainfall condition.

Sampling period	Dry[1]	Damp[1]	Wet[1]	Total
2016 – 2020 [2]	27.1% 1070 station visits	26.1% 1032 station visits	46.7% 1845 station visits	100% 3947 station visits
2021	49.8% 211 station visits	10.6% 45 station visits	39.6% 168 station visits	100% 424 station visits

[1] See Section 2.1.5 for descriptions of rainfall conditions.
[2] 2017-2019 samples tended to be collected in wetter conditions with increased focus on sampling following large storms.

4.3 Summary of water quality, 2017-2021

A summary of water quality results collected from the last five years is shown in Table 4-5.

Table 4-5. Summary of water quality, Mystic River/Alewife Brook, 2017 – 2021.

Parameter		Water Quality Guideline or Standard	Alewife Brook				Upper Mystic				Lower Mystic Basin				Malden River				Mystic Mouth			
			Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n	Mean ± SD	% meeting guideline	Range	n
Surface Temperature (°C)[1]	Summer	≤ 28.3	18.9±4	100	6.9-25.9	462	21.4± 4.2	99.7	10.4-28.6	363	21.6±4.2	99.3	9.4-28.6	268	21.4± 4.4	100	9.5-27.3	92	18.6± 2.3	100	9.6-22.9	177
	Winter		ND	-	ND		3.1±1 .3	100	0.6-6.1	45	3.9±1.8	100	0.6-8	40	ND	-	ND		3.6±1. 1	100	1.7-5.4	22
Bottom water dissolved oxygen (mg/L)[1]	Summer	≥ 5.0	ND	-	ND		5.6±2	60.6	0.9 - 11.4	127	6.4 ± 2.4	69.4	0.6 - 11.8	196	7 ± 2.2	83	0.6 - 10.6	53	6.8 ± 1.6	89.7	1.5 - 11.4	145
	Winter	≥ 5.0	ND	-	ND		11.6 ± 0.6	100	10.7 - 13.2	16	10.9 ± 1.2	100	7.9 - 13.4	34	ND	-	ND		10.3 ± 0.4	100	9.6 - 11.4	22
pH[2] (S.U.)		6.5-8.3 (8.5 marine)	7.23 ± 0.3	99.3	6.1 - 7.9	704	7.4 ± 0.6	91.7	6.3 - 9.6	798	7.4 ± 0.7	84.7	6.1 - 9.2	797	7.4 ± 0.6	84.5	6.3 - 9.1	213	7.8 ± 0.3	98.7	6.3 - 8.4	527
Water clarity	Total Suspended Solids (mg/L)	NS	ND	-	ND		3.6 ± 2.3	-	0.5 - 14.3	247	6 ± 4.3	-	1.1 - 30.2	140	ND	-	ND	-	3.8 ± 2.9	-	1.5 - 18.5	178
	Secchi depth (m)[3]	NS	0.4 ± 0.2	-	0 - 0.5	4	1.1 ± 0.5	-	0.4 - 2.3	143	0.8 ± 0.3	-	0.2 – 1.9	307	0.7 ± 0.3	-	0 - 1.4	115	2 ± 0.8	-	0.2 - 4.9	266
	Turbidity (NTU)	NS	9.4 ± 7.2	-	0.1 - 44.9	292	6.2 ± 6	-	0 – 50.5	534	7.9 ± 6.2	-	0.5 - 68.5	560	9.1 ± 6	-	0.5 - 68.3	176	5.3 ± 5.3	-	0 - 93.4	470

For footnotes, see following page.

Table 4-5. Summary of water quality, Mystic River/Alewife Brook, 2017 - 2021, continued.

Parameter		Water Quality Guideline or Standard	Alewife Brook				Upper Mystic				Lower Mystic Basin				Malden River				Mystic Mouth			
			Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n	Mean ± SD (95% CI)	% meeting guideline	Range	n
Bacteria (counts/100mL)[4]	Fecal coliform	200 / 400[5]	ND	-	ND		ND	-	ND		ND	-	ND		ND	-	ND		29 (23 - 35)	86.3	0 - 620000	593
	E. coli	126 / 410[5,6]	740 (684 - 801)	39.8	0 - 1990000	1401	149 (137 - 162)	82.1	0 - 72700	939	90 (78 - 103)	82.8	0 - 24200	699	164 (125-215)	69.9	0 - 44100	229	ND	-	ND	
	Enterococcus	35/ 130[5]	247(-270)	31.4	0 - 201000	1406	51 (45-57)	69.9	0 - 19900	940	11(9 - 13)	87.1	0 - 19900	700	32 (23 - 43)	73.8	0 - 14100	229	6 (5 - 8)	87.2	0 - 24200	593
Nutrients (µmol/L)	Phosphate	NS	ND	-	ND		0.5 ± 0.4	-	0 - 3.7	250	0.7 ± 1.3	-	0 - 11.1	140	ND	-	ND		0.8 ± 0.4	-	0 - 2.5	223
	Ammonium	NS	ND	-	ND		13.6 ± 10.3	-	0.1 - 44.3	246	10.1 ± 8.4	-	0 - 32.4	139	ND	-	ND		4.3 ± 3.6	-	0 - 20.9	217
	Nitrate+nitrite	NS	ND	-	ND		50.2 ± 22.3	-	1.9 - 128	251	38.1 ± 24.6	-	0 – 78.9	140	ND	-	ND		7.9 ± 7.8	-	0 - 34.1	223
Algae (µg/L)	Chlorophyll *a*	NS	ND	-	ND		8.2 ± 9.6	-	0.8 - 71.6	251	18.1 ± 20.7	-	0.9 - 156	142	ND	-	ND		3.7 ± 5	-	0.1 - 49.4	223

NS: no applicable numerical standard or guideline. ND: no data. n: number of samples.

[1] Summer (June-October), Winter (January-March).

[2] Median and standard error of the median are shown for pH, rather than arithmetic mean and standard deviation.

[3] Secchi guideline of ≥1.2 meters provides general benchmark for evaluating signs of eutrophication.

[4] For bacterial data, 95% confidence intervals (CI) are provided rather than standard deviations

[5] First number is the all samples geometric mean limit - compare to the "Mean±SD" column (i.e., the Mean in that column is the geometric mean of all stations in that region for the specified indicator bacteria); the second number is the statistical threshold value - compare to the "% meeting guideline" column (i.e., the "% meeting guideline" column is the percentage of samples meeting the statistical threshold value). The "Range" column gives the range of single sample results.

[6] Either *E. coli* or *Enterococcus* are acceptable indicators for EPA or MADEP to assess suitability for swimming in freshwater.

4.4 Water quality results, 2021

This section reports spatial trends for water quality parameters measured in the Mystic River/Alewife Brook in 2021.

4.4.1 Physical measurements

Temperature. Summer (June to October) mean temperatures for 2021 are shown for each sampling location in the uppermost graph of Figure 4-2. Surface and bottom temperatures are similar along the main stem of the Mystic, except on the marine side of the dam, where water depth is greater and harbor temperatures are lower. The lower bottom temperature at Amelia Earhart Dam (station 167) demonstrates stratification due to saltwater intrusion. The Mystic River has a much shallower depth than the Charles River, and exhibits generally warmer bottom temperatures. All stations in this region met water quality standards for temperature in 2021.

Dissolved Oxygen. Dissolved oxygen is shown in the center graph of Figure 4-2. Mean surface dissolved oxygen concentrations met the State standard of ≥ 5.0 mg/L at all locations in the Mystic and Malden Rivers. Dissolved oxygen in Alewife Brook is typically lower than the Mystic and is often below the State standard. All average summer bottom water concentrations were above the State standard.

Water clarity. Water clarity is indicated by Secchi disk depth. Summer Secchi readings are shown for each sampling location in the bottom graph of Figure 4-2. Water clarity for all but the Mystic River mouth is low, with all stations upstream of the Dam not meeting the water clarity guideline of 1.2 meters most of the time. Alewife Brook and several of the Upper Mystic locations are often clear to the bottom and too shallow to measure Secchi depth. River depth at those locations are typically 0.5 meters in Alewife Brook, and 1 meter in the Mystic River.

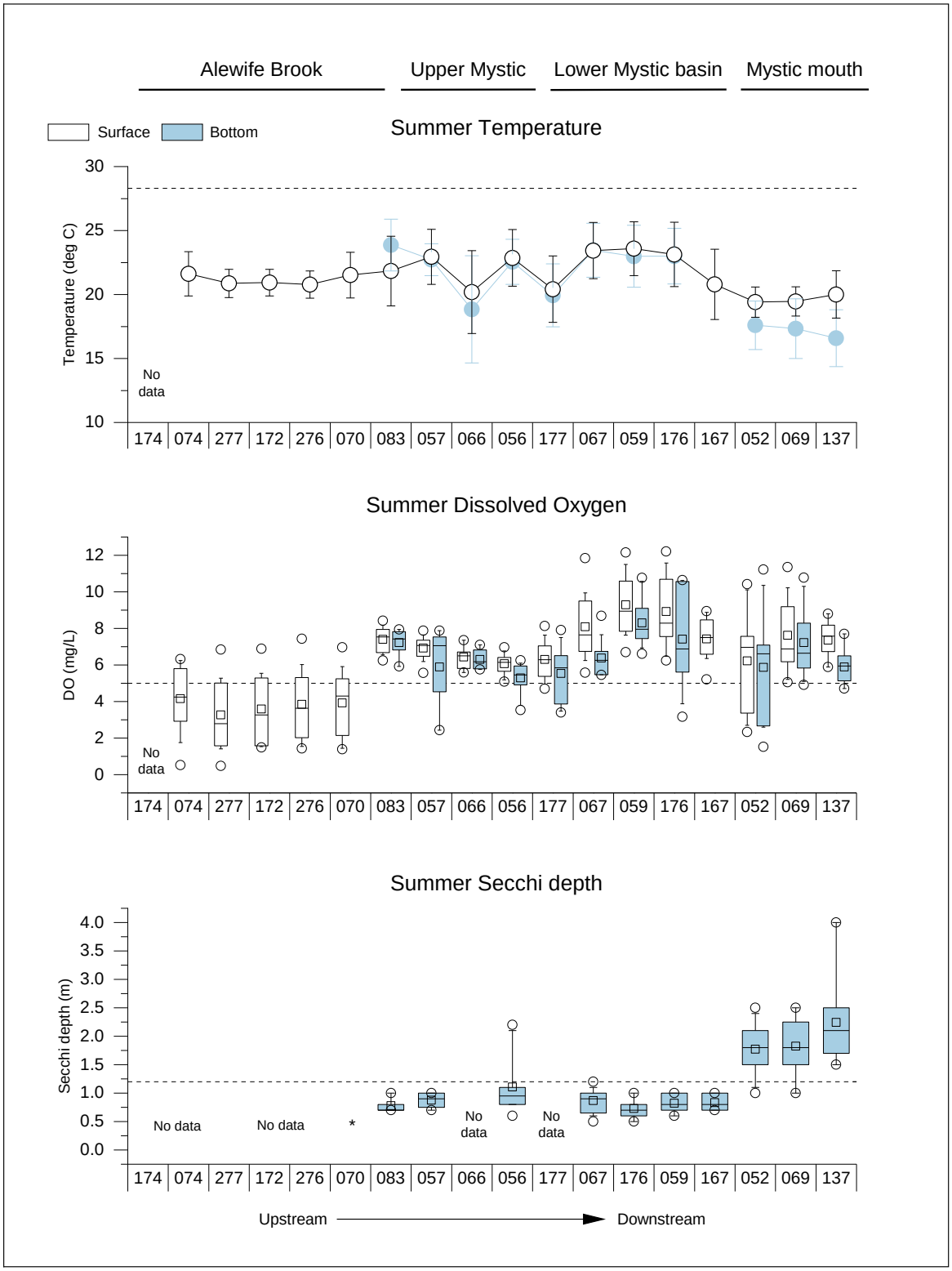

Figure 4-2. Summer temperature, dissolved oxygen, and Secchi depth, Mystic River, 2021.
Dashed lines are State standards or guideline (maximum for temperature, minima for DO and Secchi). Station 174 was too shallow for accurate summer temperature and DO readings in 2021. Stations 174, 074, 277, 172, 276, 066, and 177 were typically too shallow for Secchi measurements in the summer months of 2021. Stations 070 was clear to the bottom for all visits in 2021, indicated by *. Hollow squares indicate the arithmetic mean.

4.4.2 Nutrients, TSS and chlorophyll

Figures 4-3 through 4-7 show monthly average total nitrogen, ammonium, nitrate/nitrite, total phosphorus, phosphate, total suspended solids, and chlorophyll *a* at the upstream Mystic locations (083 upstream of Alewife Brook and 066 at Boston Ave.), midstream (177 downstream of Route 16 bridge) downstream (167 at Amelia Earhart Dam) and river mouth (137). Regionally, ammonium, nitrate/nitrite, and phosphate results show relatively strong seasonal effects, as biological activity increases during the summer months. In winter months, when biological nutrient uptake is low, ammonium concentrations in the Upper Mystic are double the concentration in the Charles Basin.

At freshwater Mystic River stations 083, 066, and 167, nutrient results in 2021 were similar to the previous five-year average (2016-2020) except as described below. Seasonal signals are more evident in nitrogenous compounds than in total phosphorus or phosphate. Station 177 results were similar to the other stations in seasonality and magnitude in its first year of nutrient sampling. Station 066 had elevated total phosphorous and phosphate results in March. Chlorophyll *a* values were higher in May at stations 083, 177 and 167 than the five-year average.

At marine station 137 in the Mystic mouth, TSS sample collection was suspended through June due to employee safety procedures developed in response to the coronavirus pandemic. Total phosphorous and phosphate results generally aligned with the seasonal pattern of the previous five years. Nitrogenous compounds varied from the previous five-year seasonal pattern. Chlorophyll *a* was lower than the typical average for most of 2021.

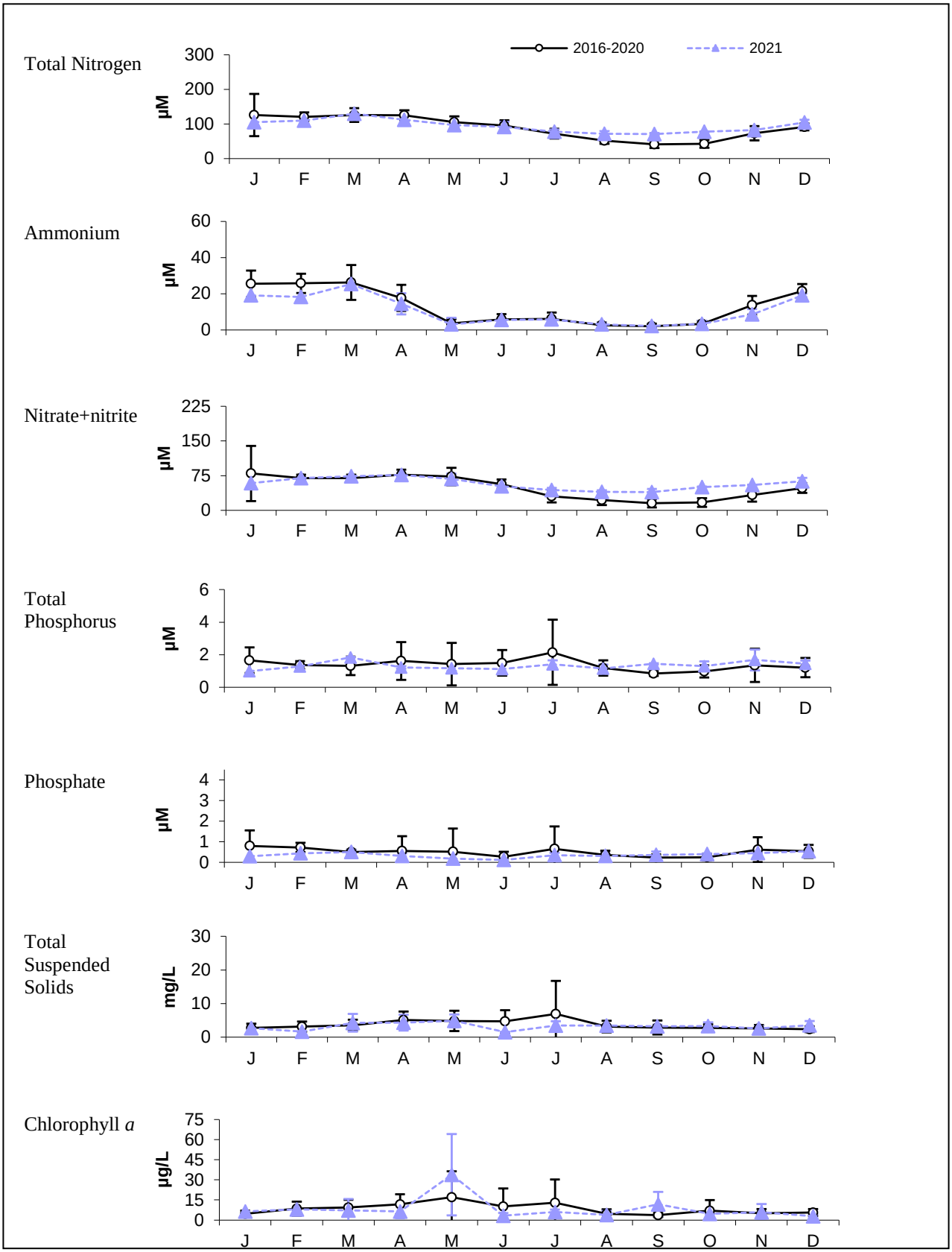

Figure 4-3. Monthly average nutrients, TSS and Chlorophyll, 2016 – 2020 and 2021, Station 083, Mystic upstream of Alewife Brook.

Error bars are ± 1 SD. Note different scales than for Figures 4-4, 4-5, 4-6 and 4-7 for most parameters.

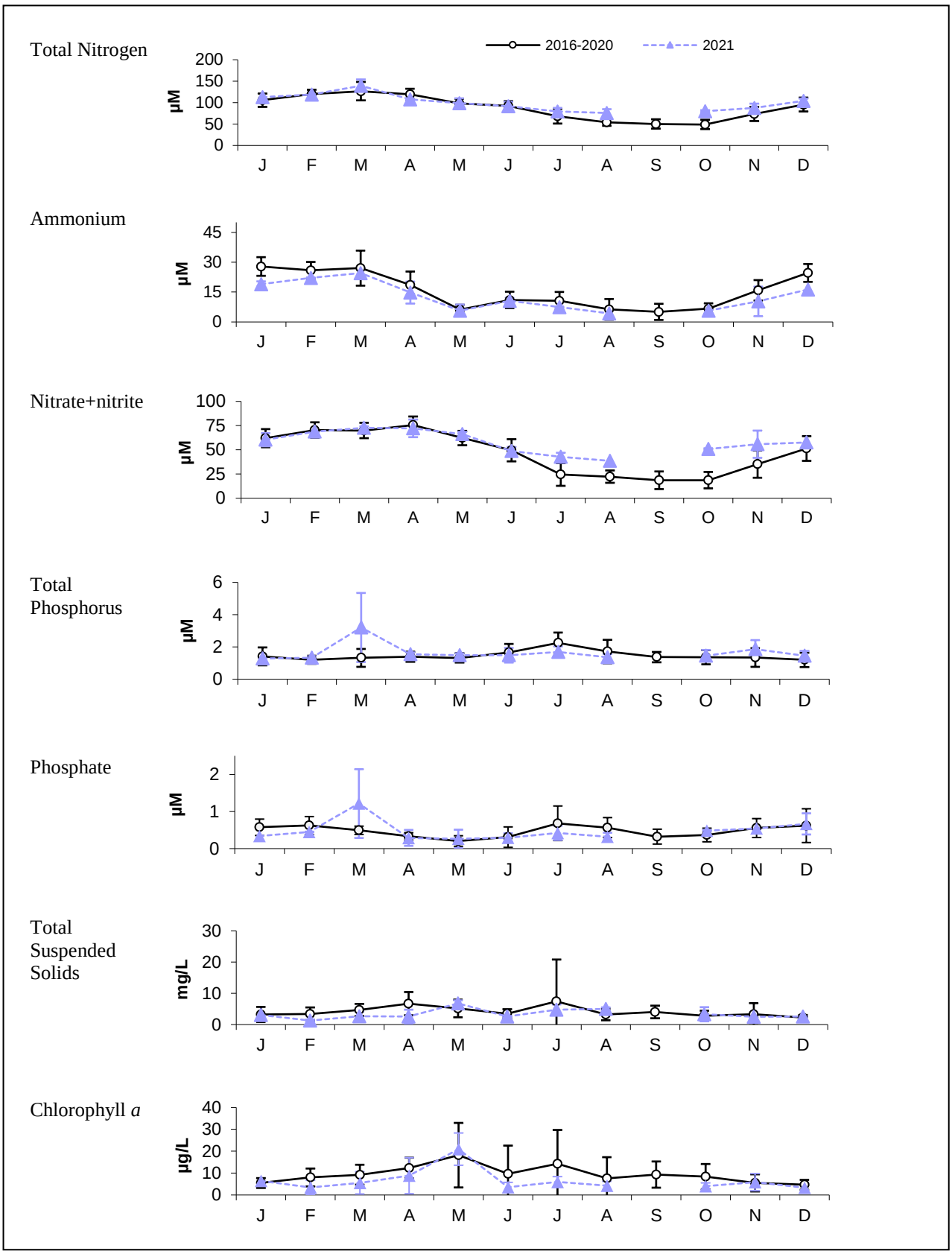

Figure 4-4. Monthly average nutrients, TSS and Chlorophyll 2016 – 2020 and 2021, Station 066, Boston Ave.

Error bars are ± 1 SD. Note different scales than Figures 4-3, 4-5, 4-6 and 4-7 for most parameters. Station was not accessible due to construction in September 2021.

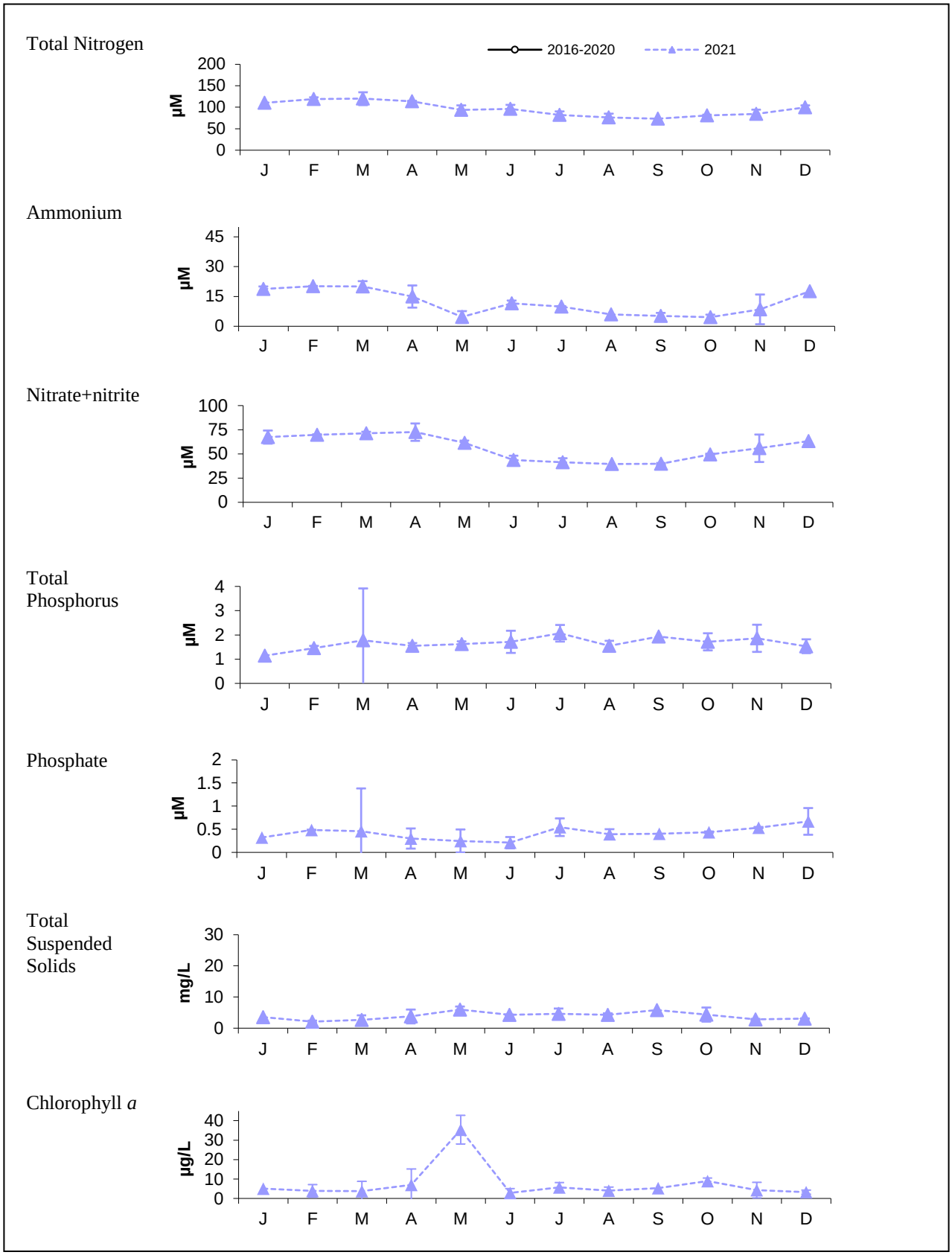

Figure 4-5. Monthly average nutrients, TSS and Chlorophyll 2021, Station 177, Route 16 Bridge.

Error bars are ± 1 SD. Note different scales than Figures 4-3, 4-4, 4-6 and 4-7 for most parameters. Collection and analysis of these parameters at station 177 began in 2021.

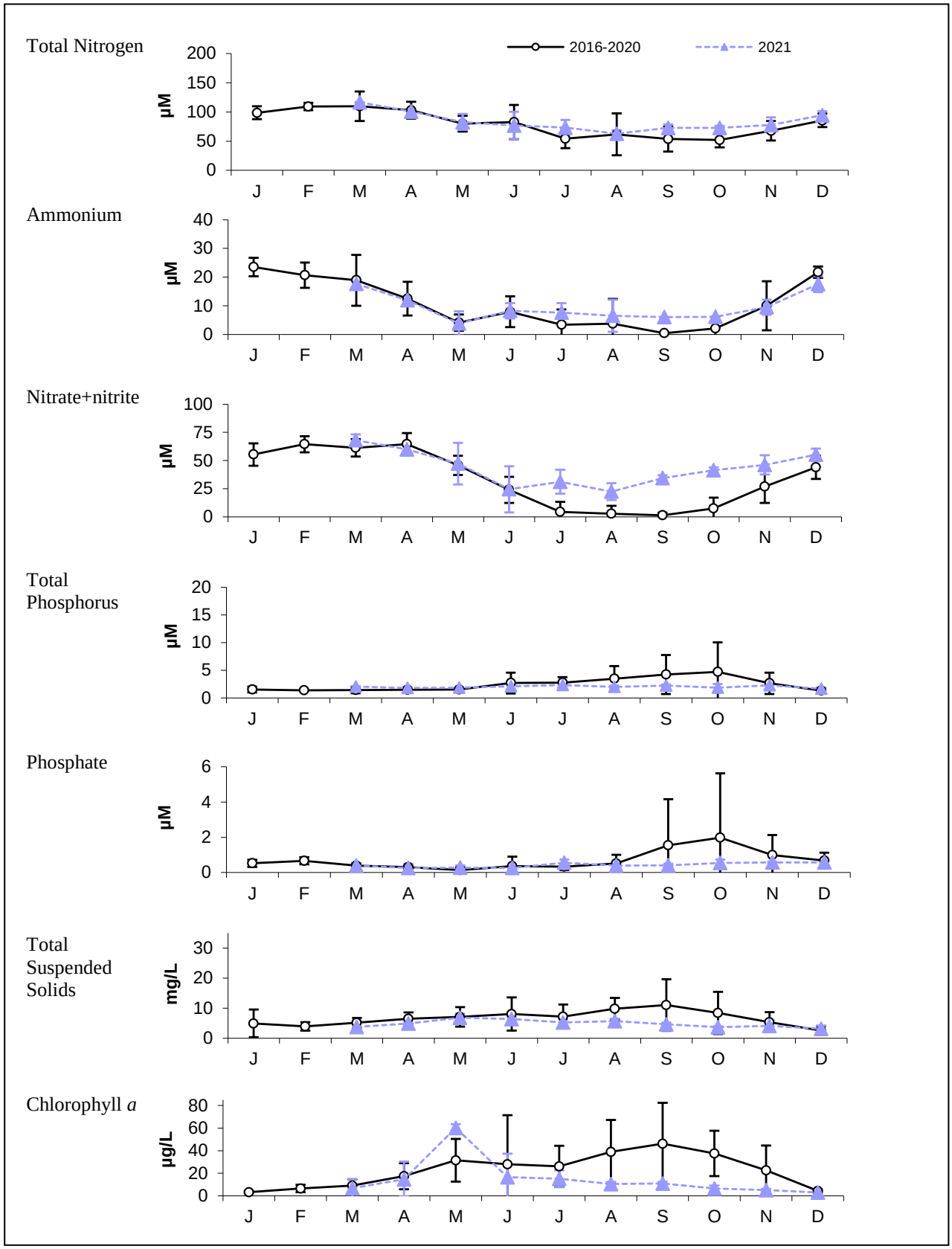

Figure 4-6. Monthly average nutrients, TSS and Chlorophyll 2016 – 2020 and 2021, Station 167, Amelia Earhart Dam (upstream/freshwater).

Error bars are ± 1 SD. Note different scales than Figures 4-3, 4-4, 4-5 and 4-7 for most parameters.

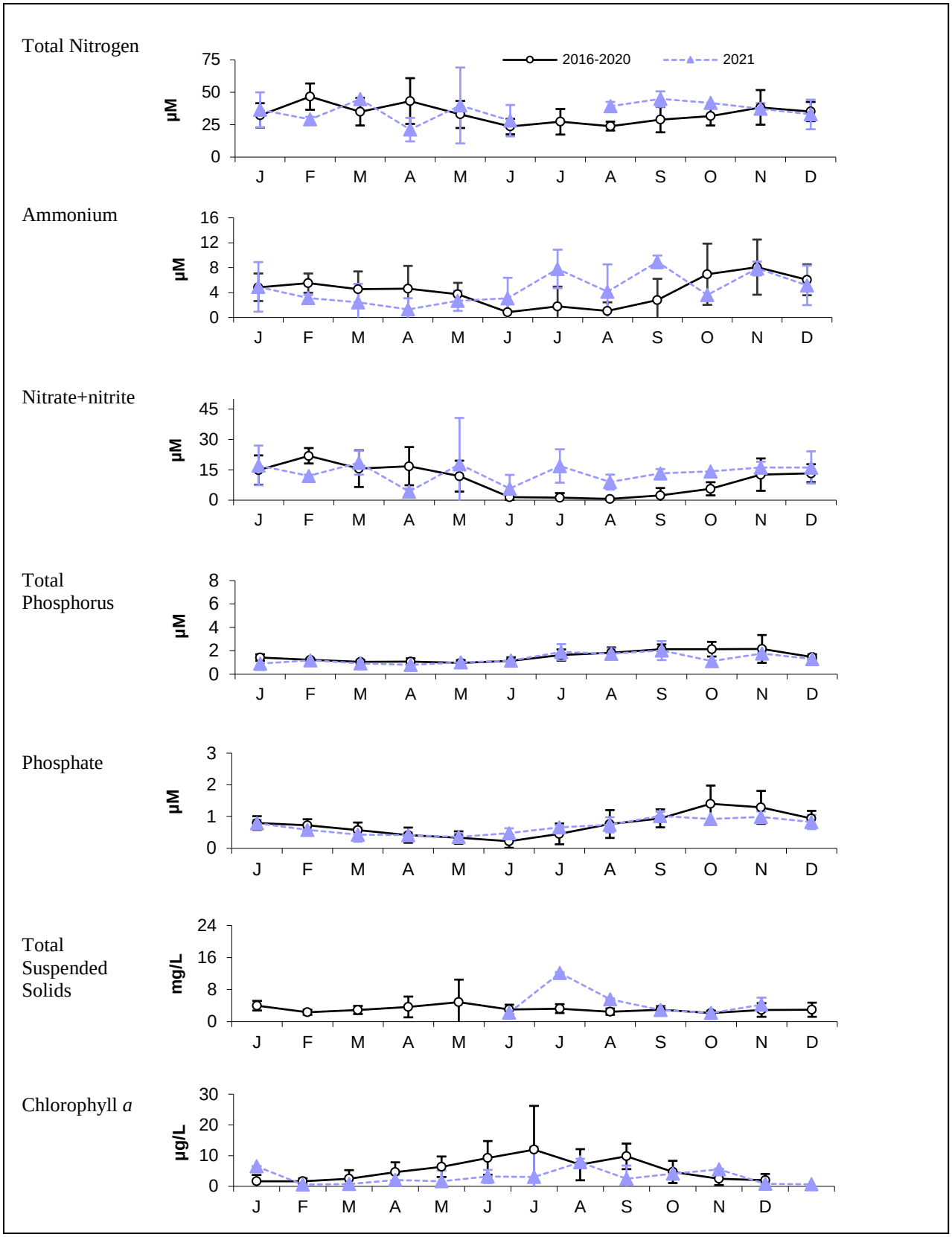

Figure 4-7. Monthly average nutrients, TSS and Chlorophyll 2016 – 2020 and 2021, Station 137, Mystic River mouth (marine).

Error bars are ± 1 SD. Note different scales than Figures 4-3, 4-4, 4-5 and 4-6 for most parameters.

4.4.3 Bacterial water quality

Figure 4-8 shows the bacterial water quality at each location sampled in the Mystic River and Alewife Brook for 2021 for dry, damp, and wet weather. The rainfall conditions are derived on a station-by-station basis from the nearest rain gauge. For this area, the three gauges in use are the BWSC East Boston gauge, the USGS Fresh Pond gauge, and the MWRA gauge at the Somerville-Marginal CSO Treatment Facility. The uppermost graph in the figure shows percentile plots of *Enterococcus* counts for each location, arranged from upstream to downstream for 2021. The center graph shows percentile plots of *E. coli*, which is only monitored in the freshwater portion of the Mystic River, and the bottom graph fecal coliform, which is only monitored in the marine portion of the Mystic River in place of *E. coli*.

As shown in Figure 4-8, in 2021 all locations in Alewife Brook failed to meet both *E. coli* r and *Enterococcus* geometric mean standards at most stations under most weather conditions. Bacteria concentrations at stations 083 (Mystic Lakes outlet, before the confluence with the Alewife Brook) and 057 (Alewife Brook/Mystic River confluence) exhibited a similar distribution in wet weather. Samples taken in the Lower Mystic Basin met standards in dry and damp weather most of the time and occasionally in wet weather. Malden River station 176 met standards in dry and damp weather, but exhibited high counts in wet weather. Marine station 137 at the Mystic mouth demonstrated high compliance for both *Enterococcus* and fecal coliform in all weather conditions. Results from the other two marine stations showed compliance in dry weather with a few elevated results in damp and wet weather.

Geometric means for each indicator for 2016 - 2020 and 2021 appear in Table 4-6 (Alewife Brook) and 4-7 (Mystic River), for all weather conditions combined. Overall, annual geometric means did not meet water quality standards in Alewife Brook and at many locations in the Mystic River. Stations 067 and 167 in the Lower Mystic Basin met standards for both indicators. Malden River station 176 was below the state standard for *Enterococcus* but exceeded it for *E. coli*. Like the Charles River, *E. coli* counts are consistently higher than *Enterococcus* counts at all stations.

Annual geometric means met standards for both *Enterococcus* and fecal coliform at all of the Mystic mouth stations, including 052, downstream of Amelia Earhart Dam, 069 at CSO outfall BOS017 and 137 upstream of the Tobin Bridge.

The spatial and temporal change in *Enterococcus* concentrations in Alewife Brook and the Mystic River appear in Figure 4-9 through Figure 4-11. Figure 4-9 shows the impact of rainfall on *Enterococcus* densities on the four river reaches in 2021, along with locations near CSO outfalls. Very few samples were collected during light rain conditions in 2021. In the Alewife, the Little River station 174 upstream of CSOs – as well as all other stations – fails to meet standards in dry and wet weather, suggesting persistent contamination not necessarily tied to CSOs. In the Upper Mystic, results were often below the statistical threshold value in dry and damp conditions, but frequently exceeded in wet weather. Lower Mystic counts were low in dry, damp, and light rain conditions. Station 052 at the Amelia Earhart Dam and the treated Somerville Marginal CSO facility outfall often met standards in dry, damp and heavy rain conditions. It is important to note that stormwater enters the Somerville Marginal CSO facility outfall

conduit before the discharge enters the Mystic River. Therefore, results at station 052 reflect ambient conditions in the river and the potential effects of both treated CSO and untreated stormwater.

Results in Figures 4-10 (Alewife Brook) and 4-11 (remainder of the Mystic) are grouped by phases of the Long Term CSO Plan improvements and include the geometric mean counts in each rainfall condition. Figure 4-10 shows minimal changes in dry or damp *Enterococcus* counts in the Alewife, but the magnitude of exceedances decreased in wet weather, particularly in the 2016--2021 period following completion of all LTCP-related construction in this region. *Enterococcus* results in Figure 4-11 show slight improvement over time in the Mystic River in dry and wet weather since the early 1990s, particularly in dry and light rain conditions. In the five years of data collected following LTCP project completion, results are similarly distributed to the previous LTCP phase.

Mystic River 2021 compliance rates with statistical threshold values for both indicators are shown in Figures 4-12 (*Enterococcus*) and 4-13 (*E. coli*). Dots on the figure are the monitoring locations shown in Figure 4-1 and listed in Table 4-1. Compliance rates vary highly year-to-year and between indicators. Compliance rates in wet weather the Mystic River were generally higher for *E. coli* than *Enterococcus*. Station 056 near Medford Square exhibited very low compliance in wet weather without influence of nearby CSO. Mystic stations 057 and 066 near the confluence with Alewife Brook demonstrate the limited impact of Alewife Brook on the Mystic in dry and damp weather. Stations 059 and 167 near Amelia Earhart Dam and downstream of the Somerville Marginal CSO relief outfall demonstrated high compliance rates in dry and damp weather in 2021.

Alewife Brook 2021 compliance rates with statistical threshold values for both indicators are shown in Figures 4-14 (*Enterococcus*) and 4-15 (*E. coli*). The dots shown on the maps correspond to the monitoring locations shown in Figure 4-1 and listed on Table 4-1. For the Alewife stations, compliance rates were generally low in all weather conditions, except for station 074, which was 100% compliant for *Enterococcus* in damp conditions and station 174, which was 100% compliant for *E. coli* in damp conditions. All Alewife stations were below 25% compliant in wet weather for both indicators. Like the Charles, some discrepancies in compliance between the two indicators exist.

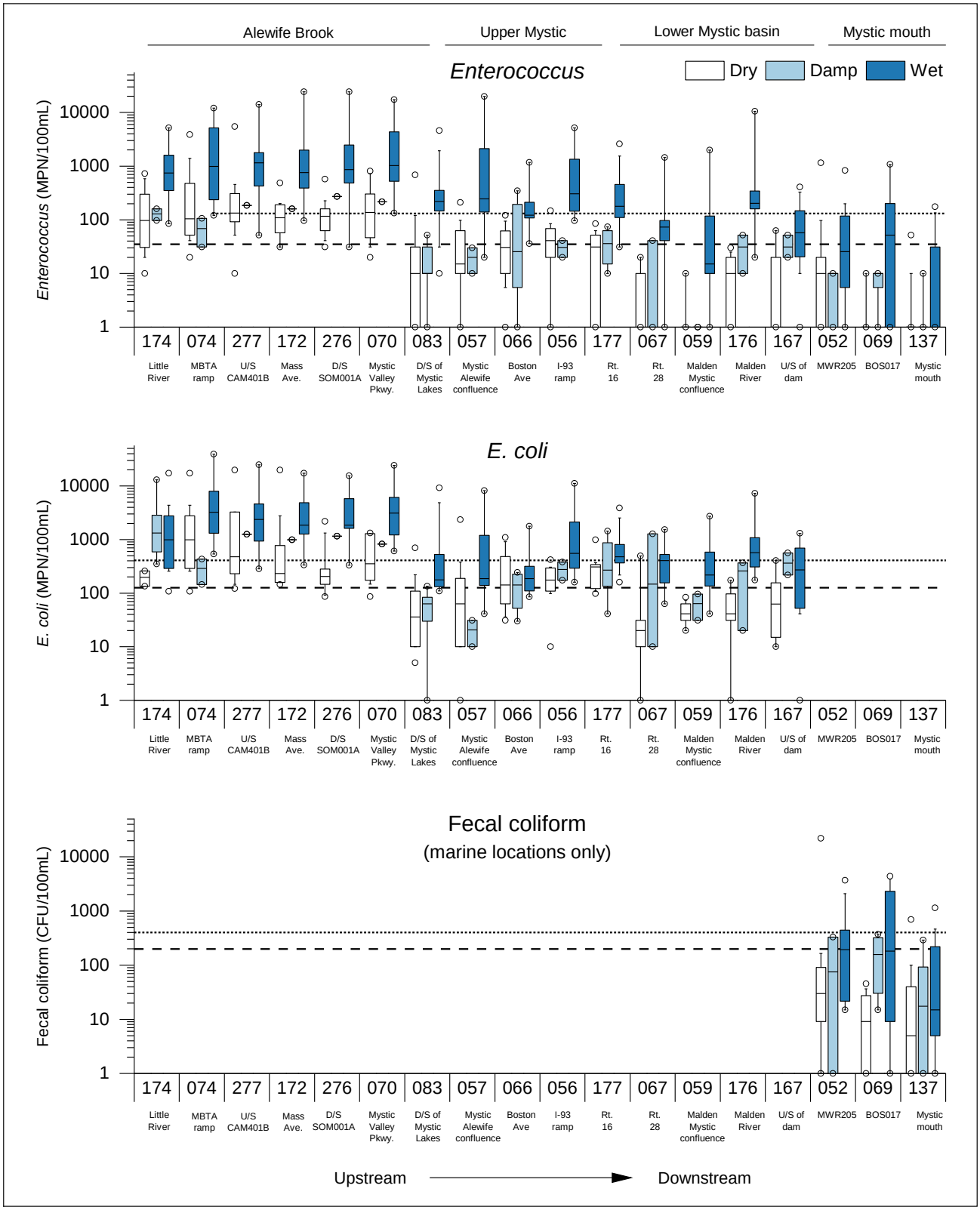

Figure 4-8. Indicator bacteria concentrations, Mystic River/Alewife Brook, 2021.
Dashed lines show MADEP *Enterococcus* and *E. coli* and the former fecal coliform geometric mean standards. Dotted lines show the statistical threshold values for *Enteroccocus and E. coli*, and the former single sample standard for fecal coliform. See Section 2.1.5 for descriptions of rainfall conditions. "D/S": downstream; "U/S": upstream.

Table 4-6. Geometric mean indicator bacteria, Alewife Brook, 2016 – 2020 and 2021.
All Alewife Brook stations are designated for shoreline sampling (including weekends), shaded.

Station	Location	Surface or Bottom	Number of samples		*Enterococcus* (95% CI) counts/100 mL DEP limit: 35 counts/100 mL		*E. coli* (95% CI) counts/100 mL DEP limit: 126 counts/100 mL	
			2016–2020	2021	2016 – 2020	2021	2016 – 2020	2021
174	Cambridge, Little River, upstream of Rt. 2 and off ramp to Alewife T station	S	251	21	172 (137-215)	193 (99-375)	555 (465-663)	505 (289-883)
074	Cambridge, Little River, at off ramp to Alewife T station	S	253	21	144 (115-179)	293 (136-630)	606 (518-709)	1405 (718-2750)
277	Arlington, Alewife Brook, upstream of 4 CSO outfalls near Mass. Ave bridge.	S	169	21	273 (218-341)	351 (165-746)	692 (563-851)	1227 (644-2338)
172	Arlington, Alewife Brook, upstream of Massachusetts Ave bridge, midchannel	S	253	21	207 (172-249)	268 (132-542)	590 (505-690)	939 (489-1801)
276	Arlington, Alewife Brook, downstream of SOM001A	S	171	21	244 (196-303)	304 (142-650)	598 (491-729)	730 (371-1435)
070	Arlington, Alewife Brook, off Mystic Valley Parkway bridge	S	254	21	279 (233-333)	339 (162-706)	680 (582-794)	1016 (546-1890)

Table 4-7. Geometric mean indicator bacteria, Mystic River, 2016 – 2020 and 2021.
Stations designated for shoreline sampling (weekends or unsafe boating conditions) are shaded.

Station	Location	Surface or Bottom	Number of samples		*Enterococcus* (95% CI) counts/100 mL DEP limit: 35 counts/100 mL		*E. coli* [1] (95% CI) counts/100 mL DEP limit: 126 counts/100 mL	
			2016 – 2020	2021	2016 – 2020	2021	2016 – 2020	2021
083	Medford, upstream of confluence of Mystic River and Alewife Brook	S	370	45	40 (33-49)	38 (20-72)	110 (96-125)	88 (54-145)
057	Medford, confluence of Mystic River and Alewife Brook	S	245	21	47 (36-61)	53 (20-142)	133 (113-156)	101 (41-246)
066	Medford, Mystic River, Boston Ave bridge	S	130	23	34 (25-46)	45 (22-91)	120 (99-146)	168 (108-260)
056	Medford, Mystic River, upstream of I-93 bridge	S	244	21	40 (31-52)	70 (30-161)	228 (193-268)	289 (161-517)
177	Medford, Downstream of Rt. 16 bridge, mid-channel	S	126	25	15 (10-22)	47 (22-99)	161 (123-211)	346 (238-503)
067	Medford, Mystic River, Rt. 28 bridge	S	243	21	9 (7-12)	10 (3-29)	81 (63-103)	81 (32-202)
059	Everett, confluence of Mystic and Malden Rivers	S	130	21	5 (3-8)	4 (1-10)	63 (45-87)	91 (52-158)
176	Malden River, upstream of Rt. 16 bridge	S	242	21	28 (20-39)	31 (11-86)	165 (126-216)	134 (52-339)
167	Medford, Mystic River, upstream side of Amelia Earhart Dam	S	235	23	11 (8-14)	17 (7-40)	66 (53-82)	119 (58-244)
052[2]	Somerville, Mystic River, near Somerville Marginal CSO facility (MWR205) – marine	S	155	20	20 (13-30)	15 (5-40)	*98 (65-147)*	*123 (37-398)*
		B	70	10	5 (3-8)	4 (1-11)	*16 (11-24)*	*14 (4-43)*
069[2]	Charlestown, near Schrafft's Center at BOS-017 outfall - marine	S	155	20	12 (8-19)	7 (2-24)	*72 (51-102)*	*72 (23-216)*
		B	55	14	3 (1-5)	2 (0-7)	*10 (6-15)*	*6 (1-18)*
137[2]	Mystic River, upstream of Tobin Bridge – marine/Inner Harbor	S	111	24	2 (1-3)	3 (1-8)	*13 (9-18)*	*45 (20-99)*
		B	111	23	1 (1-1)	1 (0-2)	*2 (1-2)*	*3 (1-6)*

[1]Results in italics are fecal coliform, not *E. coli*.

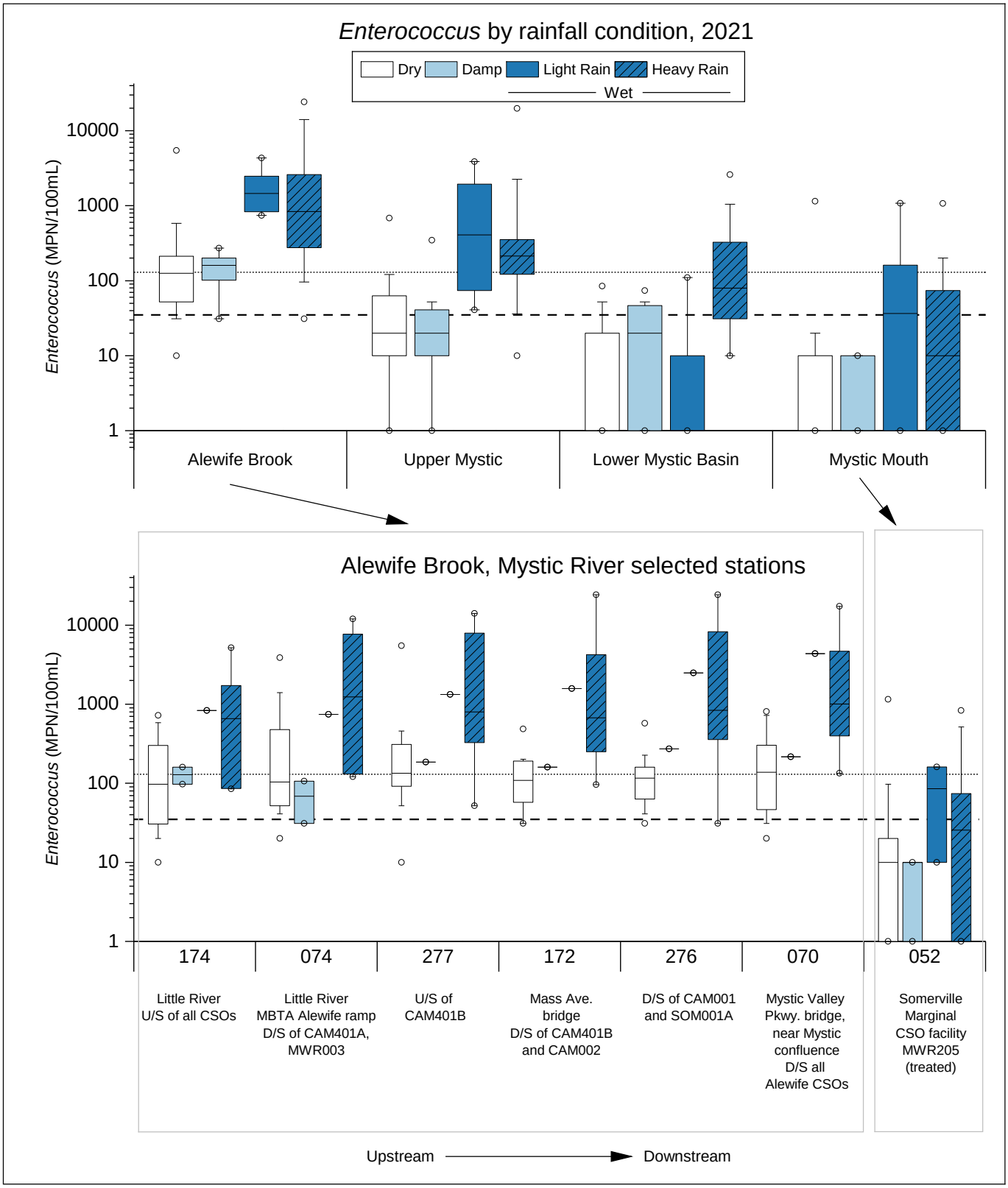

Figure 4-9. *Enterococcus* by rainfall condition, Mystic River/Alewife Brook, 2021.
Dashed lines show MADEP state geometric mean standards (35 MPN/100mL for freshwater and marine). Dotted lines show statistical threshold value (130 MPN/100mL for freshwater and marine). Rainfall is from the BWSC Charlestown or USGS Fresh Pond gauge. See Section 2.1.5 for descriptions of rainfall conditions. "D/S": downstream; "U/S": upstream.

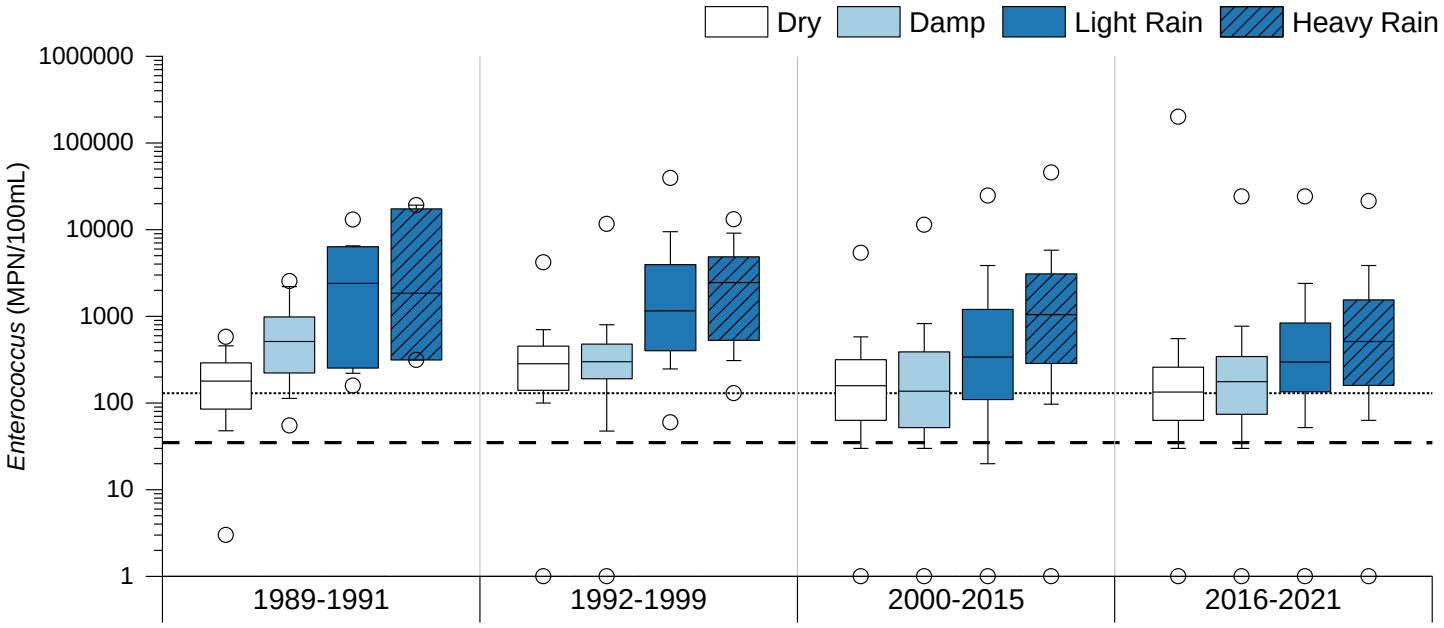

Figure 4-10. *Enterococcus* over time, Alewife Brook by phase of CSO LTCP and rainfall condition.
Dashed line shows State geometric mean standard (35 MPN/100mL), dotted line shows statistical threshold value (130 MPN/100mL). Data includes results for stations 174, 074, 277, 172, 276 and 070. Rainfall is NOAA rainfall from Logan airport. See Section 2.1.5 for descriptions of rainfall conditions.

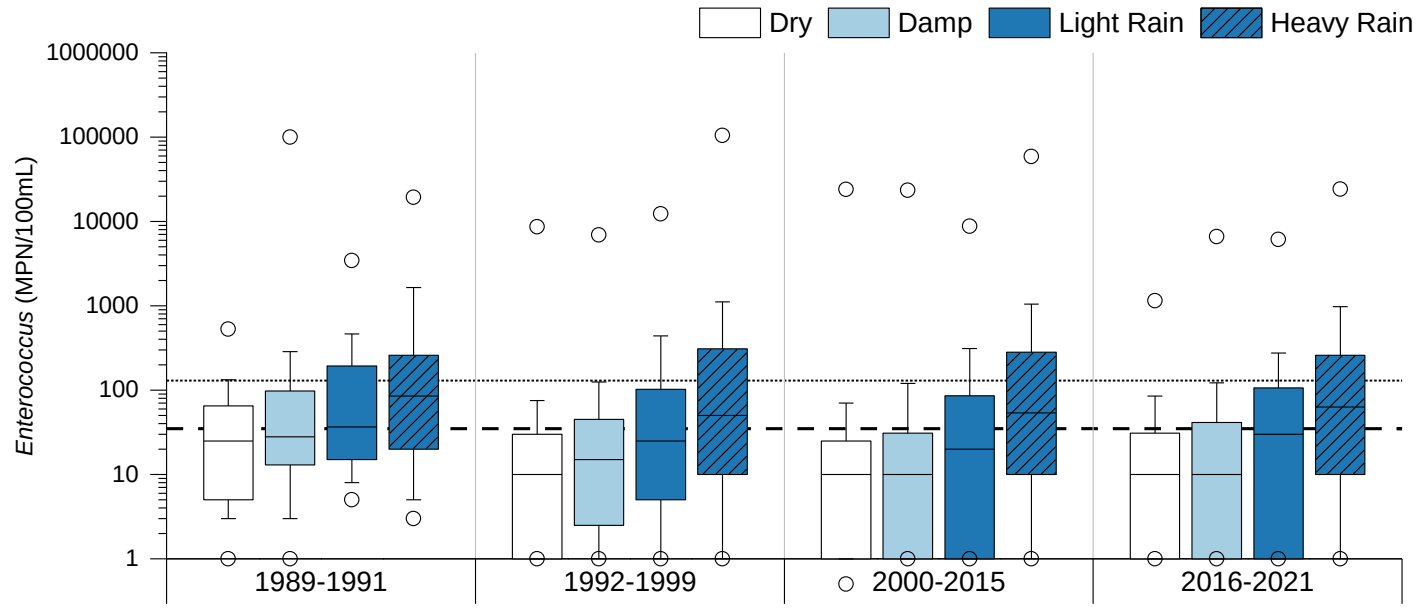

Figure 4-11. *Enterococcus* over time, Mystic River by phase of CSO LTCP and rainfall condition.
Dashed line shows State geometric mean standard (35 MPN/100mL), dotted line shows statistical threshold value (130 MPN/100mL). Data includes results for all Mystic River stations in Table 4-1 excepting Alewife Brook. Rainfall is NOAA rainfall from Logan airport. See Section 2.1.5 for descriptions of rainfall conditions.

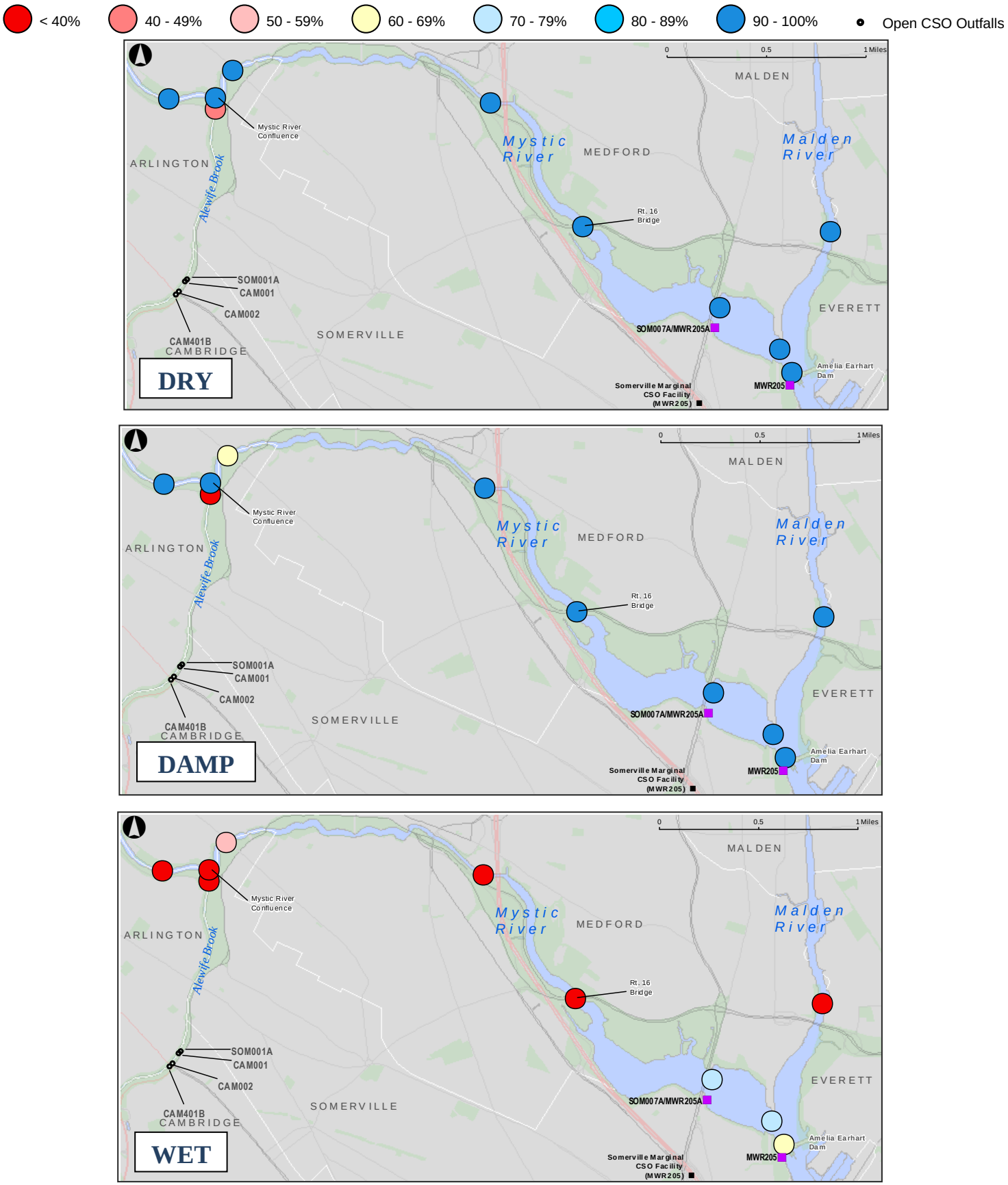

Figure 4-12. Mystic River *Enterococcus* percent compliance by weather condition, 2021.
Compliance with 130 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. See Section 2.1.5 for descriptions of rainfall conditions. Alewife Brook station 070 near Mystic River confluence included for reference.

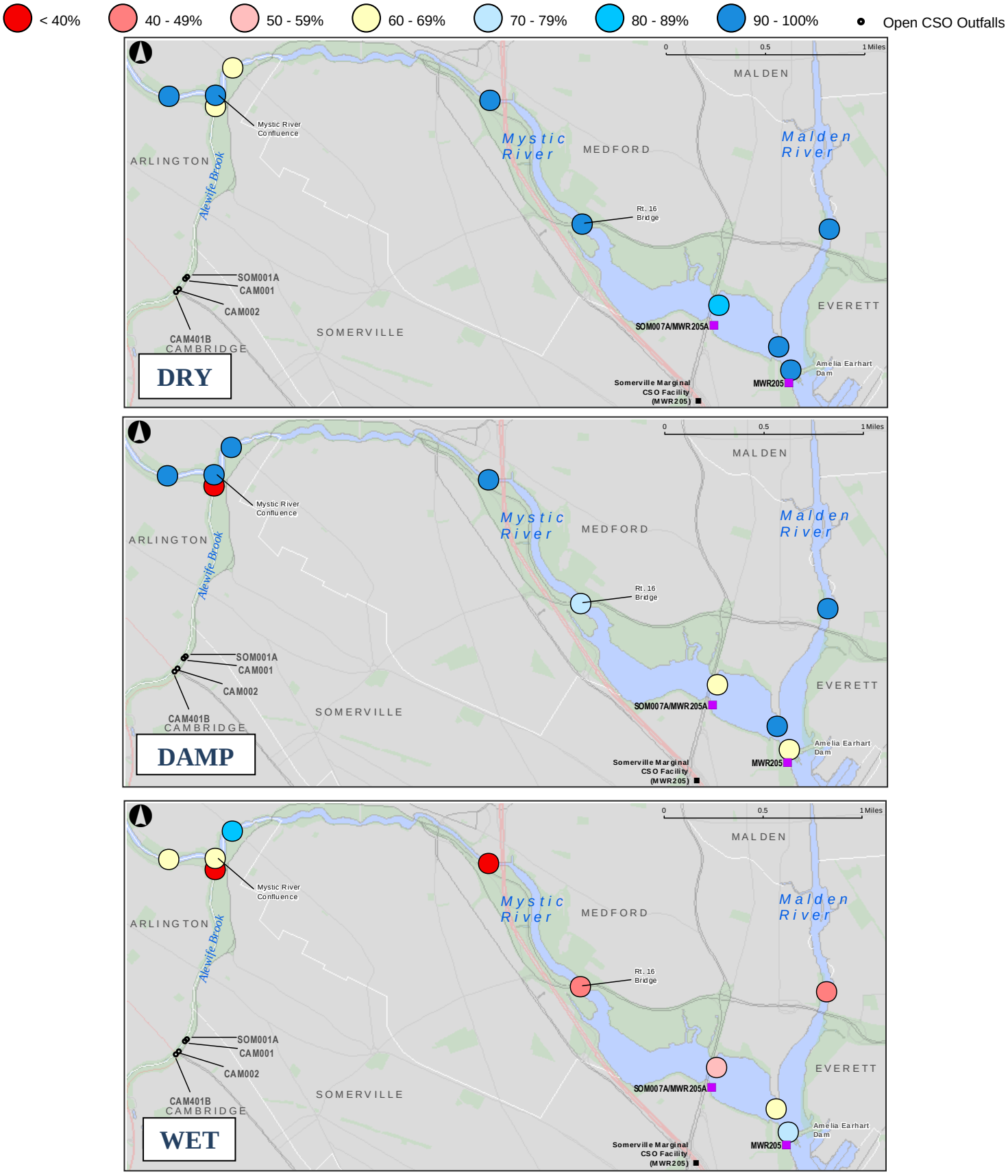

Figure 4-13. Mystic River *E. coli* percent compliance by weather condition, 2021.
Compliance with 410 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. Section 2.1.5 for descriptions of rainfall conditions. Alewife Brook station 070 near Mystic River confluence included for reference.

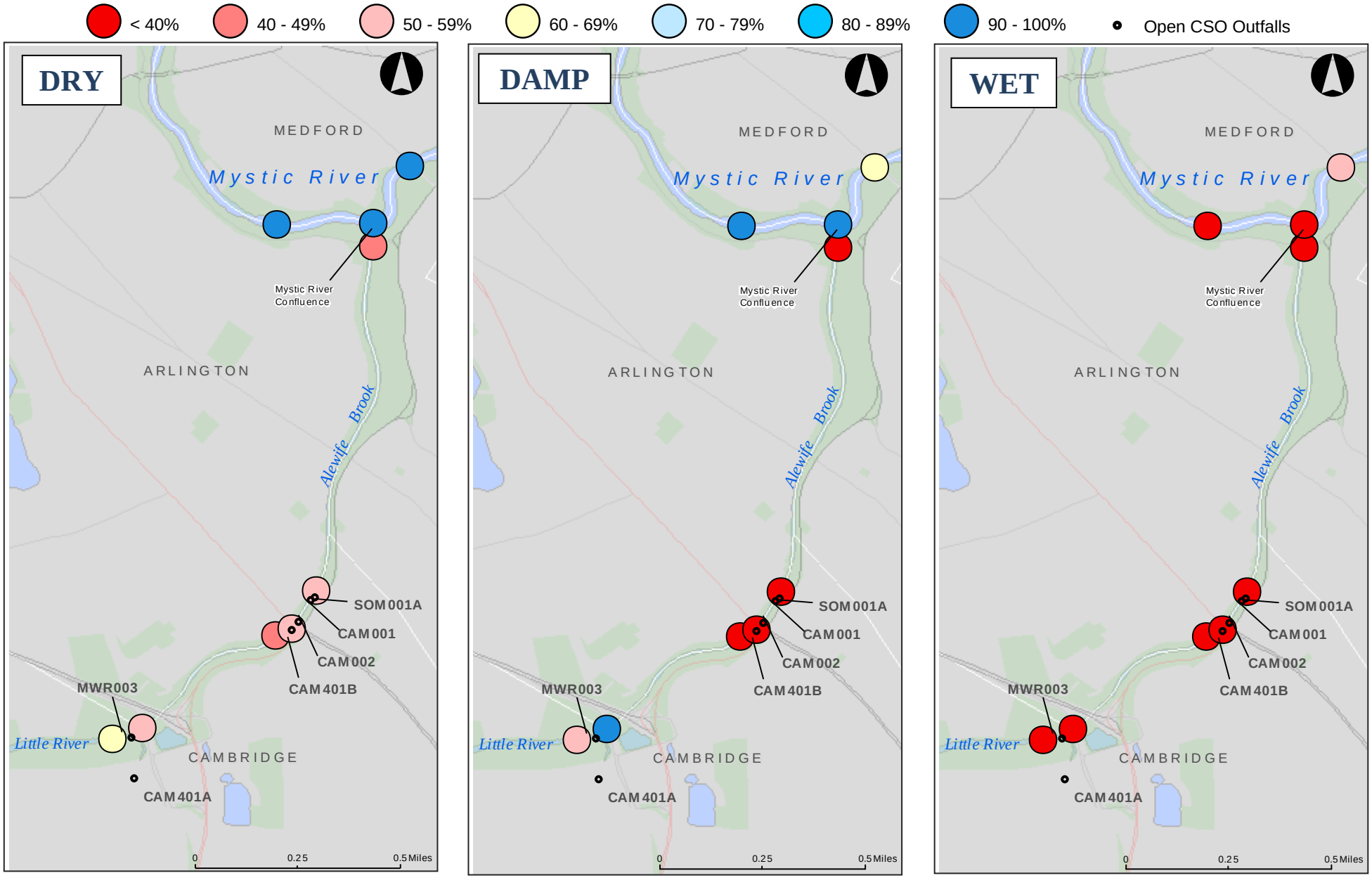

Figure 4-14. Alewife Brook *Enterococcus* percent compliance by weather condition, 2021.

Compliance with 130 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. Section 2.1.5 for descriptions of rainfall conditions. Mystic River stations 083, 057, and 066 included for reference.

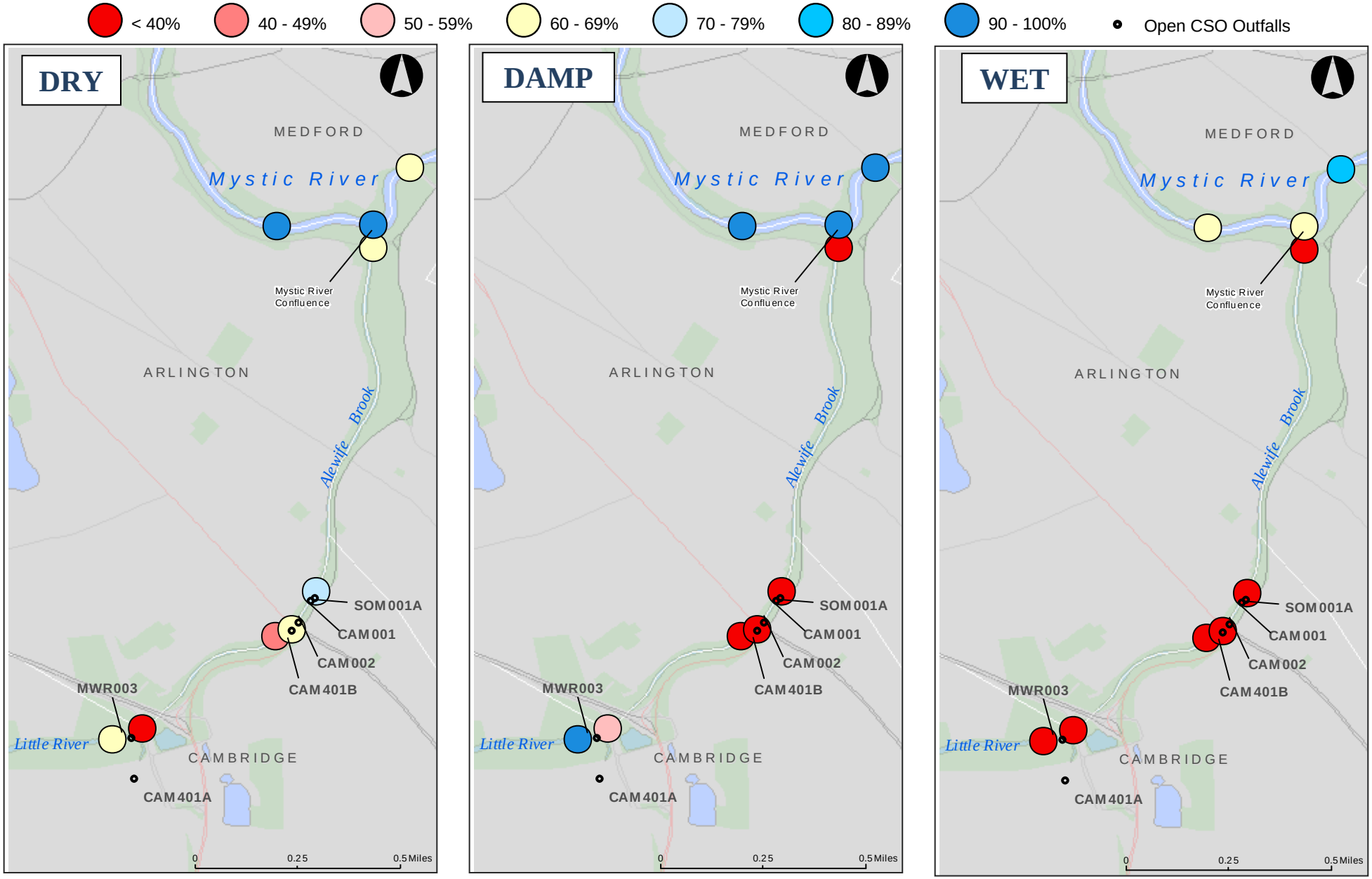

Figure 4-15. Alewife Brook *E. coli* percent compliance by weather condition, 2021.

Compliance with 410 MPN/100mL statistical threshold value. Rainfall is from nearest rain gauge to station. Section 2.1.5 for descriptions of rainfall conditions. Mystic River stations 083, 057, and 066 included for reference.

4.5 Summary of Mystic River/Alewife Brook water quality

In general, bacterial water quality in the Mystic River and Alewife Brook was similar in pattern to recent years. Bacteria concentrations in the Mystic River met standards for much of the upper and lower Mystic Basin and Mystic River mouth in dry and damp weather, but did not meet standards in wet weather conditions at most locations. Bacteria concentrations in Alewife Brook fail to meet standards in most weather conditions both upstream and downstream of CSOs in that region. Station 174, which is upstream of all CSOs, had poor water quality in dry and wet weather. With the exception of Alewife Brook, most locations in the Mystic River met *Enterococcus* and *E. coli* geometric mean limits in dry and damp conditions most of the time.

In 2021, mean surface DO conditions met the standards at all Mystic and Malden River stations. Bottom water DO concentrations were mostly above the state standard during summer months. Clarity results were generally low or too shallow to be measured.

Nutrient levels in 2021 were similar to previous years, with monthly concentrations near long-term averages for most parameters. Chlorophyll α values were higher than the five-year average at a few stations in May, but otherwise were near or below the previous five-year average.

5 Storm Size and Bacterial Count Analysis

From 2017 to 2020, MWRA instituted a comprehensive storm sampling program building on the routine monitoring program which has been in place since 1989. These additions supported the calibration of receiving water models for both the Charles and Mystic/Alewife regions described in Chapter 1 and submitted to EPA and MADEP in December 2021. The two primary enhancements were sampling on weekends in addition to weekdays during and after storm events to minimize data gaps, and the utilization of a subset of sampling locations that can be sampled from shore in the event of inclement weather that would prevent, for safety reasons, the usual method of sampling by boat. A given region was typically sampled for five consecutive days following a rain event, unless an additional storm in that period spurred a schedule adjustment. Finally, storm sampling was given a high priority, so sampling in the aftermath of a storm frequently "bumped" other sampling projects into lower places in the queue.

While maintaining sampling programs in Boston Harbor, Massachusetts Bay, and the Neponset River, MWRA sampled 33 storms in the Mystic/Alewife and Charles regions from 2018 to 2019 and captured a range of storm events despite pandemic related restrictions in 2020. These storms span a wide array of rainfall patterns and CSO events. The storm counts in 2018 and 2019 were slightly above the Typical Year, facilitating a large sample size of bacteria results to be used in receiving water model calibration. Results presented below include samples collected from 2017 through 2021, summarizing bacteria results after storms from the past five years.

5.1 2017-2021 bacteria counts by time period and storm size

Figures 5-1 through 5-8 present bacteria counts for both *E. coli* and *Enterococcus* in the Charles and Mystic/Alewife regions following varied storm events. Results are binned first by the total rainfall of the most recent storm at a station's nearest rain gauge, and then by the hours after the start of that storm that the sample was collected. This allows a comparison of the magnitude and duration of wet weather impacts by region, bacterial indicator, and storm size. The bins for total rainfall are dictated by those in the Typical Year (Table 1-1), and hours after storm are in 12-hour increments up to 3 days, then by 24-hours to 5 days and beyond. Lines are drawn between the median lines of each box to emphasize the pattern of wet weather impact and recovery. Note that these are percentile plots as explained by Figure 2-1, but as the number of samples is smaller, the percentile "whiskers" have been omitted. Due to the high counts in Alewife Brook, the vertical axis scale is higher for the Mystic/Alewife figures.

5.1.1 Charles River

For the Charles River, the results described above are further grouped by region. The following Figures 5-1 and 5-3 (top) contain results from stations upstream of any CSO outfalls, while the bottom Figures 5-2 and 5-4 include stations from the CAM005 CSO outfall to the Charles River Dam. These figures do not distinguish results between storms with CSO discharges and those without. Approximately 800 results are included in the upstream figures, and 2300 results in the downstream figures. Sample counts are highest in storms <0.25" and lowest in storms >2.0" due to the relative frequency of these events.

As seen in the top figures, locations upstream of CSOs show high bacteria counts from non-CSO sources in storms >0.25". Locations downstream of CSOs in the Lower Charles showed minimal contamination

in storms below 0.5”. Both indicator bacteria display a similar pattern relative to their respective standards. Peak concentrations tended to occur within 24 hours after the onset of rain, when stormwater and potential CSO impacts would be at their greatest. The magnitude of impact was higher in the region upstream of all CSOs, but the duration of impact appears shorter at these locations, as flows quickly move to the wider parts of the Lower Basin. As expected, the duration of impact increased with storm size, with results typically returning to baseline around 72 hours, even in the largest storms.

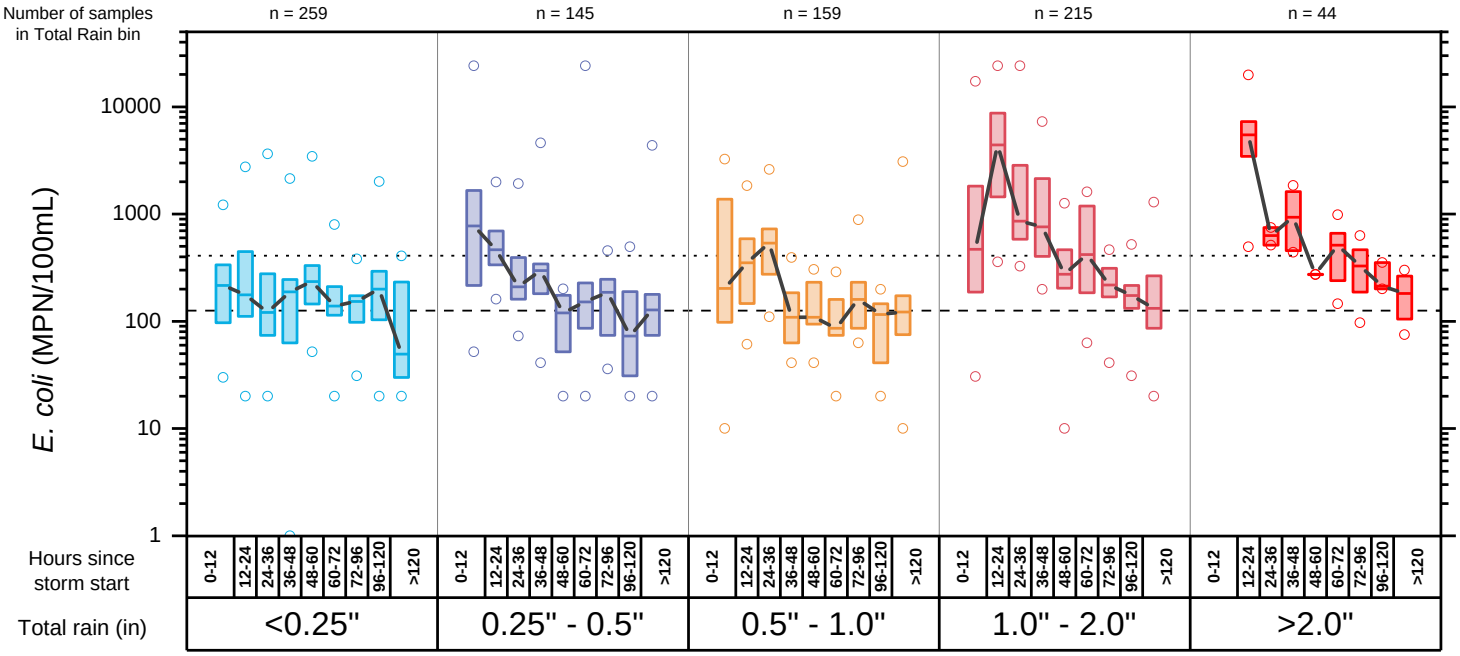

Figure 5-1. 2017-2021 *E. coli* counts at Charles River stations upstream of all CSOs by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 126 MPN/100mL for *E. coli*; dotted line shows the statistical threshold value of 410 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. All four stations upstream of the CAM005 CSO outfall are included (012, 001, 144, 002).

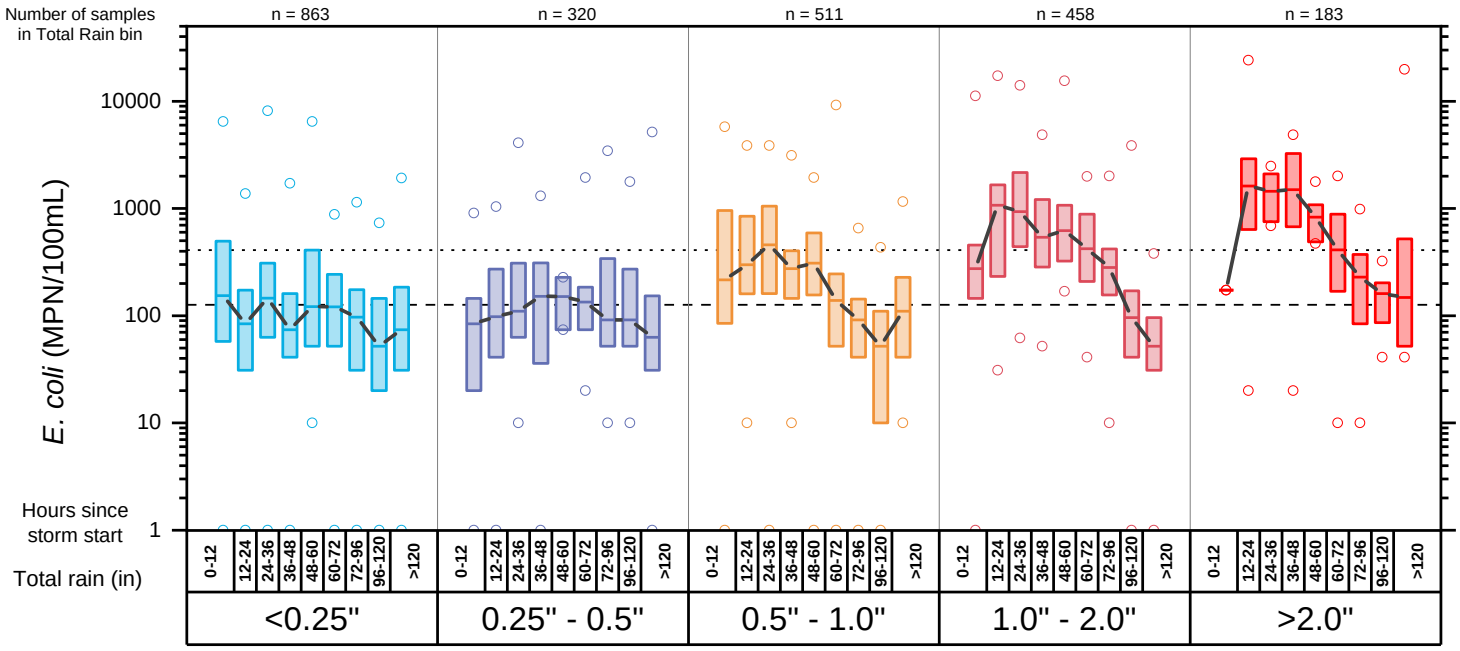

Figure 5-2. 2017-2021 *E. coli* counts at Charles River stations in reaches downstream of CSOs by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 126 MPN/100mL for *E. coli*; dotted line shows the statistical threshold value of 410 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. All 13 stations downstream of the CAM005 outfall are included. All storms are included, both with and without CSO discharges.

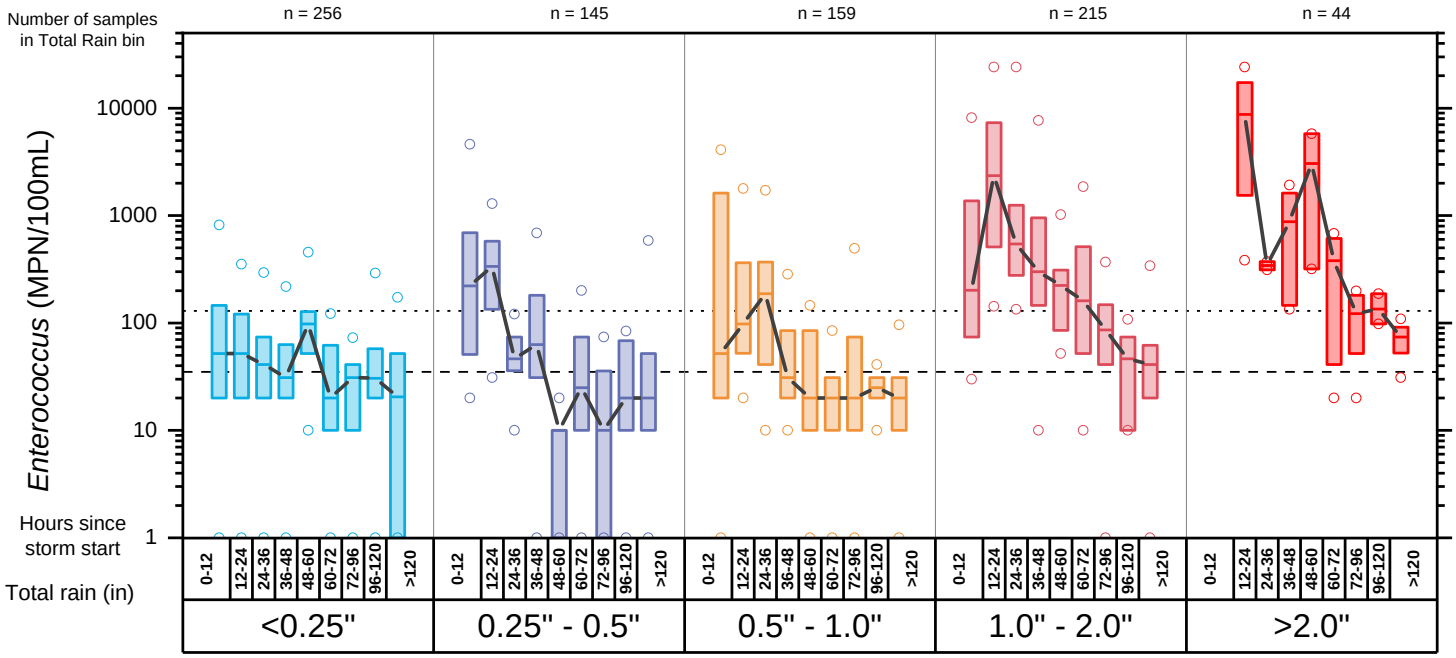

Figure 5-3. 2017-2021 *Enterococcus* counts at Charles River stations upstream of all CSOs by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 35 MPN/100mL for *Enterococcus*; dotted line shows the statistical threshold value of 130 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. All four stations upstream of CAM005 CSO outfall are included (012, 001, 144, 002).

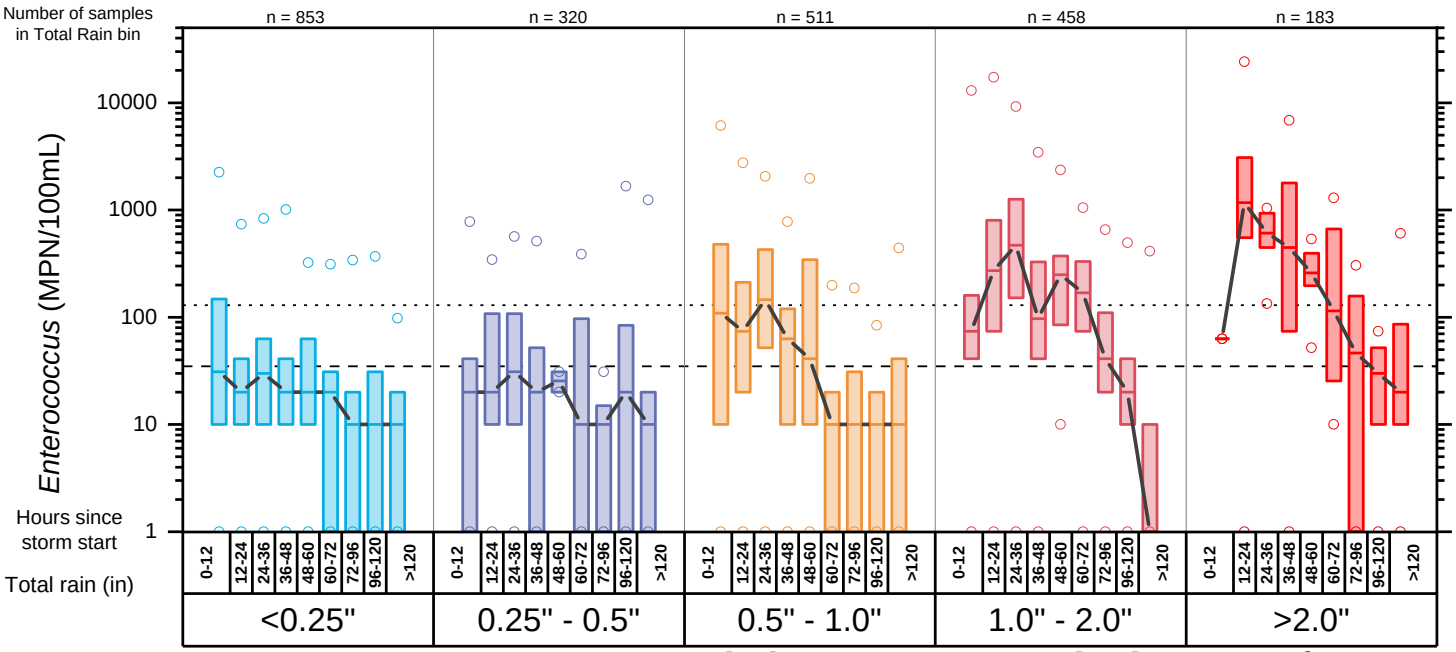

Figure 5-4. 2017-2021 *Enterococcus* counts at Charles River stations in reaches downstream of CSOs by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 35 MPN/100mL for *Enterococcus*; dotted line shows the statistical threshold value of 130 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. All 13 stations downstream of CAM005 CSO outfall are included. All storms are included, both with and without CSO discharges.

5.1.2 Mystic River & Alewife Brook

The following Figures 5-5 and 5-7 (top) contain results from all Alewife Brook stations, while the bottom Figures 5-6 and 5-8 include all freshwater Mystic River stations. Due to extremely low sample size, results in storms >2.0" are not shown. Sample counts are evenly distributed between storm sizes.

The recovery patterns of bacterial water quality impact are similar between the two indicator species. As discussed in Chapter 4, stations in Alewife Brook often fail to meet state standards in all weather conditions, so the wet weather impacts here should be evaluated by a return to baseline conditions approximated by the >120 hour category. Alewife Brook exhibits a sharper increase and decrease in bacteria counts than the Mystic River, as flows increase dramatically in the shallow, narrow Alewife Brook during storms. The Mystic River only exhibited a sharp peak in water quality impact in storms over 1.0". As expected, the largest storms resulted in the greatest bacteria counts and duration of impact, with results still returning to baseline within 2-3 days of the storm start.

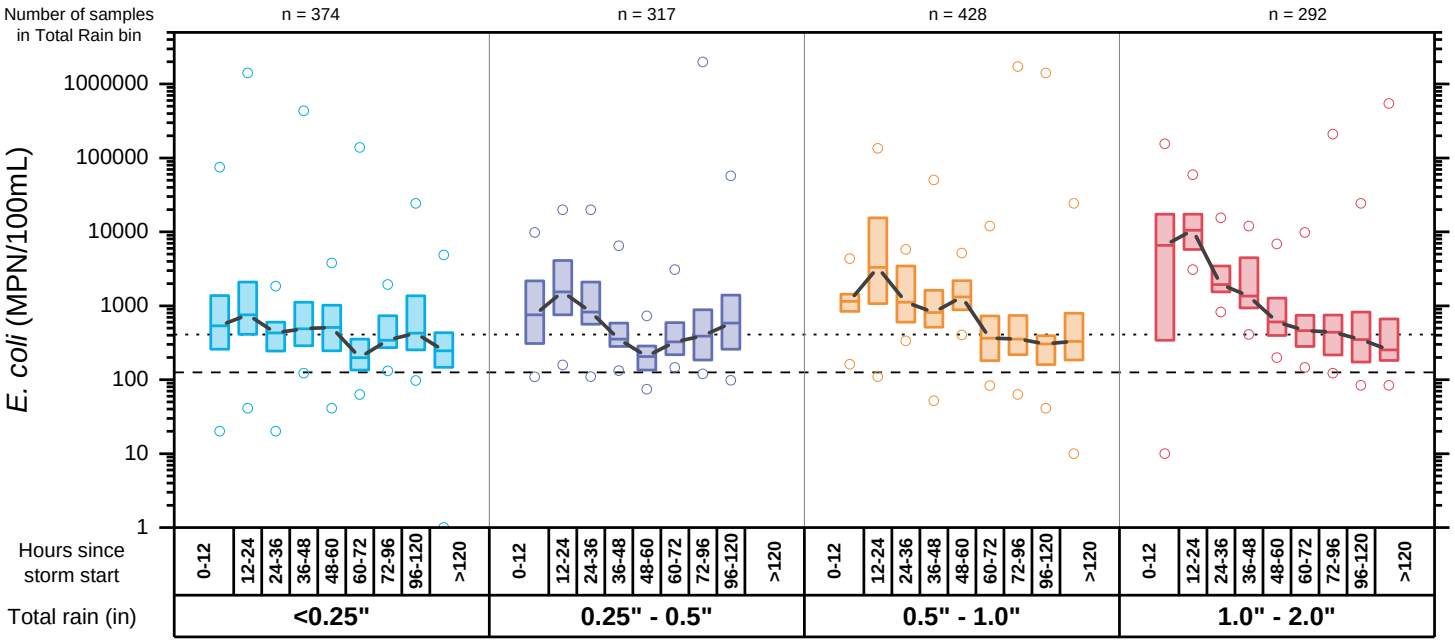

Figure 5-5. 2017-2021 *E. coli* counts in Alewife Brook by storm size and hours after start of rain.
Dashed line shows MADEP freshwater geometric mean standard of 126 MPN/100mL for *E. coli*; dotted line shows the statistical threshold value of 410 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection.

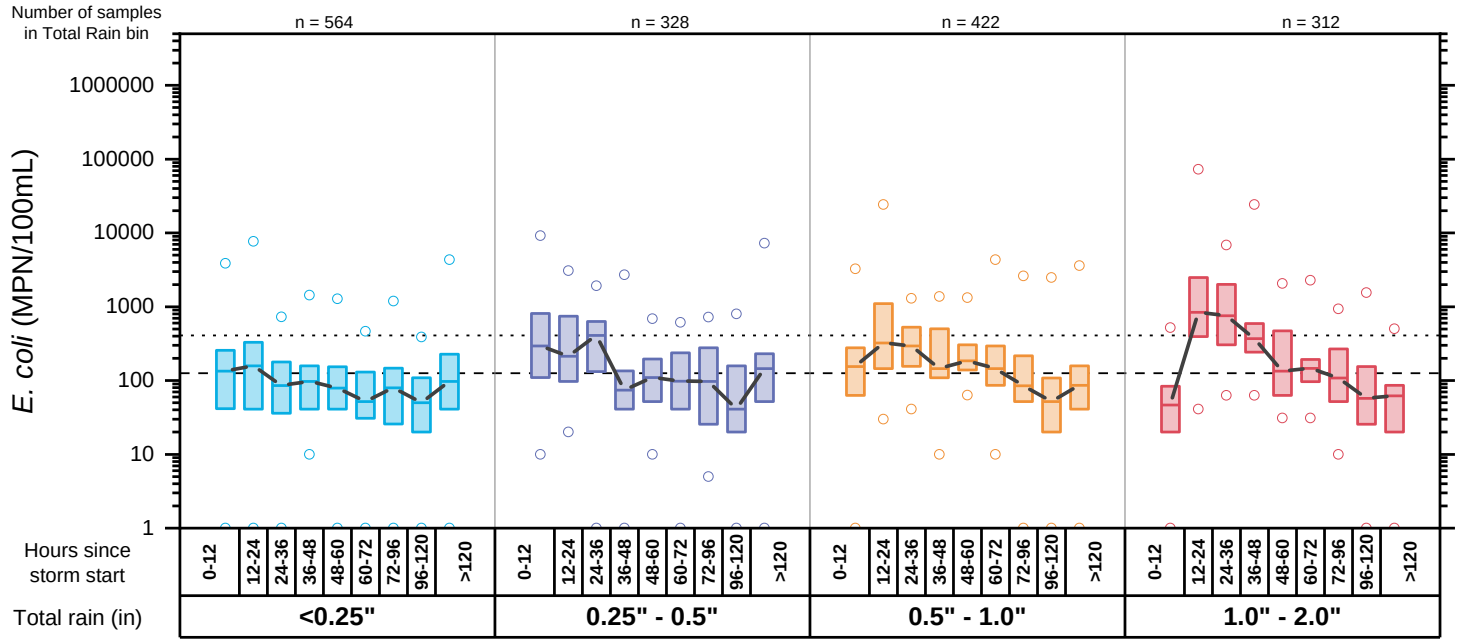

Figure 5-6. 2017-2021 *E. coli* counts in the Mystic River by storm size and hours after start of rain.
Dashed line shows MADEP freshwater geometric mean standard of 126 MPN/100mL for *E. coli*; dotted line shows the statistical threshold value of 410 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. Alewife Brook and Malden River stations not included.

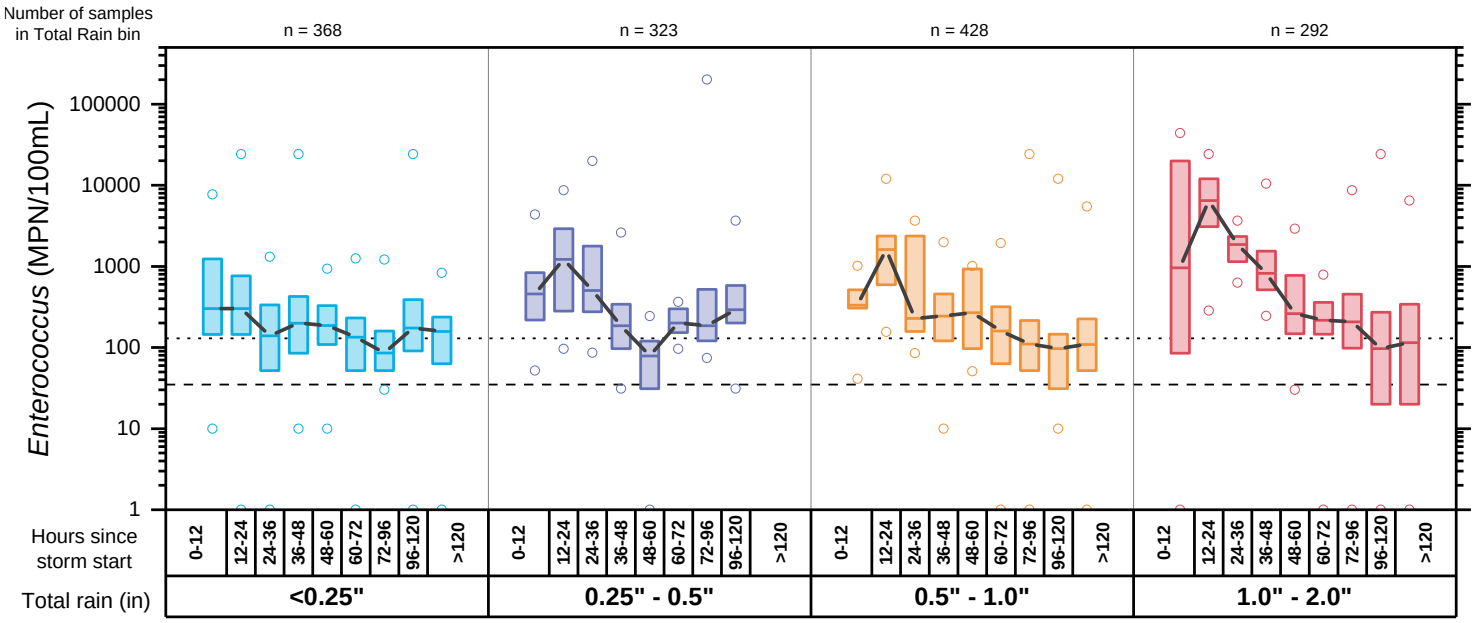

Figure 5-7. 2017-2021 *Enterococcus* counts in Alewife Brook by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 35 MPN/100mL for *Enterococcus*; dotted line shows the statistical threshold value of 130 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection.

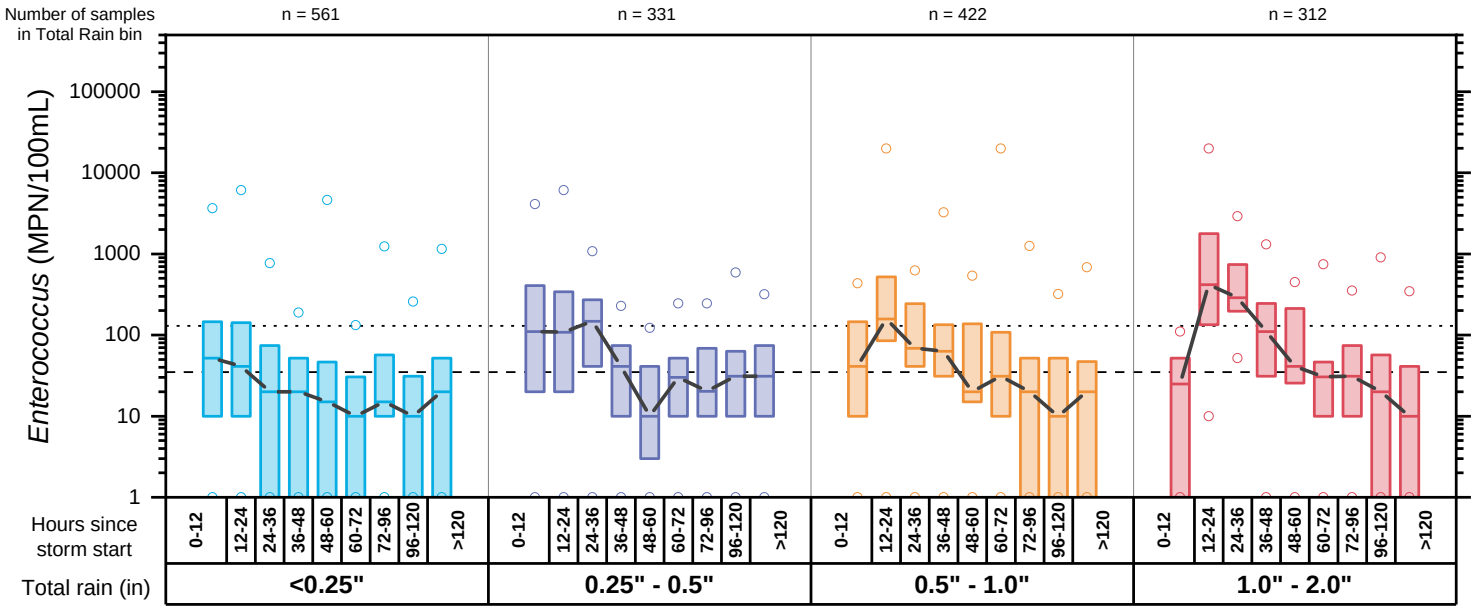

Figure 5-8. 2017-2021 *Enterococcus* counts in the Mystic River by storm size and hours after start of rain.

Dashed line shows MADEP freshwater geometric mean standard of 35 MPN/100mL for *Enterococcus*; dotted line shows the statistical threshold value of 130 MPN/100mL. Total rain is rainfall from nearest MWRA, BWSC or USGS rain gauge to a given location. Total rain is binned to follow Typical Year rainfall categories. Hours since storm start is taken from the onset of rain to the time of sample collection. Alewife Brook and Malden River stations not included.

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APPENDICES

Appendix I
Use of local rain gauge data for rainfall characterization

Appendix II
2021 raw data, laboratory analyses

Appendix III
2021 raw data, physical profile results

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Appendix I: Use of Local Rain Gauge Data for Rainfall Categorization

Numerous earlier figures in this report use rainfall categories of Dry/Damp/Wet or Dry/Damp/Light Rain/Heavy Rain (e.g., Figure 3-5, etc.). In past reports, these categories have been based on daily rainfall data collected at the NOAA rain gauge at Logan Airport, which depending on the spatial characteristics of a specific storm, may or may not give an accurate picture of the total rainfall amount in a certain area. As CSO activations are heavily influenced by rainfall in the area "served" by the CSO, MADEP requested that more localized rainfall data be used by MWRA.

For this report, all rainfall conditions (with several exceptions, see below) are calculated from the rain gauge most local to the sampling station. The pairings of local rain gauges with sampling locations is below in Table I-1. These local rain gauges are maintained by MWRA, BWSC, and USGS (Figure I-1). These are the same gauges used by the MWRA's Infoworks sewer system hydraulic model. These gauges report not only rainfall depth, but also rainfall intensity, generally in 15 minute intervals. Due to the greater temporal resolution of the local rain gauges compared to the Logan gauge, antecedent rainfall can be calculated precisely 24, 48, or 72 hours (or, if needed, any arbitrary number) prior to the exact sample collection time.

The only exceptions to the use of local rain gauges are Figures 3-7, 3-8, 4-9, and 4-10, which present data dating back to 1989. As the Logan rain gauge is the only gauge available with a complete data set for the entirety of the period, for consistency the rainfall conditions on those plots are calculated using the Logan rain gauge data for 1989 to present.

Table I-1. Rain gauges nearest to MWRA sampling locations.

Charles River		Mystic River/Alewife Brook	
Sampling Location	**Nearest Rain Gauge**	**Sampling Location**	**Nearest Rain Gauge**
012	USGS Fresh Pond	174	USGS Fresh Pond
001	USGS Fresh Pond	074	USGS Fresh Pond
144	USGS Fresh Pond	277	USGS Fresh Pond
002	USGS Fresh Pond	172	USGS Fresh Pond
003	USGS Fresh Pond	276	USGS Fresh Pond
004	BWSC Allston	070	USGS Fresh Pond
005	BWSC Allston	083	USGS Fresh Pond
006	BWSC Allston	057	USGS Fresh Pond
007	MWRA Ward St.	066	USGS Fresh Pond
145	MWRA Ward St.	056	USGS Fresh Pond
008	MWRA Ward St.	177	USGS Fresh Pond
009	BWSC Charlestown	067	BWSC Charlestown
010	BWSC Charlestown	059	MWRA Somerville Marginal
210	BWSC Charlestown	176	BWSC Charlestown
166	BWSC Charlestown	167	MWRA Somerville Marginal
011	BWSC Charlestown	052	MWRA Somerville Marginal
		069	BWSC Charlestown
		137	BWSC Charlestown

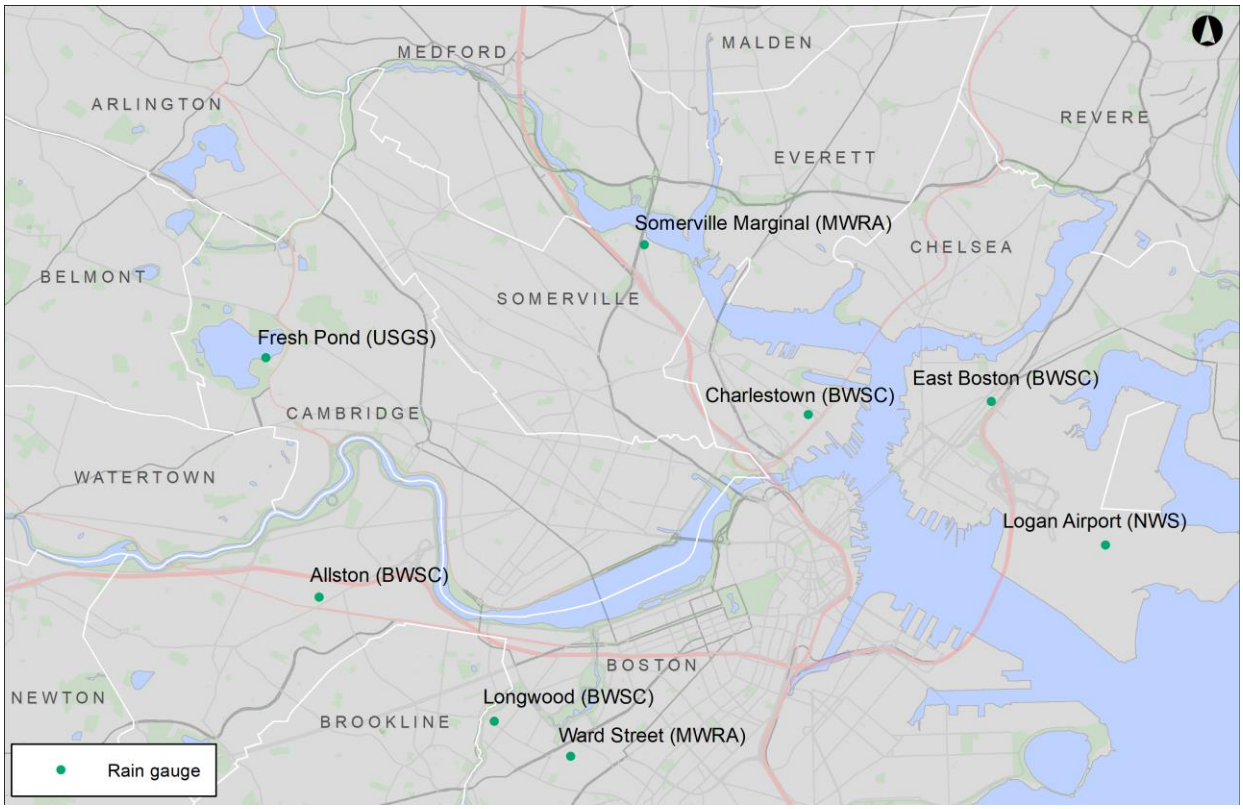

Figure I-1. Map of rain gauges utilized in this report.
Permanent rain gauges used in the analysis of water quality data in this report. This is a subset of MWRA's rain gauge network, and are the most relevant gauges for the Charles River and Alewife Brook/Upper Mystic River Variance waters.

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APPENDIX II

2021 raw data for laboratory results.

Non-detected results have been converted to detection limit for all results except for bacteria, which are converted to 0.

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
012	1/11/21 9:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	5	63	
012	1/25/21 10:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	20	
012	2/10/21 10:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.17	0.17	20.5	111.5	
012	2/24/21 10:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.16	0	122	
012	3/10/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	36	
012	3/25/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.15	0.15	0.15	20	52	
012	4/5/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	41	
012	4/21/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.24	0.24	0.25	31	75	
012	5/5/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.53	1.2	1.22	692	1215	
012	5/19/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	122	
012	6/2/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.15	74	231	
012	6/15/21 10:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.01	0.54	0.54	1720	504	
012	7/6/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.29	0.29	0.6	194.5	268	
012	7/14/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.01	1.22	98	74	
012	7/26/21 9:56 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.15	0.15	63	278	
012	8/11/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.03	1.18	74	63	
012	8/23/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.69	2.45	2.45	160	331	
012	9/10/21 9:33 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.19	1.15	1.15	1010	836	
012	9/22/21 9:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	457	
012	10/8/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	74	373	
012	10/20/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	30.5	36	
012	11/3/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	41	132	
012	11/17/21 11:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.08	41	122	
012	12/2/21 10:47 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.02	0.02	0.02	31	30	
012	12/21/21 10:38 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.38	20	173	
012	12/29/21 10:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.04	0.04	10	185	
001	3/30/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	31	74	
001	3/31/21 9:42 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	30	63	
001	4/14/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	75	
001	4/15/21 9:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	20	20	
001	5/10/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	364	1660	
001	5/11/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	74	187	
001	5/20/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	183	
001	5/21/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	110	1270	
001	5/25/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	134	
001	5/26/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	63	231	
001	6/8/21 9:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	83	218	
001	6/10/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	74	148	
001	6/23/21 10:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	183	1270	
001	6/24/21 10:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	10	419	
001	7/2/21 10:09 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	14100	6130	
001	7/7/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	122	2760	
001	7/19/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	259	213	
001	7/21/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	86	145	
001	7/22/21 10:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	73	121	
001	8/24/21 9:33 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	565	3260	
001	8/25/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	146	759	
001	9/27/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	41	199	
001	9/30/21 9:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	216	218	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
144	3/30/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	30	74	
144	3/31/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	20	74	
144	4/14/21 9:32 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	52	
144	4/15/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	41	31	
144	5/10/21 9:32 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	272	1210	
144	5/11/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	41	233	
144	5/20/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	121	
144	5/21/21 9:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	121	
144	5/25/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	218	
144	5/26/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	41	135	
144	6/8/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	74	183	
144	6/10/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	41	216	
144	6/23/21 9:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	1940	7700	
144	6/24/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	10	253	
144	7/7/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	85	2490	
144	7/19/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	146	305	
144	7/21/21 9:18 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	74	86	
144	7/22/21 10:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	41	122	
144	8/24/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	1550	2760	
144	8/25/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	301	520	
144	9/27/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	52	201	
144	9/30/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	74	464	
002	3/30/21 9:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	10	109	
002	3/31/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	20	86	
002	4/14/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	31	
002	4/15/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	10	41	
002	5/10/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	171	1440	
002	5/11/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	31	218	
002	5/20/21 9:20 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	74	
002	5/21/21 9:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	52	122	
002	5/25/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	52	161	
002	5/26/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	110	160	
002	6/8/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	96	173	
002	6/10/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	63	259	
002	6/23/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	455	6870	
002	6/24/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	31	404	
002	7/2/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	17300	19900	
002	7/7/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	275	448	
002	7/19/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	331	295	
002	7/21/21 9:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	110	269	
002	7/22/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	197	
002	8/24/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	1620	2140	
002	8/25/21 9:11 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	231	323	
002	9/27/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	98	292	
002	9/30/21 9:18 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	253	350	
003	3/30/21 9:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	10	74	
003	3/31/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	52	20	
003	4/14/21 9:13 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	41	
003	4/15/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	10	73	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
003	5/10/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	52	110	
003	5/11/21 8:49 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	41	265	
003	5/20/21 9:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	31	
003	5/21/21 8:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	107	
003	5/25/21 9:23 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	41	
003	5/26/21 8:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	10	52	
003	6/8/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	85	
003	6/10/21 9:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	31	201	
003	6/23/21 9:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	269	2760	
003	6/24/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	30	882	
003	7/2/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	17300	11200	
003	7/7/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	369	906	
003	7/19/21 9:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	341	336	
003	7/21/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	41	134	
003	7/22/21 9:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	110	216	
003	8/24/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	3260	6870	
003	8/25/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	148	723	
003	9/27/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	504	2100	
003	9/30/21 9:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	228	435	
004	3/30/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	110	288	
004	3/31/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	20	189	
004	4/14/21 9:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	31	
004	4/15/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	0	41	
004	5/10/21 9:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	31	189	
004	5/11/21 8:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	146	733	
004	5/20/21 8:56 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	0	
004	5/21/21 8:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	41	
004	5/25/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	20	
004	5/26/21 8:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	10	0	
004	6/8/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	41	
004	6/10/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	31	120	
004	6/23/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	109	259	
004	6/24/21 9:12 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	0	650	
004	7/7/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	74	399	
004	7/19/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	292	373	
004	7/21/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	75	85	
004	7/22/21 9:34 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	41	74	
004	8/24/21 8:54 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	2380	3260	
004	8/25/21 8:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	246	683	
004	9/27/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	158	216	
004	9/30/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	1970	1460	
005	3/10/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	97	
005	3/25/21 8:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.15	0.15	0.15	20	52	
005	3/30/21 9:13 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69	63	382	
005	3/31/21 9:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2	10	85	
005	4/5/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	30	
005	4/14/21 8:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	20	
005	4/15/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22	0	10	
005	4/21/21 9:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.24	0.24	0.25	605	52	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
005	5/5/21 8:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.53	1.2	1.22	109	187	
005	5/10/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34	20	121	
005	5/11/21 8:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34	86	368	
005	5/19/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	108	556	
005	5/20/21 8:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	10	
005	5/21/21 8:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	20	
005	5/25/21 9:11 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	0	31	
005	5/26/21 8:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28	0	41	
005	6/2/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.15	187	657	
005	6/8/21 8:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	10	30	
005	6/10/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	30	85	
005	6/15/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.01	0.54	0.54	933	581	
005	6/23/21 9:21 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	173	479	
005	6/24/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	10	288	
005	7/2/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11		24200	
005	7/6/21 9:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.29	0.29	0.6	727	1520	
005	7/7/21 8:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	97	256	
005	7/14/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.01	1.22	269	798	
005	7/19/21 9:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	738	594	
005	7/21/21 8:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	41	135	
005	7/22/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	132	
005	7/26/21 9:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.15	0.15	294	522.5	
005	8/11/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.03	1.18	432	2010	
005	8/23/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.69	2.45	2.45	185	909	
005	8/24/21 8:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	1220	1540	
005	8/25/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	988	857	
005	9/10/21 9:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.19	1.15	1.15	780	3450	
005	9/22/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20	243	
005	9/27/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	98	285	
005	9/30/21 8:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	1550	1620	
005	10/8/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	171	305	
005	10/20/21 9:09 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	31	262	
005	11/3/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	30	97	
005	11/17/21 10:43 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.08	74	228	
005	12/2/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.02	0.02	0.02	98	538	
005	12/21/21 10:17 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.38	31	281	
005	12/29/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.04	0.04	10	155	
006	3/30/21 9:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	41	226	
006	3/31/21 8:56 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	20	52	
006	4/14/21 8:52 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	31	62	
006	4/15/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	31	31	
006	5/10/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	0	63	
006	5/11/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	185	63	
006	5/20/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	148	189	
006	5/21/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	51	41	
006	5/25/21 9:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	74	109	
006	5/26/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	20	135	
006	6/8/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	31	
006	6/10/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	120	226	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
006	6/23/21 9:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	1790	6870	
006	6/24/21 8:57 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	41	1450	
006	7/2/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	2910	2720	
006	7/7/21 8:35 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	52	187	
006	7/19/21 9:01 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	335	457	
006	7/21/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	31	98	
006	7/22/21 9:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	52	52	
006	8/24/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	907	1940	
006	8/25/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	573	1250	
006	9/27/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	131	305	
006	9/30/21 8:39 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	703	1940	
007	3/30/21 8:57 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0	0.69	31	359	
007	3/30/21 8:57 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	74	379	
007	3/31/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	4.6	0.2	0.2	0.2	31	240	
007	3/31/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	20	175	
007	4/14/21 8:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	226	
007	4/14/21 8:40 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0	0	20	132	
007	4/15/21 8:44 AM	B	CHARLES RIVER	MID-BASIN	4.1	0.22	0.22	0.22	10	63	
007	4/15/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	10	98	
007	5/10/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	4.8	0.34	0.34	0.34	41	74	
007	5/10/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	130	74	
007	5/11/21 8:16 AM	B	CHARLES RIVER	MID-BASIN	4.9	0	0.34	0.34	85	197	
007	5/11/21 8:16 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	30	218	
007	5/20/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	108	
007	5/20/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0	74	350	
007	5/21/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0	0	85	281	
007	5/21/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	61	52	
007	5/25/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	31	121	
007	5/25/21 8:54 AM	B	CHARLES RIVER	MID-BASIN	4.8	0	0	0	0	168	
007	5/26/21 8:05 AM	B	CHARLES RIVER	MID-BASIN	4.5	0.28	0.28	0.28	52	496	
007	5/26/21 8:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	51	368	
007	6/8/21 8:35 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	110	
007	6/8/21 8:35 AM	B	CHARLES RIVER	MID-BASIN	4.8	0	0	0	20	419	
007	6/10/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	31	63	
007	6/10/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0.05	0.05	299	933	
007	6/23/21 9:00 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	620	4350	
007	6/23/21 9:00 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0.91	0.91	1730	10500	
007	6/24/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	52	2610	
007	6/24/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	4.5	0	0	0.91	135	2140	
007	7/2/21 8:55 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	2610	2360	
007	7/7/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	52	216	
007	7/7/21 8:24 AM	B	CHARLES RIVER	MID-BASIN	4.9	0.03	0.32	0.32	120	563	
007	7/19/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	4.6	0	0.3	0.47	780	960	
007	7/19/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	959	959	
007	7/21/21 8:27 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0	31	160	
007	7/21/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	85	108	
007	7/22/21 9:05 AM	B	CHARLES RIVER	MID-BASIN	4.5	0	0	0	20	183	
007	7/22/21 9:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	98	
007	8/24/21 8:28 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	1.69	2.45	1330	2610	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
007	8/24/21 8:28 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	314	1250	
007	8/25/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	98	243	
007	8/25/21 8:21 AM	B	CHARLES RIVER	MID-BASIN	4	0	0	1.69	121	364	
007	9/27/21 8:27 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0.55	0.58	211	285	
007	9/27/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	428	1020	
007	9/30/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0.72	148	285	
007	9/30/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	120	272	
145	3/30/21 9:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	52	288	
145	3/31/21 8:48 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	31	173	
145	4/14/21 8:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	41	63	
145	4/15/21 8:48 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	30	148	
145	5/10/21 8:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	146	813	
145	5/11/21 8:18 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	135	309	
145	5/20/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	85	
145	5/21/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	85	
145	5/25/21 8:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	41	332	
145	5/26/21 8:10 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	31	285	
145	6/8/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	31	
145	6/10/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	52	233	
145	6/23/21 9:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	613	8660	
145	6/24/21 8:47 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	20	2610	
145	7/2/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	1870	2910	
145	7/7/21 8:28 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	131	389	
145	7/19/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	382	884	
145	7/21/21 8:31 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	63	74	
145	7/22/21 9:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	41	
145	8/24/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	2190	2250	
145	8/25/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	201	712	
145	9/27/21 8:33 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	218	256	
145	9/30/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	108	404	
008	3/30/21 8:53 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0	0.69	41	368	
008	3/30/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	20	350	
008	3/31/21 8:38 AM	B	CHARLES RIVER	MID-BASIN	5	0.2	0.2	0.2	63	292	
008	3/31/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	63	158	
008	4/14/21 8:36 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0	20	305	
008	4/14/21 8:36 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	336	
008	4/15/21 8:39 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	10	121	
008	4/15/21 8:39 AM	B	CHARLES RIVER	MID-BASIN	4	0.22	0.22	0.22	0	96	
008	5/10/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	41	318	
008	5/10/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	3.8	0.34	0.34	0.34	74	472	
008	5/11/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	107	733	
008	5/11/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	4	0	0.34	0.34	146	1110	
008	5/20/21 8:22 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	185	
008	5/20/21 8:22 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0	86	878	
008	5/21/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	30	86	
008	5/21/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0	74	243	
008	5/25/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	41	243	
008	5/25/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	4	0	0	0	10	160	
008	5/26/21 7:55 AM	B	CHARLES RIVER	MID-BASIN	4.2	0.28	0.28	0.28	20	109	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
008	5/26/21 7:55 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	10	173	
008	6/8/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	96	
008	6/8/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0	30	41	
008	6/10/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	20	85	
008	6/10/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0.05	0.05	52	110	
008	6/23/21 8:54 AM	B	CHARLES RIVER	MID-BASIN	4	0	0.91	0.91	2600	6490	
008	6/23/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	1010	4880	
008	6/24/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	52	1940	
008	6/24/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	4.4	0	0	0.91	231	2610	
008	7/7/21 8:17 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	86	146	
008	7/7/21 8:17 AM	B	CHARLES RIVER	MID-BASIN	3.7	0.03	0.32	0.32	146	601	
008	7/19/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	605	609	
008	7/19/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	3.6	0	0.3	0.47	627	833	
008	7/21/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0	213	907	
008	7/21/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	52	122	
008	7/22/21 9:01 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0	0	0	122	
008	7/22/21 9:01 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	63	
008	8/24/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	1.69	2.45	933	2190	
008	8/24/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	472	1330	
008	8/25/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	74	538	
008	8/25/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0	1.69	399	1370	
008	9/27/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0.55	0.58	216	495	
008	9/27/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	213	426	
008	9/30/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0.72	41	331	
008	9/30/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	132	359	
009	3/30/21 8:46 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0.69	0	272	
009	3/30/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	10	323	
009	3/31/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	7.4	0.2	0.2	0.2	0	98	
009	3/31/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	0	246	
009	4/14/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0	0	0	41	
009	4/14/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	160	
009	4/15/21 8:33 AM	B	CHARLES RIVER	MID-BASIN	8.9	0.22	0.22	0.22	0	20	
009	4/15/21 8:33 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	20	246	
009	5/10/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	8.7	0.34	0.34	0.34	0	10	
009	5/10/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	0	119	
009	5/11/21 8:06 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0.34	0.34	0	0	
009	5/11/21 8:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	10	179	
009	5/20/21 8:18 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	216	
009	5/20/21 8:18 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0	20	52	
009	5/21/21 8:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	135	
009	5/21/21 8:08 AM	B	CHARLES RIVER	MID-BASIN	8.7	0	0	0	0	31	
009	5/25/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	74	
009	5/25/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0	0	31	
009	5/26/21 7:50 AM	B	CHARLES RIVER	MID-BASIN	8.5	0.28	0.28	0.28	0	86	
009	5/26/21 7:50 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	0	74	
009	6/8/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	52	
009	6/8/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	7.9	0	0	0	0	10	
009	6/10/21 8:10 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	0	62	
009	6/10/21 8:10 AM	B	CHARLES RIVER	MID-BASIN	8.4	0	0.05	0.05	121	359	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
009	6/23/21 8:46 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.91	0.91	0	228	
009	6/23/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	272	1370	
009	6/24/21 8:32 AM	B	CHARLES RIVER	MID-BASIN	6.2	0	0	0.91	20	187	
009	6/24/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	41	520	
009	7/2/21 8:16 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	1600	1720	
009	7/7/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	8.2	0.03	0.32	0.32	0	86	
009	7/7/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	20	118	
009	7/19/21 8:36 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	368	1420	
009	7/19/21 8:36 AM	B	CHARLES RIVER	MID-BASIN	7.6	0	0.3	0.47	10	464	
009	7/21/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	8.3	0	0	0	63	336	
009	7/21/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	31	120	
009	7/22/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	8.7	0	0	0	30	86	
009	7/22/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	52	
009	8/24/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	41	504	
009	8/24/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	6.7	0	1.69	2.45	0	63	
009	8/25/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	41	262	
009	8/25/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	8.6	0	0	1.69	1180	1400	
009	9/27/21 8:14 AM	B	CHARLES RIVER	MID-BASIN	8.4	0	0.55	0.58	0	63	
009	9/27/21 8:14 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	20	108	
009	9/30/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	41	211	
009	9/30/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	7.9	0	0	0.72	20	74	
010	3/30/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0.69	0	288	
010	3/30/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	31	298	
010	3/31/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.2	0.2	0.2	0	52	
010	3/31/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	41	323	
010	4/14/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	63	
010	4/14/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0	10	20	
010	4/15/21 8:26 AM	B	CHARLES RIVER	MID-BASIN	9.4	0.22	0.22	0.22	0	30	
010	4/15/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	0	160	
010	5/10/21 8:26 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.34	0.34	0.34	0	10	
010	5/10/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	41	145	
010	5/11/21 8:03 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.34	0.34	0	85	
010	5/11/21 8:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	20	41	
010	5/20/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	246	
010	5/20/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	9.3	0	0	0	0	10	
010	5/21/21 8:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	168	
010	5/21/21 8:02 AM	B	CHARLES RIVER	MID-BASIN	9	0	0	0	0	10	
010	5/25/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	537	
010	5/25/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0	0	41	
010	5/26/21 7:45 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.28	0.28	0.28	0	31	
010	5/26/21 7:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	10	121	
010	6/8/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	51	
010	6/8/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	9.7	0	0	0	20	0	
010	6/10/21 8:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	0	41	
010	6/10/21 8:06 AM	B	CHARLES RIVER	MID-BASIN	8.8	0	0.05	0.05	10	10	
010	6/23/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	9.1	0	0.91	0.91	122	384	
010	6/23/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	275	1610	
010	6/24/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	30	379	
010	6/24/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	9	0	0	0.91	0	31	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
010	7/7/21 8:04 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	20	85	
010	7/7/21 8:04 AM	B	CHARLES RIVER	MID-BASIN	9.5	0.03	0.32	0.32	20	122	
010	7/19/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	189	369	
010	7/19/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.3	0.47	0	216	
010	7/21/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0	31	173	
010	7/21/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	41	97	
010	7/22/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0	0	0	85	
010	7/22/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	41	
010	8/24/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	8.6	0	1.69	2.45	31	169	
010	8/24/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	84	272	
010	8/25/21 8:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	63	288	
010	8/25/21 8:09 AM	B	CHARLES RIVER	MID-BASIN	7.7	0	0	1.69	243	327	
010	9/27/21 8:07 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0.55	0.58	0	31	
010	9/27/21 8:07 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	20	97	
010	9/30/21 8:13 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0.72	41	84	
010	9/30/21 8:13 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	30	109	
210	3/30/21 8:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69	31	238	
210	3/31/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2	10	240	
210	4/14/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	41	
210	4/15/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22	0	73	
210	5/10/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34	0	84	
210	5/11/21 7:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34	0	63	
210	5/20/21 8:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	40	85	
210	5/21/21 7:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	132	
210	5/25/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	31	
210	5/26/21 7:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28	0	86	
210	6/8/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	10	52	
210	6/10/21 8:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	10	52	
210	6/23/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	109	556	
210	6/24/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	20	288	
210	7/2/21 9:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	110	323	
210	7/7/21 8:00 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	41	98	
210	7/19/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	96	256	
210	7/21/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	20	41	
210	7/22/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	0	74	
210	8/24/21 8:11 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	189	231	
210	8/25/21 8:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	31	265	
210	9/27/21 8:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	20	74	
210	9/30/21 8:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	62	185	
166	1/11/21 9:21 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	52	262	
166	1/25/21 10:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	67.5	423.5	
166	3/10/21 9:45 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	10	74	
166	3/25/21 8:16 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.15	0.15	0.15	20	175	
166	4/5/21 8:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	20	
166	4/21/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.24	0.24	0.25	0	63	
166	5/5/21 8:42 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.53	1.2	1.22	10	86	
166	5/19/21 9:08 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	63	
166	6/2/21 9:29 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.15	0	84	
166	6/15/21 9:10 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.01	0.54	0.54	10	20	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
166	7/6/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.29	0.29	0.6	85	185	
166	7/14/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.01	1.22	292	450	
166	7/26/21 9:23 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.15	0.15	0	20	
166	8/11/21 9:11 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.03	1.18	0	52	
166	8/23/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	0.1	1.69	2.45	2.45	10	98	
166	9/10/21 8:45 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.19	1.15	1.15	31	109	
166	9/22/21 9:04 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	86	
166	10/8/21 9:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	41	198	
166	10/20/21 8:52 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	10	63	
166	11/3/21 9:17 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	86	96	
166	11/17/21 10:27 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.08	79.5	468.5	
166	12/2/21 9:54 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.02	0.02	0.02	0	305	
166	12/21/21 10:00 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.38	30	275	
166	12/29/21 10:20 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.04	0.04	20	269	
011	3/30/21 8:34 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.69	30	465	
011	3/30/21 8:34 AM	B	CHARLES RIVER	LOWER BASIN	4.6	0	0	0.69	20	240	
011	3/31/21 8:12 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.2	0.2	0.2	0	132	
011	3/31/21 8:12 AM	B	CHARLES RIVER	LOWER BASIN	6.3	0.2	0.2	0.2	20	156	
011	4/14/21 8:14 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	63	
011	4/14/21 8:14 AM	B	CHARLES RIVER	LOWER BASIN	6.4	0	0	0	10	52	
011	4/15/21 8:15 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.22	0.22	0.22	20	108	
011	4/15/21 8:15 AM	B	CHARLES RIVER	LOWER BASIN	6.4	0.22	0.22	0.22	31	31	
011	5/10/21 8:18 AM	B	CHARLES RIVER	LOWER BASIN	6.1	0.34	0.34	0.34	0	119	
011	5/10/21 8:18 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.34	0.34	0.34	0	85	
011	5/11/21 7:52 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.34	0.34	0	63	
011	5/11/21 7:52 AM	B	CHARLES RIVER	LOWER BASIN	5.2	0	0.34	0.34	20	96	
011	5/20/21 8:00 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	10	63	
011	5/20/21 8:00 AM	B	CHARLES RIVER	LOWER BASIN	6.6	0	0	0	0	41	
011	5/21/21 7:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	10	185	
011	5/21/21 7:50 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0	0	0	0	41	
011	5/25/21 8:28 AM	B	CHARLES RIVER	LOWER BASIN	7.1	0	0	0	0	31	
011	5/25/21 8:28 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	52	
011	5/26/21 7:35 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0.28	0.28	0.28	10	52	
011	5/26/21 7:35 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.28	0.28	0.28	20	31	
011	6/8/21 8:08 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0	0	0	10	10	
011	6/8/21 8:08 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	41	
011	6/10/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	5.5	0	0.05	0.05	20	31	
011	6/10/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.05	0.05	10	10	
011	6/23/21 8:26 AM	B	CHARLES RIVER	LOWER BASIN	5.1	0	0.91	0.91	156	471	
011	6/23/21 8:26 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.91	0.91	121	530	
011	6/24/21 8:13 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.91	10	285	
011	6/24/21 8:13 AM	B	CHARLES RIVER	LOWER BASIN	5.6	0	0	0.91	52	457	
011	7/2/21 8:06 AM	S	CHARLES RIVER	LOWER BASIN	0.1	1.67	2.95	3.11	552	738	
011	7/7/21 7:49 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.03	0.32	0.32	10	110	
011	7/7/21 7:49 AM	B	CHARLES RIVER	LOWER BASIN	5.9	0.03	0.32	0.32	74	146	
011	7/19/21 8:16 AM	B	CHARLES RIVER	LOWER BASIN	6.5	0	0.3	0.47	74	253	
011	7/19/21 8:16 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.3	0.47	132	226	
011	7/21/21 8:05 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	31	74	
011	7/21/21 8:05 AM	B	CHARLES RIVER	LOWER BASIN	4.3	0	0	0	41	131	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
011	7/22/21 8:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	0	52	
011	7/22/21 8:30 AM	B	CHARLES RIVER	LOWER BASIN	5.7	0	0	0	10	63	
011	8/24/21 8:02 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	1.69	2.45	134	594	
011	8/24/21 8:02 AM	B	CHARLES RIVER	LOWER BASIN	5	0	1.69	2.45	173	323	
011	8/25/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	1.69	74	171	
011	8/25/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	4.2	0	0	1.69	97	199	
011	9/27/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.55	0.58	0	20	
011	9/27/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	5.6	0	0.55	0.58	31	110	
011	9/30/21 8:01 AM	B	CHARLES RIVER	LOWER BASIN	5.7	0	0	0.72	41	74	
011	9/30/21 8:01 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.72	10	97	
052	3/23/21 8:43 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		0
052	3/24/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	20		0
052	4/1/21 9:35 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.92	1.12	1.12	199		330
052	4/2/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.92	1.12	74		127
052	4/12/21 8:56 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		36.4
052	4/12/21 8:56 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.2	0	0	0	31		10
052	4/13/21 8:28 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.7	0	0	0	0		0
052	4/13/21 8:28 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	20		63.6
052	5/6/21 8:58 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.7	0	0.53	1.2	0		15
052	5/6/21 8:58 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.53	1.2	0		18.2
052	5/7/21 8:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.8	0	0	0.53	0		15
052	5/7/21 8:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.53	10		100
052	5/17/21 8:35 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.01	0.01	1150		22100
052	5/18/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	0		164
052	6/7/21 8:18 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		100
052	6/7/21 8:18 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0	0		0
052	6/9/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.05	0.05	0.05	0		0
052	6/21/21 8:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		81.8
052	6/21/21 8:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0	0		15
052	6/22/21 8:29 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.91	0.91	0.91	0		90.9
052	6/22/21 8:29 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.3	0.91	0.91	0.91	20		30
052	7/13/21 9:06 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	1.22	1.25	833		3700
052	8/5/21 9:02 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	1.42	2	2	41		260
052	8/5/21 9:02 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.42	2	2	63		2100
052	8/6/21 8:23 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	1.42	2	10		440
052	8/16/21 8:49 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	0		
052	9/8/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	97		2400
052	9/15/21 8:34 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0.06	10		75
052	9/15/21 8:34 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.06	10		330
052	9/16/21 9:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.31	0.31	0.31	161		450
052	9/16/21 9:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3	0.31	0.31	0.31	10		25
056	3/23/21 9:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	10	
056	3/24/21 9:11 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	146	
056	4/1/21 9:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12	435	512	
056	4/2/21 9:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12	96	183	
056	4/12/21 8:12 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	121	
056	4/13/21 9:06 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	109	
056	5/6/21 9:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2	158	160	
056	5/7/21 9:04 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53	41	173	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
056	5/17/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01	63	175	
056	5/18/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	41		
056	6/7/21 9:01 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	74	295	
056	6/9/21 9:21 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	41	243	
056	6/21/21 9:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	98	
056	6/22/21 9:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	148	305	
056	7/12/21 8:46 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	5170	11200	
056	7/13/21 8:24 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	201	399	
056	8/5/21 9:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	2250	3450	
056	8/6/21 8:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	132	591	
056	8/16/21 9:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	85	419	
056	9/8/21 9:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	63	197	
056	9/15/21 9:08 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	20	379	
056	9/16/21 9:57 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	408	794	
057	3/23/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	10	
057	3/24/21 7:39 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	74	161	
057	4/1/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12	228	160	
057	4/2/21 8:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12	20	41	
057	4/12/21 8:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	10	
057	4/13/21 8:00 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	0	
057	5/6/21 8:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2	52	120	
057	5/7/21 9:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53	30	10	
057	5/17/21 9:40 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01	10	20	
057	5/18/21 9:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	10		
057	6/7/21 8:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	211	2360	
057	6/9/21 9:48 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	52	189	
057	6/21/21 9:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	41	379	
057	6/22/21 7:58 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	98	109	
057	7/12/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	19900	8160	
057	7/13/21 7:56 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	246	173	
057	8/5/21 7:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	359	464	
057	8/6/21 9:18 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	246	201	
057	8/16/21 9:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	10	63	
057	9/8/21 9:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	41	
057	9/15/21 9:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	10	31	
057	9/16/21 8:27 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	3870	1940	
059	3/23/21 8:49 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	41	
059	3/24/21 8:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	41	
059	4/1/21 8:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.92	1.12	1.12	10	110	
059	4/2/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.92	1.12	10	175	
059	4/12/21 8:52 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	10	63	
059	4/13/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	41	
059	5/6/21 9:06 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.53	1.2	74	638	
059	5/7/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.53	20	262	
059	5/17/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	0.01	10	63	
059	5/18/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	0		
059	6/7/21 8:26 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	31	
059	6/9/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.05	0.05	0.05	0	31	
059	6/21/21 8:40 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	52	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
059	6/22/21 8:39 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.91	0.91	0.91	0	20	
059	7/13/21 8:58 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	1.22	1.25	1990	2720	
059	8/5/21 9:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.42	2	2	10	41	
059	8/6/21 8:31 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	1.42	2	161	530	
059	8/16/21 9:02 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	0	20	
059	9/8/21 8:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	84	
059	9/15/21 8:43 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.06	0	96	
059	9/16/21 9:15 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.31	0.31	0.31	0	161	
066	1/11/21 8:46 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	31	74	
066	2/10/21 9:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.17	0.17	10	30	
066	2/24/21 9:02 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.16	0	74	
066	3/10/21 9:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	41	
066	3/25/21 7:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.15	0.15	0.15	347	211	
066	4/5/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	63	
066	4/21/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.24	0.24	0.25	41	1094.5	
066	5/5/21 8:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.53	1.2	1.22	1170	1780	
066	5/19/21 8:26 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	67.5	97.5	
066	6/2/21 8:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.15	108	110	
066	6/15/21 8:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	0.54	0.54	256	315.5	
066	7/6/21 8:14 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.29	0.29	0.6	121	187	
066	7/14/21 8:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	1.22	141	162	
066	7/26/21 8:49 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.15	0.15	41	213	
066	8/11/21 8:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.03	1.18	122	85	
066	8/23/21 8:29 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.69	2.45	2.45	213	412	
066	10/8/21 8:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	62	216	
066	10/20/21 10:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	187	
066	11/3/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	121	480	
066	11/17/21 9:41 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.08	41	243	
066	12/2/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.02	0.02	0.02	30	31	
066	12/21/21 9:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.38	36	97	
066	12/29/21 9:43 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.04	0.04	10	723	
067	3/23/21 9:05 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	31	
067	3/24/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	10	109	
067	4/1/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.92	1.12	1.12	63	63	
067	4/2/21 9:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.92	1.12	84	404	
067	4/12/21 8:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	10	31	
067	4/13/21 8:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	20	
067	5/6/21 9:21 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.53	1.2	97	528	
067	5/7/21 8:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.53	20	158	
067	5/17/21 9:05 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	0.01	0	0	
067	5/18/21 9:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	20		
067	6/7/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	0	
067	6/9/21 9:08 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.05	0.05	0.05	0	10	
067	6/21/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	10	
067	6/22/21 8:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.91	0.91	0.91	20	496	
067	7/12/21 8:32 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.21	1.24	1.29	1450	1290	
067	7/13/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	1.22	1.25	1050	1530	
067	8/5/21 9:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.42	2	2	41	97	
067	8/6/21 8:44 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	1.42	2	73	426	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
067	8/16/21 9:16 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	0	20	
067	9/8/21 8:51 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	41	148	
067	9/15/21 8:56 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.06	0	1280	
067	9/16/21 9:39 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.31	0.31	0.31	0	155	
069	3/23/21 8:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		27.3
069	3/24/21 8:22 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		45.5
069	4/1/21 9:42 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.92	1.12	1.12	146		270
069	4/1/21 9:42 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.9	0.92	1.12	1.12	41		36.4
069	4/2/21 8:39 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.4	0	0.92	1.12	0		15
069	4/2/21 8:39 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.92	1.12	0		0
069	4/12/21 9:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.6	0	0	0	0		10
069	4/12/21 9:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		9.09
069	4/13/21 8:23 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		27.3
069	4/13/21 8:23 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0	10		0
069	5/6/21 8:50 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.7	0	0.53	1.2	0		0
069	5/6/21 8:50 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.53	1.2	0		9.09
069	5/7/21 8:25 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0.53	0		5
069	5/7/21 8:25 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.53	0		145
069	5/17/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.01	0.01	0		27.3
069	5/17/21 8:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4	0	0.01	0.01	0		0
069	5/18/21 8:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	0		9.09
069	5/18/21 8:36 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.9	0	0	0.01	0		0
069	6/7/21 8:11 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		36.4
069	6/7/21 8:11 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0	0		0
069	6/9/21 8:40 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.05	0.05	0.05	10		45.5
069	6/21/21 8:26 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.2	0	0	0	0		5
069	6/21/21 8:26 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		0
069	6/22/21 8:21 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.9	0.91	0.91	0.91	0		0
069	6/22/21 8:21 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.91	0.91	0.91	0		18.2
069	7/13/21 9:13 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	1.22	1.25	933		4400
069	8/5/21 8:54 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.3	1.42	2	2	201		350
069	8/5/21 8:54 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.42	2	2	1070		3900
069	8/6/21 8:18 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	1.42	2	97		2300
069	8/16/21 8:41 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	0		
069	9/8/21 8:24 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		270
069	9/15/21 8:26 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.4	0	0	0.06	0		15
069	9/15/21 8:26 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.06	10		370
069	9/16/21 8:56 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.31	0.31	0.31	1080		2900
069	9/16/21 8:56 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.3	0.31	0.31	0.31	63		220
070	3/23/21 8:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	31	173	
070	3/24/21 7:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	52	86	
070	4/1/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	1020	3260	
070	4/2/21 8:51 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	275	3130	
070	4/12/21 8:44 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	20	148	
070	4/13/21 8:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	73	836	
070	5/6/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	520	677	
070	5/7/21 7:59 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	134	613	
070	5/17/21 8:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	132	341	
070	5/18/21 8:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	148		

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
070	6/7/21 8:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	41	404	
070	6/9/21 7:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	404	350	
070	6/21/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	723	1290	
070	6/22/21 8:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	809	1300	
070	7/12/21 9:21 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	17300	24200	
070	7/13/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	987	1220	
070	8/5/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	8160	17300	
070	8/6/21 7:59 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	1220	1780	
070	8/16/21 7:47 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	201	354	
070	9/8/21 7:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	143	1320	
070	9/15/21 7:27 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	216	823	
070	9/16/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	4350	6130	
074	3/23/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	20	108	
074	3/24/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	609	17300	
074	4/1/21 9:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	341	1110	
074	4/2/21 9:32 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	121	537	
074	4/12/21 9:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	74	2760	
074	4/13/21 8:36 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	52	256	
074	5/6/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	131	2100	
074	5/7/21 8:36 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	31	145	
074	5/17/21 8:42 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	74	379	
074	5/18/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	41		
074	6/7/21 9:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	52	450	
074	6/9/21 8:39 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	223	988	
074	6/21/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	345	1720	
074	6/22/21 8:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	1400	4350	
074	7/12/21 9:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	7700	10500	
074	7/13/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	1240	1520	
074	8/5/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	12000	39300	
074	8/6/21 8:40 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	2600	5480	
074	8/16/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	3870	2190	
074	9/8/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	134	288	
074	9/15/21 8:21 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	106	432	
074	9/16/21 9:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	743	4350	
083	1/11/21 8:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	10	
083	2/24/21 9:09 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.16	0	135	
083	3/10/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	10	
083	3/23/21 8:00 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	0	20	
083	3/24/21 7:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	20	
083	3/25/21 7:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.15	0.15	0.15	10	0	
083	4/1/21 8:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12	146	132	
083	4/2/21 8:44 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12	10	132	
083	4/5/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	10	
083	4/12/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	73	20	
083	4/13/21 7:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	41	
083	4/21/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.24	0.24	0.25	10	10	
083	5/5/21 8:11 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.53	1.2	1.22	173	110	
083	5/6/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2	148	132	
083	5/7/21 9:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53	10	63	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
083	5/17/21 9:45 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01	0	31	
083	5/18/21 9:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	20		
083	5/19/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	10	63	
083	6/2/21 8:56 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.15	285	318	
083	6/7/21 8:14 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	683	697	
083	6/9/21 9:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	10	52	
083	6/15/21 8:33 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	0.54	0.54	354	313	
083	6/21/21 9:41 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	84	272	
083	6/22/21 7:52 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	121	221	
083	7/6/21 8:21 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.29	0.29	0.6	226	278	
083	7/12/21 9:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	4610	4880	
083	7/13/21 7:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	487	161	
083	7/14/21 8:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	1.22	213	171	
083	7/26/21 8:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.15	0.15	74	122	
083	8/5/21 7:48 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	292	857	
083	8/6/21 9:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	213	183	
083	8/11/21 8:31 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.03	1.18	74	122	
083	8/16/21 9:59 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	0	63	
083	8/23/21 8:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.69	2.45	2.45	278	528	
083	9/8/21 9:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20	52	
083	9/10/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.19	1.15	1.15	642	795	
083	9/15/21 9:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	31	84	
083	9/16/21 8:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	1940	9210	
083	9/22/21 8:27 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20.5	5	
083	10/8/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	31	109	
083	10/20/21 8:23 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	31	109	
083	11/3/21 8:44 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	213	110	
083	11/17/21 10:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.08	52	30	
083	12/2/21 9:32 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.02	0.02	0.02	0	10	
083	12/21/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.38	31	109	
083	12/29/21 9:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.04	0.04	20	31	
137	1/4/21 11:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.7	0	0.03	0.44	10		20
137	1/4/21 11:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.03	0.44	73		230
137	1/26/21 10:58 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.22	0.22	0.22	10		5
137	2/4/21 11:05 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.9	0.01	0.01	0.21	0		5
137	2/4/21 11:05 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	0.01	0.21	0		55
137	2/23/21 9:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.9	0	0.16	0.16	0		5
137	2/23/21 9:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.16	0.16	0		15
137	3/3/21 10:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0	0	0.18	0		0
137	3/3/21 10:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.18	0		25
137	3/22/21 10:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		0
137	3/22/21 10:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	10.7	0	0	0	0		0
137	4/6/21 10:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.3	0	0	0	0		0
137	4/6/21 10:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		0
137	4/27/21 9:46 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	14.3	0	0	0.11	0		0
137	4/27/21 9:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.11	0		10
137	5/4/21 9:52 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0.67	0.69	0.7	0		0
137	5/4/21 9:52 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.67	0.69	0.7	20		5
137	5/24/21 9:11 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.9	0	0	0	0		0

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
137	5/24/21 9:11 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		5
137	6/3/21 10:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.1	0	0	0	0		0
137	6/3/21 10:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		20
137	6/28/21 9:54 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.5	0	0	0	0		0
137	6/28/21 9:54 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		40
137	7/15/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	0		290
137	7/15/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	10.9	0	0	0.01	0		45
137	7/28/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.2	0	0.38	0.38	0		15
137	7/28/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.38	0.38	135		465
137	8/9/21 10:15 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.15	1.15	1.15	0		695
137	8/9/21 10:15 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.6	1.15	1.15	1.15	0		15
137	8/26/21 9:50 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	31		400
137	8/26/21 9:50 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0	0	0	0		15
137	9/7/21 10:03 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.05	0		140
137	9/7/21 10:03 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.6	0	0	0.05	10		0
137	9/21/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.2	0	0	0.28	10		0
137	9/21/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.28	0		1140
137	10/13/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.6	0	0	0	0		5
137	10/13/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	10		100
137	11/2/21 9:57 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.1	0	0	0.42	0		5
137	11/2/21 9:57 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.42	175		220
137	11/10/21 11:36 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.4	0	0	0	10		10
137	11/10/21 11:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		215
137	12/1/21 10:38 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	0		10
137	12/1/21 10:38 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.9	0	0	0	20		45
137	12/15/21 11:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.2	0.02	0.02	0.02	0		0
137	12/15/21 11:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.02	0.02	0.02	52		40
137	12/20/21 11:00 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.8	0	0.38	0.94	0		5
137	12/20/21 11:00 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.38	0.94	31		45
167	3/10/21 8:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	41	
167	3/25/21 6:42 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.15	0.15	0.15	10	63	
167	4/5/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	20	10	
167	4/21/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.24	0.24	0.25	0	189	
167	5/5/21 7:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.53	1.2	1.22	10	41	
167	5/19/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	63	121	
167	6/2/21 8:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.15	408	86	
167	6/15/21 7:56 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	0.54	0.54	31	41	
167	7/6/21 7:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.29	0.29	0.6	52	282	
167	7/12/21 8:23 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.21	1.24	1.29	63	259	
167	7/14/21 7:38 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	1.22	148	379	
167	7/26/21 8:21 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.15	0.15	0	0	
167	8/11/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.03	1.18	75	987	
167	8/23/21 7:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.69	2.45	2.45	327	1300	
167	9/10/21 7:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.19	1.15	1.15	148	1310	
167	9/22/21 7:46 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	20	
167	10/8/21 7:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	20	404	
167	10/20/21 7:49 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	84	
167	11/3/21 8:11 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	52	563	
167	11/17/21 9:09 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.08	31	364	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
167	12/2/21 8:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.02	0.02	0.02	0	10	
167	12/21/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.38	31	397	
167	12/29/21 8:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.04	0.04	20	218	
172	3/23/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	31	253	
172	3/24/21 8:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	487	19900	
172	4/1/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	588	1270	
172	4/2/21 9:14 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	109	1280	
172	4/12/21 8:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	41	158	
172	4/13/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	86	173	
172	5/6/21 8:40 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	391	836	
172	5/7/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	96	336	
172	5/17/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	86	158	
172	5/18/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	31		
172	6/7/21 8:48 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	132	226	
172	6/9/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	74	776	
172	6/21/21 8:33 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	195	145	
172	6/22/21 8:31 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	158	233	
172	7/12/21 9:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	24200	17300	
172	7/13/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	1990	1850	
172	8/5/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	6490	5790	
172	8/6/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	759	2760	
172	8/16/21 8:13 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	201	644	
172	9/8/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	187	2760	
172	9/15/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	160	987	
172	9/16/21 9:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	1580	4880	
174	3/23/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	10	74	
174	3/24/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	20	52	
174	4/1/21 9:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	657	728	
174	4/2/21 9:28 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	85	450	
174	4/12/21 9:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	52	148	
174	4/13/21 8:34 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	31	185	
174	5/6/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	86	350	
174	5/7/21 8:31 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	97	135	
174	5/17/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	98	359	
174	5/18/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	30		
174	6/7/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	96	275	
174	6/9/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	723	657	
174	6/21/21 8:47 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	583	1250	
174	6/22/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	443	794	
174	7/12/21 9:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	1720	3080	
174	7/13/21 8:28 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	1470	1600	
174	8/5/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	5170	13000	
174	8/6/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	613	1050	
174	8/16/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	158	416	
174	9/8/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	118	285	
174	9/15/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	160	259	
174	9/16/21 9:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	833	2610	
176	3/23/21 8:56 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	0	41	
176	3/24/21 8:43 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	10	31	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
176	4/1/21 8:43 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.92	1.12	1.12	203	309	
176	4/2/21 9:01 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.92	1.12	160	565	
176	4/12/21 8:45 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	0	0	
176	4/13/21 8:39 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	0	0	
176	5/6/21 9:11 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.53	1.2	345	909	
176	5/7/21 8:44 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.53	20	309	
176	5/17/21 8:55 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.01	0.01	10	63	
176	5/18/21 9:00 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.01	20		
176	6/7/21 8:31 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	0	97	
176	6/9/21 8:58 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.05	0.05	0.05	52	20	
176	6/21/21 8:46 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	10	173	
176	6/22/21 8:44 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.91	0.91	0.91	30	41	
176	7/12/21 8:10 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	1.21	1.24	1.29	1580	1080	
176	7/13/21 8:52 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.01	1.22	1.25	10500	7270	
176	8/5/21 9:18 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	1.42	2	2	262	233	
176	8/6/21 8:35 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	1.42	2	169	2100	
176	8/16/21 9:06 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.01	20	121	
176	9/8/21 8:40 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	31	259	
176	9/15/21 8:47 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.06	10	368	
176	9/16/21 9:24 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.31	0.31	0.31	20	175	
177	1/11/21 8:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	41	309	
177	2/10/21 9:00 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.17	0.17	20	228	
177	2/24/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.16	52	1440	
177	3/10/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	341	
177	3/25/21 6:58 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.15	0.15	0.15	10	41	
177	4/5/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	98	
177	4/21/21 7:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.24	0.24	0.25	20	988	
177	5/5/21 7:40 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.53	1.2	1.22	471	813	
177	5/19/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	52	108	
177	6/2/21 8:32 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.15	31	160	
177	6/15/21 8:08 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	0.54	0.54	457	399	
177	7/6/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.29	0.29	0.6	175	443	
177	7/14/21 7:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	1.22	183	278	
177	7/26/21 8:35 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.15	0.15	110	613	
177	8/11/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.03	1.18	134	512	
177	8/23/21 7:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.69	2.45	2.45	393	1200	
177	9/10/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.19	1.15	1.15	2600	3870	
177	9/22/21 8:02 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	52	175	
177	10/8/21 8:19 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	63	327	
177	10/20/21 8:04 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	0	216	
177	11/3/21 8:27 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	31	336	
177	11/17/21 9:23 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.08	74	309	
177	12/2/21 9:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.02	0.02	0.02	20	122	
177	12/21/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.38	31	368	
177	12/29/21 9:13 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.04	0.04	85	369	
276	3/23/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	63	223	
276	3/24/21 7:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	573		
276	4/1/21 8:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	813	1860	
276	4/2/21 9:04 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	228	1620	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Enterococcus (col/100 mL)	E coli (col/100 mL)	Fecal coliform (col/100 mL)
276	4/12/21 8:51 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	31	86	
276	4/13/21 8:14 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	110	262	
276	5/6/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	487	723	
276	5/7/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	31	331	
276	5/17/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	63	148	
276	5/18/21 8:25 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	41		
276	6/7/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	122	281	
276	6/9/21 8:08 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	96	146	
276	6/21/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	161	97	
276	6/22/21 8:23 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	158	187	
276	7/12/21 9:29 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	24200	15500	
276	7/13/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	2380	1720	
276	8/5/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	14100	5790	
276	8/6/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	862	2500	
276	8/16/21 8:03 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	226	464	
276	9/8/21 8:09 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	134	2190	
276	9/15/21 7:49 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	272	1150	
276	9/16/21 8:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	2480	9800	
277	3/23/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	63	305	
277	3/24/21 7:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	457	19900	
277	4/1/21 9:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12	426	1200	
277	4/2/21 9:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12	228	933	
277	4/12/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	10	122	
277	4/13/21 8:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	52	292	
277	5/6/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2	450	857	
277	5/7/21 8:17 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53	52	285	
277	5/17/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01	132	479	
277	5/18/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	135		
277	6/7/21 8:44 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	5480	3260	
277	6/9/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	379	1310	
277	6/21/21 8:29 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	130	146	
277	6/22/21 8:34 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	185	231	
277	7/12/21 9:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	14100	24900	
277	7/13/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	1780	2380	
277	8/5/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	14100	7270	
277	8/6/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	1150	3450	
277	8/16/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	240	631	
277	9/8/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	120	3260	
277	9/15/21 7:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	185	1250	
277	9/16/21 9:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	1330	4610	

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Ammonium (uM)	Nitrate+nitrate (uM)	Total Nitrogen (uM)	Particulate P (uM)	Phosphate (uM)	Chlorophyll a (ug/L)	Phaeophytin (ug/L)	Particulate carbon (uM)	Particulate nitrogen (uM)	Total dissolved N (uM)	Total dissolved P (uM)	Total phosphorus (uM)	Total suspended solids (mg/L)
012	1/11/21 9:57 AM	S	CHARLES RIVER	UPPER BASIN	3.125	57.65	87.95		0.3555	1.21	1.87				1.1		1.565
012	1/25/21 10:50 AM	S	CHARLES RIVER	UPPER BASIN	2.9	55.6	81.6		0.364	1.55	0.65				1.55		1.57
012	2/10/21 10:30 AM	S	CHARLES RIVER	UPPER BASIN	9.84	76.3	113.5		0.529	0.845	0.625				1.57		1.605
012	2/24/21 10:00 AM	S	CHARLES RIVER	UPPER BASIN	7.16	79.8	106		0.456	3.83	1.66				1.48		2.46
012	3/10/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	1.075	60.95	72.7		0.246	1.435	0.63				1.07		2.495
012	3/25/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.989	54	82.1		0.269	9.88	4.79				1.39		3.75
012	4/5/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.937	40.2	67		0.062	9.93	4.47				1.32		1.96
012	4/21/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	2.09	36.3	68.7		0.318	2.47	1.55				1.74		5.35
012	5/5/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	3.645	38.2	74.55		0.432	5.45	3.23				1.58		3.545
012	5/19/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	3.2	32	70.6		0.358	6.89	1.64				1.62		2.52
012	6/2/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	7.11	31	86.1		0.649	0.73	1.05				2.03		3.46
012	6/15/21 10:03 AM	S	CHARLES RIVER	UPPER BASIN	9.19	35.9	84		1.34	2.91	4.25				2.96		2.13
012	7/6/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	5.01	27.45	78.95		0.995	2.67	2.61				2.575		3.755
012	7/14/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	4.28	14.3	63.4		1.05	2.39	3.33				2.78		5.06
012	7/26/21 9:56 AM	S	CHARLES RIVER	UPPER BASIN	11.1	21.8	79.7		2.05	1.23	1.36				4.61		2.28
012	8/11/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	2.96	38.2	83.4		1.25	0.42	0.68				2.32		3.18
012	8/23/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	5.36	32.8	70.8		1.17	1.3	2.29				2.4		3.49
012	9/10/21 9:33 AM	S	CHARLES RIVER	UPPER BASIN	2.92	19.5	61.4		0.96	1.31	2.56				2.68		4.14
012	9/22/21 9:45 AM	S	CHARLES RIVER	UPPER BASIN	1.76	27	70.3		0.716	0.12	0.5				2.3		1.87
012	10/8/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	2.7	38.4	71		0.985	0.43	0.8				2.04		3.43
012	10/20/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	3.14	38	68		0.9545	1.15	2.15				1.765		1.56
012	11/3/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	2.99	29.1	61.4		0.859	0.66	1.7				1.95		1.83
012	11/17/21 11:00 AM	S	CHARLES RIVER	UPPER BASIN	3.38	38.3	61.9		0.883	0.68	1.37				2.52		1.84
012	12/2/21 10:47 AM	S	CHARLES RIVER	UPPER BASIN	4.96	50.3	74.7		0.83	0.88	1.09				1.61		2.05
012	12/21/21 10:38 AM	S	CHARLES RIVER	UPPER BASIN	4.76	56	84.3		0.512	2.58	1.02				1.37		2.27
012	12/29/21 10:55 AM	S	CHARLES RIVER	UPPER BASIN	5.41	62.3	89.7		0.566	1.39	0.89				1.79		2.14
005	3/10/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	1.98	62	94.7		0.248	1.12					1.92		4.48
005	3/25/21 8:28 AM	S	CHARLES RIVER	UPPER BASIN	0.884	55.5	84.5		0.277	8.95					1.54		5.53
005	4/5/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	1.23	44.5	73.3		0.141	7.87					1.33		5.47
005	4/21/21 9:10 AM	S	CHARLES RIVER	UPPER BASIN	2.05	41.3	75.2		0.317	3.31					1.98		8.81
005	5/5/21 8:57 AM	S	CHARLES RIVER	UPPER BASIN	2.65	41.4	76.4		0.417	18.6					1.82		8.97
005	5/19/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	1.58	29.1	68.8		0.257	11.6					1.78		4.3
005	6/2/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	6.64	26.3	91.4		0.497	1.88					2.23		9.96
005	6/15/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	9.11	34	81.5		0.92	17.1					2.93		3.49
005	7/6/21 9:06 AM	S	CHARLES RIVER	UPPER BASIN	1.97	24.4	80.4		0.806	5.84					3.64		15.8
005	7/14/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	4.92	20.3	65		1.07	2.41					2.52		5.8
005	7/26/21 9:39 AM	S	CHARLES RIVER	UPPER BASIN	8.465	25.45	79.55		1.87	2.62					4.355		4.45
005	8/11/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	1.3	37	76.8		0.893	1.94					2.03		3.41
005	8/23/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	3.34	28.1	67.3		0.747	8.11					2.45		9.79
005	9/10/21 9:02 AM	S	CHARLES RIVER	UPPER BASIN	2.47	22.4	66		0.947	8.53					3.01		9.33
005	9/22/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.947	34.3	67.6		0.87	5.61					2.24		2.3
005	10/8/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	2.4	42.3	58.7		0.958	0.78					2.23		2.35
005	10/20/21 9:09 AM	S	CHARLES RIVER	UPPER BASIN	2.62	38.2	69.6		0.911	3.99					1.87		4.36
005	11/3/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	2.02	33	65.4		0.812	1.22					2		1.97
005	11/17/21 10:43 AM	S	CHARLES RIVER	UPPER BASIN	2.31	40.6	64.8		1	0.92					2.68		1.08
005	12/2/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	4.07	48.3	80.8		0.782	2.27	3.58				1.77		2.36
005	12/21/21 10:17 AM	S	CHARLES RIVER	UPPER BASIN	5.2	56.5	83.9		0.611	1.47	1.1				1.54		2.95
005	12/29/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	5.05	61.5	87		0.583	1.92	1.05				1.78		2.35
166	1/11/21 9:21 AM	S	CHARLES RIVER	LOWER BASIN	4.36	57.8	88.7		0.493	2.89	1.89				1.3		1.36
166	1/25/21 10:30 AM	S	CHARLES RIVER	LOWER BASIN	6.945	63.2	93.95		0.7315	2.885	0.725				2.27		1.875
166	3/10/21 9:45 AM	S	CHARLES RIVER	LOWER BASIN	5.82	67	108		0.376	1.61	0.38				2.04		2.13
166	3/25/21 8:16 AM	S	CHARLES RIVER	LOWER BASIN	1.54	61	93.3		0.307	13	5.2				1.43		3.27
166	4/5/21 8:30 AM	S	CHARLES RIVER	LOWER BASIN	0.335	48.4	75.8		0.0523	18.5	3.37				1.6		4.57
166	4/21/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	0.38	41.4	69.4		0.258	5.34	0.79				1.59		3.26
166	5/5/21 8:42 AM	S	CHARLES RIVER	LOWER BASIN	8.34	39.4	76.2		0.639	3.82	3.14				1.69		0.79
166	5/19/21 9:08 AM	S	CHARLES RIVER	LOWER BASIN	4.11	38.8	74.9		0.316	9.44	2.24				1.71		2.52
166	6/2/21 9:29 AM	S	CHARLES RIVER	LOWER BASIN	11.7	31	92		0.655	2.15	1.49				2.08		4.15
166	6/15/21 9:10 AM	S	CHARLES RIVER	LOWER BASIN	9.46	35	76.4		0.633	6	7.14				2.05		2.38
166	7/6/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	10.3	27.9	75.6		0.753	4.41	1.27				2.29		3.75
166	7/14/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	8.42	27.2	68.6		1.18	2.51	2.5				2.54		4.43
166	7/26/21 9:23 AM	S	CHARLES RIVER	LOWER BASIN	10.1	22	76.7		1.63	0.1	0.15				3.88		3
166	8/11/21 9:11 AM	S	CHARLES RIVER	LOWER BASIN	6.25	32.3	80.9		0.914	1.96	4.58				2.32		3.7
166	8/23/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	8.73	33.5	72.8		0.925	4.73	4.2				2.4		2.59
166	9/10/21 8:45 AM	S	CHARLES RIVER	LOWER BASIN	4.97	28.9	70.2		1.21	3.32	2.48				2.5		0.59
166	9/22/21 9:04 AM	S	CHARLES RIVER	LOWER BASIN	6.14	36.9	74.8		1.09	2.84	1.63				2.74		2.86
166	10/8/21 9:30 AM	S	CHARLES RIVER	LOWER BASIN	4.92	45.45	77.05		0.978	2.185	0.875				2.305		3.03
166	10/20/21 8:52 AM	S	CHARLES RIVER	LOWER BASIN	4.91	37.9	72.6		0.811	6.26	4.23				1.81		3.17
166	11/3/21 9:17 AM	S	CHARLES RIVER	LOWER BASIN	5.11	36.7	68.3		1.06	0.46	0.94				2.23		1.92
166	11/17/21 10:27 AM	S	CHARLES RIVER	LOWER BASIN	4.93	36.85	64.9		1.12	1.4	1.27				3.18		2.215
166	12/2/21 9:54 AM	S	CHARLES RIVER	LOWER BASIN	16.7	60.4	78.1		0.666	1.2	0.87				2.03		1.65

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Ammonium (uM)	Nitrate+nitrate (uM)	Total Nitrogen (uM)	Particulate P (uM)	Phosphate (uM)	Chlorophyll a (ug/L)	Phaeophytin (ug/L)	Particulate carbon (uM)	Particulate nitrogen (uM)	Total dissolved N (uM)	Total dissolved P (uM)	Total phosphorus (uM)	Total suspended solids (mg/L)
166	12/21/21 10:00 AM	S	CHARLES RIVER	LOWER BASIN	9.94	58.3	89.5		0.786	1.4	0.62				1.68		3.61
166	12/29/21 10:20 AM	S	CHARLES RIVER	LOWER BASIN	7.47	65.7	95.9		0.75	2.59	1.1				2.06		1.97
066	1/11/21 8:46 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	19	60.3	113		0.337	6.46	4.18				1.29		3.09
066	2/10/21 9:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	23.1	63.9	122		0.451	1.16	0.6				1.4		1.54
066	2/24/21 9:02 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	21.2	73.5	116		0.442	5.78	1.02				1.26		1.04
066	3/10/21 9:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	24.5	72.2	150		1.87	1.92	0.56				4.72		1.61
066	3/25/21 7:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	24.7	72.95	129		0.559	9.17	2.845				1.69		3.67
066	4/5/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	16.6	73.2	107		0.135	14.6	3.5				1.48		0.97
066	4/21/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	12.9	71	109		0.4415	3.005	1.02				1.635		4.135
066	5/5/21 8:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	9.63	72.4	107		0.439	15.7	2.77				1.57		6.15
066	5/19/21 8:26 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	1.79	59.65	91.35		0.0888	26.2	0.76				1.41		7.465
066	6/2/21 8:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	8.52	50.25	98.85		0.209	1.96	0.95				1.165		2.475
066	6/15/21 8:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	12.7	46.95	85.45		0.3815	5.05	4.47				1.81		2.625
066	7/6/21 8:14 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	5.86	44.7	87.5		0.276	4.97	1.85				1.49		5.08
066	7/14/21 8:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	7.995	37.85	71.25		0.3565	8.7	3.56				1.5		6.225
066	7/26/21 8:49 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	8.47	45.5	79.4		0.64	4.14	3.27				2.09		2.86
066	8/11/21 8:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	4.04	41.3	82.2		0.242	2.97	1.91				1.21		4.62
066	8/23/21 8:29 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	4.435	35.4	69.75		0.394	5.6	4.01				1.505		5.31
066	10/8/21 8:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	4.61	50	81.6		0.473	5.03	2.17				1.71		4.93
066	10/20/21 10:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	6.79	51.3	78.3		0.497	2.9	2.01				1.21		1.73
066	11/3/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	9.42	56.2	94.8		0.55	3.06	2.52				1.47		2.3
066	11/17/21 9:41 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	11.2	55.1	81		0.531	8.66	5.16				2.26		2.62
066	12/2/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	7.68	42.5	104		0.996	4.42	2.95				1.41		2.49
066	12/21/21 9:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	20.65	59.45	99.9		0.482	2.57	1.36				1.2		2.675
066	12/29/21 9:43 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	20.5	70.65	109.5		0.5185	2.85	1.33				1.77		2.61
083	1/11/21 8:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	19.1	58.8	105		0.295	6.42	2.99				0.988		2.7
083	2/24/21 9:09 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	18.2	69.8	110		0.438	8.02	1.4				1.28		1.7
083	3/10/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	24.7	73.9	129		0.425	1.42	0.74				1.82		2.44
083	3/25/21 7:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	25.9	73.1	130		0.575	13.2	4.38				1.86		6.16
083	4/5/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	18.5	78.95	121		0.213	10.14	1.085				1.17		5.98
083	4/21/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	10.3	73.8	103		0.396	2.79	0.54				1.28		2.7
083	5/5/21 8:11 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	5.63	76.2	100		0.348	12.3	1.34				1.06		3.51
083	5/19/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.393	59.5	93.2		0.0223	55.3	0.15				1.29		6.24
083	6/2/21 8:56 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	5.03	53.6	102		0.0959	2	1.05				0.9		1.56
083	6/15/21 8:33 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	6.05	50	81.3		0.149	4.69	3.49				1.34		1.46
083	7/6/21 8:21 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	4.9	44.1	82.5		0.243	5.92	2.07				1.31		4.86
083	7/14/21 8:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	6.93	39	70.7		0.341	7.97	1.65				1.25		3.12
083	7/26/21 8:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	5.32	48.5	79.2		0.464	4.35	2.35				1.7		2.47
083	8/11/21 8:31 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	2.44	42.4	76.9		0.24	1.91	1.29				0.984		3.36
083	8/23/21 8:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	3.66	37.2	67.1		0.377	5.98	4.73				1.33		3.57
083	9/10/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	2.27	34.7	68.15		0.235	18.35	8.405				1.47		3.585
083	9/22/21 8:27 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	1.895	44.5	73		0.4745	5.31	2.73				1.41		2.855
083	10/8/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	2.08	51.1	78.3		0.43	4.85	2.37				1.51		4.08
083	10/20/21 8:23 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	4.57	49.9	76.9		0.372	4.6	3.08				1.08		2.58
083	11/3/21 8:44 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	6.62	55	85.2		0.425	1.57	1.5				1.23		2.14
083	11/17/21 10:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	10.6	54.9	79.6		0.481	10.1	5.41				2.14		3.09
083	12/2/21 9:32 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	18	56.1	101		0.57	4.21	2.87				1.31		2.49
083	12/21/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	20.1	62.8	100		0.49	2.79	1.98				1.35		3.16
083	12/29/21 9:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	19.2	70.3	113		0.549	1.56	1.35				1.67		4.92
137	1/4/21 11:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.74	9.53			1.04	0.34	0.36						
137	1/4/21 11:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	7.72	24.1		0.283	0.868	0.52	0.41	24.5	2.26	43.8		1.01	
137	1/26/21 10:58 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.11	10.2		0.155	0.706	0.61	0.18	10.2	1.28	25.7		0.36	
137	2/4/21 11:05 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.173	4.97			0.591	0.65	0.26						
137	2/4/21 11:05 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.79	11.5		0.276	0.59	0.59	0.21	19	2.76	25.1		0.95	
137	2/23/21 9:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.921	6.33			0.627	1.88	0.2						
137	2/23/21 9:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.48	12.4		0.194	0.565	0.84	0.15	16.5	1.82	28.6		0.937	
137	3/3/21 10:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.297	7.4			0.521	3.44	0.4						
137	3/3/21 10:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.54	22.6		0.341	0.584	2.22	0.82	35.9	3.79	40.9		0.704	
137	3/22/21 10:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.329	14.3		0.312	0.267	1.96	0.79	33.2		27.2		0.473	
137	3/22/21 10:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.028	0.563			0.333	3.54	1.54						
137	4/6/21 10:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.028	2.03			0.507	3.62	0.57						
137	4/6/21 10:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.028	3.15		0.208	0.356	2.89	0.17	21.6	2.98	11.8		0.47	
137	4/27/21 9:46 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.11	1.76			0.504	0.32	0.15						
137	4/27/21 9:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.56	5.32		0.211	0.473	0.43	0.19	24.4	3.12	24.5		0.699	
137	5/4/21 9:52 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.028	2.02			0.449	2.28	1.59						
137	5/4/21 9:52 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.85	33.9		0.568	0.423	5.72	1.39	57.1	8.03	52.5		0.456	
137	5/24/21 9:11 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.57	1.04			0.44	2.54	0.53						
137	5/24/21 9:11 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.55	1.63		0.319	0.295	0.76	0.22	25.1	3.73	15.4		0.665	
137	6/3/21 10:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	5.16	2.93			0.753	2.47	0.38						1.81
137	6/3/21 10:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	5.41	10.5		0.443	0.584	4.53	0.35	46.1	6.68	30		0.826	1.8

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Ammonium (uM)	Nitrate+nitrate (uM)	Total Nitrogen (uM)	Particulate P (uM)	Phosphate (uM)	Chlorophyll a (ug/L)	Phaeophytin (ug/L)	Particulate carbon (uM)	Particulate nitrogen (uM)	Total dissolved N (uM)	Total dissolved P (uM)	Total phosphorus (uM)	Total suspended solids (mg/L)
137	6/28/21 9:54 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.14	1.98			0.829	0.99	0.29						1.64
137	6/28/21 9:54 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.78	0.985		0.624	0.364	1.5	1.43	49.6	6.23	13.4		0.426	2.57
137	7/15/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	10	22.7		0.618	0.708	0.88	0.21			50.2		0.808	12.3
137	7/15/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	8.49	3.85			1.15	0.34	0.52						3.11
137	7/28/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	5.4	1.62			1.19	1.48	1.18						2.62
137	7/28/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	5.62	11		1.58	0.615	14.8	3.15			36.7		0.795	12
137	8/9/21 10:15 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.08	6.39		1.13	0.571	3.33	1.27	90.4	12.7	24.2		0.298	5.75
137	8/9/21 10:15 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	6.87	2.48			1.51	0.51	0.76						1.86
137	8/26/21 9:50 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	7.26	11.6		0.756	0.906	1.68	0.7	50.5	6.61	35		1.31	5.42
137	8/26/21 9:50 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	6.77	2.38			1.47	0.22	0.36						2.53
137	9/7/21 10:03 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	8.24	11.8		0.554	0.922	1.15	0.67	44.6	5.61	35		0.889	3.39
137	9/7/21 10:03 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	7.39	3.04			1.12	1.05	0.68						3.19
137	9/21/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.01	3.98			1.18	3.29	1.6						7.79
137	9/21/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	9.65	14.8		1.07	1.11	7.16	2.67	91.4	11.1	37.9		1.52	2.42
137	10/13/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	6.7	5.73			1.2	0.67	0.71						1.69
137	10/13/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.63	14.3		0.491	0.923	5.56	2.01	58.9	8.95	32.9		0.62	2.14
137	11/2/21 9:57 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	5.33	5.74			1.16	0.5	0.8						1.97
137	11/2/21 9:57 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	7.09	18.2		0.319	1.11	0.94	1	31.5	3.51	36.8		1.5	2.96
137	11/10/21 11:36 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	8.15	5.77			0.964	0.26	0.35						6.63
137	11/10/21 11:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	8.65	14.1		0.346	0.868	0.63	0.36	27.1	3.57	30.6		1.38	5.49
137	12/1/21 10:38 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.08	9.33		0.217	1.07	0.87	0.35	21	2.47	19.1		1.18	1.6
137	12/1/21 10:38 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.8	7.89			1.18	0.92	0.47						2.32
137	12/15/21 11:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.96	5.2			0.853	1.62	0.68						1.74
137	12/15/21 11:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	5	14.4		0.237	0.793	0.47	0.32	18.7	1.92	31		0.971	2.29
137	12/20/21 11:00 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	1.76	5.13			0.756	0.91	0.58						1.89
137	12/20/21 11:00 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	8.39	24.8		0.372	0.627	0.66	0.43	33.7	3.19	41.2		0.885	15.6
167	3/10/21 8:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	18.5	71.8	117		0.42	0.95	0.32				2.09		2.42
167	3/25/21 6:42 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	16.8	64.5	116		0.375	12.3	3.74				1.95		5.11
167	4/5/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	11.8	56.4	99		0.0901	25.8	1.76				1.73		4.97
167	4/21/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	12.1	63.4	103		0.422	3.72	0.55				1.85		4.8
167	5/5/21 7:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.89	60.3	92.5		0.373	57.9	5.96				1.75		5.9
167	5/19/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.937	34.1	73.1		0.179	62.6	0.95				1.88		7.73
167	6/2/21 8:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	10.2	39	93.3		0.329	1.94	0.89				1.69		6.01
167	6/15/21 7:56 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.43	10	60.2		0.185	31.2	19.2				2.46		6.85
167	7/6/21 7:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	9.68	38.5	86.5		0.737	8.1	1.96				2.45		5.13
167	7/14/21 7:38 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	9.46	36.2	73		0.542	14.2	2.74				1.98		4.45
167	7/26/21 8:21 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	3.78	18.9	60.2		0.383	22.9	6.93				2.57		6.3
167	8/11/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	2.6	17.2	58.7		0.285	9.01	3.98				1.83		6.26
167	8/23/21 7:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	10.5	27.8	67.2		0.491	11.8	6.56				2.15		5.13
167	9/10/21 7:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.12	32.8	76.8		0.345	12	6.33				2.36		4.34
167	9/22/21 7:46 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.13	36.2	68.6		0.473	9.99	4.74				2.06		5.01
167	10/8/21 7:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.25	43.3	75.5		0.678	4.51	1.67				2.31		3.83
167	10/20/21 7:49 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.07	39.7	70		0.41	8.31	4.88				1.4		3.51
167	11/3/21 8:11 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	11.4	52.3	87.1		0.536	5.73	4.84				1.84		2.89
167	11/17/21 9:09 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	7.72	40.1	68.8		0.597	4.35	2.59				2.66		5.37
167	12/2/21 8:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	15	52.2	92.6		0.731	4	2.63				1.68		1.98
167	12/21/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	17.3	51.6	89.4		0.452	2.87	1.09				1.46		3.22
167	12/29/21 8:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	20.4	61.5	102		0.544	1.79	1.44				1.8		4.12
177	1/11/21 8:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	18.7	67.5	110		0.321	5.05					1.14		3.57
177	2/10/21 9:00 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	20.8	65.5	118		0.484	1.46	0.62				1.46		1.66
177	2/24/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	19.4	74.2	120		0.483	6.35	1.63				1.44		2.51
177	3/10/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	19.8	72.7	118		0.424	1.03					1.75		1.77
177	3/25/21 6:58 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	20.3	69.9	122		0.492	6.4					1.8		3.62
177	4/5/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	17.9	73.1	119		0.213	11.6					1.5		2.72
177	4/21/21 7:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	12	72	108		0.387	2.32					1.6		4.81
177	5/5/21 7:40 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	8.37	66.1	96.7		0.439	15.8					1.64		3.69
177	5/19/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.923	56.6	90.5		0.0533	55					1.61		8.31
177	6/2/21 8:32 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	9.68	50.2	108		0.0129	1.38					1.27		4.29
177	6/15/21 8:08 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	13.5	37.5	84.3		0.411	4.39					2.16		4.27
177	7/6/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	9.63	41.8	89.3		0.397	6.12					2.1		5.35
177	7/14/21 7:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	9.81	39	74.6		0.494	8.15					1.68		6.49
177	7/26/21 8:35 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	10.2	43.7	82.5		0.749	2.95					2.43		2
177	8/11/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	5.37	41.3	81.5		0.312	1.31					1.39		4.04
177	8/23/21 7:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	6.55	38	71		0.475	6.62					1.71		4.54
177	9/10/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	5.34	33.5	68		0.309	5.92					1.91		5.32
177	9/22/21 8:02 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	5.09	46	78.8		0.502	4.8					1.95		6.39
177	10/8/21 8:19 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	4.99	50.7	80.8		0.519	6.55					2.06		4.93
177	10/20/21 8:04 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	4.15	48.4	80.4		0.354	11.4					1.37		3.83
177	11/3/21 8:27 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	8.82	57.1	87.7		0.497	2.09					1.59		3.16
177	11/17/21 9:23 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	8.13	54.7	81.6		0.572	6.49					2.13		2.46

Station	Day/Time(EST)	Surface/Bottom	Region	Subregion	Ammonium (uM)	Nitrate+nitrate (uM)	Total Nitrogen (uM)	Particulate P (uM)	Phosphate (uM)	Chlorophyll a (ug/L)	Phaeophytin (ug/L)	Particulate carbon (uM)	Particulate nitrogen (uM)	Total dissolved N (uM)	Total dissolved P (uM)	Total phosphorus (uM)	Total suspended solids (mg/L)
177	12/2/21 9:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	16.4	59	97.8		0.604	4.8	2.62				1.47		2.36
177	12/21/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	18.7	62	97.6		0.865	3.39	1.49				1.34		4.36
177	12/29/21 9:13 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	17.9	69.2	104		0.539	1.63	0.92				1.78		2.45

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APPENDIX III

2021 raw data for physical profile results.

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
012	1/11/21 9:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
012	1/25/21 10:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
012	2/10/21 10:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.17	0.17								
012	2/24/21 10:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.16								
012	3/10/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
012	3/25/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.15	0.15	0.15								
012	4/5/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
012	4/21/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.24	0.24	0.25								
012	5/5/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.53	1.2	1.22								
012	5/19/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
012	6/2/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.15	16.548	0.25	10.18	104.5	0.522		7.2	
012	6/2/21 10:02 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.15	16.525	0.25	10.17	104.3	0.522		7.17	
012	6/15/21 10:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.01	0.54	0.54	21.092	0.27	7.63	85.8	0.554	3.3	7.17	
012	7/6/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.29	0.29	0.6	20.782	0.24	8.56	95.7	0.489		7.06	
012	7/6/21 9:26 AM	B	CHARLES RIVER	UPPER BASIN		0.29	0.29	0.6	20.772	0.24	8.5	95	0.489		6.98	
012	7/14/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.01	1.22	20.335	0.16	8.75	97	0.344		6.94	
012	7/14/21 10:06 AM	B	CHARLES RIVER	UPPER BASIN		0	0.01	1.22	20.333	0.16	8.71	96.5	0.344		6.89	
012	7/26/21 9:56 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.15	0.15	23.344	0.2	8.1	95.1	0.414		7.24	
012	7/26/21 9:56 AM	B	CHARLES RIVER	UPPER BASIN		0	0.15	0.15	23.335	0.2	7.86	92.4	0.414		7.07	
012	8/11/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.03	1.18	24.061	0.27	8.02	95.6	0.563	2.07	7.16	
012	8/23/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.69	2.45	2.45	23.602	0.26	7.57	89.4	0.546		7.1	
012	8/23/21 9:46 AM	B	CHARLES RIVER	UPPER BASIN		1.69	2.45	2.45	23.599	0.26	7.54	89	0.546		7.08	
012	9/10/21 9:33 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.19	1.15	1.15	21.182	0.16	8.21	92.5	0.332	2.98	6.94	
012	9/10/21 9:33 AM	B	CHARLES RIVER	UPPER BASIN		0.19	1.15	1.15	21.184	0.16	8.19	92.2	0.332	11.69	6.85	
012	9/22/21 9:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	20.747	0.23	8.56	95.6	0.487	1.72	7.19	
012	9/22/21 9:45 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	20.729	0.23	8.52	95.2	0.487	1.8	7.01	
012	10/8/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	16.801	0.21	9.37	96.7	0.437	2.69	6.9	
012	10/20/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	15.06	0.23	9.33	92.8	0.469		7.41	
012	10/20/21 9:29 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	15.039	0.23	9.28	92.2	0.469		7.31	
012	11/3/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	11.119	0.18	10.7	97.4	0.38	1.28	7.26	
012	11/17/21 11:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.08	7.074	0.2	11.95	98.8	0.416	1.12	7.53	
012	11/17/21 11:00 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.08	7.069	0.2	11.9	98.3	0.416	1.19	7.36	
012	12/2/21 10:47 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.02	0.02	0.02	3.69	0.22	12.78	96.8	0.456	1.54	7.51	
012	12/2/21 10:47 AM	B	CHARLES RIVER	UPPER BASIN		0.02	0.02	0.02	3.638	0.22	13.13	99.4	0.455	1.66	7.4	
012	12/21/21 10:38 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.38	2.536	0.25	13.89	102	0.516	1.94	7.23	
012	12/21/21 10:38 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.38	2.534	0.25	13.77	101.2	0.517	2.06	7.21	
012	12/29/21 10:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.04	0.04	2.643	0.27	13.43	99	0.559	0.76	7.45	
012	12/29/21 10:55 AM	B	CHARLES RIVER	UPPER BASIN		0	0.04	0.04	2.644	0.27	13.47	99.3	0.559	0.93	7.38	
001	3/30/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								1
001	3/31/21 9:42 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								0.9
001	4/14/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.3
001	4/15/21 9:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.6
001	5/10/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								1
001	5/11/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								
001	5/20/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
001	5/21/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
001	5/25/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.3
001	5/26/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.5
001	6/8/21 9:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	24.945	0.26	7.4	89.6	0.531	2.06	7.16	
001	6/10/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	24.701	0.27	7.33	88.3	0.56	3.35	7.57	
001	6/23/21 10:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	23.5	0.3	7.85	92.5	0.615	4.35	7.23	0.5
001	6/23/21 10:07 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	23.325	0.3	7.48	87.9	0.622		7.16	
001	6/24/21 10:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	23.353	0.32	7.4	87	0.66	1.75	7.17	
001	7/2/21 10:09 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	22.871	0.21	7.04	82	0.428		6.75	
001	7/7/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.472	0.25	8.26	95.5	0.517	2.82	7.25	
001	7/7/21 9:40 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	22.413	0.25	8.27	95.5	0.518	7.11	7.19	
001	7/19/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.578	0.17	8.4	97.2	0.358	2.34	6.88	0.5
001	7/19/21 10:02 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.57	0.17	8.14	94.2	0.357	48.62	6.85	
001	7/21/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.153	0.19	8.49	99.4	0.403	5.17	6.92	
001	7/22/21 10:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.426	0.2	8.22	96.8	0.418	2.27	7.03	0.7
001	8/24/21 9:33 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	23.954	0.24	7.66	91	0.507	4.52	7.11	
001	8/25/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	24.681	0.25	7.8	94	0.511	3.07	7.1	
001	9/27/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	20.192	0.26	8.07	89.2	0.534	1.7	7.08	
001	9/27/21 9:46 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	20.224	0.26	8.21	90.8	0.533	6.39	7.03	
001	9/30/21 9:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	17.746	0.25	8.57	90.2	0.512	2.37	7.02	
144	3/30/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								1.3
144	3/31/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								0.8
144	4/14/21 9:32 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.8
144	4/15/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.5
144	5/10/21 9:32 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								1

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
144	5/11/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								0.9
144	5/20/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
144	5/21/21 9:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.1
144	5/25/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.9
144	5/26/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.8
144	6/8/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	25.248	0.25	6.95	84.6	0.519	2.01	7.14	1
144	6/8/21 9:26 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	24.244	0.25	6.64	79.3	0.522	2.96	7.05	
144	6/10/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	24.923	0.27	6.78	82.1	0.563	3.19	7.62	0.7
144	6/10/21 9:24 AM	B	CHARLES RIVER	UPPER BASIN		0	0.05	0.05	24.596	0.27	6.08	73.2	0.564	7.05	7.37	
144	6/23/21 9:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	23.477	0.29	6.1	71.8	0.608	4.41	7.09	0.6
144	6/23/21 9:58 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	23.074	0.3	5.58	65.2	0.619	7.06	6.98	
144	6/24/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	23.834	0.32	7.45	88.4	0.652	1.99	7.27	1
144	6/24/21 9:53 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.91	23.103	0.33	6.76	79.2	0.671	3.55	7.2	
144	7/7/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.618	0.25	7.97	92.4	0.514	2.16	7.19	1.1
144	7/7/21 9:27 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	21.953	0.26	6.96	79.6	0.546	18.02	6.88	
144	7/19/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.486	0.17	8.22	95	0.36	3.21	6.89	0.5
144	7/19/21 9:53 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.45	0.17	7.91	91.4	0.366		6.82	
144	7/21/21 9:18 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.222	0.19	8.38	98.2	0.388	3.78	6.89	0.6
144	7/21/21 9:18 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.202	0.19	8.37	98	0.393	3.59	6.8	
144	7/22/21 10:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.55	0.19	8.11	95.6	0.405	2.2	7.01	0.7
144	7/22/21 10:14 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.283	0.2	7.81	91.7	0.413	9.3	6.94	
144	8/24/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	23.792	0.23	7.3	86.5	0.481	5.84	7.02	0.9
144	8/24/21 9:22 AM	B	CHARLES RIVER	UPPER BASIN		0	1.69	2.45	23.593	0.25	7.28	86	0.509	7.82	6.97	
144	8/25/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	24.474	0.24	7.32	87.8	0.502	3.3	7.08	0.6
144	8/25/21 9:15 AM	B	CHARLES RIVER	UPPER BASIN		0	0	1.69	24.343	0.24	7.24	86.7	0.502	5.42	7.03	
144	9/27/21 9:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	19.82	0.25	7.66	84.1	0.526	2.08	6.97	1.3
144	9/27/21 9:35 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	19.706	0.26	7.64	83.6	0.527	6.87	6.95	
144	9/30/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	17.965	0.24	8.35	88.3	0.496	2.46	7.08	1.5
144	9/30/21 9:25 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.72	17.616	0.24	8.22	86.3	0.5	3.14	6.96	
002	3/30/21 9:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								1.3
002	3/31/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								1
002	4/14/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.2
002	4/15/21 9:27 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.9
002	5/10/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								1
002	5/11/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								1
002	5/20/21 9:20 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
002	5/21/21 9:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
002	5/25/21 9:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.7
002	5/26/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.7
002	6/8/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	24.989	0.25	6.66	80.7	0.524	2.42	7.11	0.9
002	6/8/21 9:22 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	24.407	0.25	6.19	74.2	0.528		7.03	
002	6/10/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	25.85	0.27	6.9	84.9	0.566	3.52	7.63	0.6
002	6/10/21 9:16 AM	B	CHARLES RIVER	UPPER BASIN		0	0.05	0.05	25.294	0.28	5.84	71.1	0.576	9.06	7.34	
002	6/23/21 9:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	24.008	0.31	6.11	72.7	0.643	5	7.15	0.7
002	6/23/21 9:53 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	23.365	0.31	5.18	60.9	0.643	8.87	6.97	
002	6/24/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	23.636	0.32	7.75	91.6	0.654	2.53	7.32	1
002	6/24/21 9:44 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.91	23.438	0.32	7.31	86	0.655	10.39	7.19	
002	7/2/21 10:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	22.376	0.15	7.18	82.8	0.311		6.84	
002	7/7/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.124	0.25	7.71	88.6	0.519	2.68	7.23	1.2
002	7/7/21 9:22 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	21.856	0.25	7.65	87.4	0.518	7.71	7.12	
002	7/19/21 9:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.46	0.17	8.08	93.4	0.363	2.88	6.86	0.7
002	7/19/21 9:46 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.451	0.17	7.95	91.8	0.365	37.36	6.83	
002	7/21/21 9:14 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.104	0.19	8.31	97.1	0.392	3.1	6.87	0.6
002	7/21/21 9:14 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.092	0.19	8.18	95.7	0.393	6.62	6.81	
002	7/22/21 10:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.367	0.19	7.88	92.6	0.407	2.37	7	0.9
002	7/22/21 10:06 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.136	0.19	7.8	91.3	0.407	12.23	6.97	
002	8/24/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	23.614	0.22	7.16	84.6	0.459	4.02	6.99	1
002	8/24/21 9:19 AM	B	CHARLES RIVER	UPPER BASIN		0	1.69	2.45	23.556	0.22	7.15	84.3	0.46	5.49	6.93	
002	8/25/21 9:11 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	24.359	0.24	7.16	85.8	0.507	3.56	7.12	0.6
002	8/25/21 9:11 AM	B	CHARLES RIVER	UPPER BASIN		0	0	1.69	24.309	0.24	7.07	84.6	0.507	4.23	7.01	
002	9/27/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	20.267	0.26	7.61	84.3	0.528	2.14	7.07	1.4
002	9/27/21 9:29 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	20.247	0.26	5.85	64.8	0.546		6.53	
002	9/30/21 9:18 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	18.039	0.25	8.2	86.8	0.508	2.43	7	1.2
002	9/30/21 9:18 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.72	17.9	0.25	8.13	85.9	0.513	3.51	6.91	
003	3/30/21 9:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								1.1
003	3/31/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								0.6
003	4/14/21 9:13 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.7
003	4/15/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.8
003	5/10/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								0.8
003	5/11/21 8:49 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								1

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
003	5/20/21 9:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.1
003	5/21/21 8:53 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
003	5/25/21 9:23 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.6
003	5/26/21 8:40 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.6
003	6/8/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	25.876	0.25	7.17	88.3	0.527	2.3	7.15	1
003	6/8/21 9:08 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	24.771	0.26	6.47	78.1	0.531		7.05	
003	6/10/21 9:00 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	26.095	0.27	6.9	85.3	0.563	2.86	7.63	1
003	6/10/21 9:00 AM	B	CHARLES RIVER	UPPER BASIN		0	0.05	0.05	26.038	0.27	6.53	80.7	0.559	5.15	7.43	
003	6/23/21 9:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	24.541	0.32	6.01	72.3	0.66	4.06	7.09	0.8
003	6/23/21 9:41 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	24.02	0.32	5.56	66.1	0.66	5.21	7.04	
003	6/24/21 9:26 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	24.024	0.32	6.41	76.3	0.651	2.38	7.02	1.2
003	6/24/21 9:26 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.91	23.329	0.32	5.17	60.8	0.656	8.63	6.97	
003	7/2/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	23.065	0.19	6.36	74.4	0.399		7.05	
003	7/7/21 9:05 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.53	0.25	7.64	88.4	0.518	2.55	7.19	1
003	7/7/21 9:05 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	21.796	0.25	7.51	85.7	0.516	3.73	7.08	
003	7/19/21 9:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.452	0.17	7.81	90.2	0.366	4.04	6.88	0.6
003	7/19/21 9:30 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.455	0.17	7.81	90.2	0.366	12.9	6.86	
003	7/21/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.287	0.19	7.96	93.4	0.395	2.54	6.87	0.6
003	7/21/21 8:59 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.102	0.19	7.9	92.4	0.395	4.37	6.76	
003	7/22/21 9:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.161	0.2	7.61	89.1	0.408	3.04	6.96	0.8
003	7/22/21 9:50 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	22.978	0.2	7.52	87.8	0.409	7.3	6.95	
003	8/24/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	23.593	0.19	6.99	82.5	0.402	4.67	6.96	0.5
003	8/24/21 9:08 AM	B	CHARLES RIVER	UPPER BASIN		0	1.69	2.45	23.428	0.19	6.91	81.3	0.399	10.09	6.89	
003	8/25/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	24.978	0.25	7.07	85.7	0.526	3.2	7.1	0.7
003	8/25/21 8:58 AM	B	CHARLES RIVER	UPPER BASIN		0	0	1.69	24.634	0.25	6.9	83	0.524	6.2	6.99	
003	9/27/21 9:15 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	20.7	0.25	7.45	83.3	0.515	2.8	7.06	1.2
003	9/27/21 9:15 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	20.594	0.26	3.2	35.7	0.534		6.88	
003	9/30/21 9:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	18.613	0.25	8.23	88.1	0.514	2.89	6.97	1
003	9/30/21 9:06 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.72	18.47	0.25	8.1	86.5	0.514	4.04	6.88	
004	3/30/21 9:19 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								0.6
004	3/31/21 9:08 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								0.7
004	4/14/21 9:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1.2
004	4/15/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.8
004	5/10/21 9:03 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								0.8
004	5/11/21 8:37 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								0.9
004	5/20/21 8:56 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.7
004	5/21/21 8:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
004	5/25/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.8
004	5/26/21 8:30 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.5
004	6/8/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	24.986	0.25	6.91	83.8	0.525	2.23	7.08	0.9
004	6/8/21 8:55 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	21.641	0.29	4.34	49.4	0.606	5.18	6.88	
004	6/10/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	25.643	0.27	6.14	75.2	0.561	2.94	7.35	0.4
004	6/10/21 8:45 AM	B	CHARLES RIVER	UPPER BASIN		0	0.05	0.05	22.662	0.32	4.14	48	0.668	7.04	7.14	
004	6/23/21 9:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	24.579	0.32	7.25	87.2	0.666	5.28	7.25	0.5
004	6/23/21 9:28 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	24.083	0.32	6.42	76.5	0.662	5.54	7.12	
004	6/24/21 9:12 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	24.42	0.33	7.02	84.2	0.671	3.05	7.21	0.7
004	6/24/21 9:12 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.91	23.878	0.33	5.64	66.9	0.675	16.25	7.08	
004	7/7/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.967	0.25	8.02	93.5	0.526	2.17	7.19	1
004	7/7/21 8:50 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	21.728	0.25	7.54	85.9	0.522		7.12	
004	7/19/21 9:16 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.615	0.17	7.65	88.6	0.362	2.86	6.85	0.4
004	7/19/21 9:16 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.587	0.17	7.42	85.9	0.363	39.48	6.83	
004	7/21/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.453	0.19	7.81	92	0.394	2.4	6.77	0.6
004	7/21/21 8:45 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.158	0.19	7.71	90.2	0.393	4.74	6.73	
004	7/22/21 9:34 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.79	0.2	7.41	87.8	0.408	2.16	6.94	0.5
004	7/22/21 9:34 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.084	0.19	7.27	85	0.407	4.48	6.92	
004	8/24/21 8:54 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	24.137	0.23	7.04	83.9	0.486	3.73	7.02	0.6
004	8/24/21 8:54 AM	B	CHARLES RIVER	UPPER BASIN		0	1.69	2.45	23.906	0.23	6.97	82.8	0.487	12.9	6.98	
004	8/25/21 8:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	25.512	0.25	7.31	89.4	0.515	3.17	7.09	0.5
004	8/25/21 8:44 AM	B	CHARLES RIVER	UPPER BASIN		0	0	1.69	25.036	0.24	7.01	85	0.508	6.27	7.01	
004	9/27/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	21.082	0.26	7.59	85.4	0.545	2.4	7.03	1.2
004	9/27/21 8:59 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	21.052	0.27	0.77	8.6	0.559		6.94	
004	9/30/21 8:55 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	18.646	0.21	7.36	78.9	0.436	3.93	6.96	0.6
004	9/30/21 8:55 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.72	18.511	0.21	7.28	77.8	0.44	4.89	6.82	
005	3/10/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
005	3/25/21 8:28 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.15	0.15	0.15								
005	3/30/21 9:13 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.69								1
005	3/31/21 9:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.2	0.2	0.2								0.8
005	4/5/21 8:45 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
005	4/14/21 8:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
005	4/15/21 8:59 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.22	0.22	0.22								0.9

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
005	4/21/21 9:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.24	0.24	0.25								
005	5/5/21 8:57 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.53	1.2	1.22								
005	5/10/21 8:58 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.34	0.34	0.34								0.8
005	5/11/21 8:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.34	0.34								0.9
005	5/19/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								
005	5/20/21 8:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
005	5/21/21 8:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								1
005	5/25/21 9:11 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0								0.8
005	5/26/21 8:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.28	0.28	0.28								0.6
005	6/2/21 9:44 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.15	16.822	0.26	9.4	97	0.542		7.15	
005	6/8/21 8:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	25.802	0.25	7.84	96.4	0.527	1.78	7.21	0.6
005	6/8/21 8:48 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	24.452	0.25	6.72	80.6	0.528	5.2	7.06	
005	6/10/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.05	0.05	25.385	0.27	6.68	81.6	0.567	2.83	7.54	0.5
005	6/10/21 8:36 AM	B	CHARLES RIVER	UPPER BASIN		0	0.05	0.05	25.342	0.27	6.26	76.4	0.565	3.47	7.34	
005	6/15/21 9:29 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.01	0.54	0.54	22.395	0.27	7.37	85.1	0.558	3.23	7.1	
005	6/23/21 9:21 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.91	0.91	24.203	0.32	7.16	85.5	0.668	4.8	7.3	0.7
005	6/23/21 9:21 AM	B	CHARLES RIVER	UPPER BASIN		0	0.91	0.91	23.897	0.32	7.2	85.5	0.667	5.54	7.21	
005	6/24/21 9:04 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.91	24.156	0.33	7.72	92.1	0.675	3.3	7.4	0.7
005	6/24/21 9:04 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.91	23.914	0.33	7.28	86.4	0.675	10.51	7.24	
005	7/2/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.67	2.95	3.11	24.242	0.3	5.07	60.6	0.611		7.03	
005	7/6/21 9:06 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.29	0.29	0.6	21.754	0.23	9.16	104.4	0.468		7.09	
005	7/7/21 8:41 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.03	0.32	0.32	22.482	0.25	7.43	85.9	0.513	2.43	7.18	0.9
005	7/7/21 8:41 AM	B	CHARLES RIVER	UPPER BASIN		0.03	0.32	0.32	21.355	0.25	6.75	76.4	0.517	7.69	7.01	
005	7/14/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.01	1.22	20.711	0.19	8.35	93.2	0.391		7.02	
005	7/19/21 9:07 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.3	0.47	22.798	0.17	7.17	83.3	0.359	3.32	6.81	0.3
005	7/19/21 9:07 AM	B	CHARLES RIVER	UPPER BASIN		0	0.3	0.47	22.759	0.18	5.88	68.4	0.383	22.44	6.76	
005	7/21/21 8:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.6	0.19	7.77	91.8	0.394	2.38	6.85	0.9
005	7/22/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	23.703	0.19	7.43	87.9	0.407	2.56	6.95	0.6
005	7/22/21 9:25 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0	23.256	0.19	7.09	83.1	0.406	5.04	6.92	
005	7/26/21 9:39 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.15	0.15	24.263	0.21	7.96	95.1	0.432		7.24	
005	8/11/21 9:25 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.03	1.18	24.981	0.28	8.69	105.3	0.59	9.09	7.36	
005	8/23/21 9:24 AM	S	CHARLES RIVER	UPPER BASIN	0.1	1.69	2.45	2.45	24.983	0.25	9.07	109.9	0.522		7.29	
005	8/24/21 8:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	1.69	2.45	24.526	0.26	6.95	83.5	0.547	3.74	7.08	0.7
005	8/24/21 8:46 AM	B	CHARLES RIVER	UPPER BASIN		0	1.69	2.45	24.4	0.26	6.96	83.5	0.547	7.17	7.01	
005	8/25/21 8:36 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	1.69	24.626	0.22	6.56	78.9	0.46	4.24	7.05	0.5
005	8/25/21 8:36 AM	B	CHARLES RIVER	UPPER BASIN		0	0	1.69	24.527	0.22	6.44	77.4	0.468	6.04	7	
005	9/10/21 9:02 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.19	1.15	1.15	21.151	0.16	8.13	91.5	0.345	11.3	7.09	
005	9/22/21 9:22 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	22.115	0.24	9.69	111.2	0.502	1.88	7.31	
005	9/27/21 8:50 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.55	0.58	21.097	0.26	7.5	84.4	0.543	2.34	7.05	1.3
005	9/27/21 8:50 AM	B	CHARLES RIVER	UPPER BASIN		0	0.55	0.58	20.931	0.3	4.1	46	0.61		6.6	
005	9/30/21 8:46 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.72	18.62	0.2	7.27	77.9	0.422	4.14	6.96	0.8
005	9/30/21 8:46 AM	B	CHARLES RIVER	UPPER BASIN		0	0	0.72	18.419	0.2	7.2	76.8	0.422	8.36	6.84	
005	10/8/21 9:48 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	17.337	0.24	9.41	98.1	0.486	3.13	7.11	
005	10/20/21 9:09 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	15.692	0.23	8.78	88.4	0.479		7.48	
005	11/3/21 9:31 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0	11.258	0.19	10.83	98.9	0.402	5.07	7.51	
005	11/17/21 10:43 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.08	7.708	0.22	11.67	98	0.455	1.59	7.53	
005	12/2/21 10:10 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0.02	0.02	0.02	4.693	0.23	12.87	100.1	0.48	7.93	7.44	
005	12/21/21 10:17 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0	0.38	2.679	0.27	13.49	99.6	0.559	7.53	7.58	
005	12/29/21 10:35 AM	S	CHARLES RIVER	UPPER BASIN	0.1	0	0.04	0.04	2.836	0.36	13.42	99.5	0.736	0.85	7.49	
006	3/30/21 9:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								0.9
006	3/31/21 8:56 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								0.8
006	4/14/21 8:52 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								0.7
006	4/15/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								0.8
006	5/10/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1
006	5/11/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								0.9
006	5/20/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
006	5/21/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
006	5/25/21 9:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								0.7
006	5/26/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								0.6
006	6/8/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	25.112	0.26	7.41	90	0.535	1.82	7.18	1.2
006	6/8/21 8:44 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	20.392	0.34	5.37	59.7	0.688	2.48	6.96	
006	6/10/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	25.151	0.28	6.81	82.7	0.583	2.86	7.59	0.6
006	6/10/21 8:32 AM	B	CHARLES RIVER	MID-BASIN		0	0.05	0.05	24.702	0.29	5.81	70	0.592	5.6	7.35	
006	6/23/21 9:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	23.775	0.33	6.7	79.4	0.67	5.75	7.23	0.7
006	6/23/21 9:15 AM	B	CHARLES RIVER	MID-BASIN		0	0.91	0.91	22.407	0.39	3.12	36.1	0.788	10.25	6.99	
006	6/24/21 8:57 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	24.079	0.33	8.42	100.4	0.686	3.08	7.41	0.6
006	6/24/21 8:57 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.91	23.125	0.36	4.95	57.9	0.737	9.58	7.13	
006	7/2/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	25.217	0.3	5.2	63.2	0.625		6.91	
006	7/7/21 8:35 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	22.283	0.25	7.73	89	0.519	2.68	7.17	1.1
006	7/7/21 8:35 AM	B	CHARLES RIVER	MID-BASIN		0.03	0.32	0.32	19.156	0.27	3.93	42.5	0.55	11.35	7.03	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
006	7/19/21 9:01 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	22.869	0.17	7.35	85.5	0.362	3.48	6.83	0.5
006	7/19/21 9:01 AM	B	CHARLES RIVER	MID-BASIN		0	0.3	0.47	22.817	0.17	7.18	83.5	0.364	17.14	6.82	
006	7/21/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.655	0.19	7.85	92.7	0.394	3.02	6.84	0.6
006	7/21/21 8:34 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	23.37	0.19	7.65	89.9	0.4	7.37	6.74	
006	7/22/21 9:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	24.02	0.19	7.35	87.4	0.407	2.92	6.99	0.5
006	7/22/21 9:19 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	23.424	0.19	7.05	82.9	0.405	14.33	6.93	
006	8/24/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.256	0.27	6.84	81.7	0.551	4.01	7.03	0.6
006	8/24/21 8:38 AM	B	CHARLES RIVER	MID-BASIN		0	1.69	2.45	24.132	0.27	6.77	80.7	0.55	10.47	6.99	
006	8/25/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	24.661	0.22	6.76	81.4	0.458	4.26	7.2	0.5
006	8/25/21 8:29 AM	B	CHARLES RIVER	MID-BASIN		0	0	1.69	24.461	0.22	6.5	78	0.462	6.63	7.05	
006	9/27/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	20.987	0.27	7.41	83.2	0.547	2.43	7.08	1.1
006	9/27/21 8:44 AM	B	CHARLES RIVER	MID-BASIN		0	0.55	0.58	20.885	0.28	0.77	8.6	0.587		6.66	
006	9/30/21 8:39 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	18.647	0.21	7.16	76.8	0.441	4.36	7	1
006	9/30/21 8:39 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.72	18.572	0.21	6.98	74.7	0.433	5.13	6.85	
007	3/30/21 8:57 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.3
007	3/30/21 8:57 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0	0.69								
007	3/31/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								0.8
007	3/31/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	4.6	0.2	0.2	0.2								
007	4/14/21 8:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
007	4/14/21 8:40 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0	0								
007	4/15/21 8:44 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								1
007	4/15/21 8:44 AM	B	CHARLES RIVER	MID-BASIN	4.1	0.22	0.22	0.22								
007	5/10/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1.3
007	5/10/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	4.8	0.34	0.34	0.34								
007	5/11/21 8:16 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1
007	5/11/21 8:16 AM	B	CHARLES RIVER	MID-BASIN	4.9	0	0.34	0.34								
007	5/20/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
007	5/20/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0								
007	5/21/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.3
007	5/21/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0	0								
007	5/25/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.1
007	5/25/21 8:54 AM	B	CHARLES RIVER	MID-BASIN	4.8	0	0	0								
007	5/26/21 8:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								0.7
007	5/26/21 8:05 AM	B	CHARLES RIVER	MID-BASIN	4.5	0.28	0.28	0.28								
007	6/8/21 8:35 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.302	0.3	7.09	83.3	0.612	1.48	7.15	1.1
007	6/8/21 8:35 AM	B	CHARLES RIVER	MID-BASIN	4.8	0	0	0	16.522	0.41	3.38	34.7	0.838	5.57	6.94	
007	6/10/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.679	0.31	7.59	91.5	0.648	2.27	7.66	1.2
007	6/10/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0.05	0.05	19.399	0.42	3.69	40.3	0.847	9.1	7.22	
007	6/23/21 9:00 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	23.315	0.37	6.4	75.2	0.758	4.49	7.27	1.5
007	6/23/21 9:00 AM	B	CHARLES RIVER	MID-BASIN	4.3	0	0.91	0.91	19.96	0.49	0.93	10.3	0.997	6.72	7.08	
007	6/24/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	23.523	0.38	7.24	85.4	0.772	2.64	7.29	1.2
007	6/24/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	4.5	0	0	0.91	21.606	0.43	1.42	16.1	0.872	8.69	6.98	
007	7/2/21 8:55 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	25.044	0.37	5.43	65.8	0.766		6.95	
007	7/7/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	21.595	0.26	7.33	83.3	0.541	2.17	7.16	1.3
007	7/7/21 8:24 AM	B	CHARLES RIVER	MID-BASIN	4.9	0.03	0.32	0.32	18.815	0.78	0.34	3.6	1.548	1.32	7.07	
007	7/19/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.092	0.17	7.02	82	0.355	3.31	6.93	0.6
007	7/19/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	4.6	0	0.3	0.47	22.334	0.79	1.56	18	1.565	23.83	7.02	
007	7/21/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.379	0.19	7.2	84.6	0.393	2.31	6.8	0.7
007	7/21/21 8:27 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0	22.017	0.23	4.17	47.8	0.485	5.63	6.65	
007	7/22/21 9:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	24.607	0.19	7.23	86.9	0.405	2.13	6.96	0.5
007	7/22/21 9:05 AM	B	CHARLES RIVER	MID-BASIN	4.5	0	0	0	22.019	0.35	1.81	20.8	0.717	13.98	7.05	
007	8/24/21 8:28 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.512	0.24	6.7	80.4	0.491	2.42	7.12	1.3
007	8/24/21 8:28 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	1.69	2.45	23.71	0.26	4.72	55.8	0.536	8.17	7.03	
007	8/25/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	24.985	0.28	6.41	77.7	0.581	2.54	7.27	1
007	8/25/21 8:21 AM	B	CHARLES RIVER	MID-BASIN	4	0	0	1.69	23.719	0.24	4.73	56	0.503	6.24	7.09	
007	9/27/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.337	0.32	6.84	77.3	0.651	2.51	7.2	1.2
007	9/27/21 8:27 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0.55	0.58	21.08	0.39	1.72	19.3	0.794	1.76	6.95	
007	9/30/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.506	0.29	6.58	71.8	0.589	3.04	6.98	1
007	9/30/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0.72	19.454	0.28	6.49	70.7	0.586	4.61	6.96	
145	3/30/21 9:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.1
145	3/31/21 8:48 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								0.7
145	4/14/21 8:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
145	4/15/21 8:48 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								0.9
145	5/10/21 8:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1
145	5/11/21 8:18 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1
145	5/20/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
145	5/21/21 8:27 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.1
145	5/25/21 8:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
145	5/26/21 8:10 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								0.7
145	6/8/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.866	0.29	6.9	81.9	0.597	1.87	7.09	1

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
145	6/8/21 8:38 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	19.961	0.47	5.8	64	0.95	3.01	6.99	
145	6/10/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.679	0.3	6.41	77.2	0.628	2.51	7.48	0.5
145	6/10/21 8:24 AM	B	CHARLES RIVER	MID-BASIN		0	0.05	0.05	21.898	0.47	4.87	55.8	0.945	5.45	7.2	
145	6/23/21 9:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	23.16	0.35	6.05	70.9	0.711	5.61	7.15	1
145	6/23/21 9:06 AM	B	CHARLES RIVER	MID-BASIN		0	0.91	0.91	22.837	0.34	5.41	62.9	0.693	6.2	7.06	
145	6/24/21 8:47 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	23.529	0.36	7.54	88.9	0.739	2.79	7.31	1
145	6/24/21 8:47 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.91	22.255	0.32	3.57	41.1	0.66	9.87	6.95	
145	7/2/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	24.858	0.39	5.68	68.8	0.804		7.08	
145	7/7/21 8:28 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	21.76	0.26	7.41	84.5	0.529	2.57	7.18	1
145	7/7/21 8:28 AM	B	CHARLES RIVER	MID-BASIN		0.03	0.32	0.32	20.237	0.32	4.86	53.8	0.653		7	
145	7/19/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.237	0.19	6.56	76.9	0.395	2.3	6.86	0.6
145	7/19/21 8:53 AM	B	CHARLES RIVER	MID-BASIN		0	0.3	0.47	19.968	0.44	6.26	69.1	0.887	18.19	6.73	
145	7/21/21 8:31 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.818	0.19	7.69	91.1	0.397	2.89	6.82	0.6
145	7/22/21 9:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	24.061	0.2	7.14	85.1	0.414	2.52	6.96	0.7
145	7/22/21 9:09 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	21.664	0.3	6.57	74.8	0.619	3.93	6.88	
145	8/24/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.228	0.24	6.61	78.9	0.505	4.7	7.21	0.9
145	8/24/21 8:32 AM	B	CHARLES RIVER	MID-BASIN		0	1.69	2.45	22.336	0.12	5.77	66.4	0.254	17.7	6.77	
145	8/25/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	24.978	0.24	6.65	80.5	0.498	4.32	7.29	0.6
145	8/25/21 8:24 AM	B	CHARLES RIVER	MID-BASIN		0	0	1.69	24.473	0.16	3.63	43.6	0.344	41.5	6.95	
145	9/27/21 8:33 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.051	0.3	6.77	76.2	0.616	2.58	7	1.1
145	9/27/21 8:33 AM	B	CHARLES RIVER	MID-BASIN		0	0.55	0.58	19.942	0.38	5.15	56.8	0.772		6.77	
145	9/30/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.21	0.29	7.13	77.3	0.597	3.37	7.04	1
145	9/30/21 8:34 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.72	19.152	0.29	6.77	73.3	0.603	5.18	6.95	
008	3/30/21 8:53 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.4
008	3/30/21 8:53 AM	B	CHARLES RIVER	MID-BASIN	4.1	0	0	0.69								
008	3/31/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								0.9
008	3/31/21 8:38 AM	B	CHARLES RIVER	MID-BASIN	5	0.2	0.2	0.2								
008	4/14/21 8:36 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								0.9
008	4/14/21 8:36 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0								
008	4/15/21 8:39 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								1
008	4/15/21 8:39 AM	B	CHARLES RIVER	MID-BASIN	4	0.22	0.22	0.22								
008	5/10/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1.2
008	5/10/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	3.8	0.34	0.34	0.34								
008	5/11/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1
008	5/11/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	4	0	0.34	0.34								
008	5/20/21 8:22 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								0.8
008	5/20/21 8:22 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0								
008	5/21/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.2
008	5/21/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	4.2	0	0	0								
008	5/25/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
008	5/25/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	4	0	0	0								
008	5/26/21 7:55 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								1.1
008	5/26/21 7:55 AM	B	CHARLES RIVER	MID-BASIN	4.2	0.28	0.28	0.28								
008	6/8/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	22.966	0.3	7.36	85.9	0.618	1.57	7.35	1
008	6/8/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0	0	19.779	0.4	5.8	63.6	0.811	3.04	7.1	
008	6/10/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.641	0.3	7.46	89.9	0.618	2.35	7.59	0.7
008	6/10/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	3.9	0	0.05	0.05	23.744	0.32	5.86	69.4	0.661	3.94	7.33	
008	6/23/21 8:54 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	23.462	0.37	6.77	79.7	0.767	4.09	7.43	1.5
008	6/23/21 8:54 AM	B	CHARLES RIVER	MID-BASIN	4	0	0.91	0.91	22.482	0.37	5.36	62	0.76	7.46	7.2	
008	6/24/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	23.677	0.38	7.77	92	0.772	2.61	7.49	1.2
008	6/24/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	4.4	0	0	0.91	22.034	0.38	4.16	47.7	0.774	8.39	7.11	
008	7/7/21 8:17 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	21.581	0.26	7.76	88.2	0.54	2.27	7.35	1.3
008	7/7/21 8:17 AM	B	CHARLES RIVER	MID-BASIN	3.7	0.03	0.32	0.32	20.104	0.36	5.42	59.9	0.727	12.16	7.09	
008	7/19/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.302	0.18	6.88	80.8	0.378	2.34	7	0.7
008	7/19/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	3.6	0	0.3	0.47	22.729	0.2	4.26	49.5	0.421	13.4	7.21	
008	7/21/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.449	0.19	7.41	87.1	0.4	2.5	6.95	0.7
008	7/21/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0	22.707	0.23	6.89	80	0.468	3.12	6.85	
008	7/22/21 9:01 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.826	0.2	6.84	81	0.413	1.55	7.01	0.9
008	7/22/21 9:01 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0	0	22.673	0.22	6.08	70.5	0.45		6.92	
008	8/24/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.441	0.24	6.75	81	0.508	2.75	7.33	1.6
008	8/24/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	1.69	2.45	23.511	0.21	6.46	76.1	0.438	7.72	7.15	
008	8/25/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	25.183	0.26	7.22	87.7	0.534	2.76	7.33	1
008	8/25/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0	1.69	24.329	0.26	6.46	77.3	0.532	4.85	7.27	
008	9/27/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.197	0.31	7.23	81.6	0.638	2.4	7.39	1.3
008	9/27/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	3.7	0	0.55	0.58	20.752	0.34	2.77	31	0.69	16.7	7.33	
008	9/30/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.532	0.31	6.77	73.8	0.632	3.52	7.15	1.2
008	9/30/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	3.5	0	0	0.72	19.378	0.3	6.8	74	0.618	5.06	7.01	
009	3/30/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.4
009	3/30/21 8:46 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0.69								
009	3/31/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								1.2

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
009	3/31/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	7.4	0.2	0.2	0.2								
009	4/14/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
009	4/14/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0	0								
009	4/15/21 8:33 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								1.3
009	4/15/21 8:33 AM	B	CHARLES RIVER	MID-BASIN	8.9	0.22	0.22	0.22								
009	5/10/21 8:30 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1.3
009	5/10/21 8:30 AM	B	CHARLES RIVER	MID-BASIN	8.7	0.34	0.34	0.34								
009	5/11/21 8:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1.1
009	5/11/21 8:06 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0.34	0.34								
009	5/20/21 8:18 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1
009	5/20/21 8:18 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0								
009	5/21/21 8:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.4
009	5/21/21 8:08 AM	B	CHARLES RIVER	MID-BASIN	8.7	0	0	0								
009	5/25/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								0.9
009	5/25/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0								
009	5/26/21 7:50 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								1
009	5/26/21 7:50 AM	B	CHARLES RIVER	MID-BASIN	8.5	0.28	0.28	0.28								
009	6/8/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.211	0.31	8	93.8	0.636	1.48	7.34	1
009	6/8/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	7.9	0	0	0	11.54	21.67	0.42	4.4	34.522	0.87	7.17	
009	6/10/21 8:10 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.719	0.31	8.82	106.3	0.639	2.41	7.82	1
009	6/10/21 8:10 AM	B	CHARLES RIVER	MID-BASIN	8.4	0	0.05	0.05	11.465	23.91	0.94	10.1	37.758	3.63	6.97	
009	6/23/21 8:46 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	23.662	0.39	7.27	85.9	0.795	3.65	7.55	1.7
009	6/23/21 8:46 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.91	0.91	12.455	20.82	0.83	8.8	33.246	0.29	7.33	
009	6/24/21 8:32 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	24.025	0.39	8.19	97.5	0.8	2.85	7.62	1.3
009	6/24/21 8:32 AM	B	CHARLES RIVER	MID-BASIN	6.2	0	0	0.91	18.61	9.57	1.24	14.1	16.275	4.1	7.48	
009	7/2/21 8:16 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	25.386	0.47	6.05	74	0.95		7.19	
009	7/7/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	22.036	0.28	8.33	95.5	0.573	2.55	7.41	1.1
009	7/7/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	8.2	0.03	0.32	0.32	12.838	21.86	0.93	10.1	34.744	0.52	7.24	
009	7/19/21 8:36 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.475	0.18	6.78	79.8	0.385	2.07	6.91	0.7
009	7/19/21 8:36 AM	B	CHARLES RIVER	MID-BASIN	7.6	0	0.3	0.47	14.292	20.63	0.95	10.8	32.927	1.01	6.91	
009	7/21/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.38	0.19	7.22	84.9	0.396	1.93	6.93	0.7
009	7/21/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	8.3	0	0	0	13.461	22.91	0.96	10.6	36.248	2.6	7.01	
009	7/22/21 8:49 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.675	0.2	6.83	80.7	0.416	1.86	7.13	0.9
009	7/22/21 8:49 AM	B	CHARLES RIVER	MID-BASIN	8.7	0	0	0	13.392	22.98	0.58	6.4	36.347	4.99	6.98	
009	8/24/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.807	0.28	6.69	80.8	0.58	2.24	7.25	1
009	8/24/21 8:20 AM	B	CHARLES RIVER	MID-BASIN	6.7	0	1.69	2.45	16.429	18.36	0.54	6.2	29.591	0.65	7.11	
009	8/25/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	25.899	0.27	7.96	98.1	0.56	2.66	7.33	1
009	8/25/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	8.6	0	0	1.69	13.458	22.9	0.73	8.1	36.233	4.53	6.83	
009	9/27/21 8:14 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.241	0.3	7.48	84.5	0.609	1.96	7.23	1.5
009	9/27/21 8:14 AM	B	CHARLES RIVER	MID-BASIN	8.4	0	0.55	0.58	15.194	20.75	0.53	6	33.091	0.86	6.88	
009	9/30/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.778	0.33	7.15	78.4	0.672	2.46	7.18	1.5
009	9/30/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	7.9	0	0	0.72	14.601	21.63	0.6	6.7	34.378	0.21	6.84	
010	3/30/21 8:43 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.1
010	3/30/21 8:43 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0.69								
010	3/31/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								1.1
010	3/31/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.2	0.2	0.2								
010	4/14/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.3
010	4/14/21 8:23 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0								
010	4/15/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								1.3
010	4/15/21 8:26 AM	B	CHARLES RIVER	MID-BASIN	9.4	0.22	0.22	0.22								
010	5/10/21 8:26 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1.2
010	5/10/21 8:26 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.34	0.34	0.34								
010	5/11/21 8:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1.2
010	5/11/21 8:03 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.34	0.34								
010	5/20/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.5
010	5/20/21 8:12 AM	B	CHARLES RIVER	MID-BASIN	9.3	0	0	0								
010	5/21/21 8:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.4
010	5/21/21 8:02 AM	B	CHARLES RIVER	MID-BASIN	9	0	0	0								
010	5/25/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.2
010	5/25/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0								
010	5/26/21 7:45 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								1.1
010	5/26/21 7:45 AM	B	CHARLES RIVER	MID-BASIN	9.2	0.28	0.28	0.28								
010	6/8/21 8:19 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.257	0.31	8.29	97.2	0.642	1.54	7.25	0.8
010	6/8/21 8:19 AM	B	CHARLES RIVER	MID-BASIN	9.7	0	0	0	9.473	23.48	0.28	2.8	37.252	0.33	7.04	
010	6/10/21 8:06 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.266	0.32	8.8	105.2	0.654	2.34	7.76	1
010	6/10/21 8:06 AM	B	CHARLES RIVER	MID-BASIN	8.8	0	0.05	0.05	9.028	23.26	0.7	7	36.961	10.82	6.99	
010	6/23/21 8:37 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	24.062	0.38	7.46	88.9	0.777	3.6	7.44	1.9
010	6/23/21 8:37 AM	B	CHARLES RIVER	MID-BASIN	9.1	0	0.91	0.91	10.215	23.98	1.43	14.8	37.928	5.13	7.17	
010	6/24/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	24.186	0.4	8.39	100.2	0.812	1.92	7.47	1
010	6/24/21 8:25 AM	B	CHARLES RIVER	MID-BASIN	9	0	0	0.91	9.392	25.81	0.7	7.2	40.601	7.93	6.92	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
010	7/7/21 8:04 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	21.793	0.3	7.39	84.3	0.61	2.95	7.79	1.2
010	7/7/21 8:04 AM	B	CHARLES RIVER	MID-BASIN	9.5	0.03	0.32	0.32	11.224	24.51	1.02	10.9	38.626	6.3	7.2	
010	7/19/21 8:29 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.601	0.18	6.77	79.9	0.387	1.73	6.83	1
010	7/19/21 8:29 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0.3	0.47	12.396	22.89	1.23	13.3	36.245	22.5	6.87	
010	7/21/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.95	0.19	7.18	85.3	0.393	1.6	6.72	0.7
010	7/21/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	9.2	0	0	0	12.327	22.74	0.65	7	36.032	0.1	7.15	
010	7/22/21 8:41 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.932	0.2	6.83	81.1	0.411	1.68	6.93	0.8
010	7/22/21 8:41 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0	0	12.872	22.19	0.47	5.1	35.222	13.23	7.02	
010	8/24/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.75	0.3	6.38	77	0.615	2.17	7	1
010	8/24/21 8:15 AM	B	CHARLES RIVER	MID-BASIN	8.6	0	1.69	2.45	14.018	22.31	0.18	2	35.358	38.39	7.28	
010	8/25/21 8:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	26.114	0.28	8.29	102.5	0.577	2.94	7.25	1
010	8/25/21 8:09 AM	B	CHARLES RIVER	MID-BASIN	7.7	0	0	1.69	17.757	20.42	0.61	7.3	32.596	9.56	7.09	
010	9/27/21 8:07 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.107	0.29	7.3	82.2	0.605	1.77	6.93	1.5
010	9/27/21 8:07 AM	B	CHARLES RIVER	MID-BASIN	8.9	0	0.55	0.58	15.795	21.45	1.09	12.5	34.097	12.81	6.94	
010	9/30/21 8:13 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.658	0.33	7.19	78.7	0.679	2.42	7.17	1.5
010	9/30/21 8:13 AM	B	CHARLES RIVER	MID-BASIN	8.5	0	0	0.72	15.445	21.48	0.79	9	34.135	0.23	6.87	
210	3/30/21 8:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.69								1.2
210	3/31/21 8:20 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.2	0.2	0.2								1
210	4/14/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.1
210	4/15/21 8:23 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.22	0.22	0.22								1.3
210	5/10/21 8:24 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.34	0.34	0.34								1.2
210	5/11/21 7:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.34	0.34								1.2
210	5/20/21 8:08 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.4
210	5/21/21 7:59 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.3
210	5/25/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0								1.1
210	5/26/21 7:40 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.28	0.28	0.28								0.9
210	6/8/21 8:15 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.005	0.31	7.75	90.5	0.644	1.5	7.2	0.8
210	6/8/21 8:15 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	22.611	0.31	7.59	87.9	0.644	2.54	7.17	
210	6/10/21 8:02 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.05	0.05	24.259	0.32	8.42	100.6	0.652	2.32	7.72	1
210	6/10/21 8:02 AM	B	CHARLES RIVER	MID-BASIN		0	0.05	0.05	23.632	0.32	7.02	82.9	0.668	2.32	7.4	
210	6/23/21 8:34 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.91	0.91	24.126	0.39	7.5	89.5	0.803	3.58	7.55	2
210	6/23/21 8:34 AM	B	CHARLES RIVER	MID-BASIN		0	0.91	0.91	23.673	0.38	6.84	81	0.784	3.84	7.41	
210	6/24/21 8:21 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.91	24.343	0.4	7.79	93.4	0.814	1.79	7.43	1.3
210	6/24/21 8:21 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.91	23.856	0.4	6.9	81.9	0.828	2.26	7.31	
210	7/2/21 9:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	1.67	2.95	3.11	26.035	0.5	6.88	85.1	1.026		7.16	
210	7/7/21 8:00 AM	S	CHARLES RIVER	MID-BASIN	0.1	0.03	0.32	0.32	22.038	0.3	7.62	87.4	0.616	1.96	7.36	1.1
210	7/7/21 8:00 AM	B	CHARLES RIVER	MID-BASIN		0.03	0.32	0.32	21.503	0.29	7.54	85.6	0.594	3.59	7.29	
210	7/19/21 8:25 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.3	0.47	23.645	0.19	6.78	80.1	0.407	1.71	6.92	0.8
210	7/19/21 8:25 AM	B	CHARLES RIVER	MID-BASIN		0	0.3	0.47	23.617	0.2	6.58	77.7	0.41	11.77	6.92	
210	7/21/21 8:12 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	24.121	0.19	7.01	83.5	0.393	1.63	6.72	0.7
210	7/21/21 8:12 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	23.503	0.2	6.54	77.1	0.414	3.28	6.69	
210	7/22/21 8:38 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0	23.975	0.2	6.62	78.7	0.408	1.61	6.92	0.7
210	7/22/21 8:38 AM	B	CHARLES RIVER	MID-BASIN		0	0	0	23.323	0.21	6.3	74	0.438	2.68	6.87	
210	8/24/21 8:11 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	1.69	2.45	24.775	0.31	6.16	74.4	0.633	2.26	7	1.4
210	8/24/21 8:11 AM	B	CHARLES RIVER	MID-BASIN		0	1.69	2.45	24.515	0.3	5.9	70.8	0.626	2.9	6.94	
210	8/25/21 8:05 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	1.69	26.237	0.28	8.27	102.5	0.587	2.86	7.25	1
210	8/25/21 8:05 AM	B	CHARLES RIVER	MID-BASIN		0	0	1.69	25.713	0.29	6.77	83.2	0.606	2.77	7.12	
210	9/27/21 8:03 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0.55	0.58	21.161	0.3	7.1	80.1	0.622	1.95	6.94	1.3
210	9/27/21 8:03 AM	B	CHARLES RIVER	MID-BASIN		0	0.55	0.58	21.155	0.3	7	78.9	0.618	3.28	6.88	
210	9/30/21 8:09 AM	S	CHARLES RIVER	MID-BASIN	0.1	0	0	0.72	19.82	0.35	7.02	77.1	0.709	2.73	7.21	1.5
210	9/30/21 8:09 AM	B	CHARLES RIVER	MID-BASIN		0	0	0.72	19.824	0.35	6.97	76.6	0.709	3.37	7.17	
166	1/11/21 9:21 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								
166	1/25/21 10:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								
166	3/10/21 9:45 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								
166	3/25/21 8:16 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.15	0.15	0.15								
166	4/5/21 8:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								
166	4/21/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.24	0.24	0.25								
166	5/5/21 8:42 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.53	1.2	1.22								
166	5/19/21 9:08 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								
166	6/2/21 9:29 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.15	18.14	0.39	8.27	87.8	0.801		7.15	
166	6/15/21 9:10 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.01	0.54	0.54	22.604	0.34	7.09	82.2	0.693	1.9	7.21	
166	6/15/21 9:10 AM	B	CHARLES RIVER	LOWER BASIN		0.01	0.54	0.54	22.512	0.33	6.7	77.6	0.686	3.65	7.11	
166	7/6/21 8:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.29	0.29	0.6	21.276	0.31	7.38	83.4	0.64		6.96	
166	7/14/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.01	1.22	20.814	0.22	7.36	82.3	0.449		6.98	
166	7/14/21 9:07 AM	B	CHARLES RIVER	LOWER BASIN		0	0.01	1.22	20.797	0.22	7.26	81.2	0.45		6.86	
166	7/26/21 9:23 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.15	0.15	24.381	0.23	6.6	79	0.473		7.16	
166	8/11/21 9:11 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.03	1.18	24.129	0.29	7.4	88.3	0.594	1.42	7.13	
166	8/23/21 9:07 AM	S	CHARLES RIVER	LOWER BASIN	0.1	1.69	2.45	2.45	24.814	0.32	6.26	75.7	0.67		7.17	
166	8/23/21 9:07 AM	B	CHARLES RIVER	LOWER BASIN		1.69	2.45	2.45	24.707	0.33	5.87	70.7	0.671		7.07	
166	9/10/21 8:45 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.19	1.15	1.15	21.477	0.21	7.41	84	0.447	1.96	7.2	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
166	9/10/21 8:45 AM	B	CHARLES RIVER	LOWER BASIN		0.19	1.15	1.15	21.456	0.21	7.36	83.4	0.446	1.86	7.01	
166	9/22/21 9:04 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	21.613	0.26	7.06	80.3	0.543	2.08	7.14	
166	9/22/21 9:04 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0	21.617	0.26	6.98	79.3	0.543	2.64	6.96	
166	10/8/21 9:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	17.884	0.26	8.75	92.3	0.53	2.36	7.2	
166	10/8/21 9:30 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0	17.443	0.26	8.1	84.7	0.545	2.64	6.96	
166	10/20/21 8:52 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	16.587	0.35	8.69	89.3	0.707		7.53	
166	10/20/21 8:52 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0	16.574	0.35	8.58	88.2	0.706		7.43	
166	11/3/21 9:17 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	12.05	0.23	9.79	91.1	0.483	1.73	7.47	
166	11/3/21 9:17 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0	12.062	0.23	9.36	87.1	0.482	3.23	7.31	
166	11/17/21 10:27 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.08	8.938	0.28	10.62	91.9	0.566	1.39	7.58	
166	11/17/21 10:27 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0.08	8.606	0.27	9.88	84.8	0.563	7.84	7.35	
166	12/2/21 9:54 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.02	0.02	0.02	4.077	0.28	12.09	92.6	0.584	1.63	7.68	
166	12/2/21 9:54 AM	B	CHARLES RIVER	LOWER BASIN		0.02	0.02	0.02	3.902	0.28	12.57	95.8	0.579	5.84	7.46	
166	12/21/21 10:00 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.38	3.671	0.37	12.81	97.1	0.76	1.72	7.56	
166	12/21/21 10:00 AM	B	CHARLES RIVER	LOWER BASIN		0	0	0.38	3.629	0.37	12.81	97	0.759	6.76	7.48	
166	12/29/21 10:20 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.04	0.04	2.64	0.35	12.72	93.8	0.728	1.05	7.6	
166	12/29/21 10:20 AM	B	CHARLES RIVER	LOWER BASIN		0	0.04	0.04	2.149	0.35	12.74	92.7	0.726	1.13	7.46	
011	3/30/21 8:34 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.69								1.1
011	3/30/21 8:34 AM	B	CHARLES RIVER	LOWER BASIN	4.6	0	0	0.69								
011	3/31/21 8:12 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.2	0.2	0.2								1
011	3/31/21 8:12 AM	B	CHARLES RIVER	LOWER BASIN	6.3	0.2	0.2	0.2								
011	4/14/21 8:14 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								1.2
011	4/14/21 8:14 AM	B	CHARLES RIVER	LOWER BASIN	6.4	0	0	0								
011	4/15/21 8:15 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.22	0.22	0.22								1.5
011	4/15/21 8:15 AM	B	CHARLES RIVER	LOWER BASIN	6.4	0.22	0.22	0.22								
011	5/10/21 8:18 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.34	0.34	0.34								1.5
011	5/10/21 8:18 AM	B	CHARLES RIVER	LOWER BASIN	6.1	0.34	0.34	0.34								
011	5/11/21 7:52 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.34	0.34								1.2
011	5/11/21 7:52 AM	B	CHARLES RIVER	LOWER BASIN	5.2	0	0.34	0.34								
011	5/20/21 8:00 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								1.5
011	5/20/21 8:00 AM	B	CHARLES RIVER	LOWER BASIN	6.6	0	0	0								
011	5/21/21 7:50 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								1.4
011	5/21/21 7:50 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0	0	0								
011	5/25/21 8:28 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0								1
011	5/25/21 8:28 AM	B	CHARLES RIVER	LOWER BASIN	7.1	0	0	0								
011	5/26/21 7:35 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.28	0.28	0.28								1.2
011	5/26/21 7:35 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0.28	0.28	0.28								
011	6/8/21 8:08 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	23.308	0.4	8.09	95.1	0.822	1.53	7.15	0.7
011	6/8/21 8:08 AM	B	CHARLES RIVER	LOWER BASIN	6.7	0	0	0	16.677	12.55	5.46	60.6	20.874	1.88	7.08	
011	6/10/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.05	0.05	23.743	0.49	7.43	88.1	0.987	2.12	7.46	1.5
011	6/10/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	5.5	0	0.05	0.05	20.633	6.72	6.21	71.6	11.741	2.65	7.01	
011	6/23/21 8:26 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.91	0.91	24.211	0.52	7.18	85.8	1.049	3.65	7.56	1.5
011	6/23/21 8:26 AM	B	CHARLES RIVER	LOWER BASIN	5.1	0	0.91	0.91	22.492	5.19	5.23	62.2	9.251	7.48	7.23	
011	6/24/21 8:13 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.91	24.184	0.52	7.49	89.6	1.049	1.86	7.61	1.3
011	6/24/21 8:13 AM	B	CHARLES RIVER	LOWER BASIN	5.6	0	0	0.91	20.585	11.83	5.51	65.8	19.795	6.75	7.2	
011	7/2/21 8:06 AM	S	CHARLES RIVER	LOWER BASIN	0.1	1.67	2.95	3.11	25.558	1.09	6.05	74.4	2.14		7.08	
011	7/7/21 7:49 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0.03	0.32	0.32	21.795	0.36	7.8	89	0.731	2.12	7.64	0.8
011	7/7/21 7:49 AM	B	CHARLES RIVER	LOWER BASIN	5.9	0.03	0.32	0.32	19.413	9.11	5.23	60	15.549	3.38	7.22	
011	7/19/21 8:16 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.3	0.47	23.57	0.23	6.5	76.7	0.482	1.44	6.81	0.9
011	7/19/21 8:16 AM	B	CHARLES RIVER	LOWER BASIN	6.5	0	0.3	0.47	22.712	4.88	5.92	70.5	8.734	39.54	6.73	
011	7/21/21 8:05 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	23.952	0.28	6.73	80	0.575	1.81	6.73	0.6
011	7/21/21 8:05 AM	B	CHARLES RIVER	LOWER BASIN	4.3	0	0	0	23.785	0.27	6.56	77.8	0.551	1.76	6.7	
011	7/22/21 8:30 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0	24.035	0.28	6.79	80.8	0.579	1.59	6.87	0.7
011	7/22/21 8:30 AM	B	CHARLES RIVER	LOWER BASIN	5.7	0	0	0	23.648	0.62	6.28	74.4	1.248	2.19	6.81	
011	8/24/21 8:02 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	1.69	2.45	24.49	0.9	6.08	73.2	1.774	2.39	6.97	1.5
011	8/24/21 8:02 AM	B	CHARLES RIVER	LOWER BASIN	5	0	1.69	2.45	24.416	1.35	5.89	71.1	2.614	2.63	6.97	
011	8/25/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	1.69	25.571	0.48	6.86	84.1	0.968	2.63	7.05	1
011	8/25/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	4.2	0	0	1.69	25.165	1.9	6.03	74	3.623	2.65	6.79	
011	9/27/21 7:53 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0.55	0.58	21.316	0.43	7.16	81	0.869	1.51	6.92	1.8
011	9/27/21 7:53 AM	B	CHARLES RIVER	LOWER BASIN	5.6	0	0.55	0.58	20.726	9.67	6.17	72.9	16.442	3.13	6.44	
011	9/30/21 8:01 AM	S	CHARLES RIVER	LOWER BASIN	0.1	0	0	0.72	19.773	0.53	7.38	81.1	1.06	2.1	7.44	2
011	9/30/21 8:01 AM	B	CHARLES RIVER	LOWER BASIN	5.7	0	0	0.72	19.088	15.28	5.2	61.5	25.024	2.26	7.14	
174	3/23/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	3/24/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	4/1/21 9:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
174	4/2/21 9:28 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
174	4/12/21 9:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	4/13/21 8:34 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	5/6/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
174	5/7/21 8:31 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
174	5/17/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
174	5/18/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
174	6/7/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	6/9/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05								
174	6/21/21 8:47 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	6/22/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91								
174	7/12/21 9:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29								
174	7/13/21 8:28 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25								
174	8/5/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2								
174	8/6/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2								
174	8/16/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
174	9/8/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
174	9/15/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06								
174	9/16/21 9:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31								
074	3/23/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
074	3/24/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
074	4/1/21 9:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
074	4/2/21 9:32 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
074	4/12/21 9:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
074	4/13/21 8:36 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
074	5/6/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
074	5/7/21 8:36 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								
074	5/17/21 8:42 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
074	5/18/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
074	6/7/21 9:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	23.83	0.56	3.1	36.9	1.122	12.38	7.04	
074	6/9/21 8:39 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	23.851	0.55	1.76	20.9	1.115		7.07	
074	6/21/21 8:50 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	24.266	0.57	2.75	32.9	1.154	11.19	7.13	
074	6/22/21 8:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	23.494	0.56	0.52	6.2	1.131		6.96	
074	7/12/21 9:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	20.403	0.31	5.93	65.8	0.634	8.78	6.84	
074	7/13/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	19.958	0.34	5.66	62.3	0.697		6.89	
074	8/5/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	19.412	0.28	6.24	67.9	0.572		7.1	
074	8/6/21 8:40 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	21.193	0.41	6.32	71.3	0.84	17.09	7.19	
074	8/16/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	20.991	0.51	3.71	41.7	1.031		7.09	
074	9/8/21 8:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	20.501	0.41	5.44	60.6	0.827	3.93	6.98	
074	9/15/21 8:21 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	20.795	0.44	3.87	43.4	0.883		7.08	
074	9/16/21 9:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	20.713	0.42	4.62	51.7	0.853	9.15	7.15	
277	3/23/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
277	3/24/21 7:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
277	4/1/21 9:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
277	4/2/21 9:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
277	4/12/21 8:55 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
277	4/13/21 8:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
277	5/6/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
277	5/7/21 8:17 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								
277	5/17/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
277	5/18/21 8:30 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
277	6/7/21 8:44 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	22.176	0.6	1.63	18.8	1.21		6.89	
277	6/9/21 8:16 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	22.869	0.56	1.41	16.5	1.122		7.06	
277	6/21/21 8:29 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	21.73	0.57	1.61	18.3	1.147	5.65	7.1	
277	6/22/21 8:34 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	22.268	0.57	1.58	18.2	1.138		7	
277	7/12/21 9:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	19.998	0.21	6.85	75.5	0.428	14.37	6.75	
277	7/13/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	19.955	0.34	5.28	58.2	0.696		6.78	
277	8/5/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	19.482	0.28	4.83	52.7	0.581		6.92	
277	8/6/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	20.651	0.4			0.812		6.98	
277	8/16/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	20.221	0.52	2.79	30.9	1.041		6.95	
277	9/8/21 8:18 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	19.939	0.42	5.01	55.1	0.856	4.18	6.86	
277	9/15/21 7:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	20.398	0.45	0.48	5.3	0.916		6.96	
277	9/16/21 9:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	20.715	0.17	4.52	50.4	0.361	17.57	6.95	
172	3/23/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
172	3/24/21 8:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
172	4/1/21 9:05 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
172	4/2/21 9:14 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
172	4/12/21 8:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
172	4/13/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
172	5/6/21 8:40 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
172	5/7/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								
172	5/17/21 8:19 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
172	5/18/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
172	6/7/21 8:48 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	21.796	0.56	2.02	23	1.128	3.95	7	
172	6/9/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	22.884	0.56	1.53	17.9	1.129		7.03	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
172	6/21/21 8:33 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	21.645	0.57	1.58	18	1.146	2.44	7.1	
172	6/22/21 8:31 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	22.247	0.55	1.49	17.2	1.105		7.03	
172	7/12/21 9:38 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	19.996	0.21	6.89	75.9	0.432	14.25	6.73	
172	7/13/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	19.953	0.34	5.29	58.3	0.696		6.76	
172	8/5/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2								
172	8/6/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	20.582	0.4	5.54	61.7	0.812	10.42	7.04	
172	8/16/21 8:13 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	20.212	0.53	2.91	32.3	1.059		6.99	
172	9/8/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	19.81	0.41	5	54.9	0.836	3.98	6.91	
172	9/15/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	20.3	0.44	3.27	36.2	0.894		7.12	
172	9/16/21 9:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	20.796	0.35	3.96	44.4	0.72	7.39	6.93	
276	3/23/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
276	3/24/21 7:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
276	4/1/21 8:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
276	4/2/21 9:04 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
276	4/12/21 8:51 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
276	4/13/21 8:14 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
276	5/6/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
276	5/7/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								
276	5/17/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
276	5/18/21 8:25 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
276	6/7/21 8:35 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	21.648	0.56	2.33	26.6	1.129	5.48	7.01	
276	6/9/21 8:08 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	22.742	0.55	1.43	16.6	1.115		7.06	
276	6/21/21 8:22 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	21.736	0.57	1.54	17.6	1.148	2.61	7.09	
276	6/22/21 8:23 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	22.3	0.57	1.71	19.7	1.138		7.03	
276	7/12/21 9:29 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	19.786	0.15	7.43	81.4	0.313	16.88	6.86	
276	7/13/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	19.89	0.35	5.25	57.7	0.707		6.74	
276	8/5/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	19.575	0.27	6.02	65.8	0.562		7	
276	8/6/21 8:11 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	20.534	0.4	5.38	60	0.806	12.67	7.03	
276	8/16/21 8:03 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	20.331	0.52	2.6	28.9	1.05		7.08	
276	9/8/21 8:09 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	19.8	0.41	5.15	56.6	0.841	5.63	7	
276	9/15/21 7:49 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	20.277	0.44	3.36	37.2	0.895		7.12	
276	9/16/21 8:52 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	20.727	0.39	3.9	43.7	0.804	11.96	6.99	
070	3/23/21 8:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
070	3/24/21 7:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
070	4/1/21 8:45 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.92	1.12	1.12								
070	4/2/21 8:51 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.92	1.12								
070	4/12/21 8:44 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
070	4/13/21 8:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0								
070	5/6/21 8:20 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.53	1.2								
070	5/7/21 7:59 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.53								
070	5/17/21 8:00 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0.01	0.01								
070	5/18/21 8:15 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01								
070	6/7/21 8:26 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	22.664	0.56	2.49	28.9	1.128	2.3	7.04	
070	6/9/21 7:56 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.05	0.05	0.05	23.98	0.57	1.39	16.6	1.147		6.86	
070	6/21/21 8:12 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	24.081	0.57	1.45	17.3	1.15	2.3	6.99	
070	6/22/21 8:06 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.91	0.91	0.91	24.364	0.56	1.81	21.8	1.137		7.04	
070	7/12/21 9:21 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.21	1.24	1.29	20.375	0.18	6.97	77.3	0.383	18.65	6.68	
070	7/13/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.01	1.22	1.25	19.925	0.34	5.15	56.7	0.69		6.71	
070	8/5/21 8:02 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	1.42	2	2	19.729	0.28	5.21	57	0.582		7.17	
070	8/6/21 7:59 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	1.42	2	20.399	0.38	4.98	55.3	0.766	9.13	6.9	
070	8/16/21 7:47 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.01	21.659	0.51	2.89	32.9	1.039		6.99	
070	9/8/21 7:58 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0	19.807	0.41	5.27	57.9	0.83	3.4	7.01	
070	9/15/21 7:27 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0	0	0.06	20.309	0.45	3.61	40.1	0.904		7.08	
070	9/16/21 8:37 AM	S	MYSTIC/ALEWIFE	ALEWIFE BROOK	0.1	0.31	0.31	0.31	20.923	0.26	5.91	66.3	0.538	5.77	7.02	
083	1/11/21 8:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	2/24/21 9:09 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.16								
083	3/10/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	3/23/21 8:00 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	3/24/21 7:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	3/25/21 7:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.15	0.15	0.15								
083	4/1/21 8:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12								
083	4/2/21 8:44 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12								
083	4/5/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	4/12/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	4/13/21 7:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	4/21/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.24	0.24	0.25								
083	5/5/21 8:11 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.53	1.2	1.22								
083	5/6/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2								
083	5/7/21 9:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53								
083	5/17/21 9:45 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01								1

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
083	5/18/21 9:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01								0.9
083	5/19/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
083	6/2/21 8:56 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.15	16.742	0.42	7.77	80.1	0.857		7.1	
083	6/7/21 8:14 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	22.896	0.42	8.34	97.2	0.858	3.33	7.27	
083	6/9/21 9:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	26.308	0.41	8.18	101.6	0.844	1.43	7.61	0.7
083	6/9/21 9:55 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.05	0.05	0.05	26.218	0.41	7.82	96.9	0.843		7.5	
083	6/15/21 8:33 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	0.54	0.54	21.543	0.41	7.24	82.3	0.828	5.07	7.18	
083	6/21/21 9:41 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	25.811	0.42	7.8	96.1	0.855	4.97	7.73	0.7
083	6/21/21 9:41 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	25.083	0.42	6.82	82.8	0.852		7.5	
083	6/22/21 7:52 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	24.491	0.41	8.42	101.1	0.836		7.83	
083	7/6/21 8:21 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.29	0.29	0.6	20.805	0.35	6.72	75.3	0.717		7.04	
083	7/12/21 9:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	20.282	0.27	7.06	78.2	0.565	2.21	6.94	
083	7/13/21 7:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	20.051	0.3	6.52	71.9	0.608		7.09	
083	7/14/21 8:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	1.22	20.068	0.29	6.68	73.7	0.598		6.98	
083	7/26/21 8:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.15	0.15	23.625	0.32	6.58	77.8	0.651		7.26	
083	8/5/21 7:48 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	21.301	0.34	7.98	90.2	0.687		7.11	
083	8/6/21 9:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	22.957	0.33	7.95	92.8	0.677	1.44	7.49	0.8
083	8/6/21 9:22 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	1.42	2	22.937	0.33	7.94	92.6	0.677	1.85	7.48	
083	8/11/21 8:31 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.03	1.18	24.093	0.33	7.94	94.7	0.685	2	7.44	
083	8/16/21 9:59 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	25.858	0.35	6.68	82.3	0.714	8.36	7.65	1
083	8/16/21 9:59 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.01	25.56	0.35	5.92	72.5	0.711	12.16	7.45	
083	8/23/21 8:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.69	2.45	2.45	23.862	0.3	6.24	74.1	0.629		7.3	
083	9/8/21 9:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	21.43	0.27	7.62	86.3	0.548	1.83	7.27	
083	9/8/21 9:35 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	21.394	0.27	7.6	86	0.548	7.3	7.22	
083	9/10/21 8:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.19	1.15	1.15	21.314	0.25	7.9	89.3	0.525	2.07	7.31	
083	9/15/21 9:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	22.027	0.28	7.28	83.4	0.568	2.09	7.43	0.7
083	9/15/21 9:38 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.06	22.002	0.28	7.25	83	0.569	2.3	7.4	
083	9/16/21 8:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	21.604	0.25	7.99	90.8	0.524	2.68	7.01	
083	9/22/21 8:27 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	21.374	0.3	7.53	85.3	0.622	1.25	7.11	
083	10/8/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	18.132	0.24	7.19	76.3	0.492	6.51	6.91	
083	10/20/21 8:23 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	15.615	0.33	6.56	66	0.671		7.46	
083	11/3/21 8:44 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	12.682	0.32	7.9	74.6	0.657	1.73	7.02	
083	11/17/21 10:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.08	9.821	0.36	8.85	78.2	0.728	3.63	7.36	
083	12/2/21 9:32 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.02	0.02	0.02	7.303	0.37	9.44	78.6	0.751	9.99	7.4	
083	12/21/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.38	4.813	0.37	11.8	92.2	0.763	2.46	7.46	
083	12/29/21 9:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.04	0.04	4.164	0.4	11.7	89.8	0.823	10.19	7.39	
057	3/23/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
057	3/24/21 7:39 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
057	4/1/21 8:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12								
057	4/2/21 8:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12								
057	4/12/21 8:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
057	4/13/21 8:00 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
057	5/6/21 8:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2								
057	5/7/21 9:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53								
057	5/17/21 9:40 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01								
057	5/18/21 9:50 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01								0.8
057	6/7/21 8:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	23.055	0.42	6.52	76.3	0.854	2.33	7.19	
057	6/9/21 9:48 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	26.356	0.42	6.84	85.1	0.86	1.6	7.42	
057	6/21/21 9:35 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	25.479	0.43	7.12	87.2	0.878	3.4	7.59	1
057	6/21/21 9:35 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	24.621	0.56	2.43	29.2	1.137	2.71	7.18	
057	6/22/21 7:58 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	24.411	0.41	7.64	91.6	0.843		7.59	
057	7/12/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	20.067	0.22	7.06	77.8	0.462	4.6	6.65	
057	7/13/21 7:56 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	19.988	0.3	6.19	68.1	0.608		6.88	
057	8/5/21 7:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	22.054	0.32	6.43	73.8	0.654		7.29	
057	8/6/21 9:18 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	22.945	0.33	7.88	91.9	0.677	1.5	7.47	0.8
057	8/6/21 9:18 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	1.42	2	22.939	0.33	7.88	91.9	0.677	15.12	7.45	
057	8/16/21 9:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	25.833	0.35	5.57	68.6	0.716	0.91	7.47	1
057	8/16/21 9:54 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.01	22.823	0.48	4.53	52.7	0.964	4.18	7.3	
057	9/8/21 9:30 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	21.359	0.27	7.51	85	0.55	1.82	7.21	
057	9/8/21 9:30 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	21.34	0.27	7.53	85.1	0.551	8.04	7.18	
057	9/15/21 9:34 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	21.937	0.28	7.08	81	0.569	1.92	7.38	0.7
057	9/15/21 9:34 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.06	21.923	0.28	7.06	80.8	0.569	2.63	7.37	
057	9/16/21 8:27 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	21.857	0.25	7.2	82.2	0.528	2.13	7.09	
066	1/11/21 8:46 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
066	2/10/21 9:20 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.17	0.17								
066	2/24/21 9:02 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.16								
066	3/10/21 9:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
066	3/25/21 7:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.15	0.15	0.15								
066	4/5/21 8:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
066	4/21/21 8:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.24	0.24	0.25								

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
066	5/5/21 8:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.53	1.2	1.22								
066	5/19/21 8:26 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								
066	6/2/21 8:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.15	16.412	0.43	7.2	73.7	0.877		7.07	
066	6/2/21 8:47 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.15	16.368	0.43	7.1	72.7	0.879		7.06	
066	6/15/21 8:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	0.54	0.54	20.914	0.4	5.59	62.8	0.81	2.04	7.08	
066	7/6/21 8:14 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.29	0.29	0.6	20.732	0.38	6.71	75	0.767		7.01	
066	7/6/21 8:14 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.29	0.29	0.6	20.737	0.38	6.54	73.1	0.767		6.98	
066	7/14/21 8:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	1.22	20.065	0.3	6.5	71.7	0.61		6.96	
066	7/26/21 8:49 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.15	0.15	23.137	0.34	5.73	67.1	0.689		7.28	
066	8/11/21 8:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.03	1.18	23.984	0.34	7.36	87.6	0.698	1.77	7.35	
066	8/23/21 8:29 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.69	2.45	2.45	23.755	0.31	5.81	68.8	0.632		7.19	
066	8/23/21 8:29 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		1.69	2.45	2.45	23.751	0.31	5.76	68.2	0.631		7.15	
066	10/8/21 8:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	17.755	0.32	6.6	69.5	0.661	2.42	7.02	
066	10/20/21 10:37 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	14.975	0.38	6.41	63.7	0.766		7.38	
066	10/20/21 10:37 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	14.514	0.39	5.81	57.1	0.787		7.27	
066	11/3/21 8:54 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	12.454	0.32	8.04	75.5	0.652	1.83	7.17	
066	11/3/21 8:54 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	12.461	0.32	7.7	72.3	0.654	2.03	7.1	
066	11/17/21 9:41 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.08	9.225	0.33	9.71	84.7	0.68	0.99	7.41	
066	12/2/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.02	0.02	0.02	6.472	0.35	9.6	78.2	0.724	1.13	7.61	
066	12/2/21 9:25 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.02	0.02	0.02	6.404	0.35	8.8	71.6	0.725	1.12	7.47	
066	12/21/21 9:19 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.38	4.564	0.38	11.55	89.6	0.785	1.8	7.43	
066	12/21/21 9:19 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.38	4.562	0.38	10.73	83.3	0.781	2.01	7.37	
066	12/29/21 9:43 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.04	0.04	4.168	0.42	10.59	81.3	0.856	0.66	7.48	
066	12/29/21 9:43 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0.04	0.04	4.167	0.42	10.45	80.3	0.859	1.12	7.39	
056	3/23/21 9:22 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								1
056	3/24/21 9:11 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								1.3
056	4/1/21 9:10 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.92	1.12	1.12								0.8
056	4/2/21 9:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.92	1.12								1
056	4/12/21 8:12 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								1
056	4/13/21 9:06 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0								0.9
056	5/6/21 9:38 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.53	1.2								1
056	5/7/21 9:04 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.53								1.4
056	5/17/21 9:15 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0.01	0.01								1
056	5/18/21 9:25 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01								1
056	6/7/21 9:01 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	23.917	0.45	6.19	73.6	0.913	2.01	7.21	1.1
056	6/7/21 9:01 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	22.8	0.46	5.45	63.5	0.93	3.35	7.12	
056	6/9/21 9:21 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.05	0.05	0.05	25.691	0.44	5.26	64.7	0.897	2.23	7.29	0.8
056	6/9/21 9:21 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.05	0.05	0.05	24.671	0.48	3.53	42.5	0.974	3.96	7.11	
056	6/21/21 9:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	25.255	0.46	6.97	85	0.931	2.59	7.41	0.9
056	6/21/21 9:07 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	23.347	0.51	5.09	59.9	1.025	6.24	7.22	
056	6/22/21 9:07 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.91	0.91	0.91	25.675	0.44	5.09	62.5	0.903	12.76	7.32	1.5
056	6/22/21 9:07 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.91	0.91	0.91	25.182	0.48	3.79	46.2	0.979	3.5	7.11	
056	7/12/21 8:46 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.21	1.24	1.29	20.17	0.26	6.77	74.8	0.546	6.89	7.05	
056	7/13/21 8:24 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.01	1.22	1.25	19.943	0.3	6.11	67.2	0.617	5.68	7.29	0.8
056	7/13/21 8:24 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.01	1.22	1.25	19.945	0.3	6.1	67.1	0.618	5.69	7.27	
056	8/5/21 9:47 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	1.42	2	2	21.648	0.31	6.05	68.8	0.639	5.35	7.57	0.8
056	8/5/21 9:47 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		1.42	2	2	21.656	0.32	5.69	64.8	0.652		7.54	
056	8/6/21 8:55 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	1.42	2	22.038	0.33	6.29	72.1	0.673	3	7.32	0.8
056	8/6/21 8:55 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	1.42	2	21.814	0.33	5.46	62.4	0.671		7.1	
056	8/16/21 9:28 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.01	25.503	0.38	5.19	63.6	0.775	1.41	7.36	1
056	8/16/21 9:28 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.01	24.868	0.42	4.91	59.5	0.851	3.72	7.28	
056	9/8/21 9:05 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0	20.884	0.29	6.09	68.2	0.603	2.5	7.16	1
056	9/8/21 9:05 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0	20.667	0.3	5.94	66.3	0.625	10.21	7.06	
056	9/15/21 9:08 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0	0	0.06	21.792	0.3	6.22	70.9	0.612	2.71	7.48	0.6
056	9/15/21 9:08 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0	0	0.06	21.427	0.3	5.92	67	0.62	12.63	7.35	
056	9/16/21 9:57 AM	S	MYSTIC/ALEWIFE	UPPER MYSTIC	0.1	0.31	0.31	0.31	21.836	0.28	6.54	74.7	0.57	3.7	7.37	1
056	9/16/21 9:57 AM	B	MYSTIC/ALEWIFE	UPPER MYSTIC		0.31	0.31	0.31	21.689	0.27	6.26	71.3	0.561	5.31	7.16	
177	1/11/21 8:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
177	2/10/21 9:00 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.17	0.17								
177	2/24/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.16								
177	3/10/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
177	3/25/21 6:58 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.15	0.15	0.15								
177	4/5/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
177	4/21/21 7:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.24	0.24	0.25								
177	5/5/21 7:40 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.53	1.2	1.22								
177	5/19/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
177	6/2/21 8:32 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.15	17.554	0.43	7.63	80.1	0.879		7.02	
177	6/2/21 8:32 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.15	17.205	0.46	7.09	73.9	0.926		6.94	
177	6/15/21 8:08 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	0.54	0.54	21.227	0.41	5.39	60.9	0.829	2.98	7.19	
177	6/15/21 8:08 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.01	0.54	0.54	21.111	0.42	3.87	43.6	0.85	5.19	6.91	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
177	7/6/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.29	0.29	0.6	20.521	0	5.38	59.8	0.012		6.96	
177	7/6/21 7:50 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.29	0.29	0.6	20.385	0.41	4.85	53.9	0.827		6.84	
177	7/14/21 7:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	1.22	19.881	0.3	6.29	69.2	0.62		7.01	
177	7/14/21 7:54 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0.01	1.22	19.832	0.3	5.58	61.3	0.624		7.05	
177	7/26/21 8:35 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.15	0.15	22.857	0.36	4.7	54.8	0.732		7.17	
177	7/26/21 8:35 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0.15	0.15	22.542	0.37	3.56	41.3	0.751		6.81	
177	8/11/21 8:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.03	1.18	23.991	0.34	6.66	79.2	0.697	2.18	7.18	
177	8/23/21 7:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.69	2.45	2.45	23.224	0.31	4.96	58.2	0.639		7.12	
177	8/23/21 7:57 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		1.69	2.45	2.45	23.224	0.37	3.4	39.9	0.754		6.86	
177	9/10/21 7:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.19	1.15	1.15	20.982	0.23	6.23	69.9	0.478	4.66	6.98	
177	9/10/21 7:50 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.19	1.15	1.15	20.983	0.23	6.11	68.6	0.479	5.72	6.91	
177	9/22/21 8:02 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	20.858	0.32	7.05	79.1	0.664	3.61	7.21	
177	9/22/21 8:02 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	20.763	0.33	6.51	72.9	0.673	5.44	6.98	
177	10/8/21 8:19 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	18.248	0.33	6.93	73.8	0.684	2.94	7.07	
177	10/8/21 8:19 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	18.151	0.34	6.41	68.1	0.688	5.71	6.97	
177	10/20/21 8:04 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	15.263	0.39	8.13	81.3	0.789		7.61	
177	10/20/21 8:04 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	15.157	0.57	7.91	79	1.148		7.34	
177	11/3/21 8:27 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	12.164	0.32	8.92	83.2	0.658	2.21	7.39	
177	11/3/21 8:27 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	12.295	0.32	7.58	71	0.658	8.55	7.08	
177	11/17/21 9:23 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.08	8.905	0.33	9.04	78.2	0.681	0.98	7.32	
177	11/17/21 9:23 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.08	9.088	1.52	7.68	67.2	2.903	7.54	6.9	
177	12/2/21 9:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.02	0.02	0.02	5.42	0.39	10.61	84.2	0.797	1.06	7.68	
177	12/2/21 9:10 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.02	0.02	0.02	7.339	7.21	4.82	42	12.608	11.67	6.83	
177	12/21/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.38	3.599	0.39	12.11	91.6	0.802	1.66	7.64	
177	12/21/21 8:55 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.38	3.776	0.4	11.01	83.8	0.818		7.46	
177	12/29/21 9:13 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.04	0.04	4.325	0.43	10.71	82.6	0.875	0.7	7.31	
177	12/29/21 9:13 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0.04	0.04	3.847	2.83	9.93	76.9	5.292	4.27	6.9	
067	3/23/21 9:05 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								1.1
067	3/24/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								1.2
067	4/1/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.92	1.12	1.12								0.9
067	4/2/21 9:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.92	1.12								0.8
067	4/12/21 8:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								0.7
067	4/13/21 8:50 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								0.9
067	5/6/21 9:21 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.53	1.2								1
067	5/7/21 8:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.53								0.8
067	5/17/21 9:05 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	0.01								0.6
067	5/18/21 9:10 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01								0.5
067	6/7/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	24.405	0.63	9.94	119.4	1.266	4.26	7.8	0.6
067	6/7/21 8:45 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	23.781	0.88	6.67	79.3	1.738	9.38	7.42	
067	6/9/21 9:08 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.05	0.05	0.05	26.339	0.69	8.83	109.9	1.387	4.39	7.74	0.5
067	6/9/21 9:08 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.05	0.05	0.05	25.908	0.99	5.52	68.3	1.948	19.88	7.37	
067	6/21/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	25.475	0.86	11.85	145.4	1.715	4.16	8.86	0.6
067	6/21/21 8:55 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	24.541	2.45	8.69	105.7	4.587	5.96	7.92	
067	6/22/21 8:54 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.91	0.91	0.91	25.598	0.89	9.14	112.4	1.769	4.25	8.16	0.6
067	6/22/21 8:54 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.91	0.91	0.91	25.086	2.36	7.66	94.1	4.446	5.41	7.63	
067	7/12/21 8:32 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.21	1.24	1.29	20.822	0.35	6.24	69.9	0.716	4.48	7.01	
067	7/13/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	1.22	1.25	19.898	0.3	5.58	61.4	0.616	5.15	7.06	1
067	7/13/21 8:41 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.01	1.22	1.25	19.896	0.3	5.47	60.2	0.619	15.23	7.04	
067	8/5/21 9:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.42	2	2	22.593	0.44	7.37	85.5	0.887	4.25	7.84	0.9
067	8/5/21 9:30 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		1.42	2	2	22.786	0.57	6.75	78.6	1.147	6.76	7.69	
067	8/6/21 8:44 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	1.42	2	22.354	0.37	6.71	77.4	0.766	3.31	7.35	0.8
067	8/6/21 8:44 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	1.42	2	22.337	1.67	5.46	63.4	3.198	9.87	7.11	
067	8/16/21 9:16 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	26.525	0.64	9.86	123.1	1.286	3.17	8.24	1
067	8/16/21 9:16 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.01	27.216	1.91	5.47	69.7	3.646	12.67	7.36	
067	9/8/21 8:51 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	21.69	0.31	6.9	78.5	0.635	3.56	7.31	1
067	9/8/21 8:51 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	21.436	0.31	6.56	74.3	0.645	11.59	7.16	
067	9/15/21 8:56 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.06	22.409	0.33	6.79	78.4	0.68	4.59	7.62	0.7
067	9/15/21 8:56 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.06	22.058	0.38	6.26	71.8	0.781	17.24	7.55	
067	9/16/21 9:39 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.31	0.31	0.31	23.058	0.46	7.92	92.7	0.931	3.69	7.51	1
067	9/16/21 9:39 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.31	0.31	0.31	23.003	1.75	5.7	67.1	3.336	5.23	7.16	
059	3/23/21 8:49 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								0.9
059	3/24/21 8:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								1.5
059	4/1/21 8:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.92	1.12	1.12								0.8
059	4/2/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.92	1.12								0.9
059	4/12/21 8:52 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								0.6
059	4/13/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								0.9
059	5/6/21 9:06 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.53	1.2								1
059	5/7/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.53								1
059	5/17/21 8:45 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	0.01								0.6
059	5/18/21 8:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01								0.6

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
059	6/7/21 8:26 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	24.25	0.72	10.59	126.8	1.447	3.7	8.21	0.7
059	6/7/21 8:26 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	23.868	0.83	10.39	123.7	1.637	8.27	8.24	
059	6/9/21 8:53 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.05	0.05	0.05	26.516	0.72	10.47	130.8	1.45	3.48	8.55	0.6
059	6/9/21 8:53 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.05	0.05	0.05	26.223	0.87	7.97	99.2	1.729	5.36	8	
059	6/21/21 8:40 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	24.966	1.15	12.16	148	2.242	4.05	8.97	0.6
059	6/21/21 8:40 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	19.737	17.21	7.97	96.6	27.902	4.03	7.73	
059	6/22/21 8:39 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.91	0.91	0.91	25.532	1.32	10.13	124.8	2.565	4.03	8.85	0.6
059	6/22/21 8:39 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.91	0.91	0.91	25.268	2.22	9.1	112	4.185	4.2	8.58	
059	7/13/21 8:58 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	1.22	1.25	20.016	0.28	6.7	73.9	0.583	5.05	7.03	0.8
059	7/13/21 8:58 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.01	1.22	1.25	19.992	0.28	6.61	72.8	0.578	5.14	6.97	
059	8/5/21 9:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.42	2	2	22.52	0.67	8.94	103.7	1.341	3.94	8.19	0.8
059	8/6/21 8:31 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	1.42	2	22.289	0.52	7.63	88	1.051	3.51	7.84	0.9
059	8/6/21 8:31 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	1.42	2	21.923	0.72	7.45	85.4	1.442	15.36	7.7	
059	8/16/21 9:02 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.01	26.428	0.79	11.5	143.5	1.577	2.86	9	1
059	8/16/21 9:02 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.01	26.447	1.28	10.77	134.8	2.495	3.52	8.77	
059	9/8/21 8:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	21.569	0.36	7.95	90.3	0.731	3.89	7.94	0.7
059	9/8/21 8:37 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0	21.204	0.38	7.51	84.8	0.77		7.54	
059	9/15/21 8:43 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.06	22.387	0.46	7.84	90.6	0.933	3.44	7.95	1
059	9/15/21 8:43 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0	0	0.06	22.261	0.78	7.26	83.8	1.547	7.99	7.72	
059	9/16/21 9:15 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.31	0.31	0.31	22.902	0.6	8.27	96.6	1.213	3.17	8	1
059	9/16/21 9:15 AM	B	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN		0.31	0.31	0.31	22.936	0.61	7.94	92.8	1.217	2.93	7.77	
176	3/23/21 8:56 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0								0.4
176	3/24/21 8:43 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0								0.9
176	4/1/21 8:43 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.92	1.12	1.12								0.5
176	4/2/21 9:01 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.92	1.12								0.9
176	4/12/21 8:45 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0								0.5
176	4/13/21 8:39 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0								0.8
176	5/6/21 9:11 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.53	1.2								0.7
176	5/7/21 8:44 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.53								0.8
176	5/17/21 8:55 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0.01	0.01								0.3
176	5/18/21 9:00 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.01								0.3
176	6/7/21 8:31 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	24.876	0.62	12.21	147.9	1.244	3.88	8.75	0.6
176	6/7/21 8:31 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	0	0	24.396	0.62	10.65	127.9	1.242	6.01	8.07	
176	6/9/21 8:58 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.05	0.05	0.05	27.324	0.69	11.29	143.1	1.389	3.06	8.87	0.5
176	6/9/21 8:58 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0.05	0.05	0.05	24.606	0.7	4.58	55.2	1.398	7.94	7.4	
176	6/21/21 8:46 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	25.117	0.89	11.58	141.1	1.765	4.97	8.75	0.5
176	6/21/21 8:46 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	0	0	24.658	0.92	8.84	106.9	1.816	5.21	7.99	
176	6/22/21 8:44 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.91	0.91	0.91	25.614	1.01	9.92	122.2	1.981	4.43	8.6	0.6
176	6/22/21 8:44 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0.91	0.91	0.91	25.591	1	10.57	130	1.973	4.97	8.72	
176	7/12/21 8:10 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	1.21	1.24	1.29	20.41	0.33	7.6	84.5	0.668	13.91	7.02	
176	7/13/21 8:52 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.01	1.22	1.25	19.247	0.18	10.08	109.3	0.379	5.19	7.02	0.8
176	7/13/21 8:52 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0.01	1.22	1.25	19.236	0.19	10.59	114.9	0.388	17.57	6.98	
176	8/5/21 9:18 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	1.42	2	2	22.096	0.54	8.13	93.5	1.089	6.05	7.94	0.7
176	8/6/21 8:35 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	1.42	2	21.321	0.42	6.25	70.7	0.856	4.37	7.49	0.8
176	8/6/21 8:35 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	1.42	2	20.94	0.51	5.61	63	1.023	26.45	7.35	
176	8/16/21 9:06 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.01	25.818	0.58	8.45	104.2	1.177	3.12	8.01	1
176	8/16/21 9:06 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	0	0.01	25.215	1.86	3.17	38.9	3.549		7.98	
176	9/8/21 8:40 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0	21.436	0.37	7.57	85.8	0.747	4.63	7.41	0.8
176	9/8/21 8:40 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	0	0	21.238	0.37	7.29	82.3	0.756	11.78	7.27	
176	9/15/21 8:47 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0	0	0.06	21.729	0.47	6.48	73.9	0.956	4.5	7.64	0.7
176	9/15/21 8:47 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0	0	0.06	21.646	0.47	6.47	73.7	0.957	6.86	7.57	
176	9/16/21 9:24 AM	S	MYSTIC/ALEWIFE	MALDEN RIVER	0.1	0.31	0.31	0.31	22.603	0.5	7.55	87.6	1.015	5.07	7.48	1
176	9/16/21 9:24 AM	B	MYSTIC/ALEWIFE	MALDEN RIVER		0.31	0.31	0.31	22.507	0.71	6.35	73.7	1.424	6.83	7.31	
167	3/10/21 8:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
167	3/25/21 6:42 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.15	0.15	0.15								
167	4/5/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
167	4/21/21 7:30 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.24	0.24	0.25								
167	5/5/21 7:25 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.53	1.2	1.22								
167	5/19/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0								
167	6/2/21 8:12 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.15	17.715	0.43	8.57	90.3	0.877		7.05	
167	6/15/21 7:56 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.01	0.54	0.54	21.449	1.08	8.95	101.9	2.115	11.46	7.31	
167	7/6/21 7:37 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.29	0.29	0.6	20.843	1.2	6.36	71.6	2.331		6.76	
167	7/12/21 8:23 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.21	1.24	1.29	21.041	0.37	6.61	74.3	0.747	3.27	7.11	
167	7/14/21 7:38 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.01	1.22	20.342	0.31	6.71	74.4	0.63		7.03	
167	7/26/21 8:21 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.15	0.15	23.585	0.6	8.88	105	1.209		7.44	
167	8/11/21 7:55 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.03	1.18	24.177	0.48	7.65	91.4	0.97	5.45	7.17	
167	8/23/21 7:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	1.69	2.45	2.45	23.628	0.43	5.21	61.6	0.882		7.02	
167	9/10/21 7:36 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.19	1.15	1.15	22.12	0.46	6.56	75.4	0.939	5.31	7.13	
167	9/22/21 7:46 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	21.633	1.34	7.79	89.2	2.596	4.17	6.85	
167	10/8/21 7:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	18.235	0.53	7.36	78.3	1.069	2.89	6.9	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
167	10/20/21 7:49 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	14.734	1.78	8.37	83.5	3.368		7.33	
167	11/3/21 8:11 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0	12.341	0.51	8.14	76.4	1.017	2.85	7.21	
167	11/17/21 9:09 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.08	8.215	0.67	9.96	84.9	1.335	2.7	7.13	
167	12/2/21 8:57 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0.02	0.02	0.02	5.286	1.17	11.08	88.1	2.289	1.19	7.11	
167	12/21/21 8:41 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0	0.38	3.248	0.62	11.56	86.8	1.255	3.33	6.98	
167	12/29/21 8:59 AM	S	MYSTIC/ALEWIFE	LOWER MYSTIC BASIN	0.1	0	0.04	0.04	4.045	1.16	11.7	90	2.274	2.74	7.04	
052	3/23/21 8:43 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
052	3/24/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
052	4/1/21 9:35 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.92	1.12	1.12								0.8
052	4/2/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.92	1.12								
052	4/12/21 8:56 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								2.6
052	4/12/21 8:56 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.2	0	0	0								
052	4/13/21 8:28 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
052	4/13/21 8:28 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.7	0	0	0								
052	5/6/21 8:58 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.53	1.2								3.5
052	5/6/21 8:58 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.7	0	0.53	1.2								
052	5/7/21 8:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.53								3.2
052	5/7/21 8:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.8	0	0	0.53								
052	5/17/21 8:35 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.01	0.01								0.7
052	5/18/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01								
052	6/7/21 8:18 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	17.428	22.94	10.11	121.1	36.223	1.51	7.93	2.1
052	6/7/21 8:18 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0	14.81	29.62	11.22	132.9	45.672	1.23	8	
052	6/9/21 8:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.05	0.05	0.05	17.222	26.43	10.42	127	41.181	1.14	8	1.8
052	6/9/21 8:46 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0.05	0.05	0.05	14.659	29.6	10.36	122.3	45.656	2.26	7.95	
052	6/21/21 8:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	19.282	23.77	7.57	94.5	37.408	1.49	7.71	1.8
052	6/21/21 8:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0	15.612	30.55	7.09	85.8	46.941	1.27	7.7	
052	6/22/21 8:29 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.91	0.91	0.91	19.769	24.04	7.39	93.3	37.796	1.38	7.72	1.8
052	6/22/21 8:29 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.3	0.91	0.91	0.91	16.938	29.53	6.8	84	45.504	2.06	7.65	
052	7/13/21 9:06 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	1.22	1.25	19.122	7.37	5.95	67.2	12.788	4.67	7.11	1
052	7/13/21 9:06 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0.01	1.22	1.25	18.511	12.65	5.65	65	21.043	5.03	7.17	
052	8/5/21 9:02 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.42	2	2	20.087	22.75	7.4	93.2	35.959	1.86	7.86	1.5
052	8/5/21 9:02 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	1.42	2	2	18.846	29.21	6.97	89.2	45.06	9.51	7.86	
052	8/6/21 8:23 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	1.42	2	20.282	20.67	6.97	87	32.966	2.16	7.76	2.5
052	8/6/21 8:23 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	1.42	2	18.795	29.17	6.61	84.4	45.002	4.91	7.81	
052	8/16/21 8:49 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	20.599	27.36	4.2	54.9	42.493	0.89	7.52	
052	8/16/21 8:49 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	0	0.01	19.709	29.05	3.1	40.3	44.833		7.36	
052	9/8/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	20.779	16.48	3.37	41.5	26.835	1.86	7.35	1.7
052	9/8/21 8:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	0	0	20.169	23.83	2.6	33	37.507	3.51	7.34	
052	9/15/21 8:34 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.06	19.977	19.22	2.33	28.7	30.863	1.57	7.32	1.2
052	9/15/21 8:34 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0.06	18.025	29.04	1.52	19.1	44.818		7.35	
052	9/16/21 9:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.31	0.31	0.31	18.947	24.49	2.7	33.7	38.438	1.77	7.42	2.3
052	9/16/21 9:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3	0.31	0.31	0.31	17.477	29.85	2.67	33.4	45.94	2.29	7.52	
069	3/23/21 8:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
069	3/24/21 8:22 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
069	4/1/21 9:42 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.92	1.12	1.12								3
069	4/1/21 9:42 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.9	0.92	1.12	1.12								
069	4/2/21 8:39 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.92	1.12								
069	4/2/21 8:39 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.4	0	0.92	1.12								
069	4/12/21 9:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								2.1
069	4/12/21 9:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.6	0	0	0								
069	4/13/21 8:23 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								
069	4/13/21 8:23 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0								
069	5/6/21 8:50 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.53	1.2								
069	5/6/21 8:50 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.7	0	0.53	1.2								
069	5/7/21 8:25 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.53								2.4
069	5/7/21 8:25 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.8	0	0	0.53								
069	5/17/21 8:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.01	0.01								3.1
069	5/17/21 8:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4	0	0.01	0.01								
069	5/18/21 8:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01								3.2
069	5/18/21 8:36 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.9	0	0	0.01								
069	6/7/21 8:11 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	17.211	26.06	11.36	138.1	40.658	1.28	8.03	2.1
069	6/7/21 8:11 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.1	0	0	0	13.242	30.61	10.78	124.5	47.11	1.13	7.97	
069	6/9/21 8:40 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.05	0.05	0.05	19.034	24.49	10.22	127.5	38.433	1.2	7.98	1.9
069	6/9/21 8:40 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0.05	0.05	0.05	13.995	29.81	10.3	120.2	45.972	1.25	7.99	
069	6/21/21 8:26 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	17.522	29.79	8.14	101.9	45.864	0.84	7.77	2.4
069	6/21/21 8:26 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.2	0	0	0	15.825	30.66	8.29	100.8	47.093	8.63	7.81	
069	6/22/21 8:21 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.91	0.91	0.91	19.897	27.01	9.19	118.2	41.992	1.39	7.88	1.7
069	6/22/21 8:21 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	2.9	0.91	0.91	0.91	16.359	29.88	7.97	97.5	46	1.74	7.74	
069	7/13/21 9:13 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	1.22	1.25	19.758	4.2	6.72	75.4	7.583	4.42	7.33	1
069	7/13/21 9:13 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0.01	1.22	1.25	18.785	11.35	6.31	72.5	19.043	5.49	7.22	

Station	Day/Time (EST)	Surface or Bottom	Region	Subregion	Sample depth (m)	Logan Rainfall 1-Day	Logan Rainfall 2-Day	Logan Rainfall 3-Day	Temperature (C)	Salinity (PSU)	Dissolved Oxygen (mg/L)	DO Pct Saturation (pct)	Specific Conductivity (mS/cm)	Turbidity (NTU)	pH	Secchi depth (m)
069	8/5/21 8:54 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.42	2	2	20.074	14.16	8.57	102.6	23.341	2.25	8	1.5
069	8/5/21 8:54 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.3	1.42	2	2	17.818	30.36	6.64	83.8	46.649	4.08	7.81	
069	8/6/21 8:18 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	1.42	2	20.075	21.14	6.88	85.8	33.652	1.5	7.73	
069	8/6/21 8:18 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	1.42	2	18.704	29.11	7.2	91.8	44.922	5.95	7.87	
069	8/16/21 8:41 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	20.687	26.06	6.18	80.2	40.664	0.68	7.67	
069	8/16/21 8:41 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	0	0.01	20.41	29.02	6.16	81	44.802	3.81	7.7	
069	9/8/21 8:24 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	20.304	19.74	5.21	64.7	31.621	1.43	7.54	
069	9/8/21 8:24 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH		0	0	0	20.134	26.56	5.1	65.8	41.367	5.02	7.63	
069	9/15/21 8:26 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.06	20.26	19.86	5.06	62.9	31.798	1.57	7.59	1.5
069	9/15/21 8:26 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	3.4	0	0	0.06	18.569	29.65	4.91	62.6	45.662	3.7	7.74	
069	9/16/21 8:56 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.31	0.31	0.31	19.231	25.29	6.33	79.7	39.569	2.06	7.75	2.5
069	9/16/21 8:56 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	4.3	0.31	0.31	0.31	16.847	29.94	5.83	72.1	46.078	5.15	7.75	
137	1/4/21 11:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.03	0.44								2.7
137	1/4/21 11:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.7	0	0.03	0.44								
137	1/26/21 10:58 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.22	0.22	0.22								4.9
137	2/4/21 11:05 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.01	0.01	0.21								2.3
137	2/4/21 11:05 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.9	0.01	0.01	0.21								
137	2/23/21 9:30 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.16	0.16								3.4
137	2/23/21 9:30 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.9	0	0.16	0.16								
137	3/3/21 10:32 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.18								3.4
137	3/3/21 10:32 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0	0	0.18								
137	3/22/21 10:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								4.5
137	3/22/21 10:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	10.7	0	0	0								
137	4/6/21 10:01 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								3.6
137	4/6/21 10:01 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.3	0	0	0								
137	4/27/21 9:46 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.11								2
137	4/27/21 9:46 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	14.3	0	0	0.11								
137	5/4/21 9:52 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.67	0.69	0.7								2.2
137	5/4/21 9:52 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0.67	0.69	0.7								
137	5/24/21 9:11 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0								2
137	5/24/21 9:11 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.9	0	0	0								
137	6/3/21 10:04 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	16.927	23.62	8.53	101.6	37.199	1.35	7.8	2.4
137	6/3/21 10:04 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.1	0	0	0	12.497	32.18	7.7	88.4	49.322	2.82	7.84	
137	6/28/21 9:54 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	19.772	27.71	8.18	105.5	42.977	1.85	7.82	1.7
137	6/28/21 9:54 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.5	0	0	0	14.415	30.75	6.89	81.6	47.255	2.63	7.68	
137	7/15/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.01	20.419	15.25	6.75	81.9	24.985	1.05	7.52	2.5
137	7/15/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	10.9	0	0	0.01	16.266	29.89	6.08	74.3	46.019	4.77	7.76	
137	7/28/21 10:12 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.38	0.38	21.653	16.43	7.86	98.2	26.77	3.58	7.88	2
137	7/28/21 10:12 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.2	0	0.38	0.38	18.382	30.5	6.5	83	46.839	4.07	7.88	
137	8/9/21 10:15 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	1.15	1.15	1.15	21.729	18.59	8.8	111.6	29.964	1.67	7.91	1.5
137	8/9/21 10:15 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.6	1.15	1.15	1.15	17.338	30.63	5.13	64.3	47.029	3.84	7.65	
137	8/26/21 9:50 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	22.594	22.02	5.91	77.6	34.952	1.92	7.69	2.1
137	8/26/21 9:50 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.4	0	0	0	19.057	30.49	4.84	62.6	46.829	2.03	7.74	
137	9/7/21 10:03 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.05	19.932	25.14	5.89	75.1	39.357	1.42	7.65	2.5
137	9/7/21 10:03 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.6	0	0	0.05	19.322	30.2	4.71	61.1	46.427		7.68	
137	9/21/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.28	19.1	22.27	6.73	82.9	35.274	1.6	7.75	1.5
137	9/21/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.2	0	0	0.28	16.102	31.12	5.95	73	47.728	1.87	7.77	
137	10/13/21 10:19 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	17.89	24.35	7.58	92.5	38.229	1.53	7.7	4
137	10/13/21 10:19 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.6	0	0	0	15.906	30.4	5.23	63.7	46.735	5.58	7.6	
137	11/2/21 9:57 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0.42	13.28	23.24	7.75	85.5	36.717	2.38	7.83	3.5
137	11/2/21 9:57 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.1	0	0	0.42	13.32	31.12	7.08	82.2	47.812	3.15	7.9	
137	11/10/21 11:36 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	13.053	27.97	8.22	93	43.434	1.56	7.82	2.8
137	11/10/21 11:36 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.4	0	0	0	12.035	30.96	7.57	85.4	47.666	2.68	7.85	
137	12/1/21 10:38 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0	0	8.175	31.05	9.12	94.7	48.115	1.16	8.02	3.5
137	12/1/21 10:38 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	11.9	0	0	0	8.937	32.22	8.62	91.7	49.671	2.39	8	
137	12/15/21 11:20 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0.02	0.02	0.02	6.199	29.41	10.12	99.2	46.062	1.41	8.01	3
137	12/15/21 11:20 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	13.2	0.02	0.02	0.02	7.007	31.91	9.35	95	49.474	1.76	7.99	
137	12/20/21 11:00 AM	S	MYSTIC/ALEWIFE	MYSTIC MOUTH	0.1	0	0.38	0.94	6.122	29.79	10.08	98.9	46.613	1.36	8.03	4.2
137	12/20/21 11:00 AM	B	MYSTIC/ALEWIFE	MYSTIC MOUTH	12.8	0	0.38	0.94	6.913	31.94	9.59	97.2	49.532	6.77	8.02	

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