Technical Memorandum

MYSTIC WATERSHED 2009
DWM WATER QUALITY MONITORING DATA

October 2013

Jamie Carr and Matthew Reardon
Massachusetts Department of Environmental Protection
Division of Watershed Management
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COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
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Rebecca Weidman, Director

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Introduction

The Mystic River Watershed water quality survey was conducted in 2009 along with benthic macroinvertebrate sampling and fish population sampling as part of the Division of Watershed Management (DWM) Year Two monitoring. Consistent with DWM's general approach to watershed monitoring to meet defined programmatic objectives, water quality surveys were conducted during the months of April, May, June, July, August, and September. This technical memorandum is designed to present final DWM generated water quality monitoring data for use in watershed assessment reports and for reporting data to outside groups. The results of biomonitoring will be reported in separate memoranda.

Project Objectives

The results of the 2009 Mystic River Watershed water quality monitoring factor into regulatory actions taken by the Massachusetts Department of Environmental Protection (MassDEP) and the United States Environmental Protection Agency (US EPA), are incorporated into the DWM's Water Quality Assessment Reports and are used to update the Section 305(b) and Section 303(d) reporting elements of the Clean Water Act. Additionally, these data are used in the development of Total Maximum Daily Loads (TMDLs) to address waters not attaining water quality standards and to aid in the development of National Pollutant Discharge Elimination System (NPDES) permits.

The specific objectives of the 2009 Mystic River Watershed monitoring were to:

- Determine the water quality and biological health of rivers/streams within the watershed that have never been sampled directly by DWM. DWM intends to make these assessments based on chemical parameters and biological (fish, aquatic macroinvertebrates, bacteria) communities.

- Provide biological and habitat data to document the status of benthic and fish communities over time (trend monitoring).

- Provide biological, habitat, and dissolved oxygen, temperature, and chemical data to DWM's Environmental Monitoring and Assessment Program to be used in making *Aquatic Life* and *Aesthetics* use assessments required by Section 305(b) of the Clean Water Act; provide data for other informational needs of Massachusetts regulatory agencies.

- Provide quality assured *E. coli* bacteria data for the purpose of assessing *Primary and Secondary Contact Recreational Uses*.

Sampling Plan

Information pertaining to station locations, rationale and objectives is available in *Mystic River Watershed Sampling and Analysis Plan 2009* (Carr 2009). For a description of the DWM's general approach to watershed monitoring, see the *MADEP, DWM QAPP for Surface Water Monitoring and Assessment, 2005-2009* (MassDEP 2005a). Table 1 and Figure 1 provide details and locations of all of the 2009 sampling sites.

Water quality surveys were conducted during the months of April, May, June, July, August, and September. Samples for total phosphorus, total nitrogen, ammonia-nitrogen, color and turbidity, total suspended solids, bacteria counts (*E. coli*), dissolved oxygen and other field measurements were obtained from a total of 16 stations. Water samples from station Myst3 were also analyzed in the laboratory for specific conductance. All water quality parameters were collected on 5 occasions; on a sixth occasion only *E.coli* was collected. *In-situ* measurements of temperature, dissolved oxygen, pH, and conductivity were collected at thirteen stations. Additionally, continuous temperature and dissolved oxygen monitoring with unattended multiprobes was carried out for a duration of 96 hours at 10 sites. Continuous temperature monitoring was recorded from early July through September at 7 sites.

Table 1. 2009 Mystic River Watershed Sampling Summary

Unique ID	Station ID	Waterbody	Description	Latitude	Longitude	Laboratory Meastured Specific Conductance	Ammonia-N, Total Nitrogen,Total Phosphorus	Total Suspended Solids	*E. coli* Bacteria	Color, Turbidity	Attended Probe	Deployed Multiprobe	Temperature Logger
W1979	Aber1	Aberjona River	[approximately 450 feet downstream of Olympia Avenue, Woburn]	42.4977	-71.1335		X	X	X	X	X	X	X
W1965	ABR006	Aberjona River	[at USGS gaging station (0110250), west of Mystic Valley Parkway across from Mystic Avenue, Winchester]	42.4473	-71.1387		X	X	X	X	X	X	X
W1964	ABR028	Aberjona River	[Washington Street, Winchester]	42.4694	-71.1251		X	X	X	X	X	X	
W1969	ALB007	Alewife Brook	[Broadway bridge, Arlington/Somerville]	42.4071	-71.1339		X	X	X	X	X	X	X
W1971	Cumm1	Cummings Brook	[approximately 80 feet downstream of Lexington Street, Woburn]	42.4730	-71.1722		X	X	X	X	X		
W1967	MAR036	Malden River	[Medford Street, Malden]	42.4179	-71.0733		X	X	X	X	X	X	X
W1968	MEB001	Unnamed Tributary	[unnamed tributary locally known as Meetinghouse Brook, east of Winthrop Street bridge, approximately 80 feet from confluence with Malden River, Medford]	42.4185	-71.1171		X	X	X	X	X		X
W1966	MIB001	Mill Brook	[in Mt. Pleasant Cemetery, upstream of weir approximately 80 feet upstream of Mystic Valley Parkway, Arlington]	42.4223	-71.1495		X	X	X	X	X	X	
W1977	Mun1	Munroe Brook	[at footbridge south of Bartlett Avenue, Lexington]	42.4352	-71.1941		X	X	X	X	X	X	

Table 1 (continued). 2009 Mystic River Watershed Sampling

Unique ID	Station ID	Waterbody	Description	Latitude	Longitude	Laboratory Measutred Specific Conductance	Ammonia-N, Total Nitrogen,Total Phosphorus	Total Suspended Solids	*E. coli* Bacteria	Color, Turbidity	Attended Probe	Deployed Multiprobe	Temperature Logger
W1976	MWRA74	Little River	[approximately 65 feet upstream of the bridge crossing of the Route 2 off ramp (West Roadway) to the Alewife T Station, Cambridge/Arlington (approximately 25 feet upstream of the CSO discharge stream confluence on southern bank)]	42.3974	-71.1438		X	X	X	X			
W1974	Myst1	Mystic River	[Route 38 (Winthrop Street), Medford]	42.4178	-71.1180		X	X	X	X			
W1973	Myst2	Mystic River	[off the southern end/downstream side of the Riverside Yacht Club boat dock, Medford (approximately 1400 feet downstream of Route 93 crossing)]	42.4120	-71.1006		X	X	X	X	X	X	X
W1975	Myst3	Mystic River	[off the western end/upstream side of the Winter Hill Yacht Club boat dock, Somerville (approximately 1400 feet downstream of the Route 28, Wellington Bridge crossing)]	42.3971	-71.0794	X	X	X	X	X	X	X	X
W1972	Shake1	Shaker Glen Brook	[Totman Drive, Woburn]	42.4714	-71.1742		X	X	X	X	X		
W1978	Spell1	Unnamed Tributary	[unnamed tributary to Malden River locally known as Spot and Ell Pond Brook, west off end of Fairlawn Street, Malden]	42.4383	-71.0696		X	X	X	X	X	X	
W1970	WelB	Unnamed Tributary	[unnamed tributary locally known as Wellington Brook just upstream of underground culvert entrance behind Belmont Library, west of Cottage Street, Belmont]	42.3943	-71.1720		X	X	X	X			

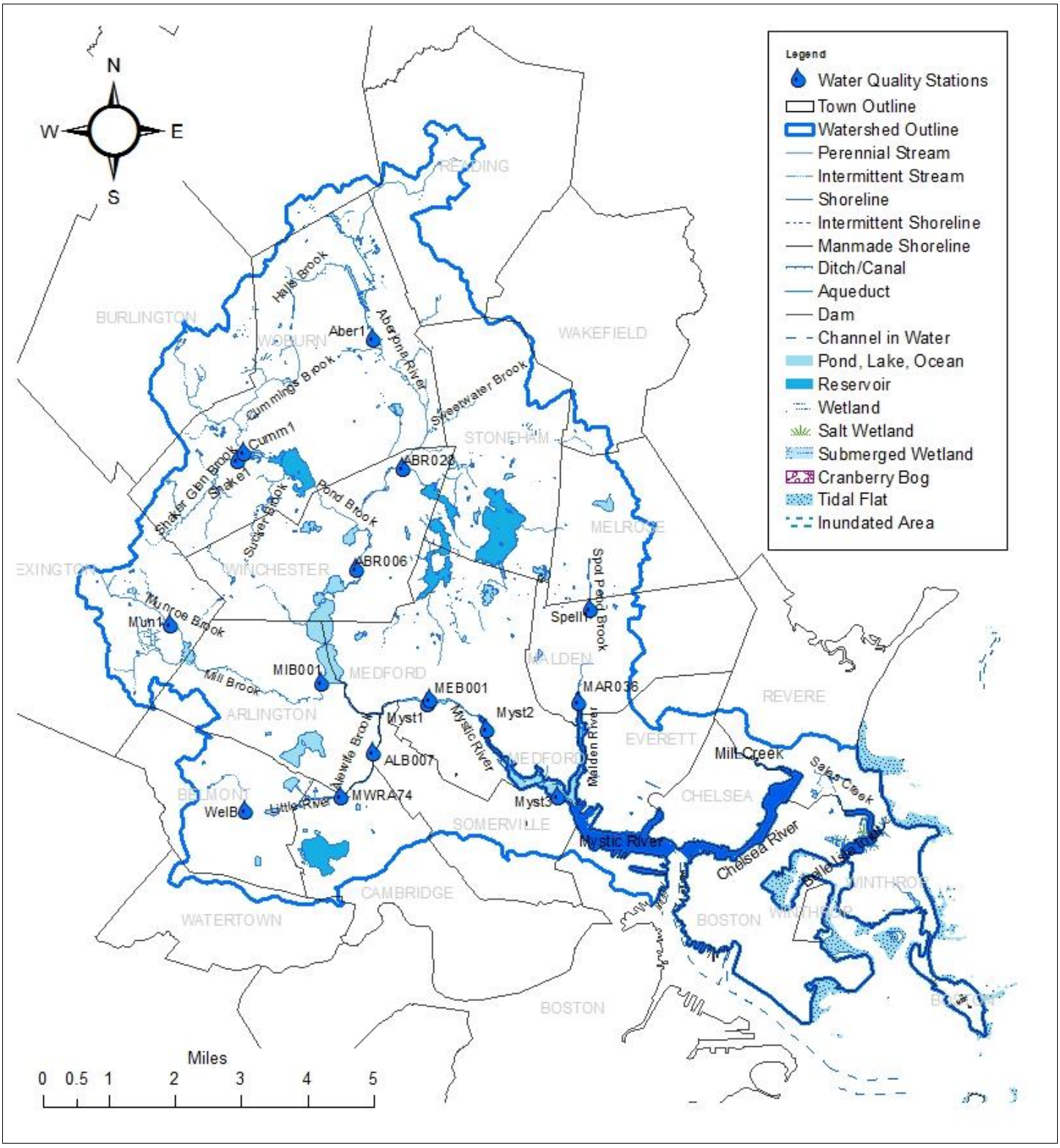

Figure 1. MassDEP, DWM 2009 Monitoring Station Locations in the Mystic River Watershed

Field and Analytical Methods

Procedures used for water sampling and sample handling are described in the *Sample Collection Techniques for DWM Surface Water Quality Monitoring* (MassDEP 2004). The Wall Experiment Station (WES) in Lawrence, MA supplied all sample bottles and field preservatives, which were prepared according to the WES *Laboratory Quality Assurance Plan and Standard Operating Procedures* (MassDEP 2001). Procedures for multi-probe calibration and deployment are described in *Water Quality Multi-probe Data Collection* (MassDEP 2005b) and *Multi-probe Deployments for Continuous Unattended Water Quality Data Collection* (MassDEP 2007a). Temperature loggers were deployed using standard procedures outlined in *Continuous Temperature Monitoring using Temperature-only Loggers* (MassDEP 2007b).

Wade-in grab samples were also collected and sent to the Wall Experiment Station (WES) in Lawrence, MA where they were analyzed for low-level total phosphorus (TP), total nitrogen (TN), ammonia as nitrogen (NH_3-N) and bacteria (*E. coli*). Specific conductance was also measured in the laboratory for one station (Myst3). Color and turbidity were analyzed at the DWM laboratory in Worcester, MA. *In-situ* parameters measured using a multi-probe included dissolved oxygen, percent saturation, pH, conductivity, temperature, and total dissolved solids.

Concurrent with the collection of water quality samples, site characteristics and sampling conditions were recorded on DWM field sheets. Riparian vegetation, observed uses, potential pollution sources, the presence/absence of objectionable deposits (trash, debris and scum), the extent of periphyton/algae/aquatic plant growth within the sampling reach, and sampling conditions were all noted at each station (Table 2).

Quality Assurance and Quality Control

Monitoring data collected as part of the 2009 Mystic River Watershed sampling project have generally met the specific programmatic data quality objectives (DQOs) outlined in the applicable quality assurance project plan (MassDEP 2005a) or have met data validation criteria sufficient for publication. Quality assurance for watershed monitoring by the DWM is provided to ensure the implementation of an effective and efficient sampling design, and to provide data to meet specific data quality objectives.

The DWM quality assurance and database management staff reviewed lab data reports and all multi-probe data. The data were validated and finalized per appropriate data validation procedures as outlined in *DWM Water Quality Data Validation Process (Summary)* (MassDEP 2012a). Detailed data validation procedures for laboratory data, attended multi-probe data and unattended multi-probe data were conducted using appropriate procedures (MassDEP 2012b, MassDEP 2012c, MassDEP 2012d). A complete summary of the review process for all 2009 DWM data is provided in the *Water Quality Data Validation Report for Year 2009 Project Data* (MassDEP 2012e). Appendix 1 of this technical memorandum contains definitions for all data qualifiers (MassDEP 2012e).

Station Observations

Station observations were recorded on field sheets for each survey by a DWM investigator. Station observations are described below in Table 2 for each DWM sampling event (MassDEP 2009). Note: If multiple types of periphyton were observed, the highest observed density is used in this table.
S=sparse (0-25%, M=moderate (25-50%), D=dense (50-75%), VD=very dense (75-100%), N=none, U=unobservable, NR=not recorded

Table 2. 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1964	4/21/09	11:49	Flowing	N	Moderately Turbid	Light Yellow/Tan	No		Yes	Trash; light.	U	U	U	U	U
W1964	5/26/09	11:19	Flowing	N	Slightly Turbid	Greyish	No		No		N	N	N	N	N
W1964	6/26/09	9:38	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1964	6/30/09	11:42	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	tire	N	NR	NR	NR	NR
W1964	7/23/09	10:36	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	trash	N	U	U	U	U
W1964	7/31/09	10:14	Flowing	Other (fishy)	Clear	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1964	8/4/09	10:53	Flowing	N	Clear	Clear	No		No		N	S	NR	NR	NR
W1964	9/4/09	10:03	Flowing	N	Clear	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1964	9/8/09	11:02	Flowing	N	Clear	Clear	No		No		N	NR	S	NR	NR
W1965	4/21/09	12:13	Flowing	N	Slightly Turbid	Clear	No		Yes	Trash; light.	U	U	U	U	U
W1965	5/26/09	11:42	Flowing	Musty (Basement)	Slightly Turbid	Greyish	No		Yes	Trash; slight.	N	NR	M	NR	NR
W1965	6/26/09	9:59	Flowing	Musty (Basement)	Moderately Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1965	6/30/09	12:00	Flowing	Musty (Basement)	Clear	Light Yellow/Tan	No		Yes	other: brick, cinder block	N	U	U	U	U
W1965	7/9/09	12:08	Flowing	N	Slightly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1965	7/23/09	10:53	Flowing	N	Moderately Turbid	Light Yellow/Tan	No		Yes	trash	N	U	U	U	U
W1965	7/31/09	10:44	Flowing	N	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1965	8/4/09	11:15	Flowing	N	Slightly Turbid	Dark Tan	No		No		N	NR	S	NR	NR

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1965	9/4/09	10:30	Flowing	N	Slightly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1965	9/8/09	11:25	Flowing	Musty (Basement)	Slightly Turbid	Clear	No		No		N	NR	D	S	D
W1966	4/21/09	10:05	Flowing	N	Slightly Turbid	Brownish	No		Yes	Trash: small amounts of trash in stream tire, etc. More trash noted upstream.	N	NR	D	NR	NR
W1966	5/26/09	9:39	Flowing	N	Clear	Clear	No		No		N	NR	S	NR	NR
W1966	6/26/09	10:48	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1966	6/30/09	9:45	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	No		Yes	trash: minimal, cans at dam, not sufficient to impair aesthetics	N	NR	S	NR	S
W1966	7/23/09	**	Flowing	Musty (Basement)	Clear	Brownish	No		No		N	NR	NR	S	NR
W1966	7/31/09	11:42	Flowing	Musty (Basement)	Slightly Turbid	Reddish	Not Applicable - Probe Deploy Field Sheet								
W1966	8/4/09	9:30	Flowing	Musty (Basement)	Highly Turbid	Light Yellow/Tan	Yes	oily sheens	No		N	U	U	U	U
W1966	9/4/09	11:29	Flowing	N	Slightly Turbid	Clear	Not Applicable - Probe Deploy Field Sheet								
W1966	9/8/09	9:30	Flowing	Musty (Basement)	Clear	Clear	No		Yes	trash, orange floc - light trash	N	NR	M	NR	NR
W1967	4/21/09	13:18	Flowing	N	Moderately Turbid	Other (Milky)	Yes	Oily sheens, algal mat. Very widespread algal chunks <1-10" in diameter. If seen on other occasions-impair aesthetics.	Yes	Trash; trash heavy enough to impair.	U	U	U	U	U

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1967	5/26/09	12:42	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	Trash: lots.	U	NR	S	NR	NR
W1967	6/26/09	13:12	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1967	6/30/09	13:00	Flowing	NR	Slightly Turbid	Light Yellow/Tan	No		Yes	other: oil slick	N	U	U	U	U
W1967	7/9/09	**	Flowing	Unobservable	Moderately Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1967	7/23/09	11:41	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Yes	oily sheens, pollen/dust blankets	Yes	trash, goose droppings	U	U	U	U	U
W1967	7/31/09	14:42	Flowing	Unobservable	Highly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1967	8/4/09	12:05	Flowing	N	Slightly Turbid	Clear	Yes	pollen/dust blanket; slight	Yes	trash	N	U	U	U	U
W1967	9/4/09	**	Flowing	Unobservable	Moderately Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1967	9/8/09	12:20	Flowing	Musty (Basement)	Moderately Turbid	Clear	Yes	pollen/dust blankets	Yes	trash	U	U	U	U	U
W1968	4/21/09	11:40	Flowing	N	Clear	Clear	No		No		N	U	U	U	U
W1968	5/26/09	11:29	Flowing	N	Clear	Clear	No		No		N	NR	S	NR	NR
W1968	6/30/09	11:35	Flowing	Musty (Basement)	Clear	Clear	No		Yes	trash: bottle, not sufficient to impair aesthetics	N	N	N	N	N
W1968	7/9/09	14:14	Stagnant	N	Clear	Clear	Not Applicable - Probe Deploy Field Sheet								
W1968	7/23/09	11:00	Flowing	N	Clear	Light Yellow/Tan	No		No		N	NR	S	NR	NR
W1968	8/4/09	**	Flowing	N	Clear	Clear	Yes	pollen/dust blankets	No		N	N	N	N	N
W1968	9/8/09	11:10	Stagnant	N	Clear	Clear	No		Yes	trash	N	NR	NR	S	NR
W1969	4/21/09	11:23	Flowing	NR	Highly Turbid	Brownish	Yes	Vegetation collected on surface.	Yes	Trash; some trash collected in debris piles.	U	U	U	U	U
W1969	5/26/09	10:52	Stagnant	N	Moderately Turbid	Light Yellow/Tan	Yes	pollen/dust blankets	Yes	trash	U	U	U	U	U
W1969	6/26/09	11:12	Flowing	Other	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1969	6/30/09	10:51	Flowing	Musty (Basement)	Slightly Turbid	Clear	Yes	oily sheens	Yes	trash: lots. Plastic, tire, cans, pipes, wooden slab, metal scraps, wood debris, beige algae on wood debris, sufficient to impair aesthetics	M	NR	NR	NR	S
W1969	7/9/09	13:42	Flowing	NR	Slightly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1969	7/23/09	10:22	Flowing	Unobservable	Slightly Turbid	Light Yellow/Tan	No		Yes	trash, metal parts, urban debris, tires	D	U	U	U	U
W1969	7/31/09	12:55	Flowing	Unobservable	Moderately Turbid	Blackish	Not Applicable - Probe Deploy Field Sheet								
W1969	8/4/09	10:30	Flowing	Musty (Basement)	Slightly Turbid	Clear	No		Yes	trash	D	U	U	U	U
W1969	9/4/09	11:54	Flowing	Unobservable	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1969	9/8/09	10:35	Flowing	N	Clear	Light Yellow/Tan	No		Yes	trash, moderate to heavy, and sufficient to impair aesthetics.	M	N	N	N	N
W1970	4/21/09	10:40	Flowing	N	Clear	Greyish	No		No		N	S	D	NR	NR
W1970	5/26/09	10:13	Flowing	N	Clear	Clear	No		No		N	NR	NR	S	M
W1970	6/30/09	10:12	Flowing	N	Clear	Clear	No		No		N	NR	NR	S	S
W1970	7/23/09	9:54	Flowing	N	Clear	Clear	No		No		N	NR	S	NR	M
W1970	8/4/09	9:56	Flowing	Raw sewage	Clear	Clear	No		No		N	NR	NR	M	M
W1970	9/8/09	10:00	Flowing	N	Clear	Clear	No		No		N	NR	NR	NR	S
W1971	4/21/09	10:52	Flowing	N	Clear	Light Yellow/Tan	No		No		N	N	N	N	N
W1971	5/26/09	10:29	Flowing	N	Clear	Clear	No		Yes	Trash; minor.	N	Only Box checked	NR	NR	NR

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	Date	Time	Flow Status	Odor	Water Clarity	Color	Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss
W1971	6/30/09	10:45	Flowing	N	Clear	Clear	No		Yes	slight	N	N	N	N	N
W1971	7/23/09	9:55	Flowing	N	Clear	Clear	No		No		S	N	N	N	N
W1971	8/4/09	10:07	Flowing	N	Clear	Clear	No		No		N	NR	S	NR	NR
W1971	9/8/09	10:19	Flowing	N	Clear	Clear	No		Yes	trash slight	N	NR	S	NR	NR
W1972	4/21/09	10:27	Flowing	N	Clear	Light Yellow/Tan	No		Yes	Trash; heavy.	U	U	U	U	U
W1972	5/26/09	10:12	Flowing	N	Clear	Clear	No		Yes	Trash; light.	S	U	U	U	U
W1972	6/30/09	10:19	Flowing	N	Clear	Light Yellow/Tan	No		Yes	trash: slight, other: bricks	S	U	U	U	U
W1972	7/23/09	9:45	Flowing	N	Clear	Clear	No		Yes	trash	S	NR	S	NR	NR
W1972	8/4/09	9:50	Flowing	N	Clear	Clear	No		NR		N	NR	M	NR	NR
W1972	9/8/09	9:58	Flowing	N	Clear	Clear	No		Yes	trash sparse	S	N	M	N	N
W1973	4/21/09	12:00	Flowing	N	Moderately Turbid	Clear	Yes	Oily sheen: Mike S. (commodore yacht club) said oily sheen occurs after rain, comes from culvert upstream source: Hospital?	Yes	Trash	U	U	U	U	U
W1973	5/26/09	12:02	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	Trash; trash on bank by yacht club.	S	U	U	U	U
W1973	6/26/09	11:40	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1973	6/26/09	11:50	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1973	6/30/09	11:52	Flowing	Rotting Vegetables	Moderately Turbid	Clear	Yes	oily sheens	Yes	trash: minimal, a couple plastic containers, not sufficient to impair aesthetics	M	U	U	U	U

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1973	7/23/09	11:26	Flowing	Musty (Basement)	Moderately Turbid	Light Yellow/Tan	No		No		D	U	U	U	U
W1973	7/31/09	13:31	Flowing	Unobservable	Moderately Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1973	8/4/09	11:21	Flowing	N	Moderately Turbid	Clear	Yes	oily sheen, pollen/dusk blankets	No		M	U	U	U	U
W1973	9/4/09	12:24	Flowing	Unobservable	Moderately Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1973	9/8/09	11:35	Flowing	N	Moderately Turbid	Clear	No		Yes	trash heavy	D	U	U	U	U
W1974	4/21/09	11:51	Flowing	N	Moderately Turbid	Brownish	No		No		U	U	U	U	U
W1974	5/26/09	11:17	Flowing	N	Slightly Turbid	Light Yellow/Tan	Yes	Pollen/dust blankets- a little bit	No		S	U	U	U	U
W1974	6/30/09	11:27	Flowing	Musty (Basement)	Highly Turbid	Clear	No		No		M	U	U	U	U
W1974	7/23/09	10:53	Flowing	Unobservable	Moderately Turbid	Brownish	No		No		D	U	U	U	U
W1974	8/4/09	10:48	Flowing	N	Slightly Turbid	Clear	No		No		D	U	U	U	U
W1974	9/8/09	11:03	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	trash light	D	U	U	U	U
W1975	4/21/09	12:55	Stagnant	N	Moderately Turbid	Brownish	No		Yes	Trash; light trash on banks.	U	U	U	U	U
W1975	5/26/09	12:33	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		No		S	U	U	U	U
W1975	6/26/09	12:36	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1975	6/26/09	12:40	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1975	6/30/09	12:30	Flowing	N	Highly Turbid	Light Yellow/Tan	No		No		M	U	U	U	U
W1975	7/23/09	11:57	Flowing	N	Moderately Turbid	Dark Tan	No		No		M	U	U	U	U
W1975	7/31/09	14:09	Flowing	Unobservable	Moderately Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1975	8/4/09	11:48	Flowing	Musty (Basement)	Moderately Turbid	Light Yellow/Tan	Yes	pollen/dust blankets	No		M	U	U	U	U
W1975	9/4/09	13:15	Flowing	Unobservable	Moderately Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1975	9/8/09	11:50	Flowing	N	Moderately Turbid	Light Yellow/Tan	No		Yes	trash moderate	D	U	U	U	U

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1976	4/21/09	11:00	Flowing	N	Highly Turbid	Brownish	No		No		U	U	U	U	U
W1976	5/26/09	10:34	Flowing	N	Clear	Clear	No		Yes	Trash	N	U	U	U	U
W1976	6/30/09	10:29	Flowing	Musty (Basement)	Slightly Turbid	Clear	No		Yes	trash, other: 1 shopping cart, beige algae growing on metal pipe, not sufficient to impair aesthetics	N	NR	NR	S	NR
W1976	7/23/09	10:06	Flowing	Unobservable	Slightly Turbid	Light Yellow/Tan	No		Yes	trash; light	S	U	U	U	U
W1976	8/4/09	10:12	Flowing	Raw sewage	Slightly Turbid	Light Yellow/Tan	No		No		D	U	U	U	U
W1976	9/8/09	10:25	Flowing	N	Clear	Clear	No		No		D	NR	NR	NR	M
W1977	4/21/09	10:00	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	No		Yes	Light trash.	S	NR	M	NR	NR
W1977	5/26/09	9:44	Flowing	N	Clear	Clear	No		Yes	Trash; minor.	M	S	S	NR	S
W1977	6/26/09	10:25	Flowing	Musty (Basement)	Highly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1977	6/30/09	9:54	Flowing	Musty (Basement) slight	Clear	Light Yellow/Tan	No		Yes	other: baseball	M	NR	S	NR	NR
W1977	7/23/09	9:23	Flowing	N	Clear	Light Yellow/Tan	No		No		M	U	U	U	U
W1977	7/31/09	11:15	Flowing	N	Clear	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1977	8/4/09	9:26	Flowing	N	Clear	NR	No		No		M	U	U	U	U
W1977	9/4/09	11:01	Flowing	N	Clear	Clear	Not Applicable - Probe Deploy Field Sheet								
W1977	9/8/09	9:30	Flowing	N	Clear	Clear	No		Yes	trash slight	M	U	U	U	U
W1978	4/21/09	12:57	Flowing	N	Slightly Turbid	Light Yellow/Tan	No		Yes	Trash: moderate.	N	N	N	N	N
W1978	5/26/09	12:21	Flowing	N	Clear	Clear	No		Yes	Trash; lots.	S	N	N	N	N
W1978	6/26/09	13:45	Flowing	Musty (Basement)	Clear	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1978	6/30/09	12:37	Flowing	N	Clear	Light Yellow/Tan slight	No		Yes	trash, other: bike tires	S	N	N	N	N

Table 2 (continued). 2009 Field observations from MassDEP DWM surveys

											Areal Density				
Unique ID	**Date**	**Time**	**Flow Status**	**Odor**	**Water Clarity**	**Color**	**Scum**	**Floating Scum Comments**	**Objectionable Deposits**	**Objectionable Deposit Comments**	**Aquatic Plants**	**Filamentous Algae**	**Film Algae**	**Loose Floc**	**Moss**
W1978	7/23/09	11:21	Flowing	N	Clear	Clear	No		Yes	trash	S	N	N	N	N
W1978	7/31/09	15:23	Flowing	Musty (Basement)	Highly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1978	8/4/09	11:47	Flowing	N	Moderately Turbid	Light Yellow/Tan	No		Yes	trash; trash is minor	S	U	U	U	U
W1978	9/4/09	15:05	Flowing	N	Clear	Clear	Not Applicable - Probe Deploy Field Sheet								
W1978	9/8/09	11:54	Flowing	Musty (Basement)	Clear	Light Yellow/Tan	No		Yes	trash; orange floc	S	N	N	N	N
W1979	4/21/09	11:22	Flowing	N	Moderately Turbid	Light Yellow/Tan	No		Yes	Trash; heavy.	U	U	U	U	U
W1979	5/26/09	10:56	Flowing	Musty (Basement)	Slightly Turbid	Greyish	No		Yes	Trash	S	NR	M	NR	NR
W1979	6/26/09	9:14	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1979	6/30/09	11:22	Flowing	Musty (Basement)	Slightly Turbid	Light Yellow/Tan	No		Yes	trash, other: metal pieces	N	NR	S	NR	NR
W1979	7/9/09	11:22	Flowing	N	Slightly Turbid	Brownish	Not Applicable - Probe Deploy Field Sheet								
W1979	7/23/09	10:20	Flowing	N	Slightly Turbid	Light Yellow/Tan slight	No		Yes	trash	N	U	U	U	U
W1979	7/31/09	9:49	Flowing	Other	Slightly Turbid	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1979	8/4/09	10:36	Flowing	NR	Clear	Brownish	No		No		N	NR	S	NR	NR
W1979	9/4/09	9:29	Flowing	N	Clear	Light Yellow/Tan	Not Applicable - Probe Deploy Field Sheet								
W1979	9/8/09	10:40	Flowing	Rotting Vegetables	Slightly Turbid	Light Yellow/Tan	Yes	oily sheens light	Yes	trash slight	N	NR	S	NR	NR

Sampling Issues and Coordinator Notes

Some field sheet observations are qualitative and subject to the interpretation of individual sampling crew members; particularly observations of light trash and foam noted on many field sheets. These observations, though accurate, are literal interpretations of the fieldsheet categories and are not indicative of levels of objectionable deposits or foam severe enough to impair the Aesthetics Uses of the majority of these waters.

Survey Conditions

Precipitation data collected during the survey period in 2009 were downloaded from the National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center (NCDC) for Logan International Airport, Boston, MA station (NOAA 2013a). The precipitation totals on the water quality survey dates and the five days prior to the survey dates were extracted from the retrieved records. In addition, the Logan International Airport weather station's monthly precipitation totals for 2009 and the monthly average of total precipitation for the period 1981 to 2010 were downloaded to determine if precipitation amounts in 2009 were above or below normal (NOAA 2013b) (Table 3).

Stream discharge data were downloaded from the United States Geological Survey (USGS) for the Aberjona River at Winchester, MA, stream gage (#01102500) (Table 4; USGS 2013a). The entire period of record for the gage was downloaded and the average daily discharge values on the water quality survey dates and the five days prior to the survey dates were extracted from these records. The percent of time that the average daily discharge on the extracted dates was equaled or exceeded during the entire period of record for the gage was calculated to put the discharge value into historical perspective. The precipitation and discharge data are summarized and presented in Table 5.

Table 3. Total monthly precipitation in 2009 and monthly average precipitation for 1981 to 2010 at the Logan International Airport weather station (NOAA 2013a, NOAA 2013b).

Month	Logan International Airport 2009 Monthly Total Precipitation (in)	Logan International Airport 2009 Monthly Average Precipitation (1981-2010) (in.)	Logan International Airport 2009 Precipitation as Percent of Monthly Average Precipitation (1981-2010)
January	3.35	3.36	100%
February	1.94	3.25	60%
March	2.51	4.32	58%
April	4.13	3.74	110%
May	2.70	3.49	77%
June	3.22	3.68	88%
July	6.90	3.43	201%
August	3.24	3.35	97%
September	3.09	3.44	90%
October	5.18	3.94	131%
November	3.34	3.99	84%
December	3.91	3.78	104%

Table 4. USGS gage station used to estimate the hydrological conditions in the Mystic River Watershed during the 2009 DWM water quality surveys (USGS 2013a, Wandle 1984).

Station Name	Latitude, Longitude	Period of Record	7Q10 (cfs)	Remarks
USGS 01102500 Aberjona River at Winchester	42°27'11.13", 71°08'07.24"	April 1939 to current year	0.5	On September 28, 2011, the streamgage was relocated from Mystic Valley Parkway (established April 1939) to 50 ft upstream from Mt. Vernon Street, 0.45 mi upstream from the original streamgage location on Mystic River Parkway, to enable stream channel improvements for flood mitigation efforts.

Table 5. Precipitation and discharge - The precipitation totals (inches) and daily average discharge (cubic feet per second) with percent exceeded on the water quality survey dates and the five days prior to the survey dates. Percent exceeded is the percent of time that the discharge was equaled or exceeded during the period of record for the stream gage. Shaded dates indicate the deployment of multi-probes and large bold dates indicate collection of water samples (USGS 2013a, NOAA 2013b) (T="Trace").

	Precipitation (in)	Discharge (cfs) (% exceeded)
Date	Logan International Airport, Boston, MA	USGS 01102500 Aberjona River at Winchester
4/16/2009	0	41 (27%)
4/17/2009	0	38 (29%)
4/18/2009	0.07	35 (32%)
4/19/2009	0.04	35 (32%)
4/20/2009	0.09	32 (35%)
4/21/2009	1.13	118 (6%)
5/21/2009	0	15 (58%)
5/22/2009	0	13 (61%)
5/23/2009	T	12 (63%)
5/24/2009	0.51	13 (61%)
5/25/2009	0	12 (63%)
5/26/2009	0	10 (67%)
6/21/2009	0.04	34 (33%)
6/22/2009	0.39	52 (20%)
6/23/2009	0.02	50 (21%)
6/24/2009	0.14	38 (29%)
6/25/2009	0.05	32 (35%)
6/26/2009	0.03	30 (37%)
6/27/2009	T	24 (44%)

Table 5 (continued). Precipitation and discharge- The precipitation totals (inches) and daily average discharge (cubic feet per second) with percent exceeded on the water quality survey dates and the five days prior to the survey dates. Percent exceeded is percent of time that the discharge was equaled or exceeded during the period of record for the stream gage. Shaded dates indicate the deployment of multi-probes and large bold dates indicate collection of water samples while italicized dates represent metals sampling dates (USGS 2013a, NOAA 2013b) (T="Trace").

	Precipitation(in)	**Discharge (cfs) (% exceeded)**
Date	Logan International Airport, Boston, MA	USGS 01102500 Aberjona River at Winchester
6/28/2009	0.03	19 (52%)
6/29/2009	0.45	34 (33%)
6/30/2009	0.07	27 (40%)
7/1/2009	0.61	33 (34%)
7/18/2009	0.24	40 (27%)
7/19/2009	0	32 (35%)
7/20/2009	0	22 (47%)
7/21/2009	0.52	32 (35%)
7/22/2009	T	39 (28%)
7/23/2009	0.43	55 (19%)
7/26/2009	0.02	72 (13%)
7/27/2009	T	60 (17%)
7/28/2009	0	35 (32%)
7/29/2009	T	34 (33%)
7/30/2009	0.51	31 (36%)
7/31/2009	0.44	88 (10%)
7/30/2009	0.51	31 (36%)
7/31/2009	0.44	88 (10%)
8/1/2009	0	120 (6%)
8/2/2009	T	62 (16%)
8/3/2009	0	44 (25%)
8/4/2009	0	33 (34%)
8/5/2009	0	28 (39%)
8/30/2009	0	90 (9%)
8/31/2009	0	17 (54%)
9/1/2009	0	17 (54%)
9/2/2009	0	15 (58%)
9/3/2009	0	13 (61%)
9/4/2009	0	12 (63%)
9/5/2009	0	11 (66%)
9/6/2009	0	10 (67%)
9/7/2009	0	9.8 (68%)

Table 5 (continued). Precipitation and discharge- The precipitation totals (inches) and daily average discharge (cubic feet per second) with percent exceeded on the water quality survey dates and the five days prior to the survey dates. Percent exceeded is percent of time that the discharge was equaled or exceeded during the period of record for the stream gage. Shaded dates indicate the deployment of multi-probes and large bold dates indicate collection of water samples while italicized dates represent metals sampling dates (USGS 2013a, NOAA 2013b) (T="Trace").

	Precipitation(in)	**Discharge (cfs) (% exceeded)**
Date	Logan International Airport, Boston, MA	USGS 01102500 Aberjona River at Winchester
9/8/2009	0	9.5 (69%)
9/9/2009	0	9 (70%)

Samples collected from stations on water quality survey dates were determined to be representative of wet-weather conditions or dry-weather conditions (Table 6). It is the practice of the DWM to define a "wet-weather" sample as one that was collected at a location that received at least 0.5 inches of rainfall within the 72-hours antecedent to sample collection as evidenced by a corresponding increase in stream flow.

Table 6: 2009 Mystic River Watershed water quality sampling - wet-weather sample determination
" T " = trace amount of precipitation measured, * includes the day of sampling

Survey Date	5 Days Prior Rainfall (in)	4 Days Prior Rainfall (in)	3 Days Prior Rainfall (in)	2 Days Prior Rainfall (in)	1 Day Prior Rainfall (in)	Sample Date Rainfall (in)	72 hour sum* (inches)	Wet-weather sample determination
4/21/09	0	0	0.07	0.04	0.09	1.13	1.26	**All** samples considered to be "wet-weather" samples.
5/26/09	0	0	T	0.51	0	0	0.51	**No** samples considered to be "wet-weather" samples.
6/30/09	0.05	0.03	T	0.03	0.45	0.07	0.55	**All** samples considered to be "wet-weather" samples.
7/23/09	0.24	0	0	0.52	T	0.43	0.95	**All** samples considered to be "wet-weather" samples.
8/4/09	0.51	0.44	0	T	0	0	0	**No** samples considered to be "wet-weather" samples.
9/8/09	0	0	0	0	0	0	0	**No** samples considered to be "wet-weather" samples.

Water Quality Data

All MassDEP DWM water quality data are managed and maintained in the Water Quality Data Access Database. Tables 7, 8, 9, 10, 11 and 12 below are 2009 data for the Mystic River Watershed. Table 8 presents the geometric mean of the *E. coli* samples. The procedures used to accept, accept with qualification or censor data are based on the DWM SOP for data validation and usability (MassDEP 2012b), and are in addition to separate quality assurance activities and laboratory validation steps undertaken by the WES. Data symbols and qualifiers are listed in Appendix 1.

Table 7. 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifi-ers*
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	Ammonia-N	mg/L	4.4	
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	*E. coli*	MPN/100mL	290	
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	Suspended Solids	mg/L	5.2	
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	Total Nitrogen	mg/L	5.6	
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	Total Phosphorus	mg/L	0.29	r
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	True Color	PCU	29	
Aber1	W1979	4/21/09	11:26	71-0004		Flowing	Turbidity	NTU	6.3	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	Ammonia-N	mg/L	3.5	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	*E. coli*	MPN/100mL	240	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	Suspended Solids	mg/L	3.7	b
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	Total Nitrogen	mg/L	5.5	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	Total Phosphorus	mg/L	0.025	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	True Color	PCU	21	
Aber1	W1979	5/26/09	10:56	71-0027		Flowing	Turbidity	NTU	7.5	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	Ammonia-N	mg/L	2.7	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	*E. coli*	MPN/100mL	430	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	Suspended Solids	mg/L	3.5	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	Total Nitrogen	mg/L	4.8	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	Total Phosphorus	mg/L	0.034	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	True Color	PCU	57	
Aber1	W1979	6/30/09	11:22	71-0049		Flowing	Turbidity	NTU	6.1	
Aber1	W1979	7/23/09	10:21	71-0122		Flowing	*E. coli*	MPN/100mL	230	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	Ammonia-N	mg/L	1.5	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	*E. coli*	MPN/100mL	75	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	Suspended Solids	mg/L	1.9	h
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	Total Nitrogen	mg/L	2.8	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	Total Phosphorus	mg/L	0.031	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	True Color	PCU	72	
Aber1	W1979	8/4/09	10:36	71-0142		Flowing	Turbidity	NTU	4.1	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	Ammonia-N	mg/L	3.7	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	*E. coli*	MPN/100mL	86	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	Suspended Solids	mg/L	2.9	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	Total Nitrogen	mg/L	6.2	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	Total Phosphorus	mg/L	0.015	
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	True Color	PCU	23	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Aber1	W1979	9/8/09	10:40	71-0194		Flowing	Turbidity	NTU	6.4	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	Ammonia-N	mg/L	0.34	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	*E. coli*	MPN/100mL	840	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	Suspended Solids	mg/L	11	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	Total Nitrogen	mg/L	1.3	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	Total Phosphorus	mg/L	0.041	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	True Color	PCU	16	
ABR006	W1965	4/21/09	12:14	71-0008		Flowing	Turbidity	NTU	6.9	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	Ammonia-N	mg/L	0.40	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	*E. coli*	MPN/100mL	200	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	Suspended Solids	mg/L	4.8	b
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	Total Nitrogen	mg/L	1.7	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	Total Phosphorus	mg/L	0.033	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	True Color	PCU	<15	
ABR006	W1965	5/26/09	11:42	71-0031		Flowing	Turbidity	NTU	5.1	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	Ammonia-N	mg/L	0.38	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	*E. coli*	MPN/100mL	1500	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	Suspended Solids	mg/L	10	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	Total Nitrogen	mg/L	1.9	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	Total Phosphorus	mg/L	0.051	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	True Color	PCU	26	
ABR006	W1965	6/30/09	12:00	71-0053		Flowing	Turbidity	NTU	7.0	
ABR006	W1965	7/23/09	10:53	71-0126		Flowing	*E. coli*	MPN/100mL	710	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	Ammonia-N	mg/L	0.13	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	*E. coli*	MPN/100mL	700	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	Suspended Solids	mg/L	3.9	h
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	Total Nitrogen	mg/L	1.5	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	Total Phosphorus	mg/L	0.034	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	True Color	PCU	30	
ABR006	W1965	8/4/09	11:15	71-0146		Flowing	Turbidity	NTU	4.0	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	Ammonia-N	mg/L	0.09	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	*E. coli*	MPN/100mL	300	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	Suspended Solids	mg/L	1.7	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	Total Nitrogen	mg/L	1.8	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	Total Phosphorus	mg/L	0.019	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	True Color	PCU	18	
ABR006	W1965	9/8/09	11:25	71-0198		Flowing	Turbidity	NTU	2.7	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	Ammonia-N	mg/L	0.96	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	*E. coli*	MPN/100mL	1000	d
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	Suspended Solids	mg/L	10	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	Total Nitrogen	mg/L	2.1	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	Total Phosphorus	mg/L	0.044	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	True Color	PCU	21	
ABR028	W1964	4/21/09	11:50	71-0005	71-0006	Flowing	Turbidity	NTU	7.2	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	Ammonia-N	mg/L	0.66	
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	*E. coli*	MPN/100mL	450	d
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	Suspended Solids	mg/L	3.3	b
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	Total Nitrogen	mg/L	3.1	
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	Total Phosphorus	mg/L	0.028	
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	True Color	PCU	19	
ABR028	W1964	5/26/09	11:19	71-0028	71-0029	Flowing	Turbidity	NTU	6.6	d
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	Ammonia-N	mg/L	1.0	
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	*E. coli*	MPN/100mL	780	
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	Suspended Solids	mg/L	3.8	
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	Total Nitrogen	mg/L	2.9	
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	Total Phosphorus	mg/L	0.034	
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	True Color	PCU	37	d
ABR028	W1964	6/30/09	11:42	71-0050	71-0051	Flowing	Turbidity	NTU	5.0	
ABR028	W1964	7/23/09	10:35	71-0123	71-0124	Flowing	*E. coli*	MPN/100mL	660	
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	Ammonia-N	mg/L	0.10	
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	*E. coli*	MPN/100mL	500	d
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	Suspended Solids	mg/L	2.3	h
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	Total Nitrogen	mg/L	2.0	
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	Total Phosphorus	mg/L	0.027	
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	True Color	PCU	42	
ABR028	W1964	8/4/09	10:54	71-0143	71-0144	Flowing	Turbidity	NTU	2.6	d
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	Ammonia-N	mg/L	0.08	
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	*E. coli*	MPN/100mL	440	d
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	Suspended Solids	mg/L	1.1	
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	Total Nitrogen	mg/L	2.2	
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	Total Phosphorus	mg/L	0.016	
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	True Color	PCU	<15	
ABR028	W1964	9/8/09	11:02	71-0195	71-0196	Flowing	Turbidity	NTU	2.4	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	Ammonia-N	mg/L	0.13	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	*E. coli*	MPN/100mL	1500	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	Suspended Solids	mg/L	9.8	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	Total Nitrogen	mg/L	1.2	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	Total Phosphorus	mg/L	0.057	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	True Color	PCU	<15	
ALB007	W1969	4/21/09	11:24	71-0016		Flowing	Turbidity	NTU	11.0	b
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	Ammonia-N	mg/L	0.40	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	*E. coli*	MPN/100mL	280	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	Suspended Solids	mg/L	8.2	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	Total Nitrogen	mg/L	0.94	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	Total Phosphorus	mg/L	0.15	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	True Color	PCU	19	
ALB007	W1969	5/26/09	10:58	71-0039		Stagnant	Turbidity	NTU	5.1	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Ammonia-N	mg/L	0.30	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	*E. coli*	MPN/100mL	150	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Nitrate/Nitrite-N	mg/L	##	r
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Suspended Solids	mg/L	3.1	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Total Nitrogen	mg/L	1.0	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Total Phosphorus	mg/L	0.064	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	True Color	PCU	<15	
ALB007	W1969	6/30/09	10:57	71-0061		Flowing	Turbidity	NTU	2.5	
ALB007	W1969	7/23/09	10:24	71-0134		Flowing	*E. coli*	MPN/100mL	350	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	Ammonia-N	mg/L	0.39	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	*E. coli*	MPN/100mL	120	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	Suspended Solids	mg/L	2.1	h
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	Total Nitrogen	mg/L	0.92	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	Total Phosphorus	mg/L	0.069	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	True Color	PCU	18	
ALB007	W1969	8/4/09	10:35	71-0154		Flowing	Turbidity	NTU	2.2	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	Ammonia-N	mg/L	0.16	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	*E. coli*	MPN/100mL	97	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	Suspended Solids	mg/L	1.4	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	Total Nitrogen	mg/L	0.70	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	Total Phosphorus	mg/L	0.039	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	True Color	PCU	<15	
ALB007	W1969	9/8/09	10:37	71-0206		Flowing	Turbidity	NTU	1.0	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	Ammonia-N	mg/L	0.03	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	*E. coli*	MPN/100mL	320	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	Suspended Solids	mg/L	3.7	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	Total Nitrogen	mg/L	0.89	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	Total Phosphorus	mg/L	0.026	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	True Color	PCU	34	
Cumm1	W1971	4/21/09	10:54	71-0003		Flowing	Turbidity	NTU	2.0	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	Ammonia-N	mg/L	0.04	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	*E. coli*	MPN/100mL	200	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	Suspended Solids	mg/L	<1.0	b
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	Total Nitrogen	mg/L	1.1	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	Total Phosphorus	mg/L	0.017	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	True Color	PCU	<15	
Cumm1	W1971	5/26/09	10:28	71-0026		Flowing	Turbidity	NTU	0.9	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	Ammonia-N	mg/L	0.04	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	*E. coli*	MPN/100mL	460	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	Suspended Solids	mg/L	1.6	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	Total Nitrogen	mg/L	1.3	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	Total Phosphorus	mg/L	0.038	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	True Color	PCU	48	
Cumm1	W1971	6/30/09	10:45	71-0048		Flowing	Turbidity	NTU	1.9	
Cumm1	W1971	7/23/09	9:59	71-0121		Flowing	*E. coli*	MPN/100mL	430	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	Ammonia-N	mg/L	0.04	
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	*E. coli*	MPN/100mL	500	
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	Suspended Solids	mg/L	1.0	h
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	Total Nitrogen	mg/L	1.2	
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	Total Phosphorus	mg/L	0.038	
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	True Color	PCU	39	
Cumm1	W1971	8/4/09	10:07	71-0141		Flowing	Turbidity	NTU	1.3	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	Ammonia-N	mg/L	0.02	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	*E. coli*	MPN/100mL	330	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	Suspended Solids	mg/L	<1.0	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	Total Nitrogen	mg/L	1.2	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	Total Phosphorus	mg/L	0.015	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	True Color	PCU	<15	
Cumm1	W1971	9/8/09	10:19	71-0193		Flowing	Turbidity	NTU	0.8	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	Ammonia-N	mg/L	0.12	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	*E. coli*	MPN/100mL	1200	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	Suspended Solids	mg/L	14	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	Total Nitrogen	mg/L	0.61	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	Total Phosphorus	mg/L	0.062	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	True Color	PCU	<15	
MAR036	W1967	4/21/09	13:20	71-0010		Flowing	Turbidity	NTU	12.5	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	Ammonia-N	mg/L	0.44	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	*E. coli*	MPN/100mL	63	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	Suspended Solids	mg/L	6.1	b
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	Total Nitrogen	mg/L	1.2	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	Total Phosphorus	mg/L	0.075	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	True Color	PCU	21	
MAR036	W1967	5/26/09	12:42	71-0033		Flowing	Turbidity	NTU	8.6	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	Ammonia-N	mg/L	0.10	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	*E. coli*	MPN/100mL	8700	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	Suspended Solids	mg/L	5.6	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	Total Nitrogen	mg/L	1.2	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	Total Phosphorus	mg/L	0.080	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	True Color	PCU	16	
MAR036	W1967	6/30/09	13:00	71-0055		Flowing	Turbidity	NTU	5.8	
MAR036	W1967	7/23/09	11:41	71-0128		Flowing	*E. coli*	MPN/100mL	350	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	Ammonia-N	mg/L	0.03	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	*E. coli*	MPN/100mL	200	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	Suspended Solids	mg/L	5.1	h
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	Total Nitrogen	mg/L	0.87	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	Total Phosphorus	mg/L	0.053	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	True Color	PCU	22	
MAR036	W1967	8/4/09	12:05	71-0148		Flowing	Turbidity	NTU	5.0	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	Ammonia-N	mg/L	<0.02	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	*E. coli*	MPN/100mL	10	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	Suspended Solids	mg/L	3.9	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	Total Nitrogen	mg/L	0.86	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	Total Phosphorus	mg/L	0.049	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	True Color	PCU	19	
MAR036	W1967	9/8/09	12:20	71-0200		Flowing	Turbidity	NTU	3.4	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	Ammonia-N	mg/L	0.04	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	*E. coli*	MPN/100mL	130	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	Suspended Solids	mg/L	1.2	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	Total Nitrogen	mg/L	0.68	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	Total Phosphorus	mg/L	0.014	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	True Color	PCU	<15	
MEB001	W1968	4/21/09	11:45	71-0018		Flowing	Turbidity	NTU	1.5	b
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	Ammonia-N	mg/L	0.03	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	*E. coli*	MPN/100mL	340	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	Suspended Solids	mg/L	2.6	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	Total Nitrogen	mg/L	0.41	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	Total Phosphorus	mg/L	0.021	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	True Color	PCU	17	
MEB001	W1968	5/26/09	11:31	71-0041		Flowing	Turbidity	NTU	1.3	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	Ammonia-N	mg/L	0.08	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	*E. coli*	MPN/100mL	960	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	Suspended Solids	mg/L	1.4	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	Total Nitrogen	mg/L	1.1	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	Total Phosphorus	mg/L	0.066	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	True Color	PCU	<15	
MEB001	W1968	6/30/09	11:39	71-0063		Flowing	Turbidity	NTU	1.3	
MEB001	W1968	7/23/09	11:01	71-0136		Flowing	*E. coli*	MPN/100mL	14000	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	Ammonia-N	mg/L	0.24	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	*E. coli*	MPN/100mL	5800	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	Suspended Solids	mg/L	1.1	h
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	Total Nitrogen	mg/L	1.2	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	Total Phosphorus	mg/L	0.022	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	True Color	PCU	<15	
MEB001	W1968	8/4/09	11:00	71-0156		Flowing	Turbidity	NTU	1.5	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	Ammonia-N	mg/L	0.10	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	*E. coli*	MPN/100mL	3700	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	Suspended Solids	mg/L	<1.0	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	Total Nitrogen	mg/L	1.4	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	Total Phosphorus	mg/L	0.028	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	True Color	PCU	<15	
MEB001	W1968	9/8/09	11:12	71-0208		Stagnant	Turbidity	NTU	1.3	
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	Ammonia-N	mg/L	0.10	
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	*E. coli*	MPN/100mL	260	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	Suspended Solids	mg/L	6.6	d
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	Total Nitrogen	mg/L	0.97	
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	Total Phosphorus	mg/L	0.043	
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	True Color	PCU	34	
MIB001	W1966	4/21/09	10:07	71-0011	71-0012	Flowing	Turbidity	NTU	4.3	b, d
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	Ammonia-N	mg/L	0.34	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	*E. coli*	MPN/100mL	320	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	Suspended Solids	mg/L	2.1	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	Total Nitrogen	mg/L	1.6	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	Total Phosphorus	mg/L	0.038	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	True Color	PCU	19	
MIB001	W1966	5/26/09	9:43	71-0034	71-0035	Flowing	Turbidity	NTU	3.1	d
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	Ammonia-N	mg/L	0.14	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	*E. coli*	MPN/100mL	2900	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	Suspended Solids	mg/L	4.6	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	Total Nitrogen	mg/L	1.2	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	Total Phosphorus	mg/L	0.057	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	True Color	PCU	71	
MIB001	W1966	6/30/09	9:50	71-0056	71-0057	Flowing	Turbidity	NTU	3.9	
MIB001	W1966	7/23/09	9:35	71-0129	71-0130	Flowing	*E. coli*	MPN/100mL	960	d
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	Ammonia-N	mg/L	0.12	
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	*E. coli*	MPN/100mL	1600	
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	Suspended Solids	mg/L	11	h
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	Total Nitrogen	mg/L	1.4	
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	Total Phosphorus	mg/L	0.087	
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	True Color	PCU	170	
MIB001	W1966	8/4/09	9:32	71-0149	71-0150	Flowing	Turbidity	NTU	13.5	
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	Ammonia-N	mg/L	0.16	
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	*E. coli*	MPN/100mL	700	d
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	Suspended Solids	mg/L	2.0	
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	Total Nitrogen	mg/L	1.4	
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	Total Phosphorus	mg/L	0.029	
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	True Color	PCU	26	d
MIB001	W1966	9/8/09	9:32	71-0201	71-0202	Flowing	Turbidity	NTU	2.4	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	Ammonia-N	mg/L	0.07	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	*E. coli*	MPN/100mL	630	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	Suspended Solids	mg/L	5.9	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	Total Nitrogen	mg/L	1.1	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	Total Phosphorus	mg/L	0.061	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	True Color	PCU	120	
Mun1	W1977	4/21/09	10:03	71-0001		Flowing	Turbidity	NTU	6.7	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	Ammonia-N	mg/L	0.10	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	*E. coli*	MPN/100mL	390	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	Suspended Solids	mg/L	6.1	b

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	Total Nitrogen	mg/L	0.96	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	Total Phosphorus	mg/L	0.034	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	True Color	PCU	27	
Mun1	W1977	5/26/09	9:44	71-0024		Flowing	Turbidity	NTU	4.8	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	Ammonia-N	mg/L	0.09	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	*E. coli*	MPN/100mL	570	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	Suspended Solids	mg/L	1.2	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	Total Nitrogen	mg/L	1.1	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	Total Phosphorus	mg/L	0.048	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	True Color	PCU	95	
Mun1	W1977	6/30/09	9:54	71-0046		Flowing	Turbidity	NTU	4.5	
Mun1	W1977	7/23/09	9:23	71-0119		Flowing	*E. coli*	MPN/100mL	660	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	Ammonia-N	mg/L	0.08	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	*E. coli*	MPN/100mL	240	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	Suspended Solids	mg/L	2.9	h
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	Total Nitrogen	mg/L	1.1	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	Total Phosphorus	mg/L	0.055	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	True Color	PCU	93	
Mun1	W1977	8/4/09	9:26	71-0139		Flowing	Turbidity	NTU	4.6	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	Ammonia-N	mg/L	0.04	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	*E. coli*	MPN/100mL	260	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	Suspended Solids	mg/L	2.8	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	Total Nitrogen	mg/L	0.72	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	Total Phosphorus	mg/L	0.026	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	True Color	PCU	28	
Mun1	W1977	9/8/09	9:30	71-0191		Flowing	Turbidity	NTU	4.7	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	Ammonia-N	mg/L	0.11	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	*E. coli*	MPN/100mL	930	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	Suspended Solids	mg/L	14	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	Total Nitrogen	mg/L	1.3	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	Total Phosphorus	mg/L	0.065	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	True Color	PCU	15	
MWRA74	W1976	4/21/09	11:00	71-0015		Flowing	Turbidity	NTU	12.5	b
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	Ammonia-N	mg/L	0.28	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	*E. coli*	MPN/100mL	740	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	Suspended Solids	mg/L	7.0	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	Total Nitrogen	mg/L	0.62	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	Total Phosphorus	mg/L	0.079	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	True Color	PCU	21	
MWRA74	W1976	5/26/09	10:36	71-0038		Flowing	Turbidity	NTU	4.8	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	Ammonia-N	mg/L	0.27	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	*E. coli*	MPN/100mL	620	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	Suspended Solids	mg/L	2.9	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	Total Nitrogen	mg/L	0.94	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	Total Phosphorus	mg/L	0.054	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	True Color	PCU	<15	
MWRA74	W1976	6/30/09	10:33	71-0060		Flowing	Turbidity	NTU	2.8	
MWRA74	W1976	7/23/09	10:08	71-0133		Flowing	*E. coli*	MPN/100mL	290	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	Ammonia-N	mg/L	0.26	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	*E. coli*	MPN/100mL	180	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	Suspended Solids	mg/L	5.0	h
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	Total Nitrogen	mg/L	0.89	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	Total Phosphorus	mg/L	0.076	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	True Color	PCU	19	
MWRA74	W1976	8/4/09	10:14	71-0153		Flowing	Turbidity	NTU	3.0	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	Ammonia-N	mg/L	0.11	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	*E. coli*	MPN/100mL	86	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	Suspended Solids	mg/L	2.0	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	Total Nitrogen	mg/L	0.63	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	Total Phosphorus	mg/L	0.040	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	True Color	PCU	<15	
MWRA74	W1976	9/8/09	10:27	71-0205		Flowing	Turbidity	NTU	2.0	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	Ammonia-N	mg/L	0.29	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	*E. coli*	MPN/100mL	240	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	Suspended Solids	mg/L	8.6	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	Total Nitrogen	mg/L	1.4	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	Total Phosphorus	mg/L	0.042	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	True Color	PCU	<15	
Myst1	W1974	4/21/09	11:50	71-0017		Flowing	Turbidity	NTU	8.3	b
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	Ammonia-N	mg/L	0.05	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	*E. coli*	MPN/100mL	86	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	Suspended Solids	mg/L	5.7	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	Total Nitrogen	mg/L	0.99	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	Total Phosphorus	mg/L	0.037	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	True Color	PCU	<15	
Myst1	W1974	5/26/09	11:19	71-0040		Flowing	Turbidity	NTU	4.1	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	Ammonia-N	mg/L	0.10	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	*E. coli*	MPN/100mL	1600	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	Suspended Solids	mg/L	10	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	Total Nitrogen	mg/L	1.3	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	Total Phosphorus	mg/L	0.047	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	True Color	PCU	<15	
Myst1	W1974	6/30/09	11:29	71-0062		Flowing	Turbidity	NTU	6.8	
Myst1	W1974	7/23/09	10:55	71-0135		Flowing	*E. coli*	MPN/100mL	670	
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	Ammonia-N	mg/L	0.11	
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	*E. coli*	MPN/100mL	110	
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	Suspended Solids	mg/L	5.9	h
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	Total Nitrogen	mg/L	1.0	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	Total Phosphorus	mg/L	0.038	
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	True Color	PCU	23	
Myst1	W1974	8/4/09	10:53	71-0155		Flowing	Turbidity	NTU	4.4	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	Ammonia-N	mg/L	0.04	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	*E. coli*	MPN/100mL	130	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	Suspended Solids	mg/L	1.6	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	Total Nitrogen	mg/L	0.70	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	Total Phosphorus	mg/L	0.021	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	True Color	PCU	17	
Myst1	W1974	9/8/09	11:05	71-0207		Flowing	Turbidity	NTU	1.8	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	Ammonia-N	mg/L	0.28	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	*E. coli*	MPN/100mL	750	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	Suspended Solids	mg/L	7.4	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	Total Nitrogen	mg/L	1.2	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	Total Phosphorus	mg/L	0.031	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	True Color	PCU	<15	
Myst2	W1973	4/21/09	12:15	71-0019		Flowing	Turbidity	NTU	8.8	b
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	Ammonia-N	mg/L	0.04	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	*E. coli*	MPN/100mL	20	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	Suspended Solids	mg/L	4.5	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	Total Nitrogen	mg/L	0.94	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	Total Phosphorus	mg/L	0.039	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	True Color	PCU	15	
Myst2	W1973	5/26/09	12:03	71-0042		Flowing	Turbidity	NTU	3.5	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	Ammonia-N	mg/L	0.13	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	*E. coli*	MPN/100mL	2800	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	Suspended Solids	mg/L	7.0	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	Total Nitrogen	mg/L	1.2	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	Total Phosphorus	mg/L	0.042	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	True Color	PCU	<15	
Myst2	W1973	6/30/09	12:06	71-0064		Flowing	Turbidity	NTU	4.6	
Myst2	W1973	7/23/09	11:28	71-0137		Flowing	*E. coli*	MPN/100mL	310	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	Ammonia-N	mg/L	0.11	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	*E. coli*	MPN/100mL	250	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	Suspended Solids	mg/L	2.5	h
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	Total Nitrogen	mg/L	0.97	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	Total Phosphorus	mg/L	0.029	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	True Color	PCU	21	
Myst2	W1973	8/4/09	11:22	71-0157		Flowing	Turbidity	NTU	3.2	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	Ammonia-N	mg/L	0.08	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	*E. coli*	MPN/100mL	210	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	Suspended Solids	mg/L	3.5	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	Total Nitrogen	mg/L	0.77	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	Total Phosphorus	mg/L	0.031	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	True Color	PCU	17	
Myst2	W1973	9/8/09	11:37	71-0209		Flowing	Turbidity	NTU	2.5	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Ammonia-N	mg/L	0.16	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	*E. coli*	MPN/100mL	20	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Specific Conductance	µmhos/cm	1100	f
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Suspended Solids	mg/L	7.6	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Total Nitrogen	mg/L	1.3	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Total Phosphorus	mg/L	0.027	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	True Color	PCU	<15	
Myst3	W1975	4/21/09	12:57	71-0020		Stagnant	Turbidity	NTU	6.5	b
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Ammonia-N	mg/L	0.06	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	*E. coli*	MPN/100mL	20	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Specific Conductance	µmhos/cm	1500	f
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Suspended Solids	mg/L	8.2	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Total Nitrogen	mg/L	0.61	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Total Phosphorus	mg/L	0.047	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	True Color	PCU	<15	
Myst3	W1975	5/26/09	12:37	71-0043		Flowing	Turbidity	NTU	7.7	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Ammonia-N	mg/L	0.12	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	*E. coli*	MPN/100mL	63	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Specific Conductance	µmhos/cm	1000	f, j
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Suspended Solids	mg/L	5.1	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Total Nitrogen	mg/L	1.0	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Total Phosphorus	mg/L	0.034	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	True Color	PCU	<15	
Myst3	W1975	6/30/09	12:38	71-0065		Flowing	Turbidity	NTU	4.2	
Myst3	W1975	7/23/09	11:59	71-0138		Flowing	*E. coli*	MPN/100mL	31	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Ammonia-N	mg/L	0.03	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	*E. coli*	MPN/100mL	10	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Specific Conductance	µmhos/cm	640	f, j
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Suspended Solids	mg/L	8.0	h
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Total Nitrogen	mg/L	0.89	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Total Phosphorus	mg/L	0.065	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	True Color	PCU	24	
Myst3	W1975	8/4/09	11:48	71-0158		Flowing	Turbidity	NTU	6.8	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Ammonia-N	mg/L	<0.02	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	*E. coli*	MPN/100mL	63	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Specific Conductance	µmhos/cm	820	f
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Suspended Solids	mg/L	8.1	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Total Nitrogen	mg/L	0.56	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Total Phosphorus	mg/L	0.054	
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	True Color	PCU	<15	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Myst3	W1975	9/8/09	11:56	71-0210		Flowing	Turbidity	NTU	7.9	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	Ammonia-N	mg/L	0.02	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	*E. coli*	MPN/100mL	1100	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	Suspended Solids	mg/L	5.8	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	Total Nitrogen	mg/L	0.77	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	Total Phosphorus	mg/L	0.039	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	True Color	PCU	36	
Shake1	W1972	4/21/09	10:31	71-0002		Flowing	Turbidity	NTU	3.5	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	Ammonia-N	mg/L	0.06	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	*E. coli*	MPN/100mL	560	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	Suspended Solids	mg/L	2.1	b
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	Total Nitrogen	mg/L	1.1	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	Total Phosphorus	mg/L	0.025	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	True Color	PCU	<15	
Shake1	W1972	5/26/09	10:12	71-0025		Flowing	Turbidity	NTU	1.6	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	Ammonia-N	mg/L	0.05	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	*E. coli*	MPN/100mL	750	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	Suspended Solids	mg/L	2.8	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	Total Nitrogen	mg/L	1.0	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	Total Phosphorus	mg/L	0.038	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	True Color	PCU	43	
Shake1	W1972	6/30/09	10:19	71-0047		Flowing	Turbidity	NTU	2.4	
Shake1	W1972	7/23/09	9:45	71-0120		Flowing	*E. coli*	MPN/100mL	480	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	Ammonia-N	mg/L	0.04	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	*E. coli*	MPN/100mL	1300	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	Suspended Solids	mg/L	1.7	h
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	Total Nitrogen	mg/L	1.1	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	Total Phosphorus	mg/L	0.031	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	True Color	PCU	26	
Shake1	W1972	8/4/09	9:50	71-0140		Flowing	Turbidity	NTU	2.1	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	Ammonia-N	mg/L	<0.02	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	*E. coli*	MPN/100mL	250	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	Suspended Solids	mg/L	1.5	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	Total Nitrogen	mg/L	0.96	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	Total Phosphorus	mg/L	0.016	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	True Color	PCU	16	
Shake1	W1972	9/8/09	9:58	71-0192		Flowing	Turbidity	NTU	1.2	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	Ammonia-N	mg/L	0.05	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	*E. coli*	MPN/100mL	2400	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	Suspended Solids	mg/L	6.3	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	Total Nitrogen	mg/L	0.88	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	Total Phosphorus	mg/L	0.045	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	True Color	PCU	17	
Spell1	W1978	4/21/09	13:00	71-0009		Flowing	Turbidity	NTU	4.0	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifiers*
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	Ammonia-N	mg/L	0.04	
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	*E. coli*	MPN/100mL	500	
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	Suspended Solids	mg/L	3.4	b
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	Total Nitrogen	mg/L	0.61	
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	Total Phosphorus	mg/L	0.027	
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	True Color	PCU	<15	
Spell1	W1978	5/26/09	12:21	71-0032		Flowing	Turbidity	NTU	1.9	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	Ammonia-N	mg/L	0.09	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	*E. coli*	MPN/100mL	2500	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	Suspended Solids	mg/L	4.1	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	Total Nitrogen	mg/L	1.1	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	Total Phosphorus	mg/L	0.047	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	True Color	PCU	29	
Spell1	W1978	6/30/09	12:37	71-0054		Flowing	Turbidity	NTU	4.4	
Spell1	W1978	7/23/09	11:27	71-0127		Flowing	*E. coli*	MPN/100mL	860	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	Ammonia-N	mg/L	0.05	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	*E. coli*	MPN/100mL	3400	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	Suspended Solids	mg/L	12	h
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	Total Nitrogen	mg/L	0.86	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	Total Phosphorus	mg/L	0.074	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	True Color	PCU	44	
Spell1	W1978	8/4/09	11:47	71-0147		Flowing	Turbidity	NTU	9.1	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	Ammonia-N	mg/L	0.13	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	*E. coli*	MPN/100mL	1200	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	Suspended Solids	mg/L	5.0	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	Total Nitrogen	mg/L	1.0	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	Total Phosphorus	mg/L	0.050	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	True Color	PCU	19	
Spell1	W1978	9/8/09	11:54	71-0199		Flowing	Turbidity	NTU	5.9	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	Ammonia-N	mg/L	0.12	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	*E. coli*	MPN/100mL	20000	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	Suspended Solids	mg/L	2.7	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	Total Nitrogen	mg/L	2.1	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	Total Phosphorus	mg/L	0.038	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	True Color	PCU	<15	
WelB	W1970	4/21/09	10:43	71-0014		Flowing	Turbidity	NTU	3.9	b
WelB	W1970	5/26/09	10:15	71-0037		Flowing	Ammonia-N	mg/L	0.32	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	*E. coli*	MPN/100mL	24000	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	Suspended Solids	mg/L	1.0	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	Total Nitrogen	mg/L	1.5	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	Total Phosphorus	mg/L	0.035	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	True Color	PCU	<15	
WelB	W1970	5/26/09	10:15	71-0037		Flowing	Turbidity	NTU	0.7	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	Ammonia-N	mg/L	0.26	

Table 7 (continued). 2009 MassDEP Mystic River Watershed water quality data

Station ID	Unique ID	Sample Date	Sample Time	Sample OWMID	Duplicate	Flow Condition	Analyte	Units	Result	Result Qualifi-ers*
WelB	W1970	6/30/09	10:14	71-0059		Flowing	*E. coli*	MPN/100mL	9800	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	Suspended Solids	mg/L	1.3	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	Total Nitrogen	mg/L	2.2	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	Total Phosphorus	mg/L	0.040	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	True Color	PCU	<15	
WelB	W1970	6/30/09	10:14	71-0059		Flowing	Turbidity	NTU	1.6	
WelB	W1970	7/23/09	9:54	71-0132		Flowing	*E. coli*	MPN/100mL	4900	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	Ammonia-N	mg/L	0.23	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	*E. coli*	MPN/100mL	9800	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	Suspended Solids	mg/L	3.9	h
WelB	W1970	8/4/09	9:58	71-0152		Flowing	Total Nitrogen	mg/L	2.0	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	Total Phosphorus	mg/L	0.048	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	True Color	PCU	<15	
WelB	W1970	8/4/09	9:58	71-0152		Flowing	Turbidity	NTU	5.0	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	Ammonia-N	mg/L	0.65	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	*E. coli*	MPN/100mL	24000	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	Suspended Solids	mg/L	<1.0	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	Total Nitrogen	mg/L	2.1	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	Total Phosphorus	mg/L	0.073	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	True Color	PCU	<15	
WelB	W1970	9/8/09	10:03	71-0204		Flowing	Turbidity	NTU	0.6	

*See Appendix 1 for a complete list of data symbols and qualifiers

Table 8. 2009 MassDEP Mystic River Watershed *E. coli* geometric means of samples for sites with a minimum of five samples.

*The detection limit or the upper quantification limit is generally used in the geometric mean calculation if the result was either below the detection limit or above the upper quantification limit. For Mystic River sampling, no results were below the detection limit or above the upper quantification limit. Results from duplicate samples were removed before completing the geometric mean calculation.

Station ID	Unique ID	Waterbody	# of E. Coli Samples	Geomean (CFU/100 mL)
Aber1	W1979	Aberjona River	6	188
ABR006	W1965	Aberjona River	6	579
ABR028	W1964	Aberjona River	6	609
ALB007	W1969	Alewife Brook	6	252
Cumm1	W1971	Cummings Brook	6	358
MAR036	W1967	Malden River	6	278
MEB001	W1968	Unnamed Tributary	6	1528
MIB001	W1966	Mill Brook	6	799
Mun1	W1977	Munroe Brook	6	423
MWRA74	W1976	Little River	6	352
Myst1	W1974	Mystic River	6	261
Myst2	W1973	Mystic River	6	297
Myst3	W1975	Mystic River	6	28
Shake1	W1972	Shaker Glen Brook	6	645
Spell1	W1978	Unnamed Tributary	6	1480
WelB	W1970	Unnamed Tributary	6	13254

Table 9. 2009 MassDEP Mystic River Watershed *in-situ* attended probe data

Station ID	Unique ID	Water Body	OWMID	Date	Time	Flow Condition	Sample Depth (meters)	Depth Qualifiers	Temperature (deg. C)	Temperature Qualifiers*	pH (SU)	pH Qualifiers*	Specifiic Conductivity (uS/cm)	Specific Conductivity Qualifiers*	Total Dissolved Solids (mg/l)	Total Dissolved Solids Qualifiers*	Dissolved Oxygen (mg/l)	Dissolved Oxygen Qualifiers*	Saturation (%)	Saturation Qualifiers*
Aber1	W1979	Aberjona River	71-0078	6/26/09	9:19	Flowing	0.5		18.4		6.6		802	c	513	c	5.1		56	
Aber1	W1979	Aberjona River	71-0088	7/1/09	9:47	Flowing	0.3		17.9		6.7		955	c	611	c	4.8		52	
Aber1	W1979	Aberjona River	71-0109	7/9/09	11:29	Flowing	--		17.4	s	--		--		--		--		--	
Aber1	W1979	Aberjona River	71-0171	7/31/09	9:56	Flowing	0.5		21.4		6.8		942	c	603	c	4.3		49	
Aber1	W1979	Aberjona River	71-0321	7/31/09	9:56	Flowing	--		21.4	s	--		--		--		--		--	
Aber1	W1979	Aberjona River	71-0181	8/5/09	10:02	Flowing	0.6		21.8		6.6		881		564		4.1		48	
Aber1	W1979	Aberjona River	71-0223	9/4/09	9:38	Flowing	0.3		17.1		6.7		932		597		4.9		51	
Aber1	W1979	Aberjona River	71-0233	9/9/09	9:38	Flowing	0.2		17.7		6.8		1113		712		4.9		52	
Aber1	W1979	Aberjona River	71-0114	9/9/09	9:41	Flowing	--		17.7	m	--		--		--		4.9	m	52	m
ABR006	W1965	Aberjona River	71-0080	6/26/09	10:04	Flowing	0.5		19.3		6.9		827	c	529	c	6.9		77	
ABR006	W1965	Aberjona River	71-0090	7/1/09	10:50	Flowing	0.3		17.9		6.9		732	c	468	c	6.2		67	
ABR006	W1965	Aberjona River	71-0110	7/9/09	12:13	Flowing	--		18.3	s	--		--		--		--		--	
ABR006	W1965	Aberjona River	71-0173	7/31/09	10:50	Flowing	0.6		23.0		7.2		845	c	541	c	7.0		84	
ABR006	W1965	Aberjona River	71-0322	7/31/09	10:51	Flowing	--		23.0	s	--		--		--		--		--	
ABR006	W1965	Aberjona River	71-0183	8/5/09	10:53	Flowing	0.6		23.3		7.1		773		495		7.0		84	
ABR006	W1965	Aberjona River	71-0225	9/4/09	10:35	Flowing	0.6		18.2		7.1		856		548		7.8		85	
ABR006	W1965	Aberjona River	71-0235	9/9/09	10:40	Flowing	0.5		17.5		7.2		973		623		8.1		86	
ABR006	W1965	Aberjona River	71-0115	9/9/09	10:43	Flowing	--		17.5	m	--		--		--		8.1	m	86	m
ABR028	W1964	Aberjona River	71-0079	6/26/09	9:44	Flowing	0.6		18.1		6.9		895	c	573	c	6.8		74	
ABR028	W1964	Aberjona River	71-0089	7/1/09	10:19	Flowing	0.5		17.5		6.9		909	c	582	c	6.7		72	
ABR028	W1964	Aberjona River	71-0172	7/31/09	10:22	Flowing	0.4		20.9		7.1		984	c	630	c	7.0		80	
ABR028	W1964	Aberjona River	71-0182	8/5/09	10:32	Flowing	0.5		21.5		7.0		914		585		7.1		82	
ABR028	W1964	Aberjona River	71-0224	9/4/09	10:09	Flowing	0.4		17.1		7.2		944		604		8.0		85	
ABR028	W1964	Aberjona River	71-0234	9/9/09	10:14	Flowing	0.2		17.6		7.2		1078		690		7.8		83	

Table 9 (continued). 2009 MassDEP Mystic River Watershed *in-situ* attended probe data

Station ID	Unique ID	Water Body	OWMID	Date	Time	Flow Condition	Sample Depth (meters)	Depth Qualifiers	Temperature (deg. C)	Temperature Qualifiers*	pH (SU)	pH Qualifiers*	Specifiic Conductivity (uS/cm)	Specific Conductivity Qualifiers*	Total Dissolved Solids (mg/l)	Total Dissolved Solids Qualifiers*	Dissolved Oxygen (mg/l)	Dissolved Oxygen Qualifiers*	Saturation (%)	Saturation Qualifiers*
ALB007	W1969	Alewife Brook	71-0083	6/26/09	11:18	Flowing	0.6		19.9		7.0		1311	c	839	c	3.5		39	
ALB007	W1969	Alewife Brook	71-0093	7/1/09	12:34	Flowing	0.4		18.5		7.0		1157	c	741	c	1.9		21	
ALB007	W1969	Alewife Brook	71-0111	7/9/09	13:46	Flowing	--		18.2	s	--		--		--		--		--	
ALB007	W1969	Alewife Brook	71-0176	7/31/09	13:03	Flowing	0.1		23.4		7.1		768	u, c	491	u, c	4.9		58	
ALB007	W1969	Alewife Brook	71-0323	7/31/09	13:03	Flowing	--		23.4	s	--		--		--		--		--	
ALB007	W1969	Alewife Brook	71-0186	8/5/09	12:18	Flowing	0.7		23.3		7.0		990		633		3.0		36	
ALB007	W1969	Alewife Brook	71-0228	9/4/09	12:01	Flowing	0.3		19.5		7.2		1029		659		3.4		38	
ALB007	W1969	Alewife Brook	71-0238	9/9/09	12:47	Flowing	0.3		19.1		7.3		1050		672		4.4		48	
ALB007	W1969	Alewife Brook	71-0116	9/9/09	12:50	Flowing	--		##	m	--		--		--		##	m, i	##	m, i
Cumm1	W1971	Cummings Brook	71-0022	4/21/09	10:59	Flowing	0.3		8.6		7.0		636		413		11.2		96	
Cumm1	W1971	Cummings Brook	71-0045	5/26/09	10:34	Flowing	0.3		11.9		7.1		981	c	628	c	10.0		93	
Cumm1	W1971	Cummings Brook	71-0067	6/30/09	10:53	Flowing	0.1		15.8		7.2		873	c	559	c	8.9		92	
Cumm1	W1971	Cummings Brook	71-0160	8/4/09	10:16	Flowing	0.2		17.7		7.2		803		514		8.8		93	
Cumm1	W1971	Cummings Brook	71-0212	9/8/09	10:21	Flowing	0.1		14.5		7.3		843		540		9.5		95	
MAR036	W1967	Malden River	71-0086	6/26/09	13:19	Flowing	1.3		18.8	u	7.0		846	c	542	c	5.7		63	
MAR036	W1967	Malden River	71-0096	7/1/09	15:14	Flowing	1.2		19.1		7.0		749	u, c	479	u, c	4.6	u	51	u
MAR036	W1967	Malden River	71-0113	7/9/09	**	Flowing	**		**		**		**		**		**		**	
MAR036	W1967	Malden River	71-0179	7/31/09	14:45	Flowing	0.4		22.2		7.2		471	u	302	u	7.3		86	
MAR036	W1967	Malden River	71-0189	8/5/09	13:51	Flowing	0.2		28.2		8.1		645		413		10.2		134	
MAR036	W1967	Malden River	71-0231	9/4/09	14:07	Flowing	0.8		21.8		7.7		667		427		10.5	u	121	u
MAR036	W1967	Malden River	71-0241	9/9/09	15:00	Flowing	0.3		20.7		7.4		932	u	596	u	8.8		99	
MAR036	W1967	Malden River	71-0118	9/9/09	**	Flowing	**		**		**		**		**		**		**	
MEB001	W1968	Unnamed Tributary	71-0112	7/9/09	14:19	Stagnant	--		14.1	s	--		--		--		--		--	
MEB001	W1968	Unnamed Tributary	71-0117	9/16/09	12:09	Stagnant	--		16.0	s	--		--		--		--		--	
MIB001	W1966	Mill Brook	71-0082	6/26/09	10:53	Flowing	0.1		18.6		7.3		904	c	578	c	8.3		92	

Table 9 (continued). 2009 MassDEP Mystic River Watershed *in-situ* attended probe data

Station ID	Unique ID	Water Body	OWMID	Date	Time	Flow Condition	Sample Depth (meters)	Depth Qualifiers	Temperature (deg. C)	Temperature Qualifiers*	pH (SU)	pH Qualifiers*	Specifiic Conductivity (uS/cm)	Specific Conductivity Qualifiers*	Total Dissolved Solids (mg/l)	Total Dissolved Solids Qualifiers*	Dissolved Oxygen (mg/l)	Dissolved Oxygen Qualifiers*	Saturation (%)	Saturation Qualifiers*
MIB001	W1966	Mill Brook	71-0092	7/1/09	11:59	Flowing	0.2		17.1		7.3		925	c	592	c	8.5		90	
MIB001	W1966	Mill Brook	71-0175	7/31/09	11:50	Flowing	0.3		20.2		7.3		830	c	531	c	8.1		91	
MIB001	W1966	Mill Brook	71-0185	8/5/09	11:51	Flowing	0.3		21.8		7.2		838		536		8.0		93	
MIB001	W1966	Mill Brook	71-0227	9/4/09	11:34	Flowing	0.3		18.6		7.4		1079		691		8.8		95	
MIB001	W1966	Mill Brook	71-0237	9/9/09	11:42	Flowing	0.3		17.2		7.5		1169		748		9.4		99	
Mun1	W1977	Munroe Brook	71-0081	6/26/09	10:30	Flowing	0.3		16.2		6.7		573		367		7.4		77	
Mun1	W1977	Munroe Brook	71-0091	7/1/09	11:29	Flowing	0.3		15.1		6.8		590		378		7.2		73	
Mun1	W1977	Munroe Brook	71-0174	7/31/09	11:23	Flowing	0.4		17.5		6.7		579		371		7.0		74	
Mun1	W1977	Munroe Brook	71-0184	8/5/09	11:23	Flowing	0.4		19.0		6.7		564		361		6.9		76	
Mun1	W1977	Munroe Brook	71-0226	9/4/09	11:08	Flowing	0.3		15.5		6.9		677		434		7.6		78	
Mun1	W1977	Munroe Brook	71-0236	9/9/09	11:15	Flowing	0.1		15.5		7.0		681		436		7.8		79	
Myst2	W1973	Mystic River	71-0099	6/26/09	11:58	Flowing	--		20.5	s	--		--		--		--		--	
Myst2	W1973	Mystic River	71-0084	6/26/09	11:58	Flowing	--		20.5		--		--		--		6.3		72	
Myst2	W1973	Mystic River	71-0094	7/1/09	13:59	Flowing	--		20.6		--		--		--		6.0		68	
Myst2	W1973	Mystic River	71-0177	7/31/09	13:38	Flowing	--		24.0		--		--		--		5.6		67	
Myst2	W1973	Mystic River	71-0187	8/5/09	12:50	Flowing	--		25.7		--		--		--		4.6		57	
Myst2	W1973	Mystic River	71-0229	9/4/09	12:33	Flowing	1.0		21.1		7.1		764		489		5.1		59	
Myst2	W1973	Mystic River	71-0239	9/9/09	13:33	Flowing	0.9		20.9		7.2		807		517		6.0		68	
Myst2	W1973	Mystic River	71-0100	9/9/09	13:36	Flowing	--		20.9	m	--		--		--		6.0	m	68	m
Myst3	W1975	Mystic River	71-0023	4/21/09	13:03	Stagnant	0.7		--		--		1172	i	762	i	--		--	
Myst3	W1975	Mystic River	71-0085	6/26/09	12:43	Flowing	2.0		19.3		7.2		1401	u, c	897	u, c	6.8		76	
Myst3	W1975	Mystic River	71-0102	6/26/09	12:46	Flowing	--		19.3	m	--		--		--		6.8	m	76	m
Myst3	W1975	Mystic River	71-0095	7/1/09	14:40	Flowing	2.0		21.4		7.4		1031	c	660	c	7.8		90	
Myst3	W1975	Mystic River	71-0324	7/31/09	14:14	Flowing	--		25.2	s	--		--		--		--		--	
Myst3	W1975	Mystic River	71-0178	7/31/09	14:14	Flowing	1.2		25.2		7.3		739	c	473	c	7.3		90	
Myst3	W1975	Mystic River	71-0188	8/5/09	13:25	Flowing	0.7		26.4		7.6		675		432		8.8		112	

Table 9 (continued). 2009 MassDEP Mystic River Watershed *in-situ* attended probe data

Station ID	Unique ID	Water Body	OWMID	Date	Time	Flow Condition	Sample Depth (meters)	Depth Qualifiers	Temperature (deg. C)	Temperature Qualifiers*	pH (SU)	pH Qualifiers*	Specifiic Conductivity (uS/cm)	Specific Conductivity Qualifiers*	Total Dissolved Solids (mg/l)	Total Dissolved Solids Qualifiers*	Dissolved Oxygen (mg/l)	Dissolved Oxygen Qualifiers*	Saturation (%)	Saturation Qualifiers*
Myst3	W1975	Mystic River	71-0230	9/4/09	13:21	Flowing	1.6		20.9		7.4		##	u	##	u	##	u	##	u
Myst3	W1975	Mystic River	71-0240	9/9/09	14:17	Flowing	1.3		21.4		8.0		944		604		9.5		109	
Myst3	W1975	Mystic River	71-0103	9/9/09	14:20	Flowing	--		21.4	m	--		--		--		9.5	m, i	109	m, i
Shake1	W1972	Shaker Glen Brook	71-0021	4/21/09	10:42	Flowing	0.1		7.9		6.8		393		256		11.1		93	
Shake1	W1972	Shaker Glen Brook	71-0044	5/26/09	10:14	Flowing	0.1		12.5		7.0		773	c	494	c	10.0		94	
Shake1	W1972	Shaker Glen Brook	71-0066	6/30/09	10:25	Flowing	0.2		16.0		7.1		679		434		8.5		89	
Shake1	W1972	Shaker Glen Brook	71-0159	8/4/09	9:58	Flowing	0.3		17.7		7.0		684		438		8.5		91	
Shake1	W1972	Shaker Glen Brook	71-0211	9/8/09	10:02	Flowing	0.3		14.5		7.2		797		510		9.3		93	
Spell1	W1978	Unnamed Tributary	71-0087	6/26/09	13:51	Flowing	0.1		20.7		7.2		993	c	635	c	8.4		97	
Spell1	W1978	Unnamed Tributary	71-0097	7/1/09	15:55	Flowing	0.2		17.2		7.0		547	u	350	u	7.8		83	
Spell1	W1978	Unnamed Tributary	71-0180	7/31/09	15:34	Flowing	0.3		22.8		6.8		231		148		7.3		86	
Spell1	W1978	Unnamed Tributary	71-0190	8/5/09	14:16	Flowing	0.1		22.8		7.3		972		622		8.9		106	
Spell1	W1978	Unnamed Tributary	71-0232	9/4/09	15:12	Flowing	0.1		22.5		7.4		951		609		8.5		100	
Spell1	W1978	Unnamed Tributary	71-0242	9/9/09	15:51	Flowing	0.1		19.3		7.6		739		473		8.7		96	

*See Appendix 1 for a complete list of data symbols and qualifiers

Table 10. 2009 MassDEP Mystic River Watershed summary of unattended probe temperature data
(Note: the sampling interval for all unattended probes was 30 minutes.)

Station ID	Unique ID	Waterbody	OWMID	Flow Condition	Start Date	Deployment Duration (Hours)	Average (deg. C)	Minimum (deg. C)	Maximum (deg. C)	Mean of the Daily Maximum (deg. C)	Amount of Time > 20 deg. C (Hours)	Percentage of Time > 20 deg. C (%)	Amount of Time > 28.3 deg. C (Hours)	Average Daily Amount of Time > 20 deg. C (Hours)
Aber1	W1979	Aberjona River	71-0068	Flowing	06/26/09	120.0	20.0	17.7	24.7	18.5	45.3	37.8%	8.4	0.0
ABR028	W1964	Aberjona River	71-0069	Flowing	06/26/09	120.0	19.3	16.8	22.1	18.2	36.1	30.1%	6.7	0.0
ABR006	W1965	Aberjona River	71-0070	Flowing	06/26/09	120.0	19.7	17.8	23.0	18.8	42.9	35.8%	7.8	0.0
Mun1	W1977	Munroe Brook	71-0071	Flowing	06/26/09	120.0	16.4	14.9	18.2	15.6	0.0	0.0%	0.0	0.0
MIB001	W1966	Mill Brook	71-0072	Flowing	06/26/09	120.5	18.1	16.7	20.8	17.2	6.7	5.6%	1.7	0.0
ALB007	W1969	Alewife Brook	71-0073	Flowing	06/26/09	121.0	20.5	18.2	24.1	19.3	71.7	59.2%	14.0	0.0
Myst2	W1973	Mystic River	71-0074	Flowing	06/26/09	121.5	21.0	20.0	22.0	20.6	121.5	100.0%	24.0	0.0
Myst3	W1975	Mystic River	71-0075	Flowing	06/26/09	121.5	21.2	19.0	22.5	20.7	105.4	86.8%	22.5	0.0
MAR036	W1967	Malden River	71-0076	Flowing	06/26/09	121.5	18.3	17.2	20.0	17.6	0.0	0.0%	0.0	0.0
Spell1	W1978	Unnamed Tributary	71-0077	Flowing	06/26/09	81.5	18.1	15.7	22.6	16.0	11.6	14.2%	5.3	0.0
Aber1	W1979	Aberjona River	71-0161	Flowing	07/31/09	120.0	22.6	20.6	26.1	20.8	120.0	100.0%	24.0	0.0
ABR028	W1964	Aberjona River	71-0162	Flowing	07/31/09	120.0	21.8	20.1	24.0	20.3	120.0	100.0%	24.0	0.0
ABR006	W1965	Aberjona River	71-0163	Flowing	07/31/09	119.5	23.2	21.9	24.7	22.2	119.5	100.0%	24.0	0.0
Mun1	W1977	Munroe Brook	71-0164	Flowing	07/31/09	119.5	18.4	16.9	21.3	17.2	8.4	7.0%	0.0	0.0
MIB001	W1966	Mill Brook	71-0165	Flowing	07/31/09	119.5	20.7	19.5	23.8	19.8	98.3	82.3%	19.4	0.0
ALB007	W1969	Alewife Brook	71-0166	Flowing	07/31/09	118.5	23.6	21.9	26.1	22.1	118.5	100.0%	24.0	0.0
Myst2	W1973	Mystic River	71-0167	Flowing	07/31/09	118.5	24.8	23.2	26.8	24.1	118.5	100.0%	24.0	0.0
Myst3	W1975	Mystic River	71-0168	Flowing	07/31/09	118.5	25.1	24.1	26.1	24.6	118.5	100.0%	24.0	0.0
MAR036	W1967	Malden River	71-0169	Flowing	07/31/09	76.5	21.8	20.4	23.3	21.4	76.5	100.0%	24.0	0.0
Spell1	W1978	Unnamed Tributary	71-0170	Flowing	07/31/09	103.5	20.6	18.4	24.3	18.6	56.4	54.4%	11.4	0.0
Aber1	W1979	Aberjona River	71-0213	Flowing	09/04/09	119.5	19.3	15.6	23.3	16.9	41.0	34.3%	7.5	0.0
ABR028	W1964	Aberjona River	71-0214	Flowing	09/04/09	119.5	18.1	15.4	20.6	16.8	16.2	13.5%	3.0	0.0
ABR006	W1965	Aberjona River	71-0215	Flowing	09/04/09	119.5	18.8	17.1	21.1	17.9	18.1	15.1%	2.6	0.0
MIB001	W1966	Mill Brook	71-0217	Flowing	09/04/09	119.5	17.1	14.4	19.5	15.6	0.0	0.0%	0.0	0.0

Table 10 (continued). 2009 MassDEP Mystic River Watershed summary of unattended probe temperature data

Station ID	Unique ID	Waterbody	OWMID	Flow Condition	Start Date	Deployment Duration (Hours)	Average (deg. C)	Minimum (deg. C)	Maximum (deg. C)	Mean of the Daily Maximum (deg. C)	Amount of Time > 20 deg. C (Hours)	Percentage of Time > 20 deg. C (%)	Amount of Time > 28.3 deg. C (Hours)	Average Daily Amount of Time > 20 deg. C (Hours)
ALB007	W1969	Alewife Brook	71-0218	Flowing	09/04/09	120.0	19.0	16.2	21.9	17.7	19.8	16.5%	4.5	0.0
Myst2	W1973	Mystic River	71-0219	Flowing	09/04/09	120.5	21.1	20.2	22.2	20.6	120.5	100.0%	24.0	0.0
Myst3	W1975	Mystic River	71-0220	Flowing	09/04/09	120.5	21.6	20.5	23.1	21.2	120.5	100.0%	24.0	0.0
MAR036	W1967	Malden River	71-0221	Flowing	09/04/09	120.5	18.6	17.9	20.8	18.3	2.0	1.7%	0.0	0.0
Spell1	W1978	Unnamed Tributary	71-0222	Flowing	09/04/09	120.0	17.4	14.2	22.7	15.2	18.0	15.0%	3.6	0.0
Mun1	W1977	Munroe Brook	71-0216	Flowing	09/07/09	54.0	14.8	12.3	16.5	13.8	0.0	0.0%	0.0	0.0

Table 11. 2009 MassDEP Mystic River Watershed summary of unattended probe dissolved oxygen data
*(*Note: the sampling interval for all unattended probes was 30 minutes.)

Station ID	Unique ID	WaterBody	OWMID	Flow Condition	Start Date	Deployment Duration (Hours)	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)	Amount of Time < 3.0 mg/L (Hours)	Amount of Time < 5.0 mg/L (Hours)	Amount of Time < 6.0 mg/L (Hours)	Average Daily Amount of Time < 3.0 mg/L (Hours)	Average Daily Amount of Time < 5.0 mg/L (Hours)	Average Daily Amount of Time < 6.0 mg/L (Hours)	Average Saturation (%)	Minimum Saturation (%)	Maximum Saturation (%)
Aber1	W1979	Aberjona River	71-0068	Flowing	06/26/09	120.0	4.8	4.0	6.2	0.0	72.1	117.1	0.0	15.1	24.0	55	45	73
Aber1	W1979	Aberjona River	71-0161	Flowing	07/31/09	120.0	4.8	3.4	6.8	0.0	71.5	102.6	0.0	14.1	20.6	57	39	82
Aber1	W1979	Aberjona River	71-0213	Flowing	09/04/09	119.5	5.6	4.2	7.2	0.0	39.7	76.9	0.0	7.6	15.2	61	47	80
ABR006	W1965	Aberjona River	71-0070	Flowing	06/26/09	120.0	6.5	5.7	7.2	0.0	0.0	9.6	0.0	0.0	1.3	73	63	81
ABR006	W1965	Aberjona River	71-0163	Flowing	07/31/09	119.5	7.3	6.9	7.6	0.0	0.0	0.0	0.0	0.0	0.0	87	81	91
ABR006	W1965	Aberjona River	71-0215	Flowing	09/04/09	119.5	8.0	7.6	8.5	0.0	0.0	0.0	0.0	0.0	0.0	87	82	91
ABR028	W1964	Aberjona River	71-0069	Flowing	06/26/09	120.0	6.4	5.9	7.7	0.0	0.0	6.8	0.0	0.0	1.7	72	65	81
ABR028	W1964	Aberjona River	71-0162	Flowing	07/31/09	120.0	6.6	5.5	7.7	0.0	0.0	19.9	0.0	0.0	4.1	76	63	93
ABR028	W1964	Aberjona River	71-0214	Flowing	09/04/09	119.5	8.0	7.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	86	81	90
ALB007	W1969	Alewife Brook	71-0073	Flowing	06/26/09	121.0	3.2	1.5	5.5	55.1	115.2	121.0	11.6	24.0	24.0	37	17	65
ALB007	W1969	Alewife Brook	71-0166	Flowing	07/31/09	0.0	--	--	--	--	--	--	--	--	--	--	--	--
ALB007	W1969	Alewife Brook	71-0218	Flowing	09/04/09	120.0	5.0	2.0	9.4	13.7	71.1	82.4	2.7	14.7	16.9	55	22	103
MAR036	W1967	Malden River	71-0076	Flowing	06/26/09	106.0	5.2	3.2	6.2	0.0	37.0	102.3	0.0	8.2	22.8	56	34	69
MAR036	W1967	Malden River	71-0169	Flowing	07/31/09	76.5	6.5	4.0	12.7	0.0	20.6	46.9	0.0	5.6	13.7	75	45	149
MAR036	W1967	Malden River	71-0221	Flowing	09/04/09	0.0	--	--	--	--	--	--	--	--	--	--	--	--
MIB001	W1966	Mill Brook	71-0072	Flowing	06/26/09	66.5	8.1	7.8	8.5	0.0	0.0	0.0	0.0	0.0	0.0	88	85	93
MIB001	W1966	Mill Brook	71-0165	Flowing	07/31/09	119.5	7.1	4.9	8.3	0.0	0.2	28.6	0.0	0.0	5.5	80	56	95
MIB001	W1966	Mill Brook	71-0217	Flowing	09/04/09	119.5	8.4	7.5	9.1	0.0	0.0	0.0	0.0	0.0	0.0	88	77	97
Mun1	W1977	Munroe Brook	71-0071	Flowing	06/26/09	120.0	6.8	5.9	8.0	0.0	0.0	2.1	0.0	0.0	0.5	71	64	83
Mun1	W1977	Munroe Brook	71-0164	Flowing	07/31/09	119.5	6.4	5.7	7.5	0.0	0.0	12.0	0.0	0.0	1.9	69	64	84
Mun1	W1977	Munroe Brook	71-0216	Flowing	09/07/09	0.0	--	--	--	--	--	--	--	--	--	--	--	--
Myst2	W1973	Mystic River	71-0074	Flowing	06/26/09	121.5	5.2	1.2	7.4	2.5	57.8	90.4	0.6	11.3	19.1	60	14	86

Table 11 (continued). 2009 MassDEP Mystic River Watershed summary of unattended probe dissolved oxygen data

Station ID	Unique ID	WaterBody	OWMID	Flow Condition	Start Date	Deployment Duration (Hours)	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)	Amount of Time < 3.0 mg/L (Hours)	Amount of Time < 5.0 mg/L (Hours)	Amount of Time < 6.0 mg/L (Hours)	Average Daily Amount of Time < 3.0 mg/L (Hours)	Average Daily Amount of Time < 5.0 mg/L (Hours)	Average Daily Amount of Time < 6.0 mg/L (Hours)	Average Saturation (%)	Minimum Saturation (%)	Maximum Saturation (%)
Myst2	W1973	Mystic River	71-0167	Flowing	07/31/09	118.5	5.7	4.1	7.1	0.0	15.9	80.4	0.0	0.7	14.5	70	51	88
Myst2	W1973	Mystic River	71-0219	Flowing	09/04/09	120.5	5.3	4.5	6.0	0.0	26.0	119.4	0.0	6.5	23.7	61	51	69
Myst3	W1975	Mystic River	71-0075	Flowing	06/26/09	121.5	7.2	3.6	10.1	0.0	3.4	21.0	0.0	0.8	3.7	84	41	117
Myst3	W1975	Mystic River	71-0168	Flowing	07/31/09	118.5	6.6	2.8	10.8	0.5	7.7	33.5	0.1	0.4	6.5	81	34	135
Myst3	W1975	Mystic River	71-0220	Flowing	09/04/09	120.5	8.2	6.4	10.0	0.0	0.0	0.0	0.0	0.0	0.0	95	73	117
Spell1	W1978	Unnamed Tributary	71-0077	Flowing	06/26/09	81.5	7.7	6.1	8.7	0.0	0.0	0.0	0.0	0.0	0.0	84	68	102
Spell1	W1978	Unnamed Tributary	71-0170	Flowing	07/31/09	0.0	--	--	--	--	--	--	--	--	--	--	--	--
Spell1	W1978	Unnamed Tributary	71-0222	Flowing	09/04/09	120.0	8.2	7.4	9.7	0.0	0.0	0.0	0.0	0.0	0.0	88	78	110

Table 12: 2009 MassDEP Mystic River Watershed continuous temperature deploy data

Station ID	Unique ID	Water Body	OWMID	Start Date	End Date	Total Deployment (Hours)	Average (deg. C)	Standard Deviation	Minimum (deg. C)	Maximum (deg. C)	Mean of the Daily Max (deg. C)	Range of 7-Day Avg of the Daily Max (deg. C)	Maximum Weekly Average Temperature (deg. C)	Amount of Time > 20 deg. C (Hours)	Amount of Time > 28.3 deg. C (Hours)	Average Daily Amount of Time > 20 deg. C (Hours)	Average Daily Amount of Time > 28.3 deg. C (Hours)
Aber1	W1979	Aberjona River	71-0104	7/09/09	9/09/09	1486.0	21.7	2.7	15.6	27.6	24.1	21.3-27.2	25.3	1060.3	0.0	17.4	0.0
ABR006	W1965	Aberjona River	71-0105	7/09/09	9/09/09	1486.0	21.9	2.3	17.2	27.2	23.2	20.1-26.2	25.3	1121.1	0.0	18.4	0.0
ALB007	W1969	Alewife Brook	71-0106	7/09/09	9/09/09	1486.5	22.1	2.3	16.4	26.8	24.0	21.0-26.5	25.2	1162.2	0.0	18.9	0.0
MAR036	W1967	Malden River	71-0108	7/10/09	9/08/09	1127.5	25.1	2.6	17.9	30.7	26.9	24.5-29.7	28.2	1076.1	102.3	22.9	2.1
MEB001	W1968	Unnamed Tributary	71-0107	7/09/09	9/16/09	1653.5	16.2	1.3	13.5	25.3	17.4	15.1-20.0	17.8	28.6	0.0	0.4	0.0
Myst2	W1973	Mystic River	71-0098	6/26/09	9/09/09	1801.5	23.2	2.1	18.3	28.2	24.0	21.1-27.7	27.0	1731.3	0.0	23.1	0.0
Myst3	W1975	Mystic River	71-0101	6/26/09	9/09/09	1801.0	23.7	2.3	19.4	29.0	24.6	21.7-28.5	27.7	1766.3	14.6	23.5	0.2

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Appendix 1: 2009 Data Symbols and Qualifiers

Excerpted from: Water Quality Data Validation Report for Year 2009 Project Data (CN 362.0)

The following data qualifiers or symbols are used in the MADEP/DWM WQD database for qualified and censored water quality and multi-probe data. Decisions regarding censoring vs. qualification for specific, problematic data are made based on a thorough review of all pertinent information related to the data. Data qualifiers reported by laboratories are typically either directly-transferable to DWM data (e.g., "H" for holding time violation) or indirectly-transferable, where the qualifier symbol is transformed to conform to DWM's qualifier list (e.g., "R" qualifier used by a lab to reject data due to poor QC results is transformed to "a").

General Symbols (applicable to all types):

" ## " = Censored data (i.e., data that has been discarded for some reason).

" ** " = Missing data (i.e., data that should have been reported).

" -- " = No data (i.e., data not taken/not required)

" ^^ " = No data due to no water

Multi-probe-specific Qualifiers:

" i " = inaccurate readings from Multi-probe likely; may be due to significant pre-survey calibration problems, post-survey checks outside typical acceptance ranges for the low ionic and deionized water checks, lack of calibration of the depth sensor prior to use, or to checks against laboratory analyses. Where documentation on unit pre-calibration is lacking, but SOPs at the time of sampling dictated pre-calibration prior to use, then data are considered potentially inaccurate.

" m " = method not followed; one or more protocols contained in the DWM Multi-probe SOP not followed, ie. operator error (eg. less than 3 readings per station (rivers) or per depth (lakes), or instrument failure not allowing method to be implemented.

" s " = field sheet recorded data were used to accept data, not data electronically recorded in the Multi-probe surveyor unit, due to operator error or equipment failure.

" u " = unstable readings, due to lack of sufficient equilibration time prior to final readings, non-representative location, highly-variable water quality conditions, etc. See Section 4.1 for acceptance criteria.

" c " = greater than calibration standard used for pre-calibration, or outside the acceptable range about the calibration standard. Typically used for conductivity (>718, 1,413, 2,760, 6,668 or 12,900 uS/cm) or turbidity (>10, 20 or 40 NTU). It can also be used for TDS and Salinity calculations based on qualified ("c") conductivity data, or that the calculation was not possible due to censored conductivity data (TDS and Salinity are calculated values and entirely based on conductivity reading). See Section 4.1 for acceptance criteria.

" r " = data not representative of actual field conditions.

" t " = tidal conditions

Sample-Specific Qualifiers:

" a " = accuracy as estimated at WES Lab via matrix spikes, PT sample recoveries, internal check standards and lab-fortified blanks did not meet project data quality objectives identified for program or in QAPP.

" b " = blank Contamination in lab reagant blanks and/or field blank samples (indicating possible bias high and false positives).

“ d ” = precision of field duplicates (as RPD) did not meet project data quality objectives identified for program or in QAPP. Batched samples may also be affected.

“ e ” = not theoretically possible. Specifically, used for bacteria data where colonies per unit volume for e-coli bacteria > fecal coliform bacteria, for lake Secchi and station depth data where a specific Secchi depth is greater than the reported station depth, and for other incongruous or conflicting results.

“ f ” = frequency of quality control duplicates did not meet data quality objectives identified for program or in QAPP.

“ h ” = holding time violation (usually indicating possible bias low)

“ j ” = ‘estimated’ value; used for lab-related issues where certain lab QC criteria are not met and re-testing is not possible (as identified by the WES lab only). Also used to report sample data where the sample concentration is less than the ‘reporting’ limit or RDL and greater than the method detection limit or MDL (mdl< x <rdl). Also used to note where values have been reported at levels less than the mdl.

“ m ” = method SOP not followed, only partially implemented or not implemented at all, due to complications with sample matrix (eg. sediment in sample, floc formation), lab error (eg. cross-contamination between samples), additional steps taken by the lab to deal with matrix complications, lost/unanalyzed samples, and missing data.

“ p ” = samples not preserved per SOP or analytical method requirements.

“ r ” = samples collected may not be representative of actual field conditions, including the possibility of “outlier” data and flow-limited conditions (e.g., pooled).

“ t ” = tidal conditions