Technical Memorandum

NARRAGANSETT / MOUNT HOPE BAY WATERSHED 2009
DWM WATER QUALITY MONITORING DATA

July 2013

Massachusetts Department of Environmental Protection
Division of Watershed Management
DWM Control Number CN 342.1

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
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Introduction

The purpose of this technical memorandum is to publish water quality data collected in the Narragansett/Mount Hope Bay Watershed as part of the Massachusetts Department of Environmental Protection (MassDEP), Division of Watershed Management (DWM) programmatic monitoring (MassDEP 2005a). The Narragansett / Mount Hope Bay Watershed water quality surveys were conducted between the months of May and September in 2009. Water quality samples were analyzed for nutrients and other conventional pollutants, bacteria (*Escherichia coli*), as well as dissolved oxygen and other field measurements. The aquatic macroinvertebrate and fish community data are published in separate technical memoranda.

Project Objectives

The 2009 surveys of the Narragansett/Mount hope bay Watershed focused on obtaining information to meet the following objectives (MassDEP 2010):

- Collect chemical data to document the current status of water quality conditions within the watersheds;
- Provide biological, habitat, and dissolved oxygen, temperature, and chemical data to DWM's Watershed Assessment Program to be used in making *Aquatic Life* and *Aesthetics* use assessments required by Section 305(b) of the Clean Water Act; and to 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 Recreation* uses; and
- Provide data to the Massachusetts Department of Public Health (MDPH) for public health risk assessment related to fish tissue contaminants (metals, polychlorinated biphenyls (PCBs) and pesticides).

Sampling Plan

Water quality surveys were conducted a total of six times (May 12th, June 16th, July 12th, August 25th, September 17th, and September 29th). Grab samples for total phosphorus, total nitrogen, and ammonia-nitrogen were collected at 16 stations. Color, turbidity, and *E. coli* bacteria samples were collected at a total of 17 stations. Attended multi-probes (measuring dissolved oxygen, temperature, pH, conductivity, and total dissolved solids), and deployed multi-probes (measuring dissolved oxygen and temperature) were employed at 16 stations. Deployed multi-probes were deployed during the months of May, June, July, and August. Continuous temperature loggers were deployed at five stations (MassDEP 2009).

Table 1 and Figure 1 provide details and locations of the 2009 sampling sites.

Field and Analytical Methods

Procedures used for water quality sampling and sample handling are described in CN 1.21 - Sample Collection Techniques for DWM Surface Water Quality Monitoring (MassDEP 2004). The Wall Experiment Station (WES) 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 used for multi-probe calibration and deployment are described in CN 4.21 - Water Quality Multiprobe Data Collection (MassDEP 2005b) and CN 4.41 - Multi-Probe Sonde Deployments for Continuous Unattended Water Quality Data Collection (MassDEP 2007).

Concurrent with the collection of water quality samples, site characteristics and sampling conditions were recorded on DWM field sheets. Riparian vegetation, observed uses (e.g. swimming, boating, fishing), 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.

Quality Assurance (QA) and Quality Control (QC)

Quality assurance and quality control procedures used in collecting samples and measurements were consistent with the prevailing DWM protocols that are described in CN 1.21 - Sample Collection Techniques for DWM Surface Water Quality Monitoring (MassDEP 2004), CN 4.21 - Water Quality Multiprobe Data Collection (MassDEP 2005b) and CN 4.41 - Multi-Probe Sonde Deployments for Continuous Unattended Water Quality Data Collection (MassDEP 2007).

The DWM quality assurance and database management staff reviewed laboratory data reports and all multi-probe data. The data were validated and finalized per the following data validation procedures:

CN 56.4 - *File Processing and Data Validation for ATTENDED Water Quality Probe Data* (MassDEP 2012a),

CN 56.5 - *File Processing and Data Validation for UNATTENDED Water Quality Probe Data* (MassDEP 2012b), and

CN 56.6 - *Water Quality Data Processing and Validation - Laboratory Data* (MassDEP 2012c).

All water quality sample data were validated by reviewing QC sample results, analytical holding time compliance, QC sample frequency and related ancillary data/documentation (at a minimum). A complete summary of the data review process for all 2008 DWM data is provided in CN 362.0 – Water Quality Data Validation Report for Year 2009 Project Data (MassDEP 2013). Appendix 1 of this technical memorandum contains definitions for all data qualifiers.

Table 1. MassDEP DWM 2009 Narragansett / Mount Hope Bay Watershed sampling station descriptions, sampling parameters and frequency.

Station	Unique ID	Waterbody	Station Description	Latitude	Longitude	Nutrients	*E. coli* Bacteria	Color / Turbidity	Deployed Multiprobe	Attended Multiprobe	Deployed Thermistor
Crun1	W0622	Clear Run Brook	Providence Street, Rehoboth	41.81022	-71.29169	5	6	5	4	8	0
WPalm1	W0624	West Branch (Palmer River)	Carpenter Street, Rehoboth	41.85489	-71.25597	5	6	5	4	9	1
Oak1	W0637	Oak Swamp Brook	upstream of the unnamed tributary on eastern shore at Providence Street, Rehoboth	41.79498	-71.25266	5	6	5	4	8	0
Rock1	W0638	Rocky Run	at power lines crossing Davis Street, Rehoboth.	41.78162	-71.25043	5	6	5	4	8	0
Cole1	W0641	Cole River	outlet of Milford Pond at Milford Road, Swansea	41.75038	-71.20393	0	0	0	4	8	0
Run1	W0651	Runnins River	School Street, Seekonk	41.78838	-71.32952	0	6	1	4	8	0
Lew1	W0654	Lewin Brook	Robin Brook Road, Swansea	41.76695	-71.18553	5	6	5	4	8	0
Cole2	W0661	Cole River	Hortonville Road, Swansea	41.77539	-71.19881	5	6	5	4	9	1
Palm1	W0665	Palmer River	Wilmarth Bridge Road, Rehoboth	41.83349	-71.27765	5	6	5	4	9	1
WPalm2	W1954	West Branch (Palmer River)	Ash Street, Rehoboth	41.88730	-71.25756	5	6	5	0	0	0
Run2	W1955	Runnins River	Arcade Avenue, Seekonk	41.83067	-71.32971	5	6	5	4	8	0
Full1	W1956	Fullers Brook	Winthrop Street (Route 44), Rehoboth	41.83505	-71.28898	5	6	5	4	8	0
Blis1	W1957	Bliss Brook	Ash Street, Rehoboth	41.88522	-71.26498	5	6	5	0	0	0
EPalm1	W1958	East Branch (Palmer River)	at the Beckwith Middle School outdoor classroom, approximately 720 feet downstream from the Winthrop Street (Route 44) crossing nearest river mouth, Rehoboth	41.84689	-71.25552	5	6	5	4	9	1
Bad1	W1959	Bad Luck Brook	Elm Street, Rehoboth	41.83866	-71.23264	5	6	5	4	9	1
Tor1	W1960	Torrey Creek	off the Old Barney Avenue culdesac, approximately 170 feet upstream from Barney Avenue, Rehoboth	41.78126	-71.28902	5	6	5	4	8	0
Kick1	W1961	Kickamuit River	Bushee Road, Swansea	41.74691	-71.25130	5	6	5	4	8	0
Que1	W1962	Quequechan River	at culvert entrance southeast of the intersection of Routes 81 and 195, Fall River	41.69633	-71.14860	5	6	5	4	8	0

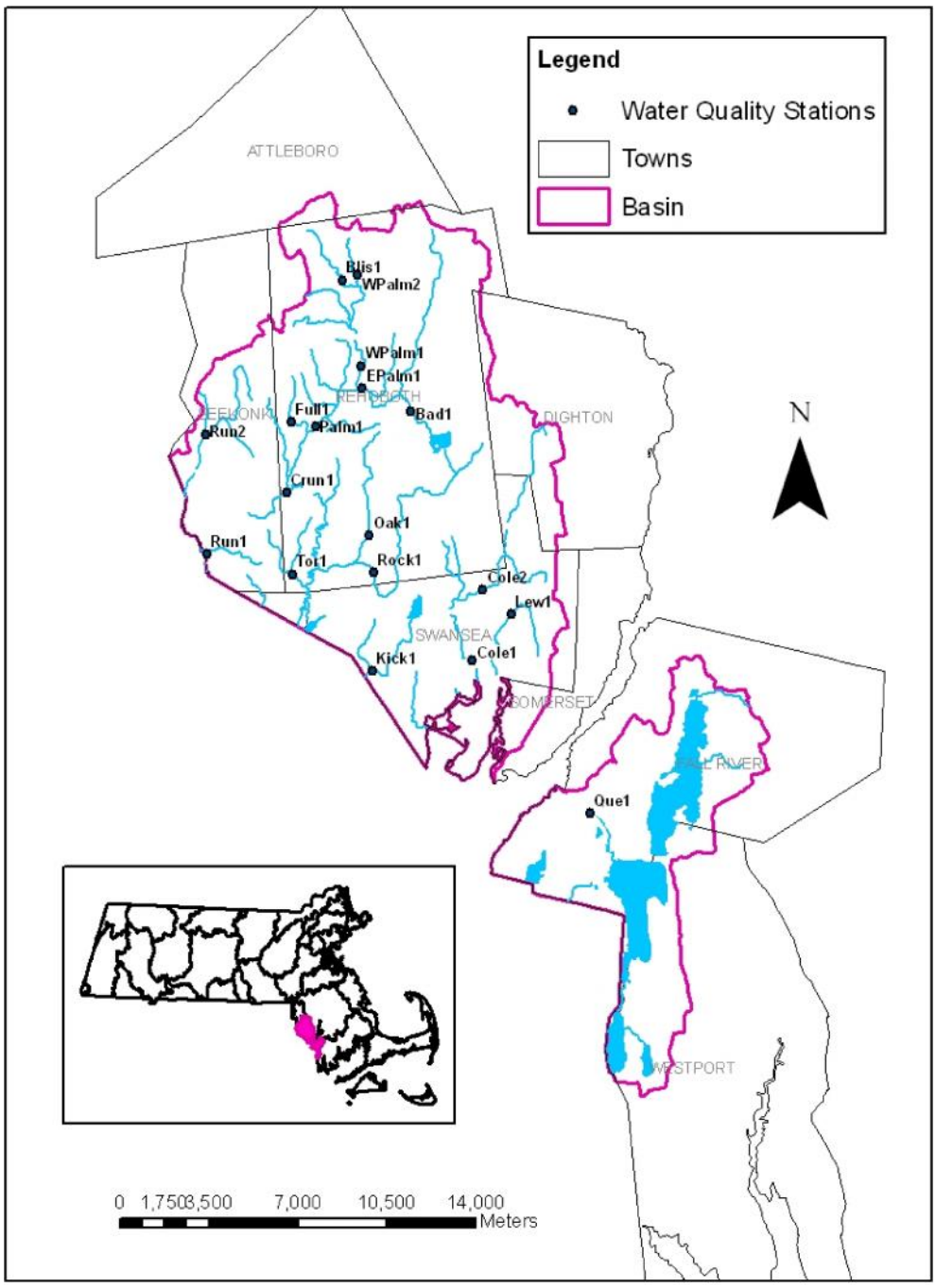

Figure 1. MassDEP DWM 2009 Narragansett / Mount Hope Watershed Sampling Locations

Survey Conditions

Precipitation and stream discharge data were collected to estimate hydrological conditions during the 2009 water quality surveys in the Narragansett / Mount Hope Bay Watershed. 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 the Taunton Municipal Airport (Station 54777) weather station (NOAA 2013). The precipitation totals on the water quality survey dates and the five days prior to the survey dates were extracted from the records. In addition, the monthly precipitation totals for 2009 and the 20-year monthly means for the weather station were downloaded to determine if precipitation amounts in 2009 were above or below normal (Table 2).

Table 2. 2009 Monthly precipitation (in inches) and 20-year monthly mean precipitation (in inches) at Taunton Municipal Airport (Station 54777). (NOAA 2013).

Month	2009 Monthly	20-year Monthly Mean
January	3.95	3.93
February	1.66	3.40
March	3.00	4.81
April	5.76	4.49
May	3.05	4.15
June	4.41	3.72
July	8.31	3.93
August	4.15	3.62
September	2.38	3.97
October	7.26	3.85
November	3.22	4.51
December	5.19	4.38
TOTAL	**52.34**	**48.76**

Stream discharge data from the most proximal United States Geological Survey (USGS) stream gage station (Table 3) were downloaded from the USGS (USGS 2013a). The station was Gage 01109060 Threemile River at North Dighton, MA. In addition to the daily mean discharge data for 2009, the Period of Record (POR) daily mean discharge for the gage station was downloaded from the USGS website. Descriptions of this gage and the data compiled are included in Table 3 (USGS 2013b). The percent comparison of the observed 2009 discharge to the POR discharge allows for an historical perspective, and a comparison to “expected” discharge. Stream discharge data and precipitation data (Table 4) are provided for the five days prior to sample collection.

Table 3. Description of USGS stream gaging station from which the 2009 Daily Mean Discharge and Period of Record (POR) were obtained (USGS 2013a, USGS 2013b).

Station Name	Location	Period of Record	7Q10 (cfs)	Remarks
USGS 01109060 Threemile River at North Dighton, MA	41°51’58" -71°07’24"	1966 to Present	2.9	Flow regulated by Lake Mirimichi and other lakes and reservoirs upstream. Diversion to and from basin upstream for municipal supplies.

Table 4. Precipitation totals (inches) and daily mean discharge (cfs) for five days prior to and upon each DWM 2009 Narragansett / Mount Hope Bay Watershed survey date (NOAA 2013, USGS 2013a).

Date	Rain* (Inches)	2009 Daily Mean Flow (cfs)	POR Daily Mean Flow (cfs)	Percent of POR Daily Mean Flow (%)	Water Quality Sample Collected	Group 1 Multiprobes Deployed	Group 2 Multiprobes Deployed
5/3/2009	0.07	149	209	71			
5/4/2009	0.01	143	210	68			
5/5/2009	0.88	166	207	80			
5/6/2009	0.43	243	202	120			
5/7/2009	0.53	303	197	154			
5/8/2009	0.01	326	194	168		X	
5/9/2009	0.07	319	190	168		X	
5/10/2009	0	280	194	144		X	
5/11/2009	0	240	203	118			X
5/12/2009	T	196	206	95	X		X
5/13/2009	0	164	201	82			X
6/7/2009	T	53	182	29			
6/8/2009	T	47	198	24			
6/9/2009	0.19	44	190	23			
6/10/2009	0.01	44	172	26			
6/11/2009	T	44	157	28			
6/12/2009	0.46	55	146	38		X	
6/13/2009	T	67	142	47		X	
6/14/2009	0.4	72	159	45		X	
6/15/2009	0.01	77	181	43			X
6/16/2009	0.01	72	175	41	X		X
6/17/2009	0	62	156	40			X
7/12/2009	0.29	244	54	452			
7/13/2009	T	233	53	440			
7/14/2009	0	229	56	409			
7/15/2009	0	191	57	335			
7/16/2009	T	155	53	292			
7/17/2009	0.17	132	54	244		X	
7/18/2009	0.7	181	53	342		X	
7/19/2009	0	164	51	322		X	
7/20/2009	0	143	48	298			X
7/21/2009	0.97	141	46	307	X		X
7/22/2009	0	166	44	377			X
8/16/2009	0.01	58	69	84			
8/17/2009	0	52	62	84			
8/18/2009	0	45	58	78			
8/19/2009	0	39	57	68			
8/20/2009	0	36	58	62			
8/21/2009	0	33	55	60		X	
8/22/2009	0	35	52	67		X	
8/23/2009	0.5	37	48	77		X	
8/24/2009	0.52	33	44	75			X

Table 4. Precipitation totals (inches) and daily mean discharge (cfs) for five days prior to and upon each DWM 2009 Narragansett / Mount Hope Bay Watershed survey date (NOAA 2013, USGS 2013a).

Date	Rain* (Inches)	2009 Daily Mean Flow (cfs)	POR Daily Mean Flow (cfs)	Percent of POR Daily Mean Flow (%)	Water Quality Sample Collected	Group 1 Multiprobes Deployed	Group 2 Multiprobes Deployed
8/25/2009	0	33	42	79	X		X
8/26/2009	0.01	33	42	79			X
9/12/2009	0.67	36	40	90			
9/13/2009	0.56	60	38	158			
9/14/2009	0	52	39	133			
9/15/2009	0.01	47	43	109			
9/16/2009	0.02	41	47	87			
9/17/2009	T	36	46	78	X		
9/18/2009	0.01	33	49	67			
9/19/2009	0	29	52	56			
9/20/2009	0	24	59	41			
9/21/2009	0	23	59	39			
9/22/2009	0.01	23	61	38			
9/23/2009	T	22	61	36			
9/24/2009	0	21	59	36			
9/25/2009	0	20	57	35			
9/26/2009	0	18	61	30			
9/27/2009	0.5	20	65	31			
9/28/2009	0.16	24	65	37			
9/29/2009	0.14	29	67	43	X		

* T = Trace amount of rain detected

Station Observations

Station observations were recorded on field sheets for each survey by a DWM investigator. Station observations are described below in Table 5 for each sampling event.

Water Quality Data

All MassDEP DWM water quality data are managed and maintained in the Water Quality Data Access Database (WQD). Tables 6 – 10 below provide the 2009 Narragansett / Mount Hope Bay Watershed water quality data. The procedures used to accept, accept with qualification, or censor data are based on the DWM Standard Operating Procedures (SOP) for data validation and usability (MassDEP 2012a, MassDEP 2012b, MassDEP 2012c, and MassDEP 2013) and are in addition to separate quality assurance activities and laboratory validation steps undertaken by the WES. Definitions for the data qualifiers are provided in Appendix 1.

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

S=sparse (0-25%, M=moderate (25-50%), D=dense (50-75%), VD=very dense (75-100%), N=none, U=unobservable, NA=not recorded, NP=not applicable – probe deploy field sheet)

Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Crun1	W0622	05/08/09	N	Slightly Turbid	Yellow/Tan	N/A (Probe Deployment)								
Crun1	W0622	05/12/09	N	Clear	Brownish	Sparse	NR	S	NR	NR	No		Yes	Trash
Crun1	W0622	06/12/09	U	U	U	N/A (Probe Deployment)								
Crun1	W0622	06/16/09	Swamp	Slightly Turbid	Yellow/Tan	Dense	N	N	N	N	Yes	Oily sheens	No	
Crun1	W0622	07/17/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Crun1	W0622	07/21/09	N	Mod. Turbid	Yellow/Tan	U	U	U	U	U	No		No	
Crun1	W0622	08/21/09	U	Mod. Turbid	Brownish	N/A (Probe Deployment)								
Crun1	W0622	08/25/09	N	Clear	Clear	Very Dense	N	N	N	N	No		No	
Crun1	W0622	09/17/09	N	Clear	Yellow/Tan	Moderate	N	N	N	N	No		No	
Crun1	W0622	09/29/09	N	Clear	Yellow/Tan	Moderate	NR	NR	M	NR	No		Yes	trash light
WPalm1	W0624	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
WPalm1	W0624	05/12/09	N	Clear	Brownish	N	N	N	N	N	No		No	
WPalm1	W0624	06/12/09	N	Clear	Reddish	N/A (Probe Deployment)								
WPalm1	W0624	06/16/09	N	Clear	Yellow/Tan	N	N	N	N	N	Yes	foam: minimal	No	
WPalm1	W0624	06/18/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
WPalm1	W0624	07/17/09	Musty	Clear	Yellow/Tan	N/A (Probe Deployment)								
WPalm1	W0624	07/21/09	N	Clear	Yellow/Tan	N	N	N	N	N	No		No	
WPalm1	W0624	08/21/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

S=sparse (0-25%, M=moderate (25-50%), D=dense (50-75%), VD=very dense (75-100%), N=none, U=unobservable, NA=not recorded, NP=not applicable – probe deploy field sheet)

Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
WPalm1	W0624	08/25/09	Fishy	Clear	Yellow/Tan	N	N	N	N	N	No		No	
WPalm1	W0624	09/17/09	N	Clear	Yellow/Tan	N	N	N	N	N	No		No	
WPalm1	W0624	09/29/09	N	Clear	Yellow/Tan	N	NR	NR	S	NR	No		No	
Oak1	W0637	05/11/09	N	Clear	Reddish	N/A (Probe Deployment)								
Oak1	W0637	05/12/09	N	Clear	Brownish	N	N	N	N	N	No		Yes	trash
Oak1	W0637	06/15/09	N	Clear	Reddish	N/A (Probe Deployment)								
Oak1	W0637	06/16/09	N	Clear	Reddish	N	N	N	N	N	No		No	
Oak1	W0637	07/20/09	Musty	Slightly Turbid	Reddish	N/A (Probe Deployment)								
Oak1	W0637	07/21/09	N	Clear	Brownish	U	U	U	U	U	No		No	
Oak1	W0637	08/24/09	N	Slightly Turbid	Reddish	N/A (Probe Deployment)								
Oak1	W0637	08/25/09	N	Clear	Reddish	N	N	N	N	N	No		No	
Oak1	W0637	09/17/09	N	Clear	Brownish	N	N	N	N	N	Yes	oily sheens: natural sheen?	No	
Oak1	W0637	09/29/09	N	Clear	Yellow/Tan	Dense	N	N	N	N	No		Yes	trash light
Rock1	W0638	05/11/09	U	Clear	Reddish	N/A (Probe Deployment)								
Rock1	W0638	05/12/09	N	Slightly Turbid	Brownish	Moderate	S	NR	NR	NR	No		No	
Rock1	W0638	06/15/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Rock1	W0638	06/16/09	N	Slightly Turbid	Reddish	Sparse	N	N	N	S	No		No	

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

S=sparse (0-25%, M=moderate (25-50%), D=dense (50-75%), VD=very dense (75-100%), N=none, U=unobservable, NA=not recorded, NP=not applicable – probe deploy field sheet)

Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Rock1	W0638	07/20/09	U	Clear	Brownish	N/A (Probe Deployment)								
Rock1	W0638	07/21/09	N	Clear	Yellow/Tan	U	U	U	U	U	No		No	
Rock1	W0638	08/24/09	U	Clear	Yellow/Tan	N/A (Probe Deployment)								
Rock1	W0638	08/25/09	N	Clear	Brownish	NR	NR	NR	NR	M	No		No	
Rock1	W0638	09/17/09	N	Clear	Brownish	U	U	U	U	U	No		No	
Rock1	W0638	09/29/09	N	Slightly Turbid	Yellow/Tan	N	N	N	N	N	No		Yes	trash, other: woody debris from mowing
Cole1	W0641	05/11/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Cole1	W0641	05/12/09	Iced tea	Slightly Turbid	Brownish	Moderate	M	NR	NR	NR	Yes	Pollen/dust blankets	No	
Cole1	W0641	06/15/09	U	U	Reddish	N/A (Probe Deployment)								
Cole1	W0641	06/16/09	N	Mod. Turbid	Brownish	Sparse	N	N	N	N	No		No	
Cole1	W0641	07/20/09	U	Clear	Brownish	N/A (Probe Deployment)								
Cole1	W0641	07/21/09	N	Clear	Brownish	U	U	U	U	U	NR		Yes	trash: light trash
Cole1	W0641	08/24/09	U	Clear	Reddish	N/A (Probe Deployment)								
Cole1	W0641	08/25/09	N	Clear	Yellow/Tan	Moderate	N	N	N	N	No		No	
Cole1	W0641	09/17/09	N	Clear	Yellow/Tan	Sparse	U	U	U	U	No		Yes	trash
Cole1	W0641	09/29/09	Rotting	Clear	Brownish	Moderate	NR	S	NR	NR	No		Yes	trash

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
			Vegetables											light
Run1	W0651	05/08/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Run1	W0651	05/12/09	NR	Slightly Turbid	Brownish	Moderate	S	NR	NR	NR	No		Yes	Trash
Run1	W0651	06/12/09	U	U	U	N/A (Probe Deployment)								
Run1	W0651	06/16/09	N	Slightly Turbid	Yellow/Tan	Dense	N	N	N	N	No		No	
Run1	W0651	07/17/09	N	Slightly Turbid	Brownish	N/A (Probe Deployment)								
Run1	W0651	07/21/09	N	Mod. Turbid	Brownish	Moderate	U	U	U	U	No		No	
Run1	W0651	08/21/09	U	Mod. Turbid	NR	N/A (Probe Deployment)								
Run1	W0651	08/25/09	Petroleum	Highly Turbid	Brownish	Dense	N	N	N	N	No		Yes	trash
Run1	W0651	09/17/09	N	Clear	Yellow/Tan	Dense	U	U	U	U	No		No	
Run1	W0651	09/29/09	N	Mod. Turbid	Yellow/Tan	Moderate	U	U	U	U	No		Yes	trash light
Lew1	W0654	05/11/09	NR	Clear	Yellow/Tan	N/A (Probe Deployment)								
Lew1	W0654	05/12/09	Musty	Clear	Yellow/Tan	Sparse	S	S	NR	NR	No		No	
Lew1	W0654	06/15/09	N	Clear	Reddish	N/A					N/A		N/A	
Lew1	W0654	06/16/09	N	Slightly Turbid	Yellow/Tan	Sparse	N	N	N	S	No		Yes	Trash; minimal.
Lew1	W0654	07/20/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Lew1	W0654	07/21/09	N	Clear	Yellow/Tan	Moderate	N	N	N	N	No		No	

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Lew1	W0654	08/24/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Lew1	W0654	08/25/09	N	Clear	Brownish	Moderate	N	N	N	N	No		No	
Lew1	W0654	09/17/09	N	Clear	Yellow/Tan	Sparse	S	NR	NR	M	No		No	
Lew1	W0654	09/29/09	N	Clear	Yellow/Tan	N	S	NR	NR	M	No		No	
Cole2	W0661	05/11/09	Musty	Clear	Reddish	N/A (Probe Deployment)								
Cole2	W0661	05/12/09	N	Clear	Brownish	Sparse	NR	NR	NR	M	Yes	Foam; natural.	No	
Cole2	W0661	06/15/09	Musty	Clear	Reddish	N/A (Probe Deployment)								
Cole2	W0661	06/16/09	N	Slightly Turbid	Reddish	Moderate	N	N	N	D	Yes	foam	No	
Cole2	W0661	06/18/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Cole2	W0661	07/20/09	N	Clear	Reddish	N/A (Probe Deployment)								
Cole2	W0661	07/21/09	N	Clear	Brownish	Sparse	N	N	N	N	No		No	
Cole2	W0661	08/24/09	N	Clear	Reddish	N/A (Probe Deployment)								
Cole2	W0661	08/25/09	N	Slightly Turbid	Reddish	Moderate	N	N	N	N	No		No	
Cole2	W0661	09/17/09	N	Clear	Rusty	NR	NR	NR	NR	VD	No		No	
Cole2	W0661	09/29/09	N	Clear	Yellow/Tan	N	NR	S	NR	M	No		Yes	trash light
Palm1	W0665	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
Palm1	W0665	05/12/09	N	Clear	Brownish	U	U	U	U	U	No		No	
Palm1	W0665	06/12/09	U	Clear	Reddish	N/A (Probe Deployment)								
Palm1	W0665	06/16/09	Wetland	Slightly Turbid	Yellow/Tan	Sparse	N	N	N	N	No		No	
Palm1	W0665	06/18/09	N	Clear	Reddish	N/A (Probe Deployment)								

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

S=sparse (0-25%, M=moderate (25-50%), D=dense (50-75%), VD=very dense (75-100%), N=none, U=unobservable, NA=not recorded, NP=not applicable – probe deploy field sheet)

Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Palm1	W0665	07/17/09	N	Clear	Reddish	N/A (Probe Deployment)								
Palm1	W0665	07/21/09	N	Slightly Turbid	Dark Tan	Sparse	N	N	N	N	No		No	
Palm1	W0665	08/21/09	N	Clear	Reddish	N/A (Probe Deployment)								
Palm1	W0665	08/25/09	N	Clear	Yellow/Tan	Sparse	N	N	N	N	No		No	
Palm1	W0665	09/17/09	N	Slightly Turbid	Reddish	Sparse	N	N	N	N	No		No	
Palm1	W0665	09/29/09	N	Clear	Clear	Sparse	NR	M	NR	NR	No		No	
WPalm2	W1954	05/12/09	N	Clear	Reddish	Sparse	NR	NR	NR	M	No		No	
WPalm2	W1954	06/16/09	N	Slightly Turbid	Yellow/Tan	Sparse	N	N	N	D	No		No	
WPalm2	W1954	07/21/09	N	Slightly Turbid	Yellow/Tan	Sparse	N	N	N	N	No		No	
WPalm2	W1954	08/25/09	Musty	Clear	Yellow/Tan	Moderate	NR	NR	S	NR	No		No	
WPalm2	W1954	09/17/09	N	Clear	Clear	N	N	N	N	D	No		No	
WPalm2	W1954	09/29/09	N	Clear	Clear	N	NR	M	NR	M	No		No	
Run2	W1955	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
Run2	W1955	05/12/09	Sewage	Clear	Reddish	Sparse	N	N	N	N	No		No	
Run2	W1955	06/12/09	U	Clear	Reddish	N/A (Probe Deployment)								
Run2	W1955	06/16/09	N	Slightly Turbid	Reddish	Sparse	N	N	N	N	No		No	
Run2	W1955	07/17/09	N	Clear	Reddish	N/A (Probe Deployment)								
Run2	W1955	07/21/09	N	Clear	Brownish	Sparse	N	N	N	N	No		No	
Run2	W1955	08/21/09	U	Slightly Turbid	Brownish	N/A (Probe Deployment)								

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Run2	W1955	08/25/09	N	Clear	Yellow/Tan	Sparse	N	N	N	N	No		No	
Run2	W1955	09/17/09	N	Clear	Rusty	Sparse	N	N	N	N	No		No	
Run2	W1955	09/29/09	N	Clear	Reddish	N	NR	S	NR	NR	No		Yes	trash light
Full1	W1956	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
Full1	W1956	05/12/09	N	Clear	Brownish	N	NR	NR	NR	NR	Yes		No	
Full1	W1956	06/12/09	N	Clear	Reddish	N/A (Probe Deployment)								
Full1	W1956	06/16/09	N	Slightly Turbid	Brownish	N	N	N	N	N	No		No	
Full1	W1956	07/17/09	Sulfide (rotten egg)	Mod. Turbid	Reddish	N/A (Probe Deployment)								
Full1	W1956	07/21/09	N	Slightly Turbid	Brownish	N	N	N	N	N	No		No	
Full1	W1956	08/21/09	N	Slightly Turbid	Reddish	N/A (Probe Deployment)								
Full1	W1956	08/25/09	NR	Mod. Turbid	Brownish	N	N	N	N	N	No		No	
Full1	W1956	09/17/09	N	Clear	Brownish	N	N	N	N	N	No		No	
Full1	W1956	09/29/09	N	Slightly Turbid	Yellow/Tan	N	N	N	N	N	No		Yes	trash light
Blis1	W1957	05/12/09	N	Clear	Brownish	N	NR	NR	NR	M	No		No	
Blis1	W1957	06/16/09	N	Clear	Brownish	N	N	N	N	S	No		No	
Blis1	W1957	07/21/09	N	Clear	Brownish	U	U	U	U	U	No		No	
Blis1	W1957	08/25/09	N	Slightly	Yellow/Tan	N	N	N	N	N	No		No	

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
				Turbid										
Blis1	W1957	09/17/09	N	Clear	Clear	Sparse	NR	NR	NR	S	No		No	
Blis1	W1957	09/29/09	N	Clear	Yellow/Tan	N	NR	NR	NR	S	No		No	
EPalm1	W1958	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
EPalm1	W1958	05/12/09	N	Clear	Reddish	Sparse	N	N	N	N	No		No	
EPalm1	W1958	06/12/09	N	Clear	Reddish	N/A (Probe Deployment)								
EPalm1	W1958	06/16/09	N	Clear	Reddish	Sparse	N	N	N	N	No		No	
EPalm1	W1958	06/18/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
EPalm1	W1958	07/17/09	N	Clear	Reddish	N/A (Probe Deployment)								
EPalm1	W1958	07/21/09	N	Clear	Reddish	Sparse	N	N	N	N	No		No	
EPalm1	W1958	08/21/09	N	Clear	Reddish	N/A (Probe Deployment)								
EPalm1	W1958	08/25/09	N	Clear	Yellow/Tan	N	N	N	N	N	No		No	
EPalm1	W1958	09/17/09	N	Clear	Rusty	N	N	N	N	N	No		No	
EPalm1	W1958	09/29/09	N	Clear	Yellow/Tan	N	N	N	N	N	No		No	
Bad1	W1959	05/08/09	N	Clear	Reddish	N/A (Probe Deployment)								
Bad1	W1959	05/12/09	N	Clear	Reddish	Sparse	NR	NR	NR	S	No		No	
Bad1	W1959	06/12/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Bad1	W1959	06/16/09	N	Clear	Brownish	Sparse	N	N	N	N	No		No	
Bad1	W1959	06/18/09	N	Clear	Reddish	N/A (Probe Deployment)								
Bad1	W1959	07/17/09	N	Clear	Reddish	N/A (Probe Deployment)								
Bad1	W1959	07/21/09	N	Clear	Reddish	N	N	N	N	N	No		No	
Bad1	W1959	08/21/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Bad1	W1959	08/25/09	N	Slightly Turbid	Brownish	N	NR	NR	NR	M	No		No	
Bad1	W1959	09/17/09	N	Clear	Brownish	N	NR	NR	NR	S	No		No	

Table 5. 2009 Field Observations from MassDEP DWM Narragansett / Mount Hope Bay Watershed river surveys.

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Bad1	W1959	09/29/09	N	Clear	Yellow/Tan	N	N	N	N	N	No		No	
Tor1	W1960	05/11/09	N	Clear	Reddish	N/A (Probe Deployment)								
Tor1	W1960	05/12/09	NR	Mod. Turbid	Greyish	Sparse	N	N	N	N	No		No	
Tor1	W1960	06/15/09	Musty	Slightly Turbid	Yellow/Tan	N/A (Probe Deployment)								
Tor1	W1960	06/16/09	N	Clear	Reddish	Moderate	N	N	N	N	No		No	
Tor1	W1960	07/20/09	N	Clear	Yellow/Tan	N/A (Probe Deployment)								
Tor1	W1960	07/21/09	N	Mod. Turbid	Brownish	U	U	U	U	U	No		No	
Tor1	W1960	08/24/09	salty	Mod. Turbid	Brownish	N/A (Probe Deployment)								
Tor1	W1960	08/25/09	stagnant	Highly Turbid	Brownish and greyish	Moderate	N	N	N	N	Yes	oily sheens, pollen/dust blankets	No	
Tor1	W1960	09/17/09	N	Slightly Turbid	Yellow/Tan	Sparse	U	U	U	U	No		No	
Tor1	W1960	09/29/09	N	Mod. Turbid	Yellow/Tan	Sparse	N	N	N	N	No		No	
Kick1	W1961	05/11/09	U	Clear	Clear	N/A (Probe Deployment)								
Kick1	W1961	05/12/09	N	Clear	Brownish	Moderate	NR	S	NR	NR	No		Yes	trash: and a filter sock.
Kick1	W1961	06/15/09	U	Clear	Yellow/Tan	N/A (Probe Deployment)								

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Kick1	W1961	06/16/09	Swamp	Slightly Turbid	Yellow/Tan	Sparse	N	N	N	N	No		No	
Kick1	W1961	07/20/09	U	Clear	Yellow/Tan	N/A (Probe Deployment)								
Kick1	W1961	07/21/09	N	U	Yellow/Tan	Dense	U	U	U	U	No		No	
Kick1	W1961	08/24/09	U	Clear	Yellow/Tan	N/A (Probe Deployment)								
Kick1	W1961	08/25/09	Rotting Vegetables	Clear	Brownish	Dense	N	N	N	N	No		No	
Kick1	W1961	09/17/09	NR	Clear	Clear	Dense	U	U	U	U	No		Yes	trash
Kick1	W1961	09/29/09	N	Clear	Yellow/Tan	Sparse	U	U	U	U	No		Yes	trash heavy
Que1	W1962	05/11/09	U	Clear	Brownish	N/A (Probe Deployment)								
Que1	W1962	05/12/09	N	Clear	Yellow/Tan	Dense	N	N	N	N	Yes	Pollen/ dust blankets.	Yes	Trash; in stream and along shore.
Que1	W1962	06/15/09	NR	NR	NR	N/A (Probe Deployment)								
Que1	W1962	06/16/09	N	Mod. Turbid	Clear	Sparse	S	N	N	N	Yes	Oily sheens, algal mat	Yes	trash: LOTS of trash.
Que1	W1962	07/20/09	Sulfide (rotten egg)	Slightly Turbid	Greyish	N/A (Probe Deployment)								
Que1	W1962	07/21/09	Rotting Vegetables	U	Clear	U	U	U	U	U	Yes	algal mat, foam	Yes	trash

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Station ID	Unique ID	Date	Odor	Water Clarity	Color	Aquatic Plants	Filamentous Algae	Film Algae	Loose Floc	Moss	Floating Scum	Floating Scum Comments	Objectionable Deposits	Objectionable Deposit Comments
Que1	W1962	08/24/09	U	Clear	Yellow/Tan	N/A (Probe Deployment)								
Que1	W1962	08/25/09	Rotting Vegetables	Highly Turbid	Brownish	Moderate	U	U	U	U	Yes	oily sheens, algal mat, other: trash	Yes	trash
Que1	W1962	09/17/09	N	Mod. Turbid	Brownish	Sparse	U	U	U	U	Yes		Yes	trash
Que1	W1962	09/29/09	Rotting Vegetables	Mod. Turbid	Brownish	Moderate	U	U	U	U	Yes	algal mat - green	Yes	trash heavy

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Crun1	W0622	53-0608	05/12/09	Ammonia-N	mg/L	0.05	
Crun1	W0622	53-0608	05/12/09	*E. coli*	CFU/100mL	180	
Crun1	W0622	53-0608	05/12/09	Total Nitrogen	mg/L	1.3	
Crun1	W0622	53-0608	05/12/09	Total Phosphorus	mg/L	0.20	
Crun1	W0622	53-0608	05/12/09	True Color	PCU	49	
Crun1	W0622	53-0608	05/12/09	Turbidity	NTU	4.2	
Crun1	W0622	53-0691	06/16/09	Ammonia-N	mg/L	0.05	
Crun1	W0622	53-0691	06/16/09	*E. coli*	CFU/100mL	290	
Crun1	W0622	53-0691	06/16/09	Total Nitrogen	mg/L	1.0	
Crun1	W0622	53-0691	06/16/09	Total Phosphorus	mg/L	0.28	
Crun1	W0622	53-0691	06/16/09	True Color	PCU	58	
Crun1	W0622	53-0691	06/16/09	Turbidity	NTU	6.4	
Crun1	W0622	53-0760	07/21/09	Ammonia-N	mg/L	0.09	
Crun1	W0622	53-0760	07/21/09	*E. coli*	CFU/100mL	660	
Crun1	W0622	53-0760	07/21/09	Total Nitrogen	mg/L	0.84	
Crun1	W0622	53-0760	07/21/09	Total Phosphorus	mg/L	0.31	
Crun1	W0622	53-0760	07/21/09	True Color	PCU	50	
Crun1	W0622	53-0760	07/21/09	Turbidity	NTU	5.5	
Crun1	W0622	53-0828	08/25/09	Ammonia-N	mg/L	0.12	
Crun1	W0622	53-0828	08/25/09	*E. coli*	CFU/100mL	410	
Crun1	W0622	53-0828	08/25/09	Total Nitrogen	mg/L	0.55	
Crun1	W0622	53-0828	08/25/09	Total Phosphorus	mg/L	0.18	
Crun1	W0622	53-0828	08/25/09	True Color	PCU	26	
Crun1	W0622	53-0828	08/25/09	Turbidity	NTU	4.0	
Crun1	W0622	53-0848	09/17/09	*E. coli*	CFU/100mL	600	a
Crun1	W0622	53-0873	09/29/09	Ammonia-N	mg/L	0.04	
Crun1	W0622	53-0873	09/29/09	*E. coli*	CFU/100mL	730	
Crun1	W0622	53-0873	09/29/09	Total Nitrogen	mg/L	0.83	
Crun1	W0622	53-0873	09/29/09	Total Phosphorus	mg/L	0.16	
Crun1	W0622	53-0873	09/29/09	True Color	PCU	22	
Crun1	W0622	53-0873	09/29/09	Turbidity	NTU	3.2	
WPalm1	W0624	53-0613	05/12/09	Ammonia-N	mg/L	<0.02	
WPalm1	W0624	53-0613	05/12/09	*E. coli*	CFU/100mL	10	
WPalm1	W0624	53-0613	05/12/09	Total Nitrogen	mg/L	0.55	
WPalm1	W0624	53-0613	05/12/09	Total Phosphorus	mg/L	0.021	
WPalm1	W0624	53-0613	05/12/09	True Color	PCU	150	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
WPalm1	W0624	53-0613	05/12/09	Turbidity	NTU	1.3	
WPalm1	W0624	53-0696	06/16/09	Ammonia-N	mg/L	0.02	
WPalm1	W0624	53-0696	06/16/09	*E. coli*	CFU/100mL	20	
WPalm1	W0624	53-0696	06/16/09	Total Nitrogen	mg/L	0.62	
WPalm1	W0624	53-0696	06/16/09	Total Phosphorus	mg/L	0.029	
WPalm1	W0624	53-0696	06/16/09	True Color	PCU	120	
WPalm1	W0624	53-0696	06/16/09	Turbidity	NTU	2.8	
WPalm1	W0624	53-0765	07/21/09	Ammonia-N	mg/L	<0.02	
WPalm1	W0624	53-0765	07/21/09	*E. coli*	CFU/100mL	90	
WPalm1	W0624	53-0765	07/21/09	Total Nitrogen	mg/L	0.72	
WPalm1	W0624	53-0765	07/21/09	Total Phosphorus	mg/L	0.036	
WPalm1	W0624	53-0765	07/21/09	True Color	PCU	155	
WPalm1	W0624	53-0765	07/21/09	Turbidity	NTU	3.0	
WPalm1	W0624	53-0833	08/25/09	Ammonia-N	mg/L	<0.02	
WPalm1	W0624	53-0833	08/25/09	*E. coli*	CFU/100mL	60	
WPalm1	W0624	53-0833	08/25/09	Total Nitrogen	mg/L	0.60	
WPalm1	W0624	53-0833	08/25/09	Total Phosphorus	mg/L	0.021	
WPalm1	W0624	53-0833	08/25/09	True Color	PCU	55	
WPalm1	W0624	53-0833	08/25/09	Turbidity	NTU	1.0	
WPalm1	W0624	53-0853	09/17/09	*E. coli*	CFU/100mL	30	
WPalm1	W0624	53-0878	09/29/09	Ammonia-N	mg/L	<0.02	
WPalm1	W0624	53-0878	09/29/09	*E. coli*	CFU/100mL	90	
WPalm1	W0624	53-0878	09/29/09	Total Nitrogen	mg/L	0.37	
WPalm1	W0624	53-0878	09/29/09	Total Phosphorus	mg/L	0.014	
WPalm1	W0624	53-0878	09/29/09	True Color	PCU	31	
WPalm1	W0624	53-0878	09/29/09	Turbidity	NTU	1.5	
Oak1	W0637	53-0609	05/12/09	Ammonia-N	mg/L	<0.02	
Oak1	W0637	53-0609	05/12/09	*E. coli*	CFU/100mL	20	
Oak1	W0637	53-0609	05/12/09	Total Nitrogen	mg/L	1.1	
Oak1	W0637	53-0609	05/12/09	Total Phosphorus	mg/L	0.021	
Oak1	W0637	53-0609	05/12/09	True Color	PCU	300	
Oak1	W0637	53-0609	05/12/09	Turbidity	NTU	1.2	
Oak1	W0637	53-0692	06/16/09	Ammonia-N	mg/L	0.04	
Oak1	W0637	53-0692	06/16/09	*E. coli*	CFU/100mL	200	
Oak1	W0637	53-0692	06/16/09	Total Nitrogen	mg/L	1.1	
Oak1	W0637	53-0692	06/16/09	Total Phosphorus	mg/L	0.026	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Oak1	W0637	53-0692	06/16/09	True Color	PCU	290	
Oak1	W0637	53-0692	06/16/09	Turbidity	NTU	2.0	
Oak1	W0637	53-0761	07/21/09	Ammonia-N	mg/L	0.06	
Oak1	W0637	53-0761	07/21/09	*E. coli*	CFU/100mL	1180	
Oak1	W0637	53-0761	07/21/09	Total Nitrogen	mg/L	1.6	
Oak1	W0637	53-0761	07/21/09	Total Phosphorus	mg/L	0.054	
Oak1	W0637	53-0761	07/21/09	True Color	PCU	460	
Oak1	W0637	53-0761	07/21/09	Turbidity	NTU	9.7	
Oak1	W0637	53-0829	08/25/09	Ammonia-N	mg/L	0.07	
Oak1	W0637	53-0829	08/25/09	*E. coli*	CFU/100mL	70	
Oak1	W0637	53-0829	08/25/09	Total Nitrogen	mg/L	1.5	
Oak1	W0637	53-0829	08/25/09	Total Phosphorus	mg/L	0.033	
Oak1	W0637	53-0829	08/25/09	True Color	PCU	150	
Oak1	W0637	53-0829	08/25/09	Turbidity	NTU	4.3	
Oak1	W0637	53-0849	09/17/09	*E. coli*	CFU/100mL	20	a
Oak1	W0637	53-0874	09/29/09	Ammonia-N	mg/L	0.02	
Oak1	W0637	53-0874	09/29/09	*E. coli*	CFU/100mL	720	
Oak1	W0637	53-0874	09/29/09	Total Nitrogen	mg/L	1.0	
Oak1	W0637	53-0874	09/29/09	Total Phosphorus	mg/L	0.030	
Oak1	W0637	53-0874	09/29/09	True Color	PCU	115	
Oak1	W0637	53-0874	09/29/09	Turbidity	NTU	2.9	
Rock1	W0638	53-0605	05/12/09	Ammonia-N	mg/L	0.04	
Rock1	W0638	53-0605	05/12/09	*E. coli*	CFU/100mL	80	
Rock1	W0638	53-0605	05/12/09	Total Nitrogen	mg/L	0.90	
Rock1	W0638	53-0605	05/12/09	Total Phosphorus	mg/L	0.027	
Rock1	W0638	53-0605	05/12/09	True Color	PCU	360	
Rock1	W0638	53-0605	05/12/09	Turbidity	NTU	1.1	
Rock1	W0638	53-0688	06/16/09	Ammonia-N	mg/L	0.06	
Rock1	W0638	53-0688	06/16/09	*E. coli*	CFU/100mL	170	
Rock1	W0638	53-0688	06/16/09	Total Nitrogen	mg/L	1.0	
Rock1	W0638	53-0688	06/16/09	Total Phosphorus	mg/L	0.041	
Rock1	W0638	53-0688	06/16/09	True Color	PCU	330	
Rock1	W0638	53-0688	06/16/09	Turbidity	NTU	2.5	
Rock1	W0638	53-0757	07/21/09	Ammonia-N	mg/L	0.06	
Rock1	W0638	53-0757	07/21/09	*E. coli*	CFU/100mL	270	
Rock1	W0638	53-0757	07/21/09	Total Nitrogen	mg/L	1.2	
Rock1	W0638	53-0757	07/21/09	Total	mg/L	0.057	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
				Phosphorus			
Rock1	W0638	53-0757	07/21/09	True Color	PCU	440	
Rock1	W0638	53-0757	07/21/09	Turbidity	NTU	2.2	
Rock1	W0638	53-0825	08/25/09	Ammonia-N	mg/L	0.04	
Rock1	W0638	53-0825	08/25/09	*E. coli*	CFU/100mL	<10	
Rock1	W0638	53-0825	08/25/09	Total Nitrogen	mg/L	1.1	
Rock1	W0638	53-0825	08/25/09	Total Phosphorus	mg/L	0.062	
Rock1	W0638	53-0825	08/25/09	True Color	PCU	290	
Rock1	W0638	53-0825	08/25/09	Turbidity	NTU	3.5	
Rock1	W0638	53-0845	09/17/09	*E. coli*	CFU/100mL	50	a
Rock1	W0638	53-0870	09/29/09	Ammonia-N	mg/L	0.03	
Rock1	W0638	53-0870	09/29/09	*E. coli*	CFU/100mL	140	
Rock1	W0638	53-0870	09/29/09	Total Nitrogen	mg/L	1.0	
Rock1	W0638	53-0870	09/29/09	Total Phosphorus	mg/L	0.037	
Rock1	W0638	53-0870	09/29/09	True Color	PCU	160	
Rock1	W0638	53-0870	09/29/09	Turbidity	NTU	3.4	
Cole1	W0641	53-0600	05/12/09	Ammonia-N	mg/L	0.05	
Cole1	W0641	53-0600	05/12/09	*E. coli*	CFU/100mL	30	d
Cole1	W0641	53-0600	05/12/09	Total Nitrogen	mg/L	0.92	
Cole1	W0641	53-0600	05/12/09	Total Phosphorus	mg/L	0.073	
Cole1	W0641	53-0600	05/12/09	True Color	PCU	260	
Cole1	W0641	53-0600	05/12/09	Turbidity	NTU	1.9	
Cole1	W0641	53-0683	06/16/09	Ammonia-N	mg/L	0.07	
Cole1	W0641	53-0683	06/16/09	*E. coli*	CFU/100mL	20	d
Cole1	W0641	53-0683	06/16/09	Total Nitrogen	mg/L	1.2	
Cole1	W0641	53-0683	06/16/09	Total Phosphorus	mg/L	0.095	
Cole1	W0641	53-0683	06/16/09	True Color	PCU	230	
Cole1	W0641	53-0683	06/16/09	Turbidity	NTU	2.4	
Cole1	W0641	53-0752	07/21/09	Ammonia-N	mg/L	0.06	
Cole1	W0641	53-0752	07/21/09	*E. coli*	CFU/100mL	100	
Cole1	W0641	53-0752	07/21/09	Total Nitrogen	mg/L	1.2	
Cole1	W0641	53-0752	07/21/09	Total Phosphorus	mg/L	0.11	
Cole1	W0641	53-0752	07/21/09	True Color	PCU	280	
Cole1	W0641	53-0752	07/21/09	Turbidity	NTU	2.6	
Cole1	W0641	53-0820	08/25/09	Ammonia-N	mg/L	0.08	
Cole1	W0641	53-0820	08/25/09	*E. coli*	CFU/100mL	<10	
Cole1	W0641	53-0820	08/25/09	Total Nitrogen	mg/L	1.1	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Cole1	W0641	53-0820	08/25/09	Total Phosphorus	mg/L	0.14	
Cole1	W0641	53-0820	08/25/09	True Color	PCU	280	
Cole1	W0641	53-0820	08/25/09	Turbidity	NTU	2.9	
Cole1	W0641	53-0840	09/17/09	*E. coli*	CFU/100mL	20	a
Cole1	W0641	53-0865	09/29/09	Ammonia-N	mg/L	0.15	
Cole1	W0641	53-0865	09/29/09	*E. coli*	CFU/100mL	40	d
Cole1	W0641	53-0865	09/29/09	Total Nitrogen	mg/L	1.1	
Cole1	W0641	53-0865	09/29/09	Total Phosphorus	mg/L	0.095	
Cole1	W0641	53-0865	09/29/09	True Color	PCU	150	
Cole1	W0641	53-0865	09/29/09	Turbidity	NTU	3.0	
Run1	W0651	53-0607	05/12/09	*E. coli*	CFU/100mL	80	
Run1	W0651	53-0607	05/12/09	True Color	PCU	105	
Run1	W0651	53-0607	05/12/09	Turbidity	NTU	1.7	
Run1	W0651	53-0690	06/16/09	*E. coli*	CFU/100mL	190	
Run1	W0651	53-0759	07/21/09	*E. coli*	CFU/100mL	4590	
Run1	W0651	53-0827	08/25/09	*E. coli*	CFU/100mL	2540	
Run1	W0651	53-0847	09/17/09	*E. coli*	CFU/100mL	11060	a
Run1	W0651	53-0872	09/29/09	*E. coli*	CFU/100mL	920	
Run1	W0651	53-0872	09/29/09	True Color	PCU	21	
Run1	W0651	53-0872	09/29/09	Turbidity	NTU	3.3	
Lew1	W0654	53-0603	05/12/09	Ammonia-N	mg/L	<0.02	
Lew1	W0654	53-0603	05/12/09	*E. coli*	CFU/100mL	150	
Lew1	W0654	53-0603	05/12/09	Total Nitrogen	mg/L	0.66	
Lew1	W0654	53-0603	05/12/09	Total Phosphorus	mg/L	0.033	
Lew1	W0654	53-0603	05/12/09	True Color	PCU	115	
Lew1	W0654	53-0603	05/12/09	Turbidity	NTU	3.8	
Lew1	W0654	53-0686	06/16/09	Ammonia-N	mg/L	0.03	
Lew1	W0654	53-0686	06/16/09	*E. coli*	CFU/100mL	180	
Lew1	W0654	53-0686	06/16/09	Total Nitrogen	mg/L	0.81	
Lew1	W0654	53-0686	06/16/09	Total Phosphorus	mg/L	0.040	
Lew1	W0654	53-0686	06/16/09	True Color	PCU	130	
Lew1	W0654	53-0686	06/16/09	Turbidity	NTU	2.1	
Lew1	W0654	53-0755	07/21/09	Ammonia-N	mg/L	0.03	
Lew1	W0654	53-0755	07/21/09	*E. coli*	CFU/100mL	310	
Lew1	W0654	53-0755	07/21/09	Total Nitrogen	mg/L	0.86	
Lew1	W0654	53-0755	07/21/09	Total Phosphorus	mg/L	0.048	
Lew1	W0654	53-0755	07/21/09	True Color	PCU	135	
Lew1	W0654	53-0755	07/21/09	Turbidity	NTU	3.4	
Lew1	W0654	53-0823	08/25/09	Ammonia-N	mg/L	0.03	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Lew1	W0654	53-0823	08/25/09	*E. coli*	CFU/100mL	480	
Lew1	W0654	53-0823	08/25/09	Total Nitrogen	mg/L	0.73	
Lew1	W0654	53-0823	08/25/09	Total Phosphorus	mg/L	0.079	
Lew1	W0654	53-0823	08/25/09	True Color	PCU	105	
Lew1	W0654	53-0823	08/25/09	Turbidity	NTU	2.9	
Lew1	W0654	53-0843	09/17/09	*E. coli*	CFU/100mL	100	a
Lew1	W0654	53-0868	09/29/09	Ammonia-N	mg/L	<0.02	
Lew1	W0654	53-0868	09/29/09	*E. coli*	CFU/100mL	570	
Lew1	W0654	53-0868	09/29/09	Total Nitrogen	mg/L	0.58	
Lew1	W0654	53-0868	09/29/09	Total Phosphorus	mg/L	0.035	
Lew1	W0654	53-0868	09/29/09	True Color	PCU	66	
Lew1	W0654	53-0868	09/29/09	Turbidity	NTU	2.2	
Cole2	W0661	53-0604	05/12/09	Ammonia-N	mg/L	0.02	
Cole2	W0661	53-0604	05/12/09	*E. coli*	CFU/100mL	<10	
Cole2	W0661	53-0604	05/12/09	Total Nitrogen	mg/L	0.90	
Cole2	W0661	53-0604	05/12/09	Total Phosphorus	mg/L	0.075	
Cole2	W0661	53-0604	05/12/09	True Color	PCU	320	
Cole2	W0661	53-0604	05/12/09	Turbidity	NTU	0.7	
Cole2	W0661	53-0687	06/16/09	Ammonia-N	mg/L	0.09	
Cole2	W0661	53-0687	06/16/09	*E. coli*	CFU/100mL	<10	
Cole2	W0661	53-0687	06/16/09	Total Nitrogen	mg/L	1.2	
Cole2	W0661	53-0687	06/16/09	Total Phosphorus	mg/L	0.11	
Cole2	W0661	53-0687	06/16/09	True Color	PCU	360	
Cole2	W0661	53-0687	06/16/09	Turbidity	NTU	1.6	
Cole2	W0661	53-0756	07/21/09	Ammonia-N	mg/L	0.05	
Cole2	W0661	53-0756	07/21/09	*E. coli*	CFU/100mL	170	
Cole2	W0661	53-0756	07/21/09	Total Nitrogen	mg/L	1.4	
Cole2	W0661	53-0756	07/21/09	Total Phosphorus	mg/L	0.18	
Cole2	W0661	53-0756	07/21/09	True Color	PCU	450	
Cole2	W0661	53-0756	07/21/09	Turbidity	NTU	2.4	
Cole2	W0661	53-0824	08/25/09	Ammonia-N	mg/L	0.05	
Cole2	W0661	53-0824	08/25/09	*E. coli*	CFU/100mL	40	
Cole2	W0661	53-0824	08/25/09	Total Nitrogen	mg/L	1.5	
Cole2	W0661	53-0824	08/25/09	Total Phosphorus	mg/L	0.20	
Cole2	W0661	53-0824	08/25/09	True Color	PCU	420	
Cole2	W0661	53-0824	08/25/09	Turbidity	NTU	2.4	

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Cole2	W0661	53-0844	09/17/09	*E. coli*	CFU/100mL	80	a
Cole2	W0661	53-0869	09/29/09	Ammonia-N	mg/L	0.02	
Cole2	W0661	53-0869	09/29/09	*E. coli*	CFU/100mL	180	
Cole2	W0661	53-0869	09/29/09	Total Nitrogen	mg/L	1.2	
Cole2	W0661	53-0869	09/29/09	Total Phosphorus	mg/L	0.12	
Cole2	W0661	53-0869	09/29/09	True Color	PCU	270	
Cole2	W0661	53-0869	09/29/09	Turbidity	NTU	2.8	
Palm1	W0665	53-0615	05/12/09	Ammonia-N	mg/L	0.04	
Palm1	W0665	53-0615	05/12/09	*E. coli*	CFU/100mL	60	
Palm1	W0665	53-0615	05/12/09	Total Nitrogen	mg/L	0.64	
Palm1	W0665	53-0615	05/12/09	Total Phosphorus	mg/L	0.028	
Palm1	W0665	53-0615	05/12/09	True Color	PCU	175	
Palm1	W0665	53-0615	05/12/09	Turbidity	NTU	3.2	
Palm1	W0665	53-0698	06/16/09	Ammonia-N	mg/L	0.03	
Palm1	W0665	53-0698	06/16/09	*E. coli*	CFU/100mL	130	
Palm1	W0665	53-0698	06/16/09	Total Nitrogen	mg/L	0.73	
Palm1	W0665	53-0698	06/16/09	Total Phosphorus	mg/L	0.033	
Palm1	W0665	53-0698	06/16/09	True Color	PCU	125	
Palm1	W0665	53-0698	06/16/09	Turbidity	NTU	3.3	
Palm1	W0665	53-0767	07/21/09	Ammonia-N	mg/L	0.03	
Palm1	W0665	53-0767	07/21/09	*E. coli*	CFU/100mL	440	
Palm1	W0665	53-0767	07/21/09	Total Nitrogen	mg/L	0.85	
Palm1	W0665	53-0767	07/21/09	Total Phosphorus	mg/L	0.042	
Palm1	W0665	53-0767	07/21/09	True Color	PCU	195	
Palm1	W0665	53-0767	07/21/09	Turbidity	NTU	4.1	
Palm1	W0665	53-0835	08/25/09	Ammonia-N	mg/L	0.02	
Palm1	W0665	53-0835	08/25/09	*E. coli*	CFU/100mL	100	
Palm1	W0665	53-0835	08/25/09	Total Nitrogen	mg/L	0.88	
Palm1	W0665	53-0835	08/25/09	Total Phosphorus	mg/L	0.031	
Palm1	W0665	53-0835	08/25/09	True Color	PCU	90	
Palm1	W0665	53-0835	08/25/09	Turbidity	NTU	3.2	
Palm1	W0665	53-0855	09/17/09	*E. coli*	CFU/100mL	120	
Palm1	W0665	53-0880	09/29/09	Ammonia-N	mg/L	<0.02	
Palm1	W0665	53-0880	09/29/09	*E. coli*	CFU/100mL	330	
Palm1	W0665	53-0880	09/29/09	Total Nitrogen	mg/L	0.73	
Palm1	W0665	53-0880	09/29/09	Total Phosphorus	mg/L	0.023	

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Palm1	W0665	53-0880	09/29/09	True Color	PCU	47	
Palm1	W0665	53-0880	09/29/09	Turbidity	NTU	2.5	
WPalm2	W1954	53-0611	05/12/09	Ammonia-N	mg/L	0.03	
WPalm2	W1954	53-0611	05/12/09	*E. coli*	CFU/100mL	90	
WPalm2	W1954	53-0611	05/12/09	Total Nitrogen	mg/L	0.63	
WPalm2	W1954	53-0611	05/12/09	Total Phosphorus	mg/L	0.019	
WPalm2	W1954	53-0611	05/12/09	True Color	PCU	145	
WPalm2	W1954	53-0611	05/12/09	Turbidity	NTU	2.1	
WPalm2	W1954	53-0694	06/16/09	Ammonia-N	mg/L	0.03	
WPalm2	W1954	53-0694	06/16/09	*E. coli*	CFU/100mL	<10	
WPalm2	W1954	53-0694	06/16/09	Total Nitrogen	mg/L	0.70	
WPalm2	W1954	53-0694	06/16/09	Total Phosphorus	mg/L	0.027	
WPalm2	W1954	53-0694	06/16/09	True Color	PCU	115	
WPalm2	W1954	53-0694	06/16/09	Turbidity	NTU	4.3	
WPalm2	W1954	53-0763	07/21/09	Ammonia-N	mg/L	0.02	
WPalm2	W1954	53-0763	07/21/09	*E. coli*	CFU/100mL	250	
WPalm2	W1954	53-0763	07/21/09	Total Nitrogen	mg/L	0.81	
WPalm2	W1954	53-0763	07/21/09	Total Phosphorus	mg/L	0.043	
WPalm2	W1954	53-0763	07/21/09	True Color	PCU	130	
WPalm2	W1954	53-0763	07/21/09	Turbidity	NTU	4.7	
WPalm2	W1954	53-0831	08/25/09	Ammonia-N	mg/L	<0.02	
WPalm2	W1954	53-0831	08/25/09	*E. coli*	CFU/100mL	20	
WPalm2	W1954	53-0831	08/25/09	Total Nitrogen	mg/L	0.59	
WPalm2	W1954	53-0831	08/25/09	Total Phosphorus	mg/L	0.023	
WPalm2	W1954	53-0831	08/25/09	True Color	PCU	41	
WPalm2	W1954	53-0831	08/25/09	Turbidity	NTU	4.4	
WPalm2	W1954	53-0851	09/17/09	*E. coli*	CFU/100mL	40	a
WPalm2	W1954	53-0876	09/29/09	Ammonia-N	mg/L	<0.02	
WPalm2	W1954	53-0876	09/29/09	*E. coli*	CFU/100mL	<10	
WPalm2	W1954	53-0876	09/29/09	Total Nitrogen	mg/L	0.46	
WPalm2	W1954	53-0876	09/29/09	Total Phosphorus	mg/L	0.14	
WPalm2	W1954	53-0876	09/29/09	True Color	PCU	42	
WPalm2	W1954	53-0876	09/29/09	Turbidity	NTU	4.3	
Run2	W1955	53-0617	05/12/09	Ammonia-N	mg/L	0.02	
Run2	W1955	53-0617	05/12/09	*E. coli*	CFU/100mL	210	
Run2	W1955	53-0617	05/12/09	Total Nitrogen	mg/L	0.92	
Run2	W1955	53-0617	05/12/09	Total	mg/L	0.032	

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Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
				Phosphorus			
Run2	W1955	53-0617	05/12/09	True Color	PCU	220	
Run2	W1955	53-0617	05/12/09	Turbidity	NTU	1.1	
Run2	W1955	53-0700	06/16/09	Ammonia-N	mg/L	0.04	
Run2	W1955	53-0700	06/16/09	*E. coli*	CFU/100mL	340	
Run2	W1955	53-0700	06/16/09	Total Nitrogen	mg/L	1.1	
Run2	W1955	53-0700	06/16/09	Total Phosphorus	mg/L	0.047	
Run2	W1955	53-0700	06/16/09	True Color	PCU	235	
Run2	W1955	53-0700	06/16/09	Turbidity	NTU	1.9	
Run2	W1955	53-0769	07/21/09	Ammonia-N	mg/L	0.06	
Run2	W1955	53-0769	07/21/09	*E. coli*	CFU/100mL	1720	
Run2	W1955	53-0769	07/21/09	Total Nitrogen	mg/L	1.3	
Run2	W1955	53-0769	07/21/09	Total Phosphorus	mg/L	0.078	
Run2	W1955	53-0769	07/21/09	True Color	PCU	280	
Run2	W1955	53-0769	07/21/09	Turbidity	NTU	3.4	
Run2	W1955	53-0837	08/25/09	Ammonia-N	mg/L	0.05	
Run2	W1955	53-0837	08/25/09	*E. coli*	CFU/100mL	310	
Run2	W1955	53-0837	08/25/09	Total Nitrogen	mg/L	1.4	
Run2	W1955	53-0837	08/25/09	Total Phosphorus	mg/L	0.099	
Run2	W1955	53-0837	08/25/09	True Color	PCU	180	
Run2	W1955	53-0837	08/25/09	Turbidity	NTU	7.5	
Run2	W1955	53-0857	09/17/09	*E. coli*	CFU/100mL	##	a
Run2	W1955	53-0882	09/29/09	Ammonia-N	mg/L	<0.02	
Run2	W1955	53-0882	09/29/09	*E. coli*	CFU/100mL	1800	
Run2	W1955	53-0882	09/29/09	Total Nitrogen	mg/L	0.83	
Run2	W1955	53-0882	09/29/09	Total Phosphorus	mg/L	0.060	
Run2	W1955	53-0882	09/29/09	True Color	PCU	115	
Run2	W1955	53-0882	09/29/09	Turbidity	NTU	3.3	
Full1	W1956	53-0616	05/12/09	Ammonia-N	mg/L	0.02	
Full1	W1956	53-0616	05/12/09	*E. coli*	CFU/100mL	100	
Full1	W1956	53-0616	05/12/09	Total Nitrogen	mg/L	0.80	
Full1	W1956	53-0616	05/12/09	Total Phosphorus	mg/L	0.076	
Full1	W1956	53-0616	05/12/09	True Color	PCU	195	
Full1	W1956	53-0616	05/12/09	Turbidity	NTU	2.1	
Full1	W1956	53-0699	06/16/09	Ammonia-N	mg/L	0.05	
Full1	W1956	53-0699	06/16/09	*E. coli*	CFU/100mL	960	
Full1	W1956	53-0699	06/16/09	Total Nitrogen	mg/L	0.99	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Full1	W1956	53-0699	06/16/09	Total Phosphorus	mg/L	0.097	
Full1	W1956	53-0699	06/16/09	True Color	PCU	240	
Full1	W1956	53-0699	06/16/09	Turbidity	NTU	4.1	
Full1	W1956	53-0768	07/21/09	Ammonia-N	mg/L	0.07	
Full1	W1956	53-0768	07/21/09	*E. coli*	CFU/100mL	3040	
Full1	W1956	53-0768	07/21/09	Total Nitrogen	mg/L	1.1	
Full1	W1956	53-0768	07/21/09	Total Phosphorus	mg/L	0.31	
Full1	W1956	53-0768	07/21/09	True Color	PCU	195	
Full1	W1956	53-0768	07/21/09	Turbidity	NTU	14.5	
Full1	W1956	53-0836	08/25/09	Ammonia-N	mg/L	0.19	
Full1	W1956	53-0836	08/25/09	*E. coli*	CFU/100mL	9290	
Full1	W1956	53-0836	08/25/09	Total Nitrogen	mg/L	1.3	
Full1	W1956	53-0836	08/25/09	Total Phosphorus	mg/L	0.11	
Full1	W1956	53-0836	08/25/09	True Color	PCU	110	
Full1	W1956	53-0836	08/25/09	Turbidity	NTU	12.5	
Full1	W1956	53-0856	09/17/09	*E. coli*	CFU/100mL	1290	
Full1	W1956	53-0881	09/29/09	Ammonia-N	mg/L	0.04	
Full1	W1956	53-0881	09/29/09	*E. coli*	CFU/100mL	9200	
Full1	W1956	53-0881	09/29/09	Total Nitrogen	mg/L	0.88	
Full1	W1956	53-0881	09/29/09	Total Phosphorus	mg/L	0.10	
Full1	W1956	53-0881	09/29/09	True Color	PCU	61	
Full1	W1956	53-0881	09/29/09	Turbidity	NTU	3.8	
Blis1	W1957	53-0612	05/12/09	Ammonia-N	mg/L	<0.02	
Blis1	W1957	53-0612	05/12/09	*E. coli*	CFU/100mL	<10	
Blis1	W1957	53-0612	05/12/09	Total Nitrogen	mg/L	0.56	
Blis1	W1957	53-0612	05/12/09	Total Phosphorus	mg/L	0.031	
Blis1	W1957	53-0612	05/12/09	True Color	PCU	205	
Blis1	W1957	53-0612	05/12/09	Turbidity	NTU	1.9	
Blis1	W1957	53-0695	06/16/09	Ammonia-N	mg/L	0.04	
Blis1	W1957	53-0695	06/16/09	*E. coli*	CFU/100mL	50	
Blis1	W1957	53-0695	06/16/09	Total Nitrogen	mg/L	0.69	
Blis1	W1957	53-0695	06/16/09	Total Phosphorus	mg/L	0.047	
Blis1	W1957	53-0695	06/16/09	True Color	PCU	170	
Blis1	W1957	53-0695	06/16/09	Turbidity	NTU	1.4	
Blis1	W1957	53-0764	07/21/09	Ammonia-N	mg/L	0.03	
Blis1	W1957	53-0764	07/21/09	*E. coli*	CFU/100mL	490	
Blis1	W1957	53-0764	07/21/09	Total	mg/L	0.75	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
				Nitrogen			
Blis1	W1957	53-0764	07/21/09	Total Phosphorus	mg/L	0.079	
Blis1	W1957	53-0764	07/21/09	True Color	PCU	220	
Blis1	W1957	53-0764	07/21/09	Turbidity	NTU	3.0	
Blis1	W1957	53-0832	08/25/09	Ammonia-N	mg/L	0.02	
Blis1	W1957	53-0832	08/25/09	*E. coli*	CFU/100mL	730	
Blis1	W1957	53-0832	08/25/09	Total Nitrogen	mg/L	0.54	
Blis1	W1957	53-0832	08/25/09	Total Phosphorus	mg/L	0.065	
Blis1	W1957	53-0832	08/25/09	True Color	PCU	70	
Blis1	W1957	53-0832	08/25/09	Turbidity	NTU	2.4	
Blis1	W1957	53-0852	09/17/09	*E. coli*	CFU/100mL	130	a
Blis1	W1957	53-0877	09/29/09	Ammonia-N	mg/L	<0.02	
Blis1	W1957	53-0877	09/29/09	*E. coli*	CFU/100mL	1190	
Blis1	W1957	53-0877	09/29/09	Total Nitrogen	mg/L	0.43	
Blis1	W1957	53-0877	09/29/09	Total Phosphorus	mg/L	0.057	
Blis1	W1957	53-0877	09/29/09	True Color	PCU	40	
Blis1	W1957	53-0877	09/29/09	Turbidity	NTU	1.9	
EPalm1	W1958	53-0614	05/12/09	Ammonia-N	mg/L	0.02	
EPalm1	W1958	53-0614	05/12/09	*E. coli*	CFU/100mL	40	
EPalm1	W1958	53-0614	05/12/09	Total Nitrogen	mg/L	0.55	
EPalm1	W1958	53-0614	05/12/09	Total Phosphorus	mg/L	0.018	
EPalm1	W1958	53-0614	05/12/09	True Color	PCU	180	
EPalm1	W1958	53-0614	05/12/09	Turbidity	NTU	1.2	
EPalm1	W1958	53-0697	06/16/09	Ammonia-N	mg/L	0.04	
EPalm1	W1958	53-0697	06/16/09	*E. coli*	CFU/100mL	120	
EPalm1	W1958	53-0697	06/16/09	Total Nitrogen	mg/L	0.66	
EPalm1	W1958	53-0697	06/16/09	Total Phosphorus	mg/L	0.026	
EPalm1	W1958	53-0697	06/16/09	True Color	PCU	160	
EPalm1	W1958	53-0697	06/16/09	Turbidity	NTU	1.7	
EPalm1	W1958	53-0766	07/21/09	Ammonia-N	mg/L	0.03	
EPalm1	W1958	53-0766	07/21/09	*E. coli*	CFU/100mL	310	
EPalm1	W1958	53-0766	07/21/09	Total Nitrogen	mg/L	0.81	
EPalm1	W1958	53-0766	07/21/09	Total Phosphorus	mg/L	0.035	
EPalm1	W1958	53-0766	07/21/09	True Color	PCU	240	
EPalm1	W1958	53-0766	07/21/09	Turbidity	NTU	3.1	
EPalm1	W1958	53-0834	08/25/09	Ammonia-N	mg/L	0.02	
EPalm1	W1958	53-0834	08/25/09	*E. coli*	CFU/100mL	50	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
EPalm1	W1958	53-0834	08/25/09	Total Nitrogen	mg/L	0.77	
EPalm1	W1958	53-0834	08/25/09	Total Phosphorus	mg/L	0.038	
EPalm1	W1958	53-0834	08/25/09	True Color	PCU	160	
EPalm1	W1958	53-0834	08/25/09	Turbidity	NTU	2.3	
EPalm1	W1958	53-0854	09/17/09	*E. coli*	CFU/100mL	60	
EPalm1	W1958	53-0879	09/29/09	Ammonia-N	mg/L	<0.02	
EPalm1	W1958	53-0879	09/29/09	*E. coli*	CFU/100mL	540	
EPalm1	W1958	53-0879	09/29/09	Total Nitrogen	mg/L	0.48	
EPalm1	W1958	53-0879	09/29/09	Total Phosphorus	mg/L	0.021	
EPalm1	W1958	53-0879	09/29/09	True Color	PCU	64	
EPalm1	W1958	53-0879	09/29/09	Turbidity	NTU	2.0	
Bad1	W1959	53-0610	05/12/09	Ammonia-N	mg/L	<0.02	
Bad1	W1959	53-0610	05/12/09	*E. coli*	CFU/100mL	20	
Bad1	W1959	53-0610	05/12/09	Total Nitrogen	mg/L	0.52	
Bad1	W1959	53-0610	05/12/09	Total Phosphorus	mg/L	0.017	
Bad1	W1959	53-0610	05/12/09	True Color	PCU	185	
Bad1	W1959	53-0610	05/12/09	Turbidity	NTU	1.1	
Bad1	W1959	53-0693	06/16/09	Ammonia-N	mg/L	0.03	
Bad1	W1959	53-0693	06/16/09	*E. coli*	CFU/100mL	70	
Bad1	W1959	53-0693	06/16/09	Total Nitrogen	mg/L	0.64	
Bad1	W1959	53-0693	06/16/09	Total Phosphorus	mg/L	0.024	
Bad1	W1959	53-0693	06/16/09	True Color	PCU	175	
Bad1	W1959	53-0693	06/16/09	Turbidity	NTU	1.2	
Bad1	W1959	53-0762	07/21/09	Ammonia-N	mg/L	0.02	
Bad1	W1959	53-0762	07/21/09	*E. coli*	CFU/100mL	<10	
Bad1	W1959	53-0762	07/21/09	Total Nitrogen	mg/L	0.76	
Bad1	W1959	53-0762	07/21/09	Total Phosphorus	mg/L	0.033	
Bad1	W1959	53-0762	07/21/09	True Color	PCU	270	
Bad1	W1959	53-0762	07/21/09	Turbidity	NTU	2.4	
Bad1	W1959	53-0830	08/25/09	Ammonia-N	mg/L	0.04	
Bad1	W1959	53-0830	08/25/09	*E. coli*	CFU/100mL	670	
Bad1	W1959	53-0830	08/25/09	Total Nitrogen	mg/L	1.0	
Bad1	W1959	53-0830	08/25/09	Total Phosphorus	mg/L	0.086	
Bad1	W1959	53-0830	08/25/09	True Color	PCU	105	
Bad1	W1959	53-0830	08/25/09	Turbidity	NTU	4.4	
Bad1	W1959	53-0850	09/17/09	*E. coli*	CFU/100mL	430	a

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Bad1	W1959	53-0875	09/29/09	Ammonia-N	mg/L	<0.02	
Bad1	W1959	53-0875	09/29/09	*E. coli*	CFU/100mL	560	
Bad1	W1959	53-0875	09/29/09	Total Nitrogen	mg/L	0.52	
Bad1	W1959	53-0875	09/29/09	Total Phosphorus	mg/L	0.027	
Bad1	W1959	53-0875	09/29/09	True Color	PCU	87	
Bad1	W1959	53-0875	09/29/09	Turbidity	NTU	2.4	
Tor1	W1960	53-0606	05/12/09	Ammonia-N	mg/L	0.08	
Tor1	W1960	53-0606	05/12/09	*E. coli*	CFU/100mL	90	
Tor1	W1960	53-0606	05/12/09	Total Nitrogen	mg/L	1.4	
Tor1	W1960	53-0606	05/12/09	Total Phosphorus	mg/L	0.052	
Tor1	W1960	53-0606	05/12/09	True Color	PCU	92	
Tor1	W1960	53-0606	05/12/09	Turbidity	NTU	3.0	
Tor1	W1960	53-0689	06/16/09	Ammonia-N	mg/L	0.10	
Tor1	W1960	53-0689	06/16/09	*E. coli*	CFU/100mL	150	
Tor1	W1960	53-0689	06/16/09	Total Nitrogen	mg/L	1.4	
Tor1	W1960	53-0689	06/16/09	Total Phosphorus	mg/L	0.065	
Tor1	W1960	53-0689	06/16/09	True Color	PCU	93	
Tor1	W1960	53-0689	06/16/09	Turbidity	NTU	4.8	
Tor1	W1960	53-0758	07/21/09	Ammonia-N	mg/L	0.08	
Tor1	W1960	53-0758	07/21/09	*E. coli*	CFU/100mL	730	
Tor1	W1960	53-0758	07/21/09	Total Nitrogen	mg/L	1.4	
Tor1	W1960	53-0758	07/21/09	Total Phosphorus	mg/L	0.098	
Tor1	W1960	53-0758	07/21/09	True Color	PCU	84	
Tor1	W1960	53-0758	07/21/09	Turbidity	NTU	11.5	
Tor1	W1960	53-0826	08/25/09	Ammonia-N	mg/L	0.06	
Tor1	W1960	53-0826	08/25/09	*E. coli*	CFU/100mL	840	
Tor1	W1960	53-0826	08/25/09	Total Nitrogen	mg/L	1.4	
Tor1	W1960	53-0826	08/25/09	Total Phosphorus	mg/L	0.28	
Tor1	W1960	53-0826	08/25/09	True Color	PCU	41	
Tor1	W1960	53-0826	08/25/09	Turbidity	NTU	11.5	
Tor1	W1960	53-0846	09/17/09	*E. coli*	CFU/100mL	500	a
Tor1	W1960	53-0871	09/29/09	Ammonia-N	mg/L	0.06	
Tor1	W1960	53-0871	09/29/09	*E. coli*	CFU/100mL	450	
Tor1	W1960	53-0871	09/29/09	Total Nitrogen	mg/L	1.2	
Tor1	W1960	53-0871	09/29/09	Total Phosphorus	mg/L	0.061	
Tor1	W1960	53-0871	09/29/09	True Color	PCU	35	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Tor1	W1960	53-0871	09/29/09	Turbidity	NTU	8.0	
Kick1	W1961	53-0599	05/12/09	Ammonia-N	mg/L	0.16	
Kick1	W1961	53-0599	05/12/09	*E. coli*	CFU/100mL	480	
Kick1	W1961	53-0599	05/12/09	Total Nitrogen	mg/L	1.3	
Kick1	W1961	53-0599	05/12/09	Total Phosphorus	mg/L	0.047	
Kick1	W1961	53-0599	05/12/09	True Color	PCU	85	
Kick1	W1961	53-0599	05/12/09	Turbidity	NTU	1.6	
Kick1	W1961	53-0682	06/16/09	Ammonia-N	mg/L	0.12	
Kick1	W1961	53-0682	06/16/09	*E. coli*	CFU/100mL	2200	
Kick1	W1961	53-0682	06/16/09	Total Nitrogen	mg/L	1.5	
Kick1	W1961	53-0682	06/16/09	Total Phosphorus	mg/L	0.063	
Kick1	W1961	53-0682	06/16/09	True Color	PCU	82	
Kick1	W1961	53-0682	06/16/09	Turbidity	NTU	3.0	
Kick1	W1961	53-0751	07/21/09	Ammonia-N	mg/L	0.13	
Kick1	W1961	53-0751	07/21/09	*E. coli*	CFU/100mL	3490	
Kick1	W1961	53-0751	07/21/09	Total Nitrogen	mg/L	1.5	
Kick1	W1961	53-0751	07/21/09	Total Phosphorus	mg/L	0.091	
Kick1	W1961	53-0751	07/21/09	True Color	PCU	84	
Kick1	W1961	53-0751	07/21/09	Turbidity	NTU	3.9	
Kick1	W1961	53-0819	08/25/09	Ammonia-N	mg/L	0.05	
Kick1	W1961	53-0819	08/25/09	*E. coli*	CFU/100mL	880	
Kick1	W1961	53-0819	08/25/09	Total Nitrogen	mg/L	2.4	
Kick1	W1961	53-0819	08/25/09	Total Phosphorus	mg/L	0.071	
Kick1	W1961	53-0819	08/25/09	True Color	PCU	26	
Kick1	W1961	53-0819	08/25/09	Turbidity	NTU	1.4	
Kick1	W1961	53-0839	09/17/09	*E. coli*	CFU/100mL	200	a
Kick1	W1961	53-0864	09/29/09	Ammonia-N	mg/L	0.04	
Kick1	W1961	53-0864	09/29/09	*E. coli*	CFU/100mL	2900	
Kick1	W1961	53-0864	09/29/09	Total Nitrogen	mg/L	1.3	
Kick1	W1961	53-0864	09/29/09	Total Phosphorus	mg/L	0.069	
Kick1	W1961	53-0864	09/29/09	True Color	PCU	31	
Kick1	W1961	53-0864	09/29/09	Turbidity	NTU	1.9	
Que1	W1962	53-0598	05/12/09	Ammonia-N	mg/L	0.03	
Que1	W1962	53-0598	05/12/09	*E. coli*	CFU/100mL	10	
Que1	W1962	53-0598	05/12/09	Total Nitrogen	mg/L	0.65	
Que1	W1962	53-0598	05/12/09	Total Phosphorus	mg/L	0.028	

Table 6. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed water quality data.

NOTE: Result Qualifier definitions appear in Appendix 1.

Station	Unique ID	Sample OWMID	Sample Date	Analyte	Units	Result	Result Qualifiers
Que1	W1962	53-0598	05/12/09	True Color	PCU	33	
Que1	W1962	53-0598	05/12/09	Turbidity	NTU	1.6	
Que1	W1962	53-0681	06/16/09	Ammonia-N	mg/L	0.12	
Que1	W1962	53-0681	06/16/09	*E. coli*	CFU/100mL	20	
Que1	W1962	53-0681	06/16/09	Total Nitrogen	mg/L	0.74	
Que1	W1962	53-0681	06/16/09	Total Phosphorus	mg/L	0.050	
Que1	W1962	53-0681	06/16/09	True Color	PCU	34	
Que1	W1962	53-0681	06/16/09	Turbidity	NTU	2.0	
Que1	W1962	53-0750	07/21/09	Ammonia-N	mg/L	0.12	
Que1	W1962	53-0750	07/21/09	*E. coli*	CFU/100mL	80	
Que1	W1962	53-0750	07/21/09	Total Nitrogen	mg/L	0.63	
Que1	W1962	53-0750	07/21/09	Total Phosphorus	mg/L	0.043	
Que1	W1962	53-0750	07/21/09	True Color	PCU	30	
Que1	W1962	53-0750	07/21/09	Turbidity	NTU	2.7	
Que1	W1962	53-0818	08/25/09	Ammonia-N	mg/L	0.02	
Que1	W1962	53-0818	08/25/09	*E. coli*	CFU/100mL	20	
Que1	W1962	53-0818	08/25/09	Total Nitrogen	mg/L	0.64	
Que1	W1962	53-0818	08/25/09	Total Phosphorus	mg/L	0.074	
Que1	W1962	53-0818	08/25/09	True Color	PCU	38	
Que1	W1962	53-0818	08/25/09	Turbidity	NTU	1.4	
Que1	W1962	53-0838	09/17/09	*E. coli*	CFU/100mL	40	a
Que1	W1962	53-0863	09/29/09	Ammonia-N	mg/L	0.08	
Que1	W1962	53-0863	09/29/09	*E. coli*	CFU/100mL	90	
Que1	W1962	53-0863	09/29/09	Total Nitrogen	mg/L	0.58	
Que1	W1962	53-0863	09/29/09	Total Phosphorus	mg/L	0.029	
Que1	W1962	53-0863	09/29/09	True Color	PCU	30	
Que1	W1962	53-0863	09/29/09	Turbidity	NTU	2.5	

Table 7. Geometric means of the 2009 *E. coli* results for each DWM Narragansett / Mount Hope Bay sampling station.

*The detection limit or the upper quantification limit was used in the geometric mean calculation if the result was either below the detection limit or above the upper quantification limit. Results from duplicate samples were removed before completing the geometric mean calculation.

Station	Unique ID	Sample Count	Result
Crun1	W0622	6	428
WPalm1	W0624	6	38
Oak1	W0637	6	130
Rock1	W0638	6	54
Cole1	W0641	6	19
Run1	W0651	6	1103
Lew1	W0654	6	247
Cole2	W0661	6	21
Palm1	W0665	6	154
WPalm2	W1954	6	16
Run2	W1955	5	585
Full1	W1956	6	1783
Blis1	W1957	6	118
EPalm1	W1958	6	116
Bad1	W1959	6	78
Tor1	W1960	6	351
Kick1	W1961	6	1111
Que1	W1962	6	32

Table 8. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Attended Multi-probe Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station	Unique ID	OWMID	Date	Sample Depth (meters)	Depth Qualifiers	Temperature °C	Temperature Qualifiers	pH (SU)	pH Qualifiers	SpCond (µS/cm)	SpCond Qualifiers	TDS (mg/l)	TDS Qualifiers	DO (mg/l)	DO Qualifiers	DO Saturation (%)	DO Saturation Qualifiers
Crun1	W0622	53-0572	05/08/09	0.7		20.4		6.8		187		119		7.5		84	
Crun1	W0622	53-0588	05/11/09	##	i	14.0		6.7		210		135		7.4		72	
Crun1	W0622	53-0640	06/12/09	0.2		17.2		6.6	u	210		134		4.7		50	
Crun1	W0622	53-0656	06/15/09	0.2		16.6		6.7		213		136		4.8		49	
Crun1	W0622	53-0724	07/17/09	0.2		22.3		6.6		233		149		2.1		25	
Crun1	W0622	53-0740	07/20/09	0.2		20.0		6.6		218		139		1.7		18	
Crun1	W0622	53-0792	08/21/09	0.2	i	24.7	u	6.7		265		170		2.1		25	
Crun1	W0622	53-0808	08/24/09	0.4		22.9		6.5		269		172		1.7	u	21	u
WPalm1	W0624	53-0568	05/08/09	0.6		14.4		6.3		70		45		9.8		98	
WPalm1	W0624	53-0584	05/11/09	0.2		14.2		6.4		79		51		9.9		98	
WPalm1	W0624	53-0636	06/12/09	0.3		14.9		6.6		103		66		9.0		91	
WPalm1	W0624	53-0652	06/15/09	0.3		15.5		6.6		95		61		9.2		93	
WPalm1	W0624	53-0673	06/18/09	--		14.5		--		--		--		9.3		92	
WPalm1	W0624	53-0720	07/17/09	0.1		19.5		6.4		92		59		8.3		93	
WPalm1	W0624	53-0736	07/20/09	0.1		19.1		6.5		92		59		8.4		91	
WPalm1	W0624	53-0788	08/21/09	0.2	i	21.6		6.6		114		73		7.3		85	
WPalm1	W0624	53-0804	08/24/09	0.2		21.6		6.5		116		74		7.5		87	
Oak1	W0637	53-0579	05/11/09	##	i	14.3		6.1		78		50		8.8		87	
Oak1	W0637	53-0595	05/13/09	0.2		14.9		6.1		87		56		9.3		92	
Oak1	W0637	53-0647	06/15/09	0.2		15.2		6.2		92		59		8.3		83	
Oak1	W0637	53-0663	06/17/09	0.2		14.3		6.2		96		62		9.0		88	
Oak1	W0637	53-0731	07/20/09	0.1		18.6		6.2		99		64		7.2		77	
Oak1	W0637	53-0747	07/22/09	0.2		18.5		6.0		92		59		7.1		77	
Oak1	W0637	53-0799	08/24/09	0.2		21.1		6.7		165		106		6.9		79	
Oak1	W0637	53-0815	08/26/09	0.1		20.4		6.6		177		113		7.1		80	
Rock1	W0638	53-0580	05/11/09	##	i	15.5		5.8		82		53		9.0		91	
Rock1	W0638	53-0596	05/13/09	0.4		15.0		5.9		97		62		9.3		92	
Rock1	W0638	53-0648	06/15/09	0.3		16.4		6.1		103		66		7.0		72	
Rock1	W0638	53-0664	06/17/09	0.3		15.7		6.0		110		70		7.5		75	

Table 8. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Attended Multi-probe Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station	Unique ID	OWMID	Date	Sample Depth (meters)	Depth Qualifiers	Temperature °C	Temperature Qualifiers	pH (SU)	pH Qualifiers	SpCond (µS/cm)	SpCond Qualifiers	TDS (mg/l)	TDS Qualifiers	DO (mg/l)	DO Qualifiers	DO Saturation (%)	DO Saturation Qualifiers
Rock1	W0638	53-0732	07/20/09	0.4		20.3		5.8		88		56		5.2		57	
Rock1	W0638	53-0748	07/22/09	0.4		19.3		5.8		94		60		5.5		60	
Rock1	W0638	53-0800	08/24/09	0.2		24.0		6.2		162		104		5.2		63	
Rock1	W0638	53-0816	08/26/09	0.2		23.0		6.3		169		108		5.4		64	
Cole1	W0641	53-0576	05/11/09	0.5		18.8		6.4		98		63		8.8		96	
Cole1	W0641	53-0592	05/13/09	1		17.7		6.5		111		71		8.9		93	
Cole1	W0641	53-0644	06/15/09	0.5		19.1		6.6		142		91		7.8		85	
Cole1	W0641	53-0660	06/17/09	0.9		19.2		6.5		146		93		7.3		79	
Cole1	W0641	53-0728	07/20/09	0.5		24.5		6.5		116		74		7.0		85	
Cole1	W0641	53-0744	07/22/09	0.8		22.1		6.4		112		72		7.4		86	
Cole1	W0641	53-0796	08/24/09	0.7		26.3		6.5		173		110		5.6		70	
Cole1	W0641	53-0812	08/26/09	0.7		24.8		6.5		186		119		5.0		62	
Run1	W0651	53-0573	05/08/09	1		16.2		6.7		325		208		7.7		80	
Run1	W0651	53-0589	05/11/09	##	i	13.8		6.8		425		272		8.0		79	
Run1	W0651	53-0641	06/12/09	0.3		16.8		6.8		468		300		6.4		68	
Run1	W0651	53-0657	06/15/09	1.2		16.2		6.8		392		251		7.0		72	
Run1	W0651	53-0725	07/17/09	0.4		22.0		6.8		561		359		6.0		70	
Run1	W0651	53-0741	07/20/09	0.5		20.3		6.8		463		296		5.7		63	
Run1	W0651	53-0793	08/21/09	1		24.0		6.7		884		565		4.4		53	
Run1	W0651	53-0809	08/24/09	0.7		22.8	u	6.5		804	u	515	u	4.2		50	
Lew1	W0654	53-0575	05/11/09	0.1		15.4		6.6		110		71		10.0		101	
Lew1	W0654	53-0591	05/13/09	0.1		13.6		6.6		107		68		10.5		101	
Lew1	W0654	53-0643	06/15/09	0.2		14.7		6.6		115		73		9.2		92	
Lew1	W0654	53-0659	06/17/09	0.1		14.3		6.6		132		85		9.5		93	
Lew1	W0654	53-0727	07/20/09	0.1		18.9		6.5		119		76		8.0		87	
Lew1	W0654	53-0743	07/22/09	0.3		18.2		6.5		98		63		8.5		91	
Lew1	W0654	53-0795	08/24/09	0.2		22.3		6.5		148		95		7.0		82	
Lew1	W0654	53-0811	08/26/09	0.1		21.2		6.5		163		104		6.8		78	
Cole2	W0661	53-0574	05/11/09	0.2		15.1		5.7		71		45		7.6		77	

Table 8. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Attended Multi-probe Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station	Unique ID	OWMID	Date	Sample Depth (meters)	Depth Qualifiers	Temperature °C	Temperature Qualifiers	pH (SU)	pH Qualifiers	SpCond (µS/cm)	SpCond Qualifiers	TDS (mg/l)	TDS Qualifiers	DO (mg/l)	DO Qualifiers	DO Saturation (%)	DO Saturation Qualifiers
Cole2	W0661	53-0590	05/13/09	0.2		14.3		5.8		73		47		8.1		79	
Cole2	W0661	53-0642	06/15/09	0.3		15.4		5.8		79		50		6.5		66	
Cole2	W0661	53-0658	06/17/09	0.2		14.9		5.8		79		50		7.3		72	
Cole2	W0661	53-0679	06/18/09	--		14.8		--		--		--		7.1		70	
Cole2	W0661	53-0726	07/20/09	0.1		19.8		5.8		73		47		5.1		56	
Cole2	W0661	53-0742	07/22/09	0.4		19.2		5.7		69		44		5.4		59	
Cole2	W0661	53-0794	08/24/09	0.1		23.6		5.9		98		63		4.6		55	
Cole2	W0661	53-0810	08/26/09	0.1		22.5		6.0		102		65		5.0		59	
Palm1	W0665	53-0569	05/08/09	1.2		15.1		6.1		84		54		8.5		86	
Palm1	W0665	53-0585	05/11/09	0.4		14.7		6.2		96		61		9.0		90	
Palm1	W0665	53-0637	06/12/09	0.3		14.9		6.4		142		91		8.3		84	
Palm1	W0665	53-0653	06/15/09	0.3		15.8		6.4		118		76		8.6		88	
Palm1	W0665	53-0676	06/18/09	--		14.3		--		--		--		8.9		87	
Palm1	W0665	53-0721	07/17/09	0.4		20.0		6.3		119		76		7.8		87	
Palm1	W0665	53-0737	07/20/09	0.3		19.9		6.4		111		71		7.6		84	
Palm1	W0665	53-0789	08/21/09	0.3		21.8		6.5		171		110		6.8		79	
Palm1	W0665	53-0805	08/24/09	0.4		21.8		6.4		176		112		6.9		80	
Run2	W1955	53-0571	05/08/09	0.3		15.9		6.3		108		69		7.4		76	
Run2	W1955	53-0587	05/11/09	##	i	13.5		6.3		106		68		8.2		80	
Run2	W1955	53-0639	06/12/09	0	i	15.2		6.5		185		118		7.7		78	
Run2	W1955	53-0655	06/15/09	0.3		15.0		6.3		131		84		7.6		76	
Run2	W1955	53-0723	07/17/09	0.1		20.2		6.3		135		86		6.7		76	
Run2	W1955	53-0739	07/20/09	0.2		18.8		6.3		125		80		6.7		72	
Run2	W1955	53-0791	08/21/09	0.2	i	23.3		6.4		203		130		5.3		63	
Run2	W1955	53-0807	08/24/09	0.1		21.8		6.2		225		144		4.9		57	
Full1	W1956	53-0570	05/08/09	0.3		15.8		6.1		91		59		8.7		89	
Full1	W1956	53-0586	05/11/09	##	i	12.9		6.2		108		69		9.1		87	
Full1	W1956	53-0638	06/12/09	0.2		15.5		6.5		173		111		6.9		70	
Full1	W1956	53-0654	06/15/09	0.3		14.9		6.1		121		78		7.5		76	

Table 8. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Attended Multi-probe Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station	Unique ID	OWMID	Date	Sample Depth (meters)	Depth Qualifiers	Temperature °C	Temperature Qualifiers	pH (SU)	pH Qualifiers	SpCond (µS/cm)	SpCond Qualifiers	TDS (mg/l)	TDS Qualifiers	DO (mg/l)	DO Qualifiers	DO Saturation (%)	DO Saturation Qualifiers
Full1	W1956	53-0722	07/17/09	0.1		19.5		6.2		161		103		6.4		71	
Full1	W1956	53-0738	07/20/09	0.3		18.0		6.2		151		97		6.6		70	
Full1	W1956	53-0790	08/21/09	0.3	i	20.6	u	6.3		246	u	158	u	5.2	u	59	u
Full1	W1956	53-0806	08/24/09	0.3		19.1		6.1		275	u	176	u	5.6		62	
EPalm1	W1958	53-0567	05/08/09	0.6		14.0		5.8		86		55		9.1		91	
EPalm1	W1958	53-0583	05/11/09	0.4		13.7		6.0		91		59		9.4		92	
EPalm1	W1958	53-0635	06/12/09	0.3		15.5		6.3		138		89		8.3		85	
EPalm1	W1958	53-0651	06/15/09	0.4		15.9		6.3		118		75		8.8		90	
EPalm1	W1958	53-0670	06/18/09	--		15.3		--		--		--		8.6		86	
EPalm1	W1958	53-0719	07/17/09	0.4		20.2		6.0		109		70		7.8		88	
EPalm1	W1958	53-0735	07/20/09	0.3		20.0		6.1		99		63		7.8		87	
EPalm1	W1958	53-0787	08/21/09	0.3		23.3		6.5		148		95		6.4		76	
EPalm1	W1958	53-0803	08/24/09	0.3		23.3		6.3		152		98		6.3		75	
Bad1	W1959	53-0566	05/08/09	0.3		14.9		5.3		75		48		8.6		87	
Bad1	W1959	53-0582	05/11/09	0.2		14.7		5.4		77		49		9.2		92	
Bad1	W1959	53-0634	06/12/09	0	i	15.3		6.2		92		59		8.2		84	
Bad1	W1959	53-0650	06/15/09	0.1		16.7		5.8		86		55		8.3		86	
Bad1	W1959	53-0667	06/18/09	--		15.2		--		--		--		8.4		85	
Bad1	W1959	53-0718	07/17/09	0	i	20.9		5.8		83		53		7.2		83	
Bad1	W1959	53-0734	07/20/09	0.1		21.5		5.6		81		52		7.3		83	
Bad1	W1959	53-0786	08/21/09	0.2	i	22.0		6.5		124		79		5.3		62	
Bad1	W1959	53-0802	08/24/09	0.2		21.6		6.3		131		84		5.8		66	
Tor1	W1960	53-0578	05/11/09	##	i	15.2		6.8		405		259		8.9		90	
Tor1	W1960	53-0594	05/13/09	0.1		17.3		6.8		415		265		9.2		96	
Tor1	W1960	53-0646	06/15/09	0.3		16.0		6.9		339		217		7.9		81	
Tor1	W1960	53-0662	06/17/09	0.3		17.3		6.9		402		257		8.3		87	
Tor1	W1960	53-0730	07/20/09	0.3		19.9		6.8		385		246		7.1		78	
Tor1	W1960	53-0746	07/22/09	0.3		19.8		6.7		321		206		6.8		75	
Tor1	W1960	53-0798	08/24/09	0.5		24.0		6.4		##	u, c	##	u, c	5.9		71	

Table 8. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Attended Multi-probe Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station	Unique ID	OWMID	Date	Sample Depth (meters)	Depth Qualifiers	Temperature °C	Temperature Qualifiers	pH (SU)	pH Qualifiers	SpCond (µS/cm)	SpCond Qualifiers	TDS (mg/l)	TDS Qualifiers	DO (mg/l)	DO Qualifiers	DO Saturation (%)	DO Saturation Qualifiers
Tor1	W1960	53-0814	08/26/09	0.2		22.2		6.8		614	u	393	u	6.8		79	
Kick1	W1961	53-0581	05/11/09	##	i	14.5		6.6		209		134		9.9		98	
Kick1	W1961	53-0597	05/13/09	0.3		12.9		6.6		226		145		10.1		96	
Kick1	W1961	53-0649	06/15/09	0.3		15.9		6.7		255		163		8.6		88	
Kick1	W1961	53-0665	06/17/09	0.2		14.4		6.7		258		165		8.8		87	
Kick1	W1961	53-0733	07/20/09	0.2		20.0		6.7		234		150		7.5		83	
Kick1	W1961	53-0749	07/22/09	0.4		19.0		6.5		200		128		8.0		87	
Kick1	W1961	53-0801	08/24/09	0.3		22.9	u	6.6		321		205		6.4		75	
Kick1	W1961	53-0817	08/26/09	0.2		21.1		6.7		338		216		6.3		72	
Que1	W1962	53-0577	05/11/09	0.6		18.1		7.2		275		176		10.0		107	
Que1	W1962	53-0593	05/13/09	0.7		16.4		6.8		272		174		9.1		93	
Que1	W1962	53-0645	06/15/09	**		**		**		**		**		**		**	
Que1	W1962	53-0661	06/17/09	**		**		**		**		**		**		**	
Que1	W1962	53-0729	07/20/09	0.7		27.0		7.0		271		174		7.2		91	
Que1	W1962	53-0745	07/22/09	0.9		23.4		6.5		258		165		4.0		48	
Que1	W1962	53-0797	08/24/09	0.8		28.3		6.7		270		173		6.4		84	
Que1	W1962	53-0813	08/26/09	1.8		26.0		6.5		285		182		3.9		49	

Table 9. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Deployed Multi-probe Dissolved Oxygen Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station ID	Unique ID	OWMID	Start Date	Deployment Duration (Hours)	Minimum Dissolved Oxygen (mg/l)	Average Dissolved Oxygen (mg/L)	Amount of Time < 5.0 mg/L (Hours)	Percentage of Time < 5.0 mg/L (%)	Amount of Time < 6.0 mg/L (Hours)	Percentage of Time < 6.0 mg/L (%)	Minimum Saturation (%)	Average Saturation (%)	Maximum Saturation (%)
Crun1	W0622	53-0556	05/08/09	69	3.5	5.1	36.4	53	49.9	72	37	53	81
Crun1	W0622	53-0624	06/12/09	70	2.7	3.9	66.9	96	70.0	100	31	42	56
Crun1	W0622	53-0708	07/17/09	69	1.3	2.1	69.0	100	69.0	100	15	24	48
Crun1	W0622	53-0776	08/21/09	69	0.2	0.2	69.0	100	69.0	100	2	2	4
WPalm1	W0624	53-0552	05/08/09	72	9.1	9.4	0.0	0	0.0	0	94	96	100
WPalm1	W0624	53-0620	06/12/09	71	8.3	8.9	0.0	0	0.0	0	91	93	96
WPalm1	W0624	53-0672	06/18/09	2473	--	--	--	--	--	--	--	--	--
WPalm1	W0624	53-0704	07/17/09	70.5	7.9	8.1	0.0	0	0.0	0	88	92	94
WPalm1	W0624	53-0772	08/21/09	71	6.8	7.1	0.0	0	0.0	0	79	83	88
Oak1	W0637	53-0563	05/11/09	48.5	8.4	8.7	0.0	0	0.0	0	80	85	93
Oak1	W0637	53-0631	06/15/09	46.5	8.2	8.5	0.0	0	0.0	0	83	85	89
Oak1	W0637	53-0715	07/20/09	48	7.0	7.1	0.0	0	0.0	0	74	77	79
Oak1	W0637	53-0783	08/24/09	47	6.4	6.9	0.0	0	0.0	0	75	78	81
Rock1	W0638	53-0564	05/11/09	47.5	6.8	7.6	0.0	0	0.0	0	67	76	93
Rock1	W0638	53-0632	06/15/09	46	6.8	7.0	0.0	0	0.0	0	70	72	76
Rock1	W0638	53-0716	07/20/09	47	5.1	5.2	0.0	0	47.0	100	56	58	61
Rock1	W0638	53-0784	08/24/09	47	4.8	5.1	11.5	25	47.0	100	57	60	64
Cole1	W0641	53-0560	05/11/09	45	8.8	9.0	0.0	0	0.0	0	91	94	97
Cole1	W0641	53-0628	06/15/09	46	6.9	7.5	0.0	0	0.0	0	78	83	88
Cole1	W0641	53-0712	07/20/09	45.5	7.0	7.3	0.0	0	0.0	0	84	86	88
Cole1	W0641	53-0780	08/24/09	46	4.4	5.0	22.1	48	46.0	100	56	63	70
Run1	W0651	53-0557	05/08/09	69	5.8	6.6	0.0	0	15.4	22	60	68	82
Run1	W0651	53-0625	06/12/09	70	5.6	6.2	0.0	0	19.8	28	59	67	81
Run1	W0651	53-0709	07/17/09	69	3.8	4.8	44.0	64	67.6	98	45	56	76
Run1	W0651	53-0777	08/21/09	69.5	3.3	4.1	66.0	95	69.5	100	39	50	75
Lew1	W0654	53-0559	05/11/09	46	8.9	9.6	0.0	0	0.0	0	87	92	102
Lew1	W0654	53-0627	06/15/09	47	8.4	8.9	0.0	0	0.0	0	84	89	95
Lew1	W0654	53-0711	07/20/09	46	7.2	7.9	0.0	0	0.0	0	79	85	91
Lew1	W0654	53-0779	08/24/09	46.5	6.3	6.6	0.0	0	0.0	0	72	76	83
Cole2	W0661	53-0558	05/11/09	46.5	6.1	7.3	0.0	0	0.0	0	60	73	88
Cole2	W0661	53-0626	06/15/09	48	6.1	6.5	0.0	0	0.0	0	63	67	73
Cole2	W0661	53-0678	06/18/09	2470	--	--	--	--	--	--	--	--	--
Cole2	W0661	53-0710	07/20/09	47	4.9	5.3	9.1	19	47.0	100	55	58	63
Cole2	W0661	53-0778	08/24/09	47.5	4.3	4.7	43.1	91	47.5	100	51	55	60
Palm1	W0665	53-0553	05/08/09	72	7.5	8.1	0.0	0	0.0	0	77	83	91
Palm1	W0665	53-0621	06/12/09	71	8.0	8.3	0.0	0	0.0	0	83	87	93
Palm1	W0665	53-0675	06/18/09	2474.5	--	--	--	--	--	--	--	--	--
Palm1	W0665	53-0705	07/17/09	70.5	6.7	7.2	0.0	0	0.0	0	75	82	88
Palm1	W0665	53-0773	08/21/09	71	6.3	6.6	0.0	0	0.0	0	72	77	85
Run2	W1955	53-0555	05/08/09	70	6.5	6.9	0.0	0	0.0	0	66	72	80
Run2	W1955	53-0623	06/12/09	70	7.0	7.5	0.0	0	0.0	0	74	77	84
Run2	W1955	53-0707	07/17/09	69	6.1	6.4	0.0	0	0.0	0	70	73	86
Run2	W1955	53-0775	08/21/09	69	4.5	4.8	55.1	80	69.0	100	52	57	67
Full1	W1956	53-0554	05/08/09	70	7.1	7.6	0.0	0	0.0	0	73	77	88
Full1	W1956	53-0622	06/12/09	70.5	6.6	7.0	0.0	0	0.0	0	68	72	75
Full1	W1956	53-0706	07/17/09	69	5.1	6.0	0.0	0	22.0	32	58	67	73
Full1	W1956	53-0774	08/21/09	69.5	0.6	3.7	69.5	100	69.5	100	7	42	56
EPalm1	W1958	53-0551	05/08/09	72	8.5	8.8	0.0	0	0.0	0	88	91	95
EPalm1	W1958	53-0619	06/12/09	71	8.1	8.4	0.0	0	0.0	0	85	89	92

Table 9. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Deployed Multi-probe Dissolved Oxygen Data.

Note: Descriptions of data qualifiers may be found in Appendix 1.

Station ID	Unique ID	OWMID	Start Date	Deployment Duration (Hours)	Minimum Dissolved Oxygen (mg/l)	Average Dissolved Oxygen (mg/L)	Amount of Time < 5.0 mg/L (Hours)	Percentage of Time < 5.0 mg/L (%)	Amount of Time < 6.0 mg/L (Hours)	Percentage of Time < 6.0 mg/L (%)	Minimum Saturation (%)	Average Saturation (%)	Maximum Saturation (%)
EPalm1	W1958	53-0669	06/18/09	2474	--	--	--	--	--	--	--	--	--
EPalm1	W1958	53-0703	07/17/09	70.5	7.2	7.6	0.0	0	0.0	0	82	87	90
EPalm1	W1958	53-0771	08/21/09	71	5.9	6.2	0.0	0	5.2	7	71	75	78
Bad1	W1959	53-0550	05/08/09	72	7.7	8.3	0.0	0	0.0	0	82	87	97
Bad1	W1959	53-0618	06/12/09	71	7.1	7.8	0.0	0	0.0	0	79	83	87
Bad1	W1959	53-0666	06/18/09	2472	--	--	--	--	--	--	--	--	--
Bad1	W1959	53-0702	07/17/09	72	6.0	6.7	0.0	0	0.0	0	70	79	83
Bad1	W1959	53-0770	08/21/09	71	5.0	5.6	0.0	0	65.5	92	60	66	73
Tor1	W1960	53-0562	05/11/09	49.5	7.1	7.9	0.0	0	0.0	0	70	78	90
Tor1	W1960	53-0630	06/15/09	48	7.3	7.9	0.0	0	0.0	0	76	81	88
Tor1	W1960	53-0714	07/20/09	48	5.6	6.4	0.0	0	7.5	16	62	71	85
Tor1	W1960	53-0782	08/24/09	48	4.4	7.8	3.5	7	6.8	14	52	90	102
Kick1	W1961	53-0565	05/11/09	45.5	8.3	8.8	0.0	0	0.0	0	82	86	95
Kick1	W1961	53-0633	06/15/09	43.5	8.1	8.4	0.0	0	0.0	0	83	85	89
Kick1	W1961	53-0717	07/20/09	45	7.1	7.5	0.0	0	0.0	0	78	83	89
Kick1	W1961	53-0785	08/24/09	44	5.5	6.1	0.0	0	19.5	44	64	69	75
Que1	W1962	53-0561	05/11/09	43	8.2	9.3	0.0	0	0.0	0	83	97	112
Que1	W1962	53-0629	06/16/09	9	--	--	--	--	--	--	--	--	--
Que1	W1962	53-0713	07/20/09	43.5	3.6	5.2	23.3	53	34.9	80	42	64	97
Que1	W1962	53-0781	08/24/09	44	3.3	7.0	9.5	22	14.7	33	41	91	134

Table 10. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Temperature Data.

Note: Data qualifier descriptions appear in Appendix 1. Temperature data sourced from both deployed multi-probes and deployed temperature loggers.

Station ID	Unique ID	OWMID	Start Date	Deployment Duration (hours)	Minimum Temperature °C	Mean Temperature °C	Mean of the Daily Maximum Temperature °C	Amount of time temperature greater than 20 °C (Hours)	Percent of time temperature greater than 20 °C (%)	Amount of time temperature greater than 28.3 °C (Hours)
Crun1	W0622	53-0556	05/08/09	69	10.9	16.4	20.2	10.3	15	0.0
Crun1	W0622	53-0624	06/12/09	70	15.3	17.8	20.9	9.7	14	0.0
Crun1	W0622	53-0708	07/17/09	69	18.9	21.6	23.4	56.8	82	0.0
Crun1	W0622	53-0776	08/21/09	69	22.1	22.6	22.8	69.0	100	0.0
WPalm1	W0624	53-0552	05/08/09	72	13.1	15.3	16.6	0.0	0	0.0
WPalm1	W0624	53-0620	06/12/09	71	14.8	16.4	18.3	0.0	0	0.0
WPalm1	W0624	53-0672	06/18/09	2473	11.6	18.1	19.1	649.7	26	0.0
WPalm1	W0624	53-0704	07/17/09	70.5	18.2	20.2	21.6	40.9	58	0.0
WPalm1	W0624	53-0772	08/21/09	71	21.1	22.1	22.8	71.0	100	0.0
Oak1	W0637	53-0563	05/11/09	48.5	10.0	13.2	15.8	0.0	0	0.0
Oak1	W0637	53-0631	06/15/09	46.5	11.7	14.4	16.6	0.0	0	0.0
Oak1	W0637	53-0715	07/20/09	48	17.3	18.1	18.5	0.0	0	0.0
Oak1	W0637	53-0783	08/24/09	47	18.6	20.3	21.4	26.0	55	0.0
Rock1	W0638	53-0564	05/11/09	47.5	11.2	14.0	14.9	0.0	0	0.0
Rock1	W0638	53-0632	06/15/09	46	13.7	15.7	16.9	0.0	0	0.0
Rock1	W0638	53-0716	07/20/09	47	18.3	19.3	19.9	10.2	22	0.0
Rock1	W0638	53-0784	08/24/09	47	21.3	22.5	23.2	47.0	100	0.0
Cole1	W0641	53-0560	05/11/09	45	15.1	16.4	18.2	0.0	0	0.0
Cole1	W0641	53-0628	06/15/09	46	17.6	19.4	21.4	13.5	29	0.0
Cole1	W0641	53-0712	07/20/09	45.5	21.3	22.5	22.7	45.5	100	0.0
Cole1	W0641	53-0780	08/24/09	46	24.6	26.2	27.0	46.0	100	2.4
Run1	W0651	53-0557	05/08/09	69	12.5	15.9	17.9	0.0	0	0.0
Run1	W0651	53-0625	06/12/09	70	15.6	17.3	19.5	2.6	4	0.0
Run1	W0651	53-0709	07/17/09	69	19.3	21.4	22.5	59.3	86	0.0
Run1	W0651	53-0777	08/21/09	69.5	22.5	24.5	26.7	69.5	100	0.0
Lew1	W0654	53-0559	05/11/09	46	9.9	12.6	13.9	0.0	0	0.0
Lew1	W0654	53-0627	06/15/09	47	11.8	14.3	15.9	0.0	0	0.0
Lew1	W0654	53-0711	07/20/09	46	17.4	18.0	18.5	0.0	0	0.0
Lew1	W0654	53-0779	08/24/09	46.5	19.8	21.3	22.4	43.1	93	0.0
Cole2	W0661	53-0558	05/11/09	46.5	11.9	14.3	15.1	0.0	0	0.0
Cole2	W0661	53-0626	06/15/09	48	13.5	15.5	16.7	0.0	0	0.0
Cole2	W0661	53-0678	06/18/09	2470	11.8	18.7	19.6	779.8	32	0.0
Cole2	W0661	53-0710	07/20/09	47	18.5	19.4	20.2	12.0	26	0.0
Cole2	W0661	53-0778	08/24/09	47.5	21.5	22.6	23.2	47.5	100	0.0
Palm1	W0665	53-0553	05/08/09	72	13.6	15.8	17.1	0.0	0	0.0
Palm1	W0665	53-0621	06/12/09	71	14.7	16.2	17.6	0.0	0	0.0
Palm1	W0665	53-0675	06/18/09	2474.5	11.6	18.1	19.0	642.9	26	0.0
Palm1	W0665	53-0705	07/17/09	70.5	19.2	20.4	21.2	48.5	69	0.0
Palm1	W0665	53-0773	08/21/09	71	21.0	22.2	23.3	71.0	100	0.0
Run2	W1955	53-0555	05/08/09	70	12.9	16.0	17.6	0.0	0	0.0
Run2	W1955	53-0623	06/12/09	70	14.7	16.0	17.5	0.0	0	0.0
Run2	W1955	53-0707	07/17/09	69	18.1	20.1	21.2	39.4	57	0.0

Table 10. 2009 MassDEP DWM Narragansett / Mount Hope Bay Watershed Temperature Data.

Note: Data qualifier descriptions appear in Appendix 1. Temperature data sourced from both deployed multi-probes and deployed temperature loggers.

Station ID	Unique ID	OWMID	Start Date	Deployment Duration (hours)	Minimum Temperature °C	Mean Temperature °C	Mean of the Daily Maximum Temperature °C	Amount of time temperature greater than 20 °C (Hours)	Percent of time temperature greater than 20 °C (%)	Amount of time temperature greater than 28.3 °C (Hours)
Run2	W1955	53-0775	08/21/09	69	21.3	23.1	24.4	69.0	100	0.0
Full1	W1956	53-0554	05/08/09	70	11.6	14.9	16.8	0.0	0	0.0
Full1	W1956	53-0622	06/12/09	70.5	14.1	15.8	17.6	0.0	0	0.0
Full1	W1956	53-0706	07/17/09	69	16.9	19.5	21.3	25.0	36	0.0
Full1	W1956	53-0774	08/21/09	69.5	18.7	20.5	21.4	48.3	70	0.0
EPalm1	W1958	53-0551	05/08/09	72	13.3	15.9	17.2	0.0	0	0.0
EPalm1	W1958	53-0619	06/12/09	71	15.4	16.7	18.3	0.0	0	0.0
EPalm1	W1958	53-0669	06/18/09	2474	10.5	18.8	19.6	789.7	32	0.0
EPalm1	W1958	53-0703	07/17/09	70.5	19.8	21.0	22.1	66.6	95	0.0
EPalm1	W1958	53-0771	08/21/09	71	23.2	24.1	24.7	71.0	100	0.0
Bad1	W1959	53-0550	05/08/09	72	13.6	16.5	18.3	0.0	0	0.0
Bad1	W1959	53-0618	06/12/09	71	15.3	17.5	19.5	0.0	0	0.0
Bad1	W1959	53-0666	06/18/09	2472	10.4	19.3	20.7	1117.1	45	0.0
Bad1	W1959	53-0702	07/17/09	72	20.8	23.0	24.9	72.0	100	0.0
Bad1	W1959	53-0770	08/21/09	71	21.3	22.8	23.9	71.0	100	0.0
Tor1	W1960	53-0562	05/11/09	49.5	10.0	13.8	15.8	0.0	0	0.0
Tor1	W1960	53-0630	06/15/09	48	12.3	15.3	18.0	0.0	0	0.0
Tor1	W1960	53-0714	07/20/09	48	18.1	19.1	19.4	9.9	21	0.0
Tor1	W1960	53-0782	08/24/09	48	18.0	21.9	24.2	42.4	88	0.0
Kick1	W1961	53-0565	05/11/09	45.5	11.3	13.5	15.0	0.0	0	0.0
Kick1	W1961	53-0633	06/15/09	43.5	13.3	15.2	16.3	0.0	0	0.0
Kick1	W1961	53-0717	07/20/09	45	18.5	19.3	20.4	3.1	7	0.0
Kick1	W1961	53-0785	08/24/09	44	20.6	21.6	22.2	44.0	100	0.0
Que1	W1962	53-0561	05/11/09	43	14.8	16.4	17.7	0.0	0	0.0
Que1	W1962	53-0629	06/16/09	9	--	--		--		--
Que1	W1962	53-0713	07/20/09	43.5	22.9	24.5	25.7	43.5	100	0.0
Que1	W1962	53-0781	08/24/09	44	25.6	27.7	28.6	44.0	100	15.0

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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