

APPENDIX C – MWRA DATA SUMMARIES 2002-2008

Data excerpts are provided below for MWRA stations that fell within the boundaries of the DWM segments in this water quality assessment report. MWRA data were accessed online (MWRA 2008). Data were copied into excel spreadsheets and analyzed using pivot tables to summarize results. The following abbreviations are used in the tables: Count or n = number of measurements, Min = minimum, Max = maximum, Avg = average.

Reference: MWRA. 2008. *Raw Water Quality Data from the Harbor and Tributaries Monitoring Program*. Massachusetts Water Resources Authority. Boston, MA. Accessed online on 23 March 2010. http://www.mwra.state.ma.us/harbor/html/nr_wq.htm#data.

Data summaries are organized by segment, sampling station location information, surface and bottom dissolved oxygen (DO) and DO saturation measurements, total nitrogen and phosphorus and chlorophyll a concentrations, geometric means of Enterococci bacteria data for surface water samples for both the primary and secondary contact recreational seasons by year, and lastly depth, Secchi disk depth, surface and bottom total suspended solids (TSS) data.

Winthrop Bay (Segment MA70-10): From the tidal flats at Coleridge Street, Boston (East Boston) to a line between Logan International Airport and Point Shirley, Boston/Winthrop.

MWRA has conducted water quality monitoring at one station in Winthrop Bay between 2002 and 2008 as part of two studies. A brief description of this site is provided below:

MWRA Study	Station ID	Location Description
CSORWM and BHWQM	130	WINTHROP HARBOR, GREEN CAN #1

Segment	MA70-10	Surface or Bottom	n	Dissolved Oxygen (mg/L)			DO Saturation (%)		
				Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
130	2002	B	34	6.29	11.45	0	75.5	110.3	1
		S	37	6.3	14.65	0	78.6	116.6	1
	2003	B	30	6.77	11.69	0	71.9	104.9	0
		S	31	6.84	11.86	0	78.6	109.5	0
	2004	B	24	6.17	11.98	0	73.8	109.2	0
		S	24	6.28	11.77	0	79.5	112.7	2
	2005	B	23	6.48	11.73	0	68.7	107	0
		S	23	6.61	11.81	0	70.3	113.4	1
	2006	B	30	6.37	10.94	0	80.1	101.4	0
		S	30	6.56	11	0	81.1	107.7	0
	2007	B	22	7.03	10	0	79	100.7	0
		S	22	7.18	10.09	0	80.5	101.3	0
	2008	B	20	5.95	8.99	0	78.3	97.7	0
		S	20	6.29	8.92	0	82.9	98.4	0
Grand Total			370	5.95	14.65	0	68.7	116.6	5

Segment	MA70-10	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyl a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
130	2002	S	39	0.203	0.574	0.289	39	0.028	0.085	0.047	39	0.84	16.40	5.14
		B	39				39				39	1.13	17.80	5.50
	2003	S	33	0.184	0.394	0.269	33	0.024	0.083	0.040	33	1.37	9.82	4.30
		B	33				33				33	1.28	11.80	3.98
	2004	S	25	0.130	0.404	0.257	25	0.031	0.084	0.049	25	0.48	13.30	3.80
		B	25				25				25	0.50	8.10	3.64
	2005	S	22	0.053	0.388	0.267	22	0.015	0.054	0.036	22	0.31	4.52	2.25
		B	22				22				22	0.29	5.19	2.44
	2006	S	6	0.130	0.445	0.299	6	0.018	0.045	0.032	6	0.20	3.95	1.20
		B	6				6				6	0.67	4.39	1.47
	2008	S	1	0.316	0.316	0.316	1	0.053	0.053	0.053	1	2.88	2.88	2.88
	Grand Total			126	0.053	0.574	0.274	126	0.015	0.085	0.043	251	0.20	17.80

Segment	MA70-10	Surface or Bottom sample	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geometric mean Enterococci (#/100 mL)	Count	Geometric mean Enterococci (#/100 mL)
130	2002	S	28	6	39	6
	2003	S	17	5	26	5
	2004	S	15	5	25	5
	2005	S	12	5	22	5
	2006	S	16	8	30	8
	2007	S	16	10	22	10
	2008	S	19	17	21	17

Segment	MA70-10	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
		Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
130	2002	38	4.8	8.6	1.1	4.0	1	38	1.29	9.05	4.6	36	1.57	12.7	5.3
	2003	34	4.4	8.6	1.3	3.7	0	34	1.44	5.75	3.4	34	1.8	12.2	5.7
	2004	25	5.5	8.6	1.2	6.3	0	25	0.39	6.8	3.1	25	0.67	10.1	4.3
	2005	22	4.9	8.6	1.1	3.4	1	22	1.53	6.42	3.7	22	1.5	8.52	4.9
	2006	30	5.0	8.7	1.5	3.8	0	6	0.43	2.92	1.9	6	1.75	4.04	2.7
	2008	21	4.2	7.8	1.1	3.0	1								
Grand Total		170	4.2	8.7	1.1	6.3	3	3	0.39	9.05	3.7	123	0.67	12.7	5.0

Boston Inner Harbor (Segment MA70-02): From the Mystic and Chelsea rivers, Chelsea/Boston, to the line between Governors Island and Fort Independence, Boston (East Boston) (including Fort Point, Reserved and Little Mystic channels).

MWRA has conducted water quality monitoring at eight stations in Boston Inner Harbor between 2002 and 2008. A brief description of these sites ordered from the most inward area and proceeding out is provided below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
CSORWM	015	INNER, CONFL MYSTIC/CHELSEA R	9.8 – 16.6
CSORWM	014	INNER, MOUTH CHARLES, C.G. BASE	9.5 - 13.1
BHWQM	138	INNER HARBOR; OFF NEW ENGLAND AQUARIUM	6.5 – 12.5
CSORWM	019	INNER, OFF MOUTH OF FORT PT. CHNL	5.9 – 11.7
CSORWM	075	INNER, FORT PT. CHNL @ BROADWAY	0.8 – 3.1
CSORWM	018	INNER, FORT PT. CHNL @ SUMMER ST	10.4 – 10.7
CSORWM	022	INNER, RESERVED CHANNEL IN MIDDLE	9.0 – 16.5
CSORWM, BHWQM	024	INNER, MOUTH OF HARBOR, R.BUOY10	6.2 – 16.4

Segment	MA70-02	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
014	2002	B	23	5.88	10.01	0	65.6	98.7	0
		S	25	5.93	13.04	0	63.7	100.2	0
	2003	B	21	5.83	9.76	0	64	99.5	0
		S	21	6.49	10.37	0	76.9	99.7	0
	2004	B	20	6.43	9.09	0	76.7	98.4	0
		S	20	6.23	8.77	0	78.3	99.2	0
	2005	B	22	5.4	10.76	0	66.8	108.3	0
		S	24	5.81	9.84	0	75.1	102	0
	2006	B	23	5.72	8.65	0	69.4	101.3	0
		S	24	5.35	9.17	0	64.6	93.9	0
	2007	B	21	5.81	8.73	0	68.6	92.2	0
		S	21	5.62	9.33	0	66.5	105.4	0
	2008	B	18	5.18	9.88	0	66.3	105.6	0
		S	20	5.77	10.03	0	70.2	111.6	1
015	2002	B	17	6.34	9.85	0	79	98	0
		S	20	6.05	13.02	0	79.1	105.4	0
	2003	B	18	6.06	9.61	0	73.5	97.5	0

		S	18	6.43	10.71	0	79.2	120.8	1
	2004	B	21	6.45	9.07	0	78.5	100.4	0
		S	21	6.88	11.15	0	82	143.3	5
	2005	B	22	5.41	9.95	0	66.5	97.4	0
		S	24	6.14	10.43	0	76.3	117.6	2
	2006	B	22	5.46	8.69	0	66.7	101.7	0
		S	23	6.19	10.71	0	72.5	127.7	3
	2007	B	20	5.76	8.82	0	70	90.6	0
		S	21	6.21	9.27	0	74.4	123.9	3
	2008	B	18	5.2	9.66	0	66.7	103.4	0
		S	20	6.21	10.39	0	74.1	120.7	2
018	2002	B	20	5.38	9.83	0	64.2	96.5	0
		S	21	5.44	13.37	0	63.4	101.6	0
	2003	B	18	5.82	9.4	0	74.3	96.3	0
		S	18	5.36	9.78	0	68.6	94.5	0
	2004	B	41	5.51	10.34	0	71.2	107	0
		S	43	5.21	10.32	0	69.6	107.6	0
	2005	B	26	3.45	11.79	2	42.4	115.9	1
		S	28	5.34	12.09	0	68.6	107.6	0
	2006	B	39	4.83	11.08	1	52.2	106.6	0
		S	40	5.17	11.5	0	66	108.5	0
	2007	B	41	4.29	12.04	1	55.1	116.7	1
		S	42	5.59	14.14	0	67.4	133.7	3
	2008	B	40	3.72	12.4	3	48.3	123.4	1
		S	42	4.95	12.34	1	63.4	120.2	3
019	2002	B	21	5.95	10.26	0	66.4	100.1	0
		S	24	5.75	13.41	0	64.6	102.9	0
	2003	B	21	6.55	9.78	0	77.9	99.6	0
		S	21	6.61	10.2	0	78.5	98.7	0
	2004	B	24	6.44	9.25	0	78.4	93.9	0
		S	23	6.35	9.03	0	79.8	109	0
	2005	B	24	6.28	10.24	0	74.6	100.8	0
		S	25	6.25	10.29	0	75.9	114.1	1
	2006	B	33	5.96	10.02	0	72.4	110.3	1
		S	33	6.09	10.27	0	73.5	118.3	2
	2007	B	34	5.89	12.76	0	69.8	157.8	2
		S	34	6.15	13.1	0	74	163.1	3
	2008	B	35	5.4	10.2	0	68.9	108.9	0
		S	35	5.91	10.72	0	70.7	116.2	4

022	2002	B	25	6.34	11.65	0	70.4	109.1	0
		S	27	6.53	14.29	0	72	110.9	1
	2003	B	22	6.56	10.79	0	74.7	105.7	0
		S	22	6.94	10.72	0	82.2	120.4	1
	2004	B	31	5.98	9.86	0	72.4	98.7	0
		S	31	6.31	9.8	0	82.5	112.8	1
	2005	B	30	6.21	11.36	0	74.5	105.6	0
		S	31	6.46	11.82	0	78.4	112.8	1
	2006	B	27	6.04	9.8	0	69.9	102.3	0
		S	27	6.33	10.06	0	74.6	118	1
	2007	B	21	5.57	8.64	0	65.7	94.2	0
		S	21	6.33	9.42	0	76.7	117.2	3
	2008	B	19	5.82	9.89	0	72.3	105.2	0
		S	20	5.8	10.7	0	74.4	118.9	4
024	2002	B	54	6.74	11.75	0	74.1	109.9	0
		S	63	6.64	14.42	0	73.7	111.4	3
	2003	B	55	6.94	12.1	0	72.4	112.1	1
		S	55	6.53	12.84	0	80.3	114.5	4
	2004	B	52	7.05	11.79	0	80.6	108.5	0
		S	54	6.82	12.1	0	81.2	117.9	4
	2005	B	44	6.32	10.87	0	68	108	0
		S	51	6.41	12.12	0	68	113	4
	2006	B	45	6.52	10.54	0	75.5	118.6	1
		S	50	6.54	11.62	0	76.7	122.7	5
	2007	B	40	6.17	10.4	0	73.5	102.3	0
		S	46	6.85	11.01	0	81	112.4	3
	2008	B	40	5.34	10.88	0	69	112.8	1
		S	50	6.14	11.04	0	77.7	115.6	3
075	2003	B	20	4.37	9.1	1	55.2	105.4	0
		S	20	3.72	10.15	3	43	115.1	1
	2004	B	32	4.16	9.15	3	52.8	99.8	0
		S	34	3.75	9.78	6	45.8	103.6	0
	2005	B	9	2.92	11.42	2	37.5	107	0
		S	9	2.47	11.05	3	31.5	100.2	0
	2006	B	19	3.54	9.88	3	45.5	102	0
		S	20	3.98	10.69	4	50.4	99.1	0
	2007	B	21	4.13	10.94	2	48.2	108.5	0
		S	21	4.26	10.99	3	48.7	105.7	0
2008	B	37	2.01	11.07	16	26.4	114.2	1	

		S	38	2.62	12.76	14	34.5	113.8	1
138	2002	B	33	5.99	10.62	0	77.6	101.7	0
		S	37	6.65	13.88	0	79.6	110.5	1
	2003	B	35	5.98	12.12	0	68.9	105.1	0
		S	35	6.18	13.23	0	77.3	111.5	1
	2004	B	24	6.7	11.96	0	80.3	109.4	0
		S	24	6.53	12.21	0	79	110	0
	2005	B	24	6.03	11.51	0	64.9	104.2	0
		S	24	6.07	12.11	0	67	108.1	0
	2006	B	24	6.07	10.88	0	76.6	103.2	0
		S	25	6.37	11.59	0	77.6	109.6	0
	2007	B	22	6.76	10.35	0	79.9	94.1	0
		S	21	6.73	11.08	0	80.3	106	0
	2008	B	24	4.82	10.69	1	62.7	100.7	0
		S	24	5.17	11.04	0	67.4	100.9	0
Grand Total			3143	2.01	14.42	69	26.4	163.1	85

Segment	MA70-02		Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyl a (µg/L)			
Station ID	Year	Surface or Bottom	Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
024	2002	S	39	0.222	0.554	0.334	39	0.030	0.079	0.049	39	1.09	15.60	5.23
		B									39	1.64	20.20	5.13
	2003	S	38	0.060	0.486	0.307	38	0.018	0.055	0.039	38	0.80	14.20	4.37
		B									38	1.32	20.90	4.33
		2004	S	25	0.195	0.443	0.293	25	0.034	0.101	0.055	25	0.48	11.80
		B									25	0.51	8.74	3.06
		2005	S	23	0.195	0.508	0.341	23	0.020	0.071	0.038	23	0.32	6.23
		B									23	0.41	6.73	2.30
		2006	S	24	0.135	0.502	0.299	24	0.019	0.054	0.036	24	0.36	11.40
		B									23	0.47	11.10	2.48
		2007	S	23	0.046	0.485	0.328	23	0.012	0.056	0.037	23	0.49	9.28
		B									23	0.69	10.60	3.79
		2008	S	23	0.226	0.682	0.402	23	0.019	0.059	0.042	23	0.48	9.75
		B									23	0.62	12.90	2.67
		138	2002	S	38	0.251	0.634	0.405	38	0.036	0.081	0.056	38	0.72
B											39	1.42	24.70	4.98
2003	S		37	0.222	0.611	0.386	37	0.027	0.065	0.042	37	0.65	9.92	3.91
	B										37	1.15	31.60	4.42
2004	S		25	0.230	0.677	0.381	25	0.041	0.087	0.057	25	0.32	18.40	4.44
	B										25	0.52	13.10	3.34
2005	S		23	0.224	0.612	0.412	23	0.019	0.067	0.041	23	0.24	5.90	2.47
	B										23	0.37	8.74	1.89
2006	S		24	0.194	0.858	0.384	24	0.022	0.058	0.037	24	0.24	11.90	2.75
	B										24	0.39	13.60	2.43
2007	S		23	0.042	0.596	0.359	23	0.010	0.057	0.038	23	0.43	10.30	3.40
	B										23	0.77	11.30	3.73
2008	S	24	0.305	0.758	0.464	24	0.024	0.068	0.044	24	0.41	9.20	2.62	
	B									23	0.40	15.60	2.64	
Grand Total			389	0.042	0.858	0.363	389	0.010	0.101	0.044	777	0.24	31.60	3.65

Segment	MA70-02	Surface (S) or Bottom (B) samples	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geometric mean Enterococci (#/100 mL)	Count	Geometric mean Enterococci (#/100 mL)
Station ID	Year					
014	2002	S	16	7	26	12
	2003	S	16	12	22	15
	2004	S	15	7	19	7
	2005	S	17	8	23	11
	2006	S	17	25	25	20
	2007	S	16	10	21	10
	2008	S	16	17	21	17
015	2002	S	13	6	20	10
	2003	S	14	9	19	12
	2004	S	16	7	20	7
	2005	S	17	8	23	11
	2006	S	16	12	24	13
	2007	S	16	10	21	10
	2008	S	16	13	22	16
018	2002	S	13	15	21	21
	2003	S	14	34	19	34
	2004	S	32	64	45	60
	2005	S	20	34	37	42
	2006	S	31	173	45	152
	2007	S	33	29	47	26
	2008	S	36	58	47	47
019	2002	S	15	11	25	15
	2003	S	16	9	22	11
	2004	S	19	12	23	11
	2005	S	19	10	25	12
	2006	S	26	33	37	30
	2007	S	29	13	36	13
	2008	S	29	19	37	21
022	2002	S	16	9	27	13
	2003	S	17	10	22	10
	2004	S	25	13	31	14
	2005	S	22	14	29	14
	2006	S	19	22	29	17
	2007	S	16	11	21	13

	2008	S	16	10	21	13
075	2003	S	11	40	21	258
	2004	S	26	1056	38	625
	2005	S	8	980	19	1057
	2006	S	19	4622	26	4113
	2007	S	20	901	29	811
	2008	S	35	585	46	493
	138	2002	S	28	11	39
2003		S	20	8	30	11
2004		S	15	9	25	9
2005		S	13	12	23	14
2006		S	13	8	24	11
2007		S	13	13	23	13
2008		S	13	16	24	15

Segment	MA70-02	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
Station ID	Year	Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
014	2002	21	9.6	13.1	1.2	5.0	0								
	2003	22	9.6	12.8	1.0	4.5	1								
	2004	20	10.2	12.4	1.4	4.5	0								
	2005	24	9.5	12.6	1.6	5.3	0								
	2006	24	9.5	12.6	1.0	5.9	1								
	2008	21	10.1	12.7	1.3	3.7	0								
015	2002	20	11.3	15.7	1.8	4.0	0								
	2003	19	12.6	15.4	1.4	4.0	0								
	2004	21	13.1	15.7	1.2	4.2	0								
	2005	24	12.2	16.6	1.2	3.9	0								
	2006	24	9.8	15.8	1.0	4.0	1								
	2008	21	13.0	16.0	0.7	3.2	2								
018	2002	17	5.6	9.4	1.2	3.6	0								
	2003	19	5.7	9.5	1.3	4.0	0								
	2004	23	6.2	10.7	0.5	4.5	1								
	2005	22	5.4	10.3	0.4	5.2	2								
	2006	26	5.7	10.1	0.7	4.5	2								
	2008	27	5.4	8.8	0.6	3.9	2								
019	2002	20	5.9	10.3	1.3	4.2	0								
	2003	22	7.1	11.7	1.4	4.1	0								
	2004	24	7.5	10.4	1.3	4.1	0								
	2005	26	7.4	11.6	1.8	4.7	0								
	2006	35	6.6	10.1	1.0	4.9	1								
	2008	36	6.8	10.7	1.4	3.8	0								
022	2002	27	11.8	15.3	1.5	4.5	0								
	2003	22	12.2	15.6	1.5	3.9	0								
	2004	32	12.0	16.5	1.2	4.3	0								
	2005	31	9.0	16.5	1.6	4.5	0								
	2006	28	12.4	16.1	1.2	5.6	0								
	2008	21	12.8	15.8	1.2	2.9	0								
024	2002	65	6.2	15.3	1.3	4.5	0	39	1.2	18	3.2	38	1.47	12.4	6.0
	2003	60	9.5	16.0	1.1	3.8	1	39	1.16	13.8	3.0	39	2.37	18.6	6.4
	2004	55	9.0	16.0	1.5	6.4	0	25	0.73	4	2.2	25	0.85	9.97	4.7
	2005	53	10.0	16.4	1.6	4.0	0	23	1.06	3.52	2.2	23	2.13	12.5	5.4
	2006	52	10.4	15.9	1.5	4.5	0	24	0.24	5.52	2.3	22	1.7	13	5.5

	2007	20	9.5	15.7	1.9	4.1	0	19	1.37	11.2	2.7	19	2.07	19.7	6.0
	2008	52	9.2	15.7	1.6	4.0	0	23	1.25	4.65	2.3	23	1.01	11.2	4.9
075	2006	8	0.8	3.1	0.5	2.3	2								
	2008	22	1.0	2.9	0.2	2.3	4								
138	2002	39	6.6	11.6	1.5	4.8	0	38	0.95	5.67	2.3	37	1.4	5.17	3.0
	2003	37	6.7	12.2	1.5	3.6	0	37	0.6	5.53	1.8	37	0.47	7.5	3.0
	2004	25	6.5	12.5	1.6	5.6	0	25	0.66	3.7	2.0	25	0.22	3.98	2.6
	2005	23	6.8	10.4	1.8	3.7	0	23	0.86	3.47	1.9	23	1.34	5.49	3.0
	2006	24	7.1	11.9	1.5	5.1	0	24	0.33	2.99	1.6	24	1.42	5.16	2.5
	2007	21	6.5	10.2	1.7	4.5	0	20	0.89	2.71	1.7	20	1.11	4.81	2.5
	2008	24	6.9	10.2	1.7	4.1	0	23	1.05	3.18	1.9	23	1.78	5.74	3.0
Grand Total		1299	0.8	16.6	0.2	6.4	20	382	0.24	18	2.3	378	0.22	19.7	4.2

Dorchester Bay (Segment MA70-03): From the mouth of the Neponset River, Boston/Quincy to the line between Head Island and the north side of Thompson Island and the line between the south point of Thompson Island, Boston and Chapel Rocks, Quincy.

MWRA has conducted water quality monitoring at seven stations in Dorchester Bay between 2002 and 2008. A brief description of these sites ordered in North Dorchester Bay and then South Dorchester Bay (most inward area and proceeding outward) is provided below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
CSORWM	033	DORCHR, CARSON BCH OFF L ST.	1.7 – 5.6
CSORWM	036	DORCHR, CARSON BCH OFF BATHHOUSE	1.1 – 5.0
CSORWM	038	NORTHERN DORCHESTER BAY	1.7 – 7.4
CSORWM	040	DORCHR, MALIBU BAY	1.2 – 6.5
CSORWM	039	DORCHR, FOX POINT @ UMASS DOCK	1.3 – 5.7
BHWQM	140	COLUMBIA POINT/SAVIN HILL COVE	3.3 – 11.0
CSORWM	084	NEPONSET COLUMBIA PT @ BUOY 12	3.9 – 8.7

Segment	MA70-03	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
033	2002	B	26	5.12	14.48	0	69	109.4	0
		S	26	4.99	14.65	1	67.2	109.8	0
	2003	B	18	5.39	10.93	0	65.9	107.9	0
		S	18	7.13	10.77	0	71.4	110.8	1
	2004	B	29	6.07	10.7	0	75	107.2	0
		S	29	6.11	10.42	0	73.1	108.7	0
	2005	B	25	5.93	11.66	0	73.7	108.9	0
		S	26	6.62	11.8	0	74.5	109.3	0
	2006	B	26	6.28	9.4	0	72.2	95.2	0
		S	26	6.59	9.58	0	82.8	98	0
	2007	B	24	5.94	9.74	0	78.3	99.9	0
		S	24	6.46	9.79	0	78.3	104.2	0
	2008	B	26	5.65	10.33	0	72.3	101.9	0
		S	26	6.26	10.39	0	81.8	103.2	0
036	2002	B	28	5.01	11.86	0	67.2	110.2	1
		S	29	5.07	11.87	0	68.1	110.5	1
	2003	B	19	5.46	10.63	0	66.1	107.4	0
		S	19	6.84	10.33	0	67.9	105.7	0
2004	B	29	6.07	10.84	0	72.5	110.9	1	

		S	29	6.88	10.55	0	81.2	108.9	0
	2005	B	26	5.93	11.35	0	73.4	108.5	0
		S	27	6.82	11.68	0	76.3	108.4	0
	2006	B	26	5.54	9.72	0	65.4	92.6	0
		S	26	6.41	9.78	0	77.8	103.9	0
	2007	B	23	5.93	9.63	0	74.6	98.8	0
		S	24	6.46	9.95	0	78.8	105.4	0
	2008	B	26	5.94	10.13	0	74.5	100.1	0
		S	26	5.81	10.32	0	76.1	102.3	0
038	2002	B	26	4.98	11.95	1	66	111.3	1
		S	27	4.87	14.53	1	65.8	111.8	1
	2003	B	30	6.86	11.18	0	77.6	112.6	1
		S	31	6.98	11.73	0	84	109.9	0
	2004	B	24	7.46	12.29	0	81.4	109.8	0
		S	24	7.33	12.33	0	81.9	115.3	3
	2005	B	24	6.6	11.81	0	70.5	108.4	0
		S	24	6.55	11.75	0	69.7	111.5	1
	2006	B	24	6.76	11.42	0	78.8	105.5	0
		S	25	6.82	11.5	0	83.5	106.3	0
	2007	B	22	7.2	10.87	0	86	99.3	0
		S	22	7.12	11.38	0	84.4	103	0
	2008	B	23	5.93	10.9	0	75	103	0
		S	24	6.29	10.88	0	77.8	103.1	0
039	2002	B	20	4.13	9.42	2	54.8	94.7	0
		S	20	4.25	9.52	2	57.9	96.1	0
	2003	B	16	6.13	10.13	0	61	102	0
		S	16	5.96	9.85	0	65.2	102.7	0
	2004	B	20	6.05	10.42	0	74.9	105.2	0
		S	20	6.35	10.73	0	75.6	107.7	0
	2005	B	22	6.16	9.48	0	74	101.6	0
		S	22	5.92	9.93	0	76.1	101.1	0
	2006	B	23	5.78	8.85	0	73	93.2	0
		S	23	6.1	9.77	0	79	97.7	0
	2007	B	34	5.99	12.01	0	71.4	116.8	1
		S	35	6.04	11.84	0	71.9	110.7	1
	2008	B	33	4.86	11.55	1	63.6	116.9	1
		S	33	4.82	13.14	1	62.6	119.3	1
040	2002	B	13	3.83	7.76	2	51.9	92.1	0
		S	13	4.48	8.13	2	62	103.8	0

	2003	B	13	6.45	8.6	0	78.5	105	0
		S	13	6.39	8.65	0	76.7	112.4	1
	2004	B	20	6.4	10.65	0	73.4	107.7	0
		S	20	6.52	11.35	0	77.6	117.4	2
	2005	B	21	5.85	9.95	0	73.3	118.5	1
		S	22	6.35	10.43	0	78.1	111.2	1
	2006	B	22	6.32	8.86	0	73.7	93	0
		S	22	6.57	9.5	0	75.4	93.4	0
	2007	B	21	6.47	10.08	0	79.7	105.7	0
		S	22	6.48	10.22	0	80.3	108.8	0
	2008	B	18	5.47	9.14	0	71.2	101.7	0
		S	18	5.51	8.9	0	73.1	101.3	0
084	2002	B	20	4.57	9.72	2	61.7	97.2	0
		S	20	4.58	9.74	2	62.3	101.6	0
	2003	B	16	6.68	10.2	0	63.8	105.9	0
		S	16	6.62	10.24	0	67.5	108.6	0
	2004	B	20	7.09	10.97	0	78.3	109.7	0
		S	20	7.15	10.55	0	79	106.6	0
	2005	B	19	7.16	9.63	0	82.6	100.7	0
		S	21	6.57	10.02	0	75.3	102.7	0
	2006	B	23	6.37	8.91	0	73.8	93.5	0
		S	23	6.73	9.62	0	77.9	96	0
	2007	B	22	6.78	10.08	0	78.8	103.1	0
		S	24	6.43	10.15	0	76.8	107.4	0
2008	B	25	5.74	9.95	0	75.1	98.7	0	
	S	26	5.71	10.32	0	74.1	101.4	0	
140	2002	B	33	5.97	11.37	0	79.8	106.8	0
		S	37	6.01	14.46	0	79.2	107.1	0
	2003	B	35	6.4	12.68	0	76.9	105.2	0
		S	36	6.32	13.59	0	77.2	105.2	0
	2004	B	22	6.48	11.79	0	81.4	107.6	0
		S	21	6.59	11.91	0	82	105.5	0
	2005	B	19	6.33	11.7	0	67.6	106.6	0
		S	20	6.25	12.3	0	67.7	109.3	0
	2006	B	22	6.74	11.72	0	78.8	108	0
		S	24	6.82	11.54	0	79.1	102.2	0
	2007	B	21	6.85	10.9	0	81.7	98.6	0
		S	22	6.95	11.37	0	82.5	102.2	0
2008	B	22	5.04	10.55	0	65.7	99.6	0	

	S	23	5.34	11.15	0	70.9	101.2	0
Grand Total		2303	3.83	14.65	17	51.9	119.3	20

Segment	MA70-03	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyl a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
038	2003	S	32	0.146	0.666	0.292	32	0.026	0.074	0.041	32	1.29	12.10	4.33
		B					32	1.36	10.70	3.99				
	2004	S	25	0.171	0.426	0.269	25	0.031	0.090	0.050	25	0.51	8.71	3.65
		B					24	0.46	12.00	4.31				
	2005	S	22	0.202	0.758	0.331	22	0.020	0.064	0.039	22	0.23	7.59	2.75
		B					23	0.32	6.03	2.40				
	2006	S	24	0.141	0.605	0.282	24	0.020	0.053	0.034	24	0.23	9.68	2.80
		B					23	0.65	10.00	2.89				
	2007	S	23	0.072	0.454	0.293	23	0.015	0.053	0.036	23	0.64	11.20	4.53
		B					23	0.85	12.90	4.90				
	2008	S	24	0.207	0.521	0.359	24	0.021	0.064	0.042	24	0.47	10.30	3.01
		B					23	0.91	13.20	3.64				
140	2002	S	39	0.236	0.633	0.393	39	0.033	0.085	0.057	39	0.87	27.40	5.41
		B					39	1.65	16.10	5.75				
	2003	S	37	0.049	0.765	0.385	37	0.013	0.288	0.051	37	0.72	10.80	3.95
		B					37	1.13	26.90	4.90				
	2004	S	23	0.223	0.739	0.392	23	0.036	0.132	0.066	23	0.60	17.40	4.32
		B					23	0.62	15.30	5.03				
	2005	S	21	0.256	0.723	0.457	21	0.022	0.062	0.044	21	0.36	4.98	2.29
		B					21	0.41	6.39	2.44				
	2006	S	24	0.151	0.763	0.418	24	0.024	0.066	0.041	24	0.18	5.62	2.51
		B					24	0.50	7.90	2.80				
	2007	S	23	0.079	0.616	0.375	23	0.017	0.087	0.043	23	0.49	12.40	4.19
		B					23	0.76	14.10	5.67				
2008	S	23	0.283	0.727	0.478	23	0.030	0.078	0.050	23	0.58	11.00	2.99	
	B					23	0.85	12.60	2.96					
Grand Total			340	0.049	0.765	0.363	340	0.013	0.288	0.046	678	0.18	27.40	3.91

Segment	MA70-03		Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Surface or Bottom	Count	Geometric mean Enterococci (#/100 mL)	Count
033	2002	S	18	7	25	9
	2003	S	18	6	22	6
	2004	S	26	9	29	9
	2005	S	18	8	26	9
	2006	S	20	10	30	10
	2007	S	18	12	24	11
	2008	S	23	14	29	14
	036	2002	S	23	8	31
2003		S	19	5	24	5
2004		S	26	10	29	11
2005		S	19	11	27	11
2006		S	20	11	30	10
2007		S	20	19	26	16
2008		S	25	20	32	20
038		2002	S	19	6	26
	2003	S	20	6	25	6
	2004	S	15	5	25	5
	2005	S	13	6	23	7
	2006	S	14	10	25	9
	2007	S	13	11	23	10
	2008	S	13	10	24	12
	039	2002	S	14	8	18
2003		S	16	8	20	9
2004		S	18	13	20	15
2005		S	15	14	22	16
2006		S	17	16	25	20
2007		S	25	22	38	22
2008		S	26	31	36	36
040		2002	S	11	10	12
	2003	S	14	7	15	7
	2004	S	18	11	20	12
	2005	S	16	9	22	13
	2006	S	15	11	23	13

	2007	S	16	12	22	12
	2008	S	18	12	20	13
084	2002	S	14	6	18	8
	2003	S	16	7	20	7
	2004	S	18	7	20	9
	2005	S	14	8	21	10
	2006	S	17	14	25	15
	2007	S	18	13	24	12
	2008	S	23	18	29	21
140	2002	S	28	10	39	12
	2003	S	20	15	30	20
	2004	S	15	23	23	18
	2005	S	12	13	21	15
	2006	S	13	13	24	14
	2007	S	13	10	23	12
	2008	S	12	15	23	18

Segment	MA70-03	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)					
		Station ID	Year	Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
033		2002	26	2.0	5.6	0.9	3.4	3									
		2003	22	2.4	5.1	1.3	2.7	0									
		2004	29	2.1	5.1	1.1	3.1	1									
		2005	27	2.6	5.6	1.3	3.8	0									
		2006	28	2.4	5.4	1.2	3.5	0									
		2008	28	1.7	5.5	0.7	3.2	4									
036		2002	25	1.9	4.6	0.7	3.0	3									
		2003	24	1.6	5.0	1.2	3.4	0									
		2004	29	1.1	4.3	1.2	2.9	0									
		2005	27	1.5	4.4	1.0	3.3	2									
		2006	28	2.3	5.0	1.2	4.0	0									
		2008	28	1.2	4.1	0.8	3.5	3									
038		2002	27	1.7	5.2	1.0	3.3	1									
		2003	33	1.9	5.9	1.1	4.0	2	32	1	10.3	3.3	33	1.63	10.2	4.7	
		2004	24	2.0	5.2	1.4	3.4	0	24	0.24	4.9	2.5	23	0.24	7.8	3.5	
		2005	22	2.2	5.0	1.2	3.5	0	22	1.58	6.76	3.2	22	1.78	6.49	3.9	
		2006	23	2.4	4.6	1.6	3.1	0	23	0.24	6.78	2.9	23	0.24	7.85	3.4	
		2007	20	2.5	5.2	1.5	4.0	0	19	1.51	5.56	2.8	19	1.81	12.4	3.8	

	2008	23	1.8	7.4	1.5	3.6	0	22	1.48	8.22	3.2	22	1.86	16.1	4.1
039	2002	19	2.0	5.0	0.7	2.5	4								
	2003	20	1.3	5.7	0.6	2.2	5								
	2004	20	2.0	5.2	0.7	2.2	5								
	2005	26	1.9	5.4	0.6	3.0	3	7	2.08	9.29	4.6				
	2006	35	2.5	5.7	1.0	2.5	2	17	1.83	5.18	3.4				
	2007	16	2.2	5.5	1.4	3.6	0	15	1.23	20.4	5.4				
	2008	37	1.9	5.7	0.6	3.5	2	10	2.38	10.7	5.5				
040	2002	13	1.6	4.4	0.8	2.1	3								
	2003	15	1.4	4.4	0.9	2.0	2								
	2004	20	1.4	4.7	1.0	2.3	3								
	2005	22	1.2	6.5	0.7	2.5	3								
	2006	23	1.8	4.5	1.0	2.4	3								
	2008	20	1.3	4.2	0.9	2.1	4								
084	2002	20	4.7	8.4	0.9	3.2	1								
	2003	20	4.8	8.5	1.0	2.9	1								
	2004	20	5.3	8.1	1.4	2.2	0								
	2005	21	5.4	8.3	1.0	3.0	2								
	2006	24	3.9	8.7	1.4	3.3	0								
	2008	28	4.6	8.1	1.0	3.2	3								
140	2002	39	5.6	8.9	0.6	4.4	8	39	1.8	13.8	5.6	37	1.47	24.1	8.4
	2003	38	5.3	11.0	0.6	3.0	5	37	1.05	9.4	4.1	37	1.44	21	7.3
	2004	23	4.4	9.0	1.0	3.3	4	23	1.97	9.4	4.4	22	2.4	15.8	6.7
	2005	21	4.4	10.6	0.9	3.3	3	21	2.02	8.67	4.4	21	2.31	24.3	8.1
	2006	24	4.8	8.5	1.0	4.0	1	24	1.17	11.4	4.3	24	1.48	14.6	6.4
	2007	22	4.8	9.0	1.2	4.1	0	21	1.62	12.4	4.4	21	1.67	18.1	5.8
	2008	23	3.3	9.8	1.1	3.1	2	23	2	11.6	5.2	23	2.13	48	8.7
	Grand Total		1102	1.1	11.0	0.6	4.4	88	379	0.24	20.4	4.1	327	0.24	48

Quincy Bay (Segment MA70-04): From Bromfield Street near the Wollaston Yacht Club, northeast to N42 17.3 W71 00.1, then southeast to Houghs Neck near Sea Street and Peterson Road (formerly referred to as the "Willows"), Quincy.

MWRA has conducted water quality monitoring at two stations in this segment of Quincy Bay between 2002 and 2008 as described below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
CSORWM	047	QUINCY WOLLASTON BCH @ SACHEM ST	1.1 – 5.7
BHWQM	077	QUINCY OFF OF MERRYMOUNT PARK	2.3 – 6.1

Segment	MA70-04	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
047	2002	B	3	6.7	10.56	0	85.4	97.6	0
		S	4	7.34	10.86	0	94.2	98.2	0
	2003	B	3	7.46	10.39	0	89.3	106.7	0
		S	3	7.68	10.52	0	91.4	103.3	0
	2006	B	22	6.49	9.92	0	76	95.4	0
		S	22	6.63	10.15	0	83.2	107	0
	2007	B	21	6.57	9.73	0	79.7	102.3	0
		S	21	6.96	9.68	0	81.7	102.8	0
	2008	B	17	5.44	9.47	5	70.4	102.9	0
		S	17	5.81	9.37	3	77.3	106.4	0
077	2002	B	35	6.51	13.91	0	80.8	112.3	1
		S	37	6.17	14.89	0	83	120.2	2
	2003	B	32	6.72	12.61	0	78.7	105.4	0
		S	33	7.02	12.87	0	78.4	112	1
	2004	B	21	6.91	11.71	0	83.2	107.3	0
		S	21	7.24	11.67	0	82.7	107	0
	2005	B	22	6.73	11.77	0	71.7	104.3	0
		S	22	6.68	11.93	0	71.2	113.3	2
	2006	B	7	8.11	11.15	0	85.2	100.9	0
		S	7	7.75	11.33	0	84.3	104.3	0
	2008	B	1	6.77	6.77	0	85.7	85.7	0
		S	1	7.59	7.59	0	96.9	96.9	0
Grand Total			372	5.44	14.89	8	70.4	120.2	6

Segment	MA70-04	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyl a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
077	2002	S	39	0.186	0.354	0.260	39	0.024	0.074	0.047	39	1.68	13.40	4.69
		B									39	1.42	13.30	4.74
	2003	S	34	0.140	0.346	0.229	34	0.024	0.049	0.036	34	0.98	10.70	3.94
		B									33	0.96	14.30	3.92
	2004	S	23	0.165	0.362	0.226	23	0.028	0.142	0.056	23	0.65	6.82	2.81
		B									23	0.48	6.86	3.53
	2005	S	21	0.163	0.414	0.260	21	0.019	0.056	0.033	21	0.39	5.11	2.34
		B									21	0.35	4.93	2.34
	2006	S	6	0.136	0.334	0.252	6	0.014	0.041	0.028	6	0.12	5.32	1.41
		B									6	0.57	5.67	1.69
	2008	S	1	0.273	0.273	0.273	1	0.045	0.045	0.045	1	4.82	4.82	4.82
	Grand Total			124	0.136	0.414	0.245	124	0.014	0.142	0.042	246	0.12	14.30

Segment	MA70-04	Surface or Bottom	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geomean Enterococci (#/100 mL)	Count	Geomean Enterococci (#/100 mL)
047	2002	S	3	5	5	7
	2003	S	2	5	3	5
	2006	S	16	6	23	6
	2007	S	16	10	22	10
	2008	S	16	10	18	10
077	2002	S	27	5	38	5
	2003	S	17	5	27	5
	2004	S	15	5	23	5
	2005	S	11	5	21	7
	2006	S	Not sampled		6	6
	2008	S	1		1	

Segment	MA70-04	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
Station ID	Year	Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
047	2003	3	3.3	4.6	1.5	2.4	0								
	2006	23	2.2	5.7	1.1	2.9	1								
	2008	18	1.1	3.6	0.6	3.4	2								
077	2002	39	2.7	5.7	0.5	4.3	3	38	1.47	12.9	4.7	37	1.47	13	5.7
	2003	35	2.6	6.1	1.0	3.8	3	35	1.14	10.8	3.4	35	1.38	9.92	4.4
	2004	23	2.3	5.8	1.1	3.5	1	22	1.13	9.2	3.2	22	1.4	8.32	4.0
	2005	21	3.0	5.9	1.2	3.4	0	21	0.97	6.16	2.9	20	0.95	9.56	4.2
	2006	6	3.2	5.8	2.5	4.0	0	6	1.27	2.43	2.1	6	2.13	4.05	2.6
	2008	1	2.9	2.9	1.6	1.6	0								
Grand Total		169	1.1	6.1	0.5	4.3	10	122	0.97	12.9	3.6	120	0.95	13	4.6

Quincy Bay (Segment MA70-05): Quincy Bay, north of the class SA waters (segment MA70-04), Quincy to the line between Moon Head and Nut Island, Quincy.

MWRA has conducted water quality monitoring at one location in this segment, south of Hangmans Island, Quincy (Station 139) between 2002 and 2008 as described below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
BHWQM	139	HANGMANS ISLAND	2.5 – 11.0

Segment	MA70-05	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
139	2002	B	34	6.81	11.91	0	81.9	111.5	1
		S	37	6.92	14.67	0	85.2	112.5	2
	2003	B	32	6.85	12.82	0	78.5	105.5	0
		S	33	7.25	13.15	0	81.4	112.6	1
	2004	B	25	7.58	12.02	0	83.5	111.8	1
		S	25	7.46	12.05	0	82.6	111.1	1
	2005	B	20	6.65	11.26	0	71	107.4	0
		S	20	6.66	11.17	0	71.1	113	2
	2006	B	22	6.68	11	0	80.5	100	0
		S	23	6.94	11.17	0	83.8	101.9	0
	2007	B	22	6.84	11.21	0	85.4	101.4	0
		S	22	7.04	12.04	0	86.6	109	0
	2008	B	23	5.6	10.6	0	75.8	98.3	0
		S	23	6.27	10.85	0	84.1	102.5	0
Grand Total			361	5.6	14.67	0	71	113	8

Segment	MA70-05	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyl a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
139	2002	S	39	0.184	0.371	0.249	39	0.024	0.070	0.044	39	1.59	12.00	4.66
		B					39	1.56	15.20	5.13				
	2003	S	34	0.142	0.339	0.227	34	0.022	0.057	0.035	34	0.83	14.60	3.90
		B					34	0.94	12.80	3.87				
	2004	S	25	0.162	0.381	0.233	25	0.028	0.393	0.068	25	0.46	7.07	3.03
		B					25	0.46	6.80	3.07				
	2005	S	21	0.170	0.403	0.253	21	0.018	0.054	0.034	21	0.29	4.43	2.13
		B					21	0.29	6.02	2.37				

2006	S	23	0.102	0.322	0.231	23	0.017	0.052	0.032	23	0.20	5.27	2.00	
	B					23				23	0.50	3.98	1.97	
2007	S	23	0.051	0.389	0.238	23	0.009	0.070	0.035	23	0.49	9.48	3.23	
	B									23	0.63	12.30	3.54	
2008	S	23	0.184	0.470	0.289	23	0.024	0.058	0.038	23	0.66	6.46	2.19	
	B									23	0.51	7.57	2.43	
Grand Total			188	0.051	0.470	0.245	188	0.009	0.393	0.041	376	0.20	15.20	3.31

Segment	MA70-05	Surface or Bottom	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geomean Enterococci (#/100 mL)	Count	Geomean Enterococci (#/100 mL)
Station ID	Year					
139	2002	S	28	5	39	6
	2003	S	17	5	27	6
	2004	S	17	7	27	7
	2005	S	11	5	21	6
	2006	S	12	5	23	6
	2007	S	13	10	23	10
	2008	S	12	10	23	10

Segment	MA70-05	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
		Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
Station ID	Year														
139	2002	39	2.5	7.1	1.1	4.1	1	39	1.48	9.75	4.3	38	1	10	4.8
	2003	35	3.5	7.2	1.0	3.2	1	35	1.28	7.48	3.1	35	1.51	7.91	4.5
	2004	27	3.6	11.0	1.6	6.0	0	25	0.24	7.7	2.7	24	0.24	10	3.6
	2005	21	3.6	7.0	1.3	4.3	0	21	1.26	5.77	2.7	21	0.95	6.5	3.6
	2006	23	3.7	6.7	1.5	4.1	0	23	0.71	7.75	3.0	23	0.24	7.16	3.7
	2007	22	3.9	6.5	1.7	4.3	0	21	1.4	4.45	2.8	21	1.68	6.78	3.7
	2008	23	3.4	6.7	1.2	4.4	0	23	1.32	9.54	3.4	23	1.64	8.18	4.4
Grand Total		190	2.5	11.0	1.0	6.0	2	187	0.24	9.75	3.2	185	0.24	10	4.2

Hingham Bay (Segment MA70-06): The area north of the mouth of the Weymouth Fore River extending on the west along the line between Nut Island and the south point of West Head, and on the east side along a line from Prince Head just east of Pig Rock to the mouth of the Weymouth Fore River (midway between Lower Neck and Manot Beach), Quincy.

MWRA has conducted water quality monitoring at one location in this segment of Hingham Bay, at the Red Bouy #2 at Quincy Yacht Club, Quincy (Station 080) between 2002 and 2008 as described below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
CSORWM	080	QUINCY, QUINCY Y.C., RED BUOY#2	2.2 – 8.3

Segment	MA70-06	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
080	2004	B	1	11.75	11.75	0	111.9	111.9	1
		S	1	11.9	11.9	0	113.3	113.3	1
	2006	B	22	6.68	8.99	0	81.8	96.7	0
		S	22	6.81	9.33	0	82.3	99.9	0
	2007	B	21	7.16	9.7	0	78.5	101.7	0
		S	21	7.21	9.78	0	79.8	103.8	0
	2008	B	17	6.3	8.8	0	82.7	97.9	0
		S	17	6.33	8.88	0	83.2	100.1	0
Grand Total			122	6.3	11.9	0	78.5	113.3	2

Segment	MA70-06	Surface or Bottom	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geomean Enterococci (#/100 mL)	Count	Geomean Enterococci (#/100 mL)
080	2004	S	2	Not calculated (too few samples)	2	Not calculated (too few samples)
	2006	S	16	5	23	5
	2007	S	15	10	21	10
	2008	S	16	10	18	10

Segment	MA70-06	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
		Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
080	2004	2	4.9	6.6	2.3	2.7	0								
	2006	23	3.4	8.3	1.8	3.6	0								
	2008	18	2.2	5.5	1.1	3.5	1								
Grand Total		43	2.2	8.3	1.1	3.6	1								

Hingham Bay (Segment MA70-07): The area defined between Peddocks Island and Windmill Point; from Windmill Point southeast to Bumkin Island; from Bumkin Island southeast to Sunset Point; from Sunset Point across the mouth of the Weir River to Worlds End; from Worlds End across the mouth of Hingham Harbor to Crow Point; from Beach Lane, Hingham across the mouth of the Weymouth Back River to Lower Neck; and from Lower Neck midway across the mouth of the Weymouth Fore River.

MWRA has conducted water quality monitoring at one location in this segment of Hingham Bay, at the Crow Point Flats (Station 124) between 2002 and 2008 as described below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
BHWQM	124	CROW POINT FLATS	3.1 – 9.7

Segment	MA70-07	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
124	2002	B	32	6.55	11.68	0	83.2	108.9	0
		S	35	6.89	14.9	0	82.9	109.6	0
	2003	B	28	6.89	11.51	0	83.2	112	1
		S	30	6.89	13.03	0	83.5	106.8	0
	2004	B	21	7.05	11.62	0	82	105.6	0
		S	22	7.14	11.36	0	71.3	113.7	1
	2005	B	21	6.51	11.25	0	69.5	105.1	0
		S	21	6.67	11.66	0	71.3	109.9	0
	2006	B	10	7.16	10.55	0	82	100.7	0
		S	10	7.48	10.37	0	82.8	102.2	0
	2007	B	4	7.6	11.18	0	92.9	100.5	0
		S	4	7.71	11.81	0	93.8	106.6	0
	2008	B	5	6.09	10.42	0	82.9	97.9	0
		S	5	6.22	10.73	0	85	100.5	0
Grand Total			248	6.09	14.9	0	69.5	113.7	2

Segment	MA70-07	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyll a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
124	2002	S	36	0.182	0.413	0.255	36	0.026	0.069	0.045	36	1.32	15.90	4.66
		B									37	1.61	16.90	5.19
	2003	S	31	0.158	0.304	0.231	31	0.023	0.069	0.036	31	0.94	7.31	3.68
		B									31	1.13	8.61	3.58
	2004	S	23	0.165	0.288	0.221	23	0.033	0.169	0.057	23	0.70	6.49	2.97
		B									23	0.60	7.88	3.09
	2005	S	20	0.183	0.466	0.261	20	0.016	0.053	0.035	20	0.45	6.48	2.73
		B									20	0.38	5.52	2.63
	2006	S	9	0.122	0.340	0.217	9	0.016	0.046	0.031	9	0.34	4.89	1.64
		B									9	0.49	3.70	1.66
	2007	S	4	0.206	0.223	0.214	4	0.020	0.037	0.028	4	2.93	4.83	3.47
		B									4	1.76	11.40	5.02
	2008	S	5	0.057	0.347	0.238	5	0.012	0.056	0.038	5	2.12	4.50	3.15
		B									4	1.82	5.76	3.62
Grand Total			128	0.057	0.466	0.239	128	0.012	0.169	0.042	256	0.34	16.90	3.61

Segment	MA70-07	Surface or Bottom	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geometric mean Enterococci (#/100 mL)	Count	Geometric mean Enterococci (#/100 mL)
124	2002	S	25	5	36	5
	2003	S	16	5	24	5
	2004	S	15	5	23	5
	2005	S	11	5	20	5
	2006	S	3	5	9	5
	2007	S	3	10	4	10
	2008	S	4	10	5	10

Segment	MA70-07	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
		Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
124	2002	37	4.2	8.9	1.0	4.9	2	37	1.13	9.3	4.0	36	1.17	10.8	4.7
	2003	31	4.8	9.4	1.1	4.2	2	31	1.63	7.2	3.4	31	1.78	15	4.6
	2004	23	4.5	9.7	1.5	4.8	0	23	1.3	7.3	3.2	23	1.4	7.8	3.6

	2005	20	3.1	8.7	1.1	4.1	1	20	1.25	5.89	3.4	20	1.63	8.72	4.2
	2006	9	5.2	9.0	2.2	4.9	0	8	1.59	4.13	2.6	8	0.94	7.45	3.6
	2007	4	5.7	7.3	2.0	3.7	0	4	1.88	5.74	3.4	4	2.74	6.26	4.1
	2008	5	4.2	8.1	1.1	2.6	1	4	3.36	9.42	5.5	4	3.79	9.88	6.1
Grand Total		129	3.1	9.7	1.0	4.9	6	127	1.13	9.42	3.6	126	0.94	15	4.4

Boston Harbor (Segment MA70-01): The area defined by a line from the southerly tip of Deer Island to Boston Lighthouse on Little Brewster Island, then south to Point Allerton; across Hull and West guts; across the mouths of Quincy and Dorchester bays, Boston Inner Harbor and Winthrop Bay (including President Roads and Nantasket Roads).

MWRA has conducted water quality monitoring at five stations in Boston Harbor between 2002 and 2008. A brief description of these sites ordered from the most inward area and proceeding out is provided below:

MWRA Study	Station ID	Location Description	Sampling Depth Range (m)
CSORWM	044	Dorchester Bay, Mouth Of, Day Marker #5	3.4 – 9.1
CSORWM	065	Inner, President Roads, R.Buoy#2	Not recorded
BHWQM	106	Long Island - Green Can #17	7.3 – 16.2
CSORWM	048	Quincy Off Moon Island Outfall	2.0 – 5.5
BHWQM	141	Peddocks Island	5.1 – 15.6

Segment	MA70-01	Surface or Bottom	Dissolved Oxygen (mg/L)				Dissolved Oxygen Saturation (%)		
			n	Min	Max	# measurements < Standard (i.e., # violations)	Min(%)	Max (%)	# measurements >110%
044	2002	B	25	5.24	11.75	0	67.9	110	0
		S	27	5.21	14.4	0	68.9	110.5	1
	2003	B	19	6.96	11.03	0	69.7	108.5	0
		S	19	7.11	10.99	0	74.4	115	3
	2004	B	29	6.95	10.72	0	79.1	107.9	0
		S	29	6.9	10.76	0	79.9	109.9	0
	2005	B	24	7.27	11.44	0	83.1	106.3	0
		S	27	6.97	11.77	0	74.6	109.8	0
	2006	B	25	6.56	9.71	0	78	98.3	0
		S	26	6.94	9.75	0	83	101.3	0
	2007	B	22	6.88	9.77	0	78.7	101.5	0
		S	23	6.58	9.85	0	79	104.1	0
	2008	B	27	6	10.02	0	78.2	100.3	0
		S	27	6.57	10.29	0	82.7	105	0
048	2002	B	19	4.97	9.86	1	65.4	99.4	0
		S	20	5.05	9.81	0	68.4	103	0
	2003	B	16	6.89	10	0	70.1	110.9	1
		S	16	7.11	10.07	0	70.5	113.4	4
	2004	B	20	7.15	10.25	0	82.8	103.9	0
		S	20	7.61	10.19	0	81.1	108.3	0
	2005	B	19	6.94	9.87	0	83.7	104.5	0

		S	19	7.04	10	0	87.9	110.5	1
	2006	B	23	6.4	9.32	0	80.8	98.1	0
		S	23	6.72	9.21	0	84.5	97.1	0
	2007	B	21	6.86	9.76	0	79.4	102.3	0
		S	22	7.32	9.9	0	81.1	104.6	0
	2008	B	17	5.67	8.69	0	74.8	95.2	0
		S	18	6.07	8.71	0	79.5	97.1	0
106	2002	B	30	6.61	11.49	0	79.3	108.2	0
		S	35	6.77	14.69	0	81.1	110.4	2
	2003	B	31	6.9	12.62	0	81.3	106.6	0
		S	32	7.02	12.89	0	84.1	120.1	2
	2004	B	24	7.29	12.08	0	79.1	106.6	0
		S	24	7.22	11.76	0	83.8	115.9	2
	2005	B	16	6.93	11.42	0	82.7	108.7	0
		S	22	7.05	11.82	0	75.2	119.1	1
	2006	B	16	6.79	11.33	0	80.5	105.2	0
		S	24	7.18	11.44	0	82.6	106.6	0
	2007	B	16	7.1	10.31	0	83.8	100.6	0
		S	21	7.24	10.95	0	85	107.3	0
	2008	B	19	5.96	10.66	0	74.2	99.9	0
		S	23	6.65	10.6	0	81.8	107.7	0
141	2002	B	31	6.78	11.62	0	80.1	109.5	0
		S	36	7.13	14.46	0	81.7	111.3	1
	2003	B	31	6.77	12.22	0	72.1	111.7	1
		S	33	6.93	12.68	0	79	115.3	2
	2004	B	23	7.5	11.52	0	81.1	105.8	0
		S	24	7.87	11.82	0	82.8	108.6	0
	2005	B	18	6.88	11.15	0	82	107.8	0
		S	21	7.28	11.37	0	75.6	114.3	1
	2006	B	20	6.87	10.78	0	81.8	103.3	0
		S	24	7.05	10.95	0	82.9	104.9	0
	2007	B	20	7.1	10.34	0	83.1	100.7	0
		S	22	7.12	11.26	0	83.7	106.8	0
	2008	B	19	5.75	10.64	0	74.8	99.6	0
		S	24	6.16	10.73	0	82	109.5	0
Grand Total			1301	4.97	14.69	1	65.4	120.1	22

Segment	MA70-01	Surface or Bottom	Total Nitrogen (mg/L)				Total Phosphorus (mg/L)				Chlorophyll a (µg/L)			
			Count	Min	Max	Avg	Count	Min	Max	Avg	Count	Min	Max	Avg
141	2002	S	38	0.143	0.474	0.236	38	0.022	0.064	0.041	38	1.26	14.30	4.42
		B									38	1.23	18.40	4.58
	2003	S	35	0.145	0.506	0.210	35	0.016	0.077	0.033	35	1.11	11.30	3.72
		B									35	1.36	15.90	3.81
	2004	S	25	0.130	0.306	0.217	25	0.032	0.099	0.048	25	0.50	5.33	2.41
		B									25	0.40	5.43	2.24
	2005	S	20	0.162	0.448	0.247	20	0.018	0.051	0.034	20	0.31	8.94	2.88
		B									20	0.30	5.90	2.34
	2006	S	23	0.104	0.354	0.217	23	0.015	0.048	0.030	23	0.28	5.77	1.94
		B									23	0.45	7.30	1.84
	2007	S	23	0.045	0.393	0.230	23	0.011	0.050	0.032	23	0.71	11.40	3.02
		B									23	0.69	11.00	2.95
	2008	S	24	0.177	0.381	0.269	24	0.022	0.054	0.038	24	0.62	7.13	2.08
		B									23	0.63	9.60	2.13
Grand Total			188	0.045	0.506	0.231	188	0.011	0.099	0.037	375	0.28	18.40	3.06

Segment	MA70-01	Surface or Bottom	Primary Contact Season Enterococci bacteria data summary (samples collected 1 April to 15 October)		Secondary Contact Season Enterococci bacteria data summary (samples collected all year)	
			Count	Geometric mean Enterococci (#/100 mL)	Count	Geometric mean Enterococci (#/100 mL)
044	2002	S	19	6	26	7
	2003	S	19	5	23	5
	2004	S	27	7	30	7
	2005	S	18	8	26	8
	2006	S	19	11	29	10
	2007	S	18	12	24	11
	2008	S	23	12	29	13
	048	2002	S	15	5	19
2003		S	16	5	19	5
2004		S	18	5	20	6
2005		S	14	6	19	7
2006		S	16	6	24	6
2007		S	16	10	22	10
2008		S	17	10	19	10

065	2002	S	15	6	19	6
	2003	S	16	5	19	6
	2004	S	18	5	20	5
	2005	S	15	6	22	6
	2006	S	16	9	24	8
	2007	S	16	11	22	11
	2008	S	18	12	20	12
106	2002	S	26	5	36	5
	2003	S	18	5	28	5
	2004	S	15	5	25	5
	2005	S	13	5	21	5
	2006	S	12	5	23	6
	2007	S	13	10	22	10
	2008	S	13	10	24	10
141	2002	S	27	5	38	5
	2003	S	18	5	28	5
	2004	S	15	5	25	5
	2005	S	11	6	20	6
	2006	S	12	5	23	5
	2007	S	13	10	23	10
	2008	S	13	10	24	10

Segment	MA70-01	Depth (m)			Secchi (m)			Surface TSS (mg/L)				Bottom TSS (mg/L)			
Station ID	Year	Count	Min	Max	Min	Max	# measurements < 1.2m	Count	Min	Max	Avg	Count	Min	Max	Avg
044	2002	27	3.8	7.6	0.6	4.0	1								
	2003	23	4.0	9.1	1.4	3.0	0								
	2004	30	3.4	6.7	1.6	4.1	0								
	2005	27	3.6	7.3	1.5	3.7	0								
	2006	28	4.1	7.8	1.5	4.3	0								
	2008	28	4.1	7.2	1.6	3.6	0								
048	2002	20	2.1	5.3	0.9	3.2	3								
	2003	19	2.4	5.5	1.2	3.2	0								
	2004	20	2.0	4.9	1.3	3.4	0								
	2005	19	2.1	5.3	1.2	3.9	0								
	2006	24	2.6	5.5	1.4	3.0	0								
	2008	19	2.2	5.1	1.0	2.5	3								
106	2002	36	8.7	15.0	1.5	4.7	0	36	1.2	6.64	3.5	35	1.43	6.45	3.9
	2003	36	9.0	16.0	1.2	3.6	0	36	0.76	6.86	3.0	35	2	10.2	4.2
	2004	25	9.1	16.0	1.3	6.8	0	24	0.29	6.91	2.5	24	0.55	7.43	3.1
	2005	20	8.8	14.0	1.3	3.8	0	20	1.49	5.01	2.8	20	1.39	8.14	3.9
	2006	23	7.9	16.0	1.5	5.5	0	23	0.85	6.69	2.6	22	1.24	11.8	3.4
	2007	20	7.3	16.0	1.6	5.2	0	19	1.3	4.81	2.7	19	1.36	5.05	3.0
	2008	24	9.3	16.2	1.5	5.0	0	23	1.37	4.39	2.5	22	1.28	15.2	3.9
141	2002	38	7.6	15.0	1.5	6.3	0	38	0.8	7.6	3.1	38	1.35	10.9	3.4
	2003	36	8.0	14.7	0.9	5.0	1	36	0.36	9.88	2.9	36	0.68	12.8	3.5
	2004	24	7.7	14.2	1.4	8.0	0	25	0.63	8.32	2.5	25	0.24	10.8	2.8
	2005	20	6.2	15.0	1.3	4.5	0	20	1.05	6.64	3.0	20	1.26	8.48	3.2
	2006	23	7.8	14.7	2.0	7.0	0	23	0.84	4.19	2.2	23	0.47	6.35	2.6
	2007	22	5.1	15.0	2.1	5.5	0	21	1.05	4.19	2.1	21	0.96	4.17	2.3
	2008	24	6.2	15.6	1.5	6.5	0	23	0.99	7.06	2.8	23	1.02	9.25	3.2
Grand Total		655	2.0	16.2	0.6	8.0	8	367	0.29	9.88	2.8	363	0.24	15.2	3.4