

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

**LAKES**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>ALBRO LAKE</b>	<b>BARRETT LAKE</b>	<b>BELL LAKE</b>	<b>BISSETT LAKE</b>	<b>BLACK DUCK POND</b>
Community				Dartmouth	Beaverbank	Dartmouth	Cole Harbour	Lakeside
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 13:30	12/11/2008 10:30	21/10/2008 12:50	21/10/2008 10:40	06/11/2008 14:00
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		3.2	3.7	N/A	N/A	N/A
Temp	Celsius	N/A		10.37	8.88	11.43	10.48	9.20
Dissolved Oxygen	mg/L	0.2	6-9.5	11.68	11.02	11.67	11.19	11.98
pH	pH	N/A	6.5-9.0	7.61	6.80	7.77	7.40	6.13
Specific Conductance	mS/cm	0.001		0.462	0.221	0.054	0.493	0.445
TDS	g/L	0.01		0.301	0.144	0.035	0.321	0.289
Salinity	ppt	0.01		0.22	0.11	0.02	0.24	0.22
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		12	15	ND	37	ND
Dissolved Chloride (Cl)	mg/L	5		130	53	10	120	110
Colour	TCU	5		7	31	7	16	19
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.3	0.4	0.3	0.5	0.9
Nitrate + Nitrite	mg/L	0.05	13000	ND	0.07	ND	ND	0.11
Nitrate (N)	mg/L	0.05		ND	0.07	ND	ND	0.11
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		2.6	5.1	2.4	4.1	4.9
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.25	7.09	6.50	7.59	5.73
Total Phosphorus (1M depth)	mg/L	0.002		0.012	0.018	0.028	0.032	0.012
Reactive Silica (SiO2)	mg/L	0.5		2.9	3.3	2.0	2.7	5.7
Total Suspended Solids	mg/L	1		2	1	2	1	2

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>ALBRO LAKE</b>	<b>BARRETT LAKE</b>	<b>BELL LAKE</b>	<b>BISSETT LAKE</b>	<b>BLACK DUCK POND</b>
Community				Dartmouth	Beaverbank	Dartmouth	Cole Harbour	Lakeside
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 13:30	12/11/2008 10:30	21/10/2008 12:50	21/10/2008 10:40	06/11/2008 14:00
Dissolved Sulphate (SO4)	mg/L	2		10	8	6	14	24
Turbidity	NTU	0.1		0.6	1.0	0.9	1.1	0.5
Conductivity	uS/cm	1		470	210	55	500	420
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		4.00	1.96	0.390	4.45	3.57
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		12	15	ND	37	ND
Calculated TDS	mg/L	1		230	118	27	257	219
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		3.73	2.01	0.450	4.36	3.64
Hardness (CaCO3)	mg/L	1		31	27	9	51	45
Ion Balance (% Difference)	%	N/A		3.49	1.26	7.14	1.02	0.970
Langelier Index (@ 20C)	N/A	N/A		-2.05	-2.14	NC	-1.02	NC
Langelier Index (@ 4C)	N/A	N/A		-2.30	-2.39	NC	-1.27	NC
Saturation pH (@ 20C)	N/A	N/A		9.30	9.23	NC	8.61	NC
Saturation pH (@ 4C)	N/A	N/A		9.55	9.48	NC	8.86	NC
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		ND	32	29	15	240
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		6	17	10	18	17
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		6	8	6	12	8
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		10	8.6	2.1	17	8.4
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>ALBRO LAKE</b>	<b>BARRETT LAKE</b>	<b>BELL LAKE</b>	<b>BISSETT LAKE</b>	<b>BLACK DUCK POND</b>
Community				Dartmouth	Beaverbank	Dartmouth	Cole Harbour	Lakeside
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 13:30	12/11/2008 10:30	21/10/2008 12:50	21/10/2008 10:40	06/11/2008 14:00
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		ND	360	78	ND	130
Total Lead (Pb)	ug/L	0.5		ND	ND	ND	ND	ND
Total Magnesium (Mg)	mg/L	0.1		1.2	1.3	0.9	2.2	1.4
Total Manganese (Mn)	ug/L	2		60	89	21	38	130
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	5
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		0.9	1.4	0.8	2.0	0.9
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		71	33	5.6	76	46
Total Strontium (Sr)	ug/L	5		45	28	10	53	60
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	ND	0.1
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		5	ND	5	ND	44
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	10	ND	13	8	ND
Fecal coliform Outlet	MPN/100mL	1	200	12	2	N/A	N/A	--
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		8.38	1.87	2.21	3.43	0.91
Chlorophyll a - Welschmeyer method	ug/L	N/A		7.91	1.97	2.44	3.52	0.98

**Notes:**

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>ALBRO LAKE</b>	<b>BARRETT LAKE</b>	<b>BELL LAKE</b>	<b>BISSETT LAKE</b>	<b>BLACK DUCK POND</b>
Community				Dartmouth	Beaverbank	Dartmouth	Cole Harbour	Lakeside
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 13:30	12/11/2008 10:30	21/10/2008 12:50	21/10/2008 10:40	06/11/2008 14:00

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL for Clayton Developments; North Inlet data shown

Morris Lake - sampled by JWL for HRM

CCME - Canadian Council of Ministers of Environment Guidelines for the Protection of Aquatic Life

Fecal Coliform Guideline: for Contact Recreation

Dissolved Oxygen Guideline: lowest acceptable level depending on temperature and life stage

**Bacterial level of concern for swimming** ( ≥ 200 but < 400 )

**Bacterial level unsuitable for swimming** ( ≥ 400 )

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**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>BLACK POINT LAKE</b>	<b>CHOCOLATE LAKE</b>	<b>CRANBERRY LAKE</b>	<b>DENT'S PUNCH BOWL</b>	<b>DE SAID LAKE</b>
Community				Hubley	Mainland South	Dartmouth	Cowie Hill	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 13:15	29/10/2008 9:30	21/10/2008 11:25	06/11/2008 10:15	21/10/2008 10:00
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		1.3	4.4	2.8	N/A	N/A
Temp	Celsius	N/A		12.50	12.00	9.90	9.36	9.18
Dissolved Oxygen	mg/L	0.2	6-9.5	10.45	10.94	11.10	11.69	11.15
pH	pH	N/A	6.5-9.0	5.55	7.02	7.49	6.20	7.28
Specific Conductance	mS/cm	0.001		0.163	0.634	0.431	0.854	0.126
TDS	g/L	0.01		0.106	0.412	0.280	0.557	0.082
Salinity	ppt	0.01		0.08	0.31	0.21	0.42	0.06
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		ND	ND	34	60	26
Dissolved Chloride (Cl)	mg/L	5		46	170	100	210	21
Colour	TCU	5		110	ND	14	14	21
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.6	ND	3.5	0.6	0.8
Nitrate + Nitrite	mg/L	0.05	13000	ND	0.10	0.07	0.08	0.06
Nitrate (N)	mg/L	0.05		ND	0.10	0.07	0.08	0.06
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		9.0	0.6	3.8	3.7	3.4
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	5.59	5.87	7.54	7.56	7.48
Total Phosphorus (1M depth)	mg/L	0.002		0.012	ND	0.025	0.014	0.025
Reactive Silica (SiO2)	mg/L	0.5		2.3	3.9	1.3	1.5	6.5
Total Suspended Solids	mg/L	1		1	ND	ND	1	2

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Community				Hubley	Mainland South	Dartmouth	Cowie Hill	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 13:15	29/10/2008 9:30	21/10/2008 11:25	06/11/2008 10:15	21/10/2008 10:00
Dissolved Sulphate (SO4)	mg/L	2		ND	36	12	26	2
Turbidity	NTU	0.1		1.0	0.6	0.5	0.8	1.2
Conductivity	uS/cm	1		170	640	440	860	130
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.29	5.66	3.89	7.60	1.18
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	34	60	26
Calculated TDS	mg/L	1		80	337	224	435	72
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.42	5.49	3.84	7.36	1.22
Hardness (CaCO3)	mg/L	1		13	47	47	89	28
Ion Balance (% Difference)	%	N/A		4.80	1.52	0.650	1.60	1.67
Langelier Index (@ 20C)	N/A	N/A		NC	NC	-1.14	-0.616	-1.48
Langelier Index (@ 4C)	N/A	N/A		NC	NC	-1.39	-0.864	-1.73
Saturation pH (@ 20C)	N/A	N/A		NC	NC	8.68	8.18	8.96
Saturation pH (@ 4C)	N/A	N/A		NC	NC	8.93	8.42	9.21
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		220	110	ND	15	ND
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		43	38	19	52	13
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		5	7	11	28	12
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		3.7	15	15	31	8.8
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	5	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>BLACK POINT LAKE</b>	<b>CHOCOLATE LAKE</b>	<b>CRANBERRY LAKE</b>	<b>DENT'S PUNCH BOWL</b>	<b>DE SAID LAKE</b>
Community				Hubley	Mainland South	Dartmouth	Cowie Hill	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 13:15	29/10/2008 9:30	21/10/2008 11:25	06/11/2008 10:15	21/10/2008 10:00
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		320	87	69	130	320
Total Lead (Pb)	ug/L	0.5		0.8	ND	ND	ND	ND
Total Magnesium (Mg)	mg/L	0.1		1.0	2.3	2.1	2.5	1.4
Total Manganese (Mn)	ug/L	2		20	190	45	12	72
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	2	ND
Total Nickel (Ni)	ug/L	2		ND	10	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	0.1	ND	ND	ND
Total Potassium (K)	mg/L	0.1		0.8	1.5	1.8	2.8	1.1
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		26	100	66	130	15
Total Strontium (Sr)	ug/L	5		19	72	50	150	34
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		0.1	ND	ND	0.2	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	3	ND
Total Zinc (Zn)	ug/L	5		11	33	9	ND	ND
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	8	1	28	35	2
Fecal coliform Outlet	MPN/100mL	1	200	2	1	57	--	9
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		1.85	0.13	1.49	23.89	1.49
Chlorophyll a - Welschmeyer method	ug/L	N/A		2.02	0.11	1.59	24.09	1.54

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	BLACK POINT LAKE	CHOCOLATE LAKE	CRANBERRY LAKE	DENT'S PUNCH BOWL	DE SAID LAKE
Community				Hubley	Mainland South	Dartmouth	Cowie Hill	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 13:15	29/10/2008 9:30	21/10/2008 11:25	06/11/2008 10:15	21/10/2008 10:00

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of Ministers of the Environment  
Fecal Coliform Guideline: for C  
Dissolved Oxygen Guideline: for C

Bacterial level of concern for surface water

Bacterial level unsuitable for surface water

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**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>DRAIN LAKE</b>	<b>DUCK LAKE</b>	<b>FENERTY LAKE</b>	<b>FIRST CHAIN LAKE</b>	<b>FIRST LAKE</b>
Community				Middle Sackville	Beaverbank	Beaverbank	Halifax	Lower Sackville
Sampling Date & Time	DD/MM/YYYY 24hr time			17/11/2008 12:55	12/11/2008 10:00	12/11/2008 13:00	06/11/2008 9:15	30/10/2008 14:25
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		N/A	1.6	1.4	N/A	2.9
Temp	Celsius	N/A		9.58	8.82	8.88	9.32	11.24
Dissolved Oxygen	mg/L	0.2	6-9.5	11.65	11.26	11.24	11.66	10.66
pH	pH	N/A	6.5-9.0	6.54	6.29	6.74	5.06	6.76
Specific Conductance	mS/cm	0.001		0.224	0.261	0.075	0.553	0.530
TDS	g/L	0.01		0.146	0.170	0.049	0.360	0.344
Salinity	ppt	0.01		0.11	0.13	0.03	0.27	0.26
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	5		6	31	ND	ND	31
Dissolved Chloride (Cl)	mg/L	5		52	56	16	150	130
Colour	TCU	5		48	19	60	ND	6
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		1.3	0.5	0.5	ND	0.3
Nitrate + Nitrite	mg/L	0.05	13000	0.14	ND	ND	ND	0.06
Nitrate (N)	mg/L	0.05		0.14	ND	ND	ND	0.06
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	0.11	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		5.3	5.2	7.3	ND	2.0
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.49	7.32	6.33	4.56	7.30
Total Phosphorus (1M depth)	mg/L	0.002		0.18	0.030	0.036	0.008	0.012
Reactive Silica (SiO <sub>2</sub> )	mg/L	0.5		2.8	2.6	1.3	2.6	0.8
Total Suspended Solids	mg/L	1		20	4	3	2	2

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>DRAIN LAKE</b>	<b>DUCK LAKE</b>	<b>FENERTY LAKE</b>	<b>FIRST CHAIN LAKE</b>	<b>FIRST LAKE</b>
Community				Middle Sackville	Beaverbank	Beaverbank	Halifax	Lower Sackville
Sampling Date & Time	DD/MM/YYYY 24hr time			17/11/2008 12:55	12/11/2008 10:00	12/11/2008 13:00	06/11/2008 9:15	30/10/2008 14:25
Dissolved Sulphate (SO4)	mg/L	2		14	8	4	17	15
Turbidity	NTU	0.1		10	3.6	1.8	0.1	0.3
Conductivity	uS/cm	1		220	250	74	550	530
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.90	2.37	0.540	4.50	4.64
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		6	30	ND	ND	31
Calculated TDS	mg/L	1		119	141	37	267	268
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		2.06	2.51	0.680	4.46	4.57
Hardness (CaCO3)	mg/L	1		23	40	11	23	50
Ion Balance (% Difference)	%	N/A		4.04	2.87	11.5	0.450	0.760
Langelier Index (@ 20C)	N/A	N/A		-3.22	-1.45	NC	NC	-1.39
Langelier Index (@ 4C)	N/A	N/A		-3.47	-1.70	NC	NC	-1.64
Saturation pH (@ 20C)	N/A	N/A		9.71	8.77	NC	NC	8.69
Saturation pH (@ 4C)	N/A	N/A		9.96	9.02	NC	NC	8.94
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		400	22	190	560	11
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		12	20	9	32	25
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		8	9	8	5	8
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		6.8	13	2.9	7.3	17
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	2	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>DRAIN LAKE</b>	<b>DUCK LAKE</b>	<b>FENERTY LAKE</b>	<b>FIRST CHAIN LAKE</b>	<b>FIRST LAKE</b>
Community				Middle Sackville	Beaverbank	Beaverbank	Halifax	Lower Sackville
Sampling Date & Time	DD/MM/YYYY 24hr time			17/11/2008 12:55	12/11/2008 10:00	12/11/2008 13:00	06/11/2008 9:15	30/10/2008 14:25
Total Copper (Cu)	ug/L	2		3	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		1000	310	510	74	54
Total Lead (Pb)	ug/L	0.5		1.4	ND	ND	0.7	ND
Total Magnesium (Mg)	mg/L	0.1		1.5	1.9	0.8	1.2	1.9
Total Manganese (Mn)	ug/L	2		90	200	78	120	68
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		3	ND	ND	4	ND
Total Phosphorus (P)	mg/L	0.1		0.1	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		1.4	2.1	0.9	0.8	1.7
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		35	38	9.9	91	81
Total Strontium (Sr)	ug/L	5		26	41	12	37	46
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		9	ND	2	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		13	6	8	22	ND
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	280	2	2	ND	15
Fecal coliform Outlet	MPN/100mL	1	200	--	5	ND	--	38
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		20.48	19.13	2.46	1.52	3.66
Chlorophyll a - Welschmeyer method	ug/L	N/A		22.47	18.99	2.98	1.48	3.82

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	DRAIN LAKE	DUCK LAKE	FENERTY LAKE	FIRST CHAIN LAKE	FIRST LAKE
Community				Middle Sackville	Beaverbank	Beaverbank	Halifax	Lower Sackville
Sampling Date & Time	DD/MM/YYYY 24hr time			17/11/2008 12:55	12/11/2008 10:00	12/11/2008 13:00	06/11/2008 9:15	30/10/2008 14:25

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of Ministers of the Environment  
Fecal Coliform Guideline: for Community Water Supply  
Dissolved Oxygen Guideline: for Community Water Supply

Bacterial level of concern for surface water

Bacterial level unsuitable for surface water

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>FLETCHERS LAKE</b>	<b>FRENCHMAN LAKE</b>	<b>FROG POND</b>	<b>GOVERNOR'S LAKE</b>	<b>GRAND LAKE</b>
Community				Fall River	Burnside	Halifax	Timberlea	Enfield
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 10:55	20/10/2008 14:05	29/10/2008 10:00	29/10/2008 12:05	05/11/2008 10:00
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		2.9	N/A	2.3	1.4	2.9
Temp	Celsius	N/A		8.85	8.50	11.66	11.30	11.50
Dissolved Oxygen	mg/L	0.2	6-9.5	11.98	11.72	10.44	10.76	11.05
pH	pH	N/A	6.5-9.0	6.88	7.63	6.98	6.65	6.98
Specific Conductance	mS/cm	0.001		0.151	0.362	0.424	0.614	0.099
TDS	g/L	0.01		0.099	0.235	0.276	0.399	0.064
Salinity	ppt	0.01		0.07	0.17	0.21	0.30	0.05
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	5		11	14	28	6	6
Dissolved Chloride (Cl)	mg/L	5		33	88	100	180	19
Colour	TCU	5		27	60	35	43	18
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.2	0.5	0.4	0.2	0.4
Nitrate + Nitrite	mg/L	0.05	13000	0.18	ND	0.06	0.96	0.12
Nitrate (N)	mg/L	0.05		0.18	ND	0.06	0.96	0.12
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	0.05	0.06	ND
Total Organic Carbon (C)	mg/L	0.5		3.7	8.5	4.9	4.8	3.1
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.87	7.19	7.20	6.57	6.69
Total Phosphorus (1M depth)	mg/L	0.002		0.012	0.020	0.017	0.015	0.007
Reactive Silica (SiO <sub>2</sub> )	mg/L	0.5		2.1	3.1	1.0	2.4	1.5
Total Suspended Solids	mg/L	1		ND	1	1	3	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>FLETCHERS LAKE</b>	<b>FRENCHMAN LAKE</b>	<b>FROG POND</b>	<b>GOVERNOR'S LAKE</b>	<b>GRAND LAKE</b>
Community				Fall River	Burnside	Halifax	Timberlea	Enfield
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 10:55	20/10/2008 14:05	29/10/2008 10:00	29/10/2008 12:05	05/11/2008 10:00
Dissolved Sulphate (SO4)	mg/L	2		7	12	17	18	9
Turbidity	NTU	0.1		0.6	0.5	0.6	2.1	0.2
Conductivity	uS/cm	1		150	360	430	620	100
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.31	2.99	3.86	5.58	0.850
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		11	14	28	6	6
Calculated TDS	mg/L	1		80	178	225	325	53
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.36	3.02	3.86	5.28	0.880
Hardness (CaCO3)	mg/L	1		19	30	45	42	16
Ion Balance (% Difference)	%	N/A		1.87	0.500	0	2.76	1.73
Langelier Index (@ 20C)	N/A	N/A		-2.65	-2.08	-1.57	-2.96	-3.16
Langelier Index (@ 4C)	N/A	N/A		-2.91	-2.33	-1.82	-3.21	-3.41
Saturation pH (@ 20C)	N/A	N/A		9.52	9.27	8.77	9.53	9.85
Saturation pH (@ 4C)	N/A	N/A		9.78	9.52	9.02	9.78	10.1
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		51	50	45	130	40
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		3	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		13	10	20	39	9
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		7	6	15	9	7
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		6.0	9.4	15	14	5.1
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>FLETCHERS LAKE</b>	<b>FRENCHMAN LAKE</b>	<b>FROG POND</b>	<b>GOVERNOR'S LAKE</b>	<b>GRAND LAKE</b>
Community				Fall River	Burnside	Halifax	Timberlea	Enfield
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 10:55	20/10/2008 14:05	29/10/2008 10:00	29/10/2008 12:05	05/11/2008 10:00
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		190	140	130	630	ND
Total Lead (Pb)	ug/L	0.5		ND	ND	ND	0.8	ND
Total Magnesium (Mg)	mg/L	0.1		0.9	1.5	1.7	2.0	0.7
Total Manganese (Mn)	ug/L	2		64	19	23	120	12
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		1.2	1.4	1.9	1.6	0.8
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		22	55	67	100	13
Total Strontium (Sr)	ug/L	5		23	42	60	62	22
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	0.2	ND
Total Vanadium (V)	ug/L	2		ND	3	ND	ND	ND
Total Zinc (Zn)	ug/L	5		5	6	8	17	10
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	6	41	82	66	ND
Fecal coliform Outlet	MPN/100mL	1	200	2	11	56	180	--
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		0.85	1.70	1.79	4.31	2.30
Chlorophyll a - Welschmeyer method	ug/L	N/A		0.84	1.71	1.81	4.54	2.27

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	FLETCHERS LAKE	FRENCHMAN LAKE	FROG POND	GOVERNOR'S LAKE	GRAND LAKE
Community				Fall River	Burnside	Halifax	Timberlea	Enfield
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 10:55	20/10/2008 14:05	29/10/2008 10:00	29/10/2008 12:05	05/11/2008 10:00

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of Ministers of the Environment  
Fecal Coliform Guideline: for Community Water Supply  
Dissolved Oxygen Guideline: for Community Water Supply

Bacterial level of concern for surface water

Bacterial level unsuitable for surface water

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>HALF MILE LAKE</b>	<b>HUBLEY BIG LAKE</b>	<b>KEARNEY LAKE</b>	<b>KIDSTON LAKE</b>	<b>KINSAC LAKE</b>
Community				Timberlea	Hubley	Bedford	Spryfield	Fall River
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:00	10/11/2008 13:10	06/11/2008 14:45	06/11/2008 9:45	30/10/2008 12:35
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		1.0	1.1	3.6	N/A	2.3
Temp	Celsius	N/A		11.31	11.12	10.43	9.10	11.33
Dissolved Oxygen	mg/L	0.2	6-9.5	11.02	11.81	11.25	11.85	10.68
pH	pH	N/A	6.5-9.0	6.12	5.37	6.19	5.75	6.83
Specific Conductance	mS/cm	0.001		0.285	0.079	0.300	0.050	0.082
TDS	g/L	0.01		0.086	0.052	0.195	0.033	0.055
Salinity	ppt	0.01		0.14	0.04	0.14	0.02	0.04
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		11	ND	5	10	6
Dissolved Chloride (Cl)	mg/L	5		73	21	74	6	17
Colour	TCU	5		49	50	12	58	49
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.4	0.3	ND	0.5	0.3
Nitrate + Nitrite	mg/L	0.05	13000	0.12	ND	0.17	ND	0.06
Nitrate (N)	mg/L	0.05		0.12	ND	0.17	ND	0.06
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		6.7	5.2	2.5	8.9	6.4
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.78	4.27	6.64	6.86	6.67
Total Phosphorus (1M depth)	mg/L	0.002		0.018	0.015	0.011	0.018	0.019
Reactive Silica (SiO2)	mg/L	0.5		3.6	2.0	2.8	1.2	2.2
Total Suspended Solids	mg/L	1		2	ND	ND	6	1

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>HALF MILE LAKE</b>	<b>HUBLEY BIG LAKE</b>	<b>KEARNEY LAKE</b>	<b>KIDSTON LAKE</b>	<b>KINSAC LAKE</b>
Community				Timberlea	Hubley	Bedford	Spryfield	Fall River
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:00	10/11/2008 13:10	06/11/2008 14:45	06/11/2008 9:45	30/10/2008 12:35
Dissolved Sulphate (SO4)	mg/L	2		10	6	13	ND	3
Turbidity	NTU	0.1		1.0	0.7	0.2	0.6	0.6
Conductivity	uS/cm	1		280	100	300	53	82
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		2.47	0.710	2.47	0.380	0.670
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		11	ND	5	10	6
Calculated TDS	mg/L	1		149	44	150	24	42
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		2.51	0.740	2.54	0.490	0.720
Hardness (CaCO3)	mg/L	1		23	6	27	13	12
Ion Balance (% Difference)	%	N/A		0.800	2.07	1.40	12.6	3.60
Langelier Index (@ 20C)	N/A	N/A		-2.72	NC	-3.07	-2.80	-3.27
Langelier Index (@ 4C)	N/A	N/A		-2.97	NC	-3.32	-3.05	-3.52
Saturation pH (@ 20C)	N/A	N/A		9.50	NC	9.71	9.66	9.94
Saturation pH (@ 4C)	N/A	N/A		9.75	NC	9.96	9.91	10.2
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		120	170	66	170	79
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		30	12	18	ND	11
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		8	ND	6	7	8
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		2.4	6.9	0.1	4.1	3.6
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>HALF MILE LAKE</b>	<b>HUBLEY BIG LAKE</b>	<b>KEARNEY LAKE</b>	<b>KIDSTON LAKE</b>	<b>KINSAC LAKE</b>
Community				Timberlea	Hubley	Bedford	Spryfield	Fall River
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:00	10/11/2008 13:10	06/11/2008 14:45	06/11/2008 9:45	30/10/2008 12:35
Total Copper (Cu)	ug/L	2		4	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		200	190	ND	310	210
Total Lead (Pb)	ug/L	0.5		0.6	0.6	ND	0.8	ND
Total Magnesium (Mg)	mg/L	0.1		0.7	1.5	0.1	0.7	0.8
Total Manganese (Mn)	ug/L	2		45	31	26	7	33
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	3	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	0.1	ND	ND
Total Potassium (K)	mg/L	0.1		0.7	1.4	0.1	0.7	0.8
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		7.1	46	0.3	4.5	10
Total Strontium (Sr)	ug/L	5		31	9	41	15	13
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	3	ND
Total Uranium (U)	ug/L	0.1		0.5	0.2	ND	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		10	8	11	7	6
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	--	--	ND	9	5
Fecal coliform Outlet	MPN/100mL	1	200	--	--	2	2	N/A
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		5.40	1.37	2.60	1.48	1.23
Chlorophyll a - Welschmeyer method	ug/L	N/A		5.88	1.59	2.77	1.61	1.28

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	HALF MILE LAKE	HUBLEY BIG LAKE	KEARNEY LAKE	KIDSTON LAKE	KINSAC LAKE
Community				Timberlea	Hubley	Bedford	Spryfield	Fall River
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:00	10/11/2008 13:10	06/11/2008 14:45	06/11/2008 9:45	30/10/2008 12:35

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE BANOOK</b>	<b>LAKE CHARLES</b>	<b>LAKE ECHO</b>	<b>LAKE MICMAC</b>	<b>LAKE THOMAS NORTH BASIN</b>
Community				Dartmouth	Dartmouth	Eastern Shore	Dartmouth	Waverley
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 9:45	05/11/2008 14:10	20/11/2008 11:05	20/10/2008 10:10	05/11/2008 11:50
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		6.5	5.1	1.3	5.0	2.2
Temp	Celsius	N/A		12.10	10.71	6.76	11.23	9.08
Dissolved Oxygen	mg/L	0.2	6-9.5	10.72	11.07	13.15	10.75	11.76
pH	pH	N/A	6.5-9.0	7.31	7.02	5.82	7.51	6.94
Specific Conductance	mS/cm	0.001		0.616	0.258	0.040	0.557	0.151
TDS	g/L	0.01		0.400	0.168	0.024	0.362	0.098
Salinity	ppt	0.01		0.30	0.12	0.02	0.27	0.07
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		34	18	ND	35	11
Dissolved Chloride (Cl)	mg/L	5		160	57	6	140	33
Colour	TCU	5		6	9	120	6	27
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.2	0.3	0.5	0.3	0.5
Nitrate + Nitrite	mg/L	0.05	13000	0.07	0.34	0.09	0.10	0.16
Nitrate (N)	mg/L	0.05		0.07	0.34	0.09	0.10	0.16
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		2.2	2.5	11	2.0	3.7
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.50	7.17	5.10	7.60	6.97
Total Phosphorus (1M depth)	mg/L	0.002		0.008	0.014	0.017	0.015	0.013
Reactive Silica (SiO2)	mg/L	0.5		2.4	2.9	3.5	2.3	1.8
Total Suspended Solids	mg/L	1		4	ND	1	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE BANOOK</b>	<b>LAKE CHARLES</b>	<b>LAKE ECHO</b>	<b>LAKE MICMAC</b>	<b>LAKE THOMAS NORTH BASIN</b>
Community				Dartmouth	Dartmouth	Eastern Shore	Dartmouth	Waverley
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 9:45	05/11/2008 14:10	20/11/2008 11:05	20/10/2008 10:10	05/11/2008 11:50
Dissolved Sulphate (SO4)	mg/L	2		19	11	ND	18	7
Turbidity	NTU	0.1		0.5	0.3	0.7	0.4	0.4
Conductivity	uS/cm	1		620	260	40	560	150
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		5.54	2.22	0.170	5.02	1.30
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		34	18	ND	34	11
Calculated TDS	mg/L	1		317	135	17	291	78
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		5.26	2.32	0.350	4.95	1.32
Hardness (CaCO3)	mg/L	1		60	32	7	62	18
Ion Balance (% Difference)	%	N/A		2.59	2.20	34.6	0.700	0.760
Langelier Index (@ 20C)	N/A	N/A		-1.08	-1.91	NC	-0.956	-2.56
Langelier Index (@ 4C)	N/A	N/A		-1.33	-2.16	NC	-1.21	-2.81
Saturation pH (@ 20C)	N/A	N/A		8.58	9.08	NC	8.56	9.53
Saturation pH (@ 4C)	N/A	N/A		8.83	9.33	NC	8.81	9.78
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		36	13	390	12	45
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		5	15	ND	5	4
Total Barium (Ba)	ug/L	5		19	9	5	15	9
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		12	9	ND	10	7
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		21	10	1.9	21	5.8
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE BANOOK</b>	<b>LAKE CHARLES</b>	<b>LAKE ECHO</b>	<b>LAKE MICMAC</b>	<b>LAKE THOMAS NORTH BASIN</b>
Community				Dartmouth	Dartmouth	Eastern Shore	Dartmouth	Waverley
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 9:45	05/11/2008 14:10	20/11/2008 11:05	20/10/2008 10:10	05/11/2008 11:50
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		ND	ND	430	ND	210
Total Lead (Pb)	ug/L	0.5		ND	ND	0.6	ND	ND
Total Magnesium (Mg)	mg/L	0.1		2.1	1.5	0.5	2.2	0.8
Total Manganese (Mn)	ug/L	2		170	37	52	86	64
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		2.0	1.6	0.5	2.0	1.2
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		92	38	4.0	84	21
Total Strontium (Sr)	ug/L	5		86	43	9	87	21
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	3	ND
Total Uranium (U)	ug/L	0.1		ND	ND	0.1	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		14	6	10	10	9
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	8	ND	18	15	1
Fecal coliform Outlet	MPN/100mL	1	200	170	ND	24	--	4
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		0.73	2.54	2.21	0.49	1.17
Chlorophyll a - Welschmeyer method	ug/L	N/A		0.78	2.45	2.67	0.47	1.14

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	LAKE BANOOK	LAKE CHARLES	LAKE ECHO	LAKE MICMAC	LAKE THOMAS NORTH BASIN
Community				Dartmouth	Dartmouth	Eastern Shore	Dartmouth	Waverley
Sampling Date & Time	DD/MM/YYYY 24hr time			20/10/2008 9:45	05/11/2008 14:10	20/11/2008 11:05	20/10/2008 10:10	05/11/2008 11:50

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE THOMAS SOUTH BASIN</b>	<b>LAKE WILLIAM</b>	<b>LISLE LAKE</b>	<b>LITTLE ALBRO LAKE</b>	<b>LONG LAKE</b>
Community				Waverley	Waverley	Upper Sackville	Dartmouth	Mainland South
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 12:10	05/11/2008 13:25	12/11/2008 14:25	20/10/2008 13:45	06/11/2008 12:10
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		3.1	2.6	N/A	N/A	1.5
Temp	Celsius	N/A		9.85	11.16	8.53	10.52	9.83
Dissolved Oxygen	mg/L	0.2	6-9.5	11.10	10.83	10.43	11.07	11.17
pH	pH	N/A	6.5-9.0	6.93	6.94	6.50	7.44	6.33
Specific Conductance	mS/cm	0.001		0.182	0.182	0.163	0.465	0.330
TDS	g/L	0.01		0.118	0.118	0.106	0.301	0.214
Salinity	ppt	0.01		0.09	0.09	0.08	0.22	0.16
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		14	9	16	15	ND
Dissolved Chloride (Cl)	mg/L	5		39	40	36	120	86
Colour	TCU	5		19	18	21	11	60
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.2	0.2	0.7	0.3	0.3
Nitrate + Nitrite	mg/L	0.05	13000	0.10	0.13	ND	ND	0.09
Nitrate (N)	mg/L	0.05		0.10	0.13	ND	ND	0.09
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		3.3	3.2	4.6	2.9	5.5
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.05	6.69	6.42	7.23	5.97
Total Phosphorus (1M depth)	mg/L	0.002		0.007	0.013	0.046	0.036	0.012
Reactive Silica (SiO2)	mg/L	0.5		2.4	2.3	4.2	2.2	3.4
Total Suspended Solids	mg/L	1		ND	ND	16	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE THOMAS SOUTH BASIN</b>	<b>LAKE WILLIAM</b>	<b>LISLE LAKE</b>	<b>LITTLE ALBRO LAKE</b>	<b>LONG LAKE</b>
Community				Waverley	Waverley	Upper Sackville	Dartmouth	Mainland South
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 12:10	05/11/2008 13:25	12/11/2008 14:25	20/10/2008 13:45	06/11/2008 12:10
Dissolved Sulphate (SO4)	mg/L	2		8	11	5	10	10
Turbidity	NTU	0.1		0.3	0.1	1.5	0.4	0.5
Conductivity	uS/cm	1		180	180	160	470	320
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.57	1.56	1.42	3.91	2.65
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		14	9	16	15	ND
Calculated TDS	mg/L	1		94	95	87	227	164
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.60	1.59	1.51	3.78	2.85
Hardness (CaCO3)	mg/L	1		23	22	27	32	21
Ion Balance (% Difference)	%	N/A		0.950	0.950	3.07	1.69	3.64
Langelier Index (@ 20C)	N/A	N/A		-2.26	-2.81	-2.80	-1.96	NC
Langelier Index (@ 4C)	N/A	N/A		-2.51	-3.06	-3.05	-2.21	NC
Saturation pH (@ 20C)	N/A	N/A		9.31	9.50	9.22	9.19	NC
Saturation pH (@ 4C)	N/A	N/A		9.56	9.75	9.47	9.44	NC
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		13	20	210	20	200
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		6	3	ND	ND	ND
Total Barium (Ba)	ug/L	5		9	10	18	8	16
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		7	7	6	6	6
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		7.4	7.3	8.3	11	6.6
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LAKE THOMAS SOUTH BASIN</b>	<b>LAKE WILLIAM</b>	<b>LISLE LAKE</b>	<b>LITTLE ALBRO LAKE</b>	<b>LONG LAKE</b>
Community				Waverley	Waverley	Upper Sackville	Dartmouth	Mainland South
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 12:10	05/11/2008 13:25	12/11/2008 14:25	20/10/2008 13:45	06/11/2008 12:10
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		ND	ND	790	75	370
Total Lead (Pb)	ug/L	0.5		ND	ND	0.8	ND	ND
Total Magnesium (Mg)	mg/L	0.1		1.0	1.0	1.6	1.2	1.2
Total Manganese (Mn)	ug/L	2		36	46	150	12	49
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		1.3	1.3	1.8	1.2	0.9
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		26	25	20	71	55
Total Strontium (Sr)	ug/L	5		29	28	30	48	31
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	5	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	ND	0.1
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		ND	6	13	7	11
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	ND	ND	ND	5	1
Fecal coliform Outlet	MPN/100mL	1	200	--	6	--	N/A	6
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		1.51	2.59	82.86	1.23	1.66
Chlorophyll a - Welschmeyer method	ug/L	N/A		1.49	2.61	92.87	1.34	1.79

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	LAKE THOMAS SOUTH BASIN	LAKE WILLIAM	LISLE LAKE	LITTLE ALBRO LAKE	LONG LAKE
Community				Waverley	Waverley	Upper Sackville	Dartmouth	Mainland South
Sampling Date & Time	DD/MM/YYYY 24hr time			05/11/2008 12:10	05/11/2008 13:25	12/11/2008 14:25	20/10/2008 13:45	06/11/2008 12:10

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JW

Morris Lake - sampled by JW

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LONG POND</b>	<b>LOON LAKE</b>	<b>LOVETT LAKE</b>	<b>MAYNARD LAKE</b>	<b>McCABE LAKE</b>
Community				Herring Cove	Dartmouth	Lakeside	Dartmouth	Lucasville
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 11:20	20/11/2008 13:00	06/11/2008 13:50	20/10/2008 12:55	17/11/2008 12:15
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		0.8	1.8	N/A	6.0	N/A
Temp	Celsius	N/A		11.01	6.69	9.31	12.17	9.46
Dissolved Oxygen	mg/L	0.2	6-9.5	11.20	12.56	11.74	9.97	11.84
pH	pH	N/A	6.5-9.0	7.27	6.12	6.16	7.62	6.86
Specific Conductance	mS/cm	0.001		0.096	0.328	0.500	0.357	0.062
TDS	g/L	0.01		0.062	0.213	0.325	0.232	0.041
Salinity	ppt	0.01		0.04	0.16	0.24	0.17	0.03
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		ND	18	9	21	ND
Dissolved Chloride (Cl)	mg/L	5		24	83	130	87	13
Colour	TCU	5		200	11	15	9	110
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.5	0.7	0.6	0.3	0.7
Nitrate + Nitrite	mg/L	0.05	13000	0.12	0.06	0.18	ND	ND
Nitrate (N)	mg/L	0.05		0.12	0.06	0.18	ND	ND
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	0.07	ND
Total Organic Carbon (C)	mg/L	0.5		13	3.6	4.6	2.7	9.1
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.22	7.02	6.74	7.31	6.30
Total Phosphorus (1M depth)	mg/L	0.002		0.016	0.017	0.018	0.021	0.041
Reactive Silica (SiO2)	mg/L	0.5		4.4	3.0	4.7	1.7	3.5
Total Suspended Solids	mg/L	1		1	3	2	1	6

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LONG POND</b>	<b>LOON LAKE</b>	<b>LOVETT LAKE</b>	<b>MAYNARD LAKE</b>	<b>McCABE LAKE</b>
Community				Herring Cove	Dartmouth	Lakeside	Dartmouth	Lucasville
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 11:20	20/11/2008 13:00	06/11/2008 13:50	20/10/2008 12:55	17/11/2008 12:15
Dissolved Sulphate (SO4)	mg/L	2		ND	9	24	11	ND
Turbidity	NTU	0.1		1.0	1.1	0.6	0.5	1.8
Conductivity	uS/cm	1		98	320	490	360	63
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		0.690	2.89	4.30	3.09	0.360
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	18	9	21	ND
Calculated TDS	mg/L	1		49	174	262	180	30
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		0.890	3.07	4.47	3.05	0.610
Hardness (CaCO3)	mg/L	1		11	33	50	33	10
Ion Balance (% Difference)	%	N/A		12.7	3.02	1.94	0.650	25.8
Langelier Index (@ 20C)	N/A	N/A		NC	-2.08	-2.51	-1.72	NC
Langelier Index (@ 4C)	N/A	N/A		NC	-2.33	-2.76	-1.97	NC
Saturation pH (@ 20C)	N/A	N/A		NC	9.10	9.25	9.03	NC
Saturation pH (@ 4C)	N/A	N/A		NC	9.35	9.50	9.28	NC
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		420	60	110	ND	420
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		6	11	38	17	7
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		9	9	12	7	7
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		2.9	11	14	11	2.5
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>LONG POND</b>	<b>LOON LAKE</b>	<b>LOVETT LAKE</b>	<b>MAYNARD LAKE</b>	<b>McCABE LAKE</b>
Community				Herring Cove	Dartmouth	Lakeside	Dartmouth	Lucasville
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 11:20	20/11/2008 13:00	06/11/2008 13:50	20/10/2008 12:55	17/11/2008 12:15
Total Copper (Cu)	ug/L	2		5	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		710	120	160	110	880
Total Lead (Pb)	ug/L	0.5		0.9	ND	ND	ND	0.7
Total Magnesium (Mg)	mg/L	0.1		0.9	1.5	2.5	1.6	0.8
Total Manganese (Mn)	ug/L	2		29	100	60	210	72
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	2	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		0.8	1.5	1.5	1.4	0.9
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		15	55	62	54	8.4
Total Strontium (Sr)	ug/L	5		17	36	72	40	13
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		4	ND	ND	ND	8
Total Uranium (U)	ug/L	0.1		0.1	ND	0.5	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		11	6	19	7	8
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	31	11	12	38	1
Fecal coliform Outlet	MPN/100mL	1	200	21	4	--	140	--
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		1.83	6.33	5.78	1.43	1.92
Chlorophyll a - Welschmeyer method	ug/L	N/A		1.86	6.69	6.15	1.49	1.99

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	LONG POND	LOON LAKE	LOVETT LAKE	MAYNARD LAKE	McCABE LAKE
Community				Herring Cove	Dartmouth	Lakeside	Dartmouth	Lucasville
Sampling Date & Time	DD/MM/YYYY 24hr time			29/10/2008 11:20	20/11/2008 13:00	06/11/2008 13:50	20/10/2008 12:55	17/11/2008 12:15

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of Ministers of the Environment  
Fecal Coliform Guideline: for CCME  
Dissolved Oxygen Guideline: for CCME

Bacterial level of concern for surface water

Bacterial level unsuitable for surface water

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>MCINTOSH RUN at Mouth</b>	<b>MCINTOSH RUN at Roaches Pond</b>	<b>MOODY LAKE</b>	<b>MORRIS LAKE (North Basin)</b>	<b>MORRIS LAKE (South Basin)</b>
Community				Herring Cove	Roaches Pond	Williamswood	Dartmouth	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			06/11/2008 13:15	06/11/2008 13:00	10/11/2008 10:40	23/10/2008 12:00	23/10/2008 11:00
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		N/A	N/A	0.80	6.0	6.0
Temp	Celsius	N/A		9.31	8.57	10.50	9.75	10.14
Dissolved Oxygen	mg/L	0.2	6-9.5	11.59	11.19	11.92	11.17	11.05
pH	pH	N/A	6.5-9.0	6.15	6.23	5.52	7.58	7.64
Specific Conductance	mS/cm	0.001		0.225	0.292	0.051	0.313	0.314
TDS	g/L	0.01		0.146	0.190	0.033	0.203	0.204
Salinity	ppt	0.01		0.11	0.14	0.02	--	--
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		5	ND	ND		--
Dissolved Chloride (Cl)	mg/L	5		430 ( 1 )	65	9	88	88
Colour	TCU	5		74	74	210		
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.5	0.6	0.5	0.2	1.1
Nitrate + Nitrite	mg/L	0.05	13000	0.11	0.32	0.09		--
Nitrate (N)	mg/L	0.05		0.11	0.32	0.09	ND	ND
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND		--
Total Organic Carbon (C)	mg/L	0.5		7.0	7.8	9		
Orthophosphate (P)	mg/L	0.01		ND	ND	ND		--
pH (Lab)	pH	N/A	6.5-9.0	6.34	5.94	5.85		--
Total Phosphorus (1M depth)	mg/L	0.002		0.018	0.021	0.015	0.013	0.024
Reactive Silica (SiO2)	mg/L	0.5		4.3	5.1	3.4		--
Total Suspended Solids	mg/L	1		2	3	1	1	

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>MCINTOSH RUN at Mouth</b>	<b>MCINTOSH RUN at Roaches Pond</b>	<b>MOODY LAKE</b>	<b>MORRIS LAKE (North Basin)</b>	<b>MORRIS LAKE (South Basin)</b>
Community				Herring Cove	Roaches Pond	Williamswood	Dartmouth	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			06/11/2008 13:15	06/11/2008 13:00	10/11/2008 10:40	23/10/2008 12:00	23/10/2008 11:00
Dissolved Sulphate (SO4)	mg/L	2		63	10	ND		--
Turbidity	NTU	0.1		0.6	1.2	0.8	0.5	0.3
Conductivity	uS/cm	1		1500	250	51		--
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		13.4	2.06	0.270	--	--
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		5	ND	ND	--	--
Calculated TDS	mg/L	1		836	131	25	--	--
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	--	--
Cation Sum	me/L	N/A		15.8	2.21	0.530	--	--
Hardness (CaCO3)	mg/L	1		150	22	9	--	--
Ion Balance (% Difference)	%	N/A		7.95	3.51	32.5	--	--
Langelier Index (@ 20C)	N/A	N/A		-3.33	NC	NC	--	--
Langelier Index (@ 4C)	N/A	N/A		-3.58	NC	NC	--	--
Saturation pH (@ 20C)	N/A	N/A		9.67	NC	NC	--	--
Saturation pH (@ 4C)	N/A	N/A		9.92	NC	NC	--	--
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		240	280	500	--	--
Total Antimony (Sb)	ug/L	2		ND	ND	ND	--	--
Total Arsenic (As)	ug/L	2		ND	ND	ND	--	--
Total Barium (Ba)	ug/L	5		ND	18	6	--	--
Total Beryllium (Be)	ug/L	2		ND	ND	ND	--	--
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	--	--
Total Boron (B)	ug/L	5		98	8	12	--	--
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	--	--
Total Calcium (Ca)	mg/L	0.1		14	6.5	2.4	--	--
Total Chromium (Cr)	ug/L	2		ND	ND	ND	--	--
Total Cobalt (Co)	ug/L	1		ND	ND	ND	--	--

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>MCINTOSH RUN at Mouth</b>	<b>MCINTOSH RUN at Roaches Pond</b>	<b>MOODY LAKE</b>	<b>MORRIS LAKE (North Basin)</b>	<b>MORRIS LAKE (South Basin)</b>
Community				Herring Cove	Roaches Pond	Williamswood	Dartmouth	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			06/11/2008 13:15	06/11/2008 13:00	10/11/2008 10:40	23/10/2008 12:00	23/10/2008 11:00
Total Copper (Cu)	ug/L	2		ND	ND	ND	--	--
Total Iron (Fe)	ug/L	50		ND	490	710	--	--
Total Lead (Pb)	ug/L	0.5		ND	0.7	1.1	--	--
Total Magnesium (Mg)	mg/L	0.1		29	1.3	0.7	--	--
Total Manganese (Mn)	ug/L	2		ND	56	34	--	--
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	--	--
Total Nickel (Ni)	ug/L	2		ND	ND	ND	--	--
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	--	--
Total Potassium (K)	mg/L	0.1		10	1.1	0.7	--	--
Total Selenium (Se)	ug/L	2		ND	ND	ND	--	--
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	--	--
Total Sodium (Na)	mg/L	0.1		290	40	7.1	--	--
Total Strontium (Sr)	ug/L	5		200	32	12	--	--
Total Thallium (Tl)	ug/L	2		ND	ND	ND	--	--
Total Tin (Sn)	ug/L	2		ND	ND	ND	--	--
Total Titanium (Ti)	ug/L	2		ND	4	5	--	--
Total Uranium (U)	ug/L	0.1		ND	0.2	0.3	--	--
Total Vanadium (V)	ug/L	2		ND	ND	ND	--	--
Total Zinc (Zn)	ug/L	5		ND	13	9	--	--
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	6	28	--	7	ND
Fecal coliform Outlet	MPN/100mL	1	200	--	--	--	--	24
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	21	--
Chlorophyll A - Acidification method	ug/L	N/A		2.68	0.56	1.49	1.97	1.88
Chlorophyll a - Welschmeyer method	ug/L	N/A		2.89	0.68	1.61	1.93	1.91

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	MCINTOSH RUN at Mouth	MCINTOSH RUN at Roaches Pond	MOODY LAKE	MORRIS LAKE (North Basin)	MORRIS LAKE (South Basin)
Community				Herring Cove	Roaches Pond	Williamswood	Dartmouth	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			06/11/2008 13:15	06/11/2008 13:00	10/11/2008 10:40	23/10/2008 12:00	23/10/2008 11:00

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

HRM Water Quality Monitoring Program Results - Fall 2008

WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM

See NOTES below

Fall 2008	Units	RDL	CCME Guideline Level	NINE MILE RIVER AT HWY 103	NINE MILE RIVER AT MOUTH	OATHILL LAKE	PAPER MILL LAKE	PENHORN LAKE
Community				Timberlea	Shad Bay	Dartmouth	Bedford	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:40	10/11/2008 14:45	20/10/2008 12:25	31/10/2008 0:00	20/10/2008 11:40
<b>FIELD DATA</b>					Sampled at mid rising tide			
Secchi Depth	Meters	N/A		N/A	N/A	4.1	3.0	2.4
Temp	Celsius	N/A		11.18	11.71	11.64	10.56	11.29
Dissolved Oxygen	mg/L	0.2	6-9.5	10.17	11.54	8.95	10.61	9.76
pH	pH	N/A	6.5-9.0	6.34	5.51	7.57	7.24	8.03
Specific Conductance	mS/cm	0.001		0.147	1.459	0.495	0.275	0.649
TDS	g/L	0.01		0.095	0.948	0.321	0.179	0.422
Salinity	ppt	0.01		0.07	0.74	0.24	0.13	0.32
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		7	5	38	6	30
Dissolved Chloride (Cl)	mg/L	5		35	390	120	70	170
Colour	TCU	5		75	120	20	19	7
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.9	0.6	0.4	ND	0.3
Nitrate + Nitrite	mg/L	0.05	13000	0.63	0.42	0.08	0.15	ND
Nitrate (N)	mg/L	0.05		0.61	0.42	0.08	0.15	ND
Nitrite (N)	mg/L	0.01		0.02	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	0.19	ND	0.10	ND	0.06
Total Organic Carbon (C)	mg/L	0.5		7.5	10	3.2	3.5	2.2
Orthophosphate (P)	mg/L	0.01		0.08	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.33	6.34	7.46	6.74	7.47
Total Phosphorus (1M depth)	mg/L	0.002		0.13	0.025	0.020	0.010	0.021
Reactive Silica (SiO2)	mg/L	0.5		3.1	3.9	3.0	2.8	2.6
Total Suspended Solids	mg/L	1		6	1	ND	1	2

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>NINE MILE RIVER AT HWY 103</b>	<b>NINE MILE RIVER AT MOUTH</b>	<b>OATHILL LAKE</b>	<b>PAPER MILL LAKE</b>	<b>PENHORN LAKE</b>
Community				Timberlea	Shad Bay	Dartmouth	Bedford	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:40	10/11/2008 14:45	20/10/2008 12:25	31/10/2008 0:00	20/10/2008 11:40
Dissolved Sulphate (SO4)	mg/L	2		6	63	15	11	13
Turbidity	NTU	0.1		1.2	0.9	0.5	0.4	1.0
Conductivity	uS/cm	1		140	1400	500	280	650
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.27	12.4	4.46	2.33	5.76
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		7	5	38	6	30
Calculated TDS	mg/L	1		80	737	253	142	341
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.33	13.0	4.15	2.42	5.97
Hardness (CaCO3)	mg/L	1		17	130	53	26	54
Ion Balance (% Difference)	%	N/A		2.31	2.49	3.60	1.89	1.79
Langelier Index (@ 20C)	N/A	N/A		-3.47	-3.41	-1.14	-2.97	-1.22
Langelier Index (@ 4C)	N/A	N/A		-3.72	-3.65	-1.39	-3.22	-1.47
Saturation pH (@ 20C)	N/A	N/A		9.80	9.75	8.60	9.71	8.69
Saturation pH (@ 4C)	N/A	N/A		10.0	9.99	8.85	9.96	8.94
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		250	310	12	60	ND
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		21	ND	34	21	35
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		11	83	11	7	7
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		0.1	1.5	17	8.1	19
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>NINE MILE RIVER AT HWY 103</b>	<b>NINE MILE RIVER AT MOUTH</b>	<b>OATHILL LAKE</b>	<b>PAPER MILL LAKE</b>	<b>PENHORN LAKE</b>
Community				Timberlea	Shad Bay	Dartmouth	Bedford	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:40	10/11/2008 14:45	20/10/2008 12:25	31/10/2008 0:00	20/10/2008 11:40
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		340	ND	85	110	60
Total Lead (Pb)	ug/L	0.5		0.8	ND	ND	ND	ND
Total Magnesium (Mg)	mg/L	0.1		0.1	0.6	2.4	1.3	1.8
Total Manganese (Mn)	ug/L	2		52	ND	300	38	190
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		0.1	ND	ND	0.1	ND
Total Potassium (K)	mg/L	0.1		0.1	0.6	1.9	1.1	1.2
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		0.1	13	70	43	110
Total Strontium (Sr)	ug/L	5		21	160	59	39	62
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		0.3	ND	ND	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		14	ND	9	7	9
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	--	--	31	6	40
Fecal coliform Outlet	MPN/100mL	1	200	--	--	100	--	47
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		1.78	2.13	3.16	1.67	3.72
Chlorophyll a - Welschmeyer method	ug/L	N/A		2.16	2.56	3.42	1.63	3.71

**Notes:**

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>NINE MILE RIVER AT HWY 103</b>	<b>NINE MILE RIVER AT MOUTH</b>	<b>OATHILL LAKE</b>	<b>PAPER MILL LAKE</b>	<b>PENHORN LAKE</b>
Community				Timberlea	Shad Bay	Dartmouth	Bedford	Dartmouth
Sampling Date & Time	DD/MM/YYYY 24hr time			10/11/2008 12:40	10/11/2008 14:45	20/10/2008 12:25	31/10/2008 0:00	20/10/2008 11:40

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>POWDER MILL LAKE</b>	<b>RED BRIDGE POND</b>	<b>ROCKY LAKE</b>	<b>RUSSELL LAKE</b>	<b>SACKVILLE RIVER*</b>
Community				Waverley	Dartmouth	Bedford	Dartmouth	Below Fish Hatchery PS
Sampling Date & Time	DD/MM/YYYY 24hr time			30/10/2008 11:15	20/10/2008 11:05	20/11/2008 14:25	24/10/2008 10:00	31/10/2008 11:15
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		3.8	N/A	2.4	--	N/A
Temp	Celsius	N/A		11.50	8.63	7.11	8.7	8.97
Dissolved Oxygen	mg/L	0.2	6-9.5	10.89	11.80	12.34	11.6	12.04
pH	pH	N/A	6.5-9.0	6.41	8.99	6.56	7.6	7.13
Specific Conductance	mS/cm	0.001		0.229	0.200	0.350	0.681	0.104
TDS	g/L	0.01		0.149	0.131	0.227	--	0.067
Salinity	ppt	0.01		0.11	0.10	0.17	--	0.05
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		23	31	41	71	7
Dissolved Chloride (Cl)	mg/L	5		50	90	70	91	23
Colour	TCU	5		12	31	18	13	76
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.1	0.5	2.4	--	0.3
Nitrate + Nitrite	mg/L	0.05	13000	ND	ND	0.54	0.15	0.07
Nitrate (N)	mg/L	0.05		ND	ND	0.54	--	0.07
Nitrite (N)	mg/L	0.01		ND	ND	ND	--	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	0.06	ND	ND
Total Organic Carbon (C)	mg/L	0.5		2.8	4.9	3.5	3.8	7.9
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.17	7.70	7.59	7.7	6.66
Total Phosphorus (1M depth)	mg/L	0.002		0.009	0.043	0.025	--	0.023
Reactive Silica (SiO2)	mg/L	0.5		2.4	1.3	4.0	4.5	3.3
Total Suspended Solids	mg/L	1		ND	46	1	ND	6

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>POWDER MILL LAKE</b>	<b>RED BRIDGE POND</b>	<b>ROCKY LAKE</b>	<b>RUSSELL LAKE</b>	<b>SACKVILLE RIVER*</b>
Community				Waverley	Dartmouth	Bedford	Dartmouth	Below Fish Hatchery PS
Sampling Date & Time	DD/MM/YYYY 24hr time			30/10/2008 11:15	20/10/2008 11:05	20/11/2008 14:25	24/10/2008 10:00	31/10/2008 11:15
Dissolved Sulphate (SO4)	mg/L	2		8	16	17	20	4
Turbidity	NTU	0.1		0.5	7.2	0.5	0.06	3.0
Conductivity	uS/cm	1		230	410	340	780	100
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		2.05	3.51	3.18	--	0.900
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		23	31	41	70	7
Calculated TDS	mg/L	1		125	207	189	0.413	58
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		2.25	3.63	3.22	--	0.990
Hardness (CaCO3)	mg/L	1		35	49	58	120	14
Ion Balance (% Difference)	%	N/A		4.65	1.68	0.630	--	4.76
Langelier Index (@ 20C)	N/A	N/A		-1.75	-0.967	-0.865	--	-3.17
Langelier Index (@ 4C)	N/A	N/A		-2.00	-1.22	-1.12	--	-3.42
Saturation pH (@ 20C)	N/A	N/A		8.92	8.67	8.46	--	9.83
Saturation pH (@ 4C)	N/A	N/A		9.17	8.92	8.71	--	10.1
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		ND	160	21	--	360
Total Antimony (Sb)	ug/L	2		ND	ND	ND	--	ND
Total Arsenic (As)	ug/L	2		6	ND	ND	--	ND
Total Barium (Ba)	ug/L	5		15	33	21	--	12
Total Beryllium (Be)	ug/L	2		ND	ND	ND	--	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	--	ND
Total Boron (B)	ug/L	5		9	11	9	--	8
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	--	ND
Total Calcium (Ca)	mg/L	0.1		12	17	20	40	4.2
Total Chromium (Cr)	ug/L	2		ND	ND	ND	--	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	--	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>POWDER MILL LAKE</b>	<b>RED BRIDGE POND</b>	<b>ROCKY LAKE</b>	<b>RUSSELL LAKE</b>	<b>SACKVILLE RIVER*</b>
Community				Waverley	Dartmouth	Bedford	Dartmouth	Below Fish Hatchery PS
Sampling Date & Time	DD/MM/YYYY 24hr time			30/10/2008 11:15	20/10/2008 11:05	20/11/2008 14:25	24/10/2008 10:00	31/10/2008 11:15
Total Copper (Cu)	ug/L	2		ND	2	ND	--	ND
Total Iron (Fe)	ug/L	50		100	1000	62	--	860
Total Lead (Pb)	ug/L	0.5		ND	5.6	ND	--	0.9
Total Magnesium (Mg)	mg/L	0.1		1.3	1.8	1.7	4.8	0.9
Total Manganese (Mn)	ug/L	2		120	91	46	--	120
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	--	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	--	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	--	0.1
Total Potassium (K)	mg/L	0.1		2.3	1.3	5.2	3.3	1.0
Total Selenium (Se)	ug/L	2		ND	ND	ND	--	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	--	ND
Total Sodium (Na)	mg/L	0.1		34	59	44	100	15
Total Strontium (Sr)	ug/L	5		37	61	65	--	18
Total Thallium (Tl)	ug/L	2		ND	ND	ND	--	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	--	ND
Total Titanium (Ti)	ug/L	2		ND	4	ND	--	6
Total Uranium (U)	ug/L	0.1		ND	ND	0.1	--	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	--	ND
Total Zinc (Zn)	ug/L	5		7	19	7	--	9
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	2	110	7	5	7
Fecal coliform Outlet	MPN/100mL	1	200	1	2	--	--	62
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		1.41	18.31	5.02	--	1.93
Chlorophyll a - Welschmeyer method	ug/L	N/A		1.43	19.61	5.29	0.17	1.82

**Notes:**

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>POWDER MILL LAKE</b>	<b>RED BRIDGE POND</b>	<b>ROCKY LAKE</b>	<b>RUSSELL LAKE</b>	<b>SACKVILLE RIVER*</b>
Community				Waverley	Dartmouth	Bedford	Dartmouth	Below Fish Hatchery PS
Sampling Date & Time	DD/MM/YYYY 24hr time			30/10/2008 11:15	20/10/2008 11:05	20/11/2008 14:25	24/10/2008 10:00	31/10/2008 11:15

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SANDY LAKE BEDFORD</b>	<b>SANDY LAKE GLEN ARBOUR</b>	<b>SECOND LAKE</b>	<b>SETTLE LAKE</b>	<b>SHELDRAKE LAKE</b>
Community				Bedford	Glen Arbour	Middle Sackville	Dartmouth	Hubley
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 13:40	17/11/2008 11:10	30/10/2008 13:50	21/10/2008 12:00	29/10/2008 13:45
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		2.4	1.8	3.5	1.2	1.1
Temp	Celsius	N/A		12.20	10.01	11.06	10.68	11.47
Dissolved Oxygen	mg/L	0.2	6-9.5	10.15	11.63	11.43	11.39	10.94
pH	pH	N/A	6.5-9.0	7.08	6.86	6.69	7.45	5.22
Specific Conductance	mS/cm	0.001		0.165	0.055	0.165	0.534	0.186
TDS	g/L	0.01		0.107	0.034	0.107	0.347	0.121
Salinity	ppt	0.01		0.08	0.02	0.08	0.26	0.09
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		6	8	13	37	ND
Dissolved Chloride (Cl)	mg/L	5		41	7	37	140	52
Colour	TCU	5		45	17	19	26	100
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.4	0.4	0.2	0.9	0.4
Nitrate + Nitrite	mg/L	0.05	13000	0.07	0.07	ND	0.22	ND
Nitrate (N)	mg/L	0.05		0.07	0.07	ND	0.22	ND
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		5.7	3.0	3.1	5.6	7.1
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	6.66	6.79	6.97	7.69	5.26
Total Phosphorus (1M depth)	mg/L	0.002		0.021	0.015	0.011	0.038	0.028
Reactive Silica (SiO2)	mg/L	0.5		3.2	2.7	1.3	2.1	4.5
Total Suspended Solids	mg/L	1		1	1	1	7	2

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SANDY LAKE BEDFORD</b>	<b>SANDY LAKE GLEN ARBOUR</b>	<b>SECOND LAKE</b>	<b>SETTLE LAKE</b>	<b>SHELDRAKE LAKE</b>
Community				Bedford	Glen Arbour	Middle Sackville	Dartmouth	Hubley
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 13:40	17/11/2008 11:10	30/10/2008 13:50	21/10/2008 12:00	29/10/2008 13:45
Dissolved Sulphate (SO4)	mg/L	2		8	4	5	12	5
Turbidity	NTU	0.1		1.2	0.6	0.6	1.2	1.1
Conductivity	uS/cm	1		170	54	170	540	190
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.44	0.450	1.43	4.81	1.56
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		6	8	13	37	ND
Calculated TDS	mg/L	1		86	30	85	280	97
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.34	0.480	1.50	4.84	1.61
Hardness (CaCO3)	mg/L	1		15	11	21	53	16
Ion Balance (% Difference)	%	N/A		3.60	3.23	2.39	0.310	1.58
Langelier Index (@ 20C)	N/A	N/A		-3.26	-3.15	-2.41	-0.922	NC
Langelier Index (@ 4C)	N/A	N/A		-3.51	-3.40	-2.66	-1.17	NC
Saturation pH (@ 20C)	N/A	N/A		9.92	9.94	9.38	8.61	NC
Saturation pH (@ 4C)	N/A	N/A		10.2	10.2	9.63	8.86	NC
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		97	48	19	28	260
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		15	ND	11	25	32
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		7	8	6	10	8
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		4.4	2.9	6.8	17	4.2
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SANDY LAKE BEDFORD</b>	<b>SANDY LAKE GLEN ARBOUR</b>	<b>SECOND LAKE</b>	<b>SETTLE LAKE</b>	<b>SHELDRAKE LAKE</b>
Community				Bedford	Glen Arbour	Middle Sackville	Dartmouth	Hubley
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 13:40	17/11/2008 11:10	30/10/2008 13:50	21/10/2008 12:00	29/10/2008 13:45
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		400	220	140	530	590
Total Lead (Pb)	ug/L	0.5		ND	ND	ND	ND	0.9
Total Magnesium (Mg)	mg/L	0.1		0.9	0.9	1.1	2.3	1.2
Total Manganese (Mn)	ug/L	2		110	68	110	530	93
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	3	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		1.0	1.2	1.1	1.9	1.1
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		23	5.1	24	86	29
Total Strontium (Sr)	ug/L	5		21	13	21	53	26
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	ND	0.3
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		9	7	ND	7	14
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	ND	12	4	63	14
Fecal coliform Outlet	MPN/100mL	1	200	ND	25	1	170	15
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		7.62	2.52	1.44	57.39	5.73
Chlorophyll a - Welschmeyer method	ug/L	N/A		7.82	2.76	1.44	56.93	5.39

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	SANDY LAKE BEDFORD	SANDY LAKE GLEN ARBOUR	SECOND LAKE	SETTLE LAKE	SHELDRAKE LAKE
Community				Bedford	Glen Arbour	Middle Sackville	Dartmouth	Hubley
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 13:40	17/11/2008 11:10	30/10/2008 13:50	21/10/2008 12:00	29/10/2008 13:45

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SMELT BROOK</b>	<b>SPRINGFIELD LAKE</b>	<b>STILLWATER LAKE</b>	<b>THE MILL POND (THREE MILE POND)</b>	<b>THIRD LAKE</b>
Community				Dartmouth	Middle Sackville	Upper Tantallon	Timberlea	Windsor Junction
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 9:30	12/11/2008 14:00	29/10/2008 14:10	10/11/2008 12:00	30/10/2008 11:50
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		N/A	2.5	2.0	1.0	3.6
Temp	Celsius	N/A		8.85	8.88	11.17	11.31	11.31
Dissolved Oxygen	mg/L	0.2	6-9.5	10.55	11.74	10.72	11.02	10.61
pH	pH	N/A	6.5-9.0	7.17	6.57	5.82	6.12	6.85
Specific Conductance	mS/cm	0.001		0.198	0.109	0.062	0.285	0.137
TDS	g/L	0.01		0.129	0.071	0.040	0.186	0.089
Salinity	ppt	0.01		0.09	0.05	0.03	0.14	0.06
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		34	6	ND	ND	13
Dissolved Chloride (Cl)	mg/L	5		34	23	15	20	29
Colour	TCU	5		110	14	66	75	12
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.5	0.6	0.3	0.5	0.2
Nitrate + Nitrite	mg/L	0.05	13000	0.16	ND	0.08	0.07	ND
Nitrate (N)	mg/L	0.05		0.16	ND	0.08	0.07	ND
Nitrite (N)	mg/L	0.01		ND	ND	ND	ND	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	ND	ND
Total Organic Carbon (C)	mg/L	0.5		12	4.5	5.8	7.7	3.5
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.27	6.78	5.81	6.05	6.97
Total Phosphorus (1M depth)	mg/L	0.002		0.023	0.022	0.013	0.011	0.015
Reactive Silica (SiO2)	mg/L	0.5		6.5	1.8	2.7	2.6	1.6
Total Suspended Solids	mg/L	1		ND	1	ND	1	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SMELT BROOK</b>	<b>SPRINGFIELD LAKE</b>	<b>STILLWATER LAKE</b>	<b>THE MILL POND (THREE MILE POND)</b>	<b>THIRD LAKE</b>
Community				Dartmouth	Middle Sackville	Upper Tantallon	Timberlea	Windsor Junction
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 9:30	12/11/2008 14:00	29/10/2008 14:10	10/11/2008 12:00	30/10/2008 11:50
Dissolved Sulphate (SO4)	mg/L	2		ND	8	3	2	6
Turbidity	NTU	0.1		1.4	0.8	0.9	0.9	0.4
Conductivity	uS/cm	1		200	110	64	81	140
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.67	0.950	0.480	0.620	1.21
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		34	6	ND	ND	13
Calculated TDS	mg/L	1		102	57	33	41	70
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.87	0.930	0.560	0.730	1.17
Hardness (CaCO3)	mg/L	1		44	17	7	9	19
Ion Balance (% Difference)	%	N/A		5.65	1.06	7.69	8.15	1.68
Langelier Index (@ 20C)	N/A	N/A		-1.40	-3.06	NC	NC	-2.46
Langelier Index (@ 4C)	N/A	N/A		-1.65	-3.31	NC	NC	-2.71
Saturation pH (@ 20C)	N/A	N/A		8.67	9.84	NC	NC	9.43
Saturation pH (@ 4C)	N/A	N/A		8.92	10.1	NC	NC	9.68
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		110	30	220	210	ND
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		9	8	7	14	12
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		10	7	7	6	7
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		14	4.9	1.6	2.3	6.1
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>SMELT BROOK</b>	<b>SPRINGFIELD LAKE</b>	<b>STILLWATER LAKE</b>	<b>THE MILL POND (THREE MILE POND)</b>	<b>THIRD LAKE</b>
Community				Dartmouth	Middle Sackville	Upper Tantallon	Timberlea	Windsor Junction
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 9:30	12/11/2008 14:00	29/10/2008 14:10	10/11/2008 12:00	30/10/2008 11:50
Total Copper (Cu)	ug/L	2		ND	ND	ND	ND	ND
Total Iron (Fe)	ug/L	50		430	140	440	300	ND
Total Lead (Pb)	ug/L	0.5		ND	ND	0.6	ND	1.2
Total Magnesium (Mg)	mg/L	0.1		2.2	1.1	0.6	0.7	1.0
Total Manganese (Mn)	ug/L	2		140	34	41	39	110
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	ND
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	ND	ND
Total Potassium (K)	mg/L	0.1		1.9	1.1	0.6	1.0	1.0
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		22	13	9.1	12	18
Total Strontium (Sr)	ug/L	5		50	20	10	12	21
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		3	ND	ND	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	ND	0.2	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		7	6	12	8	ND
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	45	1	ND	--	8
Fecal coliform Outlet	MPN/100mL	1	200	N/A	ND	16	--	15
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		0.44	2.44	1.00	1.23	2.88
Chlorophyll a - Welschmeyer method	ug/L	N/A		0.41	2.69	0.95	1.54	2.90

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	SMELT BROOK	SPRINGFIELD LAKE	STILLWATER LAKE	THE MILL POND (THREE MILE POND)	THIRD LAKE
Community				Dartmouth	Middle Sackville	Upper Tantallon	Timberlea	Windsor Junction
Sampling Date & Time	DD/MM/YYYY 24hr time			21/10/2008 9:30	12/11/2008 14:00	29/10/2008 14:10	10/11/2008 12:00	30/10/2008 11:50

-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of M

Fecal Coliform Guideline: for C

Dissolved Oxygen Guideline: Ic

Bacterial level of concern for s

Bacterial level unsuitable for s

**HRM Water Quality Monitoring Program Results - Fall 2008**

**WATER QUALITY ANALYSES  
HRM LAKE SAMPLING PROGRAM**

See NOTES below

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>TUCKER LAKE</b>	<b>UPPER PORTERS LAKE</b>	<b>WHIMSICAL LAKE</b>	<b>WHYNDER (WINDER) LAKE</b>	<b>WILLIAMS LAKE</b>
Community				Beaverbank	Porters Lake	Mainland South	North Preston	Halifax
Sampling Date & Time	DD/MM/YYYY 24hr time			12/11/2008 11:05	20/11/2008 11:55	29/10/2008 10:20	20/11/2008 10:00	06/11/2008 11:10
<b>FIELD DATA</b>								
Secchi Depth	Meters	N/A		3.9	1.4	2.1	0.8	4.0
Temp	Celsius	N/A		9.20	9.04	11.50	5.65	9.52
Dissolved Oxygen	mg/L	0.2	6-9.5	10.95	11.40	11.06	10.64	11.15
pH	pH	N/A	6.5-9.0	6.87	5.45	7.26	6.85	6.98
Specific Conductance	mS/cm	0.001		0.203	0.950	0.441	0.181	0.279
TDS	g/L	0.01		0.132	0.618	0.287	0.118	0.183
Salinity	ppt	0.01		0.10	0.47	0.21	0.09	0.13
<b>INORGANICS</b>								
Total Alkalinity (Total as CaCO3)	mg/L	5		18	ND	34	16	ND
Dissolved Chloride (Cl)	mg/L	5		45	270	100	32	68
Colour	TCU	5		18	130	14	40	9
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1		0.5	0.3	0.4	2.3	0.2
Nitrate + Nitrite	mg/L	0.05	13000	ND	0.09	ND	1.0	ND
Nitrate (N)	mg/L	0.05		ND	0.09	ND	1.0	ND
Nitrite (N)	mg/L	0.01		ND	ND	ND	0.02	ND
Nitrogen (Ammonia Nitrogen)	mg/L	0.05	19	ND	ND	ND	0.13	ND
Total Organic Carbon (C)	mg/L	0.5		4.4	8.7	3.9	6.5	3.0
Orthophosphate (P)	mg/L	0.01		ND	ND	ND	ND	ND
pH (Lab)	pH	N/A	6.5-9.0	7.29	5.52	7.32	6.80	6.52
Total Phosphorus (1M depth)	mg/L	0.002		0.014	0.009	0.017	0.15	0.007
Reactive Silica (SiO2)	mg/L	0.5		1.6	2.8	1.0	3.0	1.4
Total Suspended Solids	mg/L	1		2	1	2	10	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>TUCKER LAKE</b>	<b>UPPER PORTERS LAKE</b>	<b>WHIMSICAL LAKE</b>	<b>WHYNDER (WINDER) LAKE</b>	<b>WILLIAMS LAKE</b>
Community				Beaverbank	Porters Lake	Mainland South	North Preston	Halifax
Sampling Date & Time	DD/MM/YYYY 24hr time			12/11/2008 11:05	20/11/2008 11:55	29/10/2008 10:20	20/11/2008 10:00	06/11/2008 11:10
Dissolved Sulphate (SO4)	mg/L	2		8	40	24	17	16
Turbidity	NTU	0.1		0.5	0.7	0.7	2.3	0.3
Conductivity	uS/cm	1		200	930	450	180	290
<b>Calculated Parameters</b>								
Anion Sum	me/L	N/A		1.81	8.53	4.08	1.64	2.26
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1		18	ND	34	16	ND
Calculated TDS	mg/L	1		104	497	234	104	141
Carb. Alkalinity (calc. as CaCO3)	mg/L	1		ND	ND	ND	ND	ND
Cation Sum	me/L	N/A		1.75	8.45	3.89	1.68	2.46
Hardness (CaCO3)	mg/L	1		29	85	54	25	24
Ion Balance (% Difference)	%	N/A		1.69	0.470	2.38	1.20	4.24
Langelier Index (@ 20C)	N/A	N/A		-1.83	NC	-1.29	-2.43	NC
Langelier Index (@ 4C)	N/A	N/A		-2.08	NC	-1.54	-2.68	NC
Saturation pH (@ 20C)	N/A	N/A		9.12	NC	8.61	9.23	NC
Saturation pH (@ 4C)	N/A	N/A		9.37	NC	8.86	9.48	NC
<b>Metals (ICP-OES)</b>								
Total Aluminum (Al)	ug/L	10		16	290	34	110	34
Total Antimony (Sb)	ug/L	2		ND	ND	ND	ND	ND
Total Arsenic (As)	ug/L	2		ND	ND	ND	ND	ND
Total Barium (Ba)	ug/L	5		16	7	23	9	15
Total Beryllium (Be)	ug/L	2		ND	ND	ND	ND	ND
Total Bismuth (Bi)	ug/L	2		ND	ND	ND	ND	ND
Total Boron (B)	ug/L	5		7	58	17	43	6
Total Cadmium (Cd)	ug/L	0.3		ND	ND	ND	ND	ND
Total Calcium (Ca)	mg/L	0.1		9.4	6.4	18	8.1	7.5
Total Chromium (Cr)	ug/L	2		ND	ND	ND	ND	ND
Total Cobalt (Co)	ug/L	1		ND	ND	ND	ND	ND

**HRM Water Quality Monitoring Program Results - Fall 2008**

<b>Fall 2008</b>	<b>Units</b>	<b>RDL</b>	<b>CCME Guideline Level</b>	<b>TUCKER LAKE</b>	<b>UPPER PORTERS LAKE</b>	<b>WHIMSICAL LAKE</b>	<b>WHYNDER (WINDER) LAKE</b>	<b>WILLIAMS LAKE</b>
Community				Beaverbank	Porters Lake	Mainland South	North Preston	Halifax
Sampling Date & Time	DD/MM/YYYY 24hr time			12/11/2008 11:05	20/11/2008 11:55	29/10/2008 10:20	20/11/2008 10:00	06/11/2008 11:10
Total Copper (Cu)	ug/L	2		2	ND	ND	5	ND
Total Iron (Fe)	ug/L	50		54	290	ND	100	95
Total Lead (Pb)	ug/L	0.5		ND	ND	ND	ND	ND
Total Magnesium (Mg)	mg/L	0.1		1.4	17	2.2	1.1	1.3
Total Manganese (Mn)	ug/L	2		69	62	23	94	63
Total Molybdenum (Mo)	ug/L	2		ND	ND	ND	ND	ND
Total Nickel (Ni)	ug/L	2		ND	ND	ND	ND	3
Total Phosphorus (P)	mg/L	0.1		ND	ND	ND	0.2	ND
Total Potassium (K)	mg/L	0.1		1.4	5.6	2.3	3.4	1.1
Total Selenium (Se)	ug/L	2		ND	ND	ND	ND	ND
Total Silver (Ag)	ug/L	0.5		ND	ND	ND	ND	ND
Total Sodium (Na)	mg/L	0.1		26	150	63	25	45
Total Strontium (Sr)	ug/L	5		30	100	76	33	38
Total Thallium (Tl)	ug/L	2		ND	ND	ND	ND	ND
Total Tin (Sn)	ug/L	2		ND	ND	ND	ND	ND
Total Titanium (Ti)	ug/L	2		ND	4	ND	ND	ND
Total Uranium (U)	ug/L	0.1		ND	ND	0.1	ND	ND
Total Vanadium (V)	ug/L	2		ND	ND	ND	ND	ND
Total Zinc (Zn)	ug/L	5		ND	7	7	16	14
<b>MICROBIOLOGICAL</b>								
Fecal coliform Lake	MPN/100mL	1	200	2	1	490	750	ND
Fecal coliform Outlet	MPN/100mL	1	200	4	--	190	520	ND
Fecal coliform Inlet	MPN/100mL	1	200	--	--	--	--	--
Chlorophyll A - Acidification method	ug/L	N/A		2.22	0.37	5.15	159.92	1.72
Chlorophyll a - Welschmeyer method	ug/L	N/A		2.34	0.42	5.23	165.31	1.84

**Notes:**

HRM Water Quality Monitoring Program Results - Fall 2008

Fall 2008	Units	RDL	CCME Guideline Level	TUCKER LAKE	UPPER PORTERS LAKE	WHIMSICAL LAKE	WHYNDER (WINDER) LAKE	WILLIAMS LAKE
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-- Not Analysed

NC Not Calculable

ND Not Detected

N/A Not Applicable

MPN Most Probable Number

RDL Reportable Detection Limit

ug Micrograms

mg Milligrams

L Litre

\* 'Lake' = @ Hwy 102; 'Outlet' = mouth

Russell Lake - sampled by JWL

Morris Lake - sampled by JWL

CCME - Canadian Council of Ministers of the Environment  
Fecal Coliform Guideline: for Community Water Supply  
Dissolved Oxygen Guideline: for Community Water Supply

Bacterial level of concern for surface water

Bacterial level unsuitable for surface water