Volunteer Water Quality Monitoring Program
Data Report – 2007

Township of The Archipelago
April 2008

Acknowledgements

This monitoring program represents a successful partnership between the Township of The Archipelago, cottager associations, and numerous volunteers in areas along the coast and inland lakes that has lasted since its inception in 1999. The volunteer-based program provides an important avenue for relaying information about our environment to ratepayers and for providing valuable information to the Township.

We owe continued thanks to all the volunteers who commit time and resources toward the ongoing success and long term vision that is water quality monitoring. Additionally, we are grateful to the ongoing support and interest of Dr. Karl Schiefer who provides support and advice on various technical aspects of the program and continues to be passionate about environmental quality on the Georgian Bay coast and inland waters.

The Township wishes to thank all of you for your passion and drive to ensure our high quality environment is maintained.

Report Compiled by the Township of The Archipelago:

For information on its content please contact:

Township of The Archipelago
9 James St.
Parry Sound, ON
P2A 1K1

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Area Data

1.0 Introduction

This report provides the summary of results from the 2007 Water Quality Monitoring Program for the Township of The Archipelago. The program purpose, rationale, and methods have been presented in previous year's reports and were followed for the 2007 season. Similar to past reports, the purpose here is to present the data gathered in the 2007 sampling season in detail but also to indicate summaries of past year's results to enable comparison of ongoing trends. It should be noted that this report was created by Township of The Archipelago staff and no analysis or review is provided internally.

The Township is very committed to addressing environmental issues and ensuring the maintenance of the high quality environment we all enjoy. This philosophy is integrated into the day to day functioning of the municipality from public works operations to detailed planning analysis.

2.0 Results

The following results were tabulated from data gathered in 2007. Different locations were sampled with different intensity and for varying lengths of time. It is not the purpose of this report to provide analysis or draw conclusions from the data. Rather, what is provided are:

- outlines of the standards against which data can be compared; and
- tables outlining the different data sets and averages for each location for each sample area; and where possible, the averages from the previous sampling years.

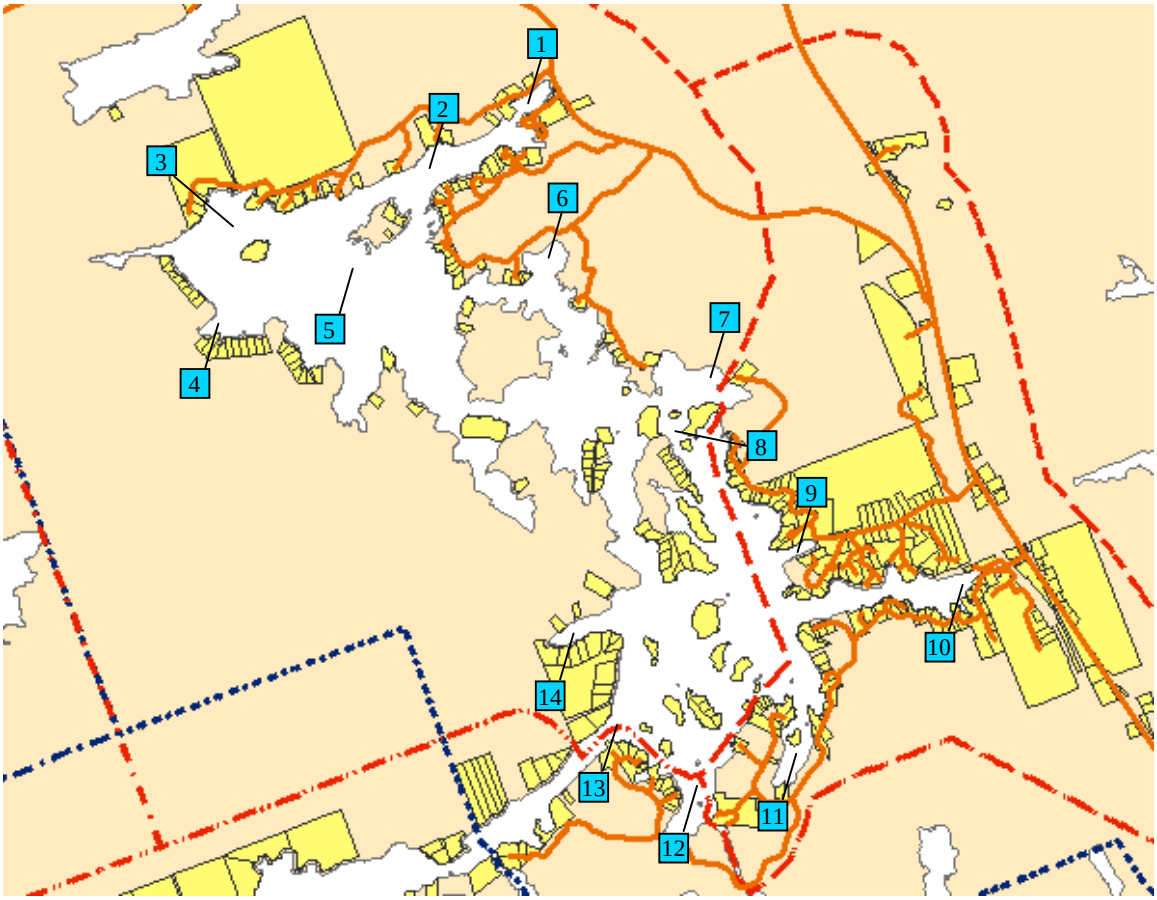
It should be noted that in order to assess the relevance of the data, comparisons should be made between averages and standard deviations (not individual data points per se), previous year averages and against established standards.

Charts are provided comparing water quality in the inland lakes, open bay sampling areas, and back bay sampling areas. When reviewing these data please keep in mind similarities and differences in the surrounding ecosystem and potential differences in sampling methodology (i.e. sampling times).

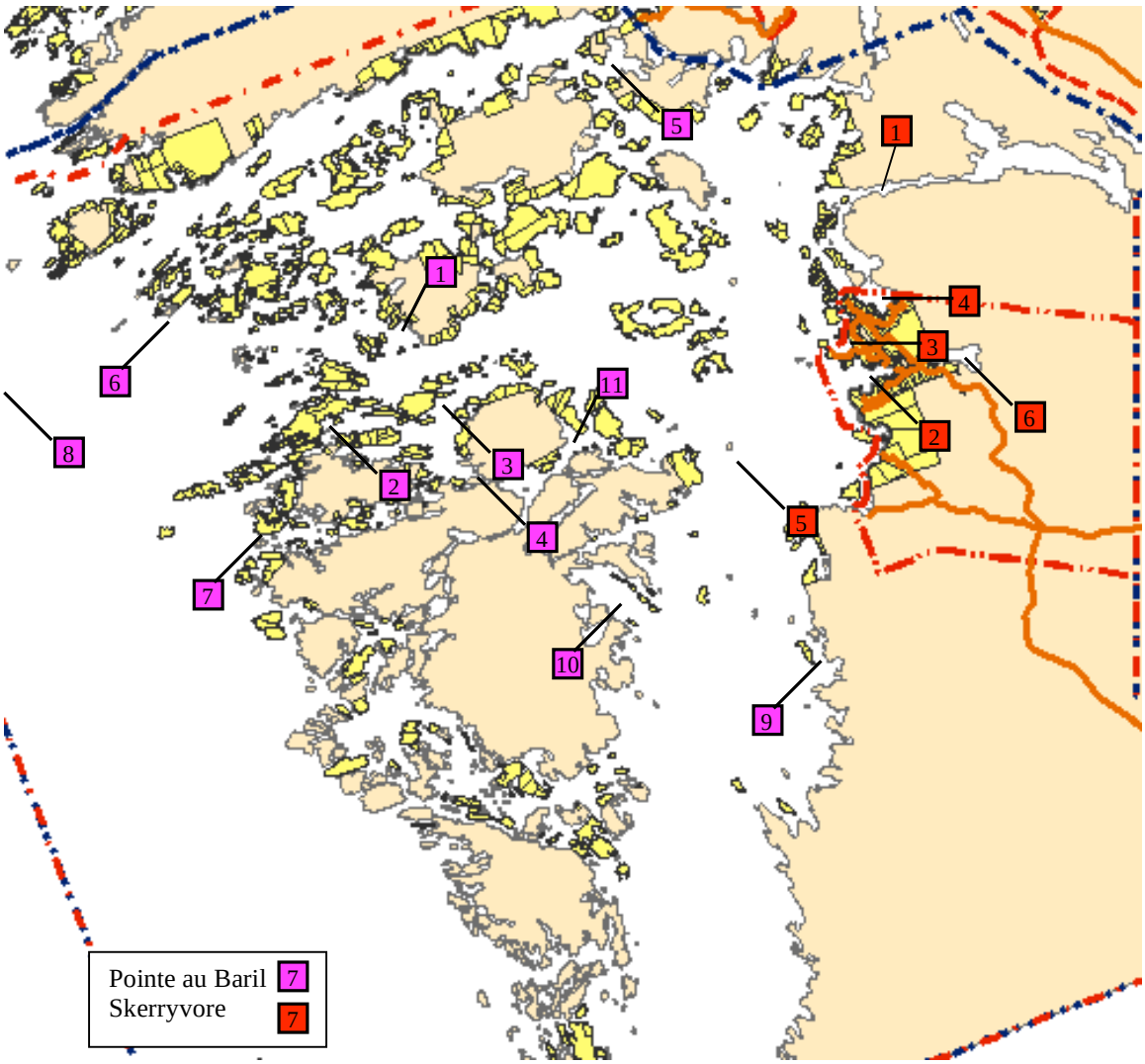
2.1 Sample Locations

Sampling sites have typically been focused on known or expected “hot spots”; areas that may be more likely to suffer water quality impairment related to human activities. Some sample areas have also been selected as control stations; these allow comparison between the variety of ecosystem types that exist along the coast and within inland lakes. Maps of the sample areas indicate the sampling locations for the different areas throughout the township. The sample sites include many of the sampling stations used in previous years and volunteers are encouraged to return to those sites in subsequent years. Unlike previous years, results for the different parameters are shown in table format, not on individual maps; refer to the maps when positioning the different samples.

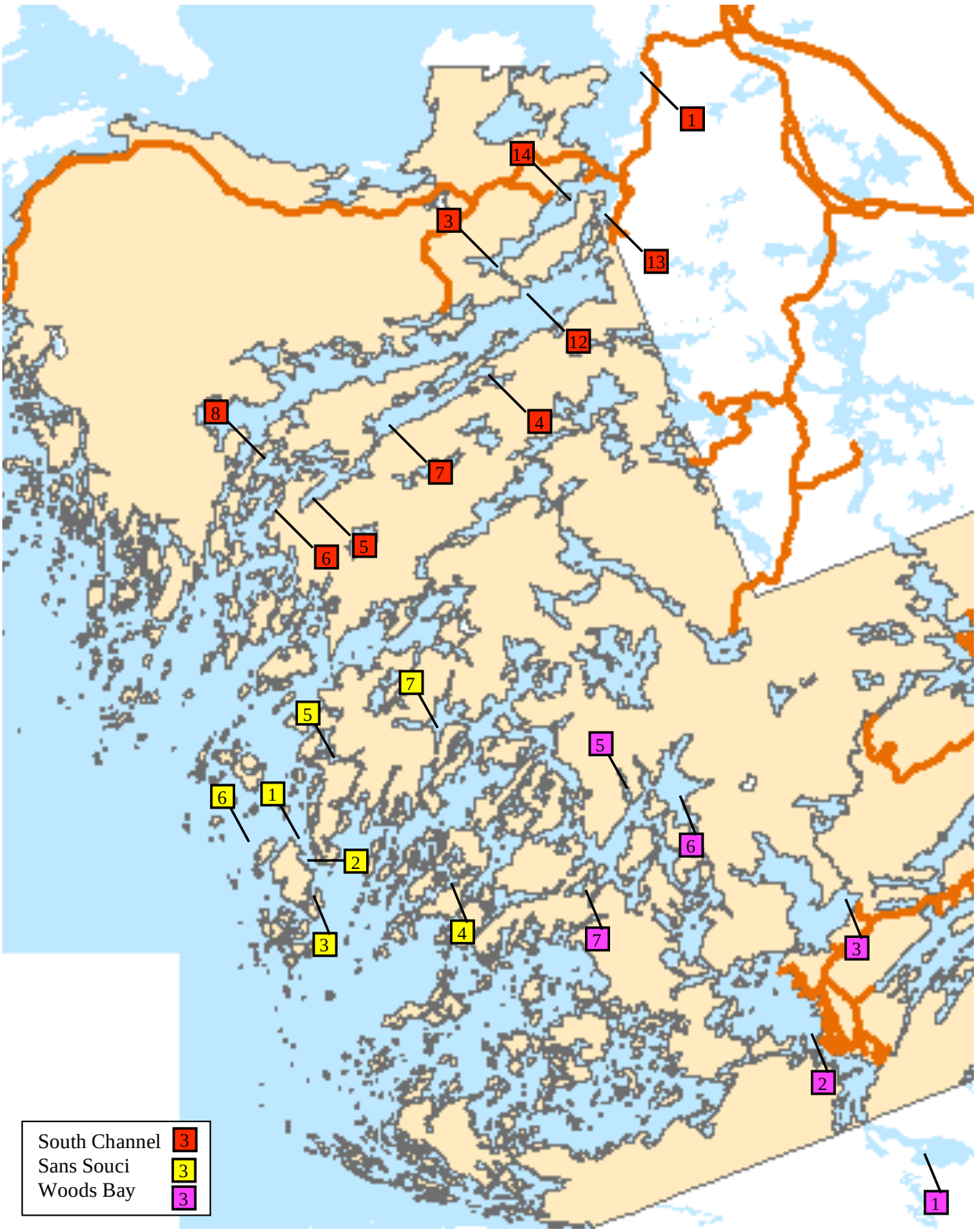
2.1.1 Sturgeon Bay Sampling Locations



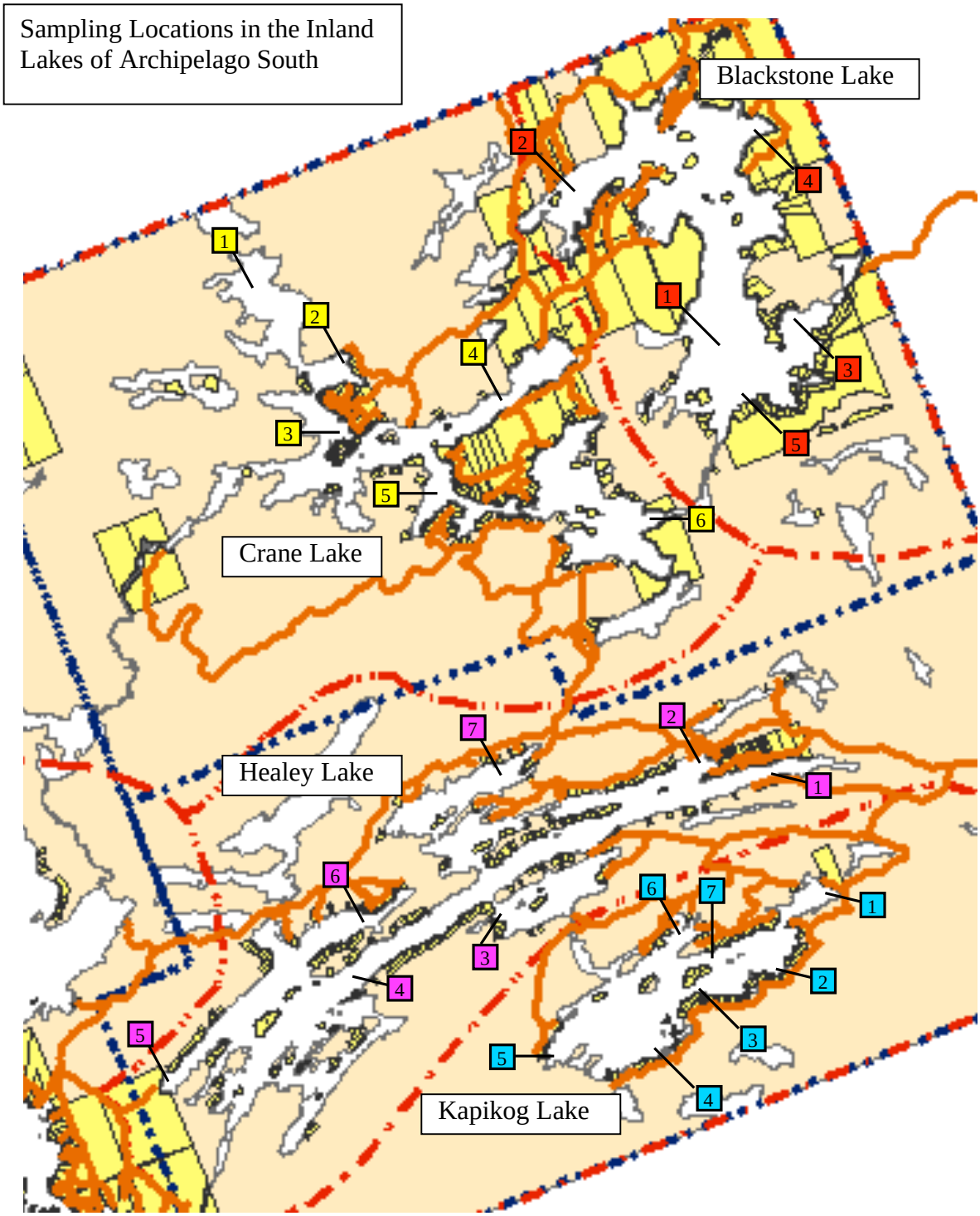
2.1.2 Pointe au Baril Islands and Skerryvore Sampling Locations



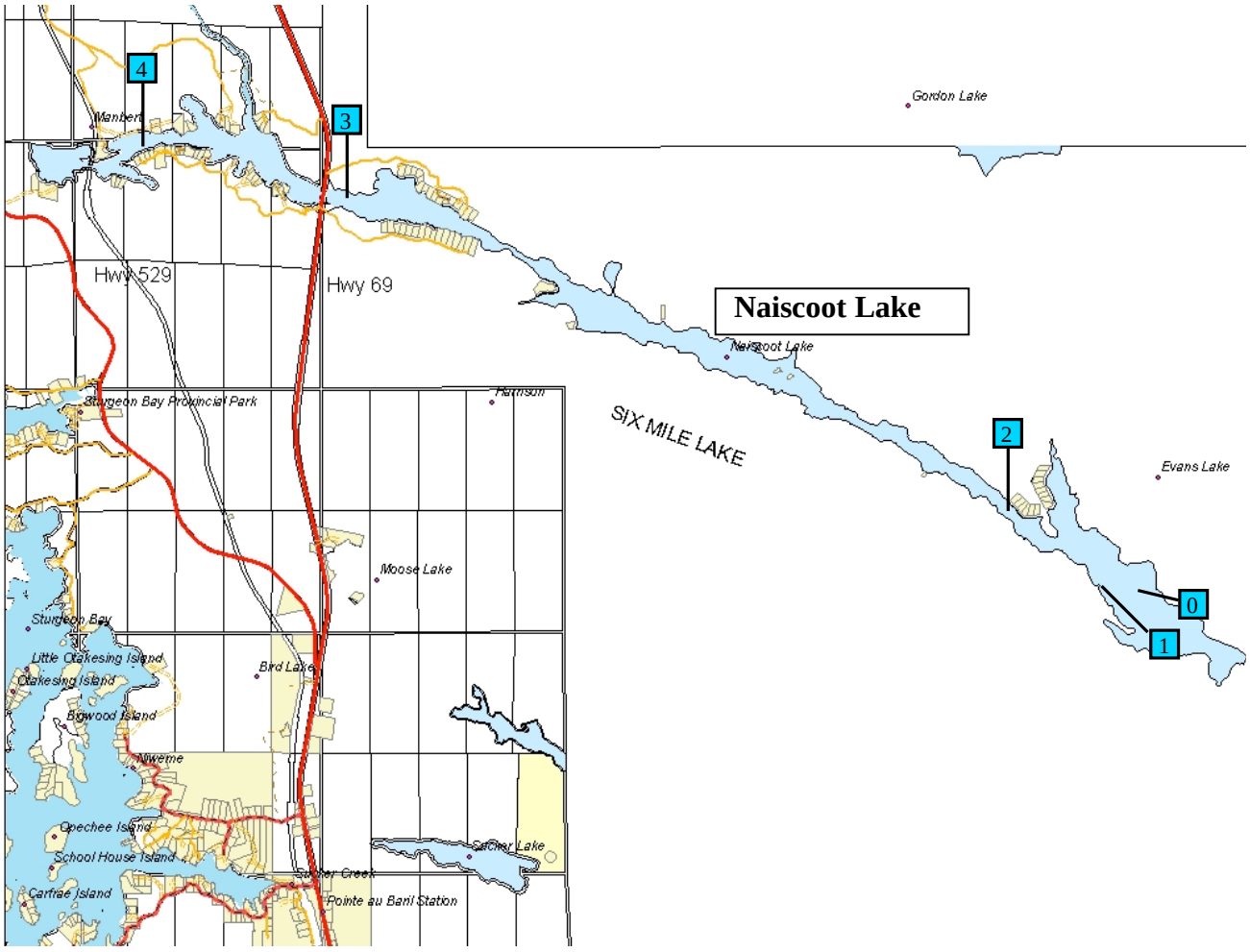
2.1.3 South Channel, Sans Souci and Woods Bay Sampling Locations



2.1.4 Inland Lakes of Archipelago South, Sampling Locations



2.1.5 Naiscoot Lake Map



2.2 Water Clarity

Water clarity is usually measured using a black-and-white Secchi disc which is lowered into the water until it just disappears from view. This depth is the Secchi depth of visibility, which is directly related to water clarity and can be used as a simple yet effective monitoring tool for determining the effects of human activities on water clarity and, indirectly, on eutrophication. In general, water clarity, as measured by Secchi depth, tends to be higher in open areas of Georgian Bay and in bays with good water circulation. Water clarity tends to diminish (smaller Secchi depth values) in enclosed bays, near wetlands or sources of organic material, and in lakes or areas that may naturally be more nutrient enriched. When examining the data, expect to see a small decline in Secchi depth throughout the year with lowest depths reading near the end of the summer and into September, however a major decline in the readings should be evaluated more carefully. A multi-year comparison of data is of particular value here to assess the water clarity trends for a particular area and where possible, data from previous years have been included with the tables.

2.2.1 Secchi Depths (Water Clarity) in the Sans Souci Area of Georgian Bay, 2007

	Station								Average for All Stations
Date	1	2	3	4	5	6	7		
3-Jun	7.6	7.6	2.4	4.8	6	9	3		5.8
23-Jun	10.7	3.7	3.7	4.6	6	12	4.6		6.5
8-Jul	10.7	3.7	3.7	5.2	6	10.7	4.6		6.4
5-Aug	9.1	2.7	3	6	6	15.2	4.6		6.7
19-Aug	6	6	3.7	4.6	6	7.6	4.6		5.5
Average	**8.8**	**4.7**	**3.3**	**5.0**	**6.0**	**10.9**	**4.3**		**6.2**
Std Dev.	2.0	2.0	0.6	0.6	0.0	2.9	0.7		0.5
Previous Years Average									
2006	8.5	6.2	3.7	4.5	5.3	9.1	5.0		6.0
2005	7.8	5.2	3.5	4.3	5.4	8.9	3.8		5.5
2004	8.9	5.5	3.5	4.5	5.2	12.1	5.0		6.5
2003	8.3	3.4	2.5	4.1	5.6	9.8	5.1		5.5
2002									7.8
2001									8.5

Depths in metres (m)

2.2.2 Secchi depths (Water Clarity) for Woods Bay Area of Georgian Bay, 2007

	Station						Average all stations
Date:	**1**	**2**	**3**	**5**	**6**	**7**	
24-Jun	2.5	tb	3	3	4	3	3.1
22-Jul	4	tb	3	4	4	4	3.8
12-Aug	3	tb	2	4	4	4	3.4
26-Aug	3	tb	3	5	4	4	3.8
8-Sep	4	tb	3	5	5	5	4.4
Average	**3.3**		**2.8**	**4.2**	**4.2**	**4.0**	**3.7**
Std Dev	0.7		0.4	0.8	0.4	0.7	0.5

Previous Years Average

2006	3.3			3.8	3.8	4	3.7
2005	2.8		3	3.6	3.3	3.3	3.2
2004	2.8	1.7	2.9	3.3	3.3	3.4	2.3
2003	3.1	1.9	3.2	3.9	3.6	3.6	3.2
2002		3.2			3.8	4.2	
2001		4.5			5.0		

Depths in metres (m)

2.2.3 Secchi depths (Water Clarity) for the South Channel Area of Georgian Bay, 2007

	Station										Average all Stations
Date	**1**	**3**	**4**	**5**	**6**	**7**	**8**	**12**	**13**	**14**	
17-Jun	3	2.4	4.2	4.9	5.5	4.6	6.7	4	2.1	3.3	4.1
3-Jul	2.7	2.7	6.1	4.9	4.9	5.2	5.2	4.2	3	3.7	4.3
31-Jul	2.4	3	4.9	4	6.4	4.2	5.5	5.2	2.7	4.2	4.3
7-Aug	3	4.6	5.2	4.2	6.4	5.5	5.2	4.6	2.7	3.7	4.5
21-Aug	3.3	4.2	5.8	4	5.8	4.9	5.2	5.5	2.7	3	4.4
4-Sep	2.4	4	5.5	4.6	5.8	4.2	5.2	5.5	2.7	3	4.3
17-Sep	3.7	4.6	5.8	4.6	7	4.6	6.1	6.4	4	4.2	5.1
8-Oct	4.2	4.6	6.7	4.2	6.1	4.6	7	5.5	4.2	3.3	5.0
Average	**3.1**	**3.8**	**5.5**	**4.4**	**6.0**	**4.7**	**5.8**	**5.1**	**3.0**	**3.6**	**4.5**
Std. Dev.	0.6	0.9	0.8	0.4	0.6	0.5	0.7	0.8	0.7	0.5	0.4

Previous Years Average

2005	3.3	3.7	5.0	4.5	6.5	4.7	5.1	4.6	2.8		4.5
2004	2.7	3.7	4.8	4.3	6.2	4.2	5.1	4.2	2.9		4.3
2003	2.7	3.3	4.5	4.5	6.1	4.2	4.9	3.8	2.9		4.0
2002	3.5				5.5	4.6		5.5			
2001	3.0				6.0						

Depths in metres (m)

2.2.4 Secchi Depths (Water Clarity) for the Sturgeon Bay area of Georgian Bay, 2007

	Station									
Date	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
9-Jun**	1.4	1.4	1.8	1.8	1.6	tb	1.5	1.8	1.8	1.3
3-Jul	1.6	1.4	1.5	1.4	1.7	tb	1.9	2.1	1.8	1.4
30-Jul	1.7	1.7	1.9	2	2	tb	1.8	2	2	1.7
27-Aug	1.7	1.6	1.7	1.7	1.5	tb	2	2	2.1	tb
Average	**1.6**	**1.5**	**1.7**	**1.7**	**1.7**	**tb**	**1.8**	**2.0**	**1.9**	**1.5**
Std. Dev.	0.1	0.2	0.2	0.2	0.2	tb	0.2	0.1	0.2	0.2
Previous Years Average										
2006	1.7	1.8	1.7	1.7	1.8	2	2.4	2.2	2.2	1.3
2005	2.1	2.3	2.5	2.5	2.4	1.6	2.6	2.2	2.4	2.7
2004	1.9	2	1.9	1.9	2	1.6	2.2	2.2	2.6	2
2003	1.2	1.4	1.5	1.5	1.5	1.3	1.6	1.6	1.9	1.6
2002	0.6				0.7					
2001	1.2				1.6					

	Station				Average All Stations
Date	**11**	**12**	**13**	**14**	
9-Jun **	1.5	1.8	2.2	1.9	**1.6**
3-Jul	1.9	1.7	1.8	1.7	**1.6**
30-Jul	1.9	2.1	2.5	1.9	**1.9**
27-Aug	2.1	1.9	2.2	1.8	**1.8**
Average	**1.9**	**1.9**	**2.2**	**1.8**	**1.7**
Std. Dev.	0.3	0.2	0.3	0.1	**0.1**
Previous Years Average					
2006	2.5	2.5	2.6	1.7	1.9
2005	2.5	2.5	2.5	2.2	2.4
2004	2.6	2.3	2.7	2.4	2
2003	1.9	2.1	2.0	1.5	1.6
2002	2.1				
2001	2.8				

Depths in metres (m)

2.2.5 Secchi Depth (Water Clarity) in Crane Lake, 2007

	Station						Average All Stations
Date	**1**	**2**	**3**	**4**	**5**	**6**	
24-Jun	5	4	4.5	4	3.7	4	4.2
15-Jul	4.8	4.3	4.8	4	3.9	4.8	4.4
6-Aug	5.1	5	4.5	4	4.5	5	4.7
19-Aug	5.1	4.6	4.5	4.6	4.1	5.1	4.7
2-Sep	6	6	5	4.25	4	6.5	5.3
16-Sep	5.5	4.8	4.2	4.5	5	5	4.8
Average	5.3	4.8	4.6	4.2	4.2	5.1	4.7
Std. Dev.	0.4	0.7	0.3	0.3	0.5	0.8	0.4
Previous Year's Average							
2006	4.2	4	4.2	4.1	4.3	5.1	4.3
2005	4.7	4.7	4.7	4.5	4.8	4.8	4.7
2004	4.3	4.4	4.1	4.4	4.1	4.4	4.3
2003	2.6	2.6	2.6	2.5	2.8	2.9	2.7

Depths in metres (m)

Station 1 – North End
Station 2 – Armstrong/Fish Bay
Station 3 – Fish Bay/Agaming Landing
Station 4 -- Marina
Station 5 – Overflow Bay (Narrows)
Station 6 – Mouth of Blackstone

2.2.6 Secchi Depth (Water Clarity) in Healey Lake, 2007

	Station							Average for all stations
Date	**1**	**2**	**3**	**4**	**5**	**6**	**7**	
4-Jun	3.4	2.7	3.7	3	3	2.7	1.2	2.8
15-Jul	3	2.7	2.7	3.4	2.7	3	1.8	2.8
12-Aug	3.4	3	4	3.4	3.4	3.7	1.8	3.2
3-Sep	3.4	3.4	3.4	3.7	3.4	3.4	2.1	3.3
Average	**3.3**	**3.0**	**3.5**	**3.4**	**3.1**	**3.2**	**1.7**	**3.0**
Std.Dev.	0.2	0.3	0.6	0.3	0.3	0.4	0.4	0.3
Previous Years Average								
2006	3.1	2.8	3.7	3.4	3.5	3.5	1.7	3.1
2005	3	2.9	3.5	3.6	3.2	3.5	1.6	3.0
2004	2.9	3.2	3	3.3	3.2	3.2	1.1	2.9
2003	2.6	2.5	3	2.9	3.1	2.7	1.3	2.8

t.b. – disk to bottom Depths in metres (m)

#1 Healey Lake Lodge
#2 Between Two Marinas
#3 Kapikog Bay
#4 Main Channel (Btw Lots 337 & 264)
#5 West End (Lot #105)
#6 Lot #209
#7 East end of Dollar Bay

2.2.7 Secchi Depth (Water Clarity) in Kapikog Lake, 2007

	Station								Average all stations
Date:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	
5-Jul	3	3.3	3.5	t.b.	4	3.5	3.5	3.5	3.5
16-Jul	3	3.3	3.3	t.b.	4	3.3	3.5	3.5	3.4
30-Jul	4	4	4.3	t.b.	4.3	4.3	4.3	4.3	4.2
14-Aug	4	4	4.3	t.b.	4	4.3	4.3	4.3	4.2
4-Sep	4.3	4.3	4.3	t.b.	4	4.3	4.3	4.3	**4.3**
Average	**3.7**	**3.8**	**3.9**		**4.1**	**3.9**	**4.0**	**4.0**	**3.9**
Std. Dev.	0.6148	0.45	0.498		0.1342	0.5	0.438	0.44	0.4
Previous Years Averages									
2006	4.0	4.0	3.9		4.3	4.2	4.2	4.2	**4.1**
2005	4.3	4.5	4.3		4.3	4.5	4.4	4.6	4.4
2004	3.8	3.7	4.2		3.8	4.3	4.3	4.2	**4.1**
2003	3.1	3.4	3.3	2.9	3.1	3.2	3.1	3.4	**3.2**

t.b. – disk to bottom Depths in metres (m)

Station 1 – Marina Station 2 – Lot 14 Station 3 – Lot 42 Station 4 – Lot 48
Station 5 – Chin's Bay Station 6 – Monroe's Bay Station 7 – Lot 89 Station 8 – Mid Lake

2.2.8 Secchi Depth (Water Clarity) in Naiscoot Lake, 2007

	Station					Average all stations
Date:	**0**	**1**	**2**	**3**	**4**	
29-Jun		4	3.9	3.9	3.3	3.8
6-Jul	3.9	3.9	3.9	3.5	3.3	3.7
20-Jul	4.1	3.9	3.9	4	3.8	3.9
31-Aug	4.3	3.8	3.9	4.2	4.1	4.1
Average	**4.1**	**3.9**	**3.9**	**3.9**	**3.6**	**3.9**
Std Dev	0.2	0.1	0.0	0.3	0.4	0.2

2.3 Bacterial Monitoring

Results of bacterial monitoring in a number of locations of the Township of The Archipelago are provided by location in this section of the report

2.3.1 Bacterial Reference Guidelines and Objectives

The following bacterial guidelines and objectives are provided to assist in the interpretation of bacterial monitoring results presented in this report.

Provincial Regulatory Guideline levels for total coliforms (TC) are as follows:

- 1,000 – levels higher than this are considered unsuited for recreational water use;
- 200 – levels higher than this are considered to be indicative of deteriorating water quality; and
- 10 – levels higher than this are considered unsafe for human consumption

NOTE: total coliforms are no longer used as a regulatory guideline in Provincial Water Quality Objectives. Total coliform levels have been found to be too variable and are largely considered to be a natural component of ecosystems

The objectives for *E. coli* (EC) are as follows:

- 100 – levels higher than this are considered unsuited for recreational water use
- 0 – levels higher than this are considered unsafe for human consumption without prior treatment.

NOTE: provincial bacterial levels are to be based on a geometric mean of five samples taken in the same local area at the same time.

Based on a number of years of intensive bacterial monitoring throughout the Township of Georgian Bay and the Township of The Archipelago, the following has been recommended as a suggested bacterial objective for recreational waters of Georgian Bay and the associated inland lakes:

- **Total Coliforms (annual average): - 100 TC**
- ***E. Coli* (annual average): - 10 EC**

The following tables present the data by sample area for each sampling location and date within that area. A calculated standard deviation and average is presented for each sample locations and an average of all sampling locations for each general area is also provided.

Recent heavy rain events are indicated by (**) beside the sampling dates and medium to light recent rain events are indicated by (*) beside each sample date.

2.3.2 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in the Sans Souci Area of Georgian Bay, 2007

	Station														Average for All Stations	
	1		2		3		4		5		6		7			
Date	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**
3-Jun	19	0	11	3	0	0	30	3	11	3	3	0	3	0	11.0	1.3
23-Jun	0	0	8	3	28	3	39	0	13	0	8	0	16	0	16.0	0.9
8-Jul	11	5	8	5	16	5	16	0	188	0	3	0	388	3	90.0	2.6
5-Aug	11	0	83	0	43	0	62	0	289	0	8	0	132	0	89.7	0.0
19-Aug	22	0	39	0	98	3	110	3	31	13	25	0	119	0	63.4	2.7
Average	**12.6**	**1.0**	**29.8**	**2.2**	**37.0**	**2.2**	**51.4**	**1.2**	**106.4**	**3.2**	**9.4**	**0.0**	**131.6**	**0.6**	**54.0**	**1.5**
Std. Dev.	8.6	2.2	32.5	2.2	37.6	2.2	36.8	1.6	126.0	5.6	9.1	0.0	154.8	1.3	38.6	1.2
Previous Years Averages																
2006																
avg	**86.7**	**1.4**	**33.6**	**1.6**	**47.9**	**2.3**	**40.4**	**0.9**	**132.1**	**3.0**	**18.9**	**0.9**	**453.6**	**23.3**	**116.2**	**4.8**
std	122.1	2.4	28.5	2.1	31.8	2.3	15.0	1.5	122.3	2.2	15.4	1.5	882.7	54.2	128.7	8.2
2005																
avg	**39.3**	**0.9**	**27.1**	**2.0**	**40.7**	**1.6**	**77.0**	**5.0**	**61.9**	**3.6**	**15.2**	**0.0**	**56.1**	**2.4**	**46.4**	**2.4**
std	27.3	1.5	15.3	2.0	42.4	2.1	66.3	6.9	48.0	4.4	22.5	0.0	39.9	4.0	20.2	2.5
2004																
avg	**24.7**	**0.4**	**40.1**	**1.6**	**42.6**	**2.7**	**72.3**	**2.4**	**67.7**	**4.6**	**9.0**	**0.0**	**48.0**	**1.3**	**43.5**	**1.9**
std	21.4	1.1	25.5	2.1	27.1	3.0	52.8	2.9	51.6	5.2	12.0	0.0	35.2	1.6	19.4	1.0
2003																
avg	**415.0**	**19.3**	**37.6**	**0.6**	**35.6**	**2.8**	**366.6**	**45.6**	**109.7**	**12.3**	**8.6**	**3.6**	**8.6**	**3.6**	**140.9**	**10.3**
std	889.0	24.3	38.1	1.3	37.4	4.8	744.0	71.8	70.9	19.8	6.8	5.7	6.8	5.7	133.6	12.46
2002																
avg	**32.7**	**0.3**	**28.0**	**1.6**	**15.6**	**2.4**	**16.5**	**1.1**	**300.0**	**4.4**	**4.4**	**0.0**	**41.3**	**1.4**	**70.9**	**1.7**
std	48.0	1.0	35.0	3.0	11.9	4.5	12.0	1.6	748.0	5.7	3.4	0.0	27.7	2.0	316.0	3.4
2001																
avg	**14.9**	**0.0**	**240.0**	**1.3**	**49.5**	**3.7**	**42.1**	**5.1**	**139.0**	**1.3**	**11.7**	**0.0**	**81.2**	**1.4**	**82.6**	**1.8**
std	14.4	0.0	724.0	1.8	43.3	5.7	24.7	5.1	204.0	2.2	9.0	0.0	55.1	1.9	260.3	2.2

2.3.3 Bacterial Sampling of Surface Water for Total Coliforms(TC) and E. Coli (EC) in the Woods Bay Area of Georgian Bay, 2007

	Station												Average all Stations	
	1		2		3		5		6		7			
Date:	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
24-Jun	19	8	119	19	65	39			587	11	22	13	162.4	18.0
22-Jul	69	5	16	0	11	3	16	0	13	3	16	3	23.5	2.3
12-Aug	22	0	43	8	33	13	11	3	22	3	52	5	30.5	5.3
26-Aug *	87	19	255	46	248	69	11	5	62	5	83	16	124.3	26.7
8 - Sep *	72	16			28	28	156	43					85.3	29.0
Average	**53.8**	**9.6**	**108.3**	**18.3**	**77.0**	**30.4**	**48.5**	**12.8**	**171.0**	**5.5**	**43.3**	**9.3**	**85.2**	**16.3**
Std Dev	31.2	7.8	107.1	20.1	97.6	25.6	71.7	20.3	278.1	3.8	30.8	6.2	59.8	12.1
Previous Years Averages														
2006														
avg	**91.0**	**28.3**	**85.3**	**5.8**	**43.8**	**14.3**	**43.5**	**5.8**	**35.0**	**2.0**	**19.3**	**7.3**	**53.0**	**10.5**
std	69.2	31.4	20.6	1.5	11.6	5.3	27.2	3.8	34.0	2.4	10.2	2.9	25.2	6.8
2005														
avg	**77.8**	**15.3**	**68.6**	**5.4**	**62.8**	**8.5**	**104.2**	**22.2**	**35.8**	**3.5**	**88.6**	**12.4**	**73.6**	**12.6**
std	49.7	14.3	58.2	6.2	32.3	5.3	58.5	38.2	35.9	5.2	95.3	9.2	26.0	10.1
2004														
avg	**155.8**	**9.4**	**95**	**6.2**	**46.4**	**11.6**	**73.6**	**9.6**	**189**	**13.4**	**66.6**	**10.8**	**66.6**	**10.8**
std	199.3	3.507	54.64	3.899	27.82	8.173	49.62	5.459	209.9	10.74	49.66	7.497	49.66	7.497
2003														
avg	**198.4**	**28.6**	**174.8**	**13.4**	**182.6**	**17.0**	**237.4**	**13.8**	**170.4**	**12.0**	**132.2**	**7.0**	**182.6**	**15.3**
std	176.7	37.7	65.6	16.3	57.3	13.0	170.0	13.3	86.7	13.9	98.1	8.1	77.1	15.9
2002														
avg	**75.0**	**4.8**	**108.0**	**6.0**	**46.6**	**8.0**	**107.2**	**11.4**	**73.4**	**1.2**	**66.6**	**8.2**	**79.3**	**6.6**
std	48.0	4.9	37.0	4.7	26.1	8.0	39.7	9.9	33.1	1.6	35.4	7.4	40.5	6.9
2001														
avg	**158.0**	**5.8**	**113.0**	**5.6**	**21.4**	**3.4**	**70.5**	**6.0**	**39.1**	**2.1**	**60.4**	**3.6**	**77.1**	**4.4**
std	171.0	7.2	91.2	2.7	17.0	5.4	21.3	6.1	16.9	2.8	33.1	4.3	62.0	1.8

2.3.4 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E.Coli (EC) in the South Channel Area of Georgian Bay, 2007

	Station											
	1		3		4		5		6		7	
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
27-May	200	25	33	0	5	3	19	3	16	0	11	0
17-Jun	2424	49	43	0	255	3	65	3	90	0	114	0
3-Jul	2424	90	76	3	46	0	30	3	13	0	46	3
7-Aug	2424	83	62	0	55	5	55	5	22	0	136	3
27-Aug	2424	136	156	5	136	5	43	0	54	5	114	8
3-Sep	307	11	132	8	156	3	13	0	33	3	65	11
17-Sep	182	3	69	3	46	0	28	0	13	0	30	0
8-Oct	2424	188	79	3	25	0	16	0	25	0	11	0
20-Oct	654	79	16	0	33	13	79	8	46	13	39	3
Average	**1495.9**	**73.8**	**74.0**	**2.4**	**84.1**	**3.6**	**38.7**	**2.4**	**34.7**	**2.3**	**62.9**	**3.1**
Std. Dev.	1108.8	60.5	45.1	2.8	81.5	4.1	23.3	2.8	25.3	4.4	47.3	4.0
2006												
Average	**477.0**	**56.9**	**250.8**	**4.4**	**35.9**	**3.3**	**87.3**	**0.4**	**48.3**	**2.8**	**40.4**	**3.8**
Std. Dev.	397.7	36.1	334.8	4.8	30.2	3.0	171.6	1.1	42.9	2.8	29.5	6.5
2005												
Average	**819.5**	**219.7**	**125.7**	**1.2**	**203.1**	**0.0**	**632.7**	**4.2**	**72.5**	**0.3**	**320.2**	**4.3**
Std. Dev.	1110.4	305.1	263.6	1.5	423.5	0.0	1034.3	10.2	118.8	0.9	745.1	10.3
2004												
Average	**529.1**	**43.7**	**1114.3**	**8.2**	**1202.6**	**2.8**	**1115.9**	**2.7**	**833.3**	**4.2**	**901.9**	**1.1**
Std. Dev.	777.4	23.8	1243.0	8.7	1186.8	4.1	1062.9	4.3	1193.3	7.7	1146.7	2.2
2003												
Average	**677.9**	**38.0**	**48.3**	**5.0**	**26.1**	**0.9**	**94.6**	**14.0**	**353.3**	**0.0**	**374.1**	**1.7**
Std. Dev.	834.1	26.3	65.6	11.2	17.3	1.5	122.2	37.0	913.1	0.0	904.4	2.0
2002												
Average	**1789.0**	**91.0**	**794.0**	**3.4**	**489.0**	**0.9**	**136.0**	**0.9**	**726.0**	**1.6**	**748.0**	**0.9**
Std. Dev.	1085.0	59.0	784.0	2.9	862.0	1.5	89.0	1.5	1160.0	3.0	942.0	1.5
2001												
Average	**2148.0**	**113.0**	**860.0**	**11.9**	**1021.0**	**5.3**	**874.0**	**8.9**	**866.0**	**9.9**	**1139.0**	**3.0**
Std. Dev.	731.0	87.1	887.0	16.2	1009.0	10.1	1066.0	9.2	1081.0	9.0	1209.0	1.7

Continued next page….

South Channel Data Cont…

	Station								Average All Stations	
	8		12		13		14			
Date	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**
27-May	8	0	13	3	434	62	33	0	77.2	9.6
17-Jun	489	3	90	13	350	25	62	3	398.2	9.9
3-Jul	30	3	151	0	25	0	43	5	288.4	10.7
7-Aug	59	0	102	3	136	0	69	5	312.0	10.4
27-Aug	52	3	119	13	106	8	55	0	325.9	18.3
3-Sep	151	16	151	25	171	11	161	0	134.0	8.8
17-Sep	46	5	65	16	119	19	65	0	66.3	4.6
8-Oct	87	3	13	3	187	30	52	5	291.9	23.2
20-Oct	46	3	83	19	76	16	39	5	111.1	15.9
Average	**107.6**	**4.0**	**87.4**	**10.6**	**178.2**	**19.0**	**64.3**	**2.6**	**222.8**	**12.4**
Std. Dev.	148.6	4.8	51.1	8.7	132.0	19.1	38.2	2.5	124.7	5.7
Previous Years Averages										
2006										
Average	**43.625**	**1**	**57.375**	**6.125**	**264.13**	**12.875**	**452.13**	**29.5**	**175.68**	**12.088**
Std. Dev.	46.974	1.9272	57.45	7.8638	375.81	10.508	807.19	60.261	145.03	9.2388
2005										
Average	**271.4**	**3.2**	**69.1**	**2.7**	**61.7**	**7.8**	**70**	**1**	**278.78**	**25.544**
Std. Dev.	757.81	6.2147	92.617	4.0565	33.987	8.9044	39.345	1.7321	319.62	31.321
2004										
Average	**564.3**	**3.3**	**1408.6**	**10.7**	**1058.2**	**27.1**			**969.8**	**11.5**
Std. Dev.	763.6	5.1	1205.3	13.1	1059.2	52.5			609.6	6.9
2003										
Average	**23.4**	**0.4**	**450.9**	**6.0**	**77.1**	**8.6**			**231.2**	**8.0**
Std. Dev.	24.6	1.1	883.3	4.5	39.1	9.5			213.4	5.8
2002										
Average	**631.4**	**2.4**	**462.0**	**14.6**	**1210.0**	**17.7**			**780.0**	**14.0**
Std. Dev.	923.3	1.8	870.0	14.2	972.0	21.1			961.0	32.0
2001										
Average	**375.0**	**3.0**	**998.0**	**11.0**	**1330.0**	**27.4**			**1067.9**	**21.5**
Std. Dev.			999.0	11.1	1039.0	34.5			142.1	27.9

2.3.5 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in the Sturgeon Bay Area of Georgian Bay, 2007

	Station											
	1		2		3		4		5		6	
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
9-Jun**	94	46	19	11	28	8	5	0	8	0	94	5
3-Jul	1696	69	141	19	510	25	255	36	98	8	98	8
30-Jul	69	3	30	0	161	0	194	0	106	0	106	3
27-Aug	171	22	52	5	76	0	94	0	65	0	102	11
Average	**507.5**	**35.0**	**60.5**	**8.8**	**193.8**	**8.3**	**137.0**	**9.0**	**69.3**	**2.0**	**100.0**	**6.8**
Std. Dev.	793.5	28.7	55.4	8.2	217.9	11.8	110.2	18.0	44.5	4.0	5.2	3.5
2006												
Avg	**218.2**	**17.5**	**500.7**	**132.5**	**85.5**	**15.0**	**88.8**	**14.2**	**94.8**	**63.0**	**156.2**	**19.8**
Std	267.0	21.6	947.8	277.1	55.8	21.5	60.8	22.3	175.1	140.9	164.0	27.4
2005												
Avg	**271.3**	**24.3**	**383.7**	**11.3**	**46.6**	**7.6**	**29.7**	**7.7**	**41.0**	**7.3**	**124.7**	**26.1**
Std	268.1	27.2	899.9	8.9	56.5	8.8	24.0	12.1	61.3	7.6	93.2	30.5
2004												
Avg	**159.4**	**5.0**	**267.4**	**2.0**	**395.0**	**2.3**	**311.1**	**1.6**	**186.0**	**0.4**	**88.6**	**3.6**
Std	135.6	3.6	487.5	2.0	619.3	4.9	385.7	2.1	146.8	1.1	48.0	3.7
2003												
Avg	**1107.5**	**4.6**	**466.5**	**2.6**	**744.3**	**0.4**	**991.8**	**1.4**	**963.4**	**0.4**	**570.6**	**6.8**
Std	1133.1	6.6	807.9	3.7	1046.0	1.1	1190.7	2.0	1210.4	1.1	799.9	11.5
2002												
Avg	**1039.0**	**9.7**	**871.0**	**5.4**	**548.0**	**1.8**	**619.0**	**2.4**	**941.0**	**1.8**	**488.0**	**4.1**
Std	1066.0	10.4	1031.0	8.0	826.0	2.9	669.0	2.1	1229.0	3.9	569.0	6.1

	Station											
	7		8		9		10		11		12	
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
9-Jun **	136	16	55	19	52	11	102	16	33	8	59	13
3-Jul	200	72	62	36	69	59	94	13	33	5	69	3
30-Jul	46	0	418	5	127	0	98	0	33	0	30	0
27-Aug	166	11	76	3	127	5	206	5	22	3	102	22
Average	**137.0**	**24.8**	**152.8**	**15.8**	**93.8**	**18.8**	**125.0**	**8.5**	**30.3**	**4.0**	**65.0**	**9.5**
Std. Dev.	66.1	32.2	177.0	15.3	39.0	27.2	54.1	7.3	5.5	3.4	29.7	10.0
2006												
Avg	**225.2**	**22.8**	**127.8**	**43.8**	**218.8**	**47.8**	**783.2**	**98.0**	**346.2**	**8.2**	**139.8**	**10.5**
Std	242.7	16.3	111.2	74.2	128.7	71.9	1019.4	106.6	662.3	10.1	108.7	6.8
2005												
Avg	**105.6**	**18.9**	**46.1**	**11.3**	**117.7**	**16.3**	**277.4**	**17.6**	**48.0**	**9.0**	**56.0**	**18.4**
Std	93.1	11.4	22.3	9.5	133.4	23.1	486.3	20.0	28.9	9.4	32.4	16.4
2004												
Avg	**247.9**	**11.3**	**174.7**	**2.6**	**419.7**	**4.3**	**186.6**	**11.3**	**183.7**	**3.9**	**109.3**	**1.6**
Std	330.5	12.6	235.7	3.4	884.3	1.9	132.8	10.0	248.2	4.4	111.3	2.1
2003												
Avg	**332.8**	**2.6**	**688.0**	**1.6**	**664.3**	**11.5**	**914.6**	**6.8**	**508.4**	**4.3**	**742.4**	**5.1**
Std	419.7	5.0	1077.9	3.1	1086.9	26.4	1036.3	11.5	888.3	8.1	1149.8	13.6
2002												
Avg	**226.0**	**6.0**	**212.0**	**11.6**	**186.0**	**11.5**	**204.0**	**6.0**	**355.0**	**4.8**	**209.0**	**6.8**
Std	332.0	6.0	193.0	16.8	242.0	14.8	220.0	7.1	837.0	6.4	343.0	10.0

	Station				Average All Stations	
	13		14			
Date	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**
9-Jun **	19	0	30	3	52.4	11.1
3-Jul	39	5	33	0	242.6	25.6
30-Jul	49	0	25	5	106.6	1.1
27-Aug	110	0	49	3	101.3	6.4
Average	**54.3**	**1.3**	**34.3**	**2.8**	**125.7**	**11.1**
Std. Dev.	39.2	2.5	10.4	2.1	81.7	10.5
2006						
Avg	**72.0**	**3.8**	**507.3**	**26.7**	**254.6**	**37.4**
Std	31.7	3.2	940.0	23.2	208.5	52.8
2005						
Avg	**74.6**	**12.9**	**34.7**	**7.3**	**118.6**	**14.2**
Std	93.0	12.4	11.7	7.6	92.8	11.3
2004						
Avg	**183.4**	**2.0**	**148.0**	**4.4**	**218.6**	**4.0**
Std	299.9	2.0	161.7	4.4	250.5	1.6
2003						
Avg	**519.8**	**3.0**	**1084.1**	**1.1**	**729.3**	**3.8**
Std	897.3	6.7	1254.5	3.0	836.4	5.5
2002						
Avg	**145**	**3**	**328**	**8.2**	**456**	**6**
Std	201	5	469	15.8	708	9.4

2.3.6 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in the Skerryvore Area of Georgian Bay, 2007

	STATIONS												Average All Stations	
	1		2		3		4		5		6			
DATE	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
14-Jun	308	3	87	0	248	8	213	62	55	3	233	182	190.7	43.0
3-Jul	65	3	22	0	72	28	22	5	3	0	255	33	73.2	11.5
17-Jul	938	0	19	0	36	11	28	3	0	0	213	8	205.7	3.7
7-Aug	938	3	52	3	87	30	25	8	5	0	418	308	254.2	58.7
28-Aug	62	8	59	3	55	3	22	3	8	3	2424	33	438.3	8.8
11-Sep	62	19	55	8	62	0	161	30	62	0	2424	188	471.0	40.8
Average	**395.5**	**6.0**	**49.0**	**2.3**	**93.3**	**13.3**	**78.5**	**18.5**	**22.2**	**1.0**	**994.5**	**125.3**	**272.2**	**27.8**
Std. Dev.	430.8	6.9	25.4	3.1	77.7	12.7	85.7	23.7	28.4	1.5	1109.7	119.4	153.7	22.6
2006														
avg	**140.2**	**30.3**	**53.0**	**6.3**	**79.8**	**16.2**	**72.2**	**20.2**	**10.0**	**2.3**	**592.8**	**33.3**	**158.0**	**18.1**
std	112.9	52.5	66.6	7.9	64.3	23.4	106.8	32.9	7.1	2.0	899.9	29.1	140.1	20.2
2005														
Avg	**1007.0**	**15.4**	**1051.6**	**60.0**	**1007.8**	**519.8**	**1010.6**	**51.0**	**1110.6**	**52.2**	**1501.2**	**61.0**	**1114.8**	**126.6**
std	1294.2	11.3	1253.7	68.6	1292.9	1065.5	1290.3	61.4	1215.3	38.1	985.2	80.1	1196.5	189.8
2004														
avg	**158.8**	**6.7**	**174.3**	**8.8**	**484.3**	**22.2**	**68.7**	**6.7**	**225.3**	**1.0**	**1296.0**	**35.2**	**401.3**	**13.4**
std	70.4	6.6	224.4	12.4	951.9	34.1	71.7	6.6	465.4	1.5	1029.3	46.2	258.9	9.1
2003														
avg	**377.7**	**8.6**	**48.1**	**3.9**	**75.0**	**11.8**	**74.4**	**16.6**	**25.1**	**1.1**	**1474.0**	**154.8**	**317.9**	**31.7**
std	359.3	6.1	13.2	2.3	16.2	11.7	56.6	11.1	22.8	1.2	905.9	101.9	133.3	18.9
2002														
avg	**1905.0**	**10.8**	**65.2**	**7.3**	**81.2**	**10.8**	**332.0**	**10.8**	**878.0**	**3.2**	**1392.0**	**40.3**	**775.0**	**13.9**
std	961.0	9.1	65.0	9.6	66.8	8.8	465.0	7.3	1003.0	4.4	1156.0	37.3	993.0	19.9
2001														
avg	**52.2**	**4.4**	**78.4**	**8.2**	**55.4**	**1.6**	**42.4**	**7.6**	**523.0**	**0.6**	**2070.0**	**40.6**	**470.2**	**10.5**

2.3.7 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in the Pointe au Baril Islands Area of Georgian Bay, 2007

	Station											
	1		2		3		4		5		6	
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
2-Jul	28	22	8	3	39	13	19	3	22	3	22	5
16-Jul	3	0	13	3	19	3	8	5	16	8	36	19
30-Jul	19	5	22	3	13	5	22	3	59	11	79	55
13-Aug	19	0	33	5	30	5	30	11	83	5	52	3
27-Aug	13	0	119	3	16	5	28	5	8	3	76	3
Average	**16.4**	**5.4**	**39.0**	**3.4**	**23.4**	**6.2**	**21.4**	**5.4**	**37.6**	**6.0**	**53.0**	**17.0**
Std. Dev.	9.2	9.5	45.7	0.9	10.8	3.9	8.7	3.3	32.0	3.5	24.8	22.3
2006												
avg	**6.4**	**3.0**	**23.8**	**8.2**	**19.2**	**6.4**	**59.8**	**5.6**	**19.5**	**2.0**	**37.0**	**4.0**
std	4.2	0.0	11.4	8.0	12.3	4.2	33.7	1.3	9.4	2.4	20.1	1.2
2005												
avg	**176.4**	**17.4**	**54.8**	**19.6**	**494.8**	**2.2**	**45.5**	**9.0**	**34.5**	**2.0**	**376.6**	**8.2**
std	177.7	32.8	46.1	18.0	1079.1	2.2	61.3	11.2	40.0	2.4	739.0	12.3
2004												
avg	**564.1**	**9.6**	**441.0**	**6.4**	**526.7**	**7.4**	**417.1**	**24.3**	**468.0**	**14.0**	**455.4**	**96.7**
std	893.8	10.9	600.3	3.9	915.1	7.4	548.5	31.6	865.5	18.8	868.7	216.3
2003												
avg	**64.3**	**7.3**	**93.7**	**11.0**	**57.0**	**2.7**	**60.7**	**13.7**	**60.3**	**3.3**	**856.0**	**815.3**
std	29.2	12.7	46.1	12.2	23.1	2.5	30.0	14.4	33.4	2.9	1357.9	1393.1
2002												
avg	**56.3**	**3.0**	**135.0**	**2.7**	**47.7**	**3.7**	**52.0**	**1.7**	**58.3**	**3.3**	**60.0**	**3.7**
std	41.0	0.0	196.0	4.6	22.3	1.2	39.3	2.9	56.1	2.9	12.3	4.0
2001												
avg	**178.0**	**0.5**	**40.3**	**5.8**	**21.3**	**1.0**	**55.7**	**9.7**	**28.5**	**2.3**	**136.0**	**10.5**
std	335.6	1.2	28.1	9.5	17.5	1.5	29.8	7.0	13.8	2.0	237.0	20.4

Pointe au Baril Data continued:

	Station										Average for All Stations	
	7		8		9		10		11			
Date	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**
2-Jul	13	3	0	0	5	0	36	0	33	0	20	5
16-Jul	36	8	3	0	11	3	36	5	3	0	17	5
30-Jul	25	0	0	0	52	3	36	0	200	3	48	8
13-Aug	5	0	19	0	19	3	16	0	36	3	31	3
27-Aug	30	0	3	0	16	0	16	0	39	3	33	2
Average	**21.8**	**2.2**	**5.0**	**0.0**	**20.6**	**1.8**	**28.0**	**1.0**	**62.2**	**1.8**	**29.9**	**4.6**
Std. Dev.	12.6	3.5	8.0	0.0	18.3	1.6	11.0	2.2	78.4	1.6	12.2	2.3
2006												
avg			**0.8**	**0.0**	**41.8**	**3.4**					**25.8**	**4.2**
std			1.5	0.0	14.9	2.9					9.4	1.1
2005												
avg			**7.8**	**1.2**	**508.4**	**7.0**					**211.0**	**8.3**
std			10.0	1.6	1071.0	7.0					374.5	7.5
2004												
avg			**61.2**	**0.6**	**976.9**	**23.4**					**493.4**	**23.5**
std			54.4	1.3	1043.9	27.1					530.4	32.0
2003												
avg					**643.0**	**46.7**					**262.1**	**128.6**
std					913.0	74.0					333.3	215.6
2002												
avg					**187.0**	**41.7**					**85.2**	**8.5**
std					56.7	5.1					86.7	14.2
2001												
avg					**1624.0**	**812.0**					**297.7**	**120.3**
std					1239.0	1249.0					445.3	469.5

2.3.8 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in Blackstone Lake, 2007

	Station										Average for All Stations	
	1		2		3		4		5			
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
15-Jul	22	16	59	13	90	0	233	13	16	3	84.0	9.0
30-Jul			166	33	240	16	559	45	388	79	338.3	43.3
22-Aug	226	3	151	3	188	0	233	0	213	3	202.2	1.8
17-Sep	30	3	22	13	59	8	8	3	28	3	29.4	6.0
Average	**92.7**	**7.3**	**99.5**	**15.5**	**144.3**	**6.0**	**258.3**	**15.3**	**161.3**	**22.0**	**163.5**	**15.0**
Std. Dev	115.5	7.5	70.0	12.6	84.2	7.7	226.8	20.6	176.0	38.0	137.0	19.1
Previous Year's Averages												
2006												
avg	**24.5**	**0.0**	**33.5**	**0.0**	**86.5**	**6.5**	**94.5**	**12.0**	**53.0**	**1.5**	**58.4**	**4.0**
std	7.8	0.0	7.8	0.0	4.9	9.2	46.0	9.9	32.5	2.1	0.6	0.6
2005												
avg	**524.0**	**0.0**	**1034.8**	**2.0**	**852.5**	**1.5**	**725.8**	**0.8**	**324.5**	**0.8**	**692.3**	**1.0**
std	648.3	0.0	1220.6	2.4	1132.9	1.7	846.3	1.5	360.6	1.5	799.8	0.7
2004												
avg	**19.0**	**0.0**	**34.0**	**4.0**	**17.5**	**1.5**	**26.0**	**4.0**	**22.0**	**6.5**	**23.7**	**3.2**
std	19.8	0.0	12.7	1.4	2.1	2.1	9.9	5.7	15.6	9.2	1.0	2.3
2003												
avg	**23.7**	**2.7**	**43.0**	**0.0**	**18.3**	**0.0**	**52.0**	**2.7**	**21.7**	**0.0**	**31.7**	**1.1**
std	25.4	2.5	51.4	0.0	11.9	0.0	38.3	2.5	25.0	0.0	29.9	0.9
2002												
avg	**21.7**	**2.7**	**43.3**	**1.0**	**52.7**	**3.3**	**59.0**	**6.0**	**38.0**	**4.7**	**42.9**	**3.5**
std	23.9	4.6	26.8	1.7	51.6	2.9	41.4	6.6	35.8	2.9	34.2	3.9
2001												
avg	**18.3**	**2.3**	**13.3**	**3.3**	**6.8**	**1.5**	**42.3**	**5.3**			**20.2**	**3.1**
std	18.6	1.5	3.8	3.9	3.5	1.7	28.2	2.1			12.1	1.1

Station 1 – Centre of Lake Station 2 – McRoberts Bay Station 3 – Lawson Bay(old)
Station 4 – Blackstone Landing Station 5 – Lawson Bay (new)

2.3.9 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in Crane Lake, 2007

	Station												Average All Stations	
	1		2		3		4		5		6			
Date	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**	**TC**	**EC**
24-Jun	22	0	11	11	8	3	16	3	12	0	5	0	**12**	**3**
15-Jul	33	5	43	5	26	11	127	39	123	76	127	36	**80**	**29**
6-Aug	132	25	136	33	161	43	255	62	105	33	114	28	**150**	**37**
19-Aug	194	46	72	16	87	43	98	39	67	18	52	8	**95**	**28**
2-Sep	188	11	98	19	72	8	38	8	52	22	33	3	**80**	**12**
16-Sep	240	11	248	30	64	8	136	0	28	3	30	3	**124**	**9**
Average	**135**	**16**	**101**	**19**	**70**	**19**	**112**	**25**	**64**	**25**	**60**	**13**	**90**	**20**
Std Dev	90	17	84	11	54	19	85	25	43	28	49	15	47	14
Previous Year's Averages														
2006	62	8	78	18	187	16	199	16	240	13	407	9	**196**	**13**
2005	795	8	913	10	502	9	555	9	585	8	844	7	**699**	**8**
2004	1105	4	1175	13	1081	7	1142	8	1077	7	1393	8	**1162**	**8**
2003	631	6	726	9	499	7	506	5	512	6	696	6	**595**	**6**

Station 1 – North End
Station 2 – Armstrong/Fish Bay
Station 3 – Fish Bay/Agaming Landing
Station 4 - Marina
Station 5 – Overflow Bay (Narrows)
Station 6 – Mouth of Blackstone

2.3.10 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in Healey Lake, 2007

	Station														Average for All Stations	
	1		2		3		4		5		6		7			
Date	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
4-Jun	8	0	17	13	39	13			8	0	123	5	22	8	36.2	6.5
15-Jul	226	22	587	13	534	11	451	8	90	0	161	13	136	0	312.1	9.6
12-Aug	136	3	794	3	469	5	132	0	2424	8	98	3	2424	0	925.3	3.1
3-Sep	36	0	49	3	249	5	388	3	36	3	55	5	59	0	124.6	2.7
Average	**101.5**	**6.3**	**361.8**	**8.0**	**322.8**	**8.5**	**323.7**	**3.7**	**639.5**	**2.8**	**109.3**	**6.5**	**660.3**	**2.0**	**349.5**	**5.5**
Std. Dev.	99.5	10.6	389.1	5.8	225.1	4.1	169.0	4.0	1190.2	3.8	44.5	4.4	1176.8	4.0	400.7	3.2
Previous Year's Average																
2006																
avg	**77.3**	**6.5**	**241.3**	**3.0**	**130.0**	**3.8**	**44.0**	**1.3**	**667.0**	**15.0**	**61.3**	**14.8**	**664.0**	**5.5**	**269.3**	**7.1**
std	52.4	4.4	370.2	0.0	214.2	2.5	53.6	2.5	1172.2	8.9	41.5	15.3	1174.9	4.9	434.7	3.4
2005																
avg	**31.8**	**3.6**	**25.0**	**4.0**	**13.2**	**3.2**	**11.0**	**7.0**	**4.0**	**1.5**	**8.3**	**4.0**	**51.4**	**6.8**	**31.3**	**4.5**
std	42.8	3.5	23.5	1.2	12.5	2.0	17.1	12.1	3.4	1.7	7.5	5.2	74.4	1.6	42.8	3.3
2004																
avg	**402.7**	**8.6**	**89.7**	**3.1**	**31.4**	**2.0**	**737.3**	**3.9**	**47.0**	**1.1**	**38.7**	**2.6**	**85.3**	**4.0**	**204.6**	**3.6**
std	896.1	9.7	115.3	4.6	38.3	3.0	1156.9	4.9	55.1	2.0	46.5	2.5	129.9	4.1	298.6	3.3
2003																
avg	**79.3**	**20.0**	**74.7**	**2.0**	**36.3**	**3.7**	**62.3**	**5.3**	**55.7**	**2.0**	**62.0**	**1.0**	**79.3**	**4.7**	**64.2**	**5.5**
std	30.0	22.9	41.2	1.7	5.8	4.0	43.4	6.8	41.9	1.7	30.6	1.7	59.9	5.7	19.1	5.3
2002																
avg	**158.0**	**6.3**	**94.3**	**4.3**	**230.0**	**5.0**	**39.3**	**6.3**	**17.0**	**2.0**	**55.7**	**1.0**	**42.7**	**1.0**	**91.1**	**3.7**
std	66.4	2.9	11.5	4.0	38.7	0.0	13.7	4.2	6.2	1.7	31.8	1.7	14.8	1.7	19.0	1.5
2001																
avg	**56.5**	**3.5**	**41.5**	**0.0**	**113.0**	**1.3**	**40.8**	**0.8**	**57.8**	**0.8**	**33.8**	**0.8**	**25.3**	**0.0**	**46.1**	**0.9**
std	15.2	3.3	15.9	0.0	107.0	2.5	26.0	1.5	31.7	1.5	33.7	1.5	5.6	0.0	33.5	1.2

#1 Healey Lake Lodge #2 Between Two Marinas #3 Kapikog Bay
#4 Main Channel (Btw Lots 337 & 264 #5 West End (Lot #105)
#6 Lot #209 #7 East end of Dollar Bay

2.3.11 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in Kapikog Lake, 2007

	Station																Average all Stations	
	1		2		3		4		5		6		7		8			
Date:	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
5-Jul **	11	5	11	13	22	19	11	5	11	8	8	0			5	3	11.3	7.6
16-Jul**	22	5	127	22	289	25	3	0	114	0	52	8	2424	8	13	3	380.5	8.9
30-Jul	794	72	65	3	2424	3	22	0	2424	5	182	3	339	16	2424	39	1084.3	17.6
14-Aug	25	5			151	11	5	0	11	3	106	5	25	11	19	13	48.9	6.9
4-Sep	219	8	76	0	102	0	794	0	182	0	121	3	46	0	69	11	201.1	2.8
Average	**214.2**	**19.0**	**69.8**	**9.5**	**597.6**	**11.6**	**167.0**	**1.0**	**548.4**	**3.2**	**93.8**	**3.8**	**708.5**	**8.8**	**506.0**	**13.8**	**345.2**	**10.2**
Std. Dev.	335.5	29.7	47.6	10.0	1025.6	10.5	350.6	2.2	1051.0	3.4	66.7	2.9	1152.6	6.7	1072.5	14.8	438.0	5.0
Previous Year's Averages																		
2006																		
Avg	**39.6**	**5.8**	**31.4**	**9.2**	**76.0**	**6.2**	**38.8**	**0.0**	**44.8**	**1.2**	**98.4**	**8.2**	**66.2**	**9.0**	**69.0**	**2.2**	**58.0**	**5.2**
std	36.4	2.2	30.6	6.8	54.9	4.8	32.2	0.0	37.6	1.6	89.1	7.4	65.3	5.8	83.4	2.2	44.4	0.4
2005																		
Avg	**354.3**	**8.5**	**53.3**	**4.5**	**629.0**	**2.0**	**56.3**	**7.5**	**58.5**	**4.0**	**32.0**	**3.5**	**20.5**	**2.0**	**55.8**	**6.0**	**157.4**	**4.8**
std	320.7	11.0	48.4	3.3	1196.9	2.4	36.0	5.2	47.3	3.4	22.2	5.2	21.0	2.4	73.5	7.7	209.6	4.4
2004																		
Avg	**67.5**	**1.5**	**38.0**	**4.0**	**60.5**	**1.5**	**37.0**	**4.8**	**20.0**	**0.8**	**44.0**	**6.3**	**96.3**	**2.0**	**297.8**	**1.5**	**82.6**	**2.8**
std	29.0	1.7	41.6	3.4	54.1	1.7	28.9	7.6	26.4	1.5	50.8	3.9	83.6	2.4	382.0	1.7	36.5	1.6
2003																		
Avg	**38.5**	**3.2**	**59.7**	**4.5**	**12.8**	**1.3**	**43.3**	**4.0**	**23.5**	**1.5**	**15.8**	**1.3**	**55.7**	**1.5**	**16.7**	**2.3**	**35.6**	**2.5**
std	29.1	1.8	44.8	5.1	13.2	2.2	32.4	6.2	32.7	1.6	6.6	2.2	29.8	1.6	19.0	2.0	9.1	1.6
2002																		
Avg	**449**	**737**	**764**	**7**	**55**	**3**	**471**	**13**	**410**	**5**	**616**	**9**	**727**	**2**	**446**	**4**	**492**	**6**
std	878.0	5.5	1136.0	7.0	54.0	3.6	865.0	16.3	892.0	6.0	1008.0	9.7	1160.0	3.3	878.0	4.4	883.0	8.2

Station 1 – Marina Station 2 – Lot 14 Station 3 – Lot 42 Station 4 – Lot 48
Station 5 – Chin's Bay Station 6 – Monroe's Bay Station 7 – Lot 89 Station 8 – Mid Lake

2.3.12 Bacterial Sampling of Surface Water for Total Coliforms (TC) and E. Coli (EC) in Naiscoot Lake, 2007

	Station												Average all Stations	
	0		1		2		3		4		5			
Date:	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC	TC	EC
29-Jun			98		83		65		69				78.8	
6-Jul	30	0	30	5	28	11	25	5	46	0	22	0	30.2	3.5
20-Jul	46	8	102	3	46	13	72	19	177	171			88.6	42.8
31-Aug	22	0	49	0	30	8	55	0	110	0			53.2	1.6
Average	**32.7**	**2.7**	**69.8**	**2.7**	**46.8**	**10.7**	**54.3**	**8.0**	**100.5**	**57.0**	**22.0**	**0.0**	**62.7**	**16.0**
Std Dev	12.2	4.6	35.8	2.5	25.5	2.5	20.7	9.8	57.5	98.7			26.3	23.3

Figure 2.4.11 Area Comparison of Bacteria Data

	Skerryvore			Sturgeon Bay			Woods Bay	
	Average All Stations			Average All Stations			Average all Stations	
DATE	TC	EC	DATE	TC	EC	Date:	TC	EC
14-Jun	190.7	43.0	9-Jun **	52.4	11.1	24-Jun	162.4	18.0
3-Jul	73.2	11.5	3-Jul	242.6	25.6	22-Jul	23.5	2.3
17-Jul	205.7	3.7	30-Jul	106.6	1.1	12-Aug	30.5	5.3
7-Aug	254.2	58.7	27-Aug	101.3	6.4	26-Aug *	124.3	26.7
28-Aug	438.3	8.8				8 - Sep *	85.3	29.0
11-Sep	471.0	40.8						
Average	**272.2**	**27.8**		**125.7**	**11.1**		**85.2**	**16.3**
Std. Dev.	153.7	22.6		81.7	10.5		59.8	12.1

	Pointe au Baril			Sans Souci			South Channel	
	Average for All Stations			Average for All Stations			Average All Stations	
Date	TC	EC	Date	TC	EC	Date	TC	EC
2-Jul	20	5	3-Jun	11.0	1.3	30-May	77.2	9.6
16-Jul	17	5	23-Jun	16.0	0.9	14-Jun	398.2	9.9
30-Jul	48	8	8-Jul	90.0	2.6	6-Jul	288.4	10.7
13-Aug	31	3	5-Aug	89.7	0.0	19-Jul	312.0	10.4
27-Aug	33	2	19-Aug	63.4	2.7	2-Aug	325.9	18.3
						24-Aug	134.0	8.8
						6-Sep	66.3	4.6
						20-Sep	291.9	23.2
						11-Oct	111.1	15.9
Average	**29.9**	**4.6**		**54.0**	**1.5**		**222.8**	**12.4**
Std. Dev.	12.2	2.3		38.6	1.2		124.7	5.7

	Blackstone Lake			Crane Lake			Healey Lake			Kapikog Lake			Naiscoot Lake	
	Average for All Stations			Average All Stations			Average for All Stations			Average all Stations			Average all Stations	
Date	**TC**	**EC**	**Date**	**TC**	**EC**	**Date**	**TC**	**EC**	**Date:**	**TC**	**EC**	**Date:**	**TC**	**EC**
15-Jul	84.0	9.0	**24-Jun**	12.3	2.8	**4-Jun**	36.2	6.5	**5-Jul ****	11.3	7.6	**29-Jun**	78.8	
30-Jul	338.3	43.3	**15-Jul**	79.8	28.6	**15-Jul**	312.1	9.6	**16-Jul****	380.5	8.9	**6-Jul**	30.2	3.5
22-Aug	202.2	1.8	**6-Aug**	150.4	37.3	**12-Aug**	925.3	3.1	**30-Jul**	1084.3	18	**20-Jul**	88.6	42.8
17-Sep	29.4	6.0	**19-Aug**	95.0	28.3	**3-Sep**	124.6	2.7	**14-Aug**	48.9	6.9	**31-Aug**	53.2	1.6
			2-Sep	80.2	11.8				**4-Sep**	201.1	2.8			
			16-Sep	124.3	9.2									
Average	**163.5**	**15.0**		**90.3**	**19.7**		**349.5**	**5.5**		**345.2**	**8.7**		**62.7**	**16.0**
Std. Dev.	137.0	19.1		47.1	13.6		400.7	3.2		438.0	5.5		26.3	23.3