

FINAL INTERIM REPORT ON THE LAKE GEORGE COLIFORM MONITORING PROGRAM – 2007

prepared for

The FUND for Lake George

By

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Lake George Coliform Monitoring Program

The Coliform Monitoring Program focuses on a series of locations that have shown chronically high levels of coliform bacteria in past years with routine surveillance sampling of other locations also included. For 2007, synoptic sampling of public bathing beaches on a two week basis is also included in the program. In addition to samples collected at the lake-shore, a series of samples are collected up the watershed by the Lake George Park Commission to locate and remediate specific sources of bacterial pollution.

Follow-up investigations by the Lake George Park Commission, NYS Department of Health and county and local government personnel are conducted at sites with elevated fecal coliform levels.

Action Levels of the Fund for Lake George Coliform Monitoring Program

In order to respond effectively to contamination problems detected during the Fund for Lake George Coliform Monitoring Program, the following actions will occur:

1. If 200 or more fecal coliform bacteria per 100 milliliters are reported, the site will be resampled during the next sampling cycle.
2. If 400 or more fecal coliform bacteria per 100 milliliters are reported, the site will be resampled within 24 to 48 hours. The data for both samples will be reported to the LGPC. They will accept responsibility for contacting the appropriate regulatory agencies.

Follow-up samples to locate specific shoreline problems are not within the guidelines of this program and will be the responsibility of the appropriate regulatory agencies. The Darrin Fresh Water Institute will provide technical assistance upon request, however the cost of additional sampling and analysis must be covered by the local, county or state agency responsible for water quality complaints.

SUGGESTIONS FOR INTERPRETATION OF COLIFORM DATA

The Lake George Coliform Monitoring Program collects water samples from suspected contamination sources throughout the Lake George basin. Three primary measurements are then made for each sample; Total Coliform (TC), Fecal Coliform (FC) and Fecal Streptococcus (FS) Bacteria. These bacteria serve as indicators of the presence of animal or human waste. The presence of elevated levels of these bacteria indicate that potentially disease-causing protozoans, bacteria and other microorganisms may be present in the water.

New York State Department of Health has determined maximum allowable bacterial levels for contact recreation (swimming, wading, etc.). A table of these bacterial concentrations is included. When these maximum bacterial levels are exceeded, the New York State Department of Health is empowered to close the location to bathing until the problem or problems are corrected. These levels are used by the Fresh Water Institute to determine appropriate responses to various bacterial concentrations found during sampling. A table of these responses is included.

Interpretation of data to determine and locate sources of contamination (human or other warm-blooded animal) requires more than just current bacterial levels. A knowledge of past history of the site, weather, geology of the area, drainage patterns, and some information on human activities in the area are also necessary. To differentiate between human waste and that produced by other warm-blooded animals, it is sometimes helpful to refer to the ratio of fecal coliform to fecal streptococcus bacteria (FC/FS). An FC/FS ratio of 4 or greater is generally considered indicative of contamination of human origin.

New York State coliform bacteria standards for bathing beaches.

Maximum Allowable Levels of Coliform Bacteria in Waters Used for Contact Recreation (NYS Dept. of Health)		
Bacterial Test	Max. 5 Sample Mean	Max. Single Result
Total Coliform	2400 per 100 mls	5000 per 100 mls
Fecal Coliform	200 per 100 mls	1000 per 100 mls

Definitions

TC – Total Coliform Bacteria

FC – Fecal Coliform Bacteria

FS – Fecal Streptococcus Bacteria

FC/FS – Ratio of Fecal Coliform to Fecal Streptococcus Bacteria

TNTC – Too Numerous to Count

CONF – Confluent growth of target bacteria

MAT – Confluent growth of non-target bacteria

? – High background, referring to non-target growth of bacteria interfering with counts of target bacteria

LT – Less than

LA – Laboratory accident preventing enumeration of bacteria

2007 LAKE GEORGE COLIFORM MONITORING PROGRAM

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town of Bolton						
Basin Bay Brook	16-Jul-07	290	39	56	0.7	Clear, cold, moderate flow
Bixby Beach Road Culvert	16-Jul-07	35	18	17	1.1	No bathers, cool , clear water
Bixby Beach Road Culvert	27-Aug-07	610	270	410	0.7	No flow, cool, clear
Brale Point Brook	30-Jul-07	800	61	410	0.1	Low flow, cold, clear
Congers Point	02-Jul-07	9	7	24	0.3	clear, no ducks
Finkle Brook	23-Apr-07	89	1			Cold, Clear, rushing water
Finkle Brook	24-Jun-07	76	12	49	0.2	Good flow, clear, warm
Finkle Brook	30-Jul-07	80	20	33	0.6	Low flow, warm, clear
Huddle Brook	30-Jul-07	210	50	87	0.6	Cool, clear, moderate flow, lots of plants by dock
Huddle Brook	27-Aug-07	260	167	168	1.0	Low flow, clear
Indian Bay Brook	13-Aug-07	310	17	54	3.4	Low flow, warm
Middleworth Bay	13-Aug-07	620	230	129	1.8	Cold, clear, good flow
Middleworth Bay Brook- south	27-Aug-07	730	169	340	0.5	Low flow, cool, Clear
Northwest Bay Brook	28-Feb-07	28	lt 1			Cold, Good Flow
Rogers Memorial Beach	02-Jul-07	18	16			Cool, clear, no bathers
Rogers Memorial Beach	16-Jul-07	52	44			Lots of little bathers, cool, clear, feathers on surface
Rogers Memorial Beach	30-Jul-07	44?	64			Many bathers, warm, clear
Rogers Memorial Beach - North	02-Jul-07	2	3	7	0.4	
Rogers Memorial Park Beach	13-Aug-07	58	49			No bathers, coppy, algae
Rogers Memorial Park Beach	27-Aug-07	24	13			No bathers, cool, clear water
Sawmill Bay at DFWI Boat House	26-Mar-07	59	1			Cold, clear
Sawmill Bay at Willig dock	21-Feb-07	34	lt 1			Very cold, clear water
South Sawmill Bay Brook	02-Jul-07	500	550	910	0.6	Low flow, brownish water
South Sawmill Bay Brook	03-Jul-07	580	360	720	0.5	Low flow
South Sawmill Bay Brook	16-Jul-07	860	622	860	0.7	Good flow, clear, cool
South Sawmill Bay Brook	17-Jul-07	640	280	500	0.6	
South Sawmill Bay Brook	30-Jul-07	1200	240	230	1.0	Cool, moderate flow, clear
South Sawmill Bay Brook	13-Aug-07	640	220	350	0.6	Low flow, turbid, cool

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town of Bolton (cont'd)						
South Sawmill Bay Brook	27-Aug-07	1800	380	2610	0.1	Low flow, cool, clear
Stewart Brook	13-Aug-07	420	390	230	1.7	Cold, turbid, low flow
Stewart Brook	27-Aug-07	690	110	121	0.9	Turbid, no flow
Turtle Island	09-Jul-07	40	12	18	0.7	Clear, calm
Veterans Park Beach	02-Jul-07	30	23			Many swimmers, cool, slightly turbid, geese
Veterans Park Beach	16-Jul-07	42	52			No bathers, cool, clear water
Veterans Park Beach	30-Jul-07	240	390			Many swimmers, warm, slightly turbid
Veterans Park Beach	13-Aug-07	180	130			No bathers, many ducks & geese
Veterans Park Beach	27-Aug-07	33	20			No bathers, cool, clear water
Town of Dresden						
Commision Point	06-Aug-07	lt 1	1	28	0.0	Warm, clear
Cook Bay Brook	23-Jul-07	780	74	81	0.9	Cool, moderate flow
Cook Bay Culvert North	23-Jul-07	6	1	4	0.3	No flow, clear
Cook Bay Loop	09-Jul-07	2800	1030	440	2.3	Heavy am Thunderstorms, waves, clear, moderate flow
Cook Bay Loop	11-Jul-07	2700	400	1190	0.3	very low flow, cool, slightly turbid
Cook Bay Loop	23-Jul-07	70	10	2	5.0	Cold, clear, low flow
Cook Bay Loop	06-Aug-07	870	400	1140	0.4	Low flow
Cook Bay Loop	07-Aug-07	350	70	32	2.2	No flow, clear, cool
Cook Bay Loop	21-Aug-07	60	26	21	1.2	No flow, lake water warm
Cook Bay South Culvert	23-Jul-07	950	89	158	0.6	Low flow, cold, clear
Cook Bay South Culvert	06-Aug-07	920	770	2420	0.3	Cold, clear, good flow
Cook Bay South Culvert	07-Aug-07	640	290	400	0.7	Clear, cool, moderate flow
Cook Bay South Culvert	21-Aug-07	120	41	60	0.7	Coo, clear, Moderate flow, 1 Duck
Cooks Bay Culvert	20-Aug-07	530	180	99	1.8	Low flow, cool, Clear

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town of Dresden (cont'd)						
Foster Brook	09-Jul-07	290	75	400	0.2	Moderate Flow, cold
Gull Bay Brook	09-Jul-07	420	120	570	0.2	Clear, cool
Gull Bay Brook	20-Aug-07	560	24	87	0.3	Moderate flow, cool
Indian Bay Brook	06-Aug-07	14	1	3	0.3	Low flow
Paradise Bay	06-Aug-07	12	4	21	0.2	Calm, warm, clear
Sunset Bay Brook East	09-Jul-07	3800	1760	1240	1.4	Low flow, slightly turbid
Sunset Bay Brook East	11-Jul-07	1200	850	900	0.9	Low flow, turbid
Sunset Bay Brook East	23-Jul-07	1150	209	370	0.6	Turbid, warm, no apparent flow
Sunset Bay Brook East	06-Aug-07	4000	2360	4800	0.5	Warm, clear, good flow
Sunset Bay Brook East	07-Aug-07	330	240	470	0.5	Warm, clear, low flow
Sunset Bay Brook East	20-Aug-07	50	51	45	1.1	Debris, low flow
Sunset Bay Brook East	04-Sep-07	990	530	390	1.4	Low flow, cool, leaves
Sunset Bay Brook East	06-Sep-07	320	590	5	118.0	Slightly turbid, low flow
Sunset Bay Brook West	09-Jul-07	570	370	780	0.5	Slightly turbid, ducks
Sunset Bay Brook West	23-Jul-07	370	12	58	0.2	Ducks, no apparent flow
Sunset Bay Brook West	04-Sep-07	460	240	88	2.7	Low flow, cool, many ducks
Washington County Beach	09-Jul-07	370	280			AM thunderstorms, no bathers
Washington County Beach	11-Jul-07	79	71	27	2.6	1 bather, cool, clear
Washington County Beach	23-Jul-07	12	3			No bathers, clear
Washington County Beach	06-Aug-07	89	71			No bathers, warm, clear, ducks
Washington County Beach	07-Aug-07	15	22			Many bathers, cool, clear
Washington County Beach	20-Aug-07	7	10			4 bathers, warm, debris in water
Washington County Beach	04-Sep-07	160	50			No bathers, cool, clear water
Washington County Beach	06-Sep-07	10?	80	120	0.7	No bathers, 6 ducks
Wyatts Bay Culvert	09-Jul-07	960	560	800	0.7	Ducks, no flow
Wyatts Bay Culvert	11-Jul-07	1600	530	590	0.9	
Wyatts Bay Culvert	23-Jul-07	32	6	7	0.9	Ducks, clear, no flow
Wyatts Bay Culvert	04-Sep-07	260	77	62	1.2	Low flow, cool, clear

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town Of Fort Ann						
Butternut Brook	30-Jul-07	150	23	8	2.9	Lots of plant growth, cool, low flow
Echo Bay	30-Jul-07	680	350	32	10.9	Warm, turbid, lots of plants
Echo Bay	13-Aug-07	240	85	8	10.6	Warm, slightly turbid
Elizabeth Island Brook	30-Jul-07	140	7	10	0.7	Warm, clear, lots of plants
Town of Fort Ann Beach	02-Jul-07	7	8			Cool, clear, no bathers
Town of Fort Ann Beach	16-Jul-07	12	2			Clear, No bathers
Town of Fort Ann Beach	30-Jul-07	7	1			No bathers, warm, slightly turbid
Town of Fort Ann Beach	13-Aug-07	9	8			Cool, clear, no bathers
Town of Fort Ann Beach	27-Aug-07	7	1			No bathers, choppy
Town of Hague						
Hague Boat Launch Culvert	09-Jul-07	4400	1640	1720	1.0	No apparent flow, turbid
Hague Boat Launch Culvert	11-Jul-07	16000	14100	6520	2.2	Very turbid
Hague Boat Launch Culvert	23-Jul-07	310	82	80	1.0	
Hague Boat Launch Culvert	06-Aug-07	290	210	830	0.3	Ducks, warm, clear
Hague Boat Launch Culvert	20-Aug-07	760	68	49	1.4	No flow, cool
Hague Boat Launch Culvert	04-Sep-07	470	140	208	0.7	Low flow, cool, clear, plants
Hague Brook	20-Aug-07	2	1	20	0.1	Low flow, cool
Hague Town Beach	09-Jul-07	40	31			Waves to 1', no bathers
Hague Town Beach	11-Jul-07	110	120	84	1.4	Warm, clear
Hague Town Beach	23-Jul-07	2	1			
Hague Town Beach	06-Aug-07	240	110			Cool, turbid, no bathers
Hague Town Beach	20-Aug-07	20	2			Calm, 2 bathers, debris in water
Hague Town Beach	04-Sep-07	27	21			No bathers, cool, clear water
Jenkins Brook	09-Jul-07	130	40	79	0.5	Ducks, low flow
Sabbath Day Point Beach	09-Jul-07	140	46			Waves to 1'
Sabbath Day Point Beach	23-Jul-07	11	8			Clam, clear. No bathers
Sabbath Day Point Beach	06-Aug-07	34	13			Clear, warm, no bathers
Sabbath Day Point Beach	06-Aug-07	34	13			Clear, warm, no bathers
Sabbath Day Point Beach	20-Aug-07	2	1			Warm, clam, no bathers
Sabbath Day Point Beach	04-Sep-07	1	1			No bathers, cool, clear water

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town Of Hague (cont'd)						
Sabbath Day Point Brook	06-Aug-07	490	380	650	0.6	Cool, clear, moderate flow
Sabbath Day Point Brook	20-Aug-07	18	2	18	0.1	Low flow, clear, warm
Silver Bay Brook - North	23-Jul-07	510	166	222	0.7	Cool, clear, low flow, debris
Town of Lake George						
Diamond Point Beach	02-Jul-07	3	1			Clear, warm, no bathers
Diamond Point Beach	16-Jul-07	10	9			Clear, cool, no bathers
Diamond Point Beach	30-Jul-07	15	2			Few bathers, warm, clear
Diamond Point Beach	13-Aug-07	29	24			Cool, clear, no bathers
Diamond Point Beach	27-Aug-07	5	3			No bathers, clear
East Brook	30-Jul-07	260	84	56	1.5	Warm, brownish, turbid, lots of plant debris
East Brook	27-Aug-07	125	49	75	0.7	Cool, clear, moderate flow
Edmund's Brook	30-Jul-07	310	56	136	0.4	Cool, clear, moderate flow
English brook	13-Aug-07	350	47	46	1.0	Cool, Good flow, clear
King James Spring	02-Jul-07	6000	2720	227	12.0	Moderate flow, clear
King James Spring	03-Jul-07	7300	6200	1270	4.9	Moderate flow, clear, cool
King James Spring	16-Jul-07	12900	850	69	12.3	Clear, cold, moderate flow
King James Spring	17-Jul-07	7000	460	40	11.5	Good flow, clear, cool
King James Spring	30-Jul-07	4300	770	1160	0.7	Cold, clear, good flow
King James Spring	31-Jul-07	980	470	200	2.4	Good Flow, clear
King James Spring	13-Aug-07	260	64	20	3.2	Clear, cool, moderate flow
Lake Avenue Beach	02-Jul-07	52	27	18	1.5	Clear, cool, ducks
Lake Avenue Beach	16-Jul-07	18	9	2	4.5	No bathers, clear
Lake Avenue Beach - S. Culvert	02-Jul-07	330	210	49	4.3	Ducks, slightly turbid, low flow
Lake Avenue Beach - S. Culvert	16-Jul-07	61	52	170	0.3	Low Flow, clear
LG Water Treatment Plant Culvert	16-Jul-07	290	31	44	0.7	Cold, Moderate Flow
Marine Village Beach	02-Jul-07	660	40	27	1.5	Warm, clear, bathers
Marine Village Beach	03-Jul-07	90	58	40	1.5	Many bathers
Marine Village Beach	16-Jul-07	34	17	14	1.2	Bathers, clear, ducks

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town Of Lake George (cont'd)						
Marine Village Culvert	02-Jul-07	21200	1340	1120	1.2	Cold, clear, low flow
Marine Village Culvert	03-Jul-07	300	150	59	2.5	Clear, cool
Marine Village Culvert	16-Jul-07	340	90	63	1.4	moderate flow, cold
Marine Village Culvert	27-Aug-07	1800?	2960	570	5.2	Good flow, warm, clear
Shepard's Park Beach	02-Jul-07	14	12			2 swimmers, clear, cool
Shepard's Park Beach	16-Jul-07	80	73			Clear, no bathers, duck
Shepard's Park Beach	30-Jul-07	290	300			Warm, slightly turbid, many bathers
Shepard's Park Beach	13-Aug-07	320	230			Warm, clear, 1 duck, 1 dog, no bathers
Shepard's Park Beach	27-Aug-07	39	31			No bathers, cool, clear water
Sheriffs Dock Culvert	02-Jul-07	120	33	29	1.1	no flow, fishy odor, debris
Sheriffs Dock Culvert	27-Aug-07	2300	180	480	0.4	No flow, clear
Smith Brook	13-Aug-07	570	5	34	0.1	Clear, Cool, Low flow
Tea Island Bay Brook	27-Aug-07	650	70	89	0.8	Low flow, clear
Villa Viola Beach	02-Jul-07	1200	88	63	1.4	Clear, warm
Villa Viola Beach	03-Jul-07	2700	39	14	2.8	Clear, warm, no bathers
Villa Viola Beach	16-Jul-07	66	39	24	1.6	Ducks
West Brook	02-Jul-07	63	22	90	0.2	Clear, cold, filamentous algae
West Brook	13-Aug-07	120	74	95	0.8	Clear, cool, low flow
West Brook	27-Aug-07	240	40	90	0.4	Good flow, cool, clear
Town of Putnam						
Putnam Town Beach	09-Jul-07	29	17			AM thunderstorms, no bathers
Putnam Town Beach	23-Jul-07	1	3			No bathers, clear, warm
Putnam Town Beach	06-Aug-07	21	4			Cool, no bathers
Putnam Town Beach	20-Aug-07	84	21			5 bathers, warm
Sucker Brook	09-Jul-07	510	500	430	1.2	Clear, cool
Sucker Brook	11-Jul-07	1700	1330	940	1.4	Raining
Sucker Brook	23-Jul-07	210	45	49	0.9	
Sucker Brook	06-Aug-07	320	280	310	0.9	mod flow, cool, turbid
Sucker Brook	20-Aug-07	51	47	8	5.9	Cool, brown, turbid

SITE	DATE	TC/100mls	FC/100mls	FS/100mls	FC/FS	NOTES
Town of Queensbury						
Assembly point culvert	13-Aug-07	69	15	29	0.5	Warm, Slightly turbid, lots of plant growth
Dunham's Bay Wetland	30-Jul-07	46	20	6	3.3	Warm, clear, milfoil
Harris Bay Culvert	02-Jul-07	1	2	6	0.3	No flow, algae
Joshua Rock Brook	16-Jul-07	124	22	39	0.6	Clear. cold, moderate flow
Speaker Heck Island	13-Aug-07	50	38	30	1.3	Seagulls, cool, clear
Warner Bay Culvert	30-Jul-07	132	2	50	0.0	No flow, sample taken lake shoe, cold, clear
Warner Bay Culvert	27-Aug-07	12	5	2	2.5	No flow, clear
Town of Ticonderoga						
Howe's Landing Culvert	21-Aug-07	890	168	138	1.2	Cold, clear, moderate flow, 1 duck
Mossy Point Boat Launch	23-Jul-07	570	18	11	1.6	Turbid, cool, goose droppings
Mossy Point Brook	06-Aug-07	420	149	42	3.5	cool, moderate flow
North Cooks Bay Brook	04-Sep-07	610	140	72	1.9	Stagnant, warm, clear
South Cooks Bay Brook	06-Aug-07	230	130	400	0.3	Moderate flow, clear, cool
South Cooks Bay Brook	04-Sep-07	86	64	73	0.9	Low flow, cool, clear
Ticonderoga Town Beach	09-Jul-07	170	35			No bathers, waves to 1', turbid
Ticonderoga Town Beach	23-Jul-07	1	2			2 bathers, warm, clear
Ticonderoga Town Beach	06-Aug-07	10	6			no bathers
Ticonderoga Town Beach	21-Aug-07	29	22			No bathers, warm, clear
Ticonderoga Town Beach	04-Sep-07	6	3			No bathers, warm, clear
Tiroga Channel	21-Aug-07	70	66	10	6.6	Warm, turbid, lots of plants