

FINAL INTERIM REPORT ON THE LAKE GEORGE COLIFORM MONITORING PROGRAM – 2010

prepared for
The Fund for Lake George

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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 2010, 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 Enterococcus (EC) Bacteria. These bacteria serve as indicators of the presence of animal or human waste. The presence of elevated levels of these bacteria indicates 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. 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 enterococcus bacteria (FC/EC). An FC/EC 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
Enterococcus	33 per 100 mls	61 per 100 mls

Definitions

TC – Total Coliform Bacteria

FC – Fecal Coliform Bacteria

EC – Enterococcus Bacteria

FC/EC – Ratio of Fecal Coliform to Enterococcus 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

2010 LAKE GEORGE COLIFORM MONITORING PROGRAM

SITE	DATE	TC/100mls	FC/100mls	EC/100mls	FC/EC	NOTES
<u>Town of Bolton</u>						
Bixby Beach	06-Jul-10	160	22	42	0.5	A lot of algae, warm, murky
Bixby Beach	02-Aug-10	80	38	38	0.0	Warm, turbid, leaves
Bixby Beach - South Culvert	06-Jul-10	290	14	270	0.1	Algae, low flow
Bixby Beach Road North Culvert	02-Aug-10	170	60	61	1.0	No flow
Braley Point Brook	16-Aug-10	140	110	21	5.2	No flow, choppy, warm, clear, rain
Huddle Beach	02-Aug-10	150	85	132	0.6	4 ducks, clear, riffle in water
Huddle Beach Brook	02-Aug-10	1400?	480	320	1.5	Good flow, cool, clear
Huddle Beach Brook	04-Aug-10	4100	470	520	0.9	low flow, clear
Huddle Beach Brook	16-Aug-10	5200	1140	750	1.5	Low flow, clear, warm, rain
Huddle Beach Brook	18-Aug-10	3300?	90?	160	0.6	Good flow, taken at culvert, clear, cool
Huddle Beach Brook	30-Aug-10	800?	55	93	0.6	moderate flow, cool, clear
Huddle Brook	19-Jul-10	600	23	101	0.2	Good flow, warm, clear
Indian Brook	16-Aug-10	660	70	190	0.4	good flow, cold, rain
Middleworth Bay Brook- South	19-Jul-10	900	152	103	1.5	Good flow, cool, clear
Northwest Bay Brook	16-Aug-10	1050	35?	210	0.2	Lots of plants, cool, low flow, rain
Rogers Memorial Beach	06-Jul-10	54?	22			No bathers, warm, clear
Rogers Memorial Beach	19-Jul-10	29	17			No bathers, clear, warm
Rogers Memorial Beach	02-Aug-10	230	190			warm, clear, no swimmers
Rogers Memorial Beach	16-Aug-10	200	230			Clear, no bathers, rain
Rogers Memorial Beach	30-Aug-10	13?	3			cool, clear, no bathers
South Sawmill Bay Brook @ lake	06-Jul-10	2040	1850	1320	1.4	No flow, plants
South Sawmill Bay Brook @ lake	07-Jul-10	7600?	7900	4800	1.6	No Flow, warm, plants
South Sawmill Bay Brook @ lake	19-Jul-10	10600	1560	1400	1.1	Warm, low flow, fish
South Sawmill Bay Brook @ lake	20-Jul-10	4800	2000	1000	2.0	Murky, warm
South Sawmill Bay Brook @ lake	02-Aug-10	4100	720	1490	0.5	Low flow, odor, warm, plants
South Sawmill Bay Brook @ lake	03-Aug-10	3100	580	152	3.8	Low flow, plants
South Sawmill Bay Brook @ lake	16-Aug-10	4900?	1000?	2100	0.5	No flow, many plants, rain
South Sawmill Bay Brook @ lake	18-Aug-10	2100	150	380	0.4	low flow, cool, clear
South Sawmill Bay Brook @ lake	30-Aug-10	2200?	130	640	0.2	plant growth, cool
Stewart (Dula) Pond	19-Jul-10	160	100	210	0.5	Film on pond, odor, no flow into brook
Veterans Park Beach	06-Jul-10	21	6			No bathers, calm, clear
Veterans Park Beach	19-Jul-10	200	140			Few bathers, warm, clear
Veterans Park Beach	02-Aug-10	50	15			warm, clear, seagulls, no bathers
Veterans Park Beach	16-Aug-10	330	210			Clear, no bathers, rain
Veterans Park Beach	18-Aug-10	59?	55	10	5.5	Clear, no bathers, ducks
Veterans Park Beach	30-Aug-10	10	5			clear, cool, no bathers
Veteran's Park Beach - So. Culvert	16-Aug-10	820?	540?	1160	0.5	no flow, clear, leaves, rain
Veteran's Park Beach - So. Culvert	18-Aug-10	100?	160	50	3.2	no flow, ducks, taken at shore
Veteran's Park Beach - So. Culvert	30-Aug-10	200	50	15	3.3	no flow, ducks

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SITE	DATE	TC/100mls	FC/100mls	EC/100mls	FC/EC	NOTES
<u>Town of Dresden</u>						
Agnes Island Brook	09-Aug-10	970	14	250	0.1	Cold, good flow
Bluff Head Creek	23-Aug-10	80	10	50	0.2	rain, low flow, ducks, clear
Commission Point	23-Aug-10	10	3	lt. 1	0.0	no boats, murky, calm, rain
Cook Bay Brook	12-Jul-10	230	126	53	2.4	Odor, algae, warm
Cook Bay Culvert	23-Aug-10	2400	40	230	0.2	low flow, rain, clear
Cook Bay Loop	26-Jul-10	80	29	81	0.4	No flow
Cook Bay Loop	23-Aug-10	20000	1370	1200	1.1	moderate flow, clear, cool
Cook Bay Loop	24-Aug-10	6300	970?	500	1.9	Low flow, cool, clear
Cook Bay Loop	07-Sep-10	43	??	33	0.2	ducks, calm, clear, no flow
Cook Bay South Culvert	12-Jul-10	7350	6560	5640	1.2	Clear, good flow
Cook Bay South Culvert	13-Jul-10	21000	9200	2600	3.5	Cool, clear, algae
Cook Bay South Culvert	26-Jul-10	2100	370	580	0.6	Cool, steady flow
Cook Bay South Culvert	09-Aug-10	560	176?	66	2.7	Cold, good flow
Foster Brook	26-Jul-10	41	17	27	0.6	Clear, bathers, good flow
Glen Island	23-Aug-10	10	2	10	0.2	clear, no boats, rain, campers
Lamb Shanty Bay Brook	23-Aug-10	170	39	180	0.2	no flow, rain, clear
Paradise Bay	23-Aug-10	53	12	210	0.1	no boats, clear, calm
Paradise Bay Brook	12-Jul-10	3	2	2	1.0	Warm, clear, calm, 2 boats
Sunset Bay Brook (East)	26-Jul-10	560	350	620	0.6	leaf debris, low flow, ducks
Sunset Bay Brook (West)	26-Jul-10	63?	51?	33	1.5	leaf debris, low flow
Washington County Beach	12-Jul-10	52?	28			Warm, clear, no bathers
Washington County Beach	26-Jul-10	11	10			2 bathers, ducks, clear
Washington County Beach	09-Aug-10	10	2?			calm, clear, no swimmers, warm
Washington County Beach	23-Aug-10	690	20?			murky, no bathers, rain
Washington County Beach	07-Sep-10	89?	69			Calm, clear, no bathers
Wyatts Bay Culvert	23-Aug-10	160	10	150	0.1	murky, choppy, rain
<u>Town Of Fort Ann</u>						
Butternut Brook	06-Jul-10	10	10	9	1.1	Clear, warm, calm
Log Bay	16-Aug-10	6	4?	3	1.3	Clear, warm, 1 boat
Shelving Rock Brook	16-Aug-10	600	270?	100	2.7	Murky, moderate flow, warm, rain
Town of Fort Ann Beach	06-Jul-10	26	24			5 bathers, calm, clear, warm
Town of Fort Ann Beach	19-Jul-10	5	1			Calm, no bathers
Town of Fort Ann Beach	02-Aug-10	30	2			no bathers, calm
Town of Fort Ann Beach	16-Aug-10	210	106			no bathers, choppy, rain
Town of Fort Ann Beach	30-Aug-10	29?	5			calm, no bathers
<u>Town of Hague</u>						
Cape Cod Village Brook	26-Jul-10	15	7	37	0.2	Low flow, choppy, clear
Hague Boat Launch Culvert	26-Jul-10	340	160?	120	1.3	Calm, warm
Hague Brook	02-Mar-10	4	2			Cool
Hague Brook	07-Sep-10	52	11	175	0.1	low flow, cool, clear
Hague Town Beach	12-Jul-10	250	44?			Warm, murky, choppy, many bathers
Hague Town Beach	26-Jul-10	16	13			Bathers, warm, turbid
Hague Town Beach	09-Aug-10	30	3?			turbid, warm, swimmers
Hague Town Beach	23-Aug-10	88	34			no bathers, warm, rain
Hague Town Beach	07-Sep-10	17	5			slightly turbid, no bathers

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SITE	DATE	TC/100mls	FC/100mls	EC/100mls	FC/EC	NOTES
<u>Town of Hague cont.</u>						
Jab Pond Brook	09-Aug-10	230	4?	16	0.3	Cold, Murky
Jenkins Brook	09-Aug-10	84?	20	30	0.7	Good flow, clear, cold
Sabbath Day Point Beach	12-Jul-10	74	17			Warm, clear, couple bathers
Sabbath Day Point Beach	26-Jul-10	7	5			Warm, clear, no bathers
Sabbath Day Point Beach	09-Aug-10	20	3			4 ducks, warm, no bathers
Sabbath Day Point Beach	23-Aug-10	48	20			many ducks, clear, warm, no bathers, rain
Sabbath Day Point Beach	07-Sep-10	34	13			slightly turbid, 1 ft waves, no bathers
Sabbath Day Point Brook	26-Jul-10	100?	71	480	0.1	warm, clear, no ducks
Silver Bay Brook - North	09-Aug-10	24?	1	42	0.0	No flow
Stags Leap Brook	26-Jul-10	1400	990	166	6.0	Cold, clear, good flow
Stags Leap Brook	27-Jul-10	850	50	100	0.5	Cold
Stags Leap Brook	09-Aug-10	1510	1000?	970	1.0	cold, clear
Stags Leap Brook	11-Aug-10	2900	120	100	1.2	Turbid, low flow, cold
Stags Leap Brook	23-Aug-10	720	10	340	0.0	moderate flow, clear, cool
Temple Island Culvert	09-Aug-10	1540	1300	270	4.8	Good flow, cold
Temple Island Culvert	11-Aug-10	3000	80	180	0.4	Good flow, cold, algae
Temple Island Culvert	23-Aug-10	3600	290	890	0.3	good flow, clear, rain
Temple Island Culvert	07-Sep-10	800	22	65	0.3	cool, clear, mod. flow, algae
<u>Town of Lake George</u>						
Diamond Point Beach	06-Jul-10	10	lt. 1			No bathers, warm, clear, calm
Diamond Point Beach	19-Jul-10	44	30			No bathers, calm, rain
Diamond Point Beach	02-Aug-10	20?	4			no bathers, choppy, turbid
Diamond Point Beach	16-Aug-10	9	1			Warm, choppy, clear, no bathers, rain
Diamond Point Beach	30-Aug-10	7?	6			warm, clear, choppy, no bathers
Dog Beach	19-Jul-10	6	3	11	0.3	2 dogs, calm, warm, clear
East Brook	23-Jun-10	930?	780	1370	0.6	Murky, rain, low flow
East Brook	28-Jun-10	3200?	2600?	4840?	0.5	Heavy rain, moderate flow, murky
East Brook	12-Jul-10	1000	310	420	0.7	Low flow, grey color, murky
East Brook	19-Jul-10	620	220	480	0.5	Murky, low flow
East Brook	02-Aug-10	2500	290	141	2.1	low flow, turbid, calm
East Brook	16-Aug-10	1700	930?	560	1.7	Cool, good flow, rain
East Brook	18-Aug-10	3900?	220	100	2.2	low flow, cool, clear
East Brook	30-Aug-10	410?	184	47	3.9	low flow, turbid, cool
English Brook	02-Feb-10	24	4			Very cold, ice
English Brook	19-Jul-10	112	20	51	0.4	Good flow, clear, cool
Finkle Brook	02-Aug-10	90	10	20?	0.5	Low flow
Kurasaka Lane Culvert	19-Jul-10	34	9	22	0.4	Low flow, choppy, clear
Lake Avenue Beach	06-Jul-10	15	16	31	0.5	1 bather, warm, clear, calm
Lake Avenue Beach (South Culvert)	06-Jul-10	230	15	21	0.7	Low flow, clear, warm
LG Water Treatment Plant Culvert	02-Aug-10	37?	21	110	0.2	No flow, choppy, clear
Lower Amherst @ Lake	06-Jul-10	8	6	28	0.2	Warm, clear, no ducks
Marine Village Beach	06-Jul-10	36?	36	24	1.5	Many bathers, clear, no ducks
Marine Village Culvert	06-Jul-10	660	50?	250	0.2	Good flow, clear, cold

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SITE	DATE	TC/100mls	FC/100mls	EC/100mls	FC/EC	NOTES
<u>Town of Lake George cont.</u>						
Shepards Park Beach	06-Jul-10	280?	380			Many bathers, clear, warm
Shepards Park Beach	19-Jul-10	3	7			12 ducks, warm, choppy, clear
Shepards Park Beach	02-Aug-10	20?	6			no bathers, 1 duck, calm, 2 seagulls, warm
Shepards Park Beach	16-Aug-10	11	lt 1			Warm, calm, 3 ducks, clear, no bathers, rain
Shepards Park Beach	30-Aug-10	13?	3			No bathers, clear, choppy
Shepards Park Beach - South	13-Apr-10	3	1			Calm, clear, no bathers, no ducks or birds
Shepards Park Beach - South	20-May-10	91	27	40	0.7	No bathers, calm, cool, no birds
Sheriffs Dock Culvert	20-Apr-10	210	14			Clear, no flow
Sheriffs Dock Culvert	19-Jul-10	80	34	11	3.1	Low flow, clear, cool
Smith Brook	19-Jul-10	157?	63	105	0.6	Clear, cool, good flow
Smith Brook	30-Aug-10	590?	38	36	1.1	good flow, clear, cool
Stebbing Brook	30-Aug-10	660?	44	87	0.5	low flow, cool, clear
Tea Island Bay Brook	19-Jul-10	360	128	142	0.9	Clear, warm, choppy, rain
Villa Viola Beach	06-Jul-10	116	167	48	3.5	6 ducks, clear, warm
West Brook	19-Jul-10	132	89	105	0.8	Good flow, clear, cool
West Brook	16-Aug-10	600	242	330	0.7	Good flow, warm, clear , rain
West Brook	30-Aug-10	320?	27	47	0.6	Good flow, cool, clear
<u>Town of Putnam</u>						
Glenburnie Pumphouse Creek	09-Aug-10	30	1?	14	0.1	Warm, no flow
Gull Bay Brook	12-Jul-10	900	69	600	0.1	Low flow, warm
Gull Bay Brook	07-Sep-10	600	22	91	0.2	cold, lt brown, low flow
Putnam Town Beach	12-Jul-10	11	5			Warm, clear, no bathers, few ducks
Putnam Town Beach	26-Jul-10	190	36?			Warm, murky, kids swimming
Putnam Town Beach	09-Aug-10	10?	2?			bathers, warm
Putnam Town Beach	23-Aug-10	36	13			rain, clear, warm, no bathers
Putnam Town Beach	07-Sep-10	19	1			Calm, clear, no bathers
Smith Bay Brook	07-Sep-10	400	162?	1150	0.1	cold, clear, low flow
Sucker Brook	12-Jul-10	420	39	2040	0.0	Brown, cold, low flow
<u>Town of Queensbury</u>						
Dunhams Bay @ Route 9L	19-Jul-10	260	120	77	1.6	Brown, rain, geese
Dunham's Bay Wetland	16-Aug-10	140?	20	68	0.3	Calm, rain, warm, brown
Harris Bay @ 9L	30-Aug-10	340?	20	lt. 10		clear, plant debris
Harris Bay Culvert (Takundewide)	02-Aug-10	29?	1	31	0.0	no flow, clear
Joshua Rock Brook	06-Jul-10	440?	19?	350	0.1	Warm, good flow, a lot of algae
Sandy Bay @ moorings	06-Jul-10	1	6	11	0.5	Several boats, a lot of people, warm, clear
Warner Bay Culvert	02-Aug-10	12	7	9	0.8	No flow, plant debris
Warner Bay North Culvert	30-Aug-10	70	1	10	0.1	no flow, lake sample
Warner Bay South Culvert	02-Aug-10	29	8	8	1.0	no flow

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SITE	DATE	TC/100mls	FC/100mls	EC/100mls	FC/EC	NOTES
<u>Town of Ticonderoga</u>						
Cooks Bay Brook - North	12-Jul-10	420?	190?	630	0.3	Low flow, cold
Cooks Bay Brook - North	07-Sep-10	1200	38	96	0.4	warm, turbid, very low flow
Cooks Bay Brook - South	12-Jul-10	1240?	180	360	0.5	Cold, fish, low flow
Cooks Bay Brook - South	07-Sep-10	1160	24	68	0.4	turbid, low flow
Hearts Bay Brook	09-Aug-10	310	96	32	3.0	Low flow, turbid
Hearts Bay Brook North	07-Sep-10	24	5	14	0.4	no flow, taken at lake
Hearts Bay Culvert	12-Jul-10	610	240	640	0.4	Cold, low flow
Hearts Bay Culvert	26-Jul-10	3600	1080	520	2.1	Cool, low flow
Hearts Bay Culvert	27-Jul-10	1630	240	640	0.4	
Hearts Bay Culvert	09-Aug-10	2800	640	470	1.4	Low flow, cold
Hearts Bay Culvert	11-Aug-10	3300	140	290	0.5	Cold, low flow, clear
Hearts Bay Culvert	23-Aug-10	6100	1710	2480	0.7	low flow, clear, warm, rain
Hearts Bay Culvert	24-Aug-10	3100	670	900	0.7	Good flow, cold
Hearts Bay Culvert	07-Sep-10	1500	66	154	0.4	cold, clear, mod. Flow
Howes Landing Culvert	12-Jul-10	1200?	330	870	0.4	Warm, good flow
Howes Landing Culvert	26-Jul-10	1280	340	640	0.5	Good flow, very cold
LaChute River	07-Sep-10	40	8	76	0.1	warm, low flow
Mossy Point Boat Launch	12-Jul-10	32	30	18	1.7	Murky, warm
Mossy Point Brook	12-Jul-10	27?	23	36	0.6	lots of plants, warm, murky
Ticonderoga Town Beach	12-Jul-10	44	27			Warm, clear, few bathers
Ticonderoga Town Beach	26-Jul-10	54	18			Ducks, few bathers, debris, warm
Ticonderoga Town Beach	09-Aug-10	42	39?			lots of bathers, warm, clear
Ticonderoga Town Beach	23-Aug-10	55	20			rain, calm, clear, no bathers
Ticonderoga Town Beach	07-Sep-10	12	3			Choppy, clear, no bathers
Tiroga Point Channel	12-Jul-10	61?	90	178	0.5	Murky, warm