

REPORT TO THE WHITE LAKE WATER QUALITY COMMITTEE

BY

S. E. JOHNSON

VICE CHAIRMAN OF WATER QUALITY COMMITTEE
CHAIRMAN OF WATER QUALITY SURVEY

INTRODUCTION

1 The work of the Water Quality Survey during 1973 was divided into two phases. One phase consisted of taking approximately 375 water samples on three different occasions and having the samples analyzed by the labs for coliform bacteria. The second phase consisted of weekly tests and samples to determine water clarity and chlorophyll present in the water.

2 Considerable information has been gathered from the survey and in general the quality of the water appears very good for recreational purposes.

3 The lake was divided into ten general areas designated 1 to 10 inclusive on a map attached to this report. A detailed map of each of the ten areas is also attached showing the approximate location of cottages and sample points for each of three different sampling dates, namely May 27th, July 29th and September 16th.

4 373 samples were analyzed for each of the surveys on May 27th and July 29th and 390 samples were analyzed for the survey on September 16th.

5 The first date of May 27th was selected in an attempt to obtain a general indication of the quality of the water before cottagers flock to their summer retreat. By selecting the date of July 29th, it was hoped to obtain some indication of the effect cottagers had on the quality of the water and in September determine the cumulative effect.

6 Generally, the results indicate the cottagers are adding pollutants. Considering only the faecal count of bacteria as these are attributed to human and/or animal wastes, 19 sample locations had a count greater than 10 on May 27th and the count for all locations averaged 2.87. July 29th there were 34 locations with a faecal count greater than 10 and the average for all locations 5.14. September 16th there were 33 locations with a faecal count greater than 10 and an average of 3.70.

7 The detailed results show that corrective steps should be considered by cottagers in a number of locations.

8 The water clarity and chlorophyll samples indicate a maximum clarity in May decreasing continually to mid July, a slight increase the latter part of July and decreasing to the lowest clarity the latter part of August. The analysis for chlorophyll in the samples is considered relatively low and an improvement over the few samples which had been taken in 1972. The highest count of chlorophyll occurred during mid August wherein the amount reported was 14 mg/liter compared to an overall average of 4.3. Further details of the samples are included in this report following the results of the bacteriological samples.

9 Many thanks to the many persons too numerous to mention by name who participated and assisted in the collecting of water samples during our 1973 program.

WHITE LAKE WATER SAMPLE SURVEY AND SAMPLING RESULTS

10 The quality of water in White Lake was a concern to a number of cottagers and although a number of generalities were heard to the effect the water in some cases was very good and in other cases considered very poor, it was felt the only proper way to consider the matter was to obtain data on the actual quality of the water. After several meetings and long discussions it was decided actual water samples would be required and analyzed by a laboratory for the bacteriological count. John and Joy Uththoff toured the lake April 21 and 22, 1973 locating as closely as possible all of the cottages on the shoreline of the lake and from which John prepared a map of the lake. With this map in hand Messrs. Bruce Young and Jim Watts of the respective Lanark and Renfrew Health Units, John Uththoff and Stan Johnson toured the lake to determine sample locations for testing the water. 375 sample locations were designated and with approximately 414 permanent cottages on the lake this represented a sample adjacent the shore in front of each cottage except in heavily populated areas, such as Three Mile Bay and certain commercial establishments.

11 Samples were taken at each of the sample locations May 27th, July 29th and September 16th. To organize this massive sampling program the lake was divided into ten general areas and in pages to follow the lab results of the samples are reported for each area.

12 Attached for record purposes is a list of the samplers and allocated areas for the May 27th date. A few changes occurred in the subsequent dates due to holiday and other obligations. Ken and Lisa Macewicz manned a depot at their cottage on each of the three sampling dates handing out bottles to the samplers and receiving the filled bottles as they were returned. The collected samples were taken to the T-Bell Resort owned and operated by Mr. Dick Tilley and wherein the samples were kept overnight under refrigeration and then delivered by the Renfrew Health Unit the following morning to the laboratory at Bells Corners for analysis.

13 Many thanks to the numerous persons that participated in the sampling on each of the three dates and cooperation by all persons ensuring delivery of the samples in good condition to the laboratories at Bells Corners.

14 The actual results of the samples appear in pages to follow and from which a detailed study indicates cottagers in certain areas may be adding pollutants to the lake. The overall results appear to indicate the water is of very good quality and it is hoped all cottagers with offending disposal facilities will undertake corrective steps to improve certain areas. The results of May 27th indicate 19 locations with a faecal count greater than 10 and an average faecal count of 2.87 for all locations. On July 29th there were 34 locations with a faecal count greater than 10 and an average faecal count of 5.14 for all locations. On September 16th there were 33 locations with a faecal count greater than 10 and an average for all locations of 3.7. This would appear to indicate use of the lake by cottagers during the summer months adds pollutants to the lake.

15 On May 27th there were 237 locations with a faecal count of 0, 165 July 29th and 188 September 16th. Since the faecal bacteria are mainly human and animal wastes and the animal population is year round, the

decrease of the number of locations with a zero count from May 27th to July 29th is believed strongly indicative of cottages in certain areas having disposal facilities which require improvements. Water with a total coliform count of 0 and faecal coliform count of 0 is considered suitable for drinking water and on May 27th there were 106 locations with a reading of 0 - 0. On July 29th there were 62 and on September 16th 72. Considering the number of locations sampled. 28% of the locations sampled May 27th indicate the water is suitable for drinking. July 29th this reduced to 17% and September 16th 18%. It is believed a faecal count of 100 or more is considered unsafe for swimming and the results show three of such locations on each of July 29th and September 16th and none for May 27th.

16. The foregoing is a partial statistical analysis of the results indicating generally very good quality of water. On the following pages there is a map showing the general areas of the lake and individual maps for the respective areas along with a detail of the actual sample results for each of the May 27th, July 29th and September 16th sampling dates.

May 27, 1973

WHITE LAKE WATER SAMPLE SURVEY

Sampler	Telephone No.	Area Allocated to Sample	No. of Samples	Sample Code
1. George Hughes-Adams	828-2368	10	23	WL 1 - 23
2. John-Uthhoff <i>Andy Ross</i>	728-6971	Part of 8 & 9 (office)	24	WL 24 - 47
	992-0051			
3. V. N. Wickham	828-2363	9	28	WL 48 - 75
4. ^{Mr and Mrs} John Knight	733-8962	9	22	WL 76 - 97
5. Gordon Pitts <i>Bob Crooke</i>	592-3645	Part of 8 & 7	20	WL 98 - 117
6. R. Narraway <i>John Uthhoff</i>	722-4326	Part of 6 & 7	19	WL 118 - 136
7. Ben Sutton	836-2657	7	17	WL 137 - 153
8. Angus Davidson	729-9028	6	23	WL 154 - 175
9. Steve Cooke		3	30	WL 176 - 206
10. M. Mitchell	722-9669	4	28	WL 207 - 234
11. John Reid	722-7591	5	26	WL 235 - 260
12. J. Hawksbridge	235-4570	5	23	WL 261 - 283
13. Bruce Johnson	838-2963	4	23	WL 284 - 306 ✓
14. Art Horricks	729-4030	2	25	WL 307 - 331
15. Hugh Robertson	729-9298	1 & Part of 2	21	WL 332 - 352
16. Bob Burkinshaw	838-5727	3 & Part of 2	22	WL 353 - 374

- Spares
1. Gordon Asher
 2. Ben Sutton
 3. Dave Gurney

Sample Depot - ^{‡ Lisa} Ken Macewicz 225-1583

N.B. In the event any sampler is unable to be present to take samples May 27th due to extenuating circumstances, I would ask that they please find a replacement and advise John Uthhoff of the change.

S. E. JOHNSON
Chairman, White Lake
Sample Committee

AREA TO BE SAMPLED

See map attached

SAMPLE BOTTLE DEPOT

Pick up sample bottles at Ken Macewicz's cottage (See maps attached for location) May 27, 1973, 12:00 - 2:00 p.m. It is suggested you bring cardboard box or other container large enough to hold about 30 4 oz. bottles.

Take samples in allocated area (see list of samplers attached and below for procedure).

Return bottles to Macewicz's cottage before 5:30 p.m.

CODING SAMPLE BOTTLES

Each sample area is allocated numbers.

Stickers are provided with allocated series of numbers for respective allocated areas.

Place sticker number on dry bottle and take sample at location corresponding to map location designation so we know precisely as possible where sample is taken. This is essential to ensure subsequent samples later in season are taken at same location. In heavily populated areas, i.e. south shore of Pickerel Bay, 3 Mile Bay, Sunset Bay, etc., try and briefly describe cottage with reference to some sample numbers on separate sheets provided, e.g. WL 305 - brown log cabin.

WHERE TO TAKE SAMPLES

"X" on map numbered W1 1 - WL 374 shows location to take samples. In heavily populated areas, one sample will be taken at approximately every second cottage. In other areas, samples will be taken at every cottage.

Take samples commencing at one end of allocated area and proceed progressively taking samples to other end.

Take only one sample at each designated area. Take samples 10 - 20 feet from shore in populated areas. Samples in bays, inlets and outlets can be taken further from shore.

Where possible, take samples offshore from outhouses adjacent to cottages.

HOW TO TAKE SAMPLES

Hold bottle near its bottom end in one hand.

Remove cap with other hand. Do not touch bottle near mouth or inside of cap as this will contaminate the sterile bottles.

Take sample.

- hold bottle sloping about 45° with neck of bottle up
- immerse bottle 12 - 15" (almost elbow depth)
- move bottle forwardly to fill
- remove filled bottle and pour out 1 - 2 ozs. leaving bottle about 1/2 - 2/3 filled

- COTTAGE
- HOUSE
- X APPARENTLY ABANDONED
- UNDER CONSTRUCTION
- △ LODGE
- ▨ TRAILER PARKS

- UNITS
- 409*
- 5
- 6
- 4
- 3

SURVEY BY BOAT, APRIL 21-22, 1973.
LOCATIONS NOT ACCURATE.

300 SPACES ESTIMATED

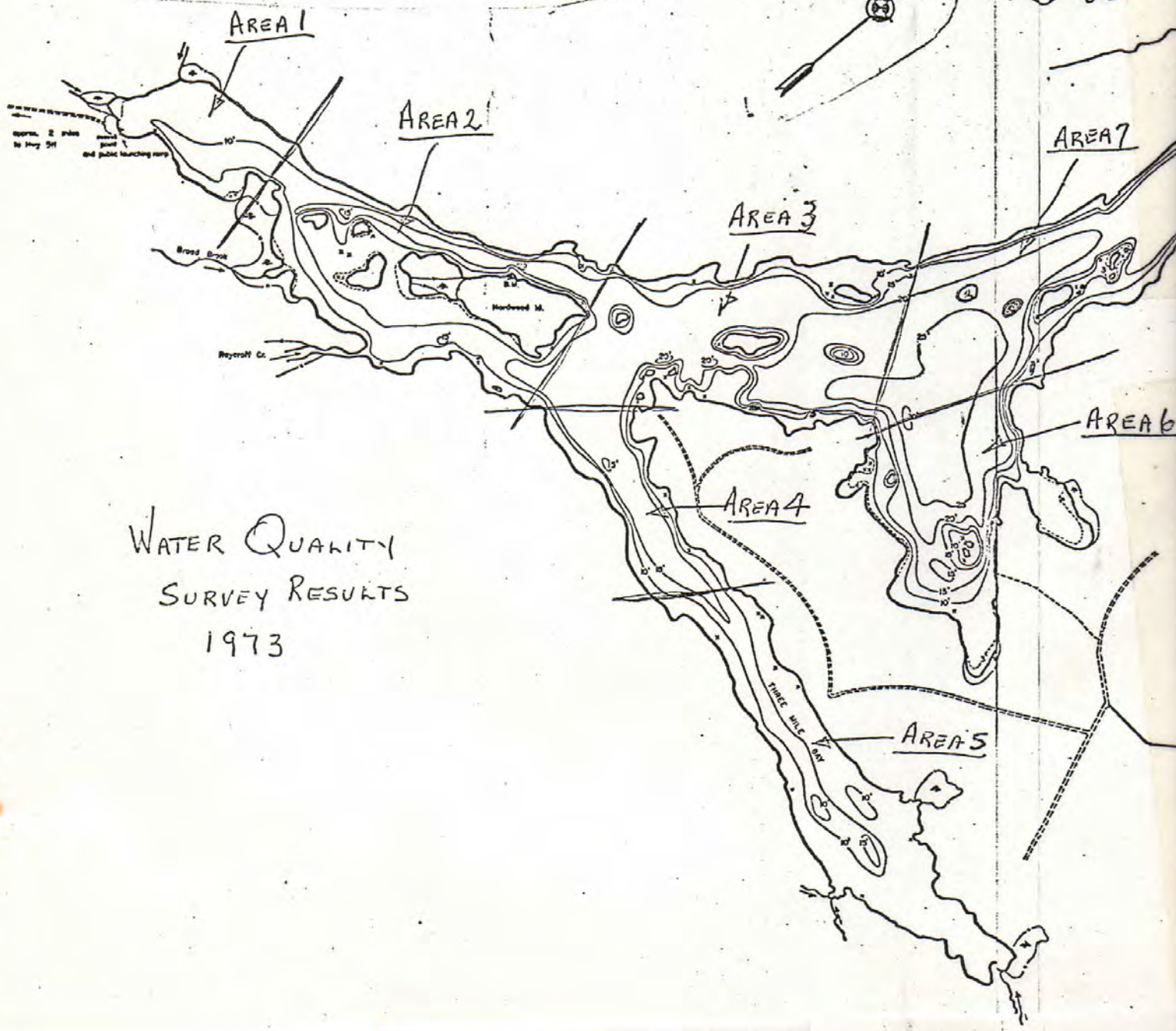
WHITE

HABITABLE UNITS:	PERMANENT	414*
	TRAILERS	300 APPROX
	TOTAL	714

LAKE SURFACE AREA : 5,608 ACRES
MEAN DEPTH : 11 FEET

- ① SACCHI Disc-TEST LOCATIONS
- ② #1 & #2 1973

* GUEST COTTAGES NOT INCLUDED



WATER QUALITY
SURVEY RESULTS
1973

LAKE

AREA 10

AREA 8

WHITE LAKE VILLAGE

AREA 9

THE CANAL

MAYES BAY

BURDOW IS.

1 mile

1 kilometer

This map is intended for Fisheries management purposes only. It should not be used as a guide in navigation because no effort has been made to show the various shoals and hazards which might occur between points of sounding.

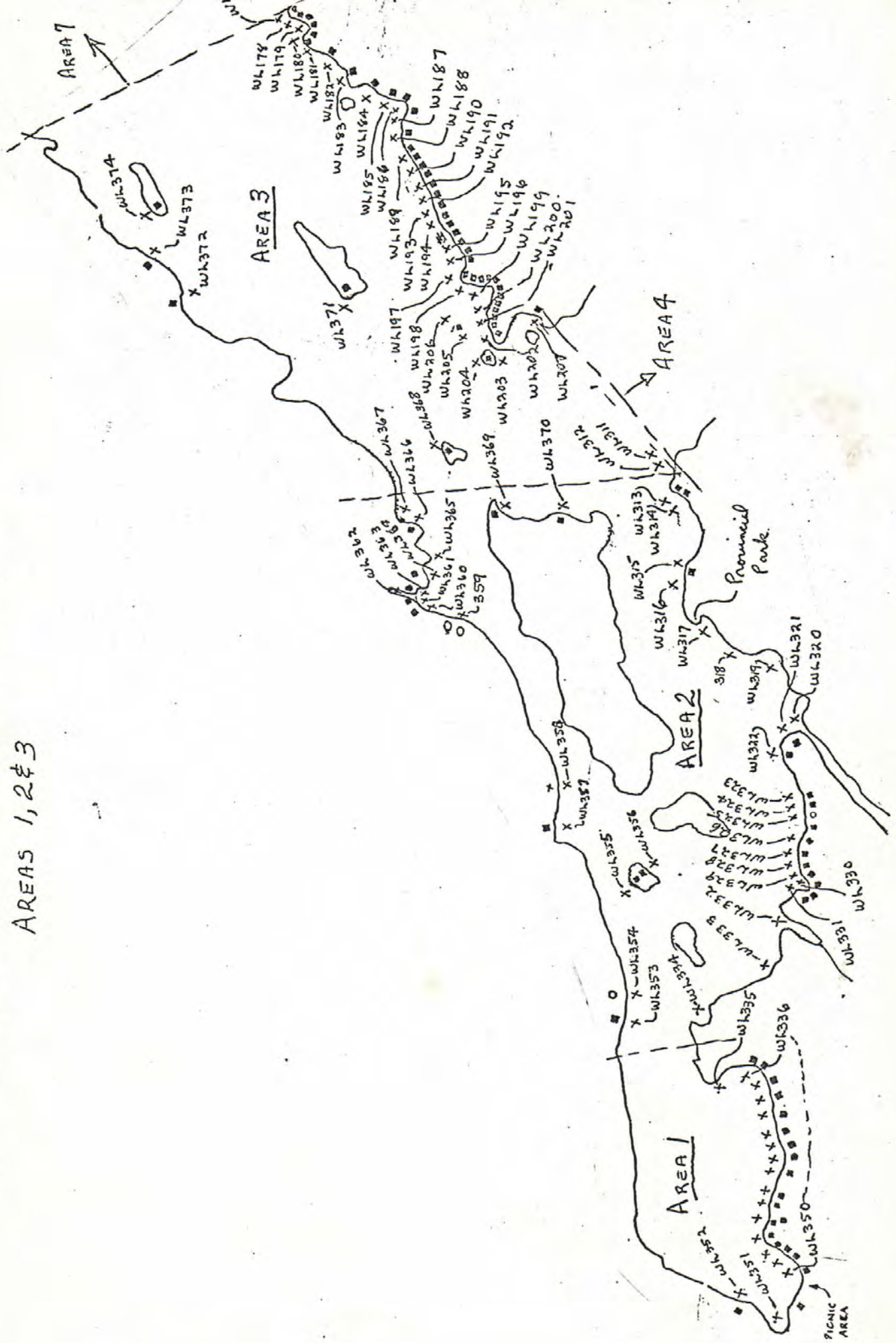
Contours in 5 foot intervals after 3 and 10 foot contours.



1973

WHITE LAKE WATER SAMPLE RESULTS

AREAS 1, 2 & 3



Areas 1, 2 & 3

White Lake Water Sample Results - Sample locations WL177 - 207
WL311 - 374

<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
177	2	0	0	0	0	0
178	26	0	0	0	0	0
179	6	0	0	0	0	0
180	2	0	0	0	25	0
181	8	0	4	4	0	0
182	2	0	0	0	5	0
183	8	2	15	0	5	0
184	4	2	0	0	0	0
185	0	0	10	0	5	2
186	0	0	10	6	5	0
187	2	0	5	2	10	0
188	2	0	0	0	2	2
189	4	0	2	2	10	4
190	0	0	0	0	2	2
191	4	0	0	0	4	4
192	2	2	0	0	0	0
193	4	0	0	0	5	4
194	0	0	2	2	0	0
195	4	0	0	0	5	0
196	4	0	0	0	20	0
197	0	0	0	0	5	0
198	2	0	0	0	15	0
199	0	0	5	0	6	2
200	0	0	100	86	5	4
201	0	0	5	2	25	0

Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
202	2	0	0	0	15	0
203	0	0	35	0	0	0
204	2	0	40	2	0	0
205	2	0	0	0	0	0
206	0	0	2	2	0	0
207	0	0	30	2	22	22
311	2	2	15	8	5	4
312	2	0	5	2	2	2
313	4	2	10	0	10	6
314	6	4	5	0	20	20
315	6	6	0	0	no result returned	
316	12	0	10	0	10	0
317	2	2	100	0	30	14
318	16	0	0	0	15	4
319	8	0	0	0	40	6
320	0	0	15	0	5	0
321	4	0	0	0	10	2
322	4	0	0	0	10	4
323	4	0	0	0	0	0
324	4	0	5	0	0	0
325	2	2	4	4	no result returned	
326	12	2	10	2	10	0
327	4	0	6	6	5	0
328	4	0	10	2	no result returned	
329	4	2	6	6	20	2
330	4	4	5	0	30	4
331	6	0	4	4	no result returned	

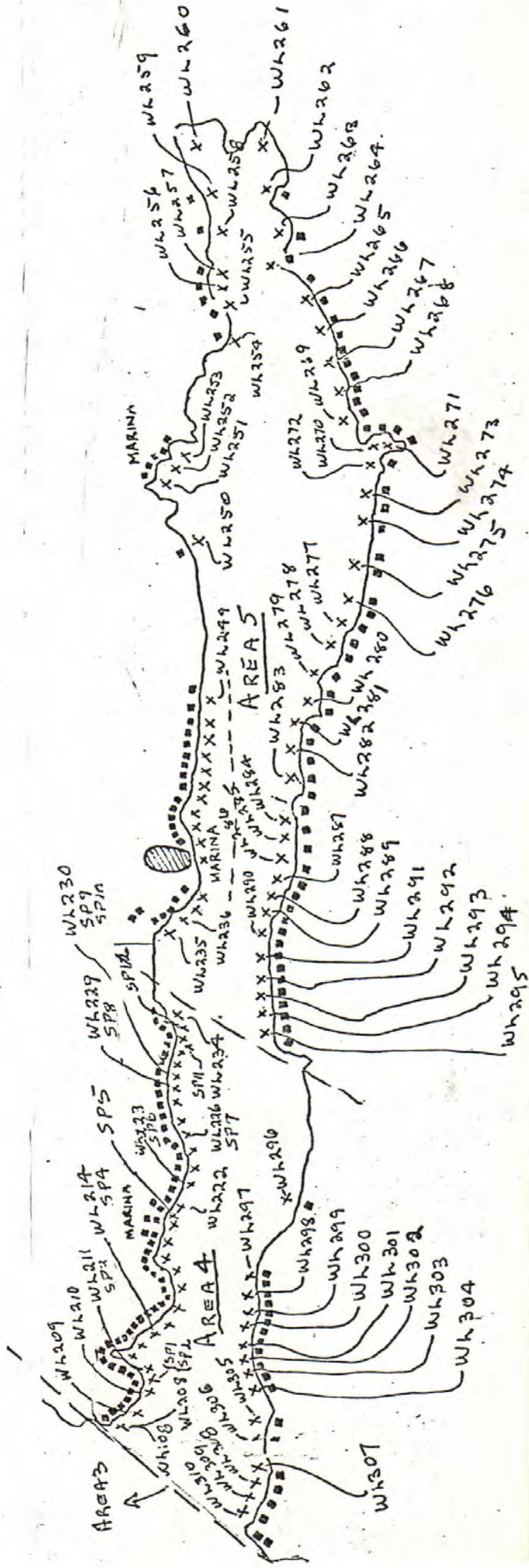
Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
332	0	0	15	0	15	0
333	0	0	2	2	20	2
334	0	0	2	2	100	100
335	4	4	0	0	12	12
336	2	0	10	0	10	6
337	0	0	70	2	5	2
338	2	0	10	4	8	8
339	0	0	4	4	5	4
340	0	0	0	0	100	100
341	4	0	60	0	20	2
342	0	0	12	12	30	0
343	20	0	10	2	20	2
344	22	0	10	0	0	0
345-(a)	20	10	5	0	0	0
-(b)	2	0				
346	20	10	0	0	0	0
347	0	0	10	0	2	2
348	2	0	5	0	5	0
349	0	0	30	12	10	0
351	6	4	50	0	0	0
352	10	6	25	0	30	16
353	8	2	500	2	10	2
354	0	0	5	0	0	0
355	0	0	15	0	0	0
356	2	0	10	0	0	0
357	80	80	25	8	0	0
358	2	2	5	0	0	0

<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
359	10	0	160	6	0	0
360	0	0	10	2	0	0
361	0	0	10	0	0	0
362	0	0	10	0	5	2
363	2	0	30	2	0	0
364	0	0	40	2	0	0
365	0	0	40	2	0	0
366	2	0	65	0	0	0
367	2	2	110	40	5	0
368	12	0	15	0	5	2
369	2	0	10	0	5	0
370	0	0	5	0	5	2
371	80+	80+	5	4	25	0
372	14	0	20	18	15	0
373	0	0	8	8	0	0
374	20	10	0	0	10	0

1973

WHITE LAKE WATER SAMPLE RESULTS

AREAS 4 & 5



Areas 4 and 5

White Lake Water Sample Results - Sample Locations WL208 - 310
SP 1 - 12

Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
208	14	0	40	0	4	4
209	2	2	30	4	10	0
SP1					12	12
210	2	0	300	100	30	0
SP2					30	14
211	2	0	35	12	10	2
SP3					4	4
212	0	0	5	0	35	20
213	2	2	15	2	65	0
214	0	0	25	0	15	2
SP4					85	0
215	2	0	15	4	15	6
216	12	2	25	2	0	0
217	0	0	25	2	2	2
218	2	0	10	0	0	0
219	6	6	40	8	2	2
220	6	6	45	4	0	0
221	4	2	15	2	5	2
SP5					45	4
222	0	0	20	12	10	0
223	2	0	40	12	15	0
SP6					15	0
224	6	2	10	4	10	0
225	6	0	60	4	10	0
226	2	0	115	2	30	4
SP7					50	0
227	2	0	90	2	6	6
228	2	2	20	8	10	0
229	4	4	700	10	10	0
SP8					0	0
230	22	22	1200	400	5	0
SP9					10	0
SP10					5	0
232	2	2	105	2	25	12

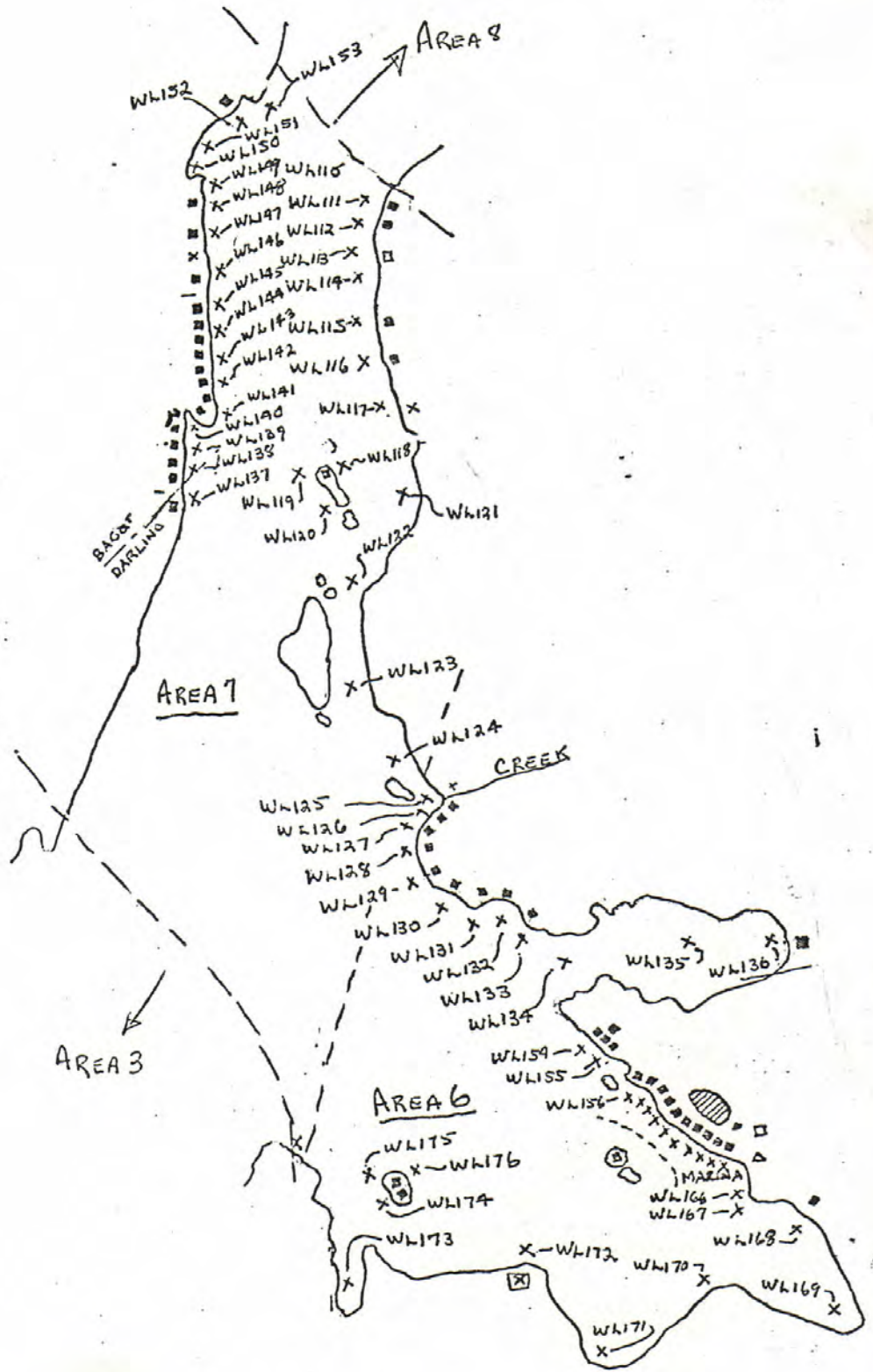
Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
SP11					60	54
233	4	4	12	12	10	6
SP12					40	8
234	2	0	100	8	12	12
235	2	0	15	6	40	4
236	6	4	165	26	60	4
237	6	6	100	30	25	2
238	8	2	100	0	15	0
239	4	0	200	0	10	0
240	2	2	55	0	5	0
241	0	0	50	0	35	0
242	4	0	15	2	15	0
243	4	0	30	0	6	0
244	0	0	0	0	0	0
245	4	2	200	2	100	10
246	8	8	20	4	10	2
247	16	0	100	4	0	0
248	14	4	5	4	5	0
249	12	10	0	0	5	2
250	4	2	30	0	2	2
251	8	2	15	2	15	4
252	4	4	25	2	5	2
253	12	12	20	2	15	2
254	6	2	100	100	25	18
255	4	2	175	0	15	0
256	0	0	0	0	2	2
257	2	2	15	4	0	0
258	0	0	40	2	5	0
259	2	0	10	4	0	0
260	0	0	10	4	5	0
261	4	2	0	0	5	4
262	6	2	0	0	10	2
263	0	0	12	12	5	0
264	4	0	2	2	25	0
265	22	2	4	4	25	2
266	6	2	10	0	5	0

Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
267	2	2	10	4	25	0
268	8	6	0	0	10	2
269	56	46	6	6	80	16
270	18	10	0	0	0	0
271	2	0	2	0	25	0
272	0	0	2	2	45	8
273	2	0	15	0	15	0
274	10	0	0	0	10	0
275	4	0	35	0	15	0
276	10	10	0	0	15	0
277	0	0	5	0	15	0
278	2	0	5	0	0	0
279	2	0	5	0	0	0
280	0	0	5	0	15	0
281	0	0	15	0	5	0
282	2	0	20	0	10	2
283	no result returned		100	16	285	100
284	0	0	60	8	15	2
285	4	4	5	2	5	0
286	2	2	100	0	10	0
287	0	0	5	0	15	0
288	2	0	80	4	20	2
289	6	4	15	2	5	2
290	4	0	10	4	15	0
291	0	0	2	2	10	4
292	0	0	0	0	15	4
293	0	0	5	2	5	0
294	12	0	40	6	0	0
295	0	0	0	0	5	0
296	4	0	10	4	10	2
297	2	2	5	0	5	2
298	16	0	10	4	4	0
299	2	2	40	0	0	0
300	10	0	25	4	5	2
301	16	0	125	4	0	0

<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
302	6	6	70	10	5	0
303	10	8	55	6	10	4
304	26	2	65	12	2	2
305	2	0	0	0	20	2
306	2	0	60	2	0	0
307	2	0	2	2	5	0
308	0	0	15	4	10	2
309	0	0	0	0	15	2
310	0	0	0	0	no result returned	

1973

WHITE LAKE WATER SAMPLE RESULTS
AREAS 6 & 7



Areas 6 and 7

White Lake Water Sample Results - Sample Locations WL110 - 175

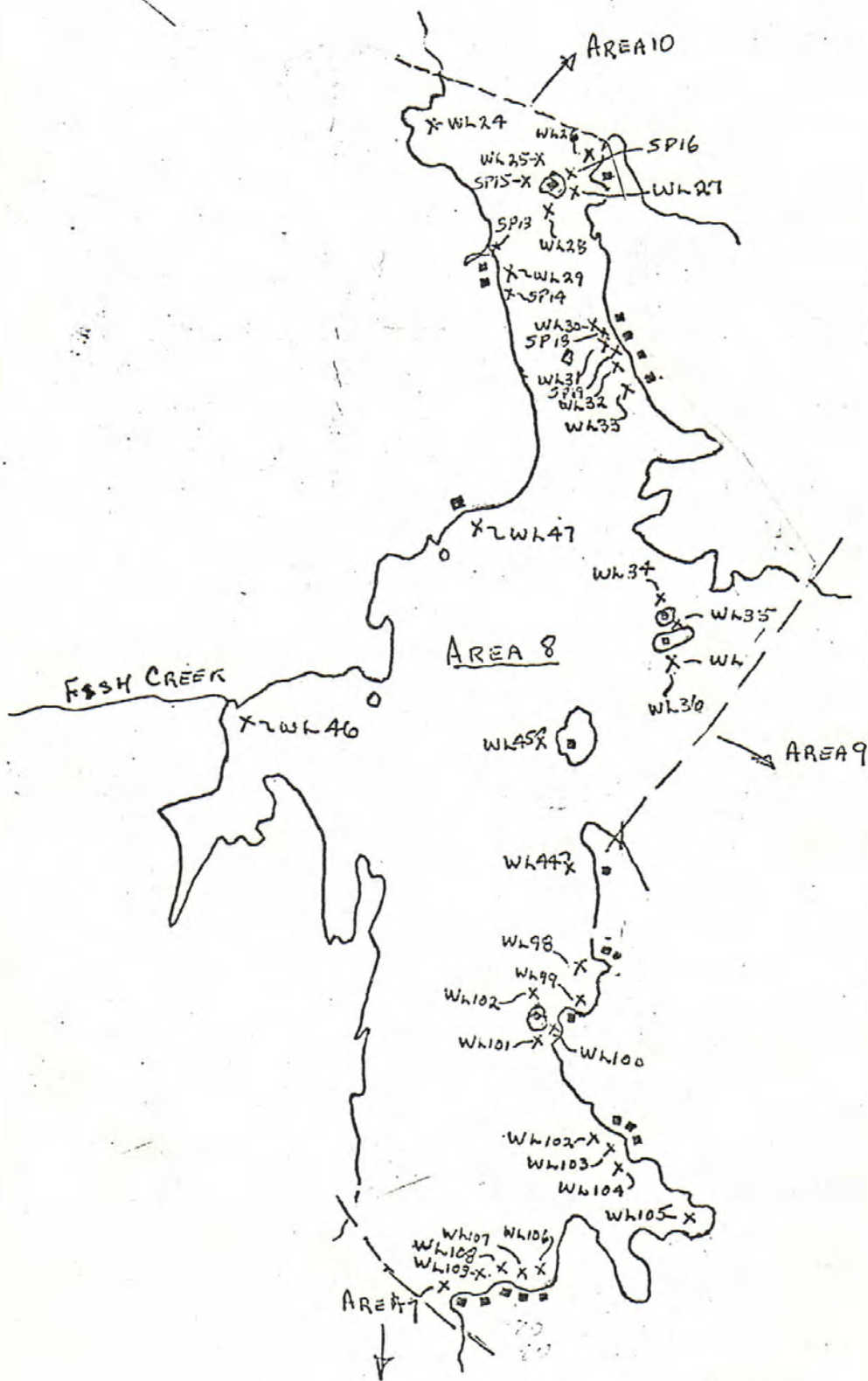
<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
110	10	0	10	2	10	2
111	2	0	10	00	5	2
112	0	0	350	0	0	0
113	0	0	2	2	10	0
114	6	0	15	0	5	0
115	2	0	5	2	2	2
116	0	0	0	0	0	0
117	2	0	15	4	0	0
118	8	0	0	0	4	4
119	0	0	0	0	0	0
120	0	0	5	2	4	2
121	2	2	2	2	5	2
122	0	0	5	0	0	0
123	0	0	25	6	5	0
124	0	0	0	0	5	0
125	12	4	15	8	0	0
126	2	2	30	0	2	2
127	4	4	0	0	0	0
128	0	0	5	0	4	4
129	0	0	5	0	10	0
130	0	0	5	0	10	8
131	2	0	10	4	5	2
132	2	2	No report-lab accident		5	0
133	0	0	5	2	2	2
134	0	0	5	0	0	0
135	0	0	0	0	5	0
136	12	2	5	0	5	0
137	2	0	10	0	0	0
138	6	4	45	4	0	0
139	6	6	5	0	0	0
140	8	0	4	4	4	4
141	0	0	25	2	5	4
142	0	0	20	2	5	2
143	0	0	4	4	0	0

<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
144	0	0	15	0	5	2
145	2	0	5	2	0	0
146	8	0	8	0	6	0
145	2	0	5	0	0	0
146	8	0	8	8	5	0
147	0	0	10	0	2	2
148	2	0	10	0	0	0
149	4	0	5	2	0	0
150	10	0	0	0	5	0
151	2	0	2	2	10	0
152	0	0	10	0	15	0
153	2	0	10	2	10	0
154	4	2	15	6	5	2
155	40	6	15	2	0	0
156	24	16	5	2	5	2
157	14	12	20	10	2	2
158	0	0	25	6	5	0
159	0	0	20	0	15	0
160	6	0	30	6	10	4
161	8	8	5	2	0	0
162	0	0	15	0	15	0
163	0	0	65	2	5	0
164	0	0	50	1	5	0
165	6	0	75	6	45	2
166	2	0	25	4	40	2
167	2	2	0	0	25	0
168	2	2	0	0	10	10
169	10	6	0	0	15	4
170	0	0	2	2	10	0
171	0	0	0	0	2	2
172	0	0	0	0	0	0
173	4	2	0	0	10	0
174	0	0	15	0	10	2
175	4	4	0	0	no result	

1973

WHITE LAKE WATER SAMPLE RESULTS

AREA 8



Area 8

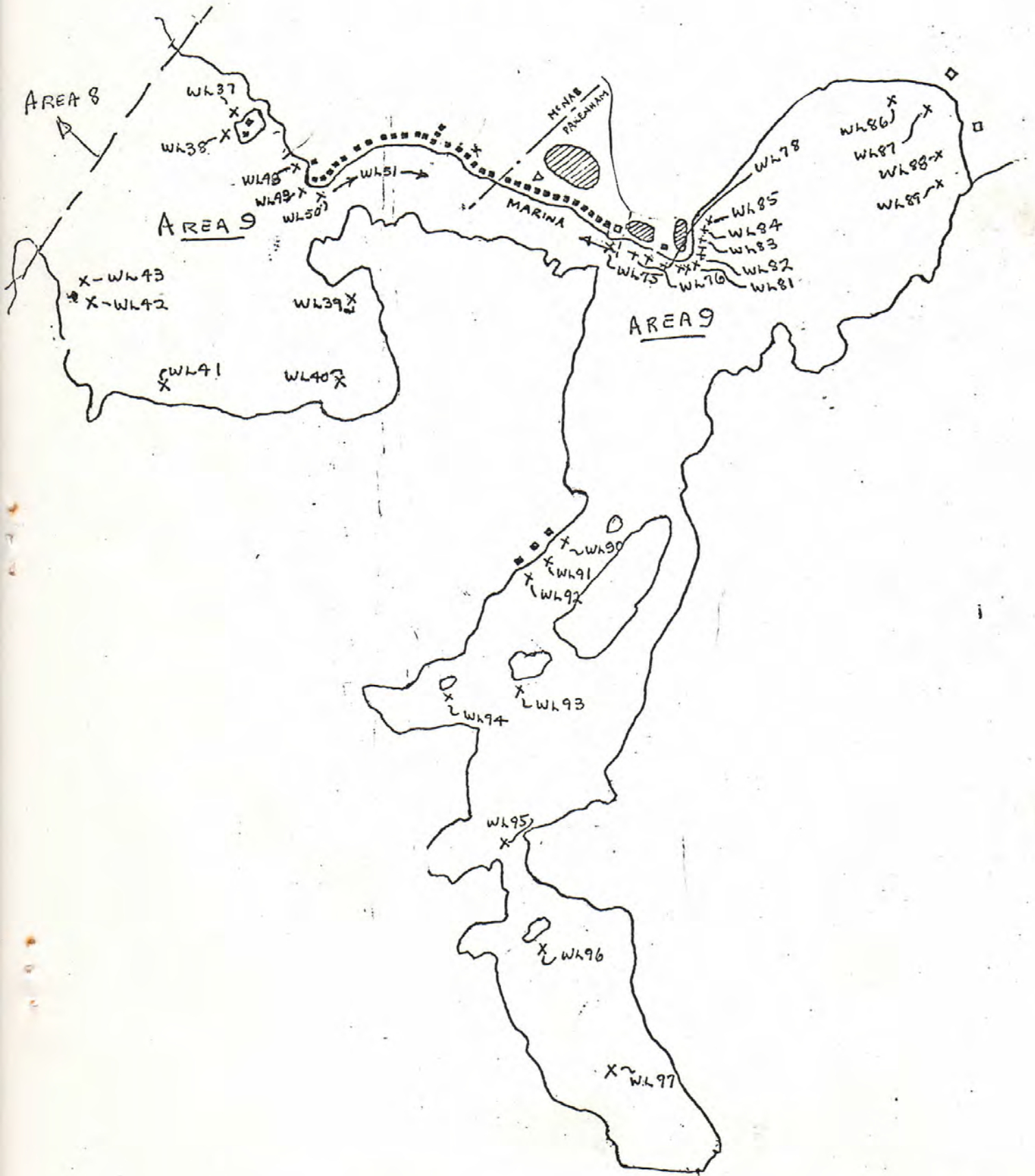
White Lake Water Sample Results - Sample Locations WL24 - 36, 44-47
 WL98 - 109
 SP13 - 18

<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
24	0	0	0	0	5	0
SP 15					2	2
25	2	2	10	0	5	2
26	2	0	0	0	25	4
SP14					5	0
27	0	0	10	0	10	10
28	0	0	40	14	15	2
SP13					5	2
29	0	0	40	16	6	0
SP16					2	0
30	2	0	30	10	6	6
SP17					100	2
31	0	0	50	20	15	2
SP18					45	8
32	2	0	20	6	20	0
33	8	4	10	2	2	2
34	0	0	0	0	5	0
35	2	0	5	4	10	4
36	0	0	35	0	2	2
44	4	0	0	0	0	0
45	6	2	10	4	20	2
46	2	0	10	0	2	2
47	2	0	5	2	0	0
98	4	0	15	0	5	4
99	0	0	0	0	20	4
100	2	2	0	0	0	0
101	2	0	5	0	5	0
102	0	0	0	0	100	0
102--(a)	0	0	30	4	2	2
103	4	4	15	10	5	0
104	0	0	5	2	0	0
105	0	0	5	0	20	0
106	2	0	5	0	10	0
107	0	0	25	0	5	0
108	8	0	0	0	5	0

1973

WHITE LAKE WATER SAMPLE RESULTS

AREA 9



Area 9

White Lake Water Sample Results - Sample Locations WL 37 - 43
WL 48 - 97

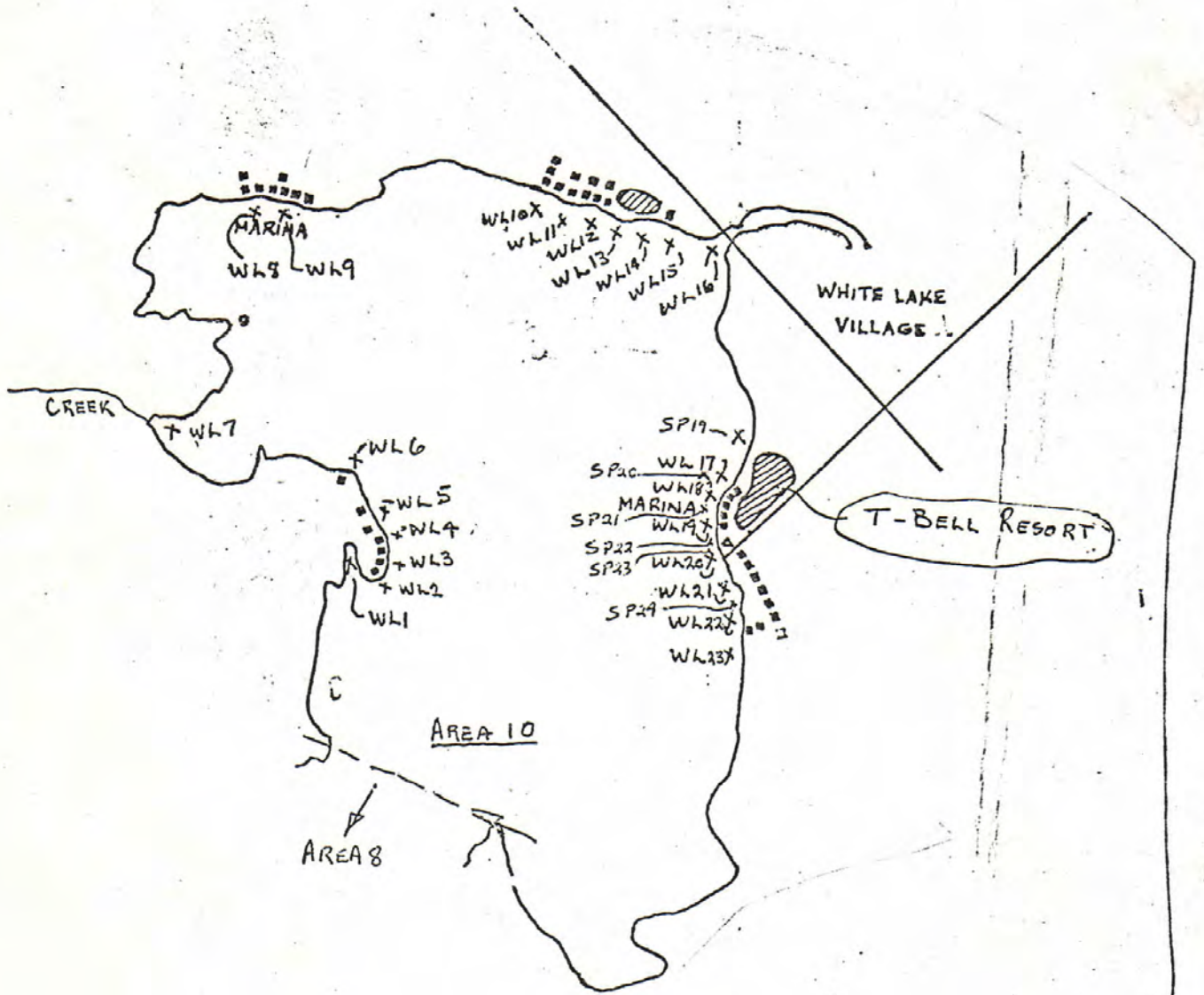
<u>Sample Location</u>	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
37	0	0	10	2	20	2
38	4	0	5	4	20	6
39	4	2	10	4	5	4
40	0	0	0	0	15	2
41	0	0	65	26	25	6
42	2	2	35	14	15	0
43	0	0	15	6	2	2
48	28	28	0	0	20	6
49	2	0	0	0	10	0
50	2	0	5	2	10	10
51	2	0	15	4	100	2
52	2	0	60	8	35	4
53	6	0	10	2	15	0
54	6	0	25	0	70	6
55	2	2	10	8	45	2
56	0	0	15	4	95	0
57	4	4	10	10	20	10
58	4	0	8	8	30	6
59	2	0	10	4	40	8
60	4	0	15	12	35	20
61	4	0	20	2	30	12
62	0	0	25	8	75	6
63	6	6	55	6	80	2
64	0	0	20	4	55	4
65	2	0	50	2	110	16
66	0	0	10	2	60	2
67	2	2	40	2	85	22
68	30	2	60	24	0	0
69	12	6	10	4	0	0
70	4	2	75	6	30	0
71	2	2	15	2	25	0
72	8	0	15	4	70	0
73	2	0	10	8	10	2

Sample Location	May 27, 1973		July 29, 1973		September 16, 1973	
	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform	Total Coliform	Faecal Coliform
74	4	4	45	6	10	2
75	2	2	65	4	no results returned	
76	14	4	120	30	60	0
77	6	6	20	0	15	4
78	10	0	0	0	0	0
79	4	2	5	0	20	0
80	4	4	10	0	25	2
81	12	12	15	2	24	24
82	2	2	95	30	15	0
83	0	0	20	0	30	0
84	4	4	35	8	10	2
85	0	0	10	4	10	0
86	14	14	20	0	5	4
87	8	6	8	8	15	4
88	4	0	5	2	10	2
89	8	8	5	2	5	0
90	6	6	0	0	5	2
91	0	0	2	2	25	12
92	4	2	20	0	no results returned	
93	12	10	10	6	10	2
94	10	0	10	0	20	20
95	0	0	34	14	25	2
96	2	2	6	6	(a) 25	0
					(b) 45	34
97	0	0	5	2	40	6

1973

WHITE LAKE WATER SAMPLE RESULTS

AREA 10



Area 10White Lake Water Sample Results - Sample Locations WL 1 - 23
SP 19 - 24

Sample Location	<u>May 27, 1973</u>		<u>July 29, 1973</u>		<u>September 16, 1973</u>	
	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>	<u>Total Coliform</u>	<u>Faecal Coliform</u>
1	2	0	10	2	20	0
2	6	6	0	0	40	2
3	0	0	35	2	10	8
4	10	0	25	6	100	0
5	6	0	30	2	15	2
6	4	4	15	2	0	0
7	2	2	10	4	60	22
8	2	2	10	0	15	0
9	40	40	25	14	10	2
10	14	10	2	2	10	4
11	40	40	125	34	5	4
12	76	72	85	6	80	8
13	2	2	10	0	30	10
14	24	18	10	2		
15	6	6	10	2	110	16
16	2	2	0	0	5	0
SP19					2	2
17	16	12	5	0	5	0
SP20					75	10
18	12	12	65	26	25	6
SP21					55	6
19	4	2	45	20	20	6
SP22					50	12
20	4	0	125	44	190	28
SP23					30	10
21	16	16	50	8	35	12
SP24					45	10
22	28	26	70	28	60	12
23	8	0	35	26	22	22

RECOMMENDATIONS

The foregoing results indicate the number of sample locations can be substantially reduced. It would appear desirable to take fewer samples more frequently in locations having an increase in faecal coliform in the July 29th and September 16th reported dates compared to the May 27th sample date.

SECCHI DISC REPORT

Water clarity which governs the depth of light penetration in a lake is considered an important parameter used to define water quality. This is measured by lowering a disc divided into black and white alternating quadrants into the water on a graduated line until the quadrants cannot be distinguished. The depth at which the disc just disappears is termed the Secchi disc depth. Secchi disc depths have been found to be substantially greater in lakes having lower phytoplankton (microscopic free-floating algae) numbers than in lakes characterized by high algal densities and excess of vascular aquatic plant growth.

Secchi disc readings were taken on White Lake at two locations each Sunday commencing May 21st and ending the first week in October. The depth of penetration of the disc for sample locations 1 and 2 marked on the general map of the lake in this report are reported below in the following table. It will be noted the depth of penetration was the greatest May 21st decreasing to a minimum depth the latter part of August. One water sample was taken at each location each week and forwarded by Colonial Coach Lines to Ministry of Environment labs in Toronto for analysis of the presence of chlorophyll. Chlorophyll A is the amount of photosynthetic green pigment in algae and its concentrations can be used as a rough indication of the extent of biological activity in the lake at the time of sampling since it is regulated by all of the combined physical, chemical and biological factors which govern algal production.

A telephone report from the lab indicates very little growth in May and rising to a peak in August. White Lake appears to differ from other lakes in that characteristically there is apparently algae bloom in early spring and again later in the year. White Lake, on the other hand, showed very little spring algae with a continuation in the build-up peaking in mid or the latter part of August. The lab results showed 1.3 mg/liter at location No. 1 and 3.0 mg/liter at location No. 2 May 21st. During June the average readings at locations 1 and 2 were respectively 1.1 and 3.9. In July the range at location 1 was 3 - 5.2 and at location 2 2.5 - 5. The peak occurred August 19th reporting a result of 11 mg/liter at location 1 and 14 mg/liter at location 2. In September it ranged from 2.1 - 5 with an average of 2.5. In October they reported 5.6 at location 1 and 5.8 at location 2. The overall average for the season was 4.3 mg/liter of chlorophyll and an average Secchi disc depth of approximately 9 ft.

Ken Nichols at the Ministry of Environment laboratories was pleased with the undertaking and results by the Committee in providing samples for the 1973 program. Mr. Nichols indicated the program would be valuable providing it was kept going for several years as a long term approach which would show a trend in the presence of algae. The laboratory is prepared to carry on the program in 1974 with the same arrangements as in 1973.