

Darrin Fresh Water Institute

AT LAKE GEORGE

**A SURVEY OF TRIBUTARIES
TO LAKE GEORGE, NEW YORK
FOR THE PRESENCE OF
EURASIAN WATERMILFOIL**

prepared for
The Fund for Lake George

by

Lawrence W. Eichler
Research Scientist
&
Charles W. Boylen
Associate Director

Darrin Fresh Water Institute
Rensselaer Polytechnic Institute
Troy, NY 12180-3590
Bolton Landing, NY 12814

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LAKE GEORGE TRIBUTARY SURVEY - 1996

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Executive summary

A survey of the tributary deltas in the northern portion of the Lake George basin was conducted in 1996 to assess the extent of Eurasian watermilfoil (*Myriophyllum spicatum* L.) infestation. The project was conducted by the Darrin Fresh Water Institute with financial support from the Fund for Lake George. Similar surveys were completed in 1988, 1990 and 1993 as reference points. Stream delta areas were chosen as readily identifiable points which historically harbor diverse assemblages of native aquatic plants. Results of these surveys can be used to approximate the rate of spread of Eurasian watermilfoil through the Lake George basin.

In 1988, when tributary surveys were initiated, 22 percent of the sites in the northern third of the Lake George basin were found to have Eurasian watermilfoil. By 1990, this percentage had increased to 39 percent with a gain of 7 new Eurasian watermilfoil sites. By 1993, the percentage of tributary sites with active Eurasian watermilfoil populations had declined slightly to 37%. The decrease was due to hand harvesting of five sites in this portion of the lake basin. Discovery of four new Eurasian watermilfoil sites during the 1993 survey, however, reduced the overall impact of management activities to a net loss of one active Eurasian watermilfoil site. In 1996, a total of 17 sites (42%) had Eurasian watermilfoil, with 2 sites (5%) producing milfoil for the first time. Of the two new Eurasian watermilfoil sites, both were restricted to a few plants which were removed.

Since 1990, the number of tributary sites in this portion of the Lake George basin with Eurasian watermilfoil present has remained fairly constant. This is largely due to management efforts supported by the US EPA Clean Lakes Program. Eurasian watermilfoil continues to spread through the Lake George basin with an increase in known Eurasian watermilfoil locations of between six and fifteen per year. Management efforts to date have been implemented at 95 of the 118 known Eurasian watermilfoil locations. These management efforts have reduced the Eurasian watermilfoil biomass in these locations. However, Eurasian watermilfoil has only been eliminated at a handful of sites and reintroduction at these locations is likely. At this time, Eurasian watermilfoil is ranked 16th by relative abundance (a function of cumulative percent cover), and 24th by frequency of occurrence for the 40 species found in the current survey. The fact that Eurasian watermilfoil has reached this level of abundance is a testament to the rapid spread and highly competitive nature of this species.

There is no evidence that loss of Eurasian watermilfoil populations at specific sites in Lake George can be attributed to natural mortality. Thus maintenance becomes critical following initial management. Maintenance will require site visits yearly or every other year to harvest regrowth. A program to continue maintenance activities following the conclusion of Federal funding in 1993 is imperative. Since 1995, Eurasian watermilfoil management in Lake George has been conducted under the auspices of the Lake George Park Commission. Physical controls including hand harvesting, suction harvesting and benthic barrier were implemented in 1995 and 1996. This program is proposed for continuation in 1997, with the addition of herbicide testing in either 1997 or 1998.

Financial support for this program should be sought at local, regional and federal levels. Local support exists through the FUND for Lake George, however financial support at the state and federal level is also necessary.

Introduction

Streams entering Lake George, with nutrients and sediments derived from the terrestrial portion of the basin and deposited on their deltas, are prime locations for the continued establishment of Eurasian watermilfoil (*Myriophyllum spicatum* L.). Delta areas are also disturbed habitats, as a result of sedimentation of terrestrially derived materials and scouring of existing sediments at times of accelerated runoff. The combination of sediment conditions and habitat disruption make tributary deltas prime locations for Eurasian watermilfoil infestation.

Around the entire lakeshore, there are 128 listed stream tributaries (Madsen et al, 1989). Because human activity in the Lake George basin has historically exacerbated water conditions, relative to disturbed areas, the rate of establishment and spread of milfoil has been of particular concern in the management of Eurasian watermilfoil.

A survey of all the tributaries in the basin was performed as part of the 1987-88 Lake George Aquatic Plant Survey (Madsen et al, 1989). The survey provided a procedure for finding new sites with Eurasian watermilfoil, including the establishment of a regular search pattern for milfoil sites to ascertain the relative distribution of milfoil among the native plant communities in Lake George.

In order to balance the number of tributary sites surveyed in each year and to stabilize the cost of the survey, the south basin tributaries were divided into two groups in 1991. With approximately 45 tributaries in each group, a three-year cycle of surveys has been established with a south, central and north component of nearly equal number of tributaries. The tributaries in the southern half of the south basin were surveyed in 1994, those in the northern half of the south basin (central) were the subject of the 1995 survey. The tributaries of the north basin were the subject of the 1996 survey (see Figure 1 & Appendix A).

The north basin tributary survey was conducted in 1988, 1990, 1993 and 1996 in order to provide information on the rate of colonization of Eurasian watermilfoil. Since these are readily located sites for which the presence or absence of Eurasian watermilfoil was known for 1988, 1990, and 1993, these sites were revisited in 1996 to determine whether appreciable new infestation, re-invasion or natural mortality of earlier infestation had occurred.

Methods

The shoreline adjacent to tributary outflows in the north basin was surveyed for the presence of Eurasian watermilfoil. The tributaries comprising this portion of the survey were visited between August 2nd and September 11th, 1996. Surveys consisted of swimming a 100-meter segment of shoreline from the water's edge to the outer edge of the littoral zone.

Diver swimover transects were also completed at each site in order to characterize the macrophyte community present. Divers skilled in plant identification estimated the abundance of

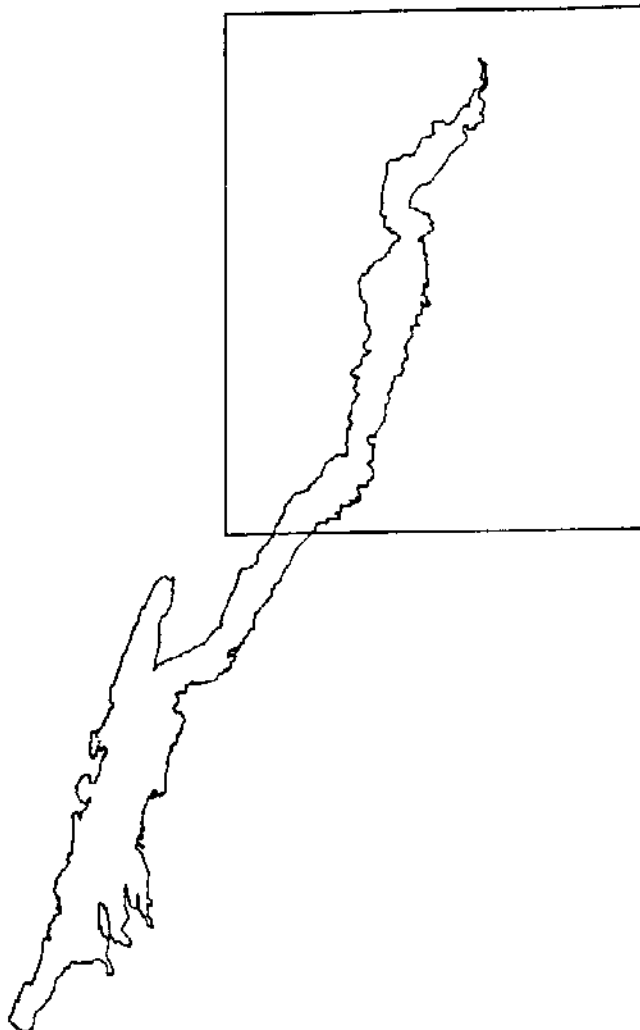
all aquatic plant species in each 1 meter (3 ft) depth interval using the following abundance classes:

<u>Class</u>	<u>Code</u>	<u>% Cover Range</u>	<u>Centroid</u>
Abundant	A	greater than 50% cover	75.0%
Common	C	25% to 50% cover	37.5%
Present	P	15% to 25% cover	20.0%
Occasional	O	5% to 15% cover	10.0%
Rare	R	less than 5% cover	2.5%

Percent cover data provides both the average depth distribution of the plants present and an estimate of the relative abundance of species at the tributary sites. This information is also important for future management decisions concerning milfoil control alternatives and permit applications required as part of any control strategy

A map showing the general location of this year's survey activity is shown in Figure 1. Specific tributary locations in the current survey are provided in Appendix A.

Figure 1. Map of Lake George indicating the region included in the 1996 Tributary Survey.



Results and Discussion

The current survey included the northernmost portion of the lake basin tributaries (41 sites). The southern and central portions of the lake basin were completed in 1994 and 1995, respectively. Maps with the locations of the tributaries surveyed in 1996 are provided as Appendix A. The 41 sites compared in the 1988, 1990 and 1993 surveys are those included in the 1996 survey. Methodologies employed by the three surveys were the same. The results of the north basin tributary survey for 1988, 1990, 1993 and 1996 are presented in Table 1. For each site, the tributary number and site name is given.

Table 1. Tributary survey sites and the presence (Y) or absence (N) of Eurasian watermilfoil.

TRIB #	SITE NAME	DATE	1996	1993	1990	1988
T-1	OPPOSITE ROGERS RK	10-Sep-96	N	N	N	N
T-1A	MOSSY POINT	19-Sep-96	Y	Y	Y	Y
T-2	GLENBURNIE	10-Sep-96	N	N	N	N
T-3	GULL BAY	10-Sep-96	Y	Y	Y	Y
T-3A	SMITH BAY	10-Sep-96	Y	Y	Y	Y
T-4	SO BURNT POINT	10-Sep-96	N	N	N	Y
T-5	CLARK HOLLOW BK	10-Sep-96	Y	N	Y	Y
T-6	SHANTY BAY CREEK	10-Sep-96	Y	N	N	N
T-7	BROOK N. GREEN PT	02-Aug-96	Y	Y	N	N
T-8	BLUFF HEAD CREEK	29-Aug-96	Y	Y	Y	N
T-9	BROOK BY AGNES ISLAND	04-Aug-96	Y	Y	Y	N
T-10	SUNSET BAY TRIB	09-Aug-96	Y	Y	Y	Y
T-10A	ROCK DUNDER ISL BROOK	09-Aug-96	Y	Y	Y	N
T-11	COOK BAY. HULETT'S LNDG	09-Aug-96	N	N	Y	Y
T-11S	KITCHAL BAY. HULETT'S LNDG	29-Aug-96	N	N	Y	N
T-11N	EICHLERVILLE BAY. HULETT'S	10-Aug-96	Y	Y	Y	Y
T-71	SO TRIB WEST HALFWAY ISL	28-Aug-96	N	N	Y	N
T-72	NO TRIB WEST HALFWAY ISL	28-Aug-96	N	N	N	N
T-72A	SO TRIB 5 MI MT BROOK	28-Aug-96	N	Y	N	N
T-72B	MID TRIB 5MI MT BROOK	09-Aug-96	N	N	N	N
T-73	NO TRIB 5MI MT BROOK	04-Aug-96	N	N	N	N
T-74	SO STEERE ISL BROOK	09-Aug-96	N	N	N	N
T-75	NO STEERE ISL BROOK	04-Aug-96	N	N	N	N
T-76	SO 9N REST AREA	04-Aug-96	N	N	N	N
T-78	SABBATH DAY PT BROOK	04-Aug-96	N	N	N	N
T-79	NORTH SABBATH DAY PT	04-Aug-96	N	N	N	N
T-80	NORTH BASS BAY	11-Sep-96	N	N	N	N
T-81	SILVER BAY	11-Sep-96	N	N	N	N
T-82	VAN BUREN BAY BROOK	11-Sep-96	N	N	N	N
T-82A	STARK PT WETLAND	11-Sep-96	N	N	N	N
T-83	SOUTH JENKINS PT	11-Aug-96	N	N	N	N
T-84	CAPE COD VILLAGE BROOK	11-Sep-96	Y	N	N	N
T-85	HOLMAN HILL CREEK	11-Sep-96	Y	Y	N	N
T-86	HAGUE BROOK	09-Sep-96	Y	Y	Y	N
T-87	TEMPLE ISL BROOK	10-Sep-96	Y	Y	N	N
T-88	S TRIB COOKS BAY	10-Sep-96	N	N	N	N
T-89	SO COOKS BAY	11-Sep-96	N	Y	Y	N
T-90	N TRIB COOKS BAY	10-Sep-96	Y	N	Y	Y
T-91	SO CAMP SAGAMORE	10-Sep-96	N	N	N	N
T-91A	BROOK IN DARK BAY	10-Sep-96	Y	Y	Y	N
T-101	NORTH HAGUE	10-Sep-96	N	N	N	N

The results of the three surveys are further summarized in Tables 2, 3, 4 and Figure 2. In the 1988 survey, a total of 9 (22%) of the 41 sites had Eurasian watermilfoil (Table 3). In 1990

Table 2. Comparison of the presence of Eurasian watermilfoil between survey years 1990 and 1996. Numbers in () represent row percentages, numbers in [] represent column percentages.

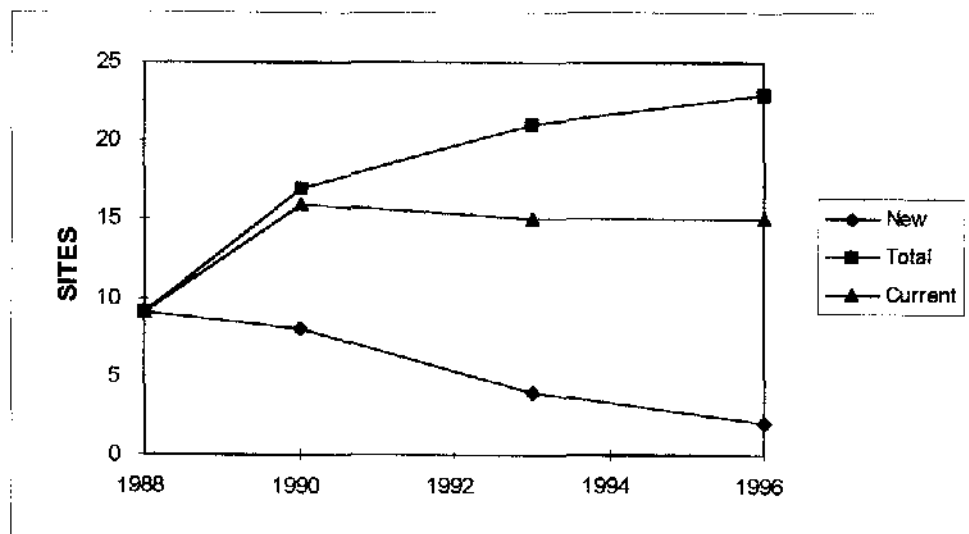
	Eurasian watermilfoil in 1996		
	Present	Absent	Total
Eurasian Watermilfoil in 1993			
Present	13 (87) [76]	2 (13) [8]	15 (100) [37]
Absent	4 (15) [24]	22 (85) [92]	26 (100) [63]
Total	17 (41) [100]	24 (59) [100]	41 (100) [100]

the total increased to 16 (39%) of the 41 sites surveyed having Eurasian watermilfoil (Table 2). Eight new milfoil sites were found during the 1990 survey. In the 1993 survey, 15 (37%) of the sites had Eurasian watermilfoil (Table 2). In the 1996 survey, 17 (42%) of the sites had Eurasian watermilfoil (Table 2). Of the 41 sites visited, milfoil was found for the first time at 2 (5%) of the tributary sites. Five (12%) of the sites at which milfoil occurred were positive for the invasive species since the initial survey in 1988. Three sites (7%) had milfoil present in 1988 and 1990,

Table 3. Comparison of the presence of Eurasian watermilfoil between survey years 1988 and 1993. Numbers in () represent row percentages, numbers in [] represent column percentages.

	Eurasian Watermilfoil in 1988		
	Present	Absent	Total
Eurasian Watermilfoil in 1993			
Present	5 (33) [56]	10 (67) [31]	15 (100) [37]
Absent	4 (15) [44]	22 (85) [69]	26 (100) [63]
Total	9 (22) [100]	32 (78) [100]	41 (100) [100]

Figure 2. Comparison of the number of sites currently with Eurasian watermilfoil versus the number of sites which have had milfoil during any of the surveys (total).



but not in 1993. All three sites were hand harvested during the 1993 tributary survey or in subsequent years between surveys. Thus not only initial colonization but also recolonization of tributary sites by Eurasian watermilfoil is occurring in Lake George. The rate of colonization, however, is variable from year to year and between the three portions of the survey. This variability is due to the chance nature of milfoil fragments colonizing suitable substrates and the extent of milfoil infestation in the three portions of the basin. Larger existing milfoil populations provide greater numbers of fragments which increase the likelihood of successful colonization.

Table 4. Comparison of the presence of Eurasian watermilfoil between survey years 1988 and 1990. Numbers in () represent row percentages, numbers in [] represent column percentages.

	Eurasian watermilfoil in 1988		
	Present	Absent	Total
Eurasian Watermilfoil in 1990			
Present	8 (50) [89]	8 (50) [25]	16 (100) [39]
Absent	1 (4) [11]	24 (96) [75]	25 (100) [61]
Total	9 (22) [100]	32 (78) [100]	41 (100) [100]

The statistics of most interest are the number of sites that had Eurasian watermilfoil during one survey year, but not during the follow-up surveys. Six sites (15%) were free of milfoil in 1996 after having the plant present in one or more of the prior surveys. Three sites (7%) had Eurasian watermilfoil in 1988 and 1990 but not in 1993, and five sites had milfoil in 1990 but not in 1993. All milfoil was removed by hand harvesting in the years following or during the surveys. During the 1990 survey two sites were cleared by hand harvesting, those being the North Tributary in Cooks Bay (M-52) which had 50 plants removed, and Kitchal Bay (M-69) where a single plant was removed. In 1991, the site at Cook Bay, Huletts Landing (M-54) had 9 plants removed and the site South Tributary west of Halfway Island (M-70) had 4 plants hand harvested. The remaining site, Clark Hollow Bay (M-50) was harvested in 1992, with 4 plants removed. *These results indicate that hand harvesting activities can eliminate small populations of Eurasian watermilfoil. There is no evidence, however, that the loss of Eurasian watermilfoil populations at specific sites in Lake George can be attributed to natural mortality.*

The following is a breakdown of the seventeen sites that had milfoil during the 1996 tributary survey. Eleven of the seventeen milfoil sites were found to have scattered milfoil plants, all of which were hand harvested. At two of the sites, milfoil was found for the first time:

- Shanty Bay Brook (T-6, M-101),
- Cape Cod Village Brook (T-84, M-99),

Both of the new sites had fewer than ten milfoil plants and were cleared by hand harvesting. The remaining fifteen sites that had milfoil during the 1996 survey all had milfoil populations in one or more of the earlier tributary surveys. Since 1988, the number of tributary sites in this portion of the Lake George basin with milfoil present has increased by eight. The small number of plants found at most tributary sites indicates recent colonization or reintroduction at these locations.

Five of the sites surveyed in 1996 have had a milfoil population since the first tributary survey done in 1988. Those sites being Mossy Point (M-13), Gull Bay (M-48), Smith Bay (M-47), Sunset Bay Tributary (M-6), and Eichlerville Bay (M-51). All of these sites have been the subject of management activities in the last three years. The sites at Gull Bay, Smith Bay, and Eichlerville were suction harvested, while Mossy Point and Sunset Bay were covered with benthic barrier in 1990 and 1993, respectively. Hand harvesting was conducted at all of the above sites at least once since they were discovered. Hand harvesting of low density milfoil infestations and the use of suction harvesting and benthic barrier on denser growth have been used as a means for maintaining milfoil at low density levels.

Of the 17 tributary sites in this section of the north basin with milfoil present, hand harvesting and voucher specimen collection cleared 11 sites. Hand harvesting was not completed at the Holman Hill Creek site (T-85, M-99), Mossy Point (T-1A, M-13), Eichlerville Bay (T-11N), Hague Brook (T-86) and Gull Bay (T-3, M-48) due to extensive growth of milfoil. A major portion of the site at Sunset Bay (T-10, M-6) was covered by benthic barrier in 1992-3, but a considerable area remains to be managed.

Table 5. Frequency of occurrence of macrophyte species at the 41 tributary sites. Species are ranked in order of frequency of occurrence.

Species	DEPTH IN METERS									Total
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	
Chara/Nitella sp.	27	32	26	21	14	10	7	4	3	144
Potamogeton gramineus	28	31	30	24	12	5				130
Vallisneria americana	20	26	24	17	9	3	2			101
Najas flexilis	15	20	24	18	10	4	1			92
Potamogeton perfoliatus	15	19	19	16	8	5				82
Potamogeton robbinsii	4	9	18	15	9	6	7	2		70
Elodea canadensis	9	15	14	10	8	3	1			60
Potamogeton amplifolius	4	14	15	13	8	2	1			57
Myriophyllum tenellum	22	21	9	2						54
Potamogeton pusillus	5	9	9	10	7	7	4	1		52
Heteranthera dubia	9	14	16	9	1					49
Eriocaulon septangulare	21	20	5							46
Potamogeton spirillum	13	16	7	4	4	1				45
Sparganium sp.	21	15	6	1	1					44
Elatine minima	21	18	2							41
Ranunculus longirostris	8	15	11	4						38
Isoetes echinospora	9	10	9	5	4					37
Juncus sp.	17	15	5							37
Lobelia dortmanna	18	14	3							35
Bidens beckii	1	4	7	9	4	1	1	1		28
Eleocharis acicularis	12	13	2							27
Myriophyllum alterniflorum	12	8	2	3	1					26
Isoetes macrospora			1	4	3	4	7	5	1	25
<u>Myriophyllum spicatum</u>	<u>3</u>	<u>6</u>	<u>6</u>	<u>5</u>	<u>1</u>					<u>21</u>
Ranunculus reptans	9	11	1							21
Utricularia resupinata	6	7	5	3						21
Sagittaria graminea	10	8	2							20
Potamogeton vaseyii	1	3	2	1	2					9
Potamogeton zosteriformis		3	2	1	1					7
Najas guadalupensis		1	1	1	1	1				5
Potamogeton epihydrus	2		1	2	1					6
Subularia aquatica	3	2								5
Lindernia sp.	3									3
Potamogeton pectinatus	1	1								2
Potamogeton praelongus		1	1							2
Potamogeton richardsonii							1			1
Fontinalis sp.	1	1		1						3
Potamogeton natans	1									1
Potamogeton sp 1		1								1
Nymphaea odorata	1									1
TOTAL FREQUENCY	352	403	285	199	109	52	32	13	4	1449
NUMBER OF SPECIES	34	34	32	25	21	13	10	5	2	40
AVERAGE # OF SPECIES	10	12	9	8	5	4	3	3	2	36

Percent cover data for all sites is provided in Appendix B. Of the 48 species of submersed aquatic plants identified for Lake George (Ogden et al, 1976), 40 species were found at the tributary sites. Three of these species are on the New York State Rare Plant List (Mitchell, 1986; Clemants, 1989; Young, 1992), *Isoetes macrospora*, *Subularia aquatica* and *Myriophyllum alterniflorum*. This is particularly important for plant management considerations given the impact that a given management technique may have on non-target species. The impact of the growth and spread of nuisance aquatic plants on the distribution of rare plants, however, must also be included in any management decisions. The diversity of species present at tributary sites is indicative of the suitability of these sites for aquatic plant growth and conversely, the high probability of milfoil infestation at these sites.

In Table 5, the species present and their depth distribution are ranked in order of the frequency with which they appeared at the tributary sites. The depth distribution of the ten most frequently occurring species is presented in Figure 3. Eurasian watermilfoil, ranked 24th by frequency of occurrence, is also included in the plot. Depth distribution and species diversity remains comparable to that reported in surveys conducted in the north basin of Lake George in 1988 (Madsen et al, 1989) and 1993 (Eichler et al., 1994)

Frequency, or the number tributaries where each species was present, is an important measure of the distribution of species but does not consider the relative abundance of species within the overall population. Table 6 contains the species present and their depth distribution ranked in order of cumulative percent cover. This ranking is a better measure of the dominance of certain species and, in conjunction with frequency data, provides a more complete picture of aquatic plant community structure. In Figure 4, the depth distribution of the 10 most abundant species is presented. Eurasian watermilfoil, ranked 16th by relative abundance, is also included in the plot. A comparison of Figures 3 and 4 indicates that the 10 most abundant species by frequency of occurrence are not the same as the 10 most abundant species by relative percent cover. Eight of the ten species on the two lists, however, are the same.

A comparison of the major species by frequency of occurrence reported lakewide for 1987-1988 (Madsen et al, 1989) with the current list (Table 5) shows few differences. Seven of the ten most abundant species are the same. *Potamogeton perfoliatus*, *P. pusillus*, and *Myriophyllum tenellum* were not within the top ten species during the 1987 survey, but were ranked fifth, tenth, and ninth respectively in the 1996 survey. Eurasian watermilfoil was ranked 22nd and 19th by frequency of occurrence in the 1988 and 1993 surveys, respectively. In 1996, Eurasian watermilfoil was ranked 24th by frequency of occurrence. The decrease in frequency of occurrence of Eurasian watermilfoil is most likely the result of hand harvesting of isolated populations of this species.

Although the number of samples is too few to suggest a statistically-reliable rate of colonization, new sites continue to be colonized on a year to year basis. The occurrence of milfoil at sites which had been cleared in previous years also indicates that continued surveillance and maintenance of milfoil sites is necessary. The more sobering indication from the recurrence of milfoil at previously harvested sites, is that there are no sites or cases to indicate any natural mortality or demise of small populations of Eurasian watermilfoil in Lake George. Although these populations may not expand for several years, clearly they are not dying off on their own.

Figure 3. Frequency and depth distribution of the 10 most common macrophyte species and Eurasian watermilfoil.

- | | |
|--|--------------------------------------|
| NF = <i>Najas flexilis</i> | VA = <i>Vallisneria americana</i> |
| PG = <i>Potamogeton gramineus</i> | HD = <i>Heteranthera dubia</i> |
| PP = <i>Potamogeton pusillus</i> | EC = <i>Flodea canadensis</i> |
| PA = <i>Potamogeton amplifolius</i> | PPe = <i>Potamogeton perfoliatus</i> |
| MT = <i>Myriophyllum tenellum</i> | PR = <i>Potamogeton robbinsii</i> |
| <u>MS = <i>Myriophyllum spicatum</i></u> | |

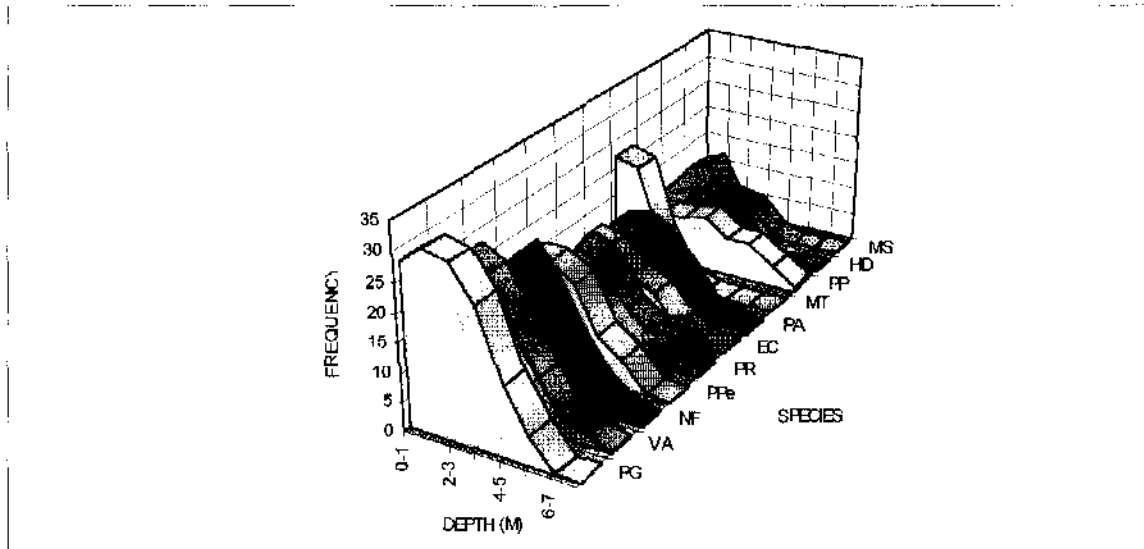
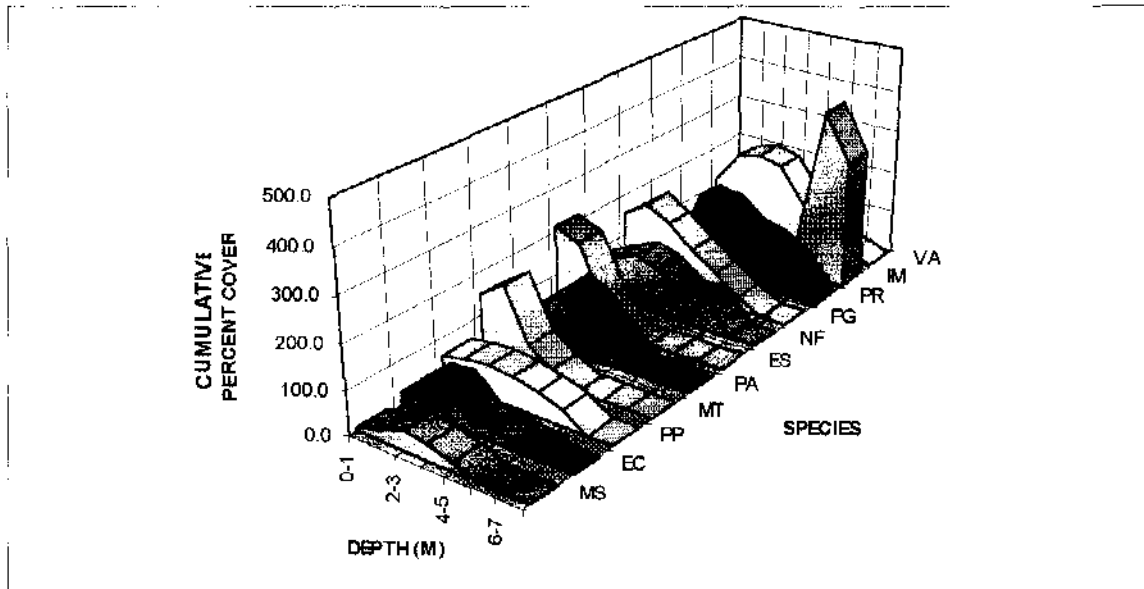


Table 6. Cumulative percent cover of all macrophyte species at the tributary sites. Species are listed in order of decreasing abundance.

Species	DEPTH IN METERS									Total
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	
<i>Chara/Nitella</i> sp.	100.0	122.5	92.5	95.0	117.5	180.0	322.5	67.5	75.0	1097.5
<i>Vallisneria americana</i>	117.5	187.5	205.0	190.0	112.5	35.0	32.5			880.0
<i>Isoetes macrospora</i>			10.0	10.0	30.0	82.5	405.0	300.0		837.5
<i>Potamogeton robbinsii</i>	7.5	52.5	187.5	172.5	132.5	115.0	72.5	5.0		745.0
<i>Potamogeton gramineus</i>	152.5	192.5	162.5	112.5	72.5	30.0				722.5
<i>Najas flexilis</i>	80.0	105.0	130.0	110.0	70.0	77.5	5.0			577.5
<i>Eriocaulon septangulare</i>	212.5	190.0	65.0							467.5
<i>Potamogeton amplifolius</i>	15.0	97.5	150.0	115.0	55.0	7.5	20.0			460.0
<i>Myriophyllum tenellum</i>	147.5	185.0	67.5	30.0						430.0
<i>Potamogeton perfoliatus</i>	60.0	70.0	72.5	67.5	57.5	40.0				367.5
<i>Elodea canadensis</i>	30.0	80.0	85.0	32.5	27.5	15.0	2.5			272.5
<i>Heteranthera dubia</i>	42.5	152.5	60.0	2.5						257.5
<i>Juncus</i> sp.	80.0	90.0	20.0							190.0
<i>Potamogeton pusillus</i>	12.5	25.0	27.5	35.0	22.5	30.0	22.5			175.0
<i>Utricularia resupinata</i>	35.0	57.5	55.0	7.5						155.0
<u><i>Myriophyllum spicatum</i></u>	<u>10.0</u>	<u>22.5</u>	<u>47.5</u>	<u>37.5</u>	<u>22.5</u>					<u>140.0</u>
<i>Eleocharis acicularis</i>	37.5	97.5								135.0
<i>Isoetes echinospora</i>	42.5	27.5	25.0	15.0	17.5	5.0				132.5
<i>Ranunculus longirostris</i>	17.5	62.5	32.5	10.0						122.5
<i>Sparganium</i> sp.	60.0	40.0	17.5	2.5	2.5					122.5
<i>Potamogeton spirillum</i>	30.0	50.0	17.5	10.0	10.0	2.5				120.0
<i>Ranunculus reptans</i>	52.5	60.0	2.5							115.0
<i>Sagittaria graminea</i>	62.5	47.5	5.0							115.0
<i>Elatine minima</i>	52.5	55.0	2.5							110.0
<i>Bidens beckii</i>	2.5	10.0	17.5	25.0	15.0	12.5	20.0	2.5		105.0
<i>Lobelia dortmanna</i>	55.0	42.5	7.5							105.0
<i>Myriophyllum alterniflorum</i>	35.0	35.0	12.5	15.0	2.5					100.0
<i>Najas guadalupensis</i>		2.5	10.0	20.0	37.5	2.5				72.5
<i>Potamogeton vaseyii</i>	2.5	7.5	5.0	2.5	5.0					22.5
<i>Potamogeton zosteriformis</i>		7.5	5.0	2.5	2.5					17.5
<i>Potamogeton epihydrus</i>	5.0		2.5	5.0	2.5					15.0
<i>Potamogeton pectinatus</i>	10.0	2.5								12.5
<i>Subularia aquatica</i>	7.5	5.0								12.5
<i>Fontinalis</i> sp.	2.5	2.5		2.5						7.5
<i>Lindernia</i> sp.	7.5									7.5
<i>Potamogeton praelongus</i>		2.5	2.5							5.0
<i>Nymphaea odorata</i>	2.5									2.5
<i>Potamogeton natans</i>	2.5									2.5
<i>Potamogeton richardsonii</i>							2.5			2.5
<i>Potamogeton</i> sp 1		2.5								2.5
Total % Cover	1590	2190	1603	1128	815	635	905	375	75	9240
Number of Species	34	34	31	25	20	14	10	4	1	40
Average % Cover	38.8	53.4	39.1	27.5	19.9	15.5	22.1	9.1	1.8	225.4

Figure 4. Cumulative percent cover and depth distribution of the 10 most common macrophyte species and Eurasian watermilfoil.

- | | |
|--|-------------------------------------|
| NF = <i>Najas flexilis</i> | VA = <i>Vallisneria americana</i> |
| PG = <i>Potamogeton gramineus</i> | IM = <i>Isoetes macrospora</i> |
| ES = <i>Eriocaulon septangulare</i> | FC = <i>Elodea canadensis</i> |
| PA = <i>Potamogeton amplifolius</i> | PP = <i>Potamogeton perfoliatus</i> |
| MT = <i>Myriophyllum tenellum</i> | PR = <i>Potamogeton robbinsii</i> |
| <u>MS = <i>Myriophyllum spicatum</i></u> | |



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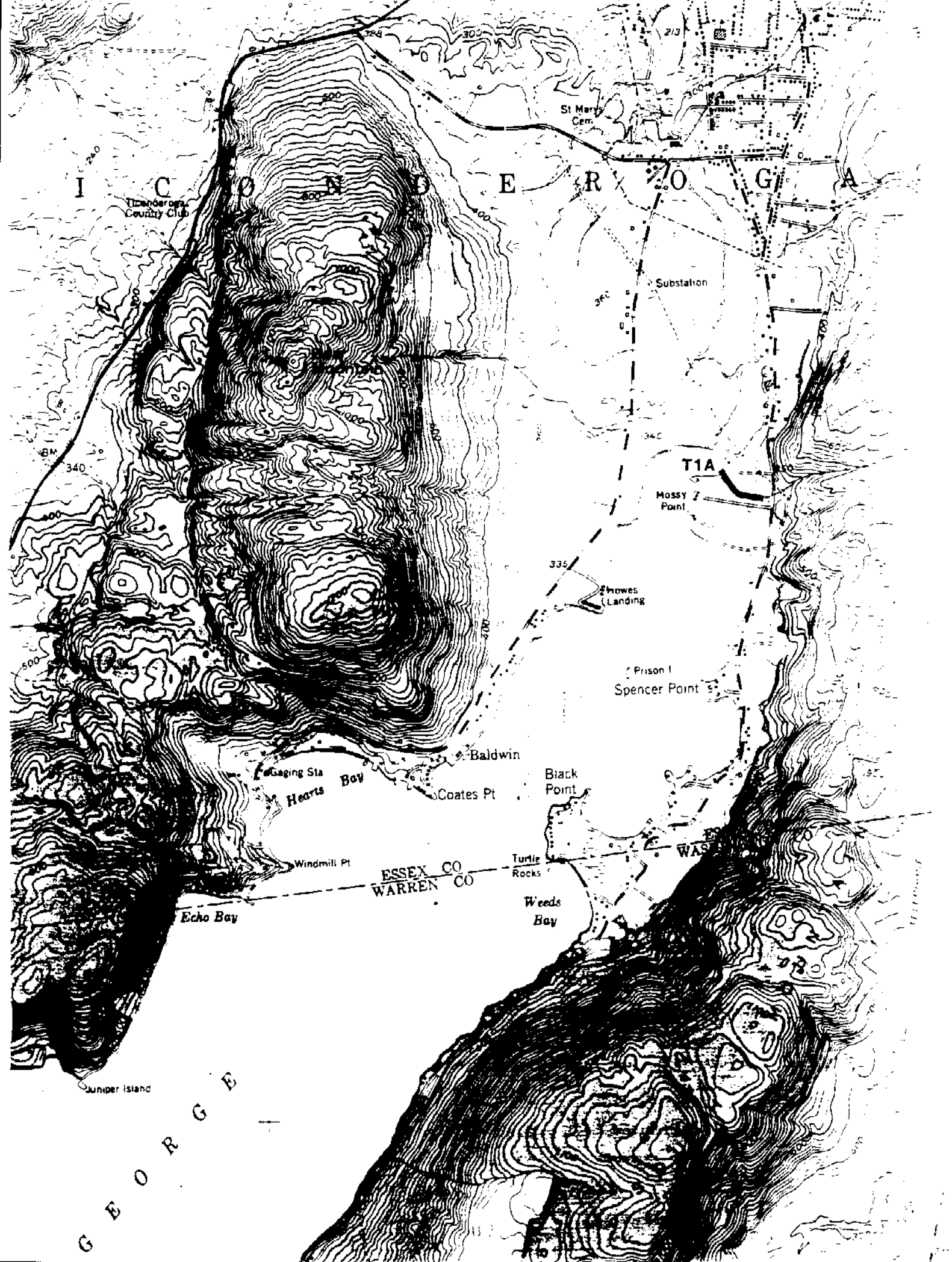
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APPENDIX A
SITE LOCATIONS



I P S E N C E R M A S S A C H U S E T T S

The Concord Country Club

St Marys Cem

Substation

T1A

Mossy Point

Howes Landing

Prison 1
Spencer Point

Baldwin

Gaging Sta
Hearts Bay

Coates Pt

Black Point

Windmill Pt

ESSEX CO
WARREN CO

Turtle Rocks

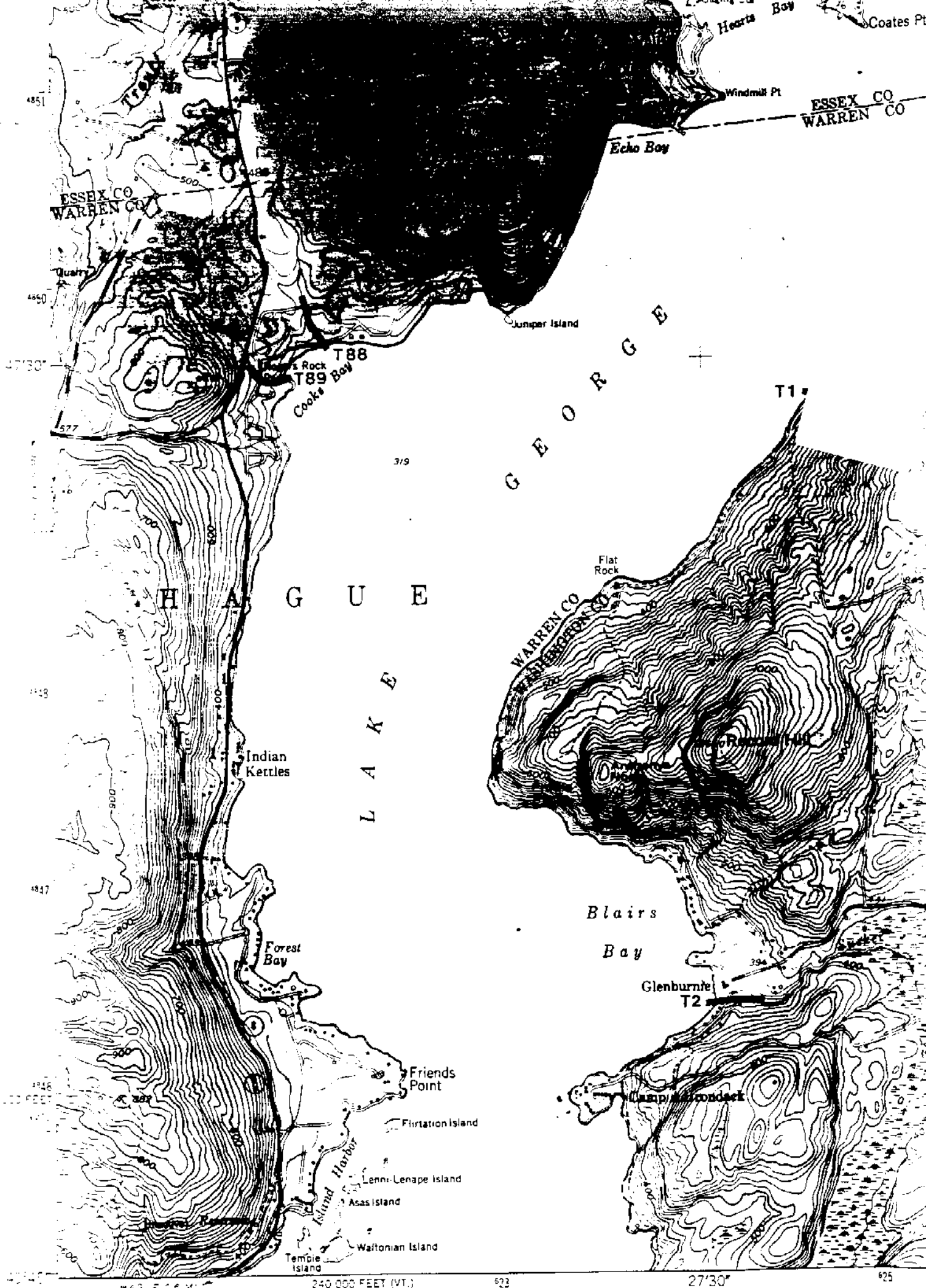
Weeds Bay

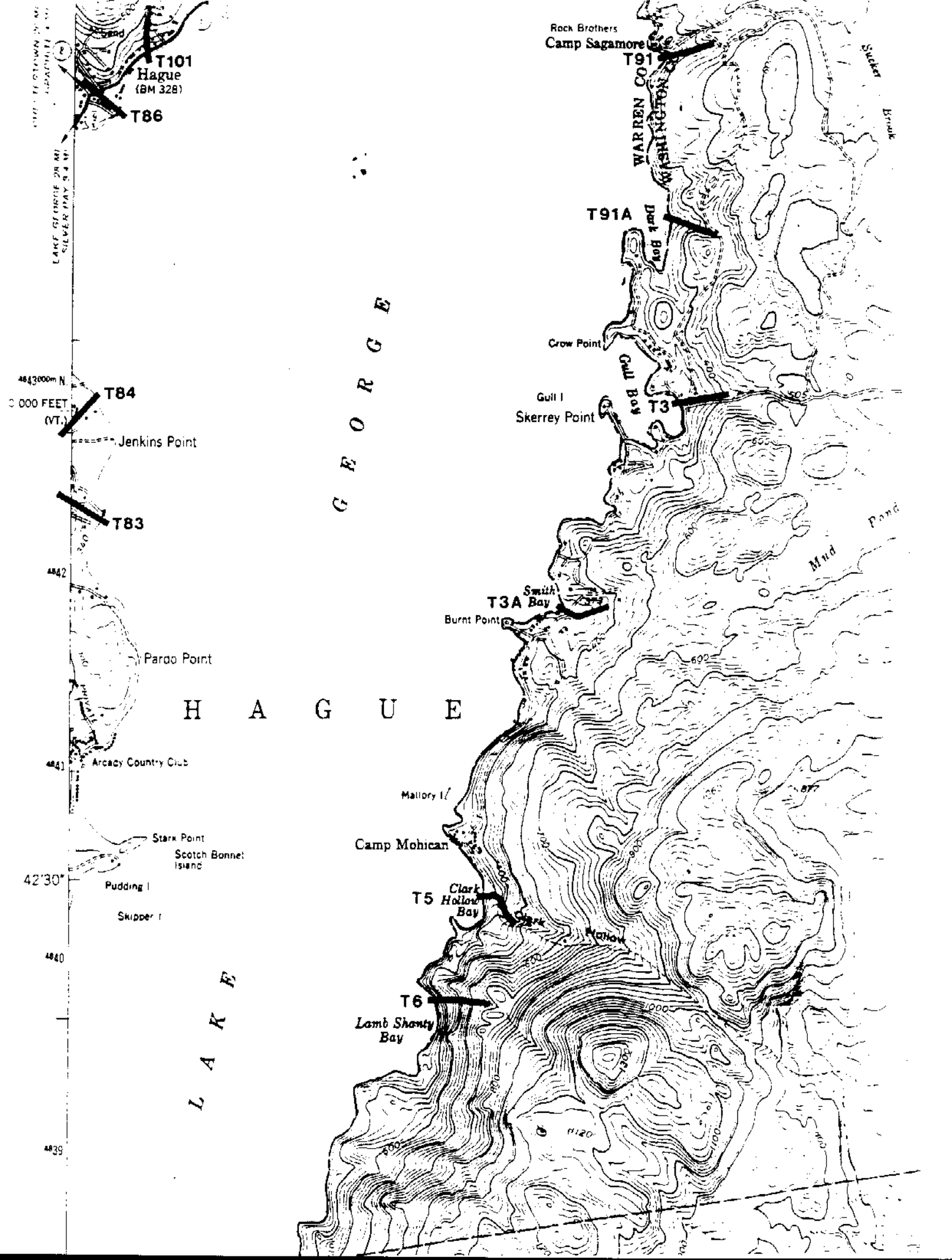
Echo Bay

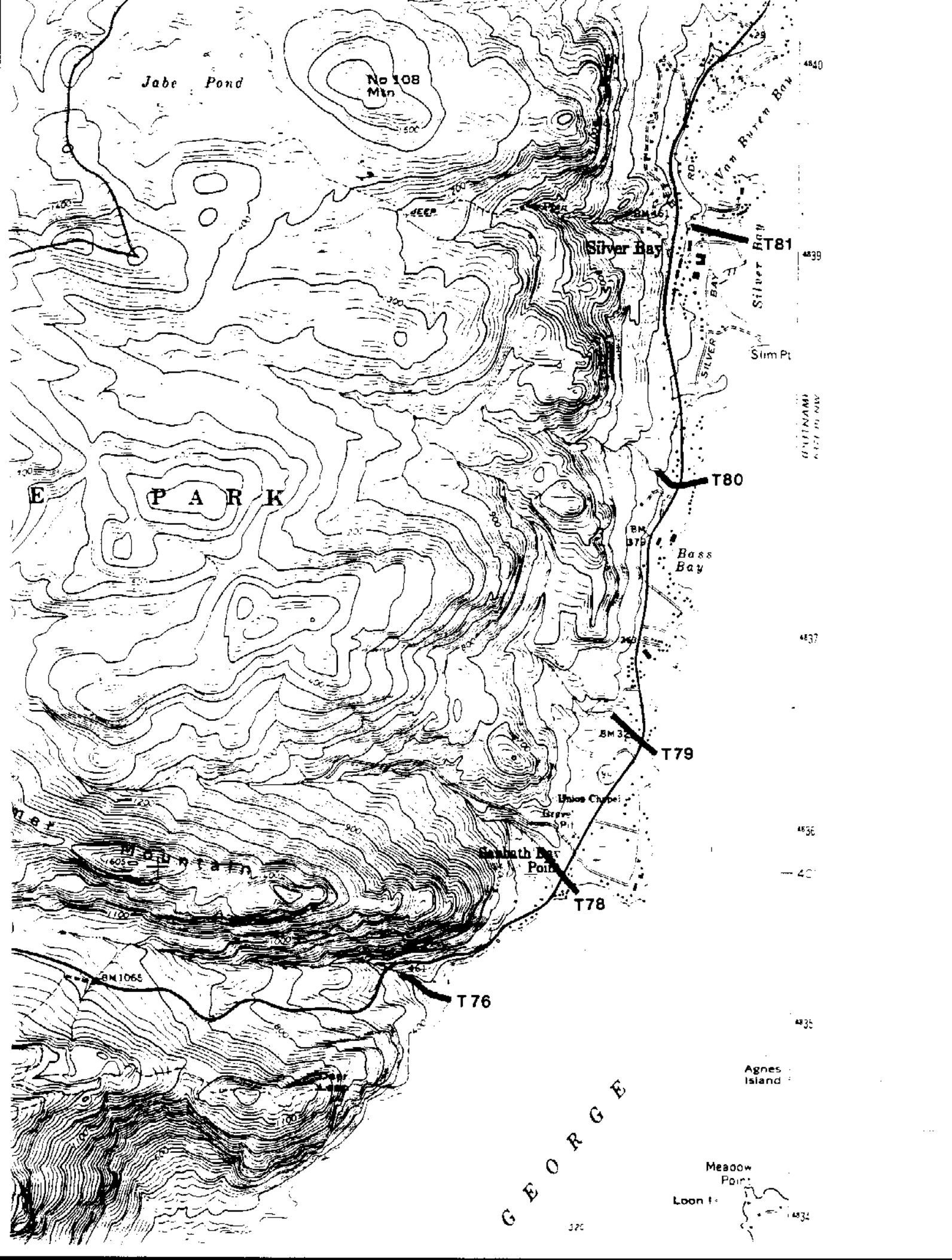
G E O R G E

Juniper Island

Ipswich River







Jabe Pond

No 108 Mtn

Silver Bay

T81

Slim Pt

P A R K

Bass Bay

T80

T79

Sabbath Bay Point

T78

T76

GEORGE

Agnes Island

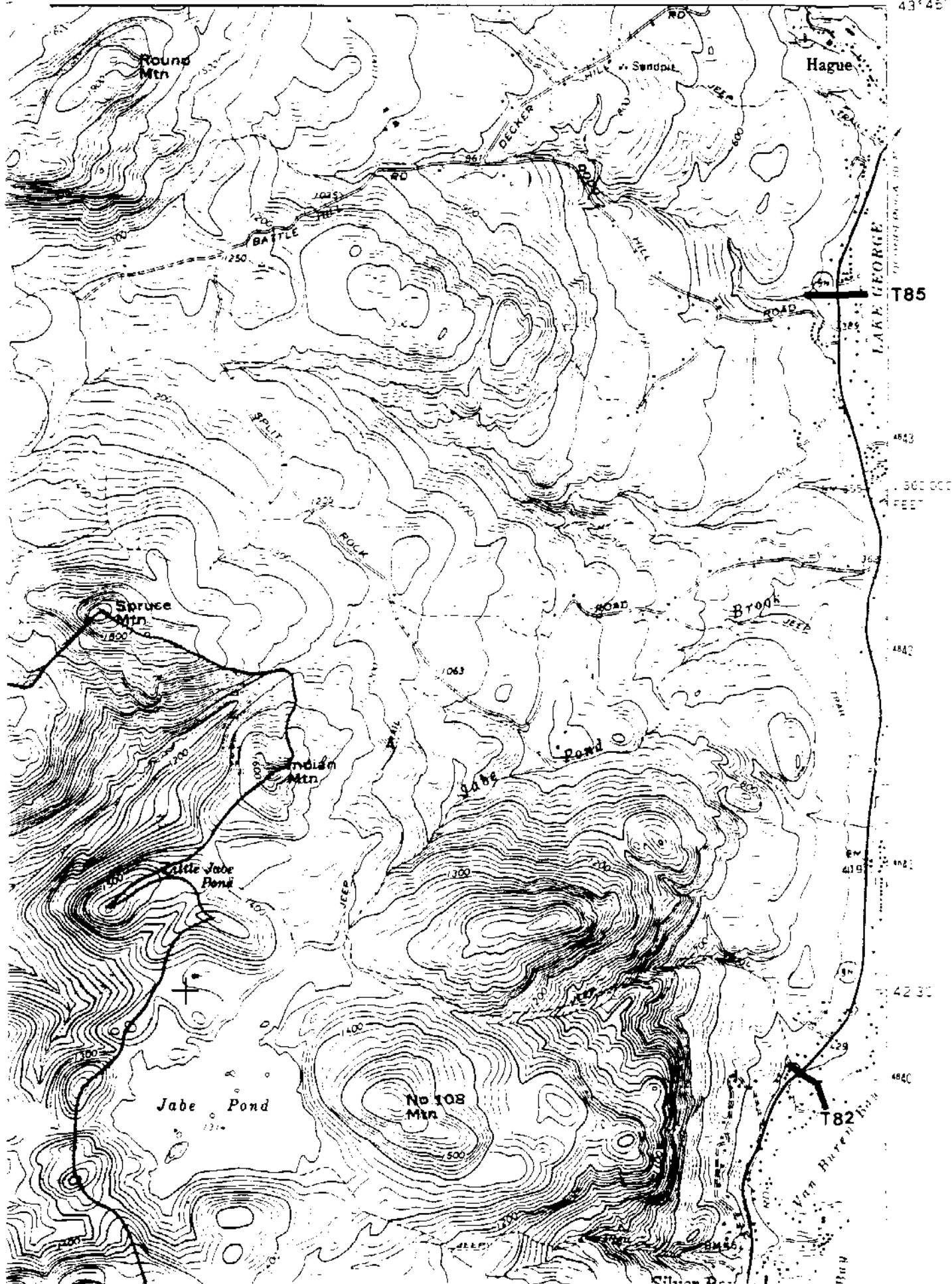
Meadow Point

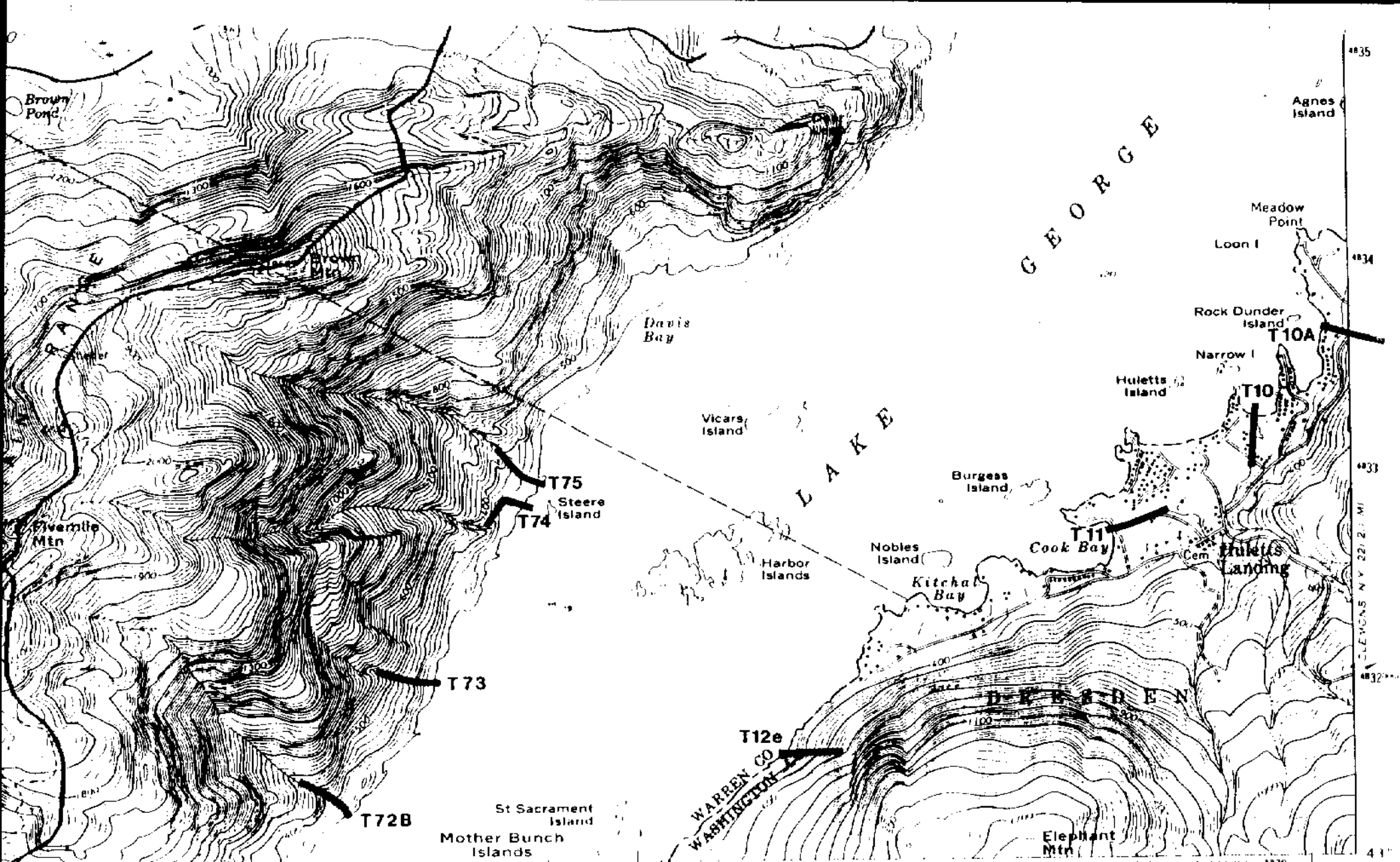
Loon Pt

SILVER BAY QUADRANGLE
NEW YORK
7.5 MINUTE SERIES (TOPOGRAPHIC)
NE/4 BOLTON LANDING 15' QUADRANGLE

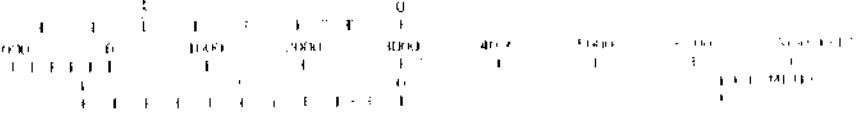
67
32'30"
730 000 FEET
619
620
73° 30'
43° 45'

617 32'30" 730 000 FEET 619 620 73° 30' 43° 45'





ISHELVING ROCK
6271 ft SE
SCALE 1:24,000



CONTOUR INTERVAL 20 FEET
EARTHQUAKE SHAKE 1964

ROAD CLASSIFICATION

Primary highway, all weather, hard surface	—————	Light duty road, all weather, improved surface	— · — · — ·
Secondary highway all weather, hard surface	- - - - -	Unimproved road, fair or dry weather	· · · · ·

Water Route

APPENDIX B

MACROPHYTE COMMUNITY ASSESSMENT DATA

Tributary Survey Transect Data
Site: T-1

Date: 9/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	2.5		2.5		
Elatine minima	2.5						
Elodea canadensis						2.5	
Eriocaulon septangulare	2.5	2.5					
Fontinalis sp.	2.5						
Isoetes macrospora				2.5	2.5		
Lobelia dortmanna	2.5	2.5	2.5				
Myriophyllum alterniflorum	2.5			2.5	2.5		
Najas flexilis	2.5	2.5	2.5	2.5	2.5		
Potamogeton amplifolius						2.5	
P. gramineus	2.5	2.5					
Ranunculus reptans							
Ranunculus longirostris	2.5	2.5					
Sparganium sp.	2.5						
Utricularia resupinata			2.5	2.5			
Vallisneria americana	2.5			2.5	2.5		

Tributary Survey Transect Data
Site: T-1A

Date: 9/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Bidens beckii		2.5					
Chara/Nitella sp.	2.5	2.5					
Elodea canadensis	2.5	10.0					
Juncus pelocarpus	2.5	2.5					
Lobelia dortmanna		2.5					
Myriophyllum tenellum	10.0						
Najas flexilis	2.5						
Potamogeton amplifolius		2.5					
P. perfoliatus	2.5	2.5					
P. robbinsii		10.0					
P. spirillus	2.5						
Ranunculus longirostris		2.5					
Sagittaria graminea	2.5	10.0					
Vallisneria americana	10.0	10.0					

Tributary Survey Transect Data

Date: 09/10/96

Site: T-2

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>				2.5			
<i>Chara/Nitella</i> sp.	2.5	2.5					
<i>Elatine minima</i>	2.5						
<i>Eriocaulon septangulare</i>	2.5	2.5	2.5				
<i>Heteranthera dubia</i>				2.5			
<i>Myriophyllum tenellum</i>	2.5	10.0	10.0				
<i>Najas flexilis</i>	2.5			2.5			
<i>Potamogeton amplifolius</i>				2.5			
<i>P. gramineus</i>	2.5	2.5	2.5	2.5			
<i>P. perfoliatus</i>			2.5	2.5			
<i>P. pusillus</i>	2.5		2.5	2.5			
<i>P. robbinsii</i>			2.5	2.5			
<i>Ranunculus longirostris</i>			2.5				
<i>Sparganium</i> sp.	2.5						
<i>Vallisneria americana</i>	2.5		2.5	2.5			

Site: T-3

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>		2.5	2.5	2.5			
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	2.5			
<i>Eleocharis acicularis</i>	2.5	10.0					
<i>Elodea canadensis</i>	2.5	2.5	2.5	2.5			
<i>Eriocaulon septangulare</i>	10.0	2.5					
<i>Heteranthera dubia</i>	10.0	37.5	2.5	2.5			
<i>Myriophyllum alterniflorum</i>	2.5	2.5					
<i>M. spicatum</i>	2.5	2.5	10.0	10.0			
<i>M. tenellum</i>	2.5	10.0					
<i>Najas flexilis</i>	2.5	10.0	2.5	10.0			
<i>Potamogeton amplifolius</i>		2.5	2.5	2.5			
<i>P. gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>	2.5	2.5	2.5	2.5			
<i>P. pusillus</i>		2.5	2.5	2.5			
<i>P. robbinsii</i>		10.0	75.0	10.0			
<i>P. spirillus</i>		2.5	2.5				
<i>Ranunculus longirostris</i>	2.5	2.5					
<i>Sagittaria graminea</i>	37.5	20.0					
<i>Vallisneria americana</i>	37.5	10.0	20.0	37.5			

Tributary Survey Transect Data
 Site: T-3A
 Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>				2.5			
<i>Chara/Nitella</i> sp.	10.0	10.0	2.5		20.0	75.0	75.0
<i>Elatine minima</i>	2.5	2.5	2.5				
<i>Eleocharis acicularis</i>	10.0	20.0	2.5				
<i>Elodea canadensis</i>		2.5	2.5	2.5			
<i>Eriocaulon septangulare</i>		2.5	2.5				
<i>Heteranthera dubia</i>	2.5	20.0	10.0	37.5			
<i>Juncus pelocarpus</i>	2.5	20.0	2.5				
<i>Myriophyllum spicatum</i>		2.5	2.5	2.5			
<i>Najas flexilis</i>	2.5	2.5	2.5	2.5			
<i>Potamogeton amplifolius</i>		2.5	20.0	37.5			
<i>P. gramineus</i>	10.0	2.5	2.5	2.5			
<i>P. perfoliatus</i>	2.5	2.5	2.5	2.5			
<i>P. robbinsii</i>			2.5	10.0	2.5		
<i>P. spirillus</i>	2.5	2.5	2.5				
<i>Ranunculus longirostris</i>		2.5	10.0	2.5			
<i>R. reptans</i>		10.0	2.5				
<i>Vallisneria americana</i>		2.5	2.5	2.5			

Tributary Survey Transect Data
 Site: T-4
 Date: 09/10/96

Species	Depth Interval (m)			
	0-1	1-2	2-3	3-4
<i>Chara/Nitella</i> sp.		2.5	2.5	2.5
<i>Elatine minima</i>	2.5	2.5		
<i>Eriocaulon septangulare</i>	10.0	10.0		
<i>Isoetes echinospora</i>			2.5	2.5
<i>Juncus pelocarpus</i>	2.5	2.5		
<i>Lobelia dortmanna</i>		2.5		
<i>Myriophyllum tenellum</i>		2.5		
<i>Najas flexilis</i>			2.5	2.5
<i>Potamogeton gramineus</i>	2.5	2.5	2.5	2.5
<i>P. robbinsii</i>			2.5	2.5
<i>Sparganium</i> sp.	2.5	2.5		
<i>Vallisneria americana</i>		2.5	2.5	

Tributary Survey Transect Data

Site: T-5

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>				2.5	10.0	10.0	
<i>Chara/Nitella</i> sp.		2.5	2.5	2.5	2.5	10.0	75.0
<i>Elodea canadensis</i>		10.0	2.5	2.5	2.5		
<i>Eriocaulon septangulare</i>	2.5						
<i>Heteranthera dubia</i>		2.5	2.5	2.5			
<i>Isoetes macrospora</i>					2.5	2.5	
<i>Myriophyllum spicatum</i>	2.5	2.5					
<i>Najas flexilis</i>			2.5	2.5			
<i>Potamogeton amplifolius</i>		10.0	10.0	10.0	2.5	2.5	10.0
<i>P. gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>	10.0	10.0	2.5	2.5	2.5	2.5	
<i>P. praelongus</i>		2.5	2.5				
<i>P. pusillus</i>				2.5	2.5	2.5	2.5
<i>P. robbinsii</i>		2.5	20.0	37.5	37.5	75.0	10.0
<i>P. vaseyi</i>							
<i>Ranunculus longirostris</i>	2.5	20.0	2.5	2.5			
<i>Vallisneria americana</i>	2.5	37.5	20.0	37.5	75.0	20.0	10.0

Tributary Survey Transect Data

Site: T-6

Date: 09/10/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8
<i>Chara/Nitella</i> sp.		2.5	2.5	2.5	2.5	2.5	75.0	
<i>Isoetes echinospora</i>		2.5	2.5	2.5				
<i>Isoetes macrospora</i>							20.0	75.0
<i>Myriophyllum spicatum</i>		2.5						
<i>Najas flexilis</i>		2.5	2.5	2.5	2.5	10.0	2.5	
<i>N. guadalupensis</i>		2.5	10.0	20.0	37.5	2.5		
<i>P. gramineus</i>		2.5	2.5	2.5	2.5	2.5		
<i>P. spirillum</i>		2.5	2.5	2.5	2.5			
<i>P. robbinsii</i>				2.5	2.5	2.5	2.5	
<i>Utricularia resupinata</i>		2.5	10.0	2.5				
<i>Vallisneria americana</i>		2.5	2.5					

Tributary Survey Transect Data
 Site: T-7

Date: 08/29/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	
<i>Chara</i> sp.	2.5	2.5	2.5	10.0	10.0			
<i>Eriocaulon septangulare</i>	20.0	10.0						
<i>Isoetes echinospora</i>	2.5	2.5	2.5	2.5	10.0	2.5		
<i>I. macrospora</i>						2.5	37.5	
<i>Lobelia dortmanna</i>	10.0	2.5						
<i>Myriophyllum spicatum</i>	2.5							
<i>M. tenellum</i>	20.0	20.0						
<i>Najas flexilis</i>	2.5	2.5	2.5	10.0	10.0	10.0	2.5	
<i>Potamogeton gramineus</i>	2.5	10.0	2.5	2.5	10.0	2.5		
<i>P. perfoliatus</i>					2.5	2.5		
<i>P. pusillus</i>					2.5	2.5	10.0	
<i>P. robbinsii</i>					2.5	2.5	2.5	
<i>Utricularia rosupinata</i>	2.5	10.0	10.0					
<i>Sparganium</i> sp.	2.5		2.5					

Tributary Survey Transect Data
 Site: T-8

Date: 08/29/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	
<i>Elatine minima</i>	2.5							
<i>Eleocharis acicularis</i>	2.5							
<i>Elodea canadensis</i>	2.5	2.5	2.5					
<i>Eriocaulon septangulare</i>	75.0							
<i>Isoetes echinospora</i>			2.5					
<i>Juncus polocarpus</i>	10.0							
<i>Myriophyllum tenellum</i>	2.5							
<i>Najas flexilis</i>	2.5	2.5	2.5					
<i>Nymphaea odorata</i>	2.5							
<i>Potamogeton epihydrius</i>	2.5							
<i>P. gramineus</i>	10.0	2.5						
<i>P. perfoliatus</i>	2.5	2.5						
<i>P. pusillus</i>	2.5	2.5	2.5					
<i>P. robbinsii</i>								
<i>P. spirillum</i>	2.5							
<i>P. zosteriformes</i>		2.5	2.5					
<i>Ranunculus reptans</i>	2.5							
<i>Sagittaria graminea</i>	2.5							
<i>Sparganium</i> sp.	2.5	2.5	2.5					
<i>Vallisneria spiralis</i>	2.5	10.0	2.5					

Tributary Survey Transect Data

Site: T-9

Date: 08/29/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>				2.5			
<i>Chara/Nitella</i> sp.	10.0	10.0	2.5	2.5	20.0		
<i>Elatine minima</i>	2.5	2.5					
<i>Eleocharis acicularis</i>	2.5	2.5					
<i>Elodea canadensis</i>		2.5	10.0	2.5			
<i>Heteranthera dubia</i>		2.5	2.5	2.5			
<i>Juncus pelocarpus</i>	10.0	10.0					
<i>Myriophyllum tenellum</i>	10.0	2.5					
<i>Najas flexilis</i>		2.5	10.0	2.5	10.0		
<i>Potamogeton amplifolius</i>			2.5	2.5			
<i>P. gramineus</i>	2.5	2.5	2.5				
<i>P. perfoliatus</i>		2.5	2.5	2.5			
<i>P. pusillus</i>		2.5		2.5			
<i>P. robbinsii</i>			10.0	10.0	20.0		
<i>P. vaseyi</i>		2.5			2.5		
<i>Ranunculus longirostris</i>		2.5	2.5				
<i>R. reptans</i>	10.0	10.0					
<i>Sparganium</i> sp.		2.5	2.5				
<i>Subularia aquatica</i>	2.5	2.5					
<i>Utricularia resupinata</i>	10.0	10.0					
<i>Vallisneria americana</i>	2.5	2.5	10.0				

Site: T-10

Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5	2.5	2.5		
<i>Chara/Nitella</i> sp.	2.5	2.5					
<i>Eleocharis acicularis</i>	2.5	10.0					
<i>Elodea canadensis</i>	2.5	2.5	2.5	2.5	2.5		
<i>Heteranthera dubia</i>	10.0	20.0	10.0	2.5	2.5		
<i>Lindernia</i> sp.	2.5						
<i>Myriophyllum spicatum</i>	2.5	10.0	20.0	10.0	20.0		
<i>Najas flexilis</i>	37.5	37.5	2.5				
<i>Potamogeton amplifolius</i>			10.0	10.0	20.0		
<i>P. gramineus</i>	10.0	10.0	10.0	2.5	10.0		
<i>P. pectinatus</i>	10.0						
<i>P. perfoliatus</i>		10.0	10.0	2.5	10.0		
<i>P. pusillus</i>	2.5	2.5	2.5				
<i>P. robbinsii</i>		20.0	20.0	20.0	20.0		
<i>P. spirillus</i>	2.5	10.0					
<i>P. vaseyi</i>	2.5	2.5					
<i>P. zosteriformis</i>		2.5	2.5	2.5	2.5		
<i>Ranunculus longirostris</i>		2.5					
<i>Sparganium</i> sp.	2.5						
<i>Vallisneria americana</i>	10.0	20.0	37.5	37.5			

Tributary Survey Transect Data
Site: T-10a

Date: 08/09/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8
<i>Bidens beckii</i>						2.5	20.0	2.5
<i>Chara/Nitella</i> sp.		10.0	10.0	10.0	10.0			10.0
<i>Elatine minima</i>		2.5						
<i>Eleocharis acicularis</i>		37.5						
<i>Elodea canadensis</i>			37.5	10.0				
<i>Eriocaulon septangulare</i>		10.0						
<i>Isoetes macrospora</i>							10.0	75.0
<i>Myriophyllum tenellum</i>		10.0						
<i>Potamogeton amplifolius</i>		10.0	37.5	10.0	10.0			
<i>P. epihydrus</i>			2.5	2.5	2.5			
<i>P. gramineus</i>			10.0	10.0	10.0			
<i>P. perfoliatus</i>				10.0	2.5			
<i>P. robbinsii</i>			2.5	10.0		2.5	37.5	2.5
<i>P. spirillum</i>		2.5						
<i>Ranunculus longirostris</i>				2.5				
<i>Vallisneria americana</i>		10.0	37.5	20.0	20.0			

Tributary Survey Transect Data
Site: T-11

Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5				
<i>Eleocharis acicularis</i>		2.5	10.0				
<i>Eriocaulon septangulare</i>	10.0	75.0	37.5				
<i>Heteranthera dubia</i>	2.5	2.5	2.5				
<i>Juncus pelocarpus</i>	10.0	10.0	2.5				
<i>Myriophyllum tenellum</i>	2.5	2.5	10.0				
<i>Najas flexilis</i>		2.5	2.5				
<i>Potamogeton amplifolius</i>	10.0	10.0	10.0				
<i>P. gramineus</i>	2.5	2.5	2.5				
<i>P. perfoliatus</i>			10.0				
<i>P. robbinsii</i>	2.5	2.5	2.5				
<i>P. spirillum</i>	2.5	2.5					
<i>P. zosteriformes</i>		2.5					
<i>Ranunculus longirostris</i>	2.5	2.5					
<i>R. reptans</i>	10.0	10.0					
<i>Utricularia resupinata</i>	10.0	2.5					
<i>Vallisneria americana</i>	10.0	10.0	10.0				

Tributary Survey Transect Data
 Site: T-11s

Date: 08/29/96

Species	Depth Interval (m)					
	0-1	1-2	2-3	3-4	4-5	5-6
<i>Bidens beckii</i>		2.5	2.5	2.5		
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	2.5		
<i>Elatine maxima</i>	2.5					
<i>Eleocharis acicularis</i>	2.5					
<i>Elodea canadensis</i>	10.0					
<i>Eriocaulon septangulare</i>	10.0	10.0				
<i>Heteranthera dubia</i>	2.5					
<i>Isoetes echinospora</i>		2.5				
<i>Juncus pelocarpus</i>	2.5	10.0	10.0			
<i>Lobelia dortmanna</i>	2.5					
<i>Najas flexilis</i>	2.5	2.5	20.0	10.0		
<i>Potamogeton amplifolius</i>		2.5	10.0	10.0		
<i>P. gramineus</i>	2.5	2.5	10.0	10.0		
<i>P. perfoliatus</i>	2.5	2.5	10.0	10.0		
<i>P. pusillus</i>	2.5	2.5				
<i>P. robbinsii</i>			20.0	37.5		
<i>P. spirillus</i>	2.5	2.5				
<i>P. vaseyii</i>			2.5			
<i>Ranunculus longirostris</i>	2.5		2.5			
<i>R. reptans</i>	2.5					
<i>Sagittaria graminea</i>	2.5					
<i>Sparganium</i> sp.	2.5	2.5				
<i>Subularia aquatica</i>	2.5	2.5				
<i>Utricularia resupinata</i>	2.5	10.0				
<i>Vallisneria americana</i>	2.5	2.5	2.5	10.0		

Tributary Survey Transect Data
Site: T-71

Date: 08/28/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Chara/Nitella sp.	2.5	10.0	2.5	2.5		2.5	2.5	37.5
Elatine minima	2.5	2.5						
Elodea canadensis					10.0	10.0		
Eriocaulon septangulare	2.5	10.0	20.0					
Heteranthera dubia			2.5	2.5				
Isoetes echinospora	2.5	2.5	2.5	2.5				
I. macrospora							37.5	75.0
Lobelia dortmanna	2.5	2.5						
Myriophyllum tenellum	2.5	20.0						
Najas flexilis	2.5	2.5	10.0	10.0	10.0	10.0		
Potamogeton gramineus	2.5	2.5	10.0	10.0	2.5	10.0		
P. perfoliatus		2.5	2.5	2.5				
P. pusillus					2.5	2.5		
P. robbinsii					20.0		2.5	
P. spirillus			2.5	2.5	2.5	2.5		
Sagittaria graminea	2.5	2.5						
Sparganium sp.	2.5	2.5	2.5					
Vallisneria americana		2.5	10.0	10.0				

Tributary Survey Transect Data
Site: T-72

Date: 08/28/96

Species	Depth Interval (m)								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
Chara/Nitella sp.	2.5	2.5	2.5	2.5	2.5			20.0	75.0
Elatine minima	2.5	2.5							
Eriocaulon septangulare	2.5	2.5							
Isoetes echinospora	2.5	2.5	2.5	2.5	2.5				
I. macrospora							75.0	2.5	
Lobelia dortmanna	2.5	2.5							
Myriophyllum tenellum	2.5	10.0							
Najas flexilis		2.5	2.5	10.0					
Potamogeton gramineus	2.5	10.0	10.0	10.0	2.5				
P. perfoliatus				10.0	10.0				
P. pusillus	2.5	2.5	2.5	2.5	2.5				
Sparganium sp.	2.5	2.5							
Vallisneria americana				2.5	2.5	2.5	2.5		

Tributary Survey Transect Data

Site: T-72a

Date: 08/28/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Chara/Nitella sp.	2.5	2.5	2.5		2.5			
Eriocaulon septangulare	2.5	2.5						
Isoetes echinospora	2.5	2.5			2.5			
Isoetes macrospora						37.5	75.0	75.0
Lobelia dortmanna	2.5							
Najas flexilis	2.5	2.5	2.5		2.5	37.5		
Potamogeton gramineus			2.5		2.5	2.5		
P. perfoliatus						10.0		
P. pusillus						2.5	2.5	
P. spirillus	2.5							
P. vaseyii					2.5			
Sparganium sp.	2.5	2.5						

Tributary Survey Transect Data

Site: T-72b

Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.		2.5	2.5	2.5	2.5		
Elatine minima		2.5					
Isoetes echinospora		2.5					
Lobelia dortmanna		2.5					
Myriophyllum tenellum		2.5					
Najas flexilis	2.5	2.5	10.0	2.5	2.5		
Potamogeton gramineus		2.5	10.0	2.5	2.5		
P. spirillus		2.5					
Vallisneria americana		2.5					

Tributary Survey Transect Data

Site: T-73

Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	10.0	10.0	20.0	37.5	
Elatine minima	2.5						
Eriocaulon septangulare	2.5						
Heteranthera dubia			2.5	2.5			
Isoetes echinospora	2.5	2.5					
Isoetes macrospora			10.0	2.5		20.0	75.0
Lobelia dortmanna	2.5						
Myriophyllum alterniflorum	2.5						
M. tenellum	2.5						
Najas flexilis			2.5	2.5	2.5		
Potamogeton gramineus			10.0	2.5	20.0	10.0	
P. perfoliatus					20.0	20.0	
P. pusillus		2.5					
P. richardsonii							2.5
P. robbinsii						10.0	2.5
P. spirillus				2.5	2.5		

Tributary Survey Transect Data

Site: T-74

Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	10.0	10.0			
Elatine minima	2.5	2.5					
Eleocharis acicularis		2.5					
Elodea canadensis		2.5					
Eriocaulon septangulare	37.5	20.0					
Isoetes echinospora			2.5				
Juncus pelocarpus		2.5					
Lobelia dortmanna		10.0					
Myriophyllum tenellum	10.0	10.0					
Najas flexilis			2.5	10.0			
Potamogeton gramineus	10.0	10.0	10.0	10.0			
P. perfoliatus	10.0						
Ranunculus reptans	2.5	2.5					
Utricularia resupinata		10.0	20.0				
Vallisneria americana			10.0	10.0			

Tributary Survey Transect Data
 Site: T-75
 Date: 08/09/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	10.0	2.5		2.5		2.5	10.0
<i>Elatine minima</i>	2.5	10.0					
<i>Eleocharis acicularis</i>	2.5						
<i>Fontinalis</i> sp.		2.5		2.5			
<i>Isoetes echinospora</i>	20.0						
<i>Isoetes macrospora</i>							75.0
<i>Juncus pelocarpus</i>	10.0	10.0					
<i>Myriophyllum tenellum</i>	20.0	10.0					
<i>Najas flexilis</i>						10.0	
<i>Potamogeton gramineus</i>				2.5	2.5		
<i>P. spirillus</i>	2.5						
<i>P. robbinsii</i>						2.5	2.5
<i>P. pusillus</i>						10.0	
<i>Ranunculus reptans</i>	10.0	10.0					
<i>Vallisneria americana</i>				2.5		2.5	

Tributary Survey Transect Data
 Site: T-76
 Date: 08/29/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	10.0			
<i>Elatine minima</i>		2.5					
<i>Elodea canadensis</i>		20.0	10.0				
<i>Heteranthera dubia</i>		2.5	2.5				
<i>Najas flexilis</i>	2.5	2.5	2.5				
<i>Potamogeton gramineus</i>	37.5	37.5	10.0	2.5			
<i>P. perfoliatus</i>	2.5	10.0	2.5	2.5			
<i>P. pusillus</i>		2.5	2.5	2.5			
<i>P. spirillus</i>		2.5					
<i>Ranunculus longirostris</i>		10.0	2.5				
<i>Sparganium</i> sp.	2.5	2.5					
<i>Vallisneria americana</i>	2.5	2.5					

Tributary Survey Transect Data
 Site: T-78
 Date: 08/29/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	10.0	2.5				
Elatine minima		2.5					
Eleocharis acicularis	2.5	2.5					
Eriocaulon septangulare	2.5	10.0					
Isoetes echinospora	2.5	2.5					
Juncus pelocarpus	2.5	10.0					
Lobelia dortmanna	2.5	2.5					
Myriophyllum alterniflorum	2.5	2.5					
M. tenellum	10.0	10.0	2.5				
Najas flexilis	2.5	2.5	10.0				
Potamogeton epihydrus	2.5						
P. gramineus	10.0	10.0	2.5				
P. perfoliatus	2.5	2.5	2.5				
Ranunculus reptans	2.5	10.0					
Sparganium sp.	2.5	2.5	2.5				
Subularia aquatica	2.5						

Tributary Survey Transect Data
 Site: T-79
 Date: 08/29/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	2.5				
Elatine minima		2.5					
Eriocaulon septangulare	2.5	2.5					
Juncus pelocarpus	2.5		2.5				
Lobelia dortmanna	2.5	2.5					
Myriophyllum alterniflorum	2.5						
M. tenellum	10.0						
Najas flexilis		10.0	10.0				
Potamogeton gramineus	2.5	20.0	10.0				
P. pectinatus		2.5					
P. spirillus		2.5					
P. sp 1		2.5					
Sagittaria graminea		2.5					
Sparganium sp.	2.5	2.5	2.5				
Utricularia resupinata			2.5				
Vallisneria americana		2.5	2.5				

Tributary Survey Transect Data

Site: T-80

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5					
<i>Elatine minima</i>	2.5	2.5					
<i>Juncus pelocarpus</i>	2.5						
<i>Lobelia dortmanna</i>	2.5						
<i>Myriophyllum alterniflorum</i>	2.5	2.5					
<i>Myriophyllum tenellum</i>	2.5						
<i>Najas flexilis</i>	2.5						
<i>Potamogeton gramineus</i>	2.5	2.5					
<i>P. spirillus</i>	2.5						
<i>Sparganium</i> sp.	2.5	2.5					
<i>Utricularia resupinata</i>	2.5						

Tributary Survey Transect Data

Site: T-81

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	2.5	2.5	2.5	
<i>Elatine minima</i>	2.5						
<i>Eleocharis acicularis</i>	2.5						
<i>Eriocaulon septangulare</i>	2.5	2.5					
<i>Isoetes</i> sp.							
<i>Juncus pelocarpus</i>	2.5	2.5					
<i>Lobelia dortmanna</i>	2.5						
<i>Myriophyllum tenellum</i>	2.5	2.5					
<i>Najas flexilis</i>		2.5	2.5				
<i>Potamogeton epihydrus</i>				2.5			
<i>Potamogeton gramineus</i>	2.5	2.5	2.5	2.5	2.5	2.5	
<i>P. perfoliatus</i>		2.5	2.5	2.5	2.5	2.5	
<i>P. pusillus</i>				10.0	2.5		
<i>P. robbinsii</i>			2.5				
<i>P. spirillus</i>		2.5	2.5				
<i>P. vaseyii</i>			2.5				
<i>Ranunculus reptans</i>		2.5					
<i>Sparganium</i> sp.	2.5	2.5		2.5	2.5		

Tributary Survey Transect Data

Site: T-82

Date: 9/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	2.5			
<i>Eriocaulon septangulare</i>	2.5	2.5					
<i>Eleocharis acicularis</i>	2.5						
<i>Heteranthera dubia</i>	2.5	2.5					
<i>Isoetes macrospora</i>				2.5			
<i>Juncus pelocarpus</i>	2.5						
<i>Myriophyllum alterniflorum</i>	2.5	2.5					
<i>Najas flexilis</i>		2.5	2.5	2.5			
<i>Potamogeton amplifolius</i>		2.5	2.5	2.5			
<i>Potamogeton gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>	2.5	2.5	2.5				
<i>P. pusillus</i>			2.5	2.5			
<i>P. robbinsii</i>	2.5	2.5	2.5				
<i>Ranunculus longirostris</i>	2.5						
<i>R. reptans</i>	2.5						
<i>Sagittaria graminea</i>	2.5						
<i>Sparganium</i> sp.	2.5	2.5					
<i>Utricularia resupinata</i>	2.5						
<i>Vallisneria americana</i>	2.5	2.5	2.5				

Tributary Survey Transect Data

Site: T-82A

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5						
<i>Elatine minima</i>	2.5						
<i>Eriocaulon septangulare</i>	2.5						
<i>Elodea canadensis</i>	2.5						
<i>Juncus pelocarpus</i>	2.5						
<i>Lobelia dortmanna</i>	2.5						
<i>Myriophyllum alterniflorum</i>	2.5						
<i>Myriophyllum tenellum</i>	2.5						
<i>Potamogeton gramineus</i>	2.5						
<i>P. natans</i>	2.5						
<i>Sagittaria graminea</i>	2.5						
<i>Sparganium</i> sp.	2.5						
<i>Utricularia resupinata</i>	2.5						
<i>Vallisneria americana</i>	2.5						

Tributary Survey Transect Data

Site: T-83

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5						
Elatine minima	2.5						
Eriocaulon septangulare	2.5						
Isoetes echinospora	2.5						
Juncus pelocarpus	2.5						
Lobelia dortmanna	2.5						
Myriophyllum alterniflorum	2.5						
M. tenellum	2.5						
Potamogeton gramineus	2.5						
P. perfoliatus	2.5						
Sparganium sp.	2.5						
Sagittaria graminea	2.5						
Utricularia resupinata	2.5						
Vallisneria americana	2.5						

Tributary Survey Transect Data

Site: T-84

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	2.5	2.5	2.5		
Elatine minima	2.5	2.5					
Elodea canadensis		2.5	2.5	2.5	2.5	2.5	2.5
Isoetes echinospora	2.5						
Juncus pelocarpus		2.5					
Lobelia dortmanna	2.5	2.5					
Myriophyllum alterniflorum	2.5	10.0	10.0	10.0			
M. spicatum			2.5				
M. tenellum	10.0	2.5					
P. gramineus	2.5	2.5	2.5	2.5	2.5		
P. perfoliatus		2.5					
P. pusillus					2.5	2.5	2.5
P. robbinsii		2.5	2.5	2.5	2.5		
P. spirillus		2.5	2.5	2.5	2.5		
Ranunculus reptans		2.5					
Sparganium sp.	2.5						
Utricularia resupinata		2.5					
Vallisneria americana		2.5	10.0	2.5	2.5		

Tributary Survey Transect Data
Site: T-84A

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Elatine minima</i>		2.5					
<i>Elodea canadensis</i>		10.0	2.5	2.5	2.5		
<i>Heteranthera dubia</i>		2.5	2.5				
<i>Isoetes echinospora</i>			2.5	2.5			
<i>Myriophyllum alterniflorum</i>		2.5	2.5	2.5			
<i>M. tenellum</i>							
<i>Najas flexilis</i>			2.5	2.5	2.5		
<i>Potamogeton amplifolius</i>			10.0	10.0			
<i>P. gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>		2.5	2.5				
<i>P. pusillus</i>			2.5	2.5			
<i>P. robbinsii</i>			2.5	2.5			
<i>P. spirillum</i>		2.5					
<i>P. vaseyi</i>		2.5					
<i>Ranunculus longirostris</i>		2.5	2.5	2.5			
<i>Vallisneria americana</i>		10.0	2.5	2.5	2.5		

Tributary Survey Transect Data
Site: T-85

Date: 10/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5	2.5			
<i>Chara/Nitella</i> sp.					2.5	10.0	10.0
<i>Elatine minima</i>	2.5	2.5					
<i>Eleocharis acicularis</i>		2.5					
<i>Elodea canadensis</i>	2.5	2.5	2.5				
<i>Heteranthera dubia</i>			10.0				
<i>Isoetes echinospora</i>					2.5		
<i>I. macrospora</i>						10.0	
<i>Myriophyllum spicatum</i>			10.0	10.0			
<i>M. tenellum</i>		2.5					
<i>Potamogeton amplifolius</i>	2.5	10.0	10.0	2.5	2.5		
<i>P. gramineus</i>	2.5	2.5	2.5	2.5	2.5		
<i>P. perfoliatus</i>	10.0	2.5	2.5	2.5	2.5	2.5	
<i>P. pusillus</i>						2.5	
<i>P. robbinsii</i>			10.0	2.5	2.5		
<i>P. spirillum</i>			2.5				
<i>Ranunculus longirostris</i>		2.5	2.5				
<i>Sagittaria graminea</i>	2.5	2.5					
<i>Sparganium</i> sp.	2.5						
<i>Vallisneria americana</i>	10.0	2.5	2.5	2.5	2.5		

Tributary Survey Transect Data
 Site: T-84A

Date: 09/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Elatine minima</i>		2.5					
<i>Elodea canadensis</i>		10.0	2.5	2.5	2.5		
<i>Heteranthera dubia</i>		2.5	2.5				
<i>Isoetes echinospora</i>			2.5	2.5			
<i>Myriophyllum alterniflorum</i>		2.5	2.5	2.5			
<i>M. tenellum</i>							
<i>Najas flexilis</i>			2.5	2.5	2.5		
<i>Potamogeton amplifolius</i>			10.0	10.0			
<i>P. gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>		2.5	2.5				
<i>P. pusillus</i>			2.5	2.5			
<i>P. robbinsii</i>			2.5	2.5			
<i>P. spirillus</i>		2.5					
<i>P. vaseyi</i>		2.5					
<i>Ranunculus longirostris</i>		2.5	2.5	2.5			
<i>Vallisneria americana</i>		10.0	2.5	2.5	2.5		

Tributary Survey Transect Data
 Site: T-85

Date: 10/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5	2.5			
<i>Chara/Nitella</i> sp.					2.5	10.0	10.0
<i>Elatine minima</i>	2.5	2.5					
<i>Eleocharis acicularis</i>		2.5					
<i>Elodea canadensis</i>	2.5	2.5	2.5				
<i>Heteranthera dubia</i>			10.0				
<i>Isoetes echinospora</i>					2.5		
<i>I. macrospora</i>						10.0	
<i>Myriophyllum spicatum</i>			10.0	10.0			
<i>M. tenellum</i>		2.5					
<i>Potamogeton amplifolius</i>	2.5	10.0	10.0	2.5	2.5		
<i>P. gramineus</i>	2.5	2.5	2.5	2.5	2.5		
<i>P. perfoliatus</i>	10.0	2.5	2.5	2.5	2.5	2.5	
<i>P. pusillus</i>						2.5	
<i>P. robbinsii</i>			10.0	2.5	2.5		
<i>P. spirillus</i>			2.5				
<i>Ranunculus longirostris</i>		2.5	2.5				
<i>Sagittaria graminea</i>	2.5	2.5					
<i>Sparganium</i> sp.	2.5						
<i>Vallisneria americana</i>	10.0	2.5	2.5	2.5	2.5		

Tributary Survey Transect Data

Site: T-86

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Elodea canadensis</i>	2.5		2.5	2.5	2.5		
<i>Heteranthera dubia</i>		10.0	2.5	2.5			
<i>Lindernia</i> sp.	2.5						
<i>Lobelia dortmanna</i>	2.5						
<i>Myriophyllum alterniflorum</i>		2.5					
<i>M. spicatum</i>		2.5	2.5	2.5			
<i>Potamogeton amplifolius</i>		37.5	10.0	2.5	2.5		
<i>P. gramineus</i>	2.5	2.5					
<i>P. perfoliatus</i>	2.5	2.5	2.5	2.5			
<i>P. vaseyi</i>				2.5			
<i>Sparganium</i> sp.	2.5	2.5					
<i>Vallisneria americana</i>	2.5	2.5					

Tributary Survey Transect Data

Site: T-87

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5	2.5			
<i>Chara/Nitella</i> sp.		2.5	2.5	2.5			
<i>Elatine minima</i>		2.5					
<i>Eleocharis acicularis</i>		2.5					
<i>Eriocaulon septangulare</i>		2.5					
<i>Heteranthera dubia</i>		2.5					
<i>Isoetes echinospora</i>		2.5					
<i>Juncus pelocarpus</i>		2.5					
<i>Lobelia dortmanna</i>	2.5	2.5					
<i>Myriophyllum tenellum</i>	2.5	10.0	2.5				
<i>Potamogeton gramineus</i>	2.5	2.5	2.5	2.5			
<i>P. perfoliatus</i>			2.5	2.5			
<i>P. robbinsii</i>			2.5	2.5			
<i>Sagittaria graminea</i>	2.5	2.5					
<i>Sparganium</i> sp.		2.5	2.5				
<i>Vallisneria americana</i>	2.5	10.0	2.5				

Tributary Survey Transect Data
 Site: T-88
 Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>			2.5	2.5	2.5		
<i>Chara/Nitella</i> sp.		2.5	2.5	2.5	2.5		
<i>Eleocharis acicularis</i>	2.5	2.5					
<i>Elodea canadensis</i>	2.5	2.5					
<i>Heteranthera dubia</i>	2.5	10.0	2.5				
<i>Isoetes echinospora</i>		2.5	2.5				
<i>I. macrospora</i>				2.5	20.0		
<i>Lobelia dortmanna</i>			2.5				
<i>Myriophyllum alterniflorum</i>	2.5	10.0					
<i>M. tenellum</i>		2.5	10.0	20.0			
<i>Najas flexilis</i>	2.5	2.5			2.5		
<i>Potamogeton amplifolius</i>		2.5	2.5				
<i>P. gramineus</i>		2.5	2.5	2.5			
<i>P. perfoliatus</i>	2.5	2.5	2.5				
<i>P. pusillus</i>		2.5	2.5	2.5	2.5		
<i>P. robbinsii</i>				2.5			
<i>P. spirillum</i>	2.5	10.0					
<i>Ranunculus longirostris</i>		2.5	2.5				
<i>Sagittaria graminea</i>		2.5	2.5				
<i>Vallisneria americana</i>	2.5	10.0	2.5	2.5	2.5		

Tributary Survey Transect Data
 Site: T-89
 Date: 10/11/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5				
<i>Elatine minima</i>			2.5				
<i>Eleocharis acicularis</i>		2.5					
<i>Elodea canadensis</i>		2.5	2.5				
<i>Eriocaulon septangulare</i>		2.5	2.5				
<i>Isoetes echinospora</i>			2.5				
<i>Lobelia dortmanna</i>		2.5	2.5				
<i>Myriophyllum tenellum</i>		20.0	20.0				
<i>Potamogeton gramineus</i>	2.5	2.5	2.5				
<i>Ranunculus longirostris</i>		2.5					
<i>R. reptans</i>		2.5					
<i>Sagittaria graminea</i>		2.5	2.5				
<i>Vallisneria americana</i>		2.5	2.5				

Tributary Survey Transect Data

Site: T-90

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Bidens beckii</i>	2.5	2.5					
<i>Chara/Nitella</i> sp.	2.5	2.5					
<i>Elatine minima</i>	2.5						
<i>Elodea canadensis</i>		2.5	2.5				
<i>Heteranthera dubia</i>	10.0	37.5	2.5				
<i>Isoetes echinospora</i>	2.5						
<i>Lobelia dortmanna</i>	2.5						
<i>Myriophyllum alterniflorum</i>	2.5						
<i>M. tenellum</i>	10.0	20.0	2.5				
<i>Potamogeton amplifolius</i>	2.5	2.5					
<i>P. gramineus</i>	2.5	2.5					
<i>P. perfoliatus</i>	2.5	2.5	2.5				
<i>P. robbinsii</i>	2.5	2.5	2.5				
<i>Ranunculus longirostris</i>	2.5	2.5	2.5				
<i>Sagittaria graminea</i>		2.5					
<i>Vallisneria americana</i>	2.5	10.0	2.5				

Tributary Survey Transect Data

Site: T-91

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
<i>Chara/Nitella</i> sp.	2.5	2.5	2.5	2.5	2.5		
<i>Elatine minima</i>	2.5	2.5					
<i>Elodea canadensis</i>		2.5					
<i>Eriocaulon septangulare</i>	2.5	2.5					
<i>Heteranthera dubia</i>			2.5				
<i>Juncus</i> sp.	10.0	2.5	2.5				
<i>Lobelia dortmanna</i>	2.5						
<i>Najas flexilis</i>	2.5	2.5	2.5	2.5	2.5		
<i>Myriophyllum tenellum</i>	2.5						
<i>Potamogeton amplifolius</i>		2.5	10.0	2.5	2.5		
<i>P. gramineus</i>	10.0	2.5	2.5	2.5			
<i>P. perfoliatus</i>			2.5	2.5	2.5		
<i>P. pusillus</i>			2.5				
<i>P. robbinsii</i>			2.5	2.5	2.5		
<i>Ranunculus longirostris</i>		2.5					
<i>R. reptans</i>	10.0						
<i>Sparganium</i> sp.	2.5						
<i>Vallisneria americana</i>	2.5	2.5	2.5	2.5			

Tributary Survey Transect Data

Site: T-91a

Date: 09/10/96

Species	Depth Interval (m)							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8
Chara/Nitella sp.	2.5	2.5	2.5	2.5				
Eleocharis acicularis	2.5	2.5						
Eriocaulon septangulare	2.5	2.5						
Isoetes macrospora					2.5	10.0	20.0	75.0
Lindernia sp.	2.5							
Myriophyllum spicatum				2.5	2.5			
M. tenellum	2.5	2.5						
Najas flexilis	2.5	2.5	2.5	10.0				
Potamogeton ampliifolius			2.5	10.0	10.0	2.5	10.0	
P. gramineus	2.5	20.0	10.0	10.0				
P. perfoliatus				2.5				
P. pusillus		2.5	2.5	2.5	2.5	2.5	2.5	
P. robbinsii			2.5	10.0	10.0	10.0	10.0	2.5
P. spirillus	2.5							
Sagittaria graminea	2.5							
Sparganium sp.	2.5	2.5						
Vallisneria americana	2.5	2.5	2.5	2.5	2.5	10.0	20.0	

Tributary Survey Transect Data

Site: T-101

Date: 09/10/96

Species	Depth Interval (m)						
	0-1	1-2	2-3	3-4	4-5	5-6	6-7
Chara/Nitella sp.	2.5	2.5	2.5	2.5	10.0	37.5	75.0
Elatine minima	2.5	2.5					
Elodea canadensis				2.5	2.5	2.5	
Eriocaulon septangulare	2.5	2.5					
Isoetes macrospora					2.5		
Juncus sp.	2.5	2.5					
Lobelia dortmanna	2.5	2.5					
Najas flexilis			10.0	10.0	20.0		
Myriophyllum tenellum	2.5	2.5	10.0	10.0			
Potamogeton ampliifolius					2.5	2.5	
P. gramineus	2.5	2.5	2.5	2.5			
P. perfoliatus				2.5	2.5		
P. pusillus					2.5	2.5	2.5
P. robbinsii					10.0	10.0	2.5
P. spirillus	2.5						
Sparganium sp.	2.5						
Utricularia resupinata		10.0	10.0	2.5			