

WATERFOWL HABITAT SURVEY

CANVASBACK GUN CLUB

1964

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INTRODUCTION

On July 31, 1964, a survey of the submergent and emergent vegetation in the Canvasback Club was made as a follow-up to the surveys made in 1960, 1961, 1962, and 1963. The survey was conducted for the purpose of: 1) surveying the submergent and emergent aquatics growing in the Club marsh, and 2) comparing these data with observations of previous years.

As has already been established, the marsh area on the Club is mature. Very little, if any, change has occurred since the survey began in 1960. The marsh is characterized by high constant water levels, turbid water, and a leavy carp population in the open water.

Mallard-Sans group and Dutch Bill Lake both contain small quantities of aquatic plants. Big Arthur, Little Arthur, Johnson, and Freeman Lakes are the only units on the marsh with a good supply of aquatic plants.

Ponds around the edge of the Club--Heward, Spragia, Golick, and Pappy's Ponds--are not in the marsh proper. They have shallow water and hard bottoms. These ponds are also clear and, except for Papp's Pond, contain no carp population. Their submergent waterfowl food plant production ranges from good to excellent.

PROCEDURE

Methods used on the survey were the same as last year. An airthrust boat and long-handled rake were used in the larger, deeper, ponds. Smaller pools around the edge were waded. Plants were identified and density of the vegetation was estimated. Water depth and carp activity were also observed.

The recording procedure was the same as that used on the Stillwater survey. This is known as the Jessen and Lound procedure and has already been described.

RESULTS

Freeman Lakes Group. This group is composed of Big Freeman, Little Freeman and Short Pond. They were surveyed on July 31. There was a substantial increase in plant life this year as twenty-eight of the thirty samples contained submergents. This compared to fifteen out of thirty last year--and even less in previous years.

The most frequently seen plants were Nevada pondweed, (Potamogeton latifolius), and coontail, (Ceratophyllum demersum). A few observations were made of sago pondweed, (Potamogeton pectinatus). Seed production was fair.

Average depth in these lakes was 42" and the water was turbid. The bottom was ooze. Carp activity was noted.

Emergent vegetation around the lakes was composed of both hardstem bulrush, (Scirpus acutus); and cattail, (Typha domingensis), in equal amounts.

Mallard-Sans Lakes. This group, comprising Big Mallard, Little Mallard, Howell, Bony, and Sans Lakes, was surveyed on July 31.

Coontail was sighted eight times out of the twenty-five samples taken. All growths found were sparse except one. This was very similar to previous survey years.

All of the lakes had turbid water and ooze bottoms. Average water depth for the group was 53". Carp activity was noted; many of the fish were of moderate to large size.

Hardstem bulrush was the predominant species of emergent plant as it was found all along the west side of the lakes. The east side was largely cattail with some hardstem at the south end.

Dutch Bill Lakes. This area, comprising Dutch Bill and Little Dutch Bill Lakes, was sampled on July 31. There were two observations of coontail in the fifteen samples taken. There was no substantial change over the last four years in submergent vegetation.

Water depths averaged 42" and the bottom was oozy. The water was turbid with heavy carp activity noted:

The emergent vegetation was composed of hardstem bulrush and cattail in equal amounts.

Arthur-Johnson Group. This group composing Big Arthur, Little Arthur, and Johnson Ponds, was surveyed on July 31. All of these units contained substantial quantities of sago pondweed, with a fair amount of seed being produced. This was about the same plant production as last year.

The average depth was 32". The bottom was firm, and the water was clear. No carp activity was noted.

Hardstem bulrush completely ringed all of the ponds.

Stewart Pond. Stewart Pond was waded on July 31. A few scattered stands of sago pondweed were found. Water depth ranged from 9 inches to 38 inches and averaged about 30 inches. Some carp activity was noted. Some hardstem was found around the edge of the pond.

Pappy's Pond. This pond, on the northeast corner of the Club was waded on July 31. A heavy stand of sago pondweed and widgeon-grass, (Ruppia maritima), was found. In addition, some Nevada pondweed was also present. No big change was noted from last year in submergent growth.

Only one or two carp were seen in the unit; and the water was clear, with a hard bottom.

The shoreline was predominantly saltgrass, (Distichlis stricta), and spikerush (Eleocharis sp.). Some hardstem bulrush was also present.

Sbragia, Colick, Heward, and East Side Ponds. These ponds were not surveyed as they were all dry during the summer. As these units all produced good stands of submergent plants, it is too bad they did not receive water. This is the second straight year that the ponds were dry all summer, except for those on the east side of the Club.

SUMMARY

The marsh portion of the Canvasback Gun Club has virtually remained unchanged through the five years that surveys were conducted on it--as far as the growth of submergent plants is concerned. The only increase in submergent plant growth was noted in Big Freeman Lake, where both Nevada pondweed and coontail have extended their area but have not increased to any extent in density. As long as the lakes receive a constant high level of water and a good supply of carp exist, there will be no improvement in the growth and quality of submergents on the Club.

As has been discovered on Stillwater Wildlife Management Area and many other marshes like it, a periodic dewatering program improves submergent plant growth. At the same time, it slows growth of emergent plants and curbs heavy carp populations.

There is no need to discuss this further as a good dewatering program has already been recommended. Except for the improvement in Freeman Lakes, nothing new has been established by this year's survey.

No substantial improvement will take place on the marsh as long as a good dewatering program is not carried out to improve growth of submergent plants. Some edge units, not in the marsh proper, and the Arthur-Johnson Group in the marsh provide 90% of the food on the Club, as they have since the surveys began in 1960.

APPENDIX

Field data for marsh units and tables summarizing the findings of the survey are appended to this report.

Submitted by,
Peter A. Schwabenland
Peter A. Schwabenland
Wildlife Biologist (Management)

March 10, 1965

APPENDIX

Table 1

SUMMARY - AQUATIC HABITAT SURVEY
CANVASEBACK GUN CLUB - 1964

Unit	Species	Frequency	% of Total	Average Density (Where Occurring)	Average Density (Overall)	Waterfowl Food Rating
FREEMAN LAKES GROUP	Sago pondweed	6	4.2	2.5	.2	Good
	Nevada pondweed	67	46.9	3.6	2.4	Good
	Coontail	70	48.9	2.1	1.4	Good
MALLARD-SANS	Coontail	32	100.0	1.9	.6	Poor
DUTCH BILL LAKES	Coontail	13	100.0	1.5	.2	Poor
ARTHUR-JOHNSON	Sago pondweed	100	100.0	3.9	3.9	Good
STEWART POND	Sago pondweed	50	100.0	3.0	1.5	Poor
PAPPY'S POND	Sago pondweed	100	40.0	3.7	3.7	Excellent
	Nevada pondweed	60	24.0	3.2	1.9	Excellent
	Widgeongrass	90	36.0	3.6	3.2	Excellent
SERAGIA POND	Sago pondweed	90	30.0	3.4	3.1	Excellent
	Horned pondweed	90	30.0	3.1	2.8	Excellent
	Naiad	60	20.0	2.5	1.5	Excellent
	Waterhyssop	30	10.0	2.0	.6	Excellent
	Arrowhead	30	10.0	1.7	.5	Excellent
HEWARD POND	Sago pondweed	90	100.0	4.2	3.8	Good
GOLICK POND	Sago pondweed	80	36.3	3.6	2.9	Excellent
	Horned pondweed	60	27.3	3.0	1.8	Excellent
	Naiad	40	18.2	2.5	1.0	Excellent
	Arrowhead	40	18.2	1.5	.6	Excellent

Table 2

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE FREEMAN LAKE GROUP

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>	<u>Nevada Pondweed</u>	<u>Coontail</u>
1.	50"	40-3	60-4	
2.	49	30-2	70-4	
3.	55		70-3	30-2
4.	52			100-2
5.	40		50-2	50-2
6.	40			100-3
7.	42			100-2
8.	42			100-2
9.	41			100-2
10.	44			100-2
11.	38		60-3	40-2
12.	30		100-4	
13.	40		70-3	30-2
14.	40		70-4	30-2
15.	37		75-4	25-2
16.	38		75-4	25-2
17.	36		75-4	25-2
18.	42		100-3	
19.	43			100-2
20.	40			
21.	32			100-2
22.	33			
23.	48		60-3	40-2
24.	45		70-4	30-2
25.	47		100-4	
26.	55		60-3	40-2
27.	55		70-3	30-2
28.	40		80-4	20-2
29.	33		100-4	
30.	35		100-4	

Table 3

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE MALLARD-SANS LAKE GROUP

<u>Station</u>	<u>Depth</u>	<u>Coontail</u>
1.	60"	
2.	58	
3.	40	
4.	34	
5.	40	
6.	50	
7.	48	
8.	48	
9.	55	
10.	55	
11.	30	100-2
12.	45	
13.	43	100-2
14.	45	
15.	50	
16.	60	
17.	75	
18.	68	
19.	65	
20.	60	100-2
21.	60	100-1
22.	70	100-1
23.	50	100-2
24.	56	100-2
25.	60	100-3

Table 4

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE DUTCH BILL LAKES

<u>Station</u>	<u>Depth</u>	<u>Coontail</u>
1.	34"	
2.	36	100-1
3.	35	
4.	36	
5.	37	
6.	37	
7.	37	
8.	35	
9.	39	
10.	38	
11.	39	
12.	40	
13.	43	
14.	45	100-2
15.	40	

Table 5

OCCURRENCE AND DENSITY OF SUBMERGENTS IN THE ARTHUR-JOHNSON GROUP

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>
1.	30"	100-3
2.	32	100-4
3.	32	100-4
4.	33	100-4
5.	34	100-3
6.	35	100-4
7.	34	100-4
8.	32	100-5
9.	34	100-5
10.	30	100-3
11.	30	100-4
12.	27	100-4
13.	30	100-4
14.	29	100-4
15.	34	100-4

Table 6

OCCURRENCE AND DENSITY OF SUBMERGENTS IN STEWART POND

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>
1.	9"	100-3
2.	29	100-3
3.	30	
4.	37	
5.	38	
6.	37	
7.	32	
8.	29	100-4
9.	28	100-3
10.	26	100-2

Table 7

OCCURRENCE AND DENSITY OF SUBMERGENTS IN PAPPY'S POND

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>	<u>Nevada Pondweed</u>	<u>Widgeongrass</u>
1.	12"	50-4	30-3	20-3
2.	12	50-4		50-4
3.	20	40-4	20-3	40-4
4.	24	50-5	20-3	30-3
5.	20	60-4	40-3	
6.	18	40-4	30-3	30-3
7.	17	40-3		60-4
8.	14	30-3	40-4	30-3
9.	12	40-3		60-4
10.	10	40-3		60-4

Table 8

OCCURRENCE AND DENSITY OF SUBMERGENTS IN SBRAGIA POND

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>	<u>Horned Pondweed</u>	<u>Naiad</u>	<u>Waterhyssop</u>	<u>Arrowhead</u>
1.	6"	30-3	30-3	30-3	10-2	
2.	8	20-3	20-3	30-4	20-3	10-2
3.	10	30-3	30-3	20-2	10-1	10-1
4.	11	60-4	40-3			
5.	13					
6.	14	50-4	30-3	20-2		
7.	15	40-3	40-3	20-2		
8.	17	60-4	40-3			
9.	13	40-3	60-4			
10.	11	40-4	30-3	20-2		10-2

Table 9

OCCURRENCE AND DENSITY OF SUBMERGENTS IN HEWARD POND

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>
1.	9"	100-4
2.	12	100-4
3.	14	100-3
4.	20	100-5
5.	24	100-4
6.	30	
7.	26	100-5
8.	20	100-4
9.	17	100-5
10.	16	100-4

Table 10

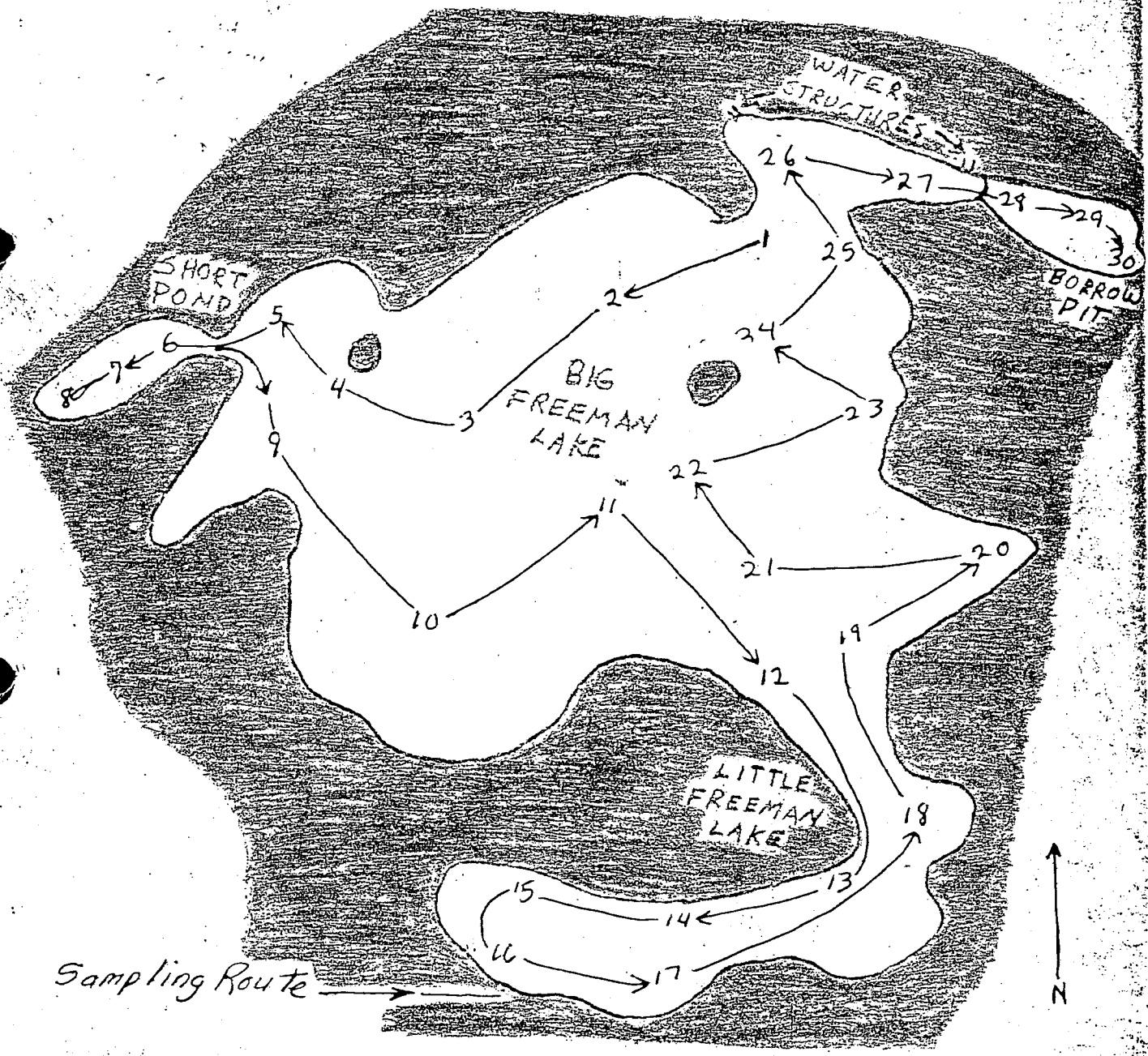
OCCURRENCE AND DENSITY OF SUBMERGENTS IN GOLICK POND

<u>Station</u>	<u>Depth</u>	<u>Sago Pondweed</u>	<u>Horned Pondweed</u>	<u>Naiad</u>	<u>Arrowhead</u>
1.	6"	40-4	30-3	20-2	10-1
2.	7	30-3	30-3	20-3	20-2
3.	10	30-3	20-2	30-3	20-2
4.	11	60-4	40-3		
5.	12	100-4			
6.	14	40-3	60-4		
7.	15				
8.	17	100-4			
9.	14				
10.	13	40-4	30-3	20-2	10-1

Table 11

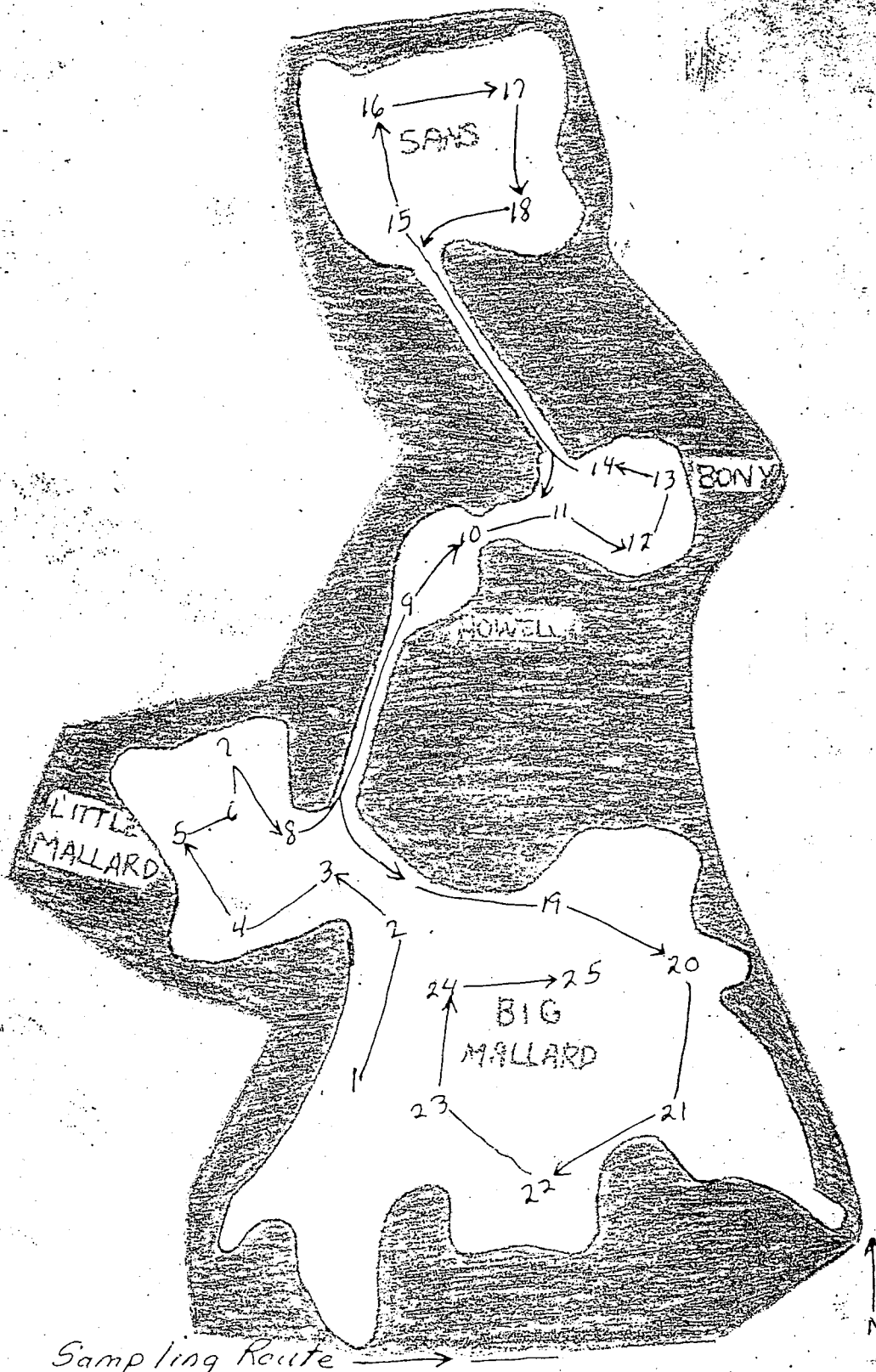
CHECKLIST OF SPECIES RECORDED, AQUATIC PLANT SURVEY

<u>Common Name</u>	<u>Scientific Name</u>
Cattail	<i>Typha domingensis</i>
Sago pondweed	<i>Potamogeton pectinatus</i>
Nevada pondweed	<i>Potamogeton latifolius</i>
Widgeongrass	<i>Ruppia maritima</i>
Naiad	<i>Najas</i> sp.
Horned pondweed	<i>Zannichellia palustris</i>
Arrowhead	<i>Sagittaria</i> sp.
Saltgrass	<i>Distichlis stricta</i>
Spikerush	<i>Eleocharis</i> sp.
Wiregrass	<i>Juncus</i> sp.
Coontail	<i>Ceratophyllum demersum</i>
Waterhyssop	<i>Bacopa nobsiana</i>



Sampling Route →

FREEMAN LAKES GROUP
Approximate water area - 123 acres
Sampling stations numbered
Green - Marsh

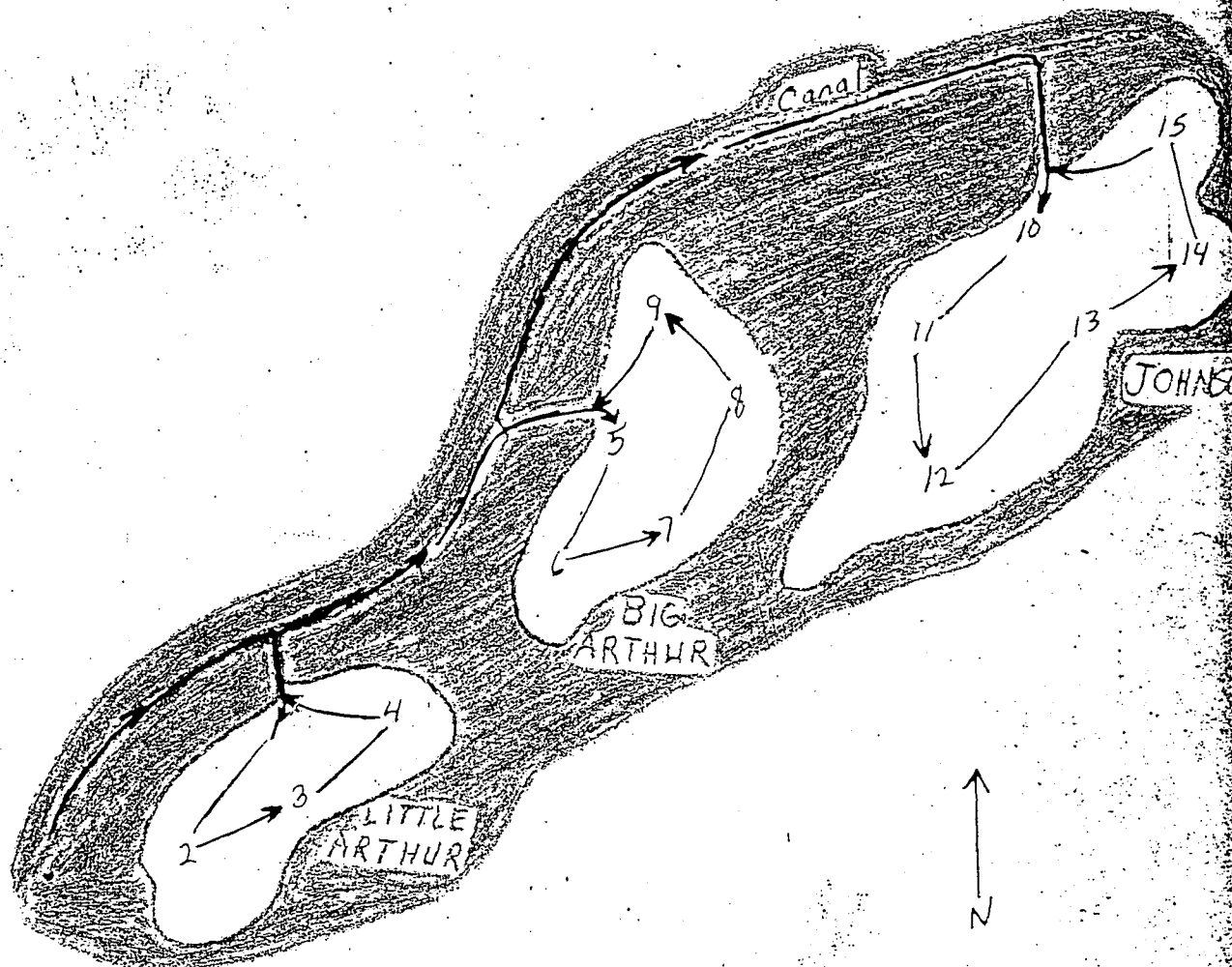


Sampling Route →

MALLARD - SANS GROUP
 Approximate water area - 154 acres
 Sampling stations numbered
 Green - Marsh



DUTCH BILL LAKES
Approximate water area - 432 acres
Sampling stations numbered
Green - Marsh



Sampling Route →

ARTHUR - JOHNSON GROUP
Approximate water area - 10 acres.
Sampling stations numbered
Green - Marsh