Atlantic Flyway Cooperative Banding Program

Atlantic Provinces

1986

compiled by

M. C. Bateman
W. R. Barrow
Canadian Wildlife Service
Atlantic Region
February 1987

Environment Canada
Canadian Wildlife Service

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Service canadien de la faune

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This report is a summary of the 1986 waterfowl banding program in Atlantic Canada. Included in the compilation, for information only, are the reports prepared by the crew leaders of the banding stations. The information in the tables is correct but the opinions and recommendations are not necessarily those of the Canadian Wildlife Service. Any publication or quotation of the contents will require substantial additional editing.

List of Summary Tables

Summary

Atlantic Flyway Cooperative Waterfowl Banding Program, Atlantic Region 1986

The banding effort directed at the Black Duck was continued at the same level in 1986 as in 1985, with the exception that the Nutak bait station was operated several weeks longer in 1986. The 1986 banding effort consisted of eight bait stations, the CWS airboat, the US Fish & Wildlife Airboat and two Common Eider operations. A total of 5317 birds was banded (Table 1). Three banding operations in Labrador resulted in 1503 birds banded, three stations in insular Newfoundland banded 818 birds; and 2987 birds were banded in the Maritime Provinces. The French biologists on St. Pierre-Miquelon assisted by I. Goudie, Canadian Wildlife Service, St. John's, attempted to band wintering Black Ducks for the first time. Nine blacks were banded before the effort was abandoned due to poor weather and ice conditions.

Fifty-one percent of the waterfowl banded in 1986 was Black Ducks; 19 percent, Green-winged Teal; and 10 percent, Blue-winged Teal (Table 2). Two hundred and one Common Eider (3.8 percent) were banded in two eider studies in New Brunswick and Newfoundland.

The number of Black Ducks banded was up 11 percent from 1985 (2735 compared to 2468 in 1985). More Blacks were banded at Indian House Lake, Labrador; Nutak, Labrador; Carmanville, Newfoundland; and Bathurst, New Brunswick. The high percentage of young birds at the northern stations (Indian House Lake, Tinker Harbour and Bathurst) suggests good production in the northern areas in 1986. At Indian House Lake, 90 percent of the blacks banded in 1986 were young birds compared to 69 percent in 1985. Bait stations at the New Brunswick-Nova Scotia border, and Shepody National Wildlife Area, banded 552 Black Ducks compared to 591 in 1985. The CWS Airboat banded 208

blacks in New Brunswick, Nova Scotia and Prince Edward Island, the US Fish & Wildlife Service Airboat banded 395 blacks on the Saint John River marshes of New Brunswick.

The number of Green-winged Teal banded was marginally fewer than in 1985 (995 in 1986 compared to 1022 in 1986). The two traditional green-wing stations (Tinker Harbour and Codroy) banded 22 percent fewer birds in 1986 but that was offset by the success of the lengthened bait-trap season at Nutak.

The research on moulting male Black Ducks was completed in 1986 at Nutak, Labrador. Seventy-nine flightless male blacks were banded. Twenty-six were equipped with back pack radio transmitters and monitored for varying lengths of time. Records were kept of body weights and moult progression. Research results, a M.S. thesis by T. Bowman, University of Maine, will be available by March 1987.

The total cost of the 1986 banding program was 27 percent lower than in 1985 ($61067 compared $84500). The lower cost was the result of all stations being fully equipped and adequately scouted (no aerial surveys required) from previous years. Also Canada Goose rocket netting funded by CWS in past years was not carried out this year due to lack of funds. The cost per bird banded (based on Black Duck stations) was $11.93 in 1986 compared to $21.31 in 1985 (Table 3). The cost per Black Duck ($22.33) was 43 percent less than in 1985, partly due to the higher number of blacks banded in 1986.

The Nutak station was again the most costly in terms of cost per Black Duck banded ($68.24 per black). Operational costs at that station are not comparable to the other stations because of the research carried out there. The least costly Black Duck banded was again at the New Brunswick-Nova Scotia border station ($7.98 per black). The cost per Black Duck banded at the Bathurst station in 1986 ($8.36) was only 36 percent of the cost in 1985. The reduction was primarily due to the higher number of birds banded.

Table 1. Summary of waterfowl banded in the Atlantic Provinces by station 1986

Banding Location	Black Duck	Mallard	BlkXMal Hybrid	G-w.. Teal	B.-w. Teal	Am. Wigeon	N. Pintail	Wood Duck	R.-n. Duck	N. Shov.	G. Scaup	C. Gold.	Old.	H. Merg.	R.-b. Merg.	C. Goose	C. Eider	Mis. Sp.	Total
Nutak, Lab.	368	6	1	254	1	-	67	-	-	-	-	-	3	-	3	71	3	-	777
Tinker Hrb., Lab.	141	1	-	165	-	-	12	-	-	-	-	-	-	-	-	-	-	-	319
Indian House Lk.,Lab.	340	3	-	36	-	-	18	-	-	-	6	-	-	-	1	3	-	-	407
Grey Is. Area, Nfld.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-	71
Carmanville, Nfld.	150	3	-	31	-	-	1	-	2	-	-	-	-	-	-	3	-	-	190
Codroy, Nfld.	184	1	5	358	6	-	2	-	1	-	-	-	-	-	-	-	-	-	557
St. Pierre Miquelon	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
Bathurst, N.B.	388	16	10	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	416
Shepody NWA, N.B.	214	2	1	38	124	-	5	29	88	-	-	-	-	-	-	-	-	?	504
N.B.-N.S. Border Area	338	22	10	-	-	-	4	-	6	-	-	-	-	-	-	-	-	-	380
CWS Airboat N.B.,N.S., P.E.I.	208	3	-	84	179	28	5	21	133	-	-	-	-	-	-	-	-	2	663
USA Airboat, N.B.	395	30	4	28	253	87	9	70	1	12	-	4	-	1	-	-	-	-	894
The Wolves, N.B.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	-	130
Total	2735	87	31	995	563	115	124	120	231	12	6	4	3	1	4	77	204	5	5317

*4 Pied-billed Grebe
1 Am. Coot

Table 2. Total number and percent by province of waterfowl banded by Cooperative Waterfowl Banding Program, Atlantic Provinces - 1986

Species	New Brunswick		Nova Scotia		Prince Edward Island		Newfoundland		Labrador		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mallard	48	2	25	3	-	-	4	-	10	-	87	2
Am. Black Duck	1041	51	437	54	65	59	343	41	849	56	2735	51
Black X Mallard Hyb.	15	-	10	1	-	-	5	-	1	-	31	-
Green-winged Teal	77	4	64	8	10	9	389	47	455	30	995	19
Blue-winged Teal	419	20	115	14	22	20	6	-	1	-	563	11
American Wigeon	96	5	19	2	-	-	-	-	-	-	115	2
Northern Pintail	15	-	8	-	1	-	3	-	97	6	124	2
Northern Shoveler	12	-	-	-	-	-	-	-	-	-	12	-
Wood Duck	103	5	17	2	-	-	-	-	-	-	120	2
Ring-necked Duck	98	5	118	15	12	11	3	-	-	-	231	4
Greater Scaup	-	-	-	-	-	-	-	-	6	-	6	-
Oldsquaw	-	-	-	-	-	-	-	-	3	-	3	-
Common Eider	130	6	-	-	-	-	71	9	3	-	204	4
Red-breasted Merganser	-	-	-	-	-	-	-	-	4	-	4	-
Hooded Merganser	1	-	-	-	-	-	-	-	-	-	1	-
C. Goldeneye	4	-	-	-	-	-	-	-	-	-	4	-
Canada Goose	-	-	-	-	-	-	3	-	74	5	77	1
Total	2059		813		110		827		1503		5312	

Table 3. Cooperative Waterfowl Banding Cost Summary - Atlantic Region - 1986

Station	Estimated Salaries	Bait	Food & Lodging	Trans-portation	Equipment Supplies/ Repairs	Total Cost	No. of Birds	Cost/ Bird	No. of Black Duck	Cost/ Black Duck
Labrador										
Nutak	5168.50* 3600.00**	107.48* 316.34	2620.55*	10067.23*	3231.26*	25111.36	777	32.32	368	68.24
Tinker Harbour	2100.00* 400.00**	316.34	792.34*	955.46*	1209.01* 36.40	5809.55	319	18.21	141	41.20
Indian House Lk.	3500.00*	316.34	935.03*	3728.50*	932.35* 64.42	9476.64	407	23.28	340	27.87
Insular Nfld.										
Carmanville	1325.00*	125.00*		175.00*	25.00*	1650.00	190	8.68	150	11.00
Codroy	2799.50*	209.62*	1440.00*	312.50* 487.79	212.50* 259.84	5721.75	557	10.27	184	31.10
St. Pierre-Miquelon	-	-	-	-	-	-	9	-	9	-
Bathurst, N.B.	2000.00*	217.62*	-	784.00*	48.05* 195.42	3245.09	416	7.80	388	8.36
Shepody NWA	1750.00*	209.62*	200.00*	1311.38* 469.10	231.41	4171.51	504	8.27	214	19.49
N.B.-N.S. Border	800.00* 1125.00	209.62*		186.67	52.00* 326.39	2699.68	380	7.10	338	7.98
CWS Airboat NB-NS-PEI	1200.00		263.40 43.15*	510.21	276.41	2293.17	663	3.45	208	12.97
USA Airboat	400.00*		372.00*	117.00*	(Total U.S. Airboat costing not available)		894	2.73us	395	6.18us
GRAND TOTALS	26168.00	2027.98	6666.47	19104.84	7100.46	60178.75***	4222***	14.25***	2340***	25.72***

CWS funds 6581.48 - does not include costs for vehicle mileage, new and replaced equipment estimated at $10,000.00
*Co-op funds 50486.27
**Challenge 86 Program - 4000.00
***Excludes USA Fish & Wildlife Airboat data because complete data unavailable.

Table 4. Age, sex and species of waterfowl banded at the Border Area - 1986

	Local			Hatch Year			After Hatch Year			
Species	M	F	T	M	F	T	M	F	T	Total
Mallard	-	-	-	13	5	18	2	2	4	22
Am. Black Duck	16	6	22	141	117	258	38	20	58	338
Blk X Mal. Hyb.	-	-	-	7	1	8	2	-	2	10
N. Pintail	-	-	-	1	1	2	-	2	2	4
Ring-n. Duck	2	1	3	-	1	1	-	2	2	6
Total	18	7	25	162	125	287	42	26	68	380

Table 5. Age, sex and species of waterfowl banded at Shepody NWA - 1986

Species	Local			Hatch Year				After Hatch Year			Total
	M	F	T	U	M	F	T	M	F	T	
Mallard						1	1	1	-	1	2
Black X Mallard Hyb.									1	1	1
Am. Black Duck	5	15	20		97	81	178	6	10	16	214
Green-winged Teal					17	14	31	5	2	7	38
Blue-winged Teal	5	-	5		54	52	106	9	4	13	124
Northern Pintail					1	2	3	1	1	2	5
Wood Duck		1	1					27	1	28	29
Ring-necked Duck	9	11	20		27	36	63	4	1	5	88
Pied-billed Grebe				3			3				3
TOTAL	19	27	46	3	196	186	385	53	20	73	504

Table 6. Age, sex and species of waterfowl banded at Bathurst, New Brunswick - 1986

Species	Hatch Year			After Hatch Year			Total
	M	F	T	M	F	T	
Am. Black Duck	131	101	232	70	86	156	388
Mallard	6	2	8	4	4	8	16
Black X Mallard Hyb.	2	1	3	6	1	7	10
N. Pintail	-	1	1				1
Green-winged Teal	1		1				1
Totals	140	105	245	80	91	171	416

Table 7. Age, sex and species of waterfowl banded by the USA Airboat - 1986

Species	Local			Hatch Year			After Hatch Year			Unknown	Total
	M	F	T	M	F	T	M	F	T		
Am. Black Duck	34	50	84	137	160	297	2	11	13	1	395
Blue-winged Teal	77	67	144	36	35	71	22	16	38		253
American Wigeon	36	30	66	5	6	11	4	5	9	1	87
Wood Duck	18	15	33	7	10	17	19	1	20		70
Green-winged Teal	3	1	4	8	3	11	9	4	13		28
Mallard	5	5	10	5	12	17	2	1	3		30
MallardXBlack Duck	1		1	3		3					4
Northern Shoveler	1		1	5	4	9	1	1	2		12
Northern Pintail	1	2	3	2	3	5		1	1		9
Common Goldeneye		2	2		2	2					4
Hooded Merganser				1		1					1
Ring-necked Duck								1	1		1
Totals	176	172	348	209	235	444	59	41	100	2	894

Table 8. Age, sex and species of waterfowl banded by the CWS Airboat - 1986

Species	Local			Hatching Year			After Hatching Year			Total			
	Male	Female	Unk	Male	Female	Unk	Male	Female	Unk	Male	Female	Unk	Total
Am. Black Duck	33	29	-	67	61	-	3	15	-	103	105	-	208
Mallard	-	-	-	2	1	-	-	-	-	2	1	-	3
B.-w. Teal	26	26	-	59	42	-	14	12	-	99	80	-	179
G.-w. Teal	3	1	-	28	18	-	14	20	-	45	39	-	84
American Wigeon	5	3	-	5	8	-	2	5	-	12	16	-	28
N. Pintail	-	1	-	3	1	-	-	-	-	3	2	-	5
R-n. Duck	32	36	1	17	23	-	6	18	-	55	77	1	133
Wood duck	-	1	-	-	-	-	20	0	0	20	1	-	21
P-b. Grebe	-	-	-	-	-	1	-	-	-	-	-	1	1
American Coot	-	-	-	-	-	-	-	-	-	-	-	1	1
Total	99	97	1	181	154	1	59	70	-	339	321	3	663

Table 9. Age, sex and species of waterfowl banded at Tinker Harbour - 1986

Species	Hatch Year			After Hatch Year			Total
	M	F	Total	M	F	Total	
Mallard				1		1	1
Am. Black Duck	16	17	33	96	12	108	141
Green-winged Teal	77	66	143	12	10	22	165
Northern Pintail	5	5	10		2	2	12
Total	98	88	186	109	24	133	319

Table 10. Age, sex and species of waterfowl banded at Indian House Lake, Labrador, 1986

Species	Local			Hatch Year			After Hatch Year			Total
	M	F	Total	M	F	Total	M	F	Total	
Mallard				2		2	1		1	3
Am. Black Duck	4	8	12	149	145	294	12	22	34	340
Green-winged Teal				12	22	34	2		2	36
Northern Pintail				8	7	15		3	3	18
Greater Scaup	2	3	5					1	1	6
Red-breasted Merganser		1	1							1
Canada Goose		1	1	1	1	2				3
Total	6	13	19	172	175	347	15	26	41	407

Table 11. Age, sex and species of waterfowl banded at Nutak, Labrador - 1986

Species	Local				Hatch Year				After Hatch Year				Total
	M	F	U	Total	M	F	U	Total	M	F	U	Total	
Am. Black Duck						1		1	339	28	-	367	368
Green-winged Teal	8	5		13	77	73	1	151	71	19	-	90	254
Canada Goose	15	19	7	41					15	8	7	30	71
N. Pintail	2	6		8	19	26		45	6	8		14	67
Mallard									6			6	6
Common Eider	1	2		3									3
Red-breasted Merganser									3			3	3
Oldsquaw	2			2						1		1	3
Blue-winged Teal					1			1					1
Mallard X Black Hybrid									1				1
TOTAL	28	32	7	67	97	100	1	198	441	64	7	511	777

Table 12. Age, sex and species of waterfowl banded at Codroy, Newfoundland - 1986

Species	Hatch Year			After Hatch Year			Total
	M	F	Total	M	F	Total	
Am. Black Duck	111	54	165	9	10	19	184
Black X Mallard Hyb.	2		2	3	-	3	5
Mallard	1	-	1	-	-	-	1
Northern Pintail	2	-	2	-	-	-	2
Ring-necked Duck	-	1	1	-	-	-	1
Green-winged Teal	195	148	343	2	13	15	358
Blue-winged Teal	2	4	6	-	-	-	6
TOTAL	313	207	520	14	23	37	557

Table 13. Age, sex and species of waterfowl banded at Carmanville, Newfoundland - 1986

Species	Hatch Year			After Hatch Year			Total
	M	F	Total	M	F	Total	
Am. Black Duck	64	80	144	2	4	6	150
Mallard	1	2	3				3
Northern Pintail	1	-	1		-	-	1
Ring-necked Duck	1	1	2	-	-	-	2
Green-winged Teal	16	12	28	1	2	3	31
Canada Goose	2	1	3				3
Total	85	96	181	3	6	9	190

Table 14. Age, sex and species of waterfowl banded at St. Pierre Miquelon - 1986

Species	Hatch Year			After Hatch Year			Total
	M	F	Total	M	F	Total	
Am. Black Duck	-	-	-	6	3	9	9

Waterfowl Banding Project

New Brunswick-Nova Scotia Border Area

8 August - 27 August 1986

Crew Members

Mark Petrie

Stephen Parker

Introduction

During 1986 a waterfowl banding station was operated on the Chignecto National Wildlife Area. Bait trapping was carried out on three impoundments, two within the John Lusby Section and one on the Amherst Point Sanctuary. A total of 380 birds was banded using weld wire traps and cracked corn for bait.

Results and Discussion

The Chignecto National Wildlife Area has much diversity and is utilized by waterfowl for both breeding and staging purposes. Banding on both sections at this wildlife area has been ongoing for twenty years with success varying due to weather, management practices and effort by banders. The range of banding success is shown in Figure 1.

The pre-baiting period in which all sites were visited during early morning and evening periods is very important. Waterfowl utilization is assessed, potential trap sites located, area familiarization is achieved and bait is distributed. Special situations such as Amherst Point, which is large with scattered populations, and the Lusby impoundments which are smaller with concentrated populations, should be considered. A map with approximate trap locations is provided in Figure 2. Trap locations will vary from year to year depending on management practices, water levels and waterfowl preference.

Four species of waterfowl and 380 birds were banded at the Border Area in 1986. Black Ducks were the most numerous comprising ninety percent of the total banded. Mallard, pintail and Ring-necked Ducks made up ten percent of the total. In addition nine hybrids were captured. The totals by species with age and sex breakdown are presented in Table 1.

The Black Duck total is encouraging since this is the target species in the banding program. As shown in Figure 1 the 1986 Black Duck total is average compared to totals over a ten year period 1975-1985. The station was operated for only twenty days this year. It should be noted however, that the daily success and retrap totals (figures 3 and 4) indicate station termination was imminent due to lack of success.

The species composition was interesting in 1986. No teal were banded in 1986 which is highly unusual. A Green-winged Teal decline over the past ten years is evident at this station and probably over the Atlantic Area. The absence of Blue-winged Teal is most unusual for the border area. Very low numbers of pintail and Ring-necked Ducks and no minor species suggest either a change in habitat or trapping technique.

It was noted in the retraps (10) that Black Ducks are utilizing both the salt marsh and freshwater sections of the wildlife area. Also noted was an influx of adult birds, (presumably molters) near the end of August and a total sex ratio favouring males (61% vs. 39%). Table 2 summarizes the trapping success by area. Over 80% of the birds banded were captured on the two John Lusby Area impoundments. This could explain part of the changes in the species composition for this year's effort but the teal situation is still a mystery.

Recommendations

(1) Storage of a boat on the Burgess impoundment enhanced the banding operation and should be repeated in 1987.

(2) Due to a silt layer within the Burgess impoundment, traps require a burlap bottom.

(3) Establish traps on all areas as early as possible. The normal pattern of "locate, prebait, trap" may be altered. The first two steps may be eliminated as a trial on traditional trap sites.

(4) A holding box near traps with a potential for over-crowding will help the banding operation and prevent injury.

(5) The banding manual, previous years schedules and reports provide excellent reference material and should be utilized during the operation.

(6) Maintain a balanced and efficient trap line. Too many traps may cause additional waste in materials and manpower..

(7) All traps should be of two funnel or more design.

Table 1. Age, sex and species of waterfowl banded at the Border Area, 1986

	Local			Hatch Year			After Hatch Year			
Species	M	F	T	M	F	T	M	F	T	Total
Mallard	-	-	-	13	5	18	2	2	4	22
Black Duck	16	6	22	141	117	258	38	20	58	338
Blk X Mal. Hyb.	-	-	-	7	1	8	2	-	2	10
Pintail	-	-	-	1	1	2	-	2	2	4
Ring-n. Duck	2	1	3	-	1	1	-	2	2	6
Total	18	7	25	162	125	287	42	26	68	380

Table 2. Summary of waterfowl banded by location

	Mallard	Black Duck	Blk X Mal Hybrid	Pintail	Ring.-n. Duck	Total
Russel Imp. 3 traps	5	154	7			166
Burgess Imp. 3 traps	17	117	3	3	6	146
Amherst Pt. 4 traps	-	67	-	1	-	68

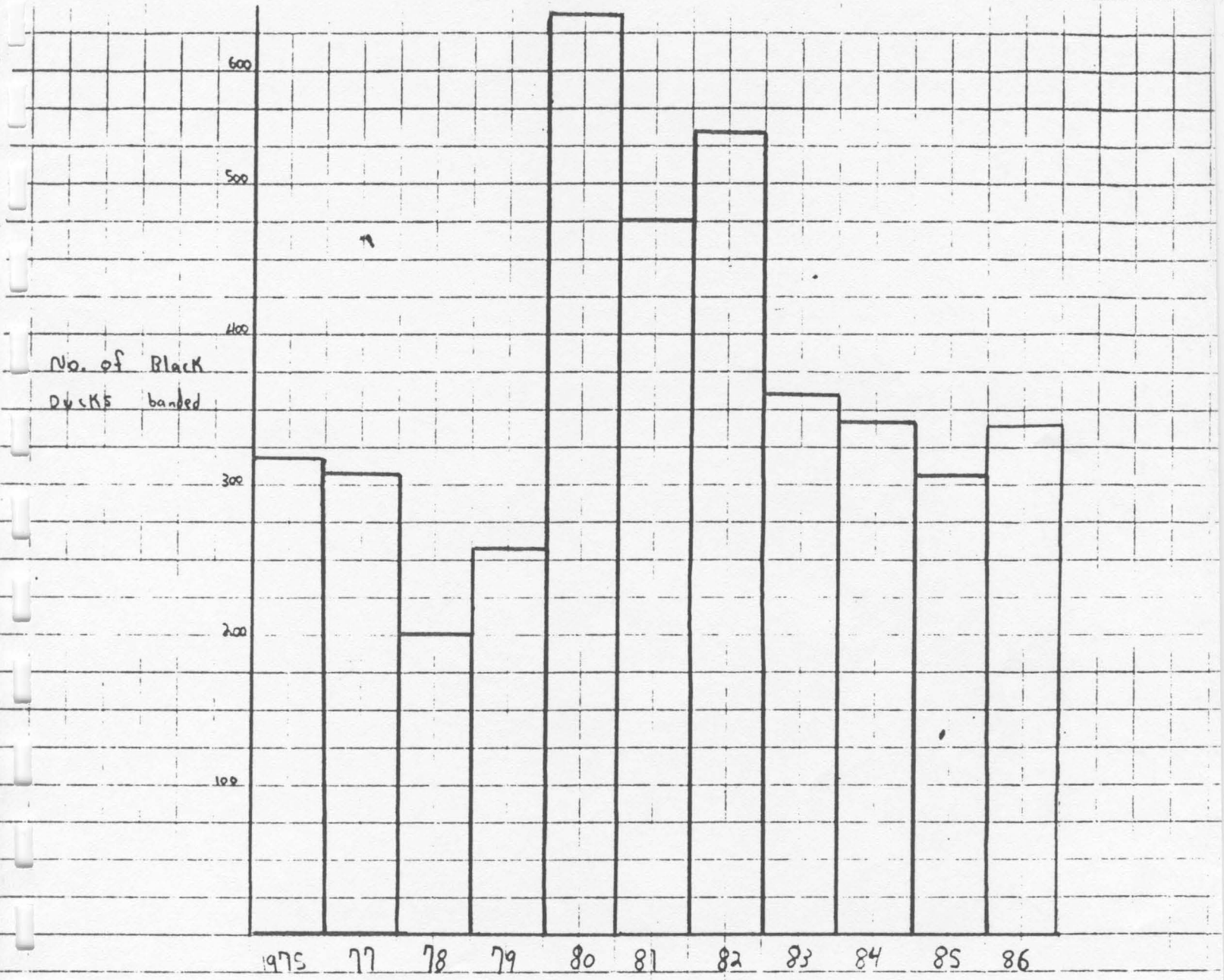


Figure 1. Black Ducks banded on an annual basis 1975–1986.

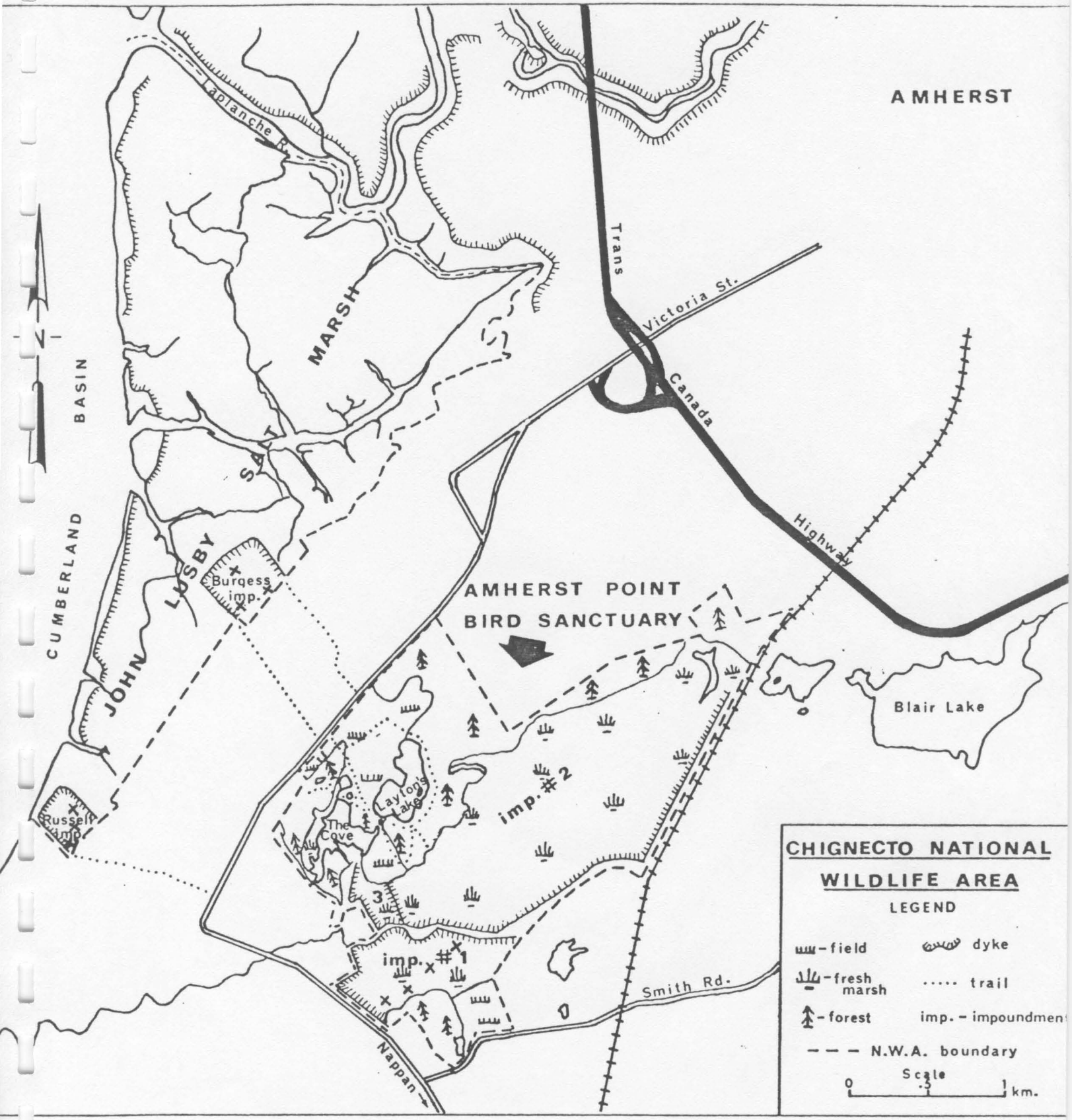


Figure 2. Trap locations for Border Area banding station - 1986.

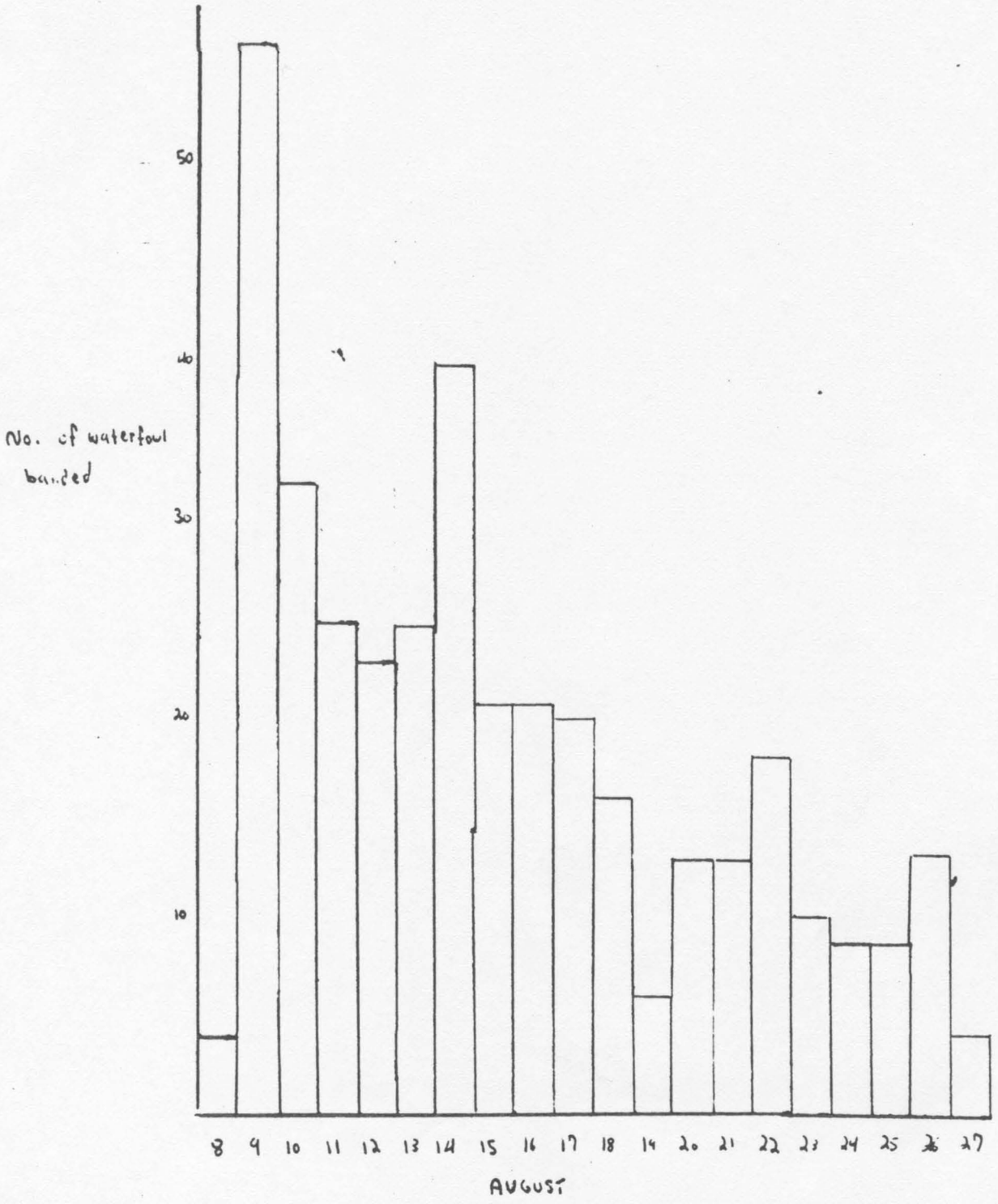


Figure 3. Waterfowl banded on a daily basis August 8–27.

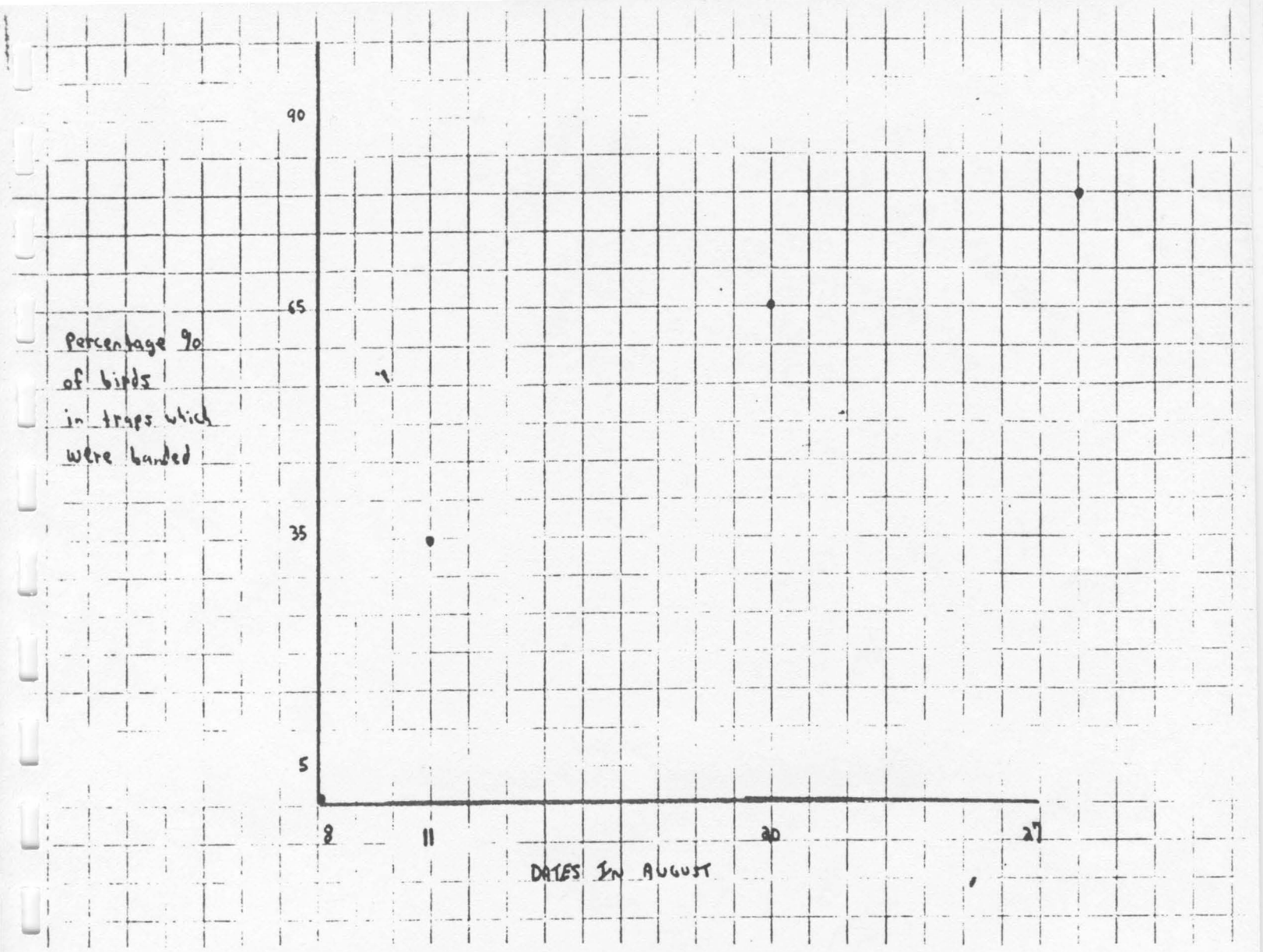


Figure 4. Increase in the percentage of retraps with time.

Report on the Waterfowl Bait-Trapping Station at the Shepody Bay National Wildlife Area

25 July - 1 September, 1986

Crew Members

Perry Trimper
Mark Petrie
Danny Sears

Acknowledgements

In terms of bait-trapping, I would have been considered a 'green-wing' (as they say in this business) before having started at Shepody this year. The success of this year's season then could only be attributed to the great deal of support and assistance which I received. In particular, I would like to thank the following; Mark Petrie and Danny Sears who helped with the initial set-up and provided me with the finest of trapping-strategy; Micheline, Alison and JoAnne whose help, hospitality and guided tours of Alma made the summer pass by too quickly; and finally the co-ordinator, Myrtle Bateman who was very supportive and allowed me this opportunity to experience the wildlife of a marsh.

The list of personnel and volunteers who were involved with this project is as follows:

Banders

Mark Petrie	Scott Gilliland
Danny Sears	Pierre Ryan

Volunteers

Micheline Manseau	Dennis Comeau
Alison Haworth	Steve Woodley
JoAnne Beauchamp	Francois Granger
Danielle Grimard	Jocelyne Emond
Sylvie LeBlanc	Suzanne Carriére
Shaun Hicks	

Approximately 80 volunteer man hours were donated to the project which amounts to a major contribution and show of interest by the public sector

Introduction

During the summer of 1986, a waterfowl bait-trapping station was operated by the Canadian Wildlife Service for the third consecutive year at the Shepody Bay National Wildlife Area. The station was operated for 38 days from 25 July (initial baiting) to 1 September (trap removal). This represents an earlier start than years past since the author needed the extra week for familiarization of the area and banding procedures. This was not, however too early to begin trapping since field observations indicated that good numbers of all waterfowl species were present at that time.

Total Capture/Recapture

A total of 510 birds representing 7 species of waterfowl were banded during the summer of 1986 at the Shepody Station (Table 1). The total surpasses earlier figures for 1984 (262), and 1985 (497) indicating the increased importance of this area as a banding station. The age and sex breakdown by species is presented in Table 1.

Table 1. Breakdown by age and sex for each species of waterfowl banded at the Shepody Bay Station, 1986.

		Local		Hatch Year		After Hatch Year		
A.O.U.#	Species	M	F	M	F	M	F	Total
132.0	Mallard	0	0	0	1	1	0	2
132.6	Mallard/Black	0	0	0	0	0	1	1
133.0	Black Duck	5	15	97	81	6	10	214
139.0	Green-winged Teal	0	0	17	14	5	2	38
140.0	Blue-winged Teal	5	0	55	51	9	4	124
143.0	Northern Pintail	0	0	1	2	2	0	5
144.0	Wood Duck	0	0	0	0	27	2	29
150.0	Ring-necked Duck	9	10	26	37	2	4	88
006.0	Pied-billed Grebe	0	0	3[a]		0	0	3
TOTAL		44		388		77		504

[a]Unknown sex

As the trapping season progressed, a major portion of the daily catch was recaptured. Approximately forty percent of the banded birds were recaptured and Table 2 summarizes the trap preference (Figure 1).

Table 2. Summary of recaptured individuals in regards to original trap sites at Shepody Bay, 1986

Species	Total Banded	Recaptures # Individuals Total	%	Comments
Green-winged Teal	38	10	26	all in original traps
Blue-winged Teal	124	54	44	6 in other traps
Wood Duck	30	8	27	5 in other traps
Ring-necked Duck	78	34	44	15 in other traps
Black Duck	218	113	52	65 in other traps

Mortality

Losses related to trapping of waterfowl at Shepody Bay in 1986 accounted for at least seven individuals. These incidents occurred as follows:

16 August - A female Wood Duck and two Black Ducks, all banded, were found dead in the New Horton A, #2 trap apparently having been killed by a mink. This location had been very successful in attracting large numbers of blacks, Wood Ducks and Blue-winged Teal, so it was unfortunate to have had to close this site for three days without baiting. It was reopened with a live-trap placed nearby, without further incident. The reduction in trap success (Table 3) was compensated for by the other impoundment traps.

19 August - The Germantown F trap had not been checked the previous day which may have led to the death of an unbanded male hatch year Green-winged Teal.

The bird had probably gotten caught in the funnel entrance after trying to escape. Field observations of the traps show that in general birds are content in the trap up to a certain period of time. This was the only time that a trap was not checked within a 24 hour period.

23 August - Evidence of poaching at Mary's Point in the form of fresh paperwads and inner plastic linings from spent shotgun shells. Ducks had been congregating at this area near the road and the water was stirred up that morning. Dave Paul at Sackville was contacted and there were no further incidents noticed.

24 August - Mary Majka and David Christie had to destroy a Ring-necked Duck (assume unbanded) at the Mary's Point impoundment. Its lower mandible was broken as if having been caught in the wire cage. Unfortunately wire for the cages which has the rectangles in a vertical position does not seem to be available. This might alleviate this problem as well as that of ducks scraping their upper mandible while searching for exits.

30 August - Possibly another mink killed one banded Black in the New Horton C #1 trap and another outside. There were three other ducks inside with no obvious injuries, since there were only two trap days remaining, the roof was removed for good.

Black Duck

The majority of the daily catch at Shepody this season was made up of Black Ducks. If recaptures are combined with new birds in the daily records, at least 10 individuals were handled through almost the entire season (Figure 2). Unfortunately, the large influx of unbanded blacks, typically seen at Maritime stations towards the end of August was not evident this year. Perhaps if the station had continued to operate for an extended period, the

Black Duck total for 1986 would have surpassed that of previous years.

Field notes and recapture data indicated that Blacks were very mobile throughout the impoundment system as several individuals were regularly caught at the various sites. Another note of interest was the occurrence of local birds trapped late in the season at Mary's Point. These individuals (3), still had four or more primary feathers growing and the plumage classification of Gallup and Marshall places their hatch date on or about 26 July.

As part of a larger study, several wing and bill measurements of over 60 Black Ducks at Shepody were completed by Pierre Ryan. These data will be pooled with other information from the Atlantic Provinces in an attempt to help distinguish the Black/Mallard hybrids. Only one such hydrid was observed this season, having been caught twice at the Mary's Point impoundment. Unfortunately, no measurements were taken but the adult female appeared much smaller when handled.

The general aggressiveness of the Black Duck in obtaining the baited corn became obvious in the trap records. This was particularly evident at the Germantown F trap which regularly held good numbers of Teal. However, on those days when two or more blacks were found in the trap, Teal were generally absent even though large flocks were in the impoundment. Perhaps field observations from a blind could help explain this interesting coincidence in the future.

Wood Duck - The Shepody Bay system has recently become recognized as an important moulting area for adult male Wood Ducks. This year proved no exception with a total of 30 adults (27 males: 3 females) banded and field observations which showed local populations to be much higher. Favored

resting areas seemed to be among the flooded alder stands of the New Horton impoundments. The daily catch of Wood Ducks dropped off after mid-season even though numbers around the traps remained constant (Figure 3).

An interesting point which may be related to these results is that only one male Wood Duck was captured (29 August) that was approaching full eclipse plumage. On several occasions near the end of August groups of 10-20 would flush on our approach to the New Horton C #3 trap, yet there would be none inside. Perhaps as the moult progresses into the later stages, the acceptability of the bait trap to a Wood Duck is altered in some way.

As an indication of the stage of moult numbers of growing primary feathers from adult males were recorded to examine synchronization (Figure 4) and possible changes in weight during this period (Figure 5). Although none of these measured birds still had primary growth after 17 August, the moulting process was still ongoing. Observations should also have been noted on the presence of growing feathers on the head, nape, back and breast to help place each bird in a sequence thereby explaining the "Full" category of Figure 5. These values may also be inaccurate due to the quality of scale used (Jim - spring scale 1000 g) and/or a result of the amount of corn consumed by each individual. Unfortunately, the literature is unavailable for comparison as this report is being compiled.

The incidence of three adult females in the traps may show promise for Shepody as a nesting area, although no juveniles were seen this year.

Green-Winged Teal

The number of Green-winged Teal captures this year (38) increased over that of last year (14) and surveys indicated good numbers in all marshes except Mary's Point. The fact that all recaptures of Green-winged Teal

occurred in their respective original traps demonstrates a tendency for these birds to remain on one impoundment throughout this period. However, the reverse may be occurring whereby the birds may be mobile, but do not identify with the other trap sites as readily as Black Ducks. The increased catch seen this year (Figure 6) will be interesting to compare with other stations to see if this is just a local trend for this troubled species.

Blue-winged Teal

The large numbers of "blue-wings" seen during the latter part of the season were reflected in the trap records (Figure 7). The most successful marsh in terms of banded birds was at Germantown F, whereas none was captured at Mary's Point. These birds were often recaptured and it seemed as if the handling stress did not affect their acceptance of the traps. As with the Green-winged Teal, it can be said that this species identified only with its original trap since only 11% of the recaptures occurred at other sites. Towards the end of August the birds were definitely "flocking up" yet there was no large influx of migrating birds.

Ring-necked Duck

The 1986 season netted 88 ring-necks which is a considerable increase since none was banded the previous year. These figures may be the result of a recent settling of the species in the coastal areas since none was trapped or seen at the inland Germantown F marsh. However this seems doubtful as approximately one-quarter of the birds banded were locals, indicating an important nesting area.

Once again, individuals did not seem to be affected by handling stress as roughly one-half of previously banded birds were recaptured.

Three birds originally banded as locals in the New Horton marshes showed up later at the Mary's Point traps after they were able to fly. High numbers seen towards the end of the season may be indicative of migrating birds or at least a staging ground for migration. This later cohort was almost exclusively made up of hatch year birds (Figure 8).

Other waterfowl species banded were Mallard (2) and Northern Pintail (5), whose numbers were down from last years' totals of 26 and 14 respectively. The facts that one hybrid was trapped and few Mallards even seen were encouraging for the Black Duck. Three Pied-billed Grebes caught this year at New Horton C were aged as locals but because of their somewhat feisty attitude, their sex was not determined. Shovelers, Widgeon and three Canada Geese were also seen at the various locations but were never trapped.

Trap Descriptions

Figures 9 through 12 demonstrate the number of waterfowl captured in each impoundment during the trapping season. As well, by examining Tables 3 through 6 a clearer picture of the effectiveness of each trap in these impoundments can be gained. The 'Start of Baiting' column refers to the date on which corn was first placed at that specific site. Several other areas were also initially baited but never became successful. The 'Start of Trapping' is that day on which the trap was fully operable with walls and roof in place. The number of days on which a trap was operable are the total 'Trap Days'. The efficiency of each trap was calculated by dividing the total number of unbanded birds captured by the number of operable days for that trap.

New Horton - A

Table 3. Summary of the 'trap data' from the New Horton A Impoundment at Shepody Bay, 1986

Trap #	Start of Baiting	Start of Trapping	Trap Days	# Birds Banded					#Birds Banded per Trap Day
				Blacks	BWT	GWT	Wood D.	Ring-neck	
1	26/07	7/08	25	35(16)[a]	4(3)	-	2(7)	6(7)	1.88
2	26/07	5/08	24[b]	23(10)	2(2)	2(5)	1(3)	-	1.17
3	27/07	9/08	23	12(5)	-	-	2(7)	6(7)	.87
Imp. Total			72	70(32)	6(5)	2(5)	5(17)	12(14)	1.32

[a]Represents the percentage of the total for that species over all areas.
[b]Closed for three days due to predator problems

New Horton - C

Table 4. Summary of the 'trap data' from the New Horton - C Impoundment at Shepody Bay, 1986

Trap #	Start of Baiting	Start of Trapping	Trap Days	#Birds Banded						# Birds Banded Trap Day
				Blacks	BWT	GWT	Wood D.	Ring-neck	Others	
1	25/07	1/08	31[b]	20(9)[a]	24(19)	1(3)	18(60)	8(9)	-	2.29
2	25/07	7/08	26	36(16)	2(2)	12(32)	3(10)	12(3)	3	2.62
3	20/08	24/08	9	19(9)	2(2)	-	-	2(2)	1	2.67
Impoundment total			66	75(34)	28(23)	13(34)	21(70)	22(25)	4	2.447

*3 Pied-billed Grebe in #2 trap and 1 Northern Pintail

[a]Represents the percentage of the total for that species over all areas
[b]Closed for the last two days due to predator problems

Mary's Point

Table 5. Summary of the 'trap data' from the Mary's Point Impoundment at Shepody Bay, 1986

Trap #	Start of Baiting	Start of Trapping	Trap Days	# Birds Banded				#Birds Banded per Trap Day
				Blacks	Wood D.	Ring-necks	Others*	
1	31/07	4/08	29	10(5)[1]	4(13)	36(41)	4	1.86
2	11/08	15/08	18	43(20)	-	17(19)	2	3.44
Impoundment Total			47	53(24)	4(13)	53(68)	6	2.47

*accounts for four Northern Pintail caught in the #1 trap and one mallard and one Black/Mallard Hybrid in #2

[1]Represents the percentage of the total for that species over all areas

Germantown F

Table 6. Summary of the 'trap data' from the Germantown F Impoundment at Shepody Bay, 1986

Trap #	Start of Baiting	Start of Trapping	Trap Days	# Birds Banded			# Birds Banded Trap Day
				Blacks	BWT	GWT	
1	31/07	7/08	26	21(10)	89(72)	18(47)	4.92

The summary of individual trap successes is outlined in Table 7. Rather than a wordy description, this comparison should provide a clear picture of performance in terms of the five major species and total numbers of waterfowl for each trap.

Table 7. Summary of individual trap performances for each of the five major species and relative efficiencies of each trap.

Species	Relative Order of Importance								
Black Duck	MPT2	NHC2	NHA1	NHA2	GTN	NHC1	NHC3	NHA3	MPT1
Green-winged Teal	GTN1	NHC2	NHA2	NHC1	-	-	-	-	-
Blue-winged Teal	GTN1	NHC1	NHA1	NHA2	NHC2	NH3	-	-	-
Wood Duck	NHC1	MPT1	NHC2	NHA1	NHA3	NHA2	-	-	-
Ring-necked Duck	MPT1	MPT2	NHC2	NHC1	NHA1	NHA3	NHC3	-	-
Efficiency = #Birds Banded / Trap Days	GTN1	MPT2	NHC3	NHC2	NHC1	NHA1	MPT1	NHA2	NHA3
	1	2	3	4	5	6	7	8	9

MPT - Mary's Point
GTN - Germantown
NHA - New Horton A
NHC - New Horton C

( ) traps of equal importance for that category

- species not present in other trap(s)

Summary - By comparing the differences in waterfowl trapping from year to year it becomes obvious that predictions on future trends are difficult to make. The increase of Green-winged Teal and presence of Ring-necked Ducks certainly attests to this conclusion. If accurate records of recaptures, field surveys and behaviour can be maintained then some insight may be gained into the technique of bait-trapping. The number of ducks banded this year at Shepody could certainly qualify the season as a success, so hopefully funds will be allocated for operations in 1987.

Figure 1. **Total daily number of birds banded for all species of waterfowl at Shepody Bay, 1986.**

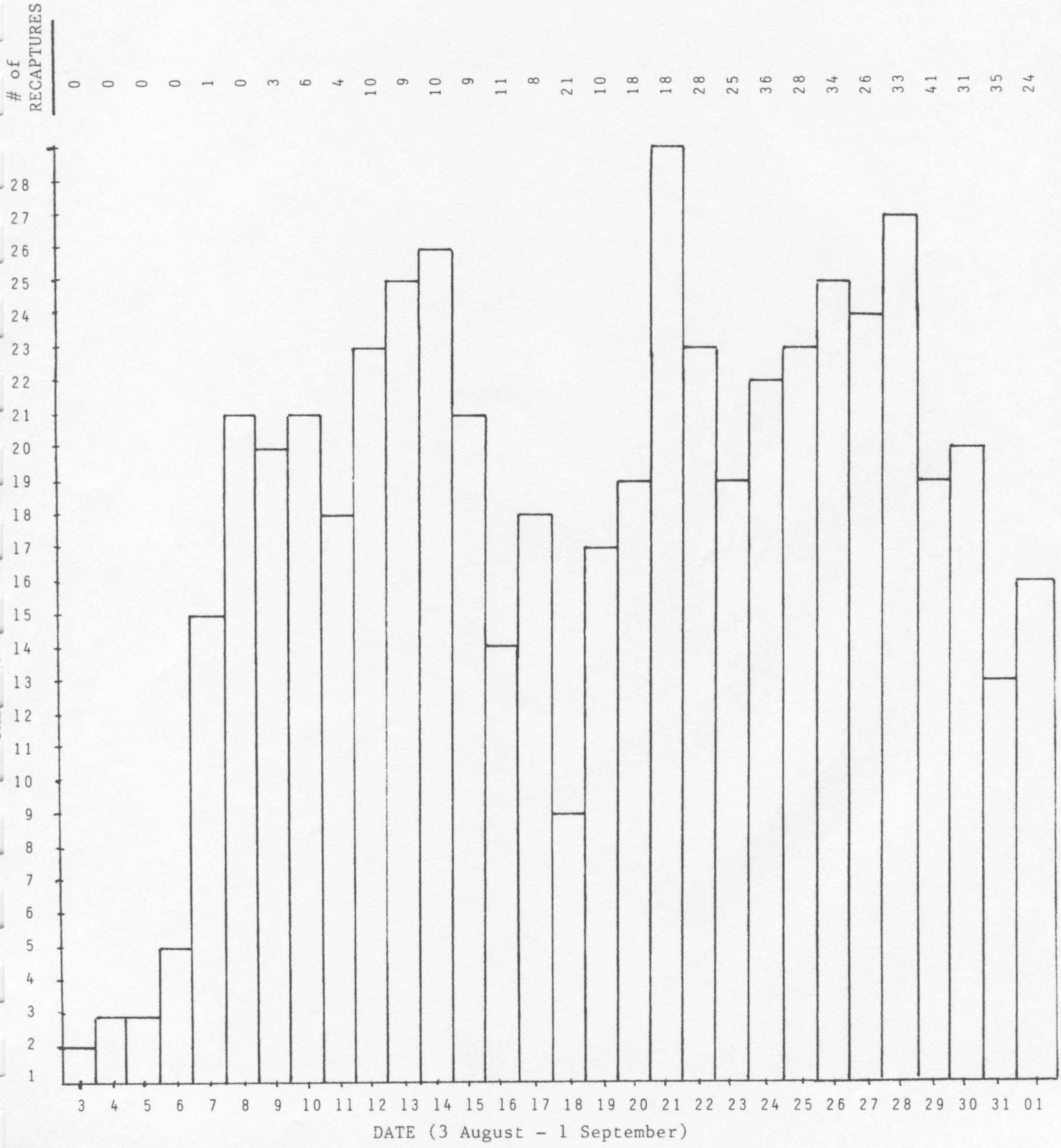


Figure 2. **Total daily catch of Black Ducks including recaptures at Shepody Bay, 1986.**

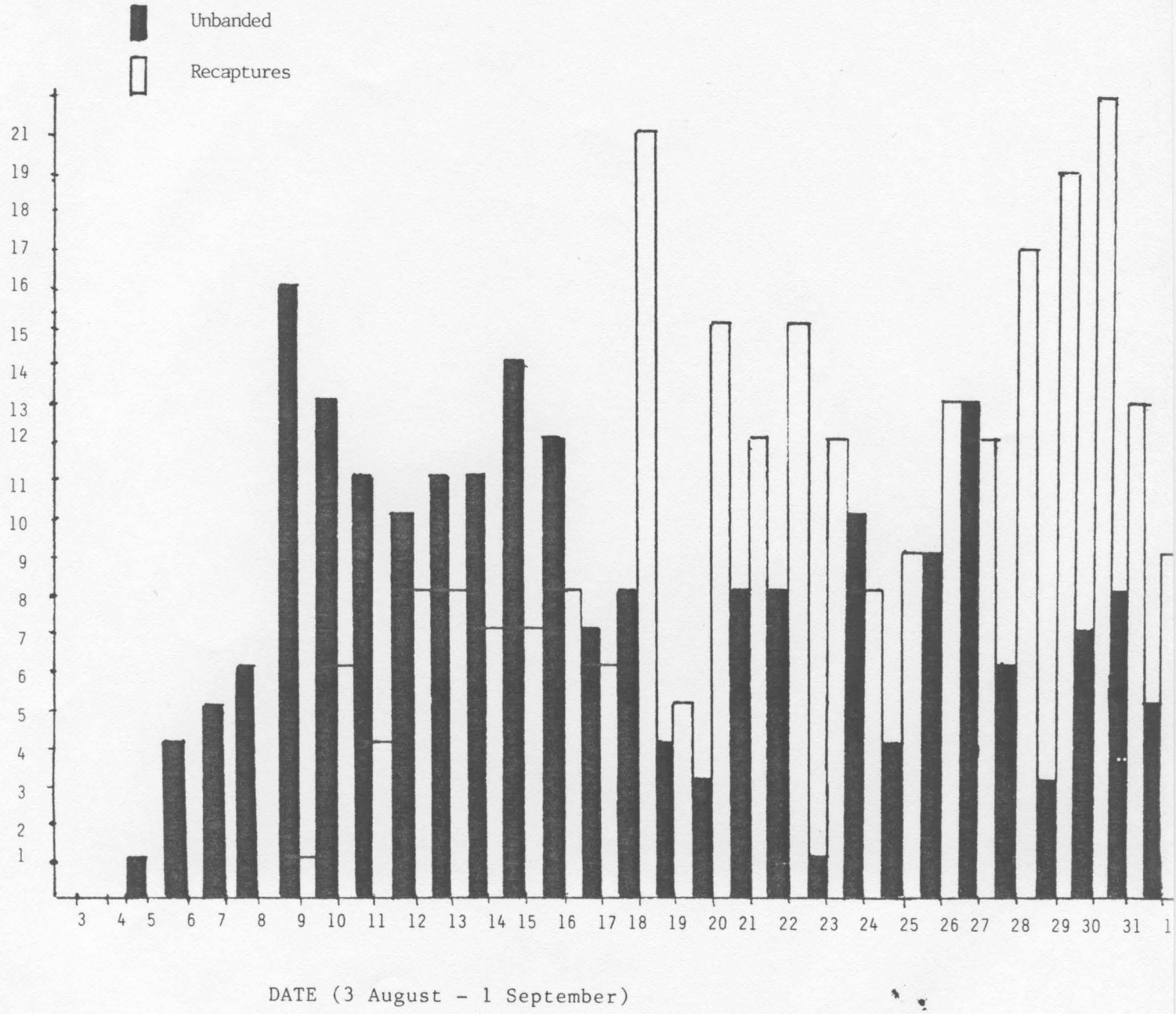


Figure 3. Total daily catch of Wood Ducks including recaptures at Shepody Bay, 1986

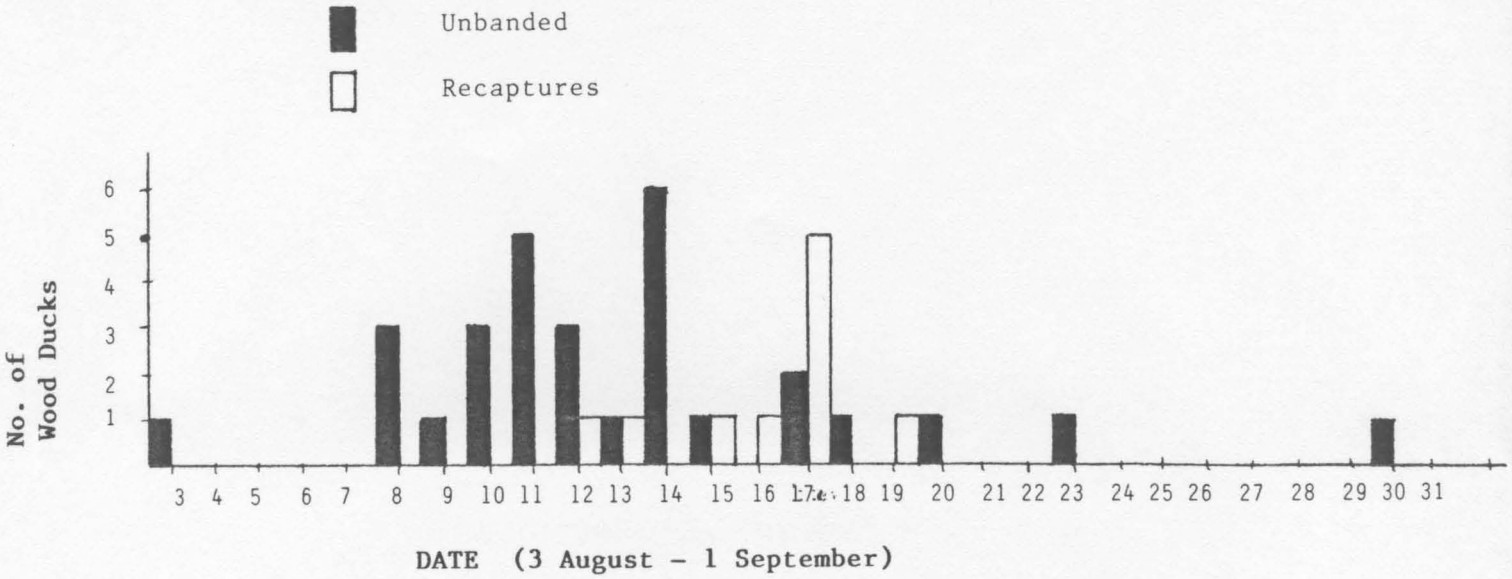
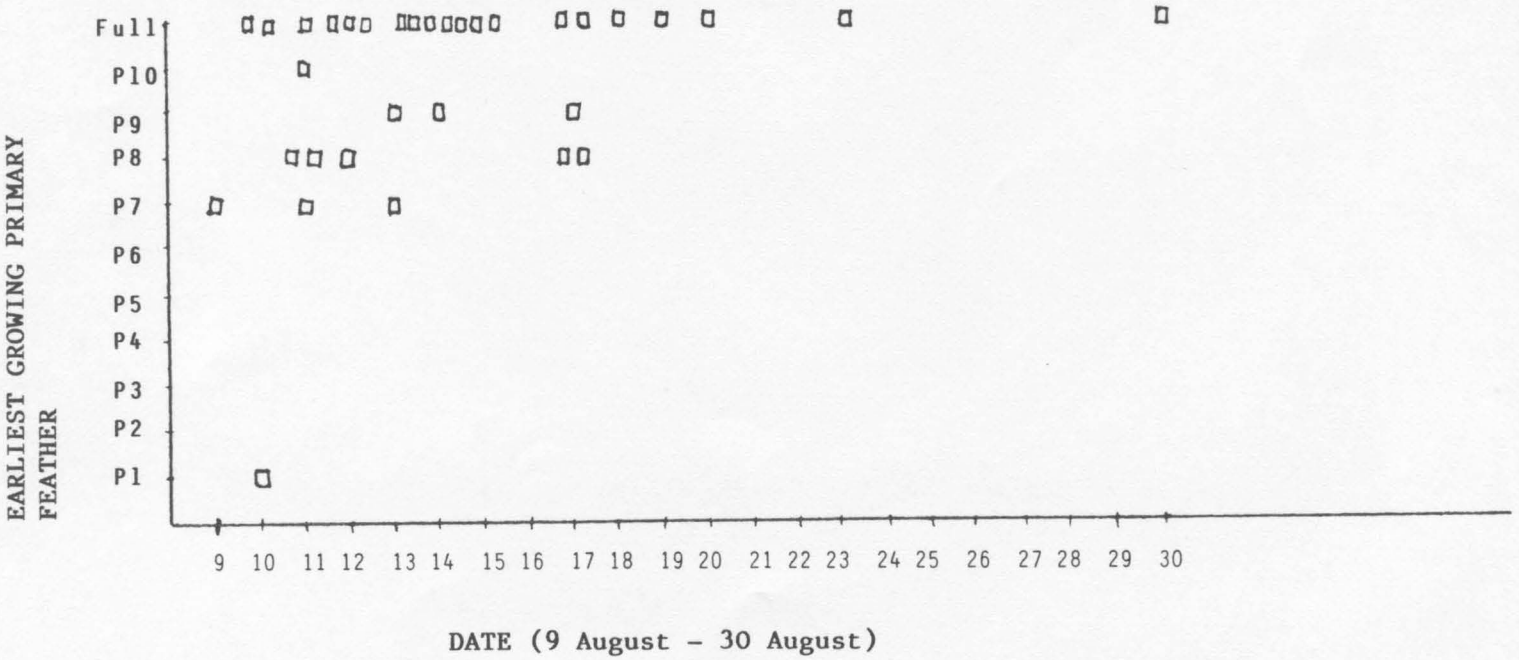


Figure 4. Stage of molt as determined by the earliest growing primary feather of adult male Wood Ducks, Shepody Bay, 1986.



*Note - 'Earliest' refers to that primary feather which of those currently growing, will be the first completed.

e.g. If the seventh through tenth primary feathers were growing, the seventh would be considered the 'earliest' and thus entered in the figure.

Figure 5. Weights of adult male Wood Ducks in relation to their earliest growing primary feather at Shepody Bay, 1986.

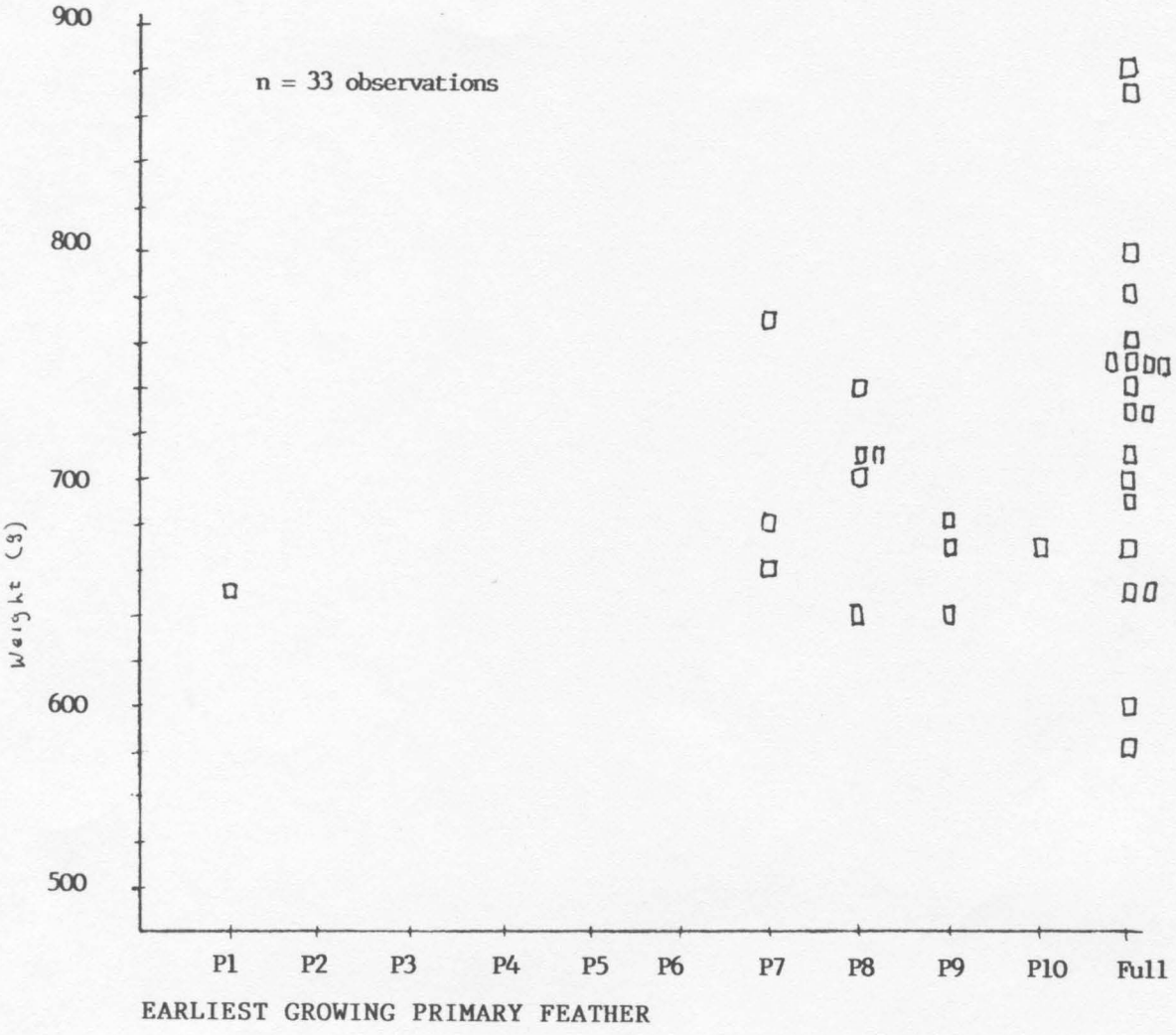


Figure 6.

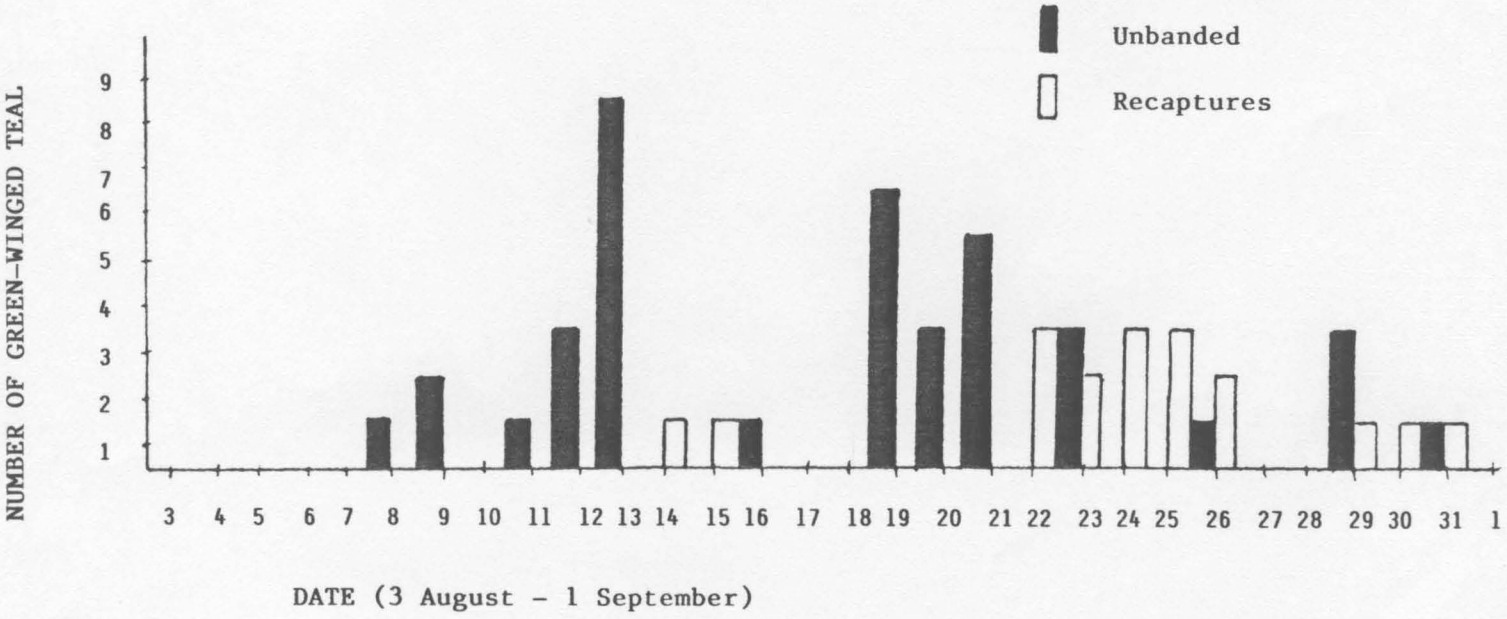


Figure 6. Total daily catch of Green-winged Teal including recaptures at Shepody NWA, 1986.

Figure 7. Total daily catch of Blue-winged Teal including recaptures at Shepody Bay, 1986.

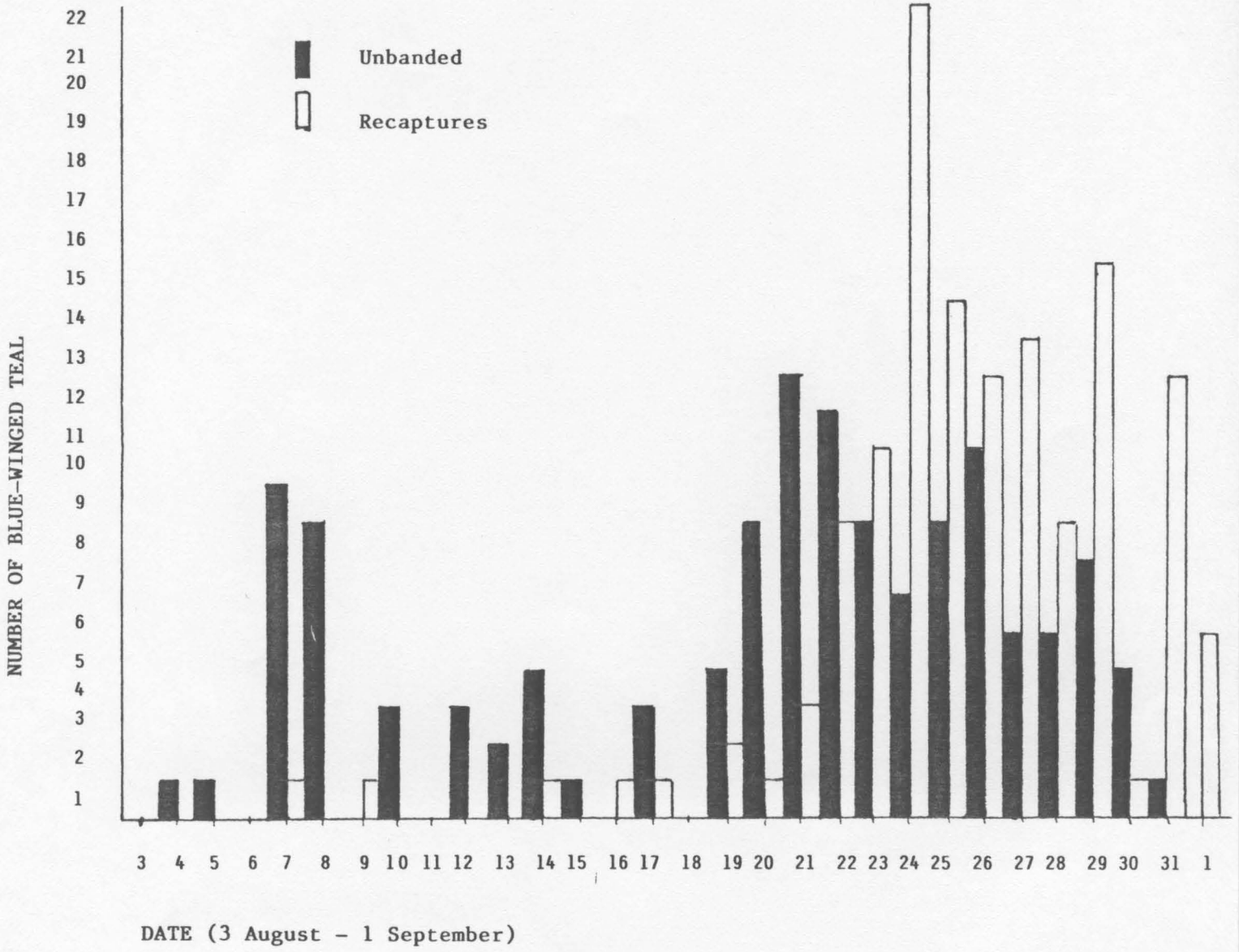


Figure 8. Total daily catch of Ring-necked Ducks including recaptures at Shepody Bay, 1986

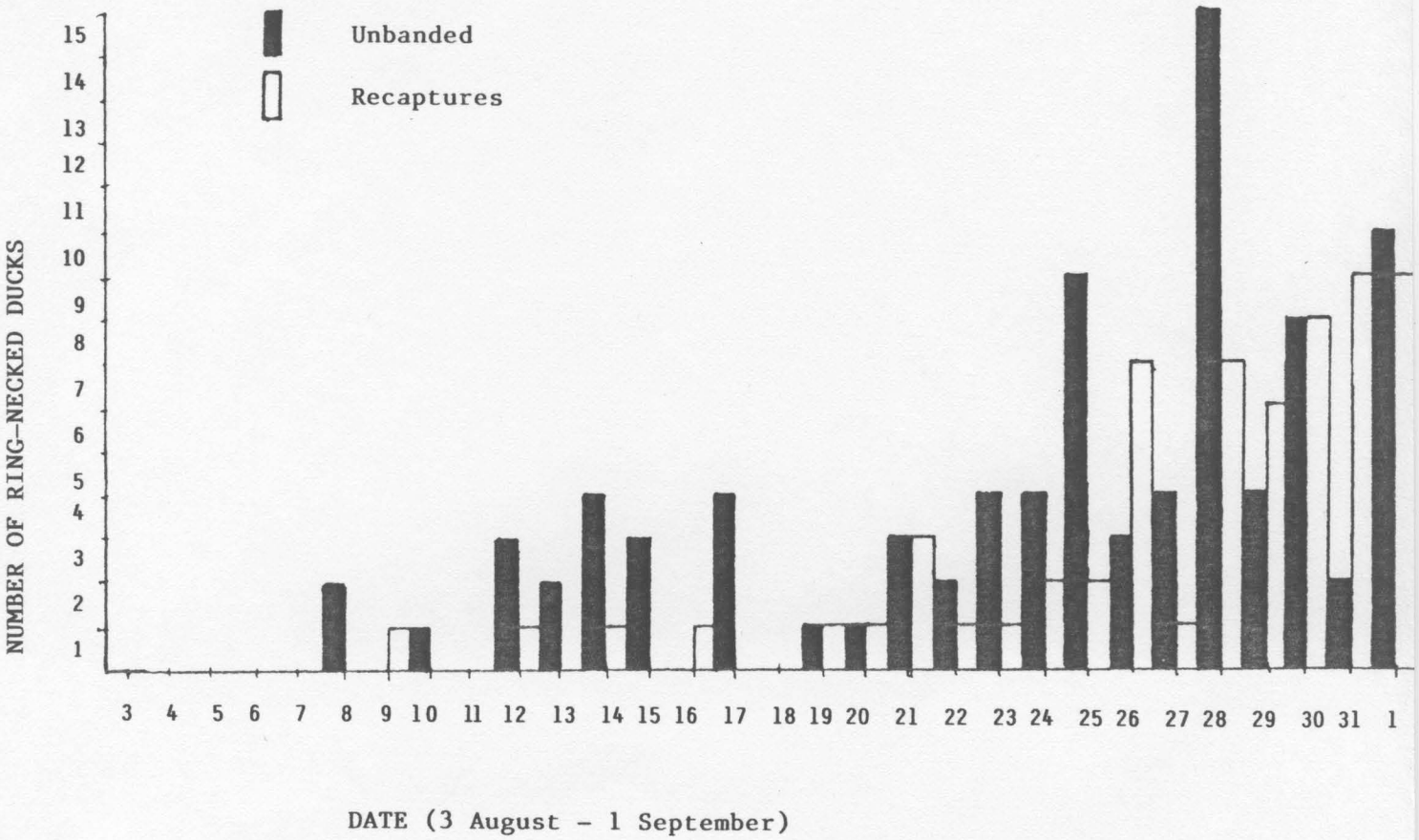


Figure 9. Total daily catch of waterfowl including recaptures for the New Horton – A Impoundment at Shepody Bay, 1986.

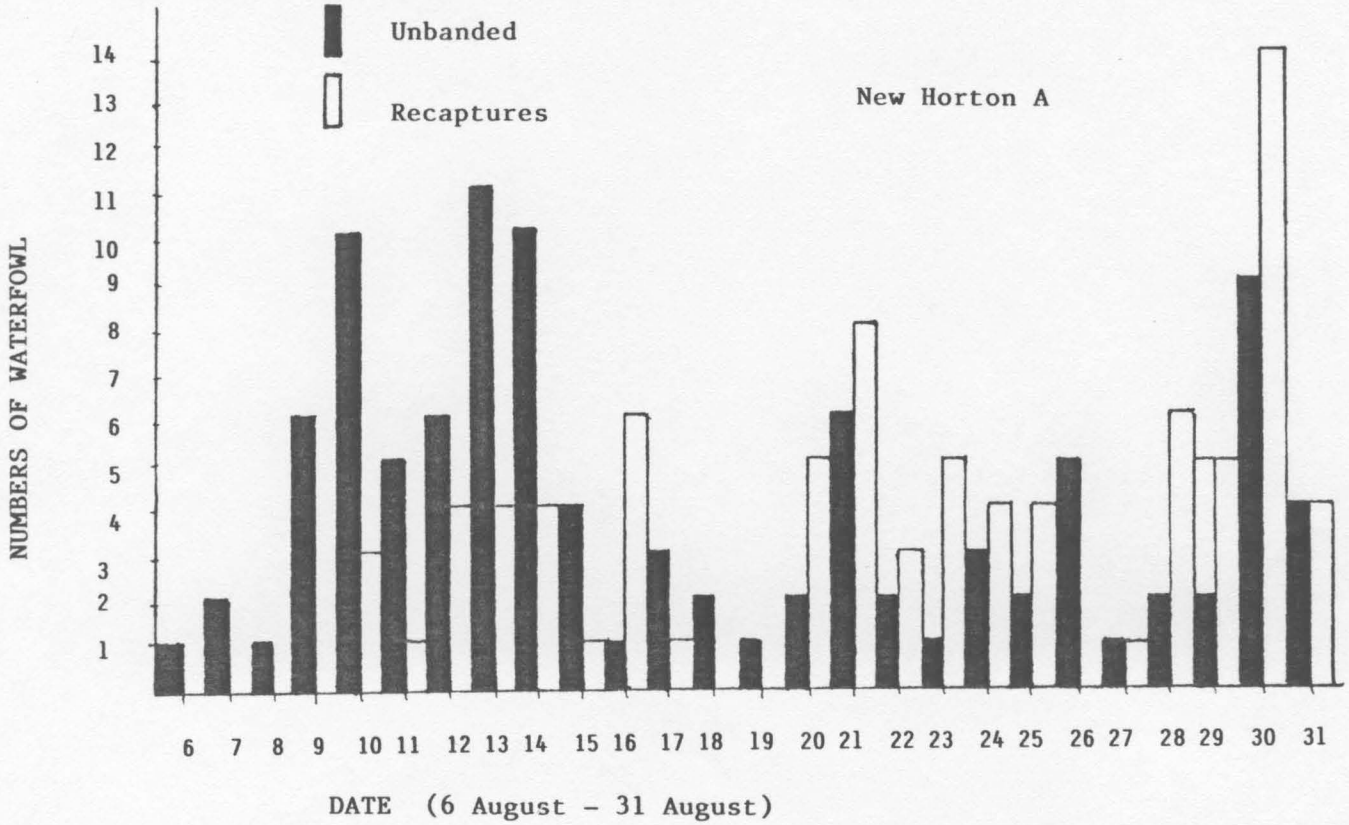


Figure 10. Total daily catch of waterfowl including recaptures for the New Horton – C Impoundment at Shepody Bay, 1986.

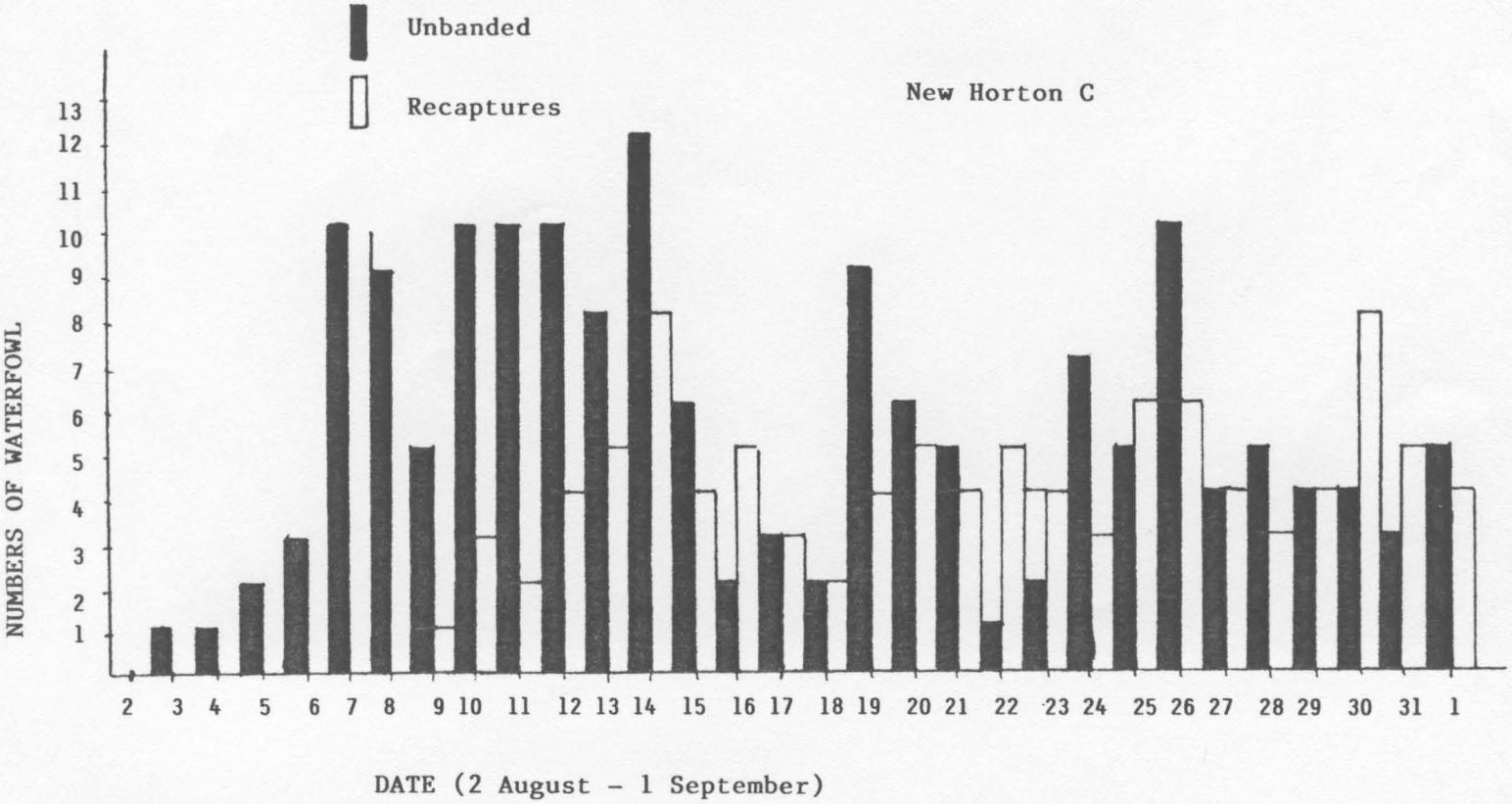


Figure 11. Total daily catch of waterfowl including recaptures for the Mary's Point Impoundment at Shepody Bay, 1986.

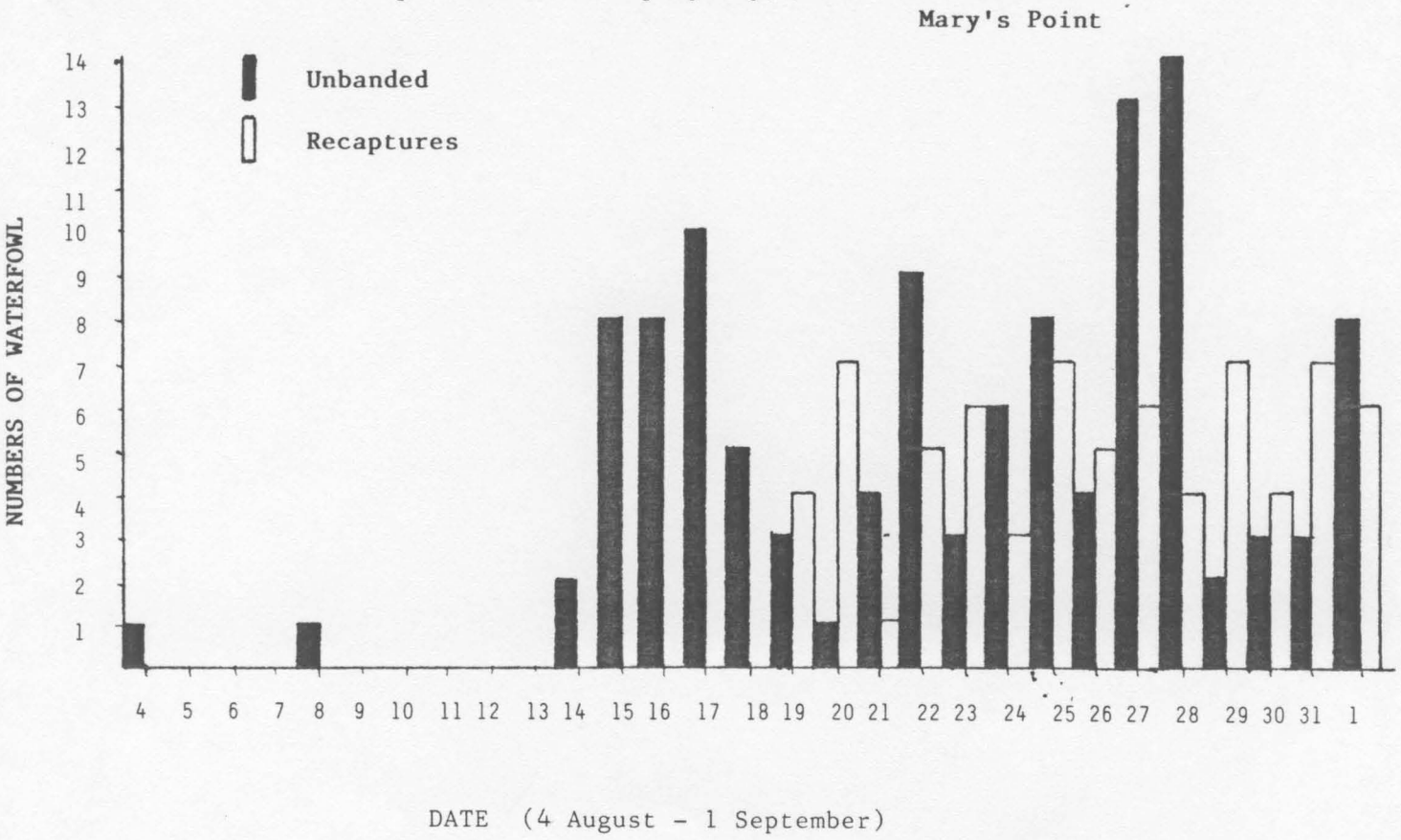
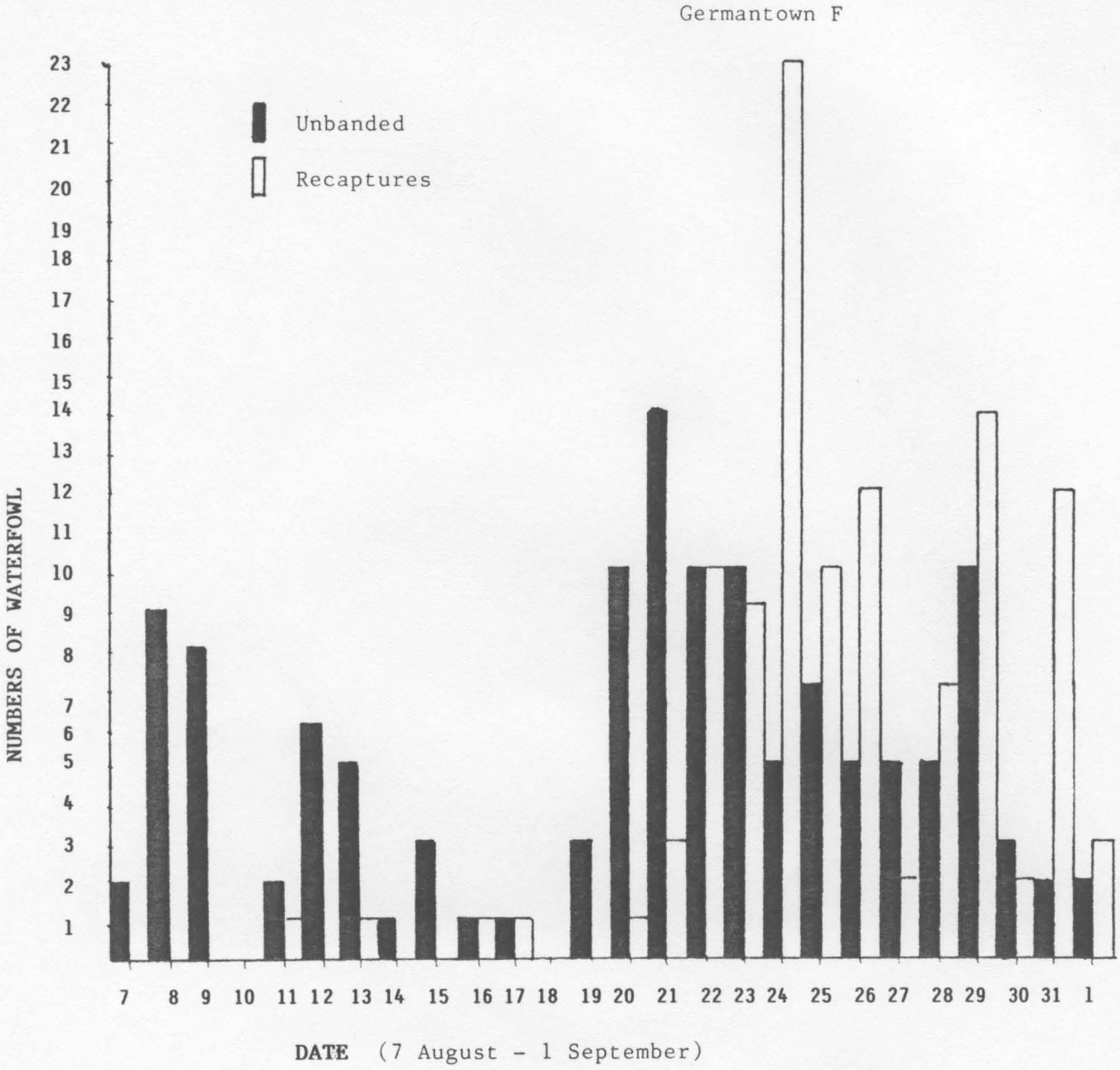
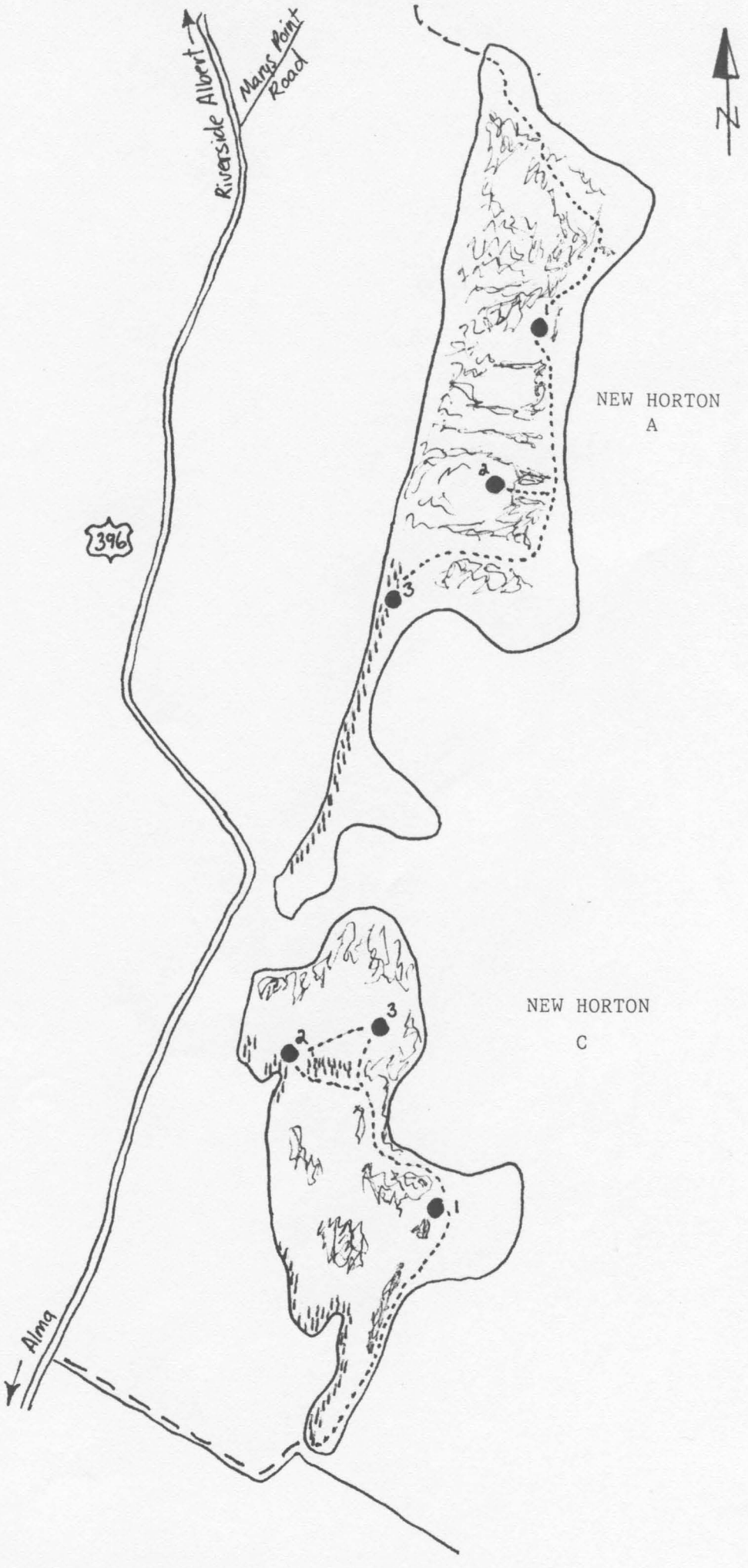


Figure 12. **Total daily catch of waterfowl including recaptures for the Germantown F Impoundment at Shepody Bay, 1986.**



Appendix Maps of Shepody National Wildlife Area Impoundments showing locations of waterfowl traps



APPENDIX LEGEND

Bait Trap ●

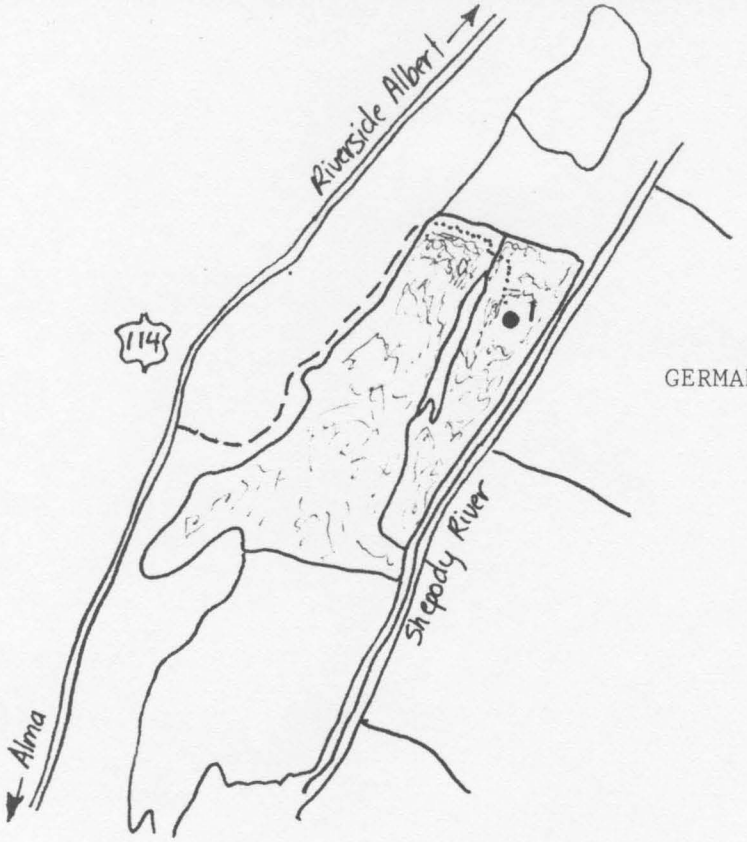
Flooded Alder

Cattail

Route by:

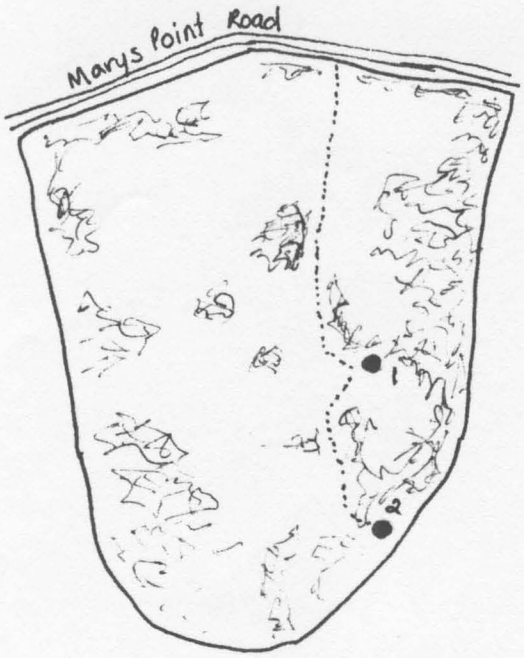
Canoe .....

Truck – – –



GERMANTOWN F

MARY'S POINT



Waterfowl Banding Project

Bathurst, New Brunswick

September 8 - November 5, 1986

Crew Members

David Morrow

Charlie MacAleenan

A total of 406 ducks were banded at the Bathurst Station during the period September 8 - October 24. An additional 10 ducks were banded during the extension period (October 24 - November 5) by Charlie MacAleenan.

Crew leader David Morrow arrived in Bathurst on September 8 with a full compliment of gear, including new trap wire to construct 4 foot and 6 foot traps. The Ranger Station at Petit Rocher served as the base of operations again this year.

A thorough survey of the entire Bathurst Harbour area was conducted on September 9 and 10. This showed the following waterfowl in the area - Black Duck - 325, Mallard - 10, Green-winged Teal - 25, Pintail - 15, Blue-winged Teal - 15, Red-breasted Merganser - 35, Hooded Merganser - 2 Common Goldeneye - 9. Black Ducks were concentrated in three main locations, the mouth of the Tetagouche River, on the shore between the golf course and the Youghall Trailer Park, and a marsh on the inside of Carron Point. I decided to concentrate trapping in these areas, since very few blacks were using the basin this year (indeed this was the case throughout the period).

Pre-baiting began on September 11 with three sites baited in each of the above locations. Birds got onto the bait quickly at the Tetagouche sites, but took a few more days at the others. Three traps were erected at Tetagouche on September 13 and made operational on September 15. Three more traps were erected, 1 on the golf course point, and 2 at Carron Marsh.

The first blacks were banded on September 18, from the Tetagouche traps. That afternoon Ron Hounsell brought up a floating trap from Sackville that was moored in a channel at Tetagouche the next day.

Banding proceeded with good catch rates for the next couple of weeks - September 23 being the best day with 37 banded. Unfortunately a mink raided Trap 2 at Carron Marsh on September 26 in broad daylight, while I was banding

at Tetagouche. This attack resulted in the following casualties - 8 Black Ducks (3 banded),1 Pintail (banded). A live trap was set at the site and left out for a week, but with no success, and fortunately the mink did not return.

A third trap was erected at Carron Marsh on October 5. The period from October 5-10 was problematic due to extreme high tides. The traps at Carron and the golf course were moved to higher ground, and all traps were checked carefully, well before high tide. No birds were drowned, but catch rates declined dramatically during this period. Once tides got back to normal traps were moved again to former locations and catch rates increased again.

On October 6 following a consultation with CWS Sackville it was decided to continue past the originally planned finishing data of October 10. During this period an additional 164 ducks were banded. All traps, except the floating trap which the birds remained very shy of, were productive. An eighth trap was erected in a cove near the Youghall Trailer Park on October 12 and made operational on the 18th.

Waterfowl numbers had been increasing since the first week, and by October 2 there were 375-400 Black Ducks using the harbour. My recapture rates were not too bad even during the last two weeks although total numbers had not increased dramatically. New birds must have been moving in and old birds moving out. My recaptures would seem to support this since I was catching a small number of birds over and over again.

During the final week Charlie MacAleenan offered to continue banding after my departure; operating a couple of traps in the site near Youghall Trailer Park. Before I left a second trap was moved into this area, about 30 yards from the trap already set up. Charlie could work these traps conveniently since they were a short distance from his house.

Conclusions and Recommendations

The Caron Marsh and golf course point traps were new sites this year. Carron produced a total of 119 birds banded (29%); the golf course trap, 61 (15%). The three Tetagouche traps produced 226 (56%) with Trap 1 by far the most successful. Although Caron Marsh required a lot of extra travelling time, it was worth the effort. From 50-150 blacks used this marsh on a regular basis and many more birds tend to go there in periods of strong easterly winds. It may be worthwhile to trap there in future.

During the last week I had a loan of a 20 foot square stern Grumman canoe and outboard motor from the District Office New Brunswick Natural Resources. This was a great help for checking traps across the harbour and bringing in traps when closing down. If possible, it would be worthwhile to have a motorized canoe next year at least for the set up and breakdown periods.

Although the floating trap did not produce any birds, it may work better with a system to reduce movement when floating by the tide, rebar spikes anchored to the bottom and truck tire inner tubes might work.

Twenty-four trap poles will be needed for next year - many of the old poles are very corroded.

Additional Data: Weights were taken on all Black Ducks, Mallards, Hybrids.(inc. Field Sheets)

Public Information

The class from the environmental technology program at the Bathurst Community College were given a presentation and came out to the Tetagouche traps to see the banding operation on October 16.

The Northern Light sent a reporter out to see the operation and do an interview on October 17. A short article on the banding program was published in the October 22 edition.

Acknowledgements

Many thanks are due to the following people for their assistance:

N.B. Natural Resources Division Bathurst:

Charlie MacAleenan, Jack Furlotte, Ron Gauthier

RCMP Bathurst - Ted Arnold, René Bertrand

Arthur Ronalds - for the bait he gave us

Cliff and Barb Huard - for watching traps in Carron Marsh

Useful Information

- burlap bags can sometimes be obtained from Madran Tree Farm 783-7235
- bait can be purchased at Bathurst Co-op Society (behind High School)
- weekly tide times are published every Wednesday in Northern Light
- Kents - Main Street, Bathurst - Good source for hard to find hardware items
- weather forecast (inland) and tide times 548-3220.

Table 1. Age and Sex Breakdown - Bathurst 1986

Species	Hatch Year		After Hatch Year		Totals		
	M	F	M	F	M	F	Total
Black Duck	131	101	70	86	201	187	388
Mallard	6	2	4	4	10	6	16
Black X Mallard Hyb.	2	1	6	1	8	2	10
Pintail		1				1	1
Green-winged Teal	1				1		1
Totals	140	105	80	91	220	196	416

Table 2. Waterfowl Surveys - Bathurst Harbour, September 8 - October 24, 1986

Species	Sept. 9-10	Sept. 25	Oct. 2	Oct. 12	Oct. 23
Black Duck	325	370	371	402	425
Mallard	10	15	14	20	16
Green-winged Teal	25	45	23	20	15
Blue-winged Teal	15	15			
Pintail	15	10	5	1	
Common Goldeneye	9	16	12	30	60
Greater Scaup		6		12	
Red-breasted Merganser	35	30	38	30	31
Hooded Merganser	2	6	4		
Canada Goose		500	900	1500	2500

Also Observed Maximum Daily Counts

Great Blue Heron - 40
Double-crested Cormorant - 60
Common Tern - 24
Black-backed Gull - 66
Ring-billed Gull - 150
Osprey - 1
Golden Plover - 6
Black-bellied Plover - 50
Semipalmated Sandpiper - 120
Crow - 30
Bald Eagle - 1 (imm. seen Sept. 19)
Northern Harrier - 1
Sharp-shinned Hawk - 1

Table 3. Table of Trap Success - Bathurst 1986

Date	TETAGOUCHE Trap #1 Banded	TETAGOUCHE Trap #1 Recap	TETAGOUCHE Trap #2 Banded	TETAGOUCHE Trap #2 Recap	TETAGOUCHE Trap #3 Banded	TETAGOUCHE Trap #3 Recap	GOLF COURSE Banded	GOLF COURSE Recap	CARRON MARSH Trap #1 Banded	CARRON MARSH Trap #1 Recap	CARRON MARSH Trap #2 Banded	CARRON MARSH Trap #2 Recap	CARRON MARSH Trap # 3 Banded	CARRON MARSH Trap # 3 Recap	TOTAL BAND	TOTAL RECAP	TOTAL CAPTURE	% BAND
Sept 14	----------MADE OPERATIONAL ----------																	
15																		
16																		
17																		
18	14	1	1		3										18	1	19	100%
19	12	1					-OPERATIONAL-		------MADE OPERATONAL-------						12	1	12	100%
20			2	1											2	1	3	66%
21			1				9	3							10	2	15	66%
22			2	1			11	1	5						18	2	20	90%
23			16	5	1		7	2	13	1					37	8	47	79%
24	3	5	5	2			1	1	8	2					17	10	30	57%
25	6	5	5	2					4	2					15	9	26	58%
26	5	6	3	1	2	1	2	2	8	7		1			20	16	40	50%
27			6				2	9	14	5	6	1			28	15	44	64%
28	4	5	2	6	3	1	2	4	8	4	1	9			20	29	51	36%
29							6	6							6	6	13	46%
30	2	2	2				3	5	5						7	12	19	37%
Oct 1	5	3	1	1		1	6	6							12	11	26	46%
2																		
3				1					1	1					1	2	3	33%
4	2	12							1	1					3	13	16	19%
5	2	3											----SET-----		2	3	6	33%
6	3	12					-------MOVED DUE TO EXTREME HIGH TIDES--------								3	12	15	20%
7	6	7													6	7	13	46%
8	5	5													5	5	10	50%
9	9	14													9	14	23	39%
10	3	5													3	5	8	37%
11	7	6					5	2					-OPERATIONAL-		12	8	20	60%
12								1								1	1	
13	7	3					2	15			2	3	9	9	20	30	51	39%
14							1	3					5	4	6	7	14	43%
15	4	12		1	1		2	4	1	1		1	5	3	13	22	35	37%
16	21	27					2	3	3	4			2	6	28	40	70	40%

Table 3. Table of Trap Success - Bathurst 1986 (Cont'd)

	TETAGOUCHE						GOLF COURSE		CARRON MARSH									
	Trap #1		Trap #2		Trap #3				Trap #1		Trap #2		Trap # 3		TOTAL	TOTAL	TOTAL	%
Date	Banded	Recap	Banded	Recap	Banded	Recap	Banded	Recap	Banded	Recap	Banded	Recap	Banded	Recap	BAND	RECAP	CAPTURE	BAND
17	22	26							6	7					28	33	64	44%
18	6	16							3	6	2	2	2	7	13	31	44	29%
19	5	14				1		1	1	3		1		1	6	21	27	22%
20	7	19			2	3			2	1	2	5	3		16	28	45	36%
21	8	43				1				3	1	4	1	1	10	52	64	16%
22								1									1	
	168		46		12		61		78		14		27		406	488	894	45%

TETAGOUCHE TOTAL	GOLF COURSE	-----CARRON MARSH TOTAL -----
226	TOTAL 61	119
56%	15%	29%

FOREIGN RECAPTURES - 32

Inventory of Equipment left at Petit Rocher in small shed - rear of property

Trap wire for 4 - 3 funnel 4' traps
3 - 3 funnel 6' traps
1 - 2 funnel 6' traps

1 Floating trap and mooring ropes

Trap netting for all traps and enough spare netting for 2 traps

2 bait buckets

banding station signs - 10

backing boards for signs - 15

1 dip net

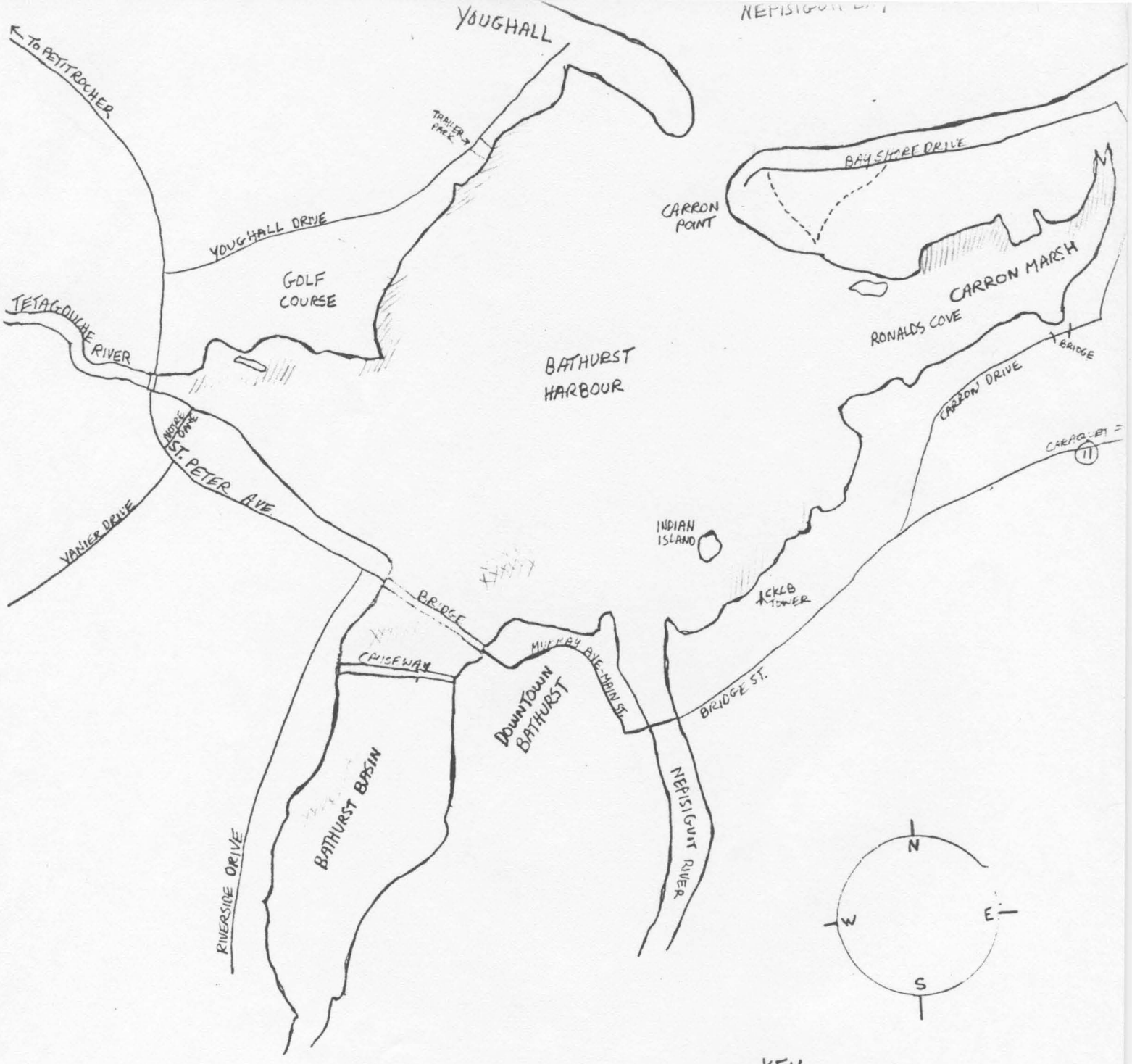
8 burlap bags

NEEDED FOR NEXT YEAR:

24 trap poles

6 - 4 foot lengths rebar steel

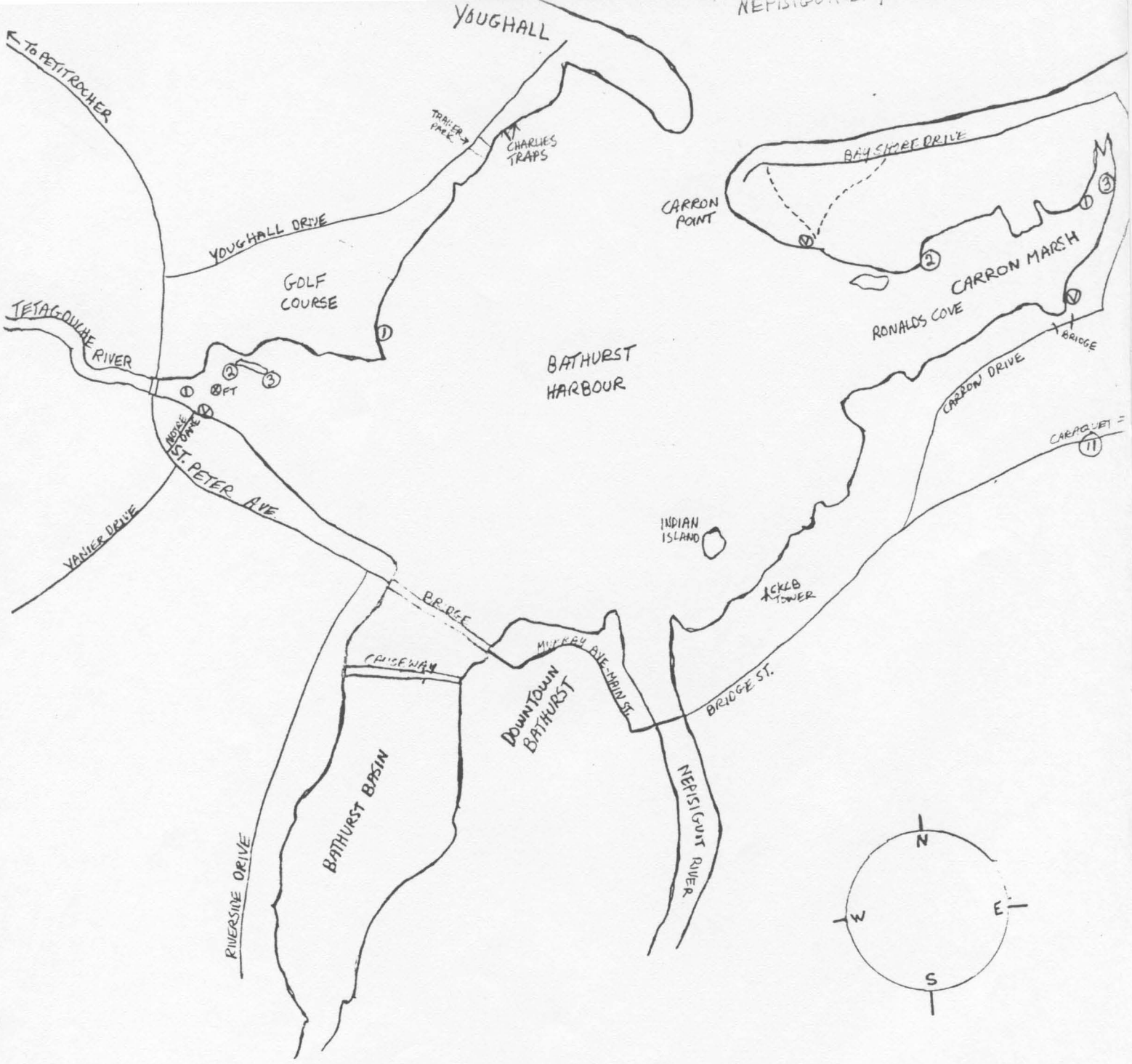
2 old truck tire innertubes



MAP SUPPLEMENT - BATHURST HARBOUR

WATERFOWL - FEEDING CONCENTRATIONS

1986



KEY

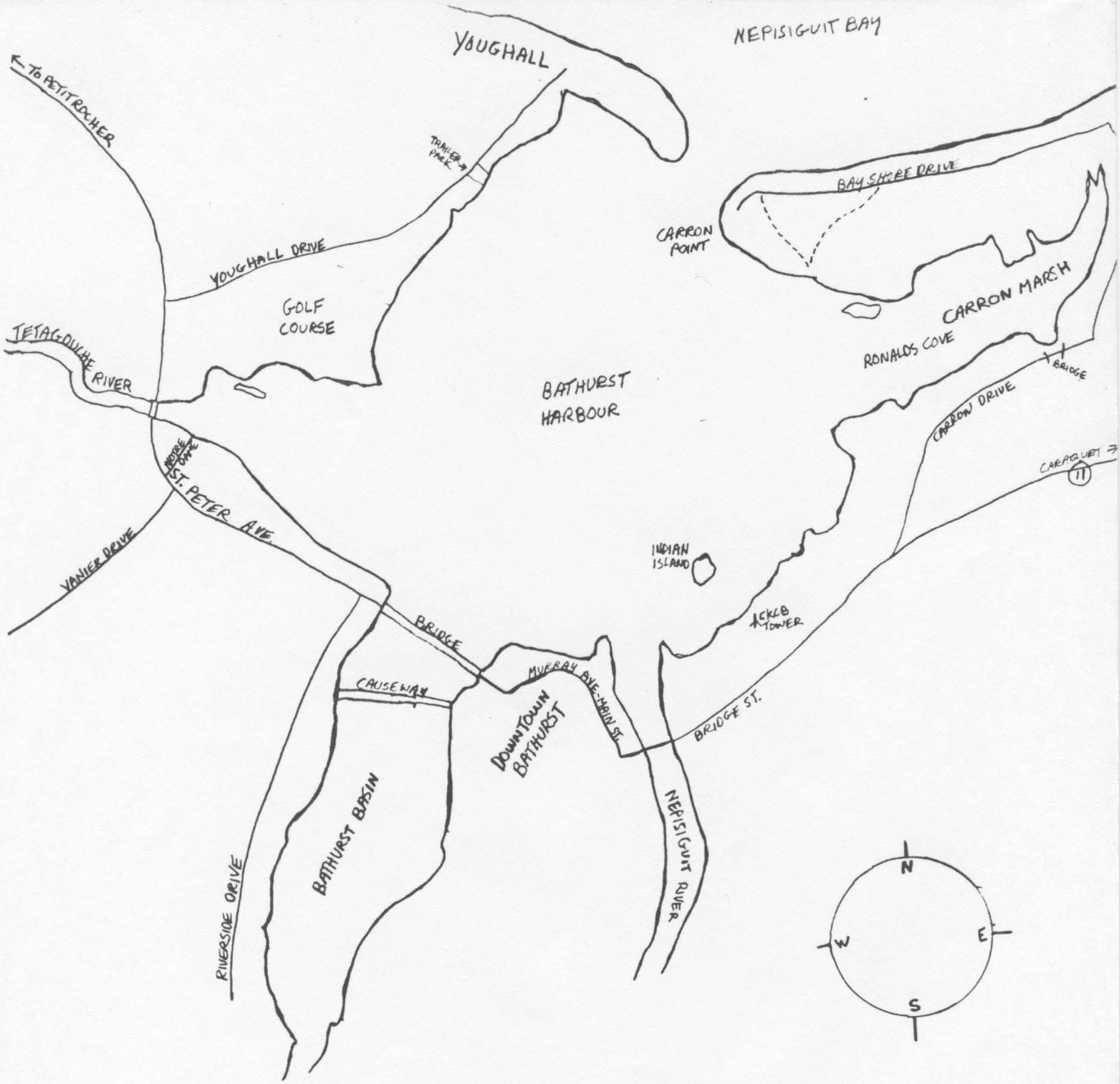
① TRAP LOCATIONS

Ⓥ VIEWPOINTS - CANOE LAUNCHING

⊗-FT - FLOATING TRAP

MAP SUPPLEMENT - BATHURST HARBOUR

TRAP LOCATIONS 1986 BANDING



MAP SUPPLEMENT- BATHURST HARBOUR

Waterfowl Banding Project

U.S. Airboat - St. John River, New Brunswick

August 2 - August 14, 1986

Crew Members

Carl Ferguson, USFWS, Parker River NWR-RO, Newburyport
Barbara Hudak, USFWS, Edwin B. Forsythe NWR (Brigantine Division)
Oceanville, NJ
Bill Whitman, CWS, Sackville, N.B.

Introduction

The U.S. Fish and Wildlife Service provided a two-person crew and nightlighting equipped airboat for the annual cooperative waterfowl banding assignment on marshes along the St. John river, near Jemseg, east of Fredericton, New Brunswick. The Canadian crew member, Bill Whitman, was from the Sackville, New Brunswick office of the Canadian Wildlife Service (CWS). A fourteen banding night period to band "all the Black Ducks we could" was set for 1986 by the Office of Migratory Bird Management, Laurel, Maryland. This St. John river banding station was established in the early 1960's as part of the cooperative agreement between the Service and CWS.

Preparation

The airboat and nightlighting equipment is stored at Parker River NWR, Newburyport, MA and is maintained at a high degree of readiness by the refuge maintenance personnel. The "sea trials" have been expensive and, sometimes, aggravating during the past three years for this airboat at the St. John river banding station.

The primary and alternate crew members were selected from eleven Region 5 Service employee candidates in May. These crew members were notified and they provided OMBM with the required personal data. The paperwork for travel advances for the crew and airboat operation and for a temporary promotion for the primary crew member, Barbara Hudak, was started in May.

I worked with Parker River NWR maintenance personnel during June and July to coordinate necessary modifications of the airboat for 1986 and to inspect all airboat banding equipment to ensure readiness. Major modifications of the airboat for 1986 included placing internal twin fuel

tanks near midship, replacement of a warped ring gear and a propeller, welding under deck braces to strengthen the surface of the bow, and modification of the trailer winch to be used to free the airboat when grounded. The brand new Homelite generator broke down at the 11th hour and was replaced by the generator used last year.

In July, final coordination was made to meet the US and Canadian crew members, travel advances received, paperwork packet received from OMBM, arrangements to obtain an oversize trailering permit in New Brunswick and to obtain bands from CWS were made. A letter was written to Canadian Customs, Port of Entry, Woodstock, New Brunswick three weeks prior to departure explaining the cooperative banding program. The letter included a complete equipment list. There was a new fee ($37 US) this year at Canadian Customs for obtaining a temporary work permit for the banding assignment. During the last week of July, the airboat and its components were tested on impoundments at Parker River NWR.

The banding assignment is normally scheduled to start during the last week of July, so that the majority of the Black Ducks broods encountered will be Class 3 size and also to take advantage of the moon phases of lesser illumination, important in using this nightlighting capture technique. We could have started this year's banding assignment a week earlier after seeing the high percentage of hatching year Black Ducks encountered the first few days.

Results

A total of 894 ducks were captured and banded by the airboat crew in 49.7 hours of operation or approximately thirteen nights in fourteen marshes along the St. John River (Tables 1, 1a, 1b, 2, 3 & 4).

At the beginning of the banding assignment, the water level in the St. John river and adjacent marshes was extremely low. The crew was hampered operationally by our inability to use the Colwell wharf launching site for the airboat. The second choice for a lauching site for the river islands in the area was not nearly so conveniently located. Heavy rains during the banding period raised the water level several inches.

The crew had some troubles with the equipment. Problems with the 4-wheel drive truck included a faulty engine relay and flat tire; generator problems included a cracked carburetor and bolts that loosened on the mounts; and airboat problems mainly concerned the fuel system, i.e. a faulty fuel pump and the need for an additional fuel filter. None of these problems prevented the banding crew from operating for at least a partial night. This airboat is running as well as can be expected with inherent heavy weight to power ratio design.

The crew used 49.7 hours of operation to capture and band 395 Black Ducks. Table 1a compares the Black Duck/hour of capture effort for the past four years.

Table 1a - Black Ducks/Hour Banded

Year	Hours	Number of Black Ducks	Black Ducks/Hour
1983	42.0	521	12.41
1984	44.0	500	11.36
1985	53.3	521	9.77
1986	49.7	395	7.95

The 894 duck total represented eleven species and a hybrid. The capture rate of 68.9 ducks/night is the lowest in the past eight years. The capture rate of 30.4 Black Ducks/night is the seventh lowest during the past eight years (Table 1). Overall the number of the major waterfowl species, and in particular, Black Ducks seem to be low this year in the banding station area. An attempt is made to capture all ducks encountered on the marshes, with an emphasis placed on Black Ducks. At times a few ducks are passed up temporarily to capture Black Ducks. This action is minimal and somewhat constant each year (Table 1).

There was considerably less hatching year Black Ducks found in the traditional late summer staging areas in the various marshes such as Foshay Lake, Portobello, Musquash Island, Long Island, and Otnabog Lake. Only Babbits Meadow contained high numbers of young Black Ducks and other waterfowl species. Babbits Meadow is a Ducks Unlimited project. The waterfowl attractant seems to be the technique of holding a high water level during late summer in vegetation communities such as buckbean, horsetail, wild rice, pickerel weed, and burreed. It has excellent brood habitat and draws lots of ducks in for night feeding and roosting. The lack of Black Ducks resulted in the crew travelling considerable distance at night. We may have set a mileage record.

The Black Duck encountered seemed to be from early broods. We were capturing 75% plus hatching year age class Black Ducks on August 2, the first banding night. This year, the crew banded the highest percentage of hatching year birds in the last four years (Table 1b).

Table 1b. Percentage of Local/Hatching Year Black Ducks

Year	Local Black Ducks	Hatching Year Black Ducks	Percentage (HY)
1983	240	277	53.5
1984	143	376	70.0
1985	194	311	61.9
1986	84	397	78.0

The percent of local Black Ducks banded dropped from 38.1% last year to 22% this year. It appears that there were fewer broods this year and the earlier ones more successful. It is possible that many of the early maturing Black Ducks were more widely dispersed during the banding period. Recapture of Black Ducks during a current banding period indicates that the young birds circulate around the local marshes. In the past two years, Black Ducks have been recaptured by the crew 2 - 15 miles away from the original capture site from 3-10 days later. Another interesting note on Babbits Meadow is that we banded more ducks of 8 of the 11 species at this marsh than at any other location.

Recommendations

Selection of the banding crew needs to be made by early May. All paperwork for coordination needs to be submitted on time. In order to shorten the time spent at Canadian Customs, the crew leader should have a copy of a past temporary work permit, a letter of introduction from USFWS-OMBM on file, and should have provided the Custom officials with a letter explaining

the cooperative banding program, a date for arrival in Canada, and a complete equipment list. This letter should be sent at least three weeks in advance.

Equipment

After three years the airboat engine and components seem to be in good working order. New crew leaders should be provided with a list of local businesses with their telephone numbers and statement of services offered (for example airboat engine repair, aluminum welding, etc.). Daily airboat maintenance goes a lot smoother if there is a written daily maintenance checklist. Suggested equipment changes and modification for 1987 include:

1. Shorten the trailer hitch safety chains.
2. The prop cage screen needs to be rewelded in several places.
3. An extra fuel pump for the engine is needed.
4. Replace the large, heavy green equipment box with two smaller wooden ones.
5. Purchase a first aid kit just for the airboat.
6. The tool box should have more bolts, nuts, and lock washers of sizes most commonly used on the airboat engine, generator, and trailer.
7. One banding light clamp needs rewelding.
8. Two boat cushions need to be replaced.
9. More banding pliers, #5 & #6 are needed.

Operations

The first working night should be a short one as the crew is adjusting to the day/night routine switch. To more quickly achieve netting

proficiency for first time crew members, a "bleach bottle" netting exercise with the airboat should be acomplished the first afternoon. An aerial flight is recommended for first time crew leaders to famliarize themselves with the marshes and channels and also to locate Black Duck staging areas if necessary.

We seem to be getting more complaints about the airboat noise from local residents around the rivers and marshes. The crew should adjust their schedules to work the more populated areas around the marshes early in the evening. Also, I feel, that additional public relation efforts are needed. A news release in the local paper, the Fredericton Daily Gleaner, prior to arrival discussing the how's, why's, and when's would be helpful.

The airboat crew should turn off the bow capture lights when meeting barge traffic at night in the rivers. Keep wake and speed to a minimum when passing moored boats at night.

We had difficulty getting into several of the DU impoundment projects. There are plenty of ducks in them, potentially to capture and band. John Baird, New Brunswick Department of Natural Resources, Fish and Game Branch mentioned that they are working with DU in providing launch sites in some of their impoundments. I feel we will be able to band more Black Ducks when that occurs.

Future airboat crews should try to standardize the criteria for identifiation of the Mallard X Black Duck hybrids. CWS did work toward this end in Quebec. The banding crew need to be on the "same sheet of music".

A final comment here on operations, I feel that we should be looking for additional opportunities to use this airboat for banding Black Ducks in Canada or the Northeast. It is an expensive equipment item both in its initial cost and in its modifications, maintenance, and operational costs. It is stored at Parker River NWR for approximately 11 1/4 months a year and is

used only for the St. John River banding station. With the present importance of banding hatching year Black Ducks in the Northeast and Canada, it seems we could find areas there with Black Ducks that would be suitable for this capture technique.

Acknowledgements

Every banding crew has its own personality. This crew had its own and also continued the "norm" of working long hours to resolve various mechanical problems with the equipment in order to keep banding at night. The banding effort is a team effort. The banding crew had the excellent support of the maintenance crew from Parker River NWR, Woody DeSerres, Tom Stubbs, and Dan Rines. They have had their hands full the last three years with this airboat.

On the Canadian side of the team, John Baird of the New Brunswick Department of Natural Resources again provided excellent support for the banding operation. He procured us a generator in short order when ours broke down. Myrtle Bateman, Canadian Wildlife Service of Sackville again provided us with assistance, an aerial flight of the operation, and excellent crew members for the banding assignment. DU biologists, both in the field at Jemseg and at their office in Fredericton provided us with information on waterfowl in our banding area. We liked their impoundments too, especially Babbits Meadows.

A special thanks to the 1986 crew, Barbara Hudak and Bill Whitman for their efforts and contribution to the banding assignment. Many of the suggestions for improving the banding operation has come from them. As the crew leader, I would say to Barbara and Bill, "a job well done".

Good luck to next year's banding crew at Jemseg.

Table 1 - Nightly Capture Rates of the Most Common Waterfowl Species Banded along the St. John River in New Brunswick

Species/Night	Banding Years 1979	1980	1981	1982	1983	1984	1985	1986
Black Ducks	36	45	57	29	65	46	38.4	30.4
Blue-winged Teal	22	27	62	28	28	18	31.5	19.5
American Wigeon	5	22	6	7	6	9	7.9	6.7
Green-winged Teal	4	8	14	3	6	7	2	2.2
Other Waterfowl Species	8	16	12	6	9	12	5.6	10.1
	75	118	151	73	114	92	85.4	68.9

Table 2 - Waterfowl Banded along the St. John River, New Brunswick from 1980 through 1986

Species	Banding Years													
	1980		1981		1982		1983		1984		1985		1986	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Black Duck	631	38.4	511	37.6	436	40.0	521	56.9	500	49.6	519	45.0	395	44.1
Blue-winged Teal	374	22.7	557	41.0	421	38.6	225	24.6	200	19.8	426	36.9	253	28.4
American Wigeon	305	18.5	52	3.8	109	10.0	49	5.5	97	9.6	106	9.2	87	9.7
Green-winged Teal	106	6.4	129	9.5	51	4.7	5	5.6	78	7.7	27	2.3	28	3.1
Wood Duck	148	9.0	34	2.5	5	2.3	33	3.6	94	9.3	36	3.1	70	7.8
Mallard	32	1.9	18	1.3	7	0.6	19	2.1	12	1.3	23	2.0	30	3.4
Mallard X B. Duck	3	0.2	5	0.4	7	0.6	6	0.6	7	0.7	3	0.3	4	0.3
Goldeneye	1	0.1	11	0.8	6	0.6	4	0.4	1	0.1	4	0.3	4	0.5
Northern Shoveler	25	1.6	25	1.8	5	1.3	4	0.4	10	1.0	8	0.7	12	1.3
Northern Pintail	16	1.0	12	0.9	6	0.6	3	0.3	10	0.8	2	0.2	9	1.0
Hooded Merganser	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Ring-necked Duck	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
TOTALS	1645	100	1357	100	1090	100	915	100	1009	100	1154	100	894	100

Table 3. - Nightly Success Within Each Marsh Worked During the 1986 St. John River Banding Assignment

Date	Location	Black Duck	Blue-winged Teal	American Wigeon	Green-winged Teal	Wood Duck	Mallard	Northern Pintail	Northern Shoveler	Mallard X B. Duck	Goldeneye	Hooded Merganser	Ring-necked Duck		Totals
8/02	Grand Lake	22	6	0	0	2	0	0	0	0	0	0	0		31
	Jemseg Flats	15	17	0	0	0	0	0	0	0	0	0	0		32
	Little Lake	5	7	0	0	3	1	0	0	1	0	0	0		17
8/03	Foshay Lake	27	5	7	0	0	0	0	0	0	0	0	0		39
	Musquash Island	16	5	3	0	0	0	0	0	0	0	0	0		24
8/04	Otnabog Lake	24	1	3	0	2	6	0	0	1	0	0	0		37
	Long Island	12	13	1	0	0	0	0	0	0	0	0	0		26
8/05	Jemseg Flats	35	24	3	1	5	1	0	0	1	1	0	0		71
	Grand Lake	13	3	0	0	0	0	0	0	0	1	0	0		17
8/06	Farnham Marsh	28	10	0	0	15	0	0	0	0	0	0	0		53
8/07	Spoon Island	9	8	4	0	3	0	0	0	0	0	0	0		24
	Babbits Meadow	37	29	5	10	8	10	1	5	0	0	0	0		107
8/08	Foshay Lake	9	7	13	0	0	0	0	0	0	0	0	0		29
8/09	Portabello	23	3	9	1	3	2	0	0	0	0	0	0		41
8/10	Otnabog Lake	5	2	12	1	1	0	0	0	0	0	0	0		21
	Long Island	2	13	2	0	1	0	0	0	0	1	0	1		20
8/11	Babbits Meadow	42	34	14	5	13	8	6	3	0	1	0	0		126
8/12	Foshay Lake	7	26	0	0	0	0	0	0	0	0	0	0		33
	Coys Lake	21	2	2	0	8	0	0	0	0	0	0	0		33
8/13	Dykeman Lake	19	2	0	1	1	0	0	0	0	0	0	0		23
	Grand Lake	3	0	0	0	0	0	0	0	0	0	0	0		3
8/14	Babbits Meadow	11	31	2	7	5	2	2	4	0	0	0	0		64
	Long Island	10	6	7	2	0	0	0	0	0	0	1	0		26
	TOTALS	395	254	87	28	70	30	9	12	4	4	1	1		895

Table 4. Age Structure & Sex of each Waterfowl Species Banded on the St. John River, N.B. in 1986

Species	Local			Hatch Year			After Hatch Year			*Total			
	M	F	T	M	F	T	M	F	T	M	F	T	%
Am. Black Duck	34	50	84	137	160	297	2	11	13	173	221	394	44.1
Blue-winged Teal	77	67	144	36	35	71	22	16	38	135	118	253	28.4
American Wigeon	36	30	66	5	6	11	4	5	9	45	41	86	9.7
Wood Duck	18	15	33	7	10	17	19	1	20	44	26	70	7.8
Green-winged Teal	3	1	4	8	3	11	9	4	13	20	8	28	3.1
Mallard	5	5	10	5	12	17	2	1	3	12	18	30	3.4
MallardXBlack Duck	1	0	1	3	0	3	0	0	0	4	0	4	0.5
Northern Shoveler	1	0	1	5	4	9	1	1	2	7	5	12	1.3
Northern Pintail	1	2	3	2	3	5	0	1	1	3	6	9	1.0
Common Goldeneye	0	2	2	0	2	2	0	0	0	0	4	4	0.5
Hooded Merganser	0	0	0	1	0	1	0	0	0	1	0	1	0.1
Ring-necked Duck	0	0	0	0	0	0	0	1	1	0	1	1	0.1
Totals	176	172	348	209	235	444	59	41	100	444	448	892 894*	

*1 American Wigeon and 1 American Black Duck sex and age unknown

Waterfowl Banding Project

CWS Airboat Nightlighting

April 21 - October 3, 1986

Crew Members

R. Hicks (Crew leader)
P. Barkhouse
M. Petrie
K. McAloney
T. Duffy
P. Hicklin
D. Sears
G. Finney
G. Parker

Introduction

The CWS nightlighting crew operated in various locations throughout the three Maritime Provinces during the 1986 season. One permanent crew member with local banders and volunteers conducted this banding effort. Seven marshes were worked in 1986; three in Nova Scotia, three in Prince Edward Island and one in New Brunswick. The boat was operated whenever time permitted this season, for a total of ten nights.

Preparation

Few repairs were needed for the airboat in preparation for the 1986 nightlighting season. The electric winch was repaired and re-installed. A new billage pump with wire cage to prevent clogging and subsequent burnout was installed. A new ignition switch was installed. The engine was given a tune-up and the oil and filter were replaced. The generator oil was changed and its brushes cleaned.

Discussion and Results

In general, few difficulties were encountered this season. A broken fan belt was easily replaced on site. The propeller became waterlogged and caused heavy vibration while running. This was corrected with a few days inside to dry out. The prop was covered when not in use to protect it from exposure to weather after it was reinstalled.

Only three litres of oil were used this year and the boat ran smoothly except for the vibration from the propeller.

On the last two nights of work the hand winch had to be used due a failure of the electric winch.

The banding of staging waterfowl at Wallace Bay and Shepody NWA's was unsuccessful in 1986. The Wallace area has not recovered from the flooding and subsequent destruction of habitat in the brackish and freshwater impoundments. Providing both food and water they were used extensively by staging Black Ducks in past years. Migration chronology and other work commitments contributed to fewer Black Ducks banded at Shepody NWA.

A total of 663 birds was banded in 12 nights (23.2 hours) between April 21 and October 3, 1986. Of the 663 birds, 208 were Black Duck, 179 Blue-winged Teal, 133 Ring-necked Ducks, 84 Green-winged Teal, and 59 other species (Table 1).

A total of 25 of the 133 Ring-necked Ducks were marked with nylon nasal markers (oval-shaped, colours - white, red, yellow, green and blue) at Amherst Point Migratory Bird sanctuary, Impoundment 1. Two of the 12 nights (2.9 hours) were worked for Ring-necked Duck capturing. The nasal markers were attached for the purpose of a Ring-necked Duck breeding biology study which began in April 1986 and is supervised by Canadian Wildlife Service Habitat Biologist Peter Barkhouse.

Recaptured birds totalled 7 of which 5 were station returns and 2 foreign recaptures (Table 7). One Ring-necked Duck recapture (Station Return) was fitted with a nylon nasal marker.

The age and sex breakdown by province and/or marsh is found in Tables 2-6.

Recommendations

1. The electric winch for the airboat needs to be repaired before the next nightlighting season.
2. The decking should be replaced in front of the netters seat.
3. The battery connectors need to be replaced as the wires had to be moved occasionally to get contact.

4. If money is available, an additional light should be installed on the front of the boat to prevent a shadow being cast out to the side.
5. The propeller needs to be sanded down, checked for balance and resealed prior to airboating next season.
6. A cover should be made to protect the propeller from the elements when not in use.
7. The airboat should have the pre-season tune-up and an oil and filter change in both the boat and generator.

Acknowledgements

All volunteer help was greatly appreciated this year since only one permanent crew member was involved in the program.

List of Band Numbers for the 1985-86 Nightlighting Season

664-35301 to 35385
835-70601 to 70700
845-20101 to 20180
876-62811 to 62900
876-62972 to 63000
896-41901 to 41944
896-63301 to 63326
1237-57111 to 57200
1437-59801 to 59822
1437-59901 to 56000

Table 1. Age and Sex Breakdown of birds banded with the CWS Airboat 1986

Species	Local			Hatching Year			After Hatching Year			Total			
	Male	Female	Unk	Male	Female	Unk	Male	Female	Unk	Male	Female	Unk	Total
Black Duck	33	29	-	67	61	-	3	15	-	103	105	-	208
Mallard	-	-	-	2	1	-	-	-	-	2	1	-	3
B.-w. Teal	26	26	-	59	42	-	14	12	-	99	80	-	179
G.-w. Teal	3	1	-	28	18	-	14	20	-	45	39	-	84
American Wigeon	5	3	-	5	8	-	2	5	-	12	16	-	28
Pintail	-	1	-	3	1	-	-	-	-	3	2	-	5
R-n. Duck	32	36	1	17	23	-	6	18	-	55	77	1	133
Wood duck	-	1	-	-	-	-	20	0	0	20	1	-	21
P-b. Grebe	-	-	-	-	-	1	-	-	-	-	-	1	1
American Coot	-	-	-	-	-	-	-	-	-	-	-	1	1
Total	99	97	1	181	154	1	59	70	-	339	321	3	663

Table 2. Age and Sex Breakdown, Amherst Point, CWS Airboat 1986

Species	Local		Hatching Year		After Hatching Year		Total			
	Male	Female	Male	Female	Male	Female	Male	Female	Unk.	Total
Black Duck	13	5	22	8	1	3	36	16	-	52
Blue-winged Teal	10	11	9	8	4	5	23	24	-	47
Green-winged Teal	1	-	5	2	5	5	11	7	-	18
American Wigeon	2	1	2	-	2	3	6	4	-	10
Pintail	-	-	2	1	-	-	2	1	-	3
Ring-necked Duck	22	17	1	1	6	11	29	29	-	58
American Coot	-	-	-	-	-	-	-	-	1	1
Total	48	34	41	20	18	27	107	81	1	189

Table 3. Age and Sex Breakdown, Amherst Marsh, CWS Airboat 1986

Species	Local		Hatching Year		After Hatching Year		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Total
Black Duck	-	-	10	13	2	8	12	21	33
Mallard	-	-	2	1	-	-	2	1	3
Blue-winged Teal	1	-	17	14	5	6	23	20	43
Green-winged Teal	-	-	12	7	2	10	14	17	31
American Wigeon	-	-	1	6	-	2	1	8	9
Pintail	-	-	1	-	-	-	1	-	1
Ring-necked Duck	4	6	8	11	-	3	12	20	32
Wood Duck	-	1	-	-	11	-	11	1	12
Total	5	7	51	52	20	29	76	88	164

Table 4. Age and Sex Breakdown, Wallace Bay NWA, CWS Airboat 1986

Species	Local		Hatching Year			After Hatching Year		Total			
	Male	Female	Male	Female	Unk.	Male	Female	Male	Female	Unk.	Total
Black Duck	–	–	3	9	–	–	2	3	11	–	14
Blue-winged Teal	2	2	13	5	–	2	1	17	8	–	25
Green-winged Teal	–	–	3	5	–	4	3	7	8	–	15
Ring-necked Duck	–	–	7	11	–	–	4	7	15	–	22
Wood Duck	–	–	–	–	–	5	–	5	–	–	5
Pied-billed Grebe	–	–	–	–	1	–	–	–	–	1	1
Total	2	2	26	30	1	11	10	39	42	1	82

Table 5. Age and Sex Breakdown, Shepody NWA, CWS Airboat 1986

Species	Local		Hatching Year		After Hatching Year		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Total
Black Duck	3	7	17	15	–	2	20	24	44
Blue-winged Teal	3	2	20	14	3	–	26	16	42
Green-winged Teal	–	1	3	1	3	2	6	4	10
American Wigeon	3	2	2	2	–	–	5	4	9
Ring-necked Duck	3	6	–	–	–	–	3	6	9
Wood Duck	–	–	–	–	4	–	4	–	4
Total	12	18	42	32	10	4	64	54	118

Table 6. Age and Sex Breakdown, Prince Edward Island, CWS Airboat 1986

Species	Local			Hatching Year		After Hatching Year		Total			
	Male	Female	Unk.	Male	Female	Male	Female	Male	Female	Unk.	Total
Black Duck	17	17	-	15	16	-	-	32	33	-	65
Blue-winged Teal	10	11	-	-	1	-	-	10	12	-	22
Green-winged Teal	2	-	-	5	3	-	-	7	3	-	10
Pintail	-	1	-	-	-	-	-	-	1	-	1
Ring-necked Duck	3	7	1	1	-	-	-	4	7	1	12
Total	32	36	1	21	20	-	-	53	56	1	110

Table 7. Recaptures, CWS Airboat 1986.

Species	Amherst Point MBS		Wallace Bay NWA		Total		
	Male	Female	Male	Female	Male	Female	Total
Black Duck	1*	1	-	-	1	1	2
Blue-winged Teal	-	-	1	-	1	-	1
Green-winged Teal	-	-	-	1*	-	1	1
Ring-necked Duck	-	3	-	-	-	3	3
Total	1	4	1	1	2	5	7

*Foreign Recaptures

Waterfowl Banding Project

Tinker Harbour, Newfoundland

August 25 - September 16, 1986

<u>Crew Members</u>

Danny Sears

Bill Duffett

Jim Yoos

Introduction

This Labrador banding project has been a cooperative venture among the Atlantic Flyway states, provinces and Federal Wildlife Services. It was the sixth year of a program to duplicate Cooch's (1951) work on Black Ducks in which 450 birds were banded.

Methods

Banders Sears, Duffett and Yoos arrived in Rigolet on August 23. One boat and man were hired to assist in transporting equipment and supplies to Tinker Harbour the following day. Two additional trips were made by crew members and one additional trip by the hired boat, to complete the transporting of the equipment to camp.

Baiting of trap sites began on August 25 with all sites baited by August 28. The first trap was put into operation by August 31. Thirteen traps were used in all, with eleven being of circular design (lily-pad) using 1x2 welded wire (12 and 14 gauge). The two remaining traps were of panel design measuring 5x10x10 using 2x2 welded wire (12 gauge). All were single entrance traps, with entrances facing shore to eliminate kelp blockage.

Four and five foot traps were topped with 3/4 inch garden netting. Two inch poultry mesh was used for the tops of the two foot traps used at non-tidal ponds. Traps were staked with four foot lengths of 3/4 inch conduit pipe, with 4 to 6 used at each trap for rigidity.

Birds were retrieved with long handled dip nets from circular traps while most birds from panel traps were collected in catch boxes.

birds. Fresh bear signs were also common along shore but no interest was shown in the traps, or the camp site.

Weather

The weather was relatively mild with temperatures dropping below freezing on 7 mornings. Winds of 20-25 knots were common throughout most days, but diminished in most cases by nightfall. One wind storm occurred on September 11 with winds of 30-40 knots, causing traps to be filled with kelp and washing most bait in the traps ashore.

Recommendations

1) This station should be operated from late August through mid October.

2) It was noticed that all of the two foot traps, because of the light gauge construction wire, have begun to break up beyond repair. It is suggested that these traps be replaced with new two foot traps.

3) All traps, with the exception of the two foot traps, were topped with nylon garden netting. Although new netting was used this year, it is suggested that enough netting be taken to cover all traps again next year, in case of rot or mouse damage over the winter. It is also suggested that a new roll of poultry wire (3 foot) be taken for new tops for two foot traps.

4) This year as in the past, high winds and rough seas hampered the transporting of gear to the camp site. It was discovered while in Rigolet that the use of a longliner fishing boat was available and that all gear

Results

A total of 319 ducks were banded. Of these, 141 were Black Ducks and 165 were Green-winged Teal. Other species banded included, 1 Mallard, and 12 Pintail. The age and sex composition of the birds banded is shown in Table 1.

The most successful sites for Black Ducks were Lookout Island and Canoe Cove (Figures 1, 2). Inland ponds were ideal for teal trapping (especially Teal and Camp Ponds) with some tidal traps producing good teal numbers also. The success of each trap and the number of days it was in operation are shown in Table 2. In addition, 29 retraps (26 Black Ducks, 2 Green-winged Teal, and 1 Pintail) were captured. The number of Black Ducks and the total numbers of ducks banded each day are shown graphically in Figures 3, 4.

Large numbers of Black Ducks were observed using the area, with 650 being the peak number. However, these large numbers of birds were observed from August 26 to September 2 and dropped off noticeably with daily averages being 35 to 50 after that time. Teal numbers peaked at 275 birds by September 12 with daily averages of 150 being observed.

On September 12, it was noted that a large concentration of ducks was observed using inland ponds approximately 2 miles southwest of camp. As many as 800 Black Ducks and 350 Green-winged Teal were estimated using these ponds with only a low percentage believed to be using the coastline for the purpose of feeding.

Predation and Trap Mortality

Trap mortality was a minor problem with 2 Green-winged Teal and 1 Pintail dying of unknown causes. Predation posed no problems; however, traps were visited daily by foxes and sign indicated interest in the captured

could be taken out in one load. This would not only save time, but it also eliminates any danger in the transporting of equipment by small boats in the rough waters.

5) Public notices about the operation shold be posted in Rigolet, Northwest River and Goose Bay post offices.

6) Equipment and trap caches were made at 10 locations with some miscellaneous equipment stored 50 yards southwest of the camp-site. The number of traps and size of each cache is shown in figures 1 and 2. A copy of these maps should be taken by next years banding crew to assist in locating each cache. The following items are included in the camp cache: 1 roll of 1x2 welded wire, 3 bundles of 12 foot 3/4 inch conduit pipe, 1 wooden crate containing top netting for each trap and three cans of camp fuel, one wooden table top and one plastic fish box.

Acknowledgements:

Myrtle Bateman with CWS supervised this operation and the CWS provided equipment used. Funding was proovided by the Atlantic Flyway's Cooperative banding fund.

A special thanks to Jim Yoos for his help and advice throughout his stay at Tinker Harbour. Kenny Michelin, Rigolet, provided assistance during our stopovers in Rigolet.

• — Trap site locations
* — Trap cache Locations

(Figure, 1) Map of Tinker Harbour Camp and east showing trap locations and caches.

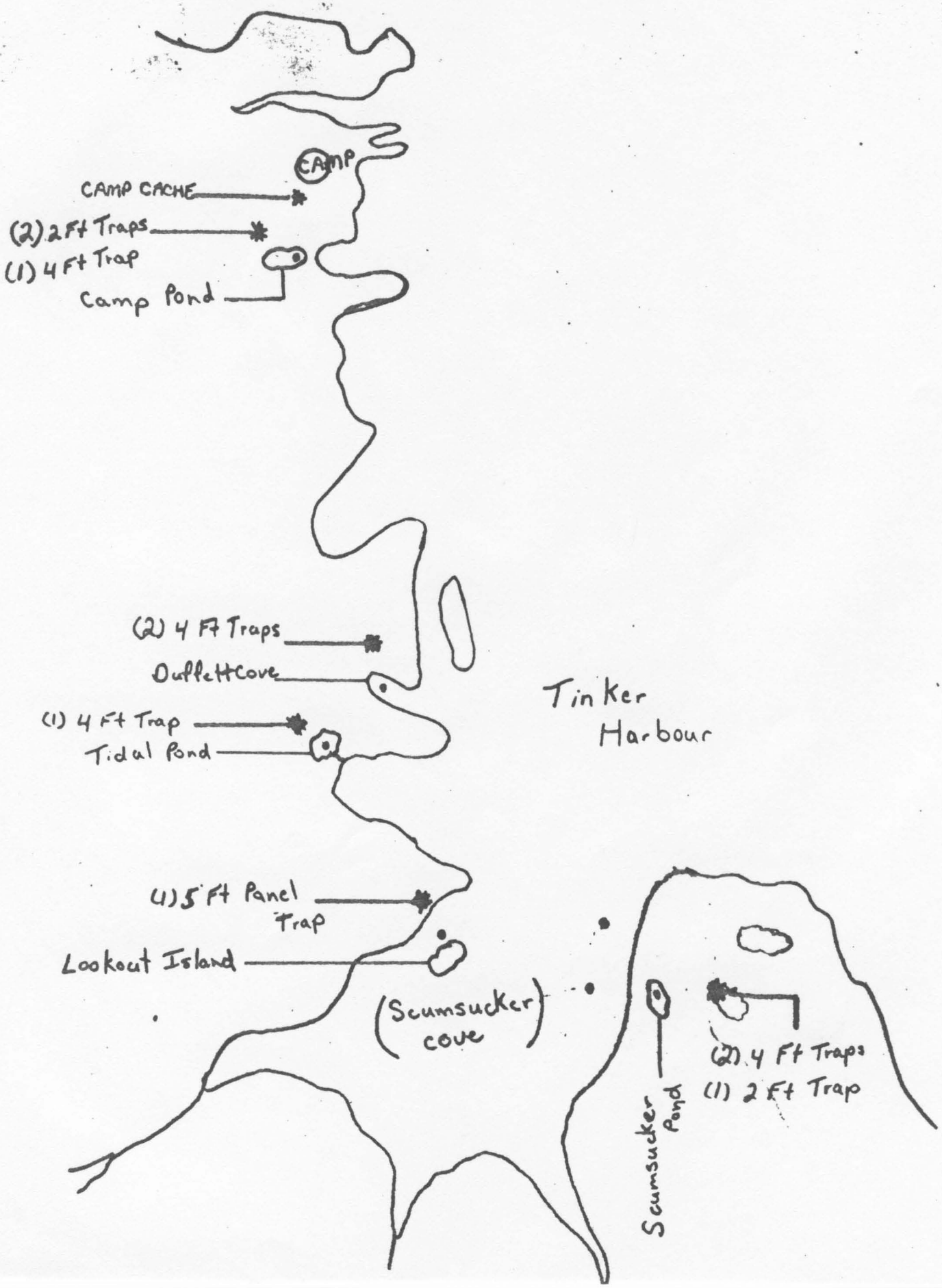
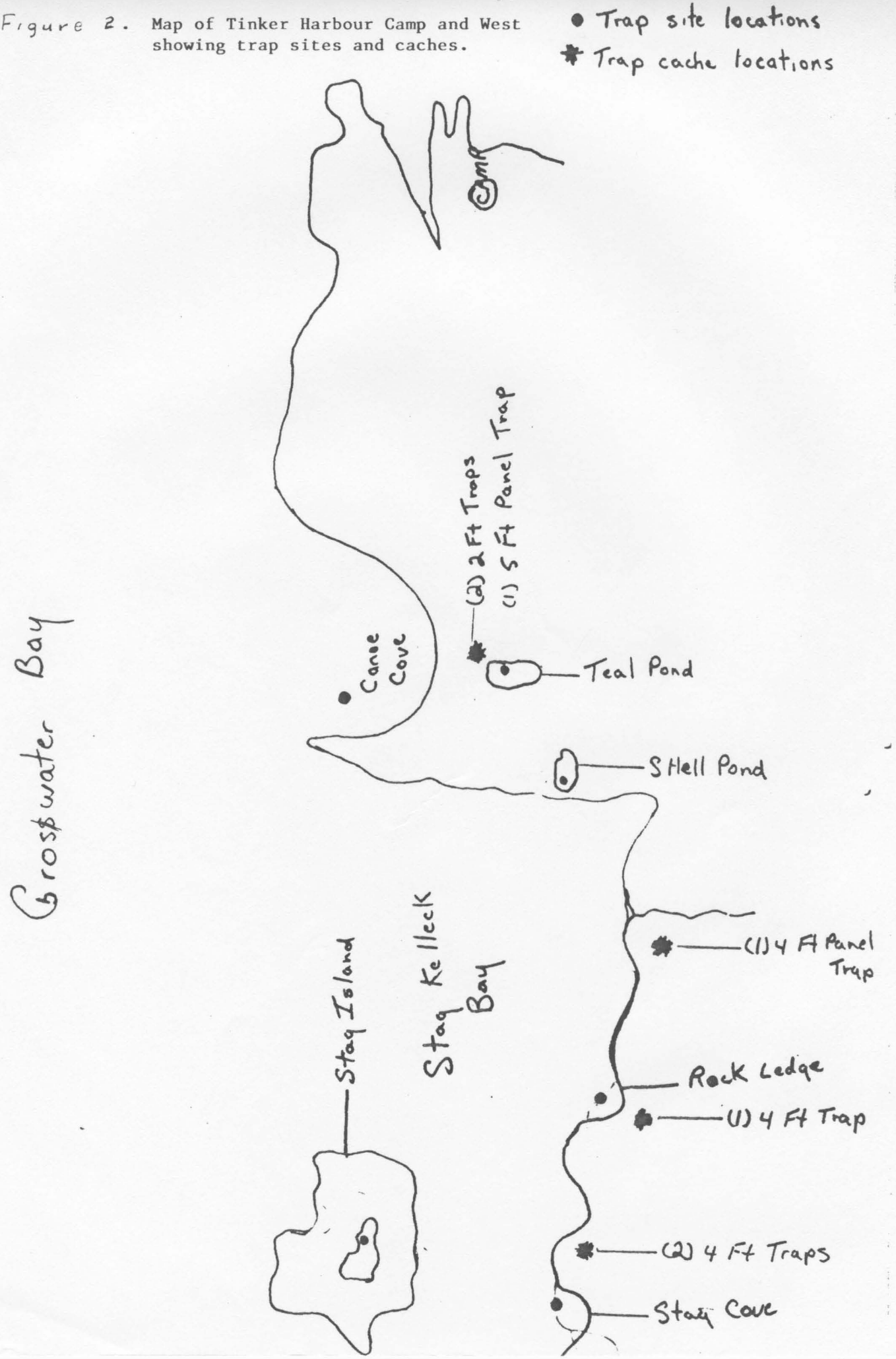


Figure 2. Map of Tinker Harbour Camp and West showing trap sites and caches.



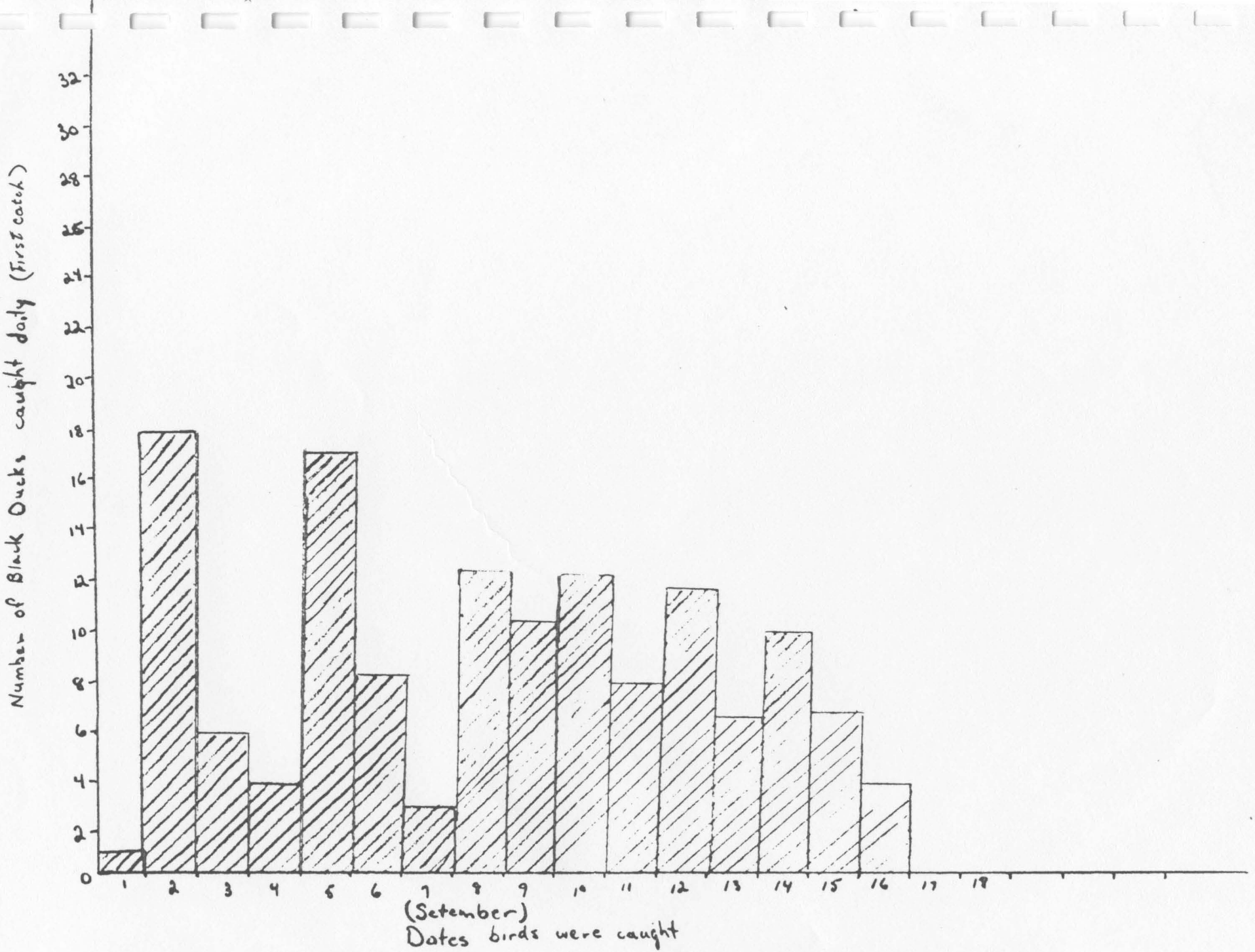


Figure 3. The number of Black Ducks banded each day at the Tinker Harbour Station, 1986.

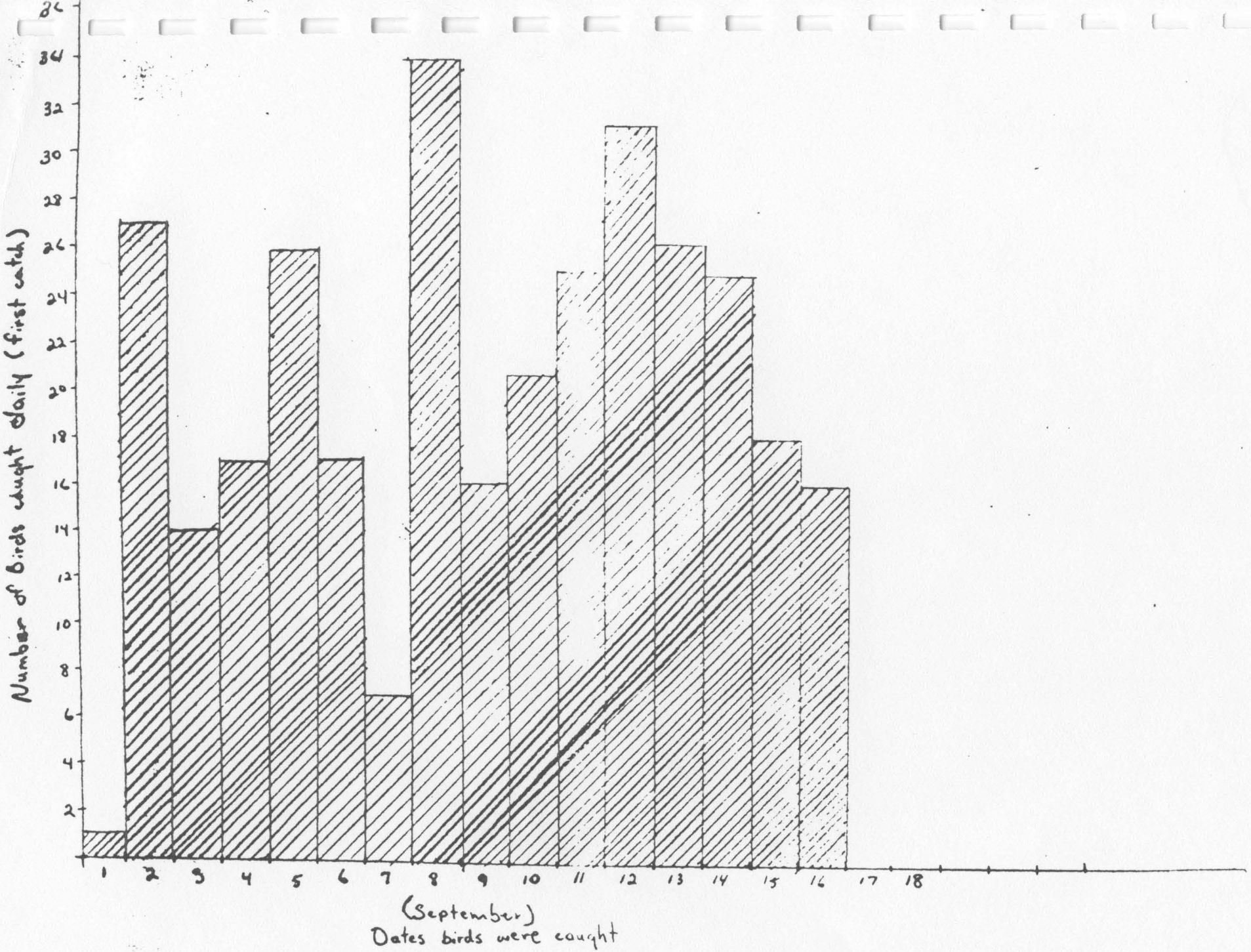


Figure 4. The number of waterfowl banded each day at the Tinker Harbour Station, 1986

Table 1. Age and Sex of Ducks Banded at Tinker Harbour Area, Labrador, 1986

Species	Hatch Year			After Hatch Year			Total Banded	Recaptures		Total Recaptures
	M	F	Total	M	F	Total		AHYM	AHYF	
Mallard				1			1			
Black Duck	16	17	33	95	13	108	141	22	4	26
G.w.-Teal	77	66	143	12	10	22	165	1	1	2
Pintail	5	5	10		2	2	12		1	1
Total	98	88	186	108	25	133	319	24	6	30

Table 2. Capture by Trap Site, Tinker Harbour, Labrador, 1986

Trap Site	Mallard	Black Duck	G.-w. Teal	Pintail	Total	Number of days in operation
Trap Site						
Stag Kellik Bay						
Canoe Cove	1	23	18	4	46	15
Teal Pond	-	1	22	1	24	11
Shell Pond	-	-	21	3	24	8
Rock Ledge	-	4	-	-	4	10
Stag Cove	-	14	-	-	14	12
Stag Island	-	17	-	-	17	8
Sub Total	1	59	61	8	129	64
Tinker Harbour						
Camp Pond	-	-	50	-	50	10
Tidal Pond	-	3	4	-	4	14
Lookout Island	-	43	1	-	44	17
Scumsucker	-	30	-	-	30	15
Scumsucker Pond	-	6	20	-	27	12
Duffett Cove	-	-	29	4	34	16
Sub Total	0	82	104	4	192	84
Grand Total	1	141	165	12	319	148

Appendix I. List of bird species identified in the Tinker Harbour Area 1986

Canada Goose	(Branta canadensis)
Greater Yellowlegs	(Tringa Melanoleuca)
Sharp-shinned Hawk	(Accipiter striatus)
Atlantic Puffin	(Fratercula artica)
Black Guillemot	(Cepphus grylle)
Herring Gull	(Larus argentatus)
Greater Black-backed Gull	(Larus marinus)
Arctic Tern	(Sterna paradisaea)
Boreal Chickadee	(Parus hudsonicus)
Merlin	(Falco columbarius)
Common Loon	(Gavia immer)
Common Eider	(Somateria mollissima)
Surf Scoter	(Melanitta perspicillata)
Semipalmated Sandpiper	(Calidris pusilla)
Osprey	(Pandion haliaetus)
Razorbill	(Alca torda)
Harlequin Duck	(Histrionicus histrionicus)
Common Raven	(Corvus corax)
Rough-legged Hawk	(Buteo lagopus)
Northern Harrier Hawk	(Circus cyaneus)
Water Pipit	(Anthus spinoletta)
Common Goldeneye	(Bucephala clangula)
Double-crested Cormorant	(Phalacrocorax auritus)
White-throated Sparrow	(Zonotrichia albicollis)
Parasitic Jaeger	(Stercorarius parasiticus)
Whimbrel	(Numenius phaeopus)
Northern Goshawk	(Accipiter gentilis)
White-crowned Sparrow	(Zonotrichia leucophrys)
Canada Jay	(Perisoreus canadensis)
Spruce Grouse	(Dendragapus obscurus)
Common Merganser	(Mergus merganser)
Ruby-crowned Kinglet	(Regulus calendula)
Fox Sparrow	(Passerella iliaca)
Semipalmated Plover	(Charadrius semipalmatus)
Short-billed Dowitcher	(Limnodromus griseus)
Gyrfalcon	(Falco rusticolus)
White-winged Scoter	(Melanitta fusca)
Spotted Sandpiper	(Actitis macularia)
Willow Ptarmigan	(Lagopus lagopus)
Glaucous Gull	(Larus hyperboreus)

Waterfowl Banding Project

Indian House (Parke) Lake, Labrador

August 25 - September 21, 1986

Crew Members

Vern D. Stotts

Fred A. Lydeen

Indian House Lake, Labrador Banding Project, 1986

V. D. Stotts and F. A. Lydeen

This banding project was a part of a cooperative program between Atlantic Flyway States and provinces and the federal wildlife services. It was the third year that waterfowl were banded at Indian House Lake, Labrador. The primary objective was to band a significant representative sample of the Black Ducks inhabiting the region in order to calculate such factors as survival rates and distribution of recoveries.

Description of Area

Indian House Lake is a wide section of a river that feeds Parke Lake in its northwest quadrant and is part of the Eagle River drainage. It is located about 90 kilometers E.S.E. of Goose Bay-Happy Valley, Labrador and is part of the ten-minute block 525-0590 (52°57.5'N, 59°08'W). Elevation of the lake is about 375 meters above sea level. It is subject to early frosts and snowfall. Upland habitat is primarily open boreal forest of black spruce, balsam fir and tamarack interspersed with string bogs (see 1984 and 1985 report for specific plant and animal names). Lake, pond and river shores are bordered by dense thickets of alder, dwarf birch and willow with minor fringes of sedges, rushes and spikerushes. Major waterfowl feeding areas occur on shoals dominated by burreed, arrowhead, dwarf spikerush, awlwort, horsetail, mare's-tail, and bladderwort. The first four species are intensively eaten by Black Ducks. Deeper waters have dense beds of pondweeds (several species), aquatic moss and filamentous green algae. This region is part of the Precambrian Shield, having major outcrops of rocks, boulders and hard sands. Most aquatic bottoms have 10-25 cm of soft sticky, sandy-clay silt overlaying hard sand or rock.

Methods

The banding crew set up camp on the northeastern corner of Indian House Lake on August 25, 1986. Baiting was begun on August 26 at good sites noted in 1985. Corn (3 bags) was restricted to panel traps after geese disrupted lily-pad traps. The primary bait was barley (17 bags). The first five traps were set to catch on August 31 in the western and northern edges of Indian House Lake. Eventually 14 traps were set at 19 different sites for a total of 247 trap days (Table 1 and Figure 1). Traps were not set in the southeastern sector of the lake above Willow Island Rapids again this year due to lack of Black Ducks there. All traps were closed by September 21. Temporary closures were made to discourage repeats. All but a few traps were moved 1-2 times to reduce repeats, prevent mink predation or due to increasing water levels.

Traps were made of 2" x 2" mesh, 3' and 4' high, 14 ga. welded wire. Twelve were formed from 25' long sections into lily-pad shapes. Two were 10' long x 10 ' wide x 4' high panel traps. Lily-pad traps were covered with 6' wide, 1" mesh poultry netting. Panel traps were covered with 1" mesh poultry or garden netting. Small traps were held in place by two 5' conduits (3/4" diameter) and one tall wooden stake that also served as a bag-holding stake. Ducks were retrieved with a long-handled dip net (a catch-box was used for panel traps) and placed in burlap bags to speed drying. Initial water depth of sets was 10-25 cm, often in soft silt overlaying hard-bottomed shoals. Trap mouths were of slit design with most requiring additional reinforcing to maintain optimum openings.

Results

A total of 407 ducks was banded (Table 2). Of these 340 were Black Ducks with 10.0 percent adult (16.6 percent including retraps from earlier years), indicating much higher production in the population sampled than in 1985. Only a few other species were captured with Green-winged Teal of secondary importance. Thirty-two retraps were captured (27 Black Ducks, two green-winged teal and three pintail).

Frank Phillips, Newfoundland-Labrador Wildlife Division, and Herb Morris (Labrador Wilderness Camp) reported that the spring season was about two weeks early in 1986 and that is reflected in earlier and better production over 1985. All young dabbling ducks were at or very near flight stage.

Birds repeating in traps became a problem within seven days (Table 3). By then the number of new bandings among daily catches fell to 29 percent and later fell as low as 11 percent. The largest 1-day catch in 1986 was 122 late in the banding period, but only 13 percent were new birds. The average new-bird catch per trap-day during the overall period of operation was 1.38 ducks (1.63 during 203 trap-days in 1984 and 0.84 during 340 trap-days in 1985).

Regular daily counts of birds showed peak occurrence of Black Ducks at the very beginning (Table 4). It should be noted here that these counts in 1986 (or any other year) excluded all birds in traps. The highest single-day count in 1986 was 252 early in the trapping period. Peak counts were much later in 1984 and 1985. We re-iterate that 1983 must have been an above average production year and that 450 or more Black Ducks would have been banded if operations had been active then.

Mink predation was a problem, partially a result of one trap being set very near a mink den with at least three young. Fourteen ducks drowned in

banding traps, primarily a result of 2" x 2" mesh welded wire. All ducks seem to be very vulnerable to mortality in 2" x 2" mesh welded wire; three Black Ducks were even caught by a wing on trap exteriors. We believe that only 1" x 2" mesh welded wire (with line wires at 2" intervals") or 1" mesh poultry netting will prevent these problems. Perhaps a 1' strip of the latter attached to 2" x 2" mesh wire at water level and above would also work all right.

The condition of primary flight feathers was checked in all ducks captured. "Green" primaries (blood-tipped) were noted in Black Ducks throughout the trapping period. This included young and adult females (see Table 2). All ducks were checked for "pinto" or speckled feet (Stotts, 1959). Only the adult Black Ducks (and one adult female teal) showed this lack of foot pigment. Twelve of 39 females (30.7 percent) and four of 21 males (19.0 percent) were pinto-webbed.

All Black Duck wing linings were checked for dark feathers along the anterior edge in the vicinity of the bend of the wing. Although many were classed as "light-winged", none showed a white stripe anterior to the speculum justifying a classification to Black X Mallard hybrid.

Blood smears (Bennett, 1970) were made from 133 Black Ducks, 18 teal, 4 scaup and 1 merganser to check on malaria and other parasites (by Dr. G. F. Bennett at Memorial University). Blood was taken from the right tarsal vein.

The best trap sites were at panel traps (Table 5). Again we had severely fluctuating water levels necessitating frequent movement of traps.

Traps were cached in the alder/willow thicket nearest to where each had been set last. These sites (plus food, gas and other caches) are shown in Figure 2.

Weather and Water Levels

During the period in camp, daily low temperatures averaged 3.2°C ranging from -4° to 11°. Daily highs averaged 14.9°C ranging from 6° to 26°. It dropped to freezing on 5 days, the earliest on September 3. No snow fell this year. Overall period in camp was warm with relatively short rain periods.

Initial lake levels were about equal to those at the start of 1984, increasing to 1985 levels by mid-September. Water levels rose 26 cm during this period. At least 6.6 cm of rain fell between August 26 and September 20. The changing lake levels required that most traps be moved twice during the period they were set.

Miscellaneous Observations

Hunters were known to have been in the area on only two days. Three hunters from Labrador Wilderness Camp on Parke Lake hunted on legal ground between trap sites on September 15, but fired no shots.

An added feature again this year was a mouse trapline of 20 snap traps (10 Victor and 10 museum specials) and a water trap (4 liter). Four four-night and two three-night traplines were operated between August 30 and September 21. A total of 106 small mammals of four species (one new in 1986) was taken (Appendix I). Red-backed Voles were far the most common species captured.

The Bald Eagle nest in a tamarack located just southeast of the gas-drum island was gone this year. A pair of adult Bald Eagles roosted nearby, however, and one young was present throughout the period.

A bird species not noted in the previous two years, Belted Kingfisher, was noted in 1986.

Recommendations

1. The station should be continued in 1987 to attain the 1000-bird level. The preponderance of young black ducks that can be taken makes the station unique for a Labrador station (to date). The period of field operation should be from August 30 to September 20 (only 2 weeks of active trapping with one solid week of prebaiting to reduce injuries and mortality of repeats).

2. The best trapping areas are the western and northern lake edges. It is recommended that the southeastern sector of the lake near Rapids Island not be baited so that hunters from Labrador Wilderness Camp can hunt there without conflict with banding operations.

3. Whole barley should be the only bait used because corn was often left after barley was eaten. Corn can supplement barley only in the center of panel traps. About 22-40 kg bags of barley will be sufficient. In addition 3-40 kg bags of corn are required.

4. Banders should be aware of the possibility of rapidly changing lake levels and begin to edge their traps toward shore or away with each change of about 10-15 cm.

5. Use of artificial decoys worked well when three or more were clustered at a site.

6. Garden netting for two panel trap-tops is needed (12' x 24' minimum). One piece of welded wire is needed to build a 2' x 2 1/2' H x 5' catch-box for one panel trap.

7. The current campsite cannot be improved upon in this area. Loading and off-loading aircraft at the first small island south of camp proved best for both campers and aircraft. Fuel (OBM, iosol and kerosene sufficient for 1987) and food caches present on-site should allow easy encampment in 1987. Its best, however, to arrange to have pilots experienced with this lake in order to prevent unnecessary time setting up camp (Wayne Pert and Huguette Super recommended).

8. Note mortality section and recommendations.

Acknowledgements

M. Bateman of Canadian Wildlife Service supervised this operation and provided logistics and assistance in the initial phases. The Canadian Wildlife Service provided equipment and the Atlantic Waterfowl Council and New Jersey Waterfowlers provided funds for salaries (in part), materials and supplies. The Newfoundland-Labrador Wildlife Division and Department of Public Works provided much help with vehicles, storage and "xeroxing". Personnel at Labrador Wilderness Camp at Parke Lake gave us docking facilities to ease the transfer of equipment and supplies up to Indian House Lake (Berkley Slade, Fisheries and Oceans, also offered use of their Parke Lake cabin for that purpose), Bob Best, Labrador Department of Forest Resources and Lands loaned a camp stove to us.. We are especially grateful to the radio operators at G.B.A.S., Goose Bay and N.L.A.T., Pasadena for transmitting messages.

Literature Cited

Bennett, G. F. 1970. Simple techniques for making avian blood smears. Can. J. of Zool. 48(3): 585-586.

Stotts, V.D. 1959. Black Duck Studies Final Report: A study of the breeding ecology of black ducks on the upper Eastern Shore of the Chesapeake Bay in Maryland from 1953 to 1959. MD Pittman-Robertson Proj. W-30-R. 241 p.

(Submitted September 26, 1986)

Table 1. Trap days and Site Catch Information, 1986

Trap Name and Site No.	Date Set	First Catch	Date Closed	Trap Days
Indian Mt. Pd. I. (E)-2	8/31	9/1	9/15	15
Indian Mt. Pd. I. (W)-3	9/1	9/7	9/15	14
Beaverdam Is. (N)-4	8/31	9/1	9/12	12
Beaverdam Panel - 5	8/31	9/1	9/20	20
Beaverdam Pond - 6	8/31	9/1	9/19	19
Cut-thru (NE)-7	9/1	9/2	9/19	18
" " (S) #1-9	9/1	9/2	9/8	7
" " (W) - 10	9/2	9/4	9/14	12
Back Gut-11	9/1	9/2	9/18	17
Blueberry Pd - 13	9/1	9/2	9/18	17
Back Gut/Ind. R. Panel - 12	9/1	9/2	9/20	15*
Cut-thru (S) #2 - 16	9/12	9/13	9/20	8
Cut-thru (E) - 18	9/14	9/16	9/20	6
Juniper Pd. (NW) - 19	9/15	**	9/18	3
Juniper Pd. (N) - 8	8/31	9/1	9/20	20
Ind. R. (S) #1-14	9/2	9/3	9/12	10
Ind. R. (S) #2-15	9/8	9/10	9/15	7
Ind. House L. (W) -17	9/12	9/17	9/20	8
Camp Cove - 1	9/2	9/5	9/21	19
			Total	247

* Closed from 9/8 to 9/12 to prevent mink predation

** Repeats only

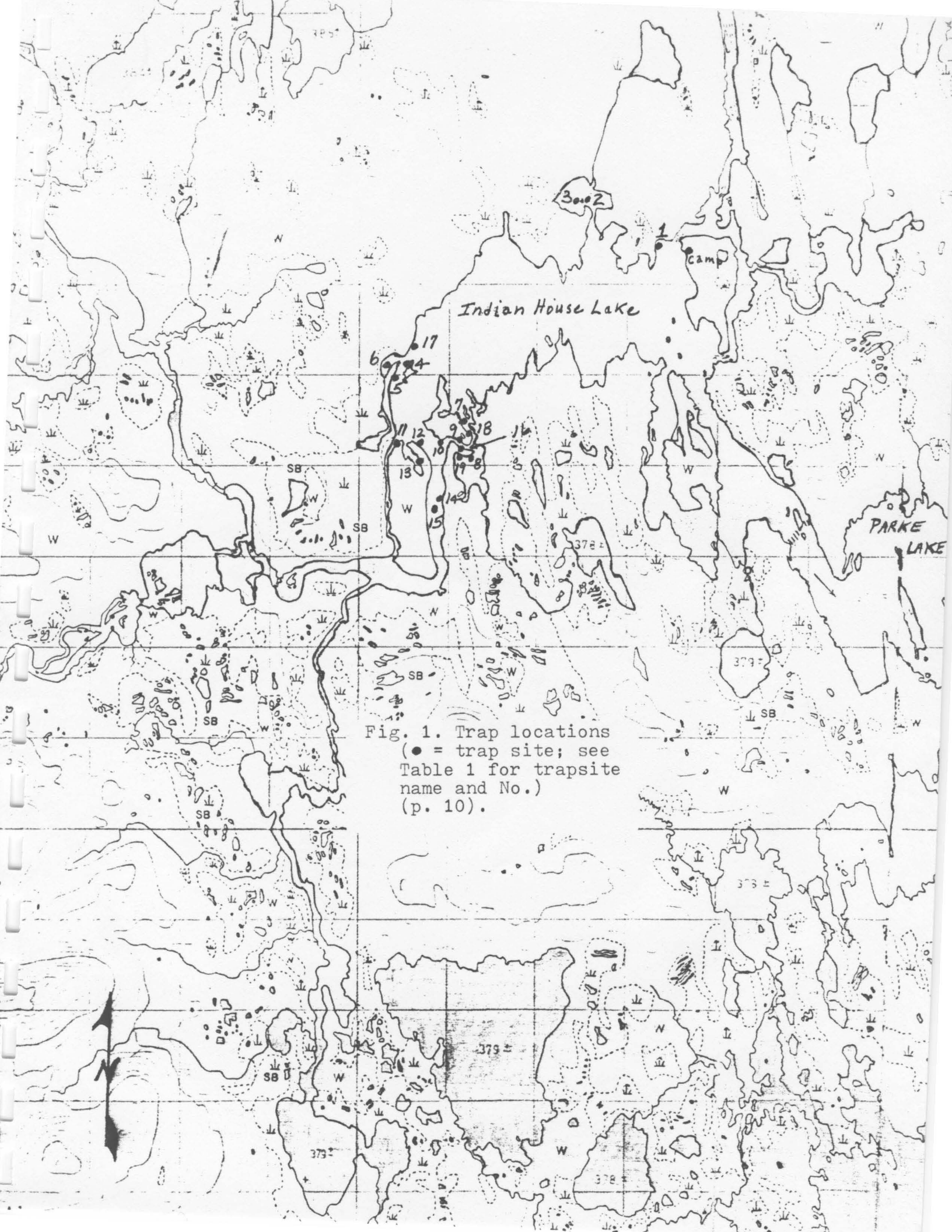


Fig. 1. Trap locations (● = trap site; see Table 1 for trapsite name and No.) (p. 10).

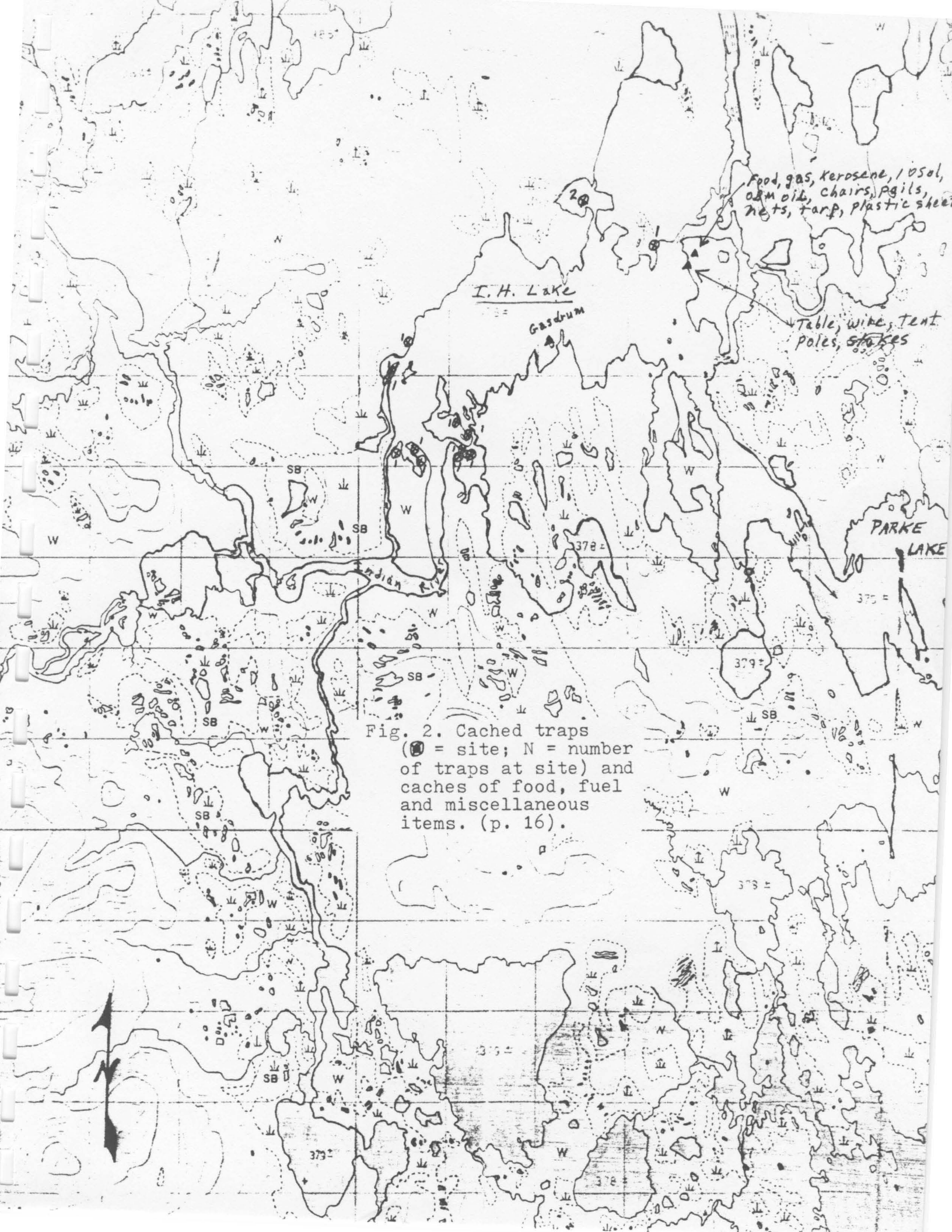


Fig. 2. Cached traps (▣ = site; N = number of traps at site) and caches of food, fuel and miscellaneous items. (p. 16).

Table 2. Age and sex of ducks banded at Indian House Lake, Labrador, 1986

Species	Local			Hatch Year			After Hatch Year			Total Banded
	F	M	Total	F	M	Total	F	M	Total	
Mallard					2	2		1	1	3
Black Duck [1]	8	4	12	145	149	294	22	12	34	340
Green-winged Teal [2]				22	12	34	2		2	36
Pintail [3]				7	8	15	3		3	18
Greater Scaup [4]	3	2	5				1		1	6
Red-breasted Merganser [5]	1		1							1
Canada Goose	1		1	1	1	2				3
Total	13	6	19	175	172	347	28	13	41	407

1. A total of 26 young had one or more green primaries (also 3, AF).

2. A total of three young had one or more green primaries (also 2 AF).

3. Two adult females with green primaries.

4. A total of five young had one or more green primaries.

5. A total of one young had one or more green primaries.

Table 3. Total Daily Duck Catches, 1986

	New Birds	New Retraps	Repeat Birds	Dead/ Crippled Birds	Total Birds	% New Bandings
9/1	28				28	100.0
2	55		1	1	57	96.5
3	32	2	13	1	48	66.7
4	12	1	7		20	60.0
5	34	1	20	3	58	58.6
6	32		15	1	48	66.6
7	11	1	19	7	38	28.9
Wk 1	204	5	75	13	297	68.7
9/8	7		14	4	25	28.0
9	7		22	1	30	23.3
10	14	1	38		53	26.4
11	9	1	31	1	42	21.4
12	15	1	32	1	49	30.6
13	18		58	1	77	23.4
14	14	1	50		65	21.5
Wk 2	84	4	245	8	342	24.6
9/15	21		84	1	106	19.8
16	16	9	47	1	73	21.9
17	19	5	81	2	107	17.8
18	27	3	60	1	91	29.7
19	20	2	67	1	90	22.2
20	16	4	102		122	13.1
21	1		8		9	11.1
Wk 3	120	23	449	6	598	20.1

Table 4. Average populations of ducks and geese noted in the western and southeastern sectors of Indian House Lake in 1986.

Species	8/26-9/1	9/2-8	9/9-15	9/16-20
Mallard				
Ave.	Tr.		Tr.	
Range	0-1		0-1	
Black Duck				
Ave.	197	82	59	24
Range	153-252	36-137	16-125	10-37
G.-w. Teal				
Ave.	22	14	26	16
Range	14-28	3-31	5-55	3-32
Pintail				
Ave.	18	11	9	5
Range	0-29	0-27	0-25	0-20
Unid. Diver				
Ave.			4	1
Range			0-30	0-4
Ring-necked Duck	20			
	0-80			
Scaup[1]				
Ave.	3			1
Range	0-10			0-5
Goldeneye[2]				
Ave.	1	3	7	20
Range	0-3	0-13	2-17	10-30
Scoter[3]				
Ave.			2	1
Range			0-10	0-4

Table 4. Average populations of ducks and geese noted in the western and southeastern sectors of Indian House Lake in 1986. (Cont'd)

Species	8/26-9/1	9/2-8	9/9-15	9/16-20
Merganser[4]				
Ave.	12	6	5	2
Range	5-17	0-18	0-13	0-5
Canada Goose				
Ave.	17	29	18	10
Range	7-26	4-65	4-80	5-17

[1] probably Greater Scaup
[2] probably all Common Goldeneye
[3] Surf Scoters probably
[4] believed to be all Red-breasted Mergansers

Table 5. Individual Trap Catches (new birds), 1986

	Mallard	Black Duck	G.-w. Teal	Pintail	Great. Scaup	R.-b. Merganser	Canada Goose	Total
Camp Cove - 1		13				1		14
Ind. Mt. Pd. I.(E)-2		22						22
Ind. Mt. Pd. I.(W)-3		10						10
Beaverdam Is. (N)-4		15		1				16
Beaverdam Panel-5	1	66	4	1				72
Beaverdam Pond -6	1	17			3			21
NE Cut-thru - 7		26	1					27
S. Cut-thru -#1-9							3	3
W. Cut-thru -10		9		3				12
E. Cut-thru -18		4						4
Juniper Pd. (N)-8		29	3					32
Juniper Pd. (NW)-19		*						*
Back Gut - 11		19	4					23
Back Gut Panel - 12	1	46	2	11	4[1]			64
Blueberry Pd. - 13		27		1				28
Ind. R. (S) #1-14		19						19
Ind. R. (S) #2-15		6						6
S. Cut-thru #2-16		1	22					23
Ind. House L. (W)-17		11		1				12
Total	3	340	36	18	7	1	3	408

*:Repeats only

1. One later killed by a mink.

Appendix I

Results of Small Mammal Trapping at Indian House (Parke) Lake, Labrador 1986

Trapline #	M.p.	C.g.	Sy.b.	S.c.	Snap Trap nights*	Total Catch	Catch/100 trap nights
1. snap trap	0	40	2	0	52	42	80.8
Water trap							
2. snap trap	0	11	0	0	72.5	11	15.2
water trap							
3. snap trap	0	27	0	1	59.5	28	47.0
water trap							
4. snap trap	0	13	0	0	50.5	13	25.7
water trap							
5. snap trap	3	0	0	0	56.5	3	5.3
water trap	1					1	-
6. snap trap	7	0	0	0	32	7	21.9
water trap							
Total	11	91	2	1	323	105	32.2

*trap nights corrected for sprung, empty traps

M.p. Microtus pennsylvanicus (Meadow vole)
C.g. Clethrionomys gapperi (Red-backed vole)
Sy.b. Synaptomys borealis (Northern bog lemming)
S.c. Sorex cinereus (Masked shrew)

Addendum to 1986 Report

Dr. Gordon F. Bennett, Memorial University of Newfoundland, reported that all ducks from which blood samples were examined (131 Black Ducks, 16 Green-winged Teal, 4 Greater Scaup and 1 Common Merganser) had very high intensities of Leucocytozoon simondi. Since this was an infection late in the year immediately preceding migration, the 2 stresses could prove to be lethal. Dr. Bennett was surprised at the virtual absence of all other blood parasites. In particular, Haemoproteus nettionis, one of the commonest duck blood parasites in Canada, was found in only two individuals (2 blacks). This indicated that Culicoides vectors were rare in the banding area. All data will be tabulated following the 1987 season.

V. D. Stotts

19 August 1987

Waterfowl Banding Project

Nutak, Labrador

June 27 - September 20, 1986

Crew Members

Tim Bowman (Crew leader)
Mike Michelin
Billy Duffett
Jeff McEvoy
Morgan Michelin
William Barbour

Banders Bowman, McEvoy, Duffett, and Michelin arrived in Nutak on June 27 via Otter aircraft. Camp was set up at the house at Nutak, necessary repairs were made on the freightor canoe, and a drum of gas (stashed in 1985) was retrieved. Molting waterfowl were banded from June 28 to early August, and waterfowl were bait-trapped from August 13 to September 19.

A total of 777 waterfowl was banded in 1986 at Nutak, Labrador. Three hundred sixty-eight were Black Ducks (Table 1). In addition, 43 Black Ducks, 5 Green-winged Teal, and one Canada Goose bearing old bands were recaptured. This was the most successful year in four years of banding at Nutak. More than twice as many birds were banded this year as in our previous best year.

From August 24 to September 19, two camps were used by banders -- the house at Nutak and a tent camp located near Goose Cove. This eliminated the need to travel through the shallow channel at the south end of Moores Island Tickle, and facilitated tending traps in the Goose Island area. From August 24 to September 8, both camps were occupied by 2-person crews. After William Barbour left on September 8, we alternated campsites (i.e. one night at Nutak, the next night at the tent camp).

We were confronted with only one major problem this year -- our primary outboard motor, a 25 HP Mercury, was inoperable when we arrived. We were unable to repair the motor and relied on the spare motor, a 9.8 HP Mercury, until August 12 when a 20 HP Mercury on loan from Outdoor World, Goose Bay was delivered to us by Frank Phillips (Nfld-Labrador Wildlife Division). When using the 9.8 HP motor, travel was slow, and we were unable to travel to distant, important molting areas on the mainland to band ducks.

Hand-caught waterfowl

Hand-caught waterfowl (molting birds, and young eiders and geese) totalled 214 (Table 2). During July, Black Ducks were captured using the same techniques used in past years -- intensively searching vegetation around ponds, and driving flocks of flightless ducks ashore from a boat. Eighty-two flightless Black Ducks were banded, of which 79 were males. All molting Black Ducks were weighed, and primary feathers measured to determine the advancement of molt, molting chronology, and feather growth rates. The wing molt for Black Ducks was about 10 days earlier than in past years. Most Black Ducks were flightless before July 1.

A more intensive effort was made this year to capture molting and local Canada Geese. Seventy-one geese were captured by hand. Geese were frequently encountered on high elevation tundra ponds. Banders would drive the geese to the far shore of the pond where the geese usually ran up on land, then chase and capture as many as possible. Our record catch on land was 13 adult geese at Fox Pond on July 21. Molting and local geese were also driven ashore by boat on saltwater areas. Sixteen geese (15 local, 1 adult) were captured during one drive near 399 Brook on August 2.

Three molting Red-breasted Mergansers and 3 local eiders were captured in dip nets from the boat when they tired after repeated diving. This technique is very effective in shallow water, where ducks can be observed and pursued as they swim underwater.

Bait-trapped waterfowl

Five hundred sixty-three ducks were captured in 11 different bait traps from August 13 to September 19 (Table 3). The most productive sites for Black Ducks were Goose Cove and all 3 trap sites on Goose Island. For

Green-winged Teal, West Pond, East Pond, Sedge Pond, and Loon Pond were the best sites.

A trap was erected at Gull Brook, but was moved to Woody Bay on September 3 because it caught few Black Ducks. However, no birds were captured in Woody Bay. House Pond, the best trapping site for blacks in past years, was a disappointment this year. Although many blacks used the pond as a roosting site, few were caught despite numerous adjustments to funnel size, baiting patterns, and type of bait. The trap at New Pond was relocated to Sedge Pond on August 27 in an attempt to capture more Black Ducks, but the trap caught mostly teal. All trap wire and top netting was rolled up and stashed near trap sites (Figures 1 to 3).

When we left Nutak on September 20, all species of waterfowl were at peak numbers. It is conceivable that ducks can be captured in baited traps until October 1, although pond sites will likely freeze by that time.

Radio-telemetry

Twenty-six flightless Black Ducks were radio-marked using an adjustable backpack-type transmitter package. My primary objective from June 28 to July 25 was to monitor the movements of these birds and determine survival. Radio-marked ducks were located and sighted, usually without flushing the bird, at least every third day, and approximate locations determined more often.

Molting Black Ducks were highly mobile, and we were required to make extensive treks to locate ducks. Because some ducks travelled long distances, we were required to climb mountains (the range of the transmitters increases greatly with elevation) and hike up to 20 miles per day to locate some birds.

Three of the 26 radio-marked Black Ducks were killed by predators. All but 5 of the surviving ducks were captured before they regained flight ability and the radio transmitters were removed. Body weights of all Black Ducks were recorded at the time of capture, and also when they were recaptured, to obtain information on weight changes during the flightless period.

A more complete analysis of the above data will be done for my M.S. thesis at the University of Maine at Orono, and will be available to the Canadian Wildlife Service by spring 1987.

Mortality and Predators

Two Black Ducks, 2 Green-winged Teal, and 1 Pintail died of unknown causes in bait traps. Gyrfalcons were a constant problem at most trap sites. Gyrfalcons chased ducks as we released them from traps, and killed at least 2 Green-winged Teal and 1 Pintail. One Black Duck was also captured by a gyrfalcon but we chased the gyrfalcon away and the black escaped. A black bear destroyed the bait stash in Goose Cove. Fox scat was often seen next to the trap at House Pond.

Recommendations:

1. Operate the Nutak banding station for another year. Costs can be greatly reduced if the banders arrive in mid-July by boat, eliminating the need for costly plane charters. This would still be early enough to band molting Black Ducks, Canada Geese, and Green-winged Teal, yet late enough to avoid unpredictable pack ice and enable travel by boat along the coast. Much of the necessary gear is stashed near Nutak, and would not have to be shipped there, also reducing transportation and freight costs.

2. Two working motors of at least 18 HP must be supplied.

3. Bait-trapping should be continued on Goose Island, and in Goose Cove, as well as traditional sites within Moores Island Tickle. Another potential trapping area would be the ponds on Ublik Peninsula. A tent camp located outside Moores Island Tickle will be required if the Goose Island area or Ublik are worked. Goose Island, Ublik, and the East Pond area can be worked simultaneously from a camp situated on the Okak Bay side of the East Pond peninsula. Another pond which should prove productive for Black Ducks is 038 Pond, located just east of East Pond.

4. Intensify goose banding efforts during July and early August, concentrating on high elevation ponds and occasional scouting missions into Okak Bay to locate concentrations of geese on saltwater.

5. Thirty to 35 bags of bait (mostly whole corn, some cracked corn and barley) is required if bait-trapping continues into late September.

Table 1. Nutak waterfowl banding --1986

Species	Local				Hatch Year				After Hatch Year				Total
	M	F	U	Total	M	F	U	Total	M	F	U	Total	
Black Duck						1		1	339	28	-	367	368
Green-winged Teal	8	5		13	77	73	1	151	71	19	-	90	254
Canada Goose	15	19	7	41					15	8	7	30	71
N. Pintail	2	6		8	19	26		45	6	8		14	67
Mallard									6			6	6
Common Eider	1	2		3									3
Red-breasted Merganser									3			3	3
Oldsquaw	2			2						1		1	3
Blue-winged Teal					1			1					1
Mallard X Black Hybrid									1				1
TOTAL	28	32	7	67	97	100	1	198	441	64	7	511	777

Table 2. Hand-caught Waterfowl -- Nutak 1986.[1]

Species	Local M	Local F	Local U	After Hatch Year M	After Hatch Year F	After Hatch Year U	Total
Black duck				79*	3*		82
Canada goose	15	19	7	15*	8*	7*	71
Green-winged teal	3	5		33*	1		42
Mallard				1*			1
Red-breasted merganser				3*			3
Common Eider	1	2					3
Pintail	1	1		6*			8
Black X Mallard Hybrid				1*			1
Oldsquaw	2				1		3
							214

[1]In addition, recaptures included 15 black ducks, 1 Canada goose, and 1 green-winged teal.

*denotes molting status.

Table 3. Bait-trapped Waterfowl -- Nutak 1986.[1]

Species	Local M	Local F	Hatch Year M	Hatch Year F	Hatch Year U	M	F	Total
Black duck				1		260	25	286
Green-winged teal	5		77	73	1	38	18	212
Pintail	1	5	19	26			8	59
Mallard						5		5
Blue-winged teal			1					1
								563

[1]In addition, recaptures included 28 black ducks, 4 green-winged teal, and 1 black X mallard hybrid.

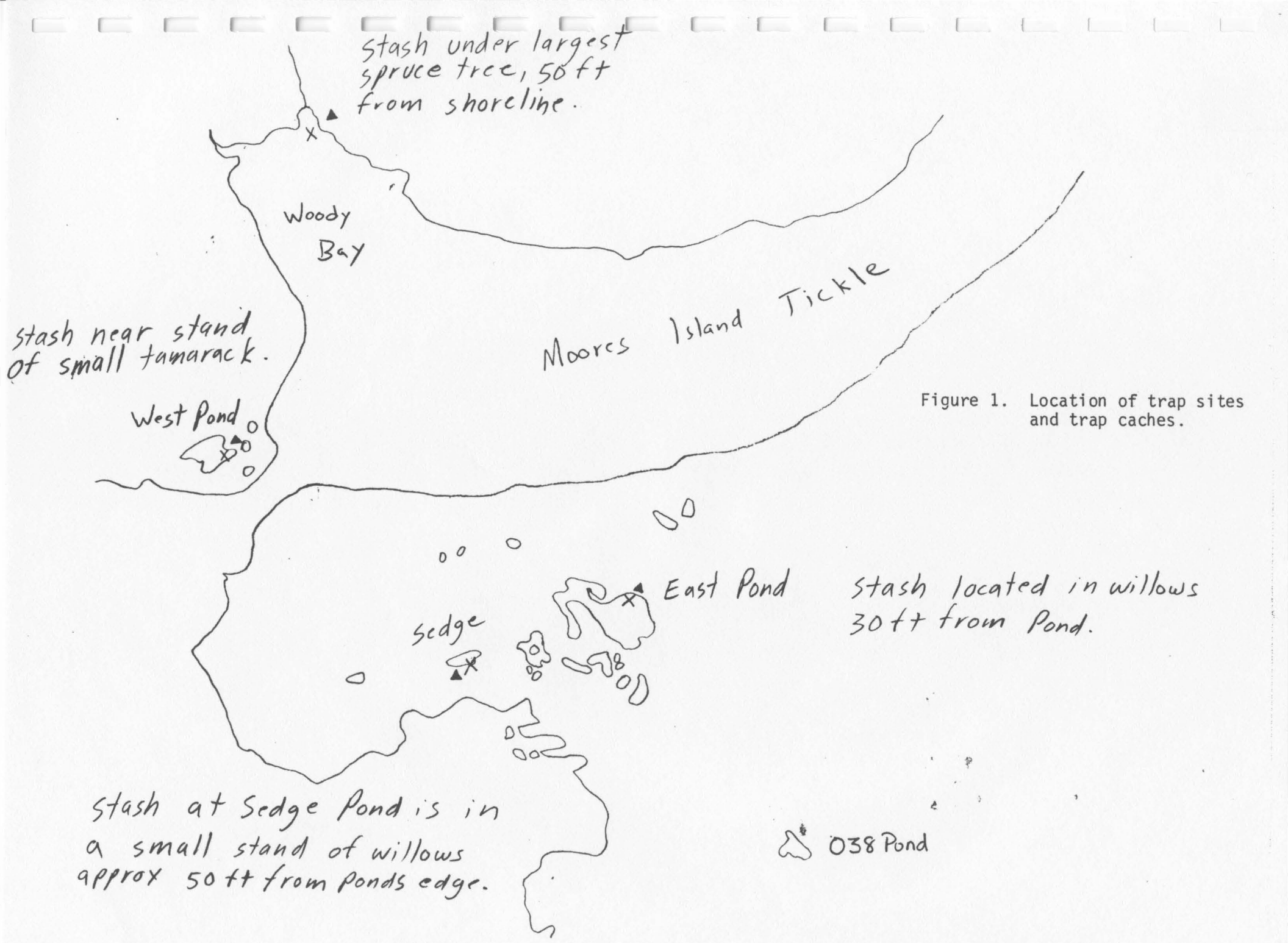
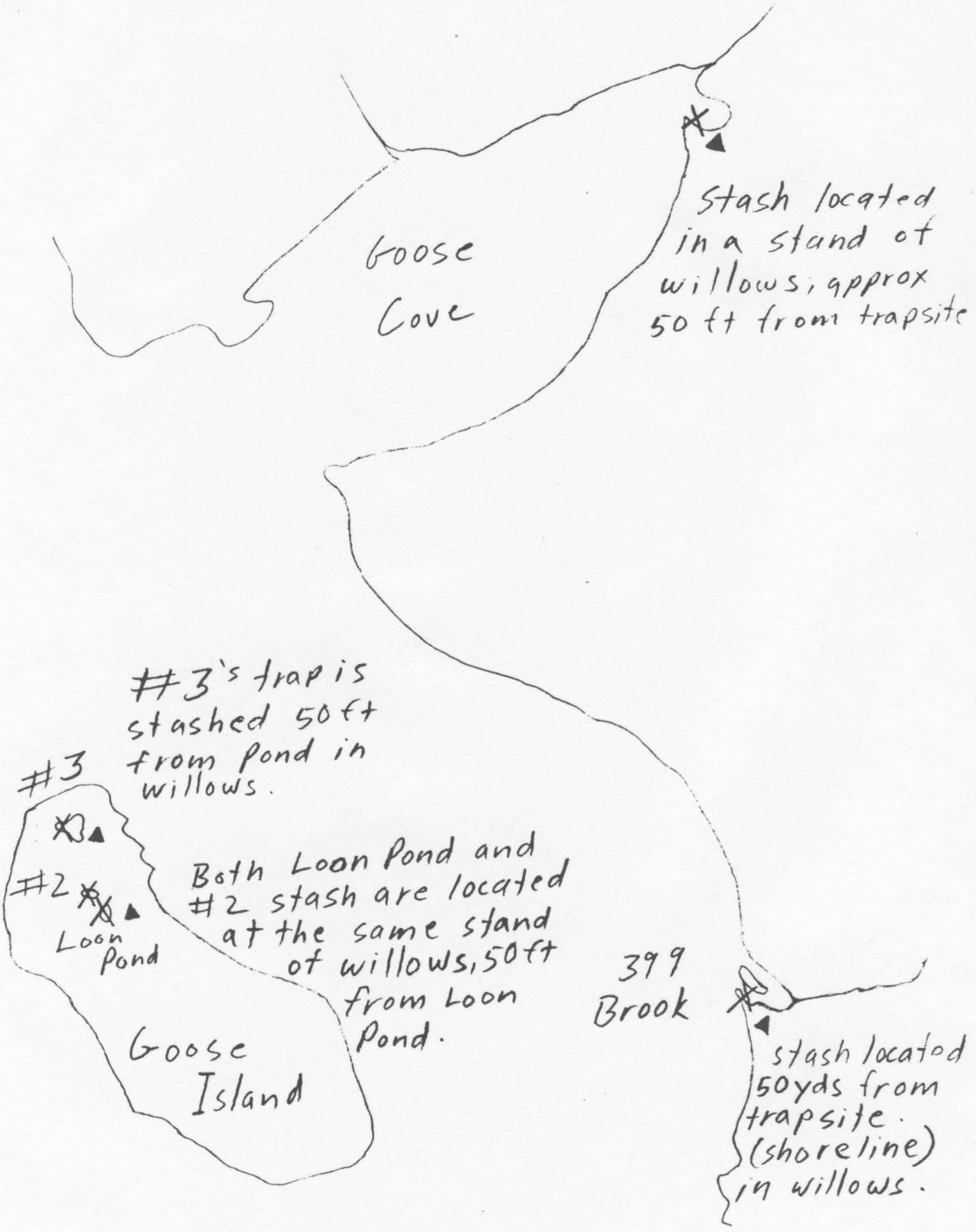


Figure 1. Location of trap sites and trap caches.

Figure 2. Location of trap sites and trap caches.



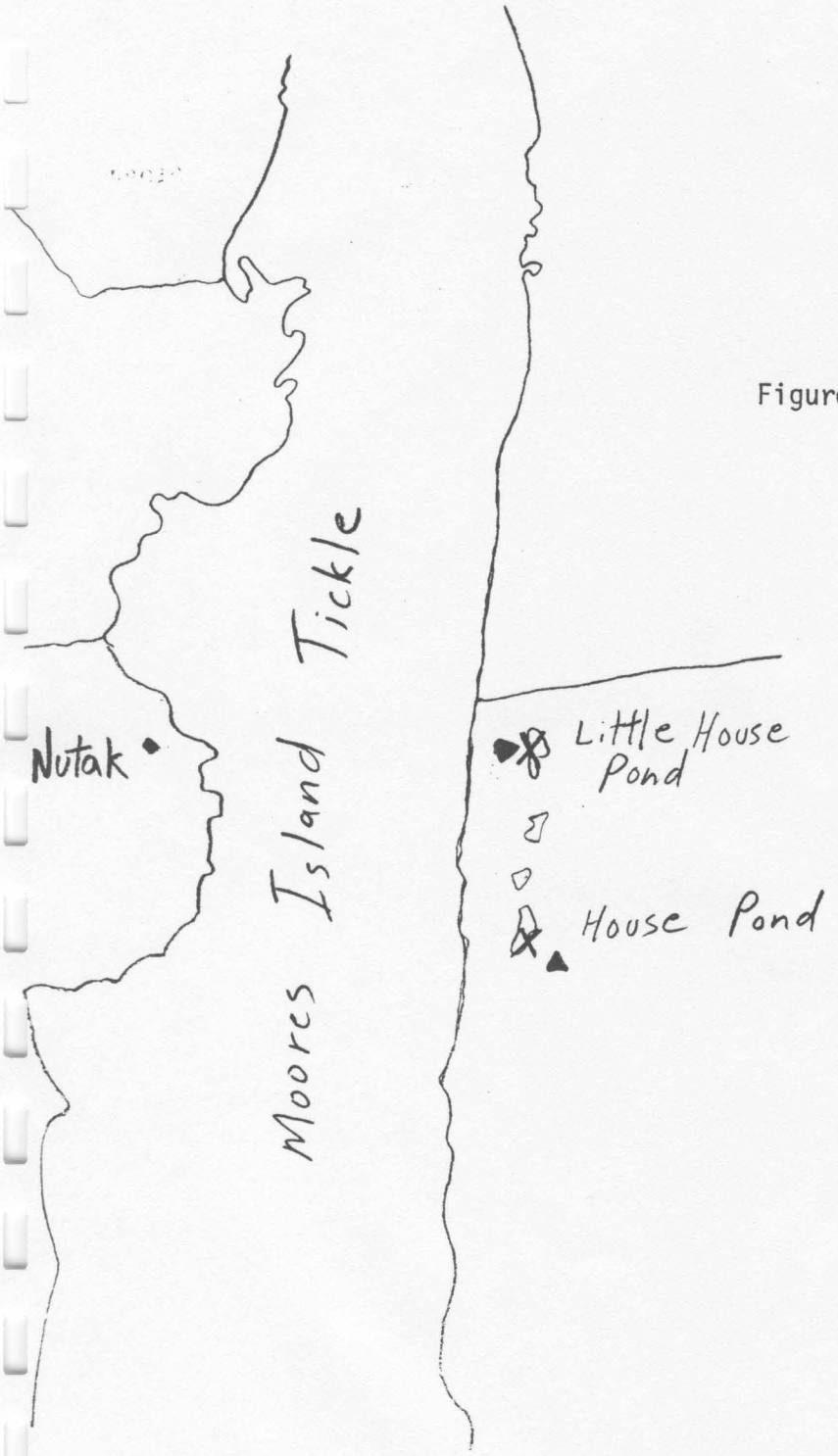


Figure 3. Location of trap sites and trap caches.

Equipment left in CWS storage area--Goose Bay:

1 Coleman stove
1 Coleman lantern
1 gas tank -- Mercury (no hose)
spare props -- 25 Merc and 9.8 Merc
50 feet nylon rope
1 gas funnel
outboard tool kit
gas drum spigot
1 ammunition box with assorted small gear
8 D batteries
grommet kit
3 in 1 oil
1 hammer
1 hatchet
2 files
1 replacement net
1 pr. wire cutters
grease gun
wire brush
1 invertebrate sweep net
1 burlap bag

Equipment stashed near house at Nutak:

3 packing crates
1 cook kit
1 pr. rain pants
3 decoys
3 life jackets
1 cooler
1 invertebrate sweep net
8 gas cans
1 packsack
1 Hillary dome tent
3 tarps
1 bucksaw
1 tentstove (property Mines and Energy -- Goose Bay)
1 anchor
3 galvanized buckets

Bird List -- Nutak, Labrador 1986

Common Loon
Red-throated loon
Northern fulmar
Canada goose
Greater snow goose
Mallard
Black duck
Pintail
Am. green-winged teal
Blue-winged teal
American wigeon
Greater scaup
Common goldeneye
Barrows goldeneye
Oldsquaw
Harlequin duck
Common Eider
White-winged scoter
Surf scoter
Black scoter
Common merganser
Red-breasted merganser
Rough-legged hawk
Golden eagle
Northern harrier
Gyrfalcon
Peregrine falcon
Merlin
Snowy owl
Shorteared owl
Great horned owl

Spruce grouse
Willow ptarmigan
Rock ptarmigan
Semipalmated plover
Lesser golden plover
Common snipe
Northern phalarope
Semipalmated sandpiper
Spotted sandpiper
Greater yellowlegs
Parasitic jaeger
Glaucous gull
Greater blackbacked gull
Herring gull
Blacklegged kittiwake
Common tern
Thick billed murre
Black guillemot
Tree sparrow
White crowned sparrow
Lapland longspur
Horned lark
Gray jay
Northern shrike
Water pipit
Rusty blackbird
Boreal chickadee
Robin
Raven

Waterfowl Banding Project

Codroy, Newfoundland

September 1 - October 5, 1986

Crew Members

Pierre Ryan

Andrew Barron

INTRODUCTION

This report describes banding activities at the Grand Codroy River bait-trapping station during the period September 1 - October 5, 1986. A total of 557 waterfowl were banded in 250 trap days (Table 1, Appendix 1). During this period Black Duck numbers at Codroy in 1986 were comparable to 1985 (200-250 Black Ducks used the River in both years). Green-winged Teal were lower in number this year than last (maximum of 200 in 1986 vs. 400-450 in 1985, Table 2). Waterfowl numbers increased through September although daily counts of Black Ducks and teal were quite variable throughout the period. Pintail were more abundant than last year (maximum 60 birds) though few were banded.

The warm weather was not as late as in 1985 and peak numbers of Black Ducks were banded in the period September 15-25, about a week earlier than in 1985 (Figure 1).

A number of factors may have reduced the effectiveness of our banding efforts in 1986:

1) an abundance of mink in the river;
2) the presence of eel fishermen (for the first time in several years nets/traps and activities were in close proximity to many of our traps).
3) Poaching (yet again) activities (coupled with my inattentiveness on one occasion) resulted directly in the loss of 20-60 Green-winged Teal from one trap and indirectly (I am sure of this!) increased disturbance to feeding birds because we had to empty traps just at dusk and do night patrols.

Additional information (morphometrics and blood smears for parasite analysis) was obtained during banding again this year. This activity was limited to periods when the number of birds being handled was manageable.

Returns of banded birds provided useful information on local movements of Black Ducks using the Codroy River.

Acknowledgement

I would like to thank again Dr. Robert Belts of Millville for his invaluable assistance in watching the traps, obtaining spare parts for the truck in Stephenville and providing transportation when our vehicle was out of action.

Thanks also to Barry O'Regan for his assistance in reducing/eliminating the mink predation problem and to the mechanics at Gillis's garage for service beyond the call of duty in reviving our truck.

Kind thanks to Mr. and Mrs. Gillis for providing superb accommodations and storage for our equipment.

The assistance of Wayne Turpin, Ed Walsh, Paul MacIssac, Neil Parnell, and Roy MacIssac in cleaning the traps and enforcement is much appreciated.

Trap Mortalities

- one black drowned in door of MacArthur's I (#14)
- one Green-winged Teal drowned in door Cormier's Marsh (#9)
- 6 Green-winged Teal killed by mink(s) - September 5 at Sandspit

Subsequently six mink were trapped at five locations on the Peninsula running out from behind the school to Sandspit. One mink drowned in the eel fishermen's pots in the same marsh (Billy's Marsh).

Poaching Incidents

Trap 20 (Billy's Marsh) was hit twice on (approximately) September 13 and October 2 between 2000-2200 hrs, most probably from behind the school. The first incident was while we were checking other traps; the second, while we were waiting for the tide to fall enough to cross on a sandbar, and were banding other birds on the porch of the cabin. Evidence indicated that at least two individuals (one lookout) were involved.

Trap 20 was directly across from Gillis cabins and accessible at low tide. There was probably a loss of 20 Green-winged Teal (unbanded) in the first incident and 20-30 (probably mostly banded recaptures) in the second. I immediately contacted RCMP and Wayne Turpin after the first incident and doubled efforts to ensure all traps were empty by dark. The difficulty in this approach was the presence of birds feeding around and entering traps at dusk and our desire not to drive them from the trap. Visits to this trap would also drive Black Ducks from Sandspit and MacArthurs. We did several (4) midnight vigils (2 with RCMP) after the first incident and one with Wayne Turpin of CWS and various RCMP (5 in total) on October 3 with little success in catching poachers.

The RCMP and CWS (Wayne Turpin) did several patrols and spot checks in the valley with assistance from Roy McIssac of the Newfoundland Wildlife Division but few charges ensued. Details may be obtained from Wayne Turpin of CWS.

The presence of two eel fishermen did not appear to appreciably affect ducks entering the traps because they usually checked their nets in the morning and did not attempt to molest birds. However, several eel nets were located relatively close to traps at Sandspit and Billy's Marsh. In the channel going into Cormier's Marsh eel nets were within 100m of traps 9 and 13. We suspect catch rates in these latter were low in part due to the fishermen's activities as birds did flush from the area on their approach. Effects may be significant only at times when tides are rising in the morning and both fishermen and ducks are visiting their traps.

Additional information was obtained while banding birds: body measurements from 33 Green-winged Teal and 48 Black Ducks (including 4 Black X Mallard hybrid and 6 foreign recaps) and blood smears were taken from 43 Black Ducks and 30 Green-winged Teal. Blood smears will be examined by Dr. Gordon Bennett of Memorial University of Newfoundland to determine blood parasite levels. Band numbers and measurements are in Appendices 3 and 4.

Four banded Black Ducks were shot (and band numbers obtained) at Island Pond in the Broom Hills 5 km due N of Gillis' cabins. One adult hen was shot within hours of banding on October 25 at this location and three others were shot on October 5. We visited this location on two occasions and observed Black Ducks both times. Apparently, good numbers (10-40) are observed there in late September during periods of high wind and tide. The birds probably fly up Brooms Brook to rest or feed (unknown) at this isolated place.

RECOMMENDATIONS

(1) Despite precautions and intervention by enforcement people, we were hit again this year by determined and experienced poachers. I can only reiterate recommendations put forth by Dave Morrow in our 1985 report. That

is, at all costs ensure traps are emptied by nightfall, particularly those easily accessible from shore. If trapping at Billy's Marsh continues, it should be a daylight effort where traps are closed in the evening to discourage poaching.

(2) Vehicle problems further compound the problem of poachers so it is recommended a good servicing be carried out on the truck prior to bringing it to Codroy.

(3) A powerful spotlight for the truck might inhibit nocturnal (2 legged) predators.

Table 1. Age and Sex Breakdown - Codroy 1986

Species	Hatch Year			After Hatch Year			Totals		
	M	F	Total	M	F	Total	M	F	Total
Black Duck	111	54	165	9	10	19	120	64	184
Black X Mallard Hyb.	2		2	3	-	3	5	-	5
Mallard	1	-	1	-	-	-	1	-	1
Northern Pintail	2	-	2	-	-	-	2	-	2
Ring-necked Duck	-	1	1	-	-	-	-	1	1
Green-winged Teal	195	148	343	2	13	15	197	161	358
Blue-winged Teal	2	4	6	-	-	-	2	4	6
TOTAL	313	207	520	14	23	37	327	230	557

Table 2. Waterfowl Observations - Codroy River September/October 1986

Date	Black Duck	N. Pintail	Green-winged Teal	Blue-winged Teal	Canada Goose	R.-breasted Merg.	Am Wigeon
1986							
1 September	150	15	50	none seen			
3 September	150	15	100		70		2
5 September	160	-	200	-	30		
8 September	no counts				45		
11 September	200	not counted					
12 September	174	not counted					
13 September	145	not counted	25	not counted			
14 September	100	1					
15 September	90	17	31				
17 September	238	13	105		122	25	

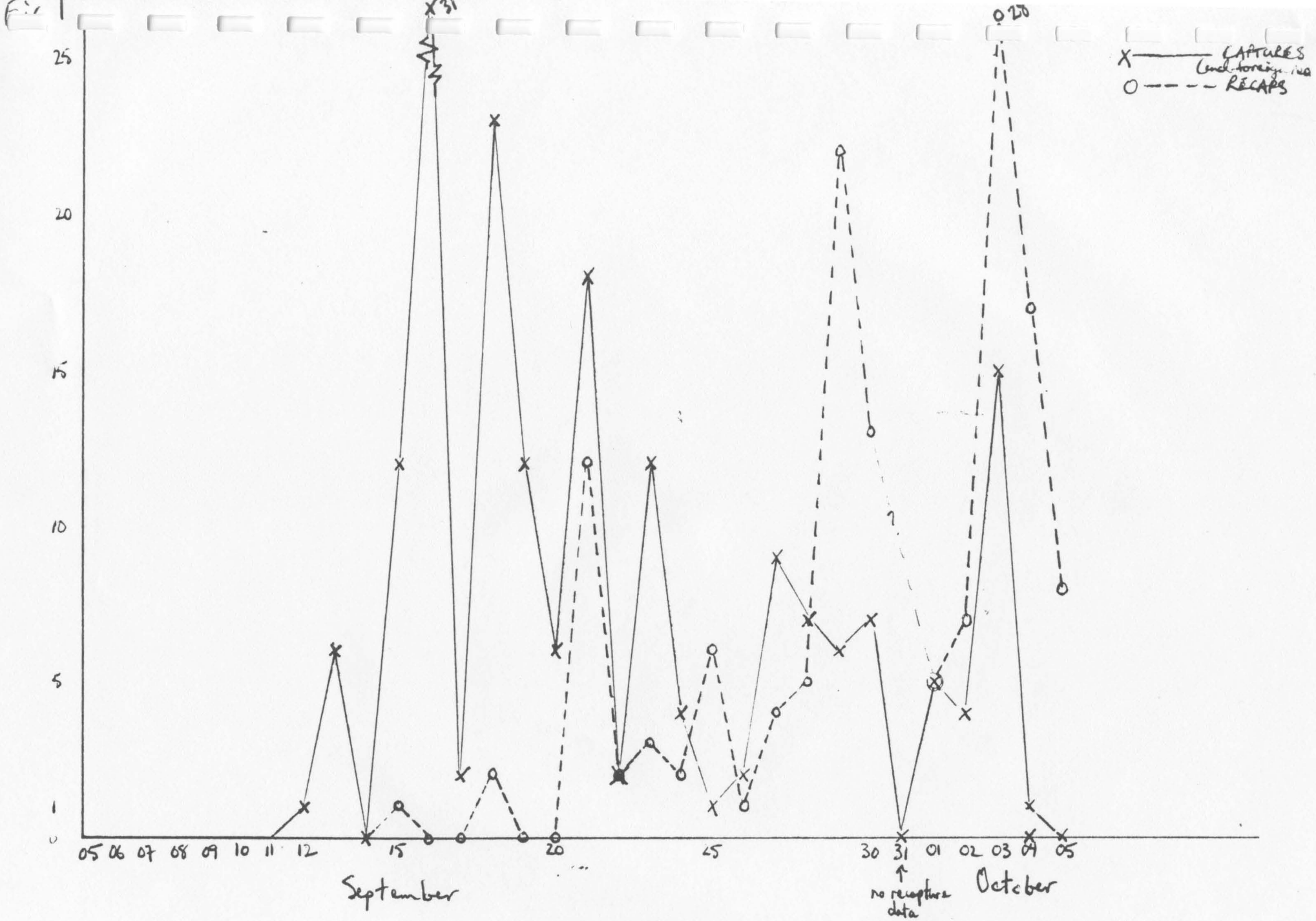
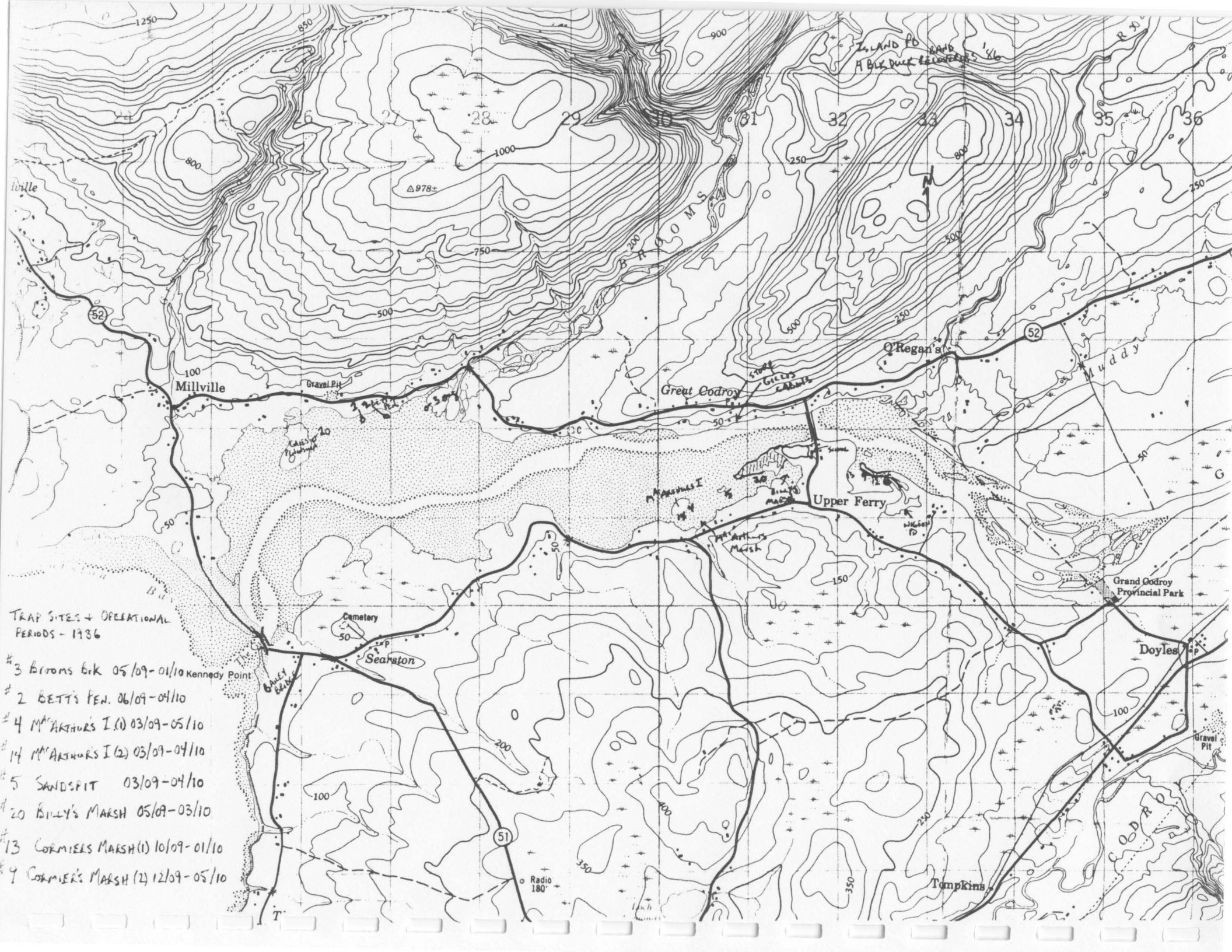


Figure . Black Duck & Black x Mallard Hybrid CATCH RATES.


TRAP SITES + OPERATIONAL PERIODS - 1986
#3 Brooms Brk 05/09-01/10
#2 Betts Fen. 06/09-04/10
#4 MacArthurs I (1) 03/09-05/10
#14 MacArthurs I (2) 03/09-04/10
#5 Sandspit 03/09-04/10
#20 Billy's Marsh 05/09-03/10
#13 Cormiers Marsh (1) 10/09-01/10
#9 Cormier's Marsh (2) 12/09-05/10
Millville
Gravel Pit
Great Codroy
O'Regan's
Muddy
Upper Ferry
MacArthurs Marsh
Grand Codroy Provincial Park
Cemetery
Searston
Kennedy Point
Doyles
Gravel Pit
Radio 180°
Tompkins
52
51

Appendix I

Trap Locations and Active Periods - Refer to Map Supplement

Trap Site	Baited	Trap Erected	Trap Operational	Trap Closed	Trap Days	Comments
#3 Brooms Brk.	2 Sept	3 Sept	5 Sept	1 Oct	27	spotty, some good catches early on, problems with birds escaping through doors
#4 MacArthur's I (1)	1 Sept	2 Sept	3 Sept	5 Oct	33	best Black Duck trap - few GWT this year
#14 MacArthur's I (2)	1 Sept	2 Sept	3 Sept	4 Oct	32	only one good catch
#5 Sandspit	1 Sept	2 Sept	3 Sept	4 Oct	32	not as good as in previous years-may be attributed to mink activity - 6 GWT killed by mink 6 Sept; hit by poachers twice; very good GWT trap
#20 Billy's Marsh	3 Sept	4 Sept	5 Sept	3 Oct	28	hit by poachers twice; very good GWT trap
#2 Betts Peninsula (formerly Brooms Brk)	2 Sept	5 Sept	6 Sept	4 Oct	28	spotty, problems with eelgrass buildup and floods on spring ditches
#3 Cormier's Marsh	2 Sept	6 Sept	10 Sept	1 Oct	19	frequent disturbance by eel fishermen; very few birds
#9 Cormier's Marsh (2)	2 Sept	10 Sept	12 Sept	5 Oct	23	new trap with only one catch (GWT)

Total Trap Days 250

All sites were at or near the locations used in previous years with the exception of #20 in Billy's Marsh, behind the school (see map). Additional potential sites were baited at: MacArthur's Marsh (#7), Cormier's Marsh (#6), Brooms Brk (#8) and Gales Peninsula (#10) on September 1. However, Black Ducks were observed only once using Brooms Brk (#8), and Gales Peninsula (#10) and they did not take the bait. The bait was eaten at MacArthur's Marsh and Cormier's (#6 - behind chicken farm) but we decided not to trap there because of i) vulnerability to poachers (especially at Cormier's) and ii) risk of drawing birds away from the successful (and relatively safe) MacArthur's I traps.

APPENDIX 2A

Black Duck Measurements — Cedro Banding Station, Nfld — Sept 01 - Oct 06, 1986

Band no.	Date	Age/Sex	Weight	Wing	Culmen Midline	Culmen Exposed	Bill Width	Bill Hght	Remarks
1417-84401	12/09	HY M	1350	271	53.5	61.2	23.6	19.2	
84403	1	?	1040	261	51.3	60.6	22.0	17.3	
84406	13/09	AHY M	1600	280	55.0	64.2	24.1	18.8	
407		" F	1150	269	47.5	56.1	22.5	17.6	
408	15/09	" M	1240	284	52.1	63.5	23.7	18.7	
409		HY F	1100	268	48.6	57.3	23.7	13.4	
410		" M	1360	275	54.1	64.9	23.0	18.4	
411		" ?	1000	265	54.0	63.2	21.1	16.7	
412		" F	1020	256	53.8	60.9	22.3	17.4	
413		AHY M	1480	294	55.6	65.2	23.3	17.7	
414		HY M	1040	272	58.8	68.4	24.1	18.7	
415		" "	1170	276	58.0	67.8	23.4	18.4	
416		AHY "	1150	270	56.0	64.8	23.1	18.0	
417		HY F	1090	268	47.9	57.6	21.4	17.2	
418		" M	1190	261	54.0	64.8	23.8	18.5	
419		AHY F	1370	271	51.5	60.3	22.8	18.6	
420		" M	1310	274	56.5	67.3	23.1	18.6	
421		HY ?	1200	278	53.4	65.1	24.1	18.2	
422		" F	1180	265	49.4	60.5	22.4	17.9	
423		AHY M	1360	277	50.8	61.7	23.8	17.9	
424		HY ?	1150	266	54.5	64.5	21.9	17.4	
425		" F	1040	265	54.8	62.8	22.3	17.5	
426		" ?	1050	261	50.2	58.8	22.4	17.5	
427		———	no measurements						
428		AHY M	1330	280	54.1	63.9	24.5	19.2	
429		HY F	1100	277	55.6	65.2	23.0	17.7	
430		" M	1000	262	49.3	58.4	21.7	16.9	
431		" ?	1300	279	53.4	62.3	23.5	18.7	
432		" F	1160	263	53.9	62.7	22.6	17.4	
433		" M	1470	287	59.2	68.6	23.0	18.9	
84437	17/09	AHY	1590	296	55.6	64.6	24.4	18.3	HYBRID
84444		HY	1400	284	55.6	65.5	24.7	19.4	
84445		AHY	1560	289	56.1	67.1	23.9	17.6	
463	18/09	HY	910	263	53.1	60.4	21.1	16.7	
493	19/09	"	1200	270	55.0	65.8	23.9	14.0	
1417-84207	25/09	"	1450	292	58.2	67.9	23.1	19.1	
84232	"	"	1180	275	53.2	62.4	22.1	17.5	
84233	"	"	1350	272	56.8	66.8	23.6	18.7	
84234	"	AHY F	1160	289	52.6	64.9	23.3	18.1	

APPENDIX 2B

BLACK DUCK MEASUREMENTS, CEDROY '81 (cont'd)

BAND NO.	DATE	AGE/SEX	WEIGHT	WING	CULMEN MIDLINE	EXPOSED CULMEN	BILL WIDTH	BILL HEIGHT	REMARKS
FOREIGN RECAPS									
1357-11240	13/09	AHY M	1450	287	52.0	60.5	21.4	18.2	HYBRID - green upper tail cover, front 2nd speculum tip
1427-96244	17/09	| |	1200	287	55.5	65.3	23.1	17.6	| - distinct 2nd speculum tip
1427-96106	17/09	| |	1260	283	52.2	62.6	24.2	18.1	
1427-96178	17/09	| |	1260	285	54.9	66.4	23.9	18.1	
1427-96181	27/09	| F	1080	260	49.4	58.3	22.1	16.7	
1357-11369	|	| (?)	1050	267	51.7	61.0	23.9	17.2	
PINTAIL									
896-68305	25/09	HY F	1030	260	50.0	60.5	20.7	17.3	
BLACK DUCKS - CEDROY BANDED									
1417-84241	25/09	HY M	1100	275	57.0	65.6	22.0	16.9	
84242	|	| F	1240	281	54.0	65.3	24.2	18.5	
84243		| M	1140	273	51.4	65.3	23.1	19.6	
84244		| |	1180	282	55.7	66.0	22.5	18.4	

BLACK DUCKS & PINTAIL: WEIGHED WITH 1500g pesola (to nearest 10g)

'85 + '86 WINGLENGTH = distance on the opened (spread) wing from the most anterior point of the wrist joint[1] to the tip of the longest primary, flattened against the ruler.

1) - where radius + ulna articulate with carpals (bearing primaries) - rim of forefinger at 0 end of ruler inserted in this joint. (try it - you'll like it.) - to nearest 1mm

CULMEN MIDLINE, EXPOSED CULMEN - self explanatory
BILL WIDTH - at widest point
BILL HEIGHT - at midpoint of nares
> all with vernier calipers to nearest 0.1mm

Appendix 3

Equipment; left at Great Codroy (Gillis's) Old Shed at Gillis' Cabins
- material for 8 - funnel traps
- 2 dipnets
- 1 live trap (small mammal)
- 2 life jackets
- 5 plastic salt-beef pail
- 1 Coleman lantern (unused '85)
- 3 canoe paddles
- 5 trap signs
- 12 Burlap (BRIN) Bags
- one small tin coleman fuel

Equipment; returned to CWS Sackville
- Grumman square-stern canoe
- 4.5 hp Evinrude motor with 2.5 gal. gas tank
- 2 pr banding pliers, 1 pr. band openers, 1 pr wire cutters
- 1 halogen flashlight - CWS St. John's
- unused bands, field sheets etc.
- 2 bait cans, 1 dip net
- 1 canoe paddle

Waterfowl Banding Project

Carmanville, Newfoundland

August 1 - September 9, 1986

Crew Member

George Brinson

WATERFOWL BANDING - CARMANVILLE, NFLD. - I986

A waterfowl bait trapping station was in operation in the Carmanville, Nfld. area, again in I986, for the fourth consecutive year. The project ran from August 0I to September 09. I90 ducks were banded and 2 recaptures from previous years brought the total to I92 birds.

As in previous years banding took place on Middle Arm, the salt-water bay east of, and adjacant to Carmanville. See Fig. I. In addition, a beaver pond, (locally known as Black Duck Steady) on the south side of the arm, was also trapped. Banding was attempted at two locations on the arm, however only one site proved successful - the location used in I985 at the south end of the arm.

Baiting began August 0I. First traps were erected August I7, with first birds banded August 20. Baiting continued untill Sept. 05, and banding ending September 07 - a week prior to opening of hunting season in local area.

A total of I50 Blacks, 3I Green-w. Teals, 3 Mallards, 2 Ring-necked Ducks, I Pintail and 3 Canada Geese were banded. No Blue w. Teal were banded this year. The Black Duck numbers were up, makeing it the most successful year to date. The only exception of note, is the low number of Green-wing Teals being captured, some 65 birds less than the I985 totals. Geese were banded for the first time at this location.

Comparing the number of adult blacks being trapped this year, to the higher than normal numbers of I985, when the adult percentage of totals trapped stood at I8%, this years numbers have fallen back to 4%. This compares to the average of 5% for previous three years that banding has been carried out. The comparison for Green wing teal remains approximately the same for past four year banding period.

Species, sex and age of banded birds are listed in Table I.

Table I. Age and sex breakdown, I986 Carmanville, Nfld. waterfowl banding project.

Species	HATCH YEAR			AFTER HATCH YEAR			TOTALS		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Black Duck	64	80	I44	2	4	6	66	84	I50
G.-w Teal	I6	I2	28	I	2	3	I7	I4	3I
Ring-n.Duck	I	I	2	-	-	-	I	I	2
Mallard	I	2	3	-	-	-	I	2	3
Pintail	I	-	I	-	-	-	I	-	I
Can. Goose	2	I	3	-	-	-	2	I	3
TOTALS	85	96	I8I	3	6	9	88	I02	I90

No Green-wing Teals were recaptured from previous years banding as in I985. One factor may have been the low numbers trapped as compared to previous years. Two Black Ducks were recaptured from previous years. One from I984 banding and one from I985 banding. It is interesting to note the recapture from I984 banding, was also recaptured during the banding last year!

At no time were large numbers of birds present on arm untill the first of September. Green-wing Teal were never present in numbers compared to previous years. By September 0I, approximately 35-40 teal had congregated on the arm in groups of 8 to I0 birds. At start of baiting, August 0I, I0-I5 Blacks were present on arm and numbers remained low untill mid. month, when 75-I00 birds could be observed regularly. Morning catches were greatest, as birds were coming to salt-water to roost and feed during pre-dawn hours. The highest catches were at the end of the project, and if it had not to have been terminated due to hunting season, a fair number of extra Blacks would have been captured.

I0-I2 Blue-wing Teals were observed on several occasions, during the last two weeks in August, although none were trapped. 8 Mallards were observed in addition to the 3 which were banded, along with 3 Pintails. 3 Canada Geese were captured out of a flock of five which were present in trap area for four days.

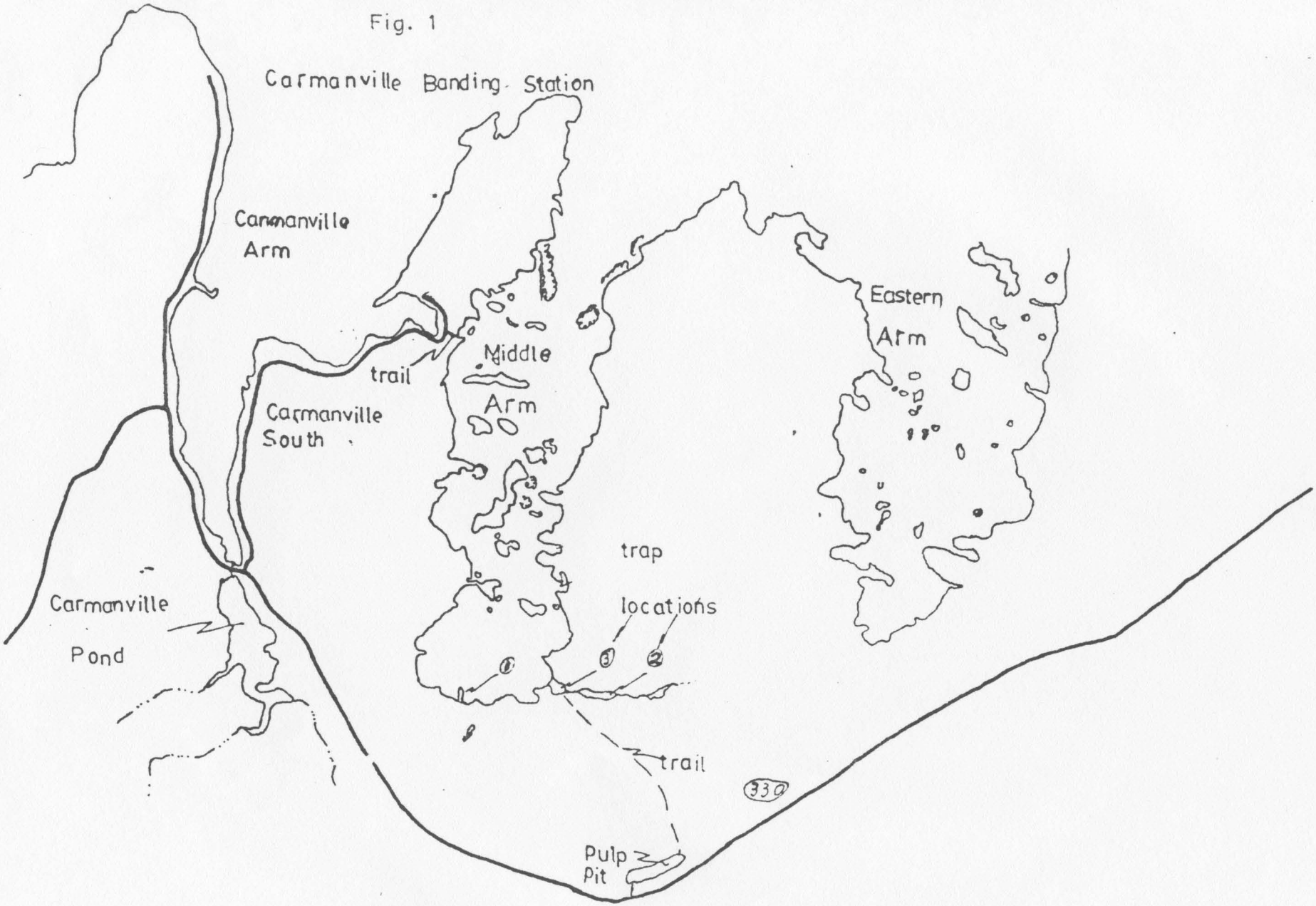
The most interesting observation was a pair of American Wigeon observed on the beaver pond(trap location 2), August 24. This is a first observation ever, for this bird in this area. In addition, 5 Common Goldeneyes were observed on several occasions after September 0I, on salt water and the beaver pond. Four broods of Red-breasted Mergansers were observed during the period.

CONCLUSIONS:

The results of this year's banding compare with I985, the best year ever, which saw 20I birds being banded. However, the I50 Blacks this year, exceeds last years total of I05 by 45 birds, makeing it the best year to date. As Blacks are the prime objective of the whole programme, it must be considered a most successful year. Hopefully the programme will continue.

George Brinson
Box 204, RR # I
Carmanville
Nfld. A0G IN0

Fig. 1


Carmanville Banding Station
Carmanville Arm
Middle Arm
Eastern Arm
trail
Carmanville South
trap locations
1
2
3
Carmanville Pond
trail
330
Pulp Pit

RETRAP AND RECAPTURE INFORMATION 1985-86

Banding Station: CARMANVILLE, NFLD.

Species: BLACK DUCK
(one species per sheet)

Complete Band Number	Retrap or Recapture location	Date of retrap	Additional information
357-11504	MIDDLE ARM CARMANVILLE, NFLD	AUG. 29-85	banded AUG. 23-84 SAME LOCATION
57-11552		AUG. 31-85	banded SEPT. 05-84 SAME LOCATION
57-11522		SEPT. 01-85	banded AUG. 26-84 SAME LOCATION
07-06769		SEPT. 02-85	banded AUG. 28-83 SAME LOCATION
47-26071	MIDDLE ARM CARMANVILLE, NFLD.	SEPT. 01-86	banded SEPT. 01-85 Same Location
57-11522		SEPT. 06-86	banded AUG. 26-84 Same Location *

* This bird was also recaptured in 1985 — See 85 returns above.

Waterfowl Banding Project

Saint-Pierre and Miquelon

January 23 - February 23, 1986

A. Desbrosse

ARCHIPELAGO
OF
SAINT PIERRE AND MIQUELON

Saint-Pierre, May 21, 1986

AGRICULTURAL SERVICES

BANDING OF BLACK DUCKS

AT GRAND BARACHOIS

S.P.M.

REPORT ON MARKING OPERATIONS IN THE MONTHS OF JANUARY/FEBRUARY 1986

A. DESBROSSE - April 1986

- Purpose of operation
- Methodology, site, schedule and problems encountered
- Conclusions

APPENDICES

- Biometrics table
- Article by M. BOROTRA,
- Map of duck areas

Review of work hypotheses

The Black Duck (Anas rubripes) is an Anatidae found in the eastern part of the North American continent. It is a species in decline, something which cannot be explained by a reduction of its biotope. One of the principal causes seems to be competition with the Mallard Duck, with which it hybrids.

Newfoundland has a genetically pure population and vast reproduction territories in the forestry sector. A research program has been underway in Newfoundland for several years:

- banding at Grand Codroy (Southwestern part of the Island) in the autumn. As this area is frozen over during the winter, the birds stay in the Maritimes (Ian GOUDIE, pers. comment).

- determination of the nesting population by flying over the forest zone each year, starting in May 86.

The banding of birds wintering in Grand Barachois is part of this research program. With a population of 100 to 300 birds, this site is the most important on the south coast of Newfoundland. Catching banded birds will enable us to determine their origins (probably eastern Newfoundland and particularly the Avalon peninsula) and accumulate biometric data to allow us to characterize this population.

Methodology:

The ducks are caught with the help of wire mesh traps. These are comprised of two ellipses set into the ground with pegs. The two ends come together to form the openings. A net closes off the top and prevents the birds from escaping. Cracked corn placed inside near the entrance constitutes the bait. Since ducks only feed underwater, at low tide and mid-tide, the traps are placed a few meters from the shore, so that only the top emerges at high tide. To begin with, the corn is placed at the site, and once the birds have discovered the bait, the traps are placed there.

Catch sites in the Barachois:

Potentially useable sites are (see map).

1 - the area north of the Sauveur marsh,

2 - the western part of the Bank,

3 - the mouth of the Nordet creek,

4 - the Côte Est cove ("Chez JEZEQUEL"),

5 - the cove at the mouth of the Lamanthe marsh.

During the winter period, freeze-up limits the possibilities, particularly in areas 3 and 4. The areas used during the operation were: Sauveur (1) and the mouth of Lamanthe (2). The latter site is the only one that remains useable during periods of extreme cold.

Schedule of operations:

The distribution of grain to ducks began in January, before the arrival of the specialist from the Canadian Wildlife Service, Mr. Ian GOUDIE (C.W.S. - Building 333 - Pleasantville A1A 2X9 - St. John's - P.O. Box 9158) who stayed from January 13 to 24. After his departure, the operation was prolonged until January 31. Various attempts were made on February 11 and 22 and on Sunday, March 1.

In early March, the movement of ice made it impossible to set up the cages.

Biometrics:

The main difficulty at this time of the year is determining the age and sex of the birds.

- age: presence of bursa fabricii (immature) or absence (adult), aspect of extremity of tail feathers (clean edges in adults),

- sex: males: penis (difference between adult size - immature)
  - yellow beak
  - large speculum on secondaries, breast feathers have light-coloured V.

  females: greenish beak with black spots,
  - limited alar speculum
  - breast feathers with light-coloured ring.
  - weight
  - length of wing
  - beak measurements: 1) central culmen
    2) exposed culmen
    3) height
    4) width.

Problems encountered:

The main difficulties involve the weather: when conditions are mild (warm weather, water free), birds prefer to feed on eelgrass rather than on the bait (Sauveur area).

- the periods of harsh weather in late January and early March were much more favourable:

- Western half frozen over throughout this period,

- consequently, mouth of Lamanthe regualarly frequented,

- strong tendency to use corn.

At this time, the major problem results from the movement of floating blocks of ice that accumulate in the Lamanthe cove and dislocate the traps.

* Precautions to avoid the loss of birds,

- remove the captured birds at mid-tide or low tide, when the water level makes food unavailable,

- remove the top net when the traps are unsupervised.

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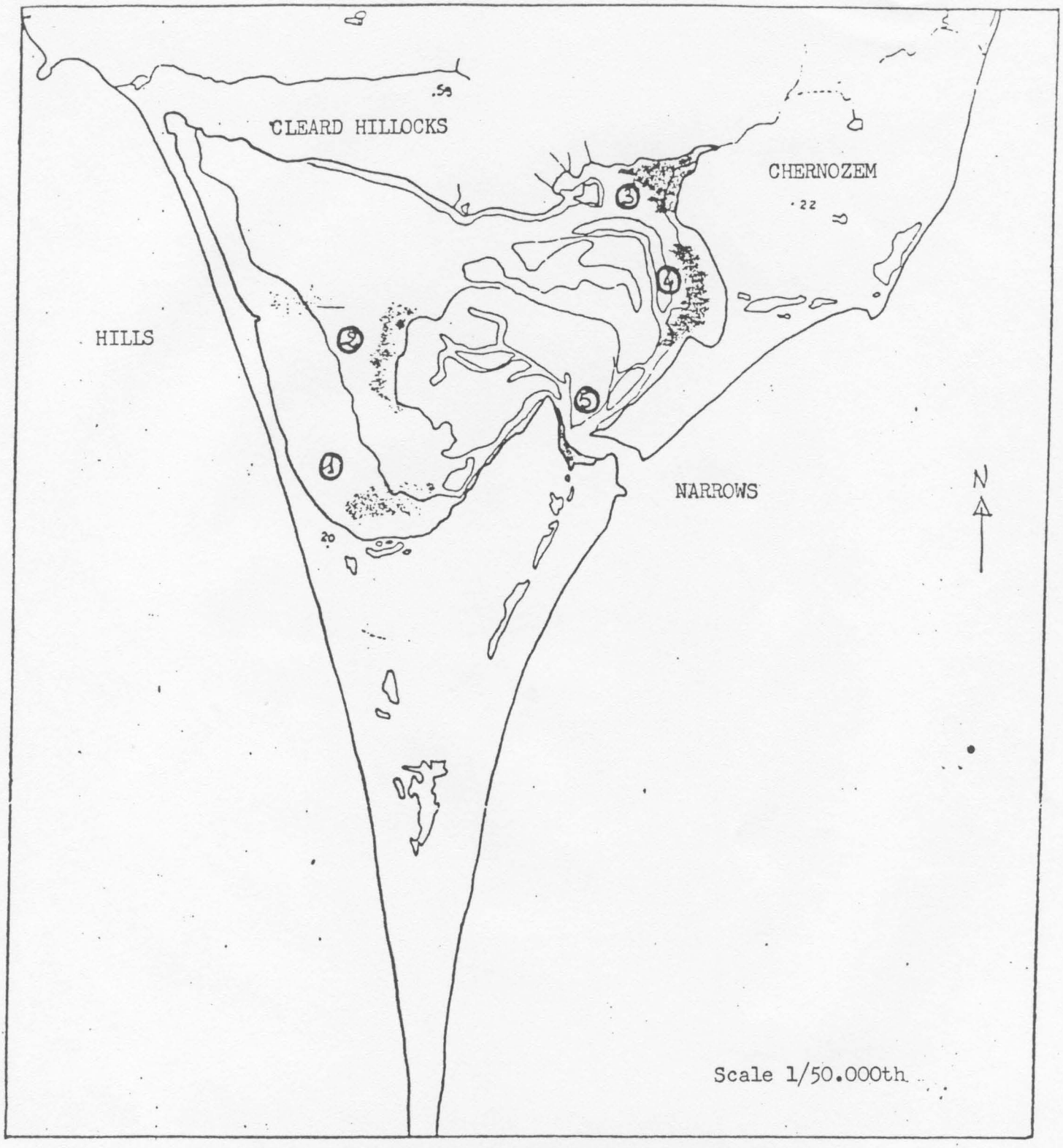

Map of favourable sites for the capture of Black Ducks in Grand Barachois Scale 1/50.000

1 - Sauveur
2 - West of the Banks
3 - Nordet Creek
4 - East Shore
5 - Lamanthe Cove

BLACK DUCK (ANAS RUBRIPES) BANDING OPERATION - GRAND BARACHOIS - JAN - FEB. 86

LIST OF TAGGED ANIMALS - MORPHOLOGICAL NOTES

BAND No.	DATE	AGE	SEX	WING	WEIGHT	CENTRAL CULMEN	EXPOSED CULMEN	HEIGHT	WIDTH OF BEAK
Dead animal	23.01.86	I	F	269 mm	610 g	49.7	58.3	21.5	21.7
Dead animal	26.01.86	I	M	274 mm	1,270 g	53.7	64.0	20.1	23.3
1417 - 8965	27.01.86	A	F	273 mm	1,200 g	50.2	59.6	23.4	23.8
" - 8966	"	I	F	270 mm	1,220 g	50.2	57.5	21.2	23.2
" - 8967	"	I	F	268 mm	1,390 g	50.9	61.5	24.8	23.2
" - 8968	"	I	M	265 mm	1,330 g	49.6	60.3	22.4	24.2
" - 8969	28.01.86	A	M	276 mm	1,510 g	53.3	64.7	24.1	22.4
" - 8970	"	I	M	282 mm	1,700 g	54.5	63.3	28.1	22.7
" - 8971	"	I	F	282 mm	1,500 g	53.3	64.3	25.4	27.7
" - 8972	"	I	M	274 mm	1,490 g	54.2	62.6	24.7	24.2
" - 8973	"	A	F	260 mm	1,270 g	51.1	59.8	21.8	22.6
- 8974	"	A	M	285 mm	1,525 g	52.3	59.3	23.8	24.8
Dead animal	03.02.86	A	F	256 mm	1,200 g	50.3	57.7	21.6	22.1
1417 - 8575	23.02.86	A	M	263 mm	1,250 g	50.7	62.2	22.5	23.8
1417 - 8576	23.02.86	A	M	273 mm	1,380 g	53.7	60.8	24.2	23.9
---	23.02.86	I	F	250 mm	1,080 g	48.9	59.0	21.2	23.1

Atlantic Flyway Cooperative Banding Program,
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Name

Date

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