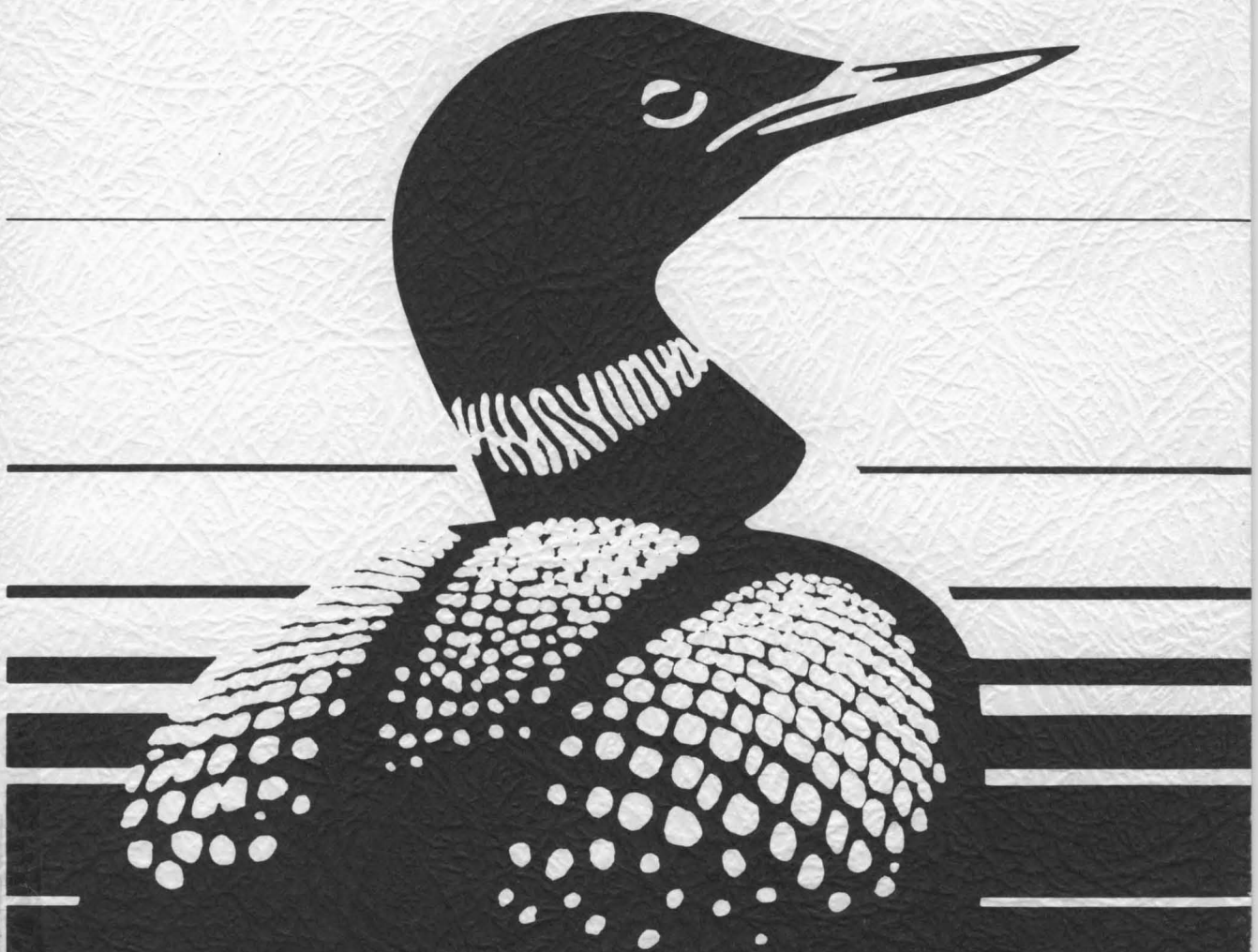
ATLANTIC FLYWAY COOPERATIVE BANDING PROGRAM

Atlantic Provinces

1989

compiled by
M. C. Bateman
W. R. Barrow

Canadian Wildlife Service
Atlantic Region
February 1990



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M. C. Bateman
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This report is a summary of the 1989 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 these 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 editing.

Summary

Atlantic Flyway Cooperative Waterfowl Banding Program

Atlantic Provinces of Canada

1989

The preseason Black Duck banding effort in the Atlantic Provinces in 1989 consisted of seven bait stations, the Canadian Wildlife Service airboat, the USFWS Airboat and a dog-banding effort (Figure 1). In 1989 the pre-season Black Duck banding program was revised to address changing information needs and the attainment of adequate sample sizes at some stations. Long term monitoring stations at the N.B.-N.S. Border and at Bathurst N.B. were operated, as were the relatively new stations at Cape Freels and Baikie Lake (Churchill Falls). In addition, new bait stations were operated on Prince Edward Island and in Cape Breton to monitor the effects of changes in harvest regulations. Those sites had not been sampled by banding for 10 and 16 years respectively. The Carmanville station continued to add slowly but efficiently to the sample from that area of Newfoundland.

A total of 5033 birds was banded in 1989 (Table 1). In addition to the bait stations, airboats, and dog-banding directed toward Black Ducks, 433 Common Eider were banded at Hare Bay, Newfoundland and The Wolves, New Brunswick; and 53 Canada Geese were

banded and neck-collared on Prince Edward Island, Newfoundland and Labrador. Waterfowl were banded in all four Atlantic Provinces (Table 2): 1686 birds (33.5 percent of total) in New Brunswick, 1231 birds (24.5 percent) in Nova Scotia, 891 birds (17.7 percent) in Prince Edward Island, 902 birds (17.9 percent) on insular Newfoundland, and 323 (6.4 percent) in Labrador.

A total 1937 Black Ducks (38 percent of total waterfowl), 691 Green-winged Teal (14 percent) and 1061 Blue-winged Teal (21 percent) were banded in 1989 (Table 2). Canada Geese and Common Eiders were banded in special studies, as were some of the Black Ducks. More Black Ducks were banded in 1989 than in 1988 (1750 blacks) or 1987 (1720 blacks) but more stations were operated in 1989. The Bathurst bait station was again the most successful operation banding 453 Black Ducks. The Churchill Falls-Baikie Lake station was successful by Labrador standards for the first time (153 blacks and 90 green-wings were banded). Cape Freels, Newfoundland was unsuccessful (22 Black Ducks, 81 green-wings) even though 100+ blacks used the trapped area. The Black Duck:Mallard ratio (1:0.07) was higher in 1989 than in previous years (1:0.03) largely due to the high proportion of mallards present on marshes worked with a dog.

The number of Green-winged Teal (691) banded in 1989 was not high; 453 were banded in 1988, 643 in 1987, 995 in 1986. In 1989, 24 percent of the green-wings was banded at Carmanville, Newfoundland

and 24 percent by the CWS airboat. The Newfoundland-Labrador bait stations normally capture more green-wings than the Maritime stations.

The number of Blue-winged Teal banded in 1986 (1061) was relatively high. The bait station on P.E.I. (new in 1989) banded 409 blue-wings.

The total cost of the banding program in 1989 was $65,373 (Table 3). The cost per Black Duck banded was $33.75, higher than in 1988 ($27.99 per black) or 1987 ($29.04 per black). The higher costs per Black Duck in 1989 was due to the low number of ducks banded relative to the number of stations operated. The highest cost per Black Duck was at the Cape Freels station ($163.45 per black) and the lowest (bait station) was at Bathurst ($11.57). The dog work was done incidentally to other operations and the cost per Black Duck captured was $4.90.

The single most expensive part of the preseason banding program is salaries (Table 3). Twenty banders took part in the operation (Table 4). Shipping and transportation costs are also high, particularly for the remote stations.

The new goals for Black Duck banding based on numbers require provide distribution data are useful as guidelines. It will, however, be difficult (or impossible) to reach those goals for all age/sex categories in some reference areas with the present resources. For example, at a very successful bait station at Bathurst, New Brunswick, the number of adult birds banded in one year is approximately 120 and hatch year birds can number 3-400. Successful stations in Newfoundland and Labrador may band less than 50 adults

(male + female) in a year and 1-200 hatch year birds. Several years (or several successful stations) are required in most reference areas to achieve the required numbers of bandings.

Age composition of the Black Ducks banded at bait stations in 1989 ranged from 96 percent immature at the Prince Edward Island Station to 63 percent at Churchill Falls (Baikie Lake) (Tables 5 to 14). High proportions of young birds were also banded at Carmanville, Newfoundland (93 percent) and Cape Breton (92 percent). Eighty percent of the Black Ducks banded at the New Brunswick-Nova Scotia border station were immatures and 72 percent of the blacks banded at Bathurst.

Table 1. Summary of waterfowl banded in the Atlantic Provinces by station 1989.

Banding Location	Mallard	Black Duck	Blk.x Mal.	G-w Teal	B-w Teal	Am. Wigeon	N. Pintail	Wood Duck	R-n Duck	N. Shoveler	C. Gold	Gad.	H. Merg.	R-b Merg.	C. Merg.	C. Goose	C. Eider	Misc.	Total
Cape Freels Nfld.		22		81															103
Carmanville Nfld.	3	151		168	24		11												357
Hare Bay Nfld.																	428		428
Churchill Falls Lab.	5	153	1	90			45									29			323
Border Area N.S.	20	233	9		2	1			14									1	280
Wallace Bay N.S.	3	82		6	43		7	22	42				1						206
Cape Breton N.S.	2	183	16	23	15			2	1										242
Musquodoboit N.S.	1	42		38	2														83
Tobeatic N.S.								30											30
Central PEI	1	113		60	409		9	17											609
Orwell PEI																15			15
Codroy Nfld.		5														9			14
Bathurst N.B.	17	453	3	3			14												490
The Wolves N.B.																	5		5
Dog Work	45	97					2												144
USA airboat	29	198	2	59	295	91	4	76	2	5	1			1					763
CWS airboat	10	205	4	163	271	76	10	25	140	9		5	6		16			1	941
Total	136	1937	35	691	1061	168	102	172	199	14	1	5	7	1	16	53	433	2	5033

Miscellaneous birds include 1 Purple Gallinule
1 American Coot

Table 2. Provincial totals and percentages for waterfowl banded in the Atlantic Region Cooperative Banding Program 1989.

Species	New Brunswick		Nova Scotia		P.E.I.		Nfld.		Labrador		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mallard	91	5	36	3	1	-	3	-	5	2	136	3
Black Duck	806	48	629	51	171	19	178	20	153	47	1937	38
Blk x Mal.	7	-	27	2	-	-	-	-	1	-	35	-
G-w Teal	120	7	113	9	119	13	249	28	90	28	691	14
B-w Teal	380	23	185	15	472	53	24	3	-	-	1061	21
Am. Wigeon	96	6	34	3	38	4	-	-	-	-	168	3
N. Pintail	20	1	15	2	11	1	11	1	45	14	102	2
Wood Duck	86	5	60	5	26	3	-	-	-	-	172	3
R-n Duck	61	4	105	9	33	4	-	-	-	-	199	4
N. Shoveler	9	-	1	-	4	-	-	-	-	-	14	-
G. Goldeneye	1	-	-	-	-	-	-	-	-	-	1	-
Gadus II	-	-	4	-	1	-	-	-	-	-	5	-
H. Merganser	3	-	4	-	-	-	-	-	-	-	7	-
R-b. Merganser	1	-	-	-	-	-	-	-	-	-	1	-
G. Merganser	-	-	16	1	-	-	-	-	-	-	16	-
C. Goose	-	-	-	-	15	2	9	1	29	9	53	1
C. Eider	5	-	-	-	-	-	428	47	-	-	433	9
Misc.	-	-	2	-	-	-	-	-	-	-	2	-
	1686		1231		891		902		323		5033	

Table 3. Cooperative Waterfowl Cost Summary - Atlantic Region - 1989.

Station	Salaries	Bait	Food & Lodging	Shipping & Transportation	Equipment & Supplies	Total Cost	No. of Birds	Cost/ Bird	No. of Black Ducks	Cost/ Black Ducks
Cape Freels Nfld.	*2700.00	*95.94	-	*800.00	-	3595.94	103	34.91	22	163.45
Carmanville Nfld.	*1600.00	*150.00	-	-	50.00	1800.00	357	5.04	151	11.92
Hare Bay-Nfld.	-	-	-	-	-	-	428	-	-	-
Churchill Falls Lab.	*3886.66 (1000.00)	*252.90	*1995.18 (80.00)	*3580.52	*1299.86	12,095.12	323	37.45	153	79.05
NB - NS Borden Area	*2700.00	*276.30	-	*380.00 (158.08)	*428.68 (80.79)	4023.85	280	14.37	233	17.27
Wallace Bay N.S.	*1944.16	*124.60	-	*596.80	*750.38 (109.79)	3525.73	206	17.12	82	43.00
Cape Breton N.S.	*2050.00 (800.00)	*210.35	*63.80 (150.00)	*2442.32 (395.76)	*923.47 (80.79)	7116.49	242	29.41	183	38.89
Musquodoboit NSL&F	*1000.00	-	-	-	-	1000.00	83	-	42	-
Tobeatic-NSL&F	*228.57	-	-	*145.29	-	373.86	30	-	-	-
Central PEI	*2250.00	*382.45	-	*1267.32	*833.38 (80.79)	4813.94	609	7.90	113	42.60
Rocket Netting										
Codroy	(1380.00)	(45.20)	(694.33)	(301.14)	(15.00)	(2435.67)	14	-	5	-
Orwell	-	-	-	-	-	-	15	-	-	-
Churchill Falls	-	-	-	-	-	-	29	-	-	-
Bathurst N.B.	*2700.00 (150.00)	*460.35	*685.00 (55.00)	*963.67	*146.18 (80.79)	5240.99	490	10.69	453	11.57
The Wolves-N.B.	-	-	-	-	-	-	5	-	-	-
Dog Work	(350.00)	-	(50.00)	(75.00)	-	475.00	144	3.30	97	4.90
USA Airboat	*450.00 (300.00) **2500.00	-	*601.54 (75.00) **1997.00	**1258.21	**578.75	7760.50	763	10.17	198	39.19
CWS Airboat	(2250.00)	-	(1409.00)	(1470.00)	*5628.20 (358.80)	11,116.00 5487.80	941	5.83	205	26.76
Totals	30,239.39	1998.09	7855.85	13,834.11	11,445.65	65,373.09	5033	12.99	1937	33.75

CWS Funds -(11,995.26)
USA F&W Funds -**6,333.96
NSL&F -unavailable

CWS costs do not include supervisory time, clerical contribution, or capital equipment costs.

Table IV PERSONNEL - 1989 ATLANTIC REGION BANDING PROJECT

Station	Banders	Address
Churchill Falls, Lab.	Vern Stotts	Queenstown, Md. USA
	Andrew Hicks	Sackville, N.B.
Carmanville Nfld.	George Brinson	Carmanville, Nfld.
Cape Freels	Ammon Pickett	Templeman, Nfld.
	Marc Hefferton	Templeman, Nfld.
Godroy, Newfoundland	Bill Barrow	Sackville, N.B.
Bathurst, N.B.	Greg McCollum	Amherst, N.S.
	Allison Foster	Berwick, N.S.
NB-NS Border Area	Dale Patterson	Sackville, N.B.
	Peter Van Zost	Fort Lawrence, N.S.
USA Airboat F'ton Area	Carl Ferguson	Parker River Ma. USA
	Robert Stovall	Woodbridge Va. USA
	Daniel Barrow	River Philip, N.S.
PEI Bait trapping	Tom Godfrey	Charlottetown, P.E.I.
	James Hughes	Charlottetown, P.E.I.
PEI Rocket Netting	Paul Merola	North Franklin Ct. USA
	Tom Early	Westboro, Ma. USA
Wallace Bay NWA	Richard Daury	Port Mouton, N.S.
	Craig Smith	Springhill, N.S.
Cape Breton	Oscar Dewberry	Bainbridge Ga. USA
	Andrew Hicks	Sackville, N.B.
	Dale Thompson	Charlottetown, P.E.I.
CWS Airboat Dog Work	Bill Barrow	Sackville, N.B.
NSL&F, Tobeatic & Musquodoboit	John Deal	Lunenburg N.S.
	Jeff Monchant	Halifax, N.S.
Eider Banding	Ian Goudie	St. John's, Nfld.
	Scott Gilliland	Lorneville, N.B.

Table 5. Age and sex breakdown of ducks banded at Amherst Pt. Area, 1989.

	Local			Hatch Year			After Hatch Year			
	M	F	U	M	F	U	M	F	U	Total Species
Black	14	4	-	125	44	-	31	15	-	233
Mallard	-	-	-	13	3	-	2	2	-	20
Ring-neck	5	4	-	3	2	-	-	-	-	14
Purple Gallinule	1	-	-	-	-	-	-	-	-	1
Hybrid	-	-	-	6	-	-	3	-	-	9
Blue-winged Teal	-	-	-	-	2	-	-	-	-	2
Widgeon	-	-	-	-	1	-	-	-	-	1
Totals	20	8	-	147	52	-	36	17	-	280

Table 6. Species, age, and sex composition of birds banded at the Bathurst bait station 1989.

Species	Local			Hatch Year			After Hatch Year			Total
	M	F	T	M	F	T	M	F	T	
Am. Black Duck				157	169	326	67	60	127	453
Mallard X Black Duck Hyb.				1		1	1	1	2	3
Mallard				5	8	13	1	3	4	17
Northern Pintail				5	6	11		3	3	14
Am. Green-winged Teal				1	-	1		2	2	3
Totals				169	183	352	69	69	138	490

Table 7. Total number of waterfowl banded for each species by sex and age class at the Wallace Bay N.W.A. bait station, 1989.

Species	Local			HY			AHY			Total
	M	F	T	M	F	T	M	F	T	
Am. Black Duck	5	3	8	42	19	61	3	10	13	82
Blue-winged Teal	-	1	1	16	21	37	4	1	5	43
Green-winged Teal	-	-	-	3	1	4	-	2	2	6
Pintail	4	3	7	-	-	-	-	-	-	7
Ring-necked Duck	12	7	19	8	9	17	1	5	6	42
Wood Duck	2	1	3	1	2	3	15	1	16	22
Hooded Merganser	-	-	-	1	-	1	-	-	-	1
Mallards	-	-	-	2	-	2	1	-	1	3
Totals	23	15	38	73	52	125	24	19	43	206

Table 8. Age, sex, and species composition of waterfowl banded at Cape Breton Island Station, 1989

	Local			Hatch Year			Adult			
	M	F	T	M	F	T	M	F	T	Total
Mallard	-	-	-	2	-	2	-	-	-	2
Black Duck	-	-	-	87	81	168	4	11	15	183
Hybrid	-	-	-	10	6	16	-	-	-	16
Ring-necked Duck	-	1	1	-	-	-	-	-	-	1
Green-Winged Teal	-	-	-	8	13	21	2	-	2	23
Blue-Winged Teal	-	-	-	7	7	14	1	-	1	15
Wood Duck	-	-	-	-	-	-	2	-	2	2
Totals	0	1	1	114	107	221	9	11	20	242

Table 9 . Age, Sex and species composition of waterfowl banded at the Central P.E.I. station in 1989.

Species	Local		Hatch year			After Hatch Year		Total
	M	F	M	F	U	M	F	
Black Duck	7	8	43	49	2	2	2	113
Blue-w. Teal	3	1	186	201	2	13	3	409
Green-w. Teal	2	4	16	15	-	20	3	60
Wood Duck	-	-	-	-	-	17	-	17
N. Pintail	-	-	5	3	-	-	1	9
Mallard	-	-	-	1	-	-	-	1
Totals	12	13	250	269	4	52	9	609

Table 10. Age and sex breakdown of waterfowl banded with the CWS airboat - 1989

Species	Local			Hatch Year			After Hatch Year			Unk.	Total
	M	F	T	M	F	T	M	F	T		
Mallard	2	2	4	2	2	4	1	1	1	-	10
Black Duck*	53	48	101	50	33	83	7	14	21	-	205*
Blk x Mal Hyb.	2	-	2	2	-	2	-	-	-	-	4
G-w. Teal	4	9	13	53	51	104	21	25	46	-	163
B-w. Teal	29	27	56	83	76	159	24	32	56	-	271
Am. Wigeon	22	18	40	10	16	26	3	7	10	-	76
N. Shoveler	4	4	8	1	-	1	-	-	-	-	9
N. Pintail	-	-	-	3	7	10	-	-	-	-	10
Wood Duck	-	-	-	-	-	-	23	2	25	-	25
R-necked Duck	47	50	97	5	16	21	11	11	22	-	140
Gadwall	-	1	1	2	1	3	1	-	1	-	5
G. Merganser	8	8	16	-	-	-	-	-	-	-	16
H. Merganser	-	-	-	2	2	4	-	2	2	-	6
Am. Coot	-	-	-	-	-	-	-	-	-	1	1
	171	167	338	213	204	417	91	94	185	1	941

*Total includes 41 Black Ducks banded under N. Seymour's sub-permit.

Table 11. Age, sex and species composition for waterfowl banded by the U.S.A. Airboat - 1989

Species	Local		Hatch year		After Hatch Year		Total
	M	F	M	F	M	F	
Mallard	9	6	2	7	4	1	29
Black Duck	23	36	59	64	2	14	198
Bl X Mall Hyb	1	1	-	-	-	-	2
Green-w. Teal	10	6	10	5	10	18	59
Blue-w. Teal	45	46	76	75	15	38	295
Am. Wigeon	35	30	5	5	10	6	91
N. Pintail	-	1	2	1	-	-	4
Wood Duck	5	10	6	12	37	6	76
N. Shoveler	-	1	2	2	-	-	5
Ring-n. Duck	-	1	-	-	1	-	2
C. Goldeneye	-	-	1	-	-	-	1
R.-b. Merganser	-	-	1	-	-	-	1
Total	128	138	164	171	79	83	763

Table 12. Age & sex breakdown for Canada Geese banded in the rocket net programs - 1989

Species	Hatch Year M	Hatch Year F	Second Year M	Second Year F	After Hatch Year M	After Hatch Year F	Total
Codroy, Nfld.	-	-	-	1	5	3	9
Baikie Lake Lab	5	13	-	-	6	5	29
Orwell, PEI	3	7	-	-	2	3	15
Total	8	20	-	1	13	11	53

Table 13. Age, sex and species composition of waterfowl banded with dogs - 1989.

Species	Local		After Hatch Year		Total
	M	F	M	F	
Mallard	15	10	14	6	45
Black Duck	46	43	-	8	97
N. Pintail	2	-	-	-	2
Total	63	53	14	14	144

Table 14. Age, sex, and species composition of birds banded at the Carmanville banding station in 1989.

Species	HY			AHY			Totals		
	M	F	T	M	F	T	M	F	T
Black Duck	72	69	141	3	7	10	75	76	151
Mallard	2	1	3	-	-	-	2	1	3
Pintail	2	8	10	-	1	1	2	9	11
G.-w. Teal	75	78	153	6	9	15	81	87	168
B.-w. Teal	8	14	22	-	2	2	8	16	24
Totals	159	170	329	9	19	28	168	189	357

Table 15. Sex, age, and species of waterfowl banded at Baikie Lake, 1989

Species	Immature[a]		Adult[b]		Total
	M	F	M	F	
Mallard	1	3		1	5
Mallard & Black Duck			1		1
Black Duck	44	52	30	27	153
Green-winged Teal	35	46	1	8	90
Pintail	25	17		3	45
Canada Goose	5	13	6	5	29
Total					323

[a] no locals were noted.

[b] no SY birds were noted.

Table 16. Age, sex, and species composition of birds banded at the Cape Freels banding station, 1989.

Species	HY		AHY		Totals
	M	F	M	F	
Black Duck	8	13	0	1	22
AM.Green-winged Teal	50	28	2	1	81
Totals	58	41	2	2	103

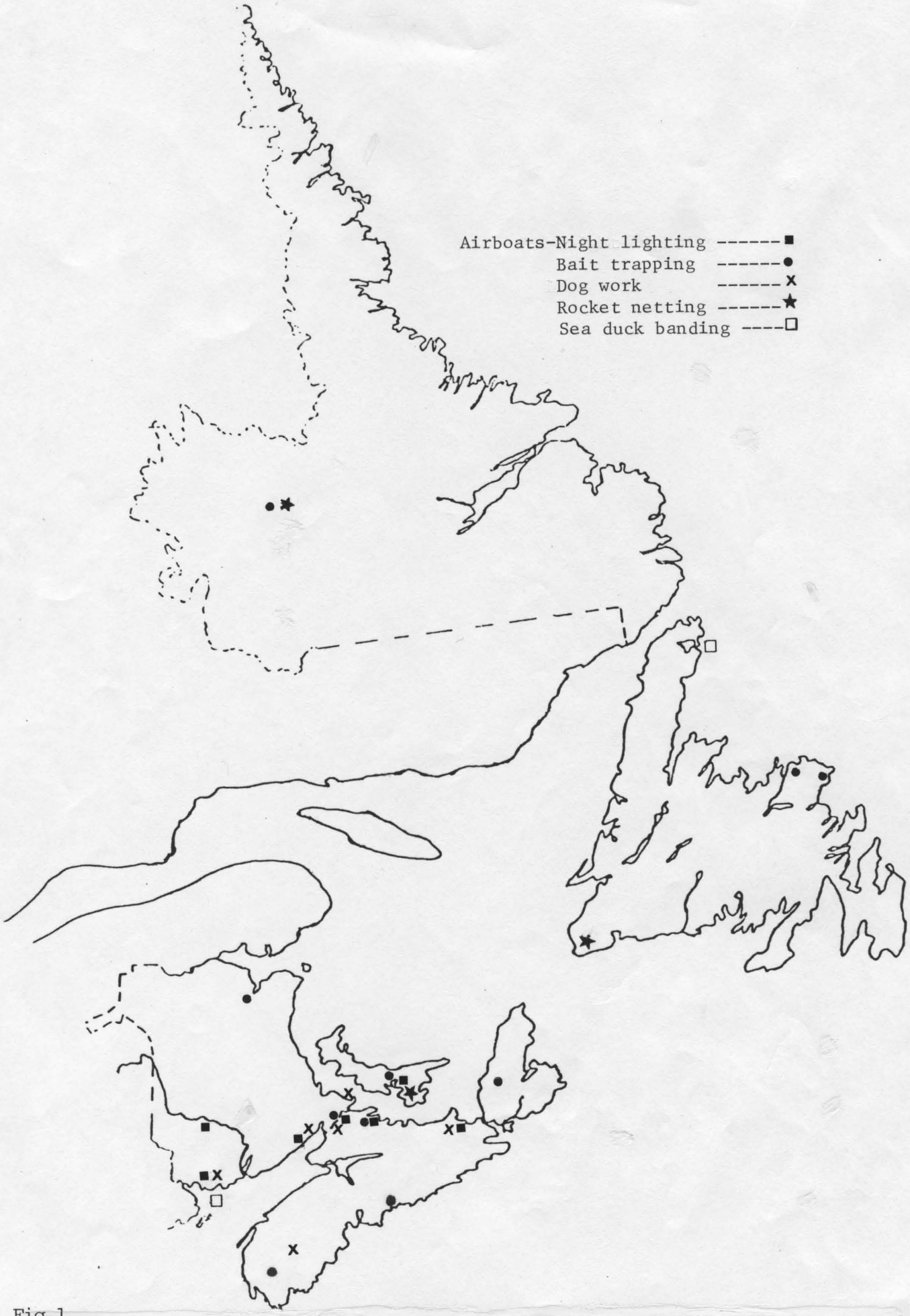


Fig 1 Waterfowl banding locations in the Atlantic Provinces 1989

Waterfowl Banding Project

New Brunswick-Nova Scotia Border Area

July 24 - August 30, 1989

Crew Members

Dale Patterson

Peter Van Zost

A waterfowl bait trapping station was reopened in the Amherst point area again in 1989. Marshes trapped were the Russel impoundment on the John Lusby salt marsh, the Amherst Point bird sanctuary, and a third marsh near the road to Nappan.

The bait trapping period for 1989 started on July 24. On the 24th we surveyed the area for potential trap sites and pre-baited 8 sites in the 2 marshes. We banded a total of 6 species of which the Black Duck was the most important. The bait used was whole corn, whole barley, and cracked corn mixed together. This seemed to work well and attracted most species of waterfowl common to this area. The recapture rate was up compared to the last 2 years. This year, we again put a trap near the road to Nappan, where we observed 25-30 blacks each day.

Amherst Point Area

In 1989 the ducks seemed to be more numerous than in previous years and we captured our first duck within a week of pre-baiting. The first trap was set on the 25 of July. We put out 2 or 3 traps at a time and set the ones that were already out. By August 3, we had all traps out and set in the Amherst point, impoundment 1 area. The number of birds captured was low at first but things picked up by the middle of August. By the 3rd week of August recaptures were beginning to outnumber new captures. Our number 2 trap in Amherst point was the most productive, as was the trap in that location in 1988. Overall, Amherst point was very productive in 1989 compared to the last few years. We observed 30-40 Black Ducks in impoundment 1 each day.

Russel Impoundment (John Lusby Salt Marsh)

In the Russel impoundment things started out slowly because the birds did not get on the bait as quickly as they did in the Amherst Point Area. By the first week of August we had all traps set

impoundment each day. They were mostly blacks, but there was some Blue-wing teal, widgeon, pintail, mallards. After the first week we moved the second trap to another location because it wasn't producing any ducks, but that was the only trap that never produced. These traps produced mostly blacks but began to fill up with recaptures fairly early in the season. We averaged 30 ducks a day but towards the end most of them were recaptures. Overall the Russel impoundment was the most productive and we observed the most ducks each day at the Russel impoundment.

Trap Mortality

Our first trap mortality was on August 6. There were 3 Black Ducks, 2 not banded. The apparent cause of death was drowning because there was no signs of predation. All birds were locals.

On August 9 there was another dead Black Duck in trap #1 and we closed it down for a few days, then re-opened it again. The duck didn't have any marks on it and we assumed the cause of death was drowning.

On August 14 there was a dead Black Duck in trap #3 of the Amherst point impoundment. There were no marks on this duck.

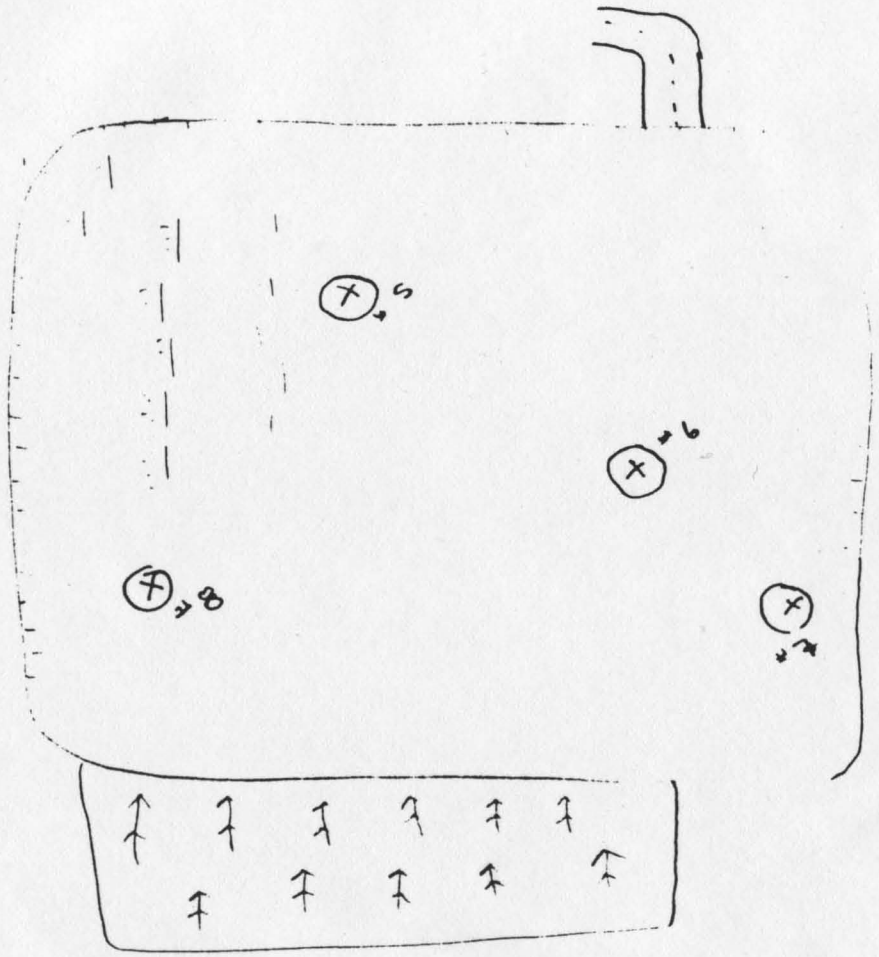
Recommendations

1. Support poles should be fixed to the outside of the trap to eliminate the potential of drowning.

2. A mixture of whole corn, barley and cracked corn worked well for all ducks.

Table 1. Age and sex breakdown of ducks banded at Amherst Pt. Area, 1989.

	Local			Hatch Year			After Hatch Year			
	M	F	U	M	F	U	M	F	U	Total Species
Black	14	4	-	125	44	-	31	15	-	233
Mallard	-	-	-	13	3	-	2	2	-	20
Ring-neck	5	4	-	3	2	-	-	-	-	14
Purple Gallinule	1	-	-	-	-	-	-	-	-	1
Hybrid	-	-	-	6	-	-	3	-	-	9
Blue-winged Teal	-	-	-	-	2	-	-	-	-	2
Widgeon	-	-	-	-	1	-	-	-	-	1
Totals	20	8	-	147	52	-	36	17	-	280



Key

- woodland
- trap Location
- bull rushes
- Access to imp.
- curb basin
- dyke

Fig 1 Trap locations. Russel Impoundment. - 1989

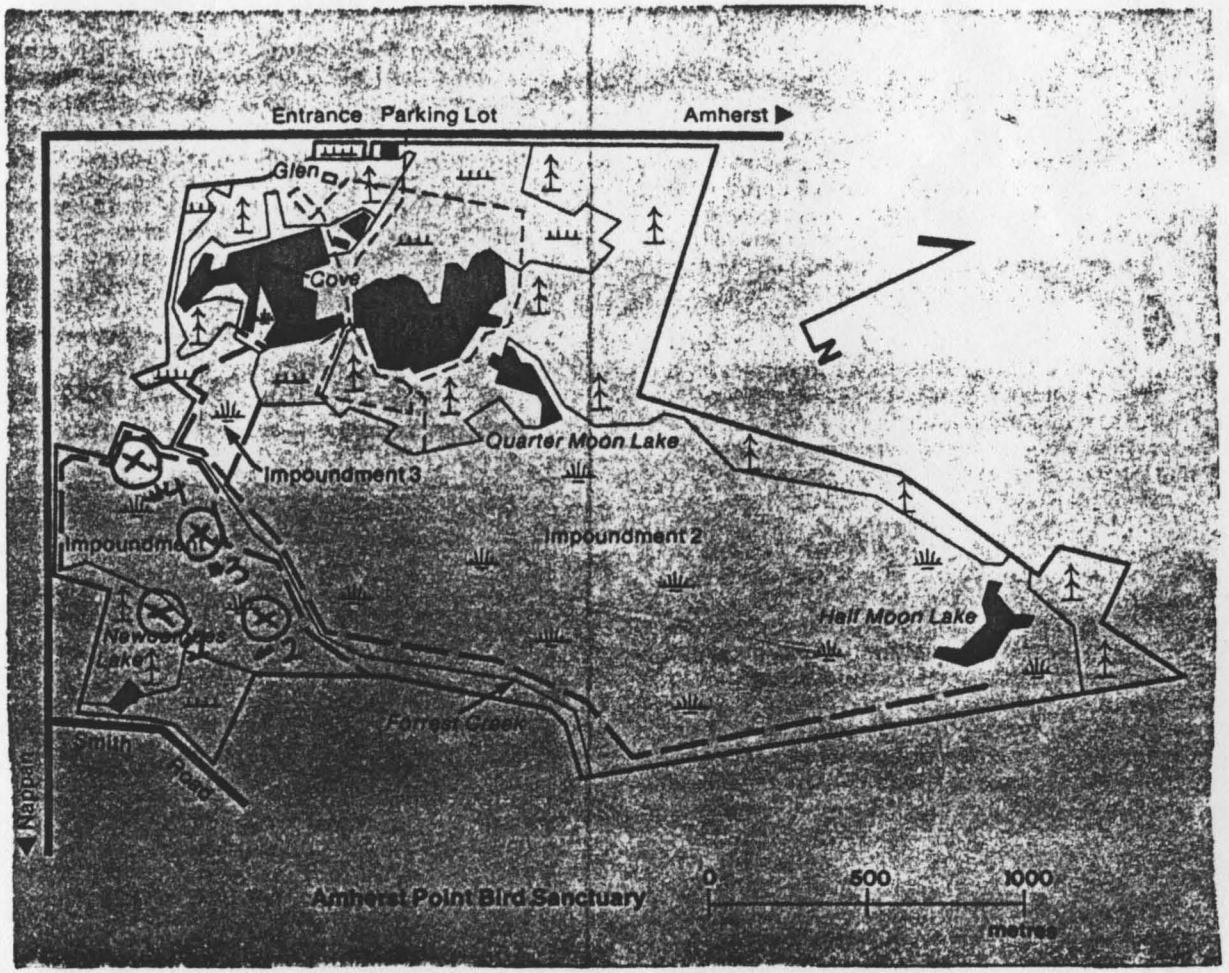


Fig 2. Trap Locations Amherst Point Impoundments. 1989.

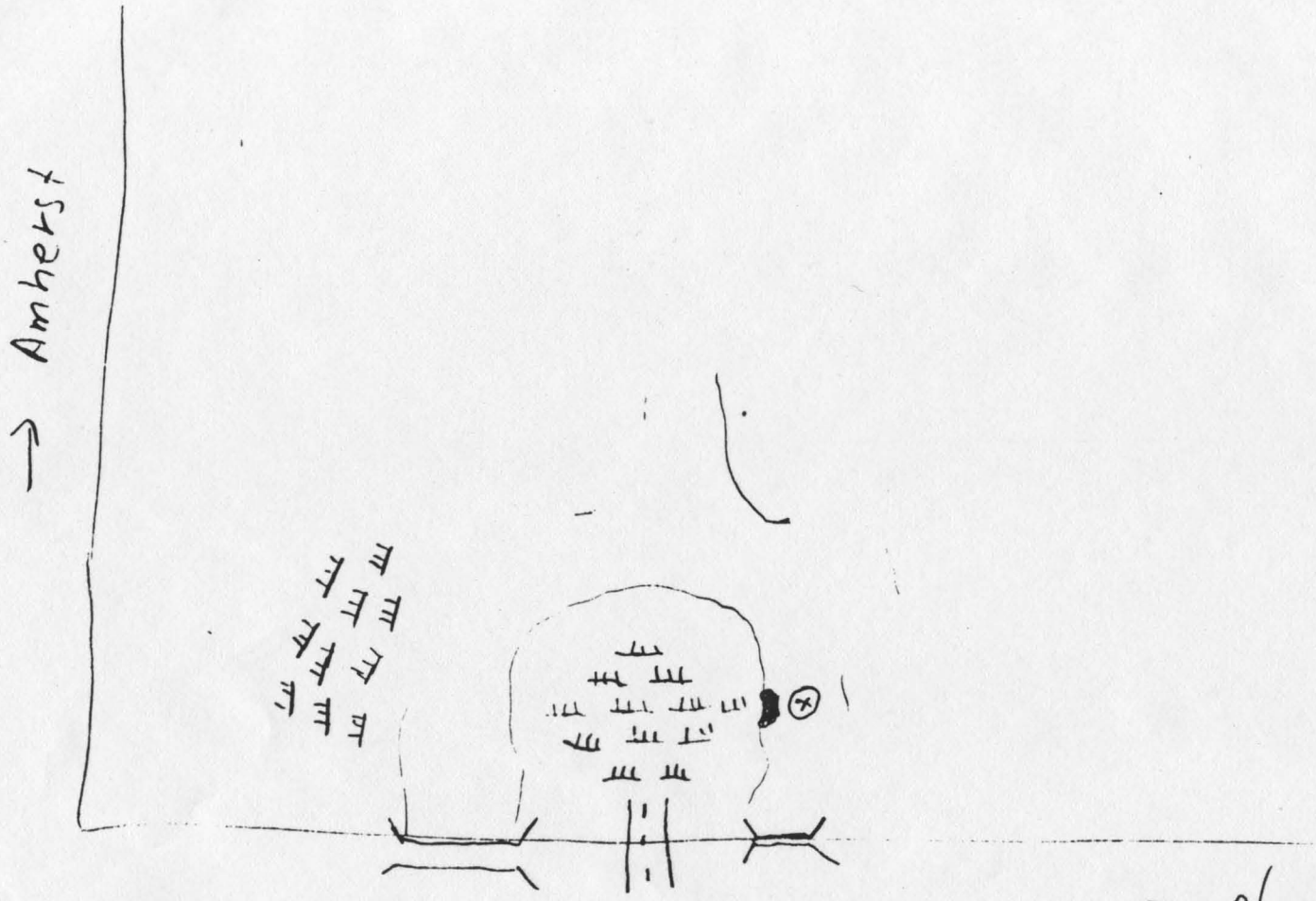


Fig. 3. Trap Location Nappan Marsh. 1989.

Bathurst, NB

Waterfowl Banding Project

Bathurst, N.B.

September 6 - October 12, 1989

Crew Members

Greg McCollum

Allison Foster Jr.

Introduction

Upon arriving in Bathurst, N.B. on September 6, 1989 we were introduced to our accommodations at Ingle Nook cabins on Youghall Drive.

On September 7, the crew proceeded to view the traditional trapping locations in the harbour and also performed a general waterfowl survey of the area. Prebaiting of the several traditional sites also began immediately and the traps and other essential equipment were collected from Petit Rocher, Department of Natural Resources Office, so that trapping could begin at a later date.

It was observed that after a few days several ducks were feeding at all the locations. Therefore traps were set up on September 11; a total of 10 were placed in the Bathurst harbour at the prebaited sites. The placement of traps were as follows: 1 triple funnel behind our cottage, 2 double funnels at the golf course, 2 triple funnels at the mouth of the Tetagouche River, 2 double funnels and 1 triple funnel at D.U. Impoundment and 1 triple funnel at Carron's Marsh. Please refer to figure 1 for individual trap locations. Species, sex, age composition of banded birds is summarized in Table 1. Waterfowl observations are recorded in Table 2.

Our first successful capture and banding occurred on September 13 and banding was steady straight through to October 12. The mouth of the Tetagouche river and the shoreline north of Roger Frenette's proved to be the most successful capture areas.

There were 12 fatalities this year, none of which were banded. Five fell victim to a red fox who ventured into a trap and the others occurred because of overcrowding and drowning due to extremely high tides.

Summary & Recommendations

The Bathurst Harbour banding station was rather successful in 1989. There was a total of 490 birds banded and a total of 70 foreign recaptures of which some were from this station last year. The high number of fatalities due to drowning can be attributed to the fact that 4' traps were used and it is recommended that the double height ones be used in all the tidal areas of the harbour. Some movement of traps may be necessary from year to year to successfully capture birds, as we discovered. The locations and sites are fine but the exact trap location should be your own decision so I guess just "feel" the area out.

The people in the area are aware of what the banding project is all about and can be of help at times.

Another insight of ours is that goose bands should be made available at the beginning of the project, so that accidental captures can be banded. We had a total of 54 geese caught at the Tetagouche river traps.

It should also be noted this crew can really function without a canoe!

Additional data

Blood samples from 26 Black Ducks were taken on October 7 by Al Hanson of the Department of Natural Resources. He also obtained the fatalities for research purposes.

Acknowledgements

We would just like to acknowledge some important insight from Charlie McAleenan on the Bathurst Harbour and area.

Also a big thanks to Ken and Jean Babin, Proprietors of Ingle Nook cabins for their hospitality and use of their phone.

Useful Information

Charlie McAleenan
870 Youghall Drive
Wk. 547-2075 Home 546-5622

Ken and Jean Babin
1330 Youghall Drive
546-5758

Roger Frenette
Work-Maritime Welding Ltd.
548-9825

Whole corn can be purchased at Bathurst Agricultural Co-op 548-8730.

Weekly tide times are published Wednesday in the Northern Light;

weather forecast and tide times availalbe at 548-3220.

Equipment

Material left in the white shed at Petit Rocher DNR office are as follows:

Trap wire
- 3-3 funnel 6 ft. traps
- 2-3 funnel 4 ft. traps
- 4-2 funnel 4 ft. traps
- extra wire for repair or extensions

- 11 top nets for traps
- 2 bait buckets (plastic yellow)
- 3 burlap bags
- 3 band station posters
- several used and new poles for traps

Table 1. Species, age, and sex composition of birds banded at the Bathurst bait station 1989.

Species	Local			Hatch Year			After Hatch Year			Total
	M	F	T	M	F	T	M	F	T	
Am. Black Duck				157	169	326	67	60	127	453
Mallard X Black Duck Hyb.				1		1	1	1	2	3
Mallard				5	8	13	1	3	4	17
Northern Pintail				5	6	11		3	3	14
Am. Green-winged Teal				1	-	1		2	2	3
Totals				169	183	352	69	69	138	490

Table 2. Waterfowl Surveys-Bathurst Harbour, September 7 - October 12, 1989

Species	Sept. 7	Sept. 14	Sept. 21	Sept. 28	Oct. 5	Oct. 12
Black Duck	800	855	925	800	705	600
Mallard	3	7	2	8	9	4
Green-winged Teal			4	1	3	
Blue-winged Teal	9	12	1			
Northern Pintail			2	6	8	
Common Merganser			14			
Hooded Merganser					8	16
Surf Scoter					1	
Canada Geese	38	119	400	600	2500	3300
Ring-necked Ducks	2		4		1	

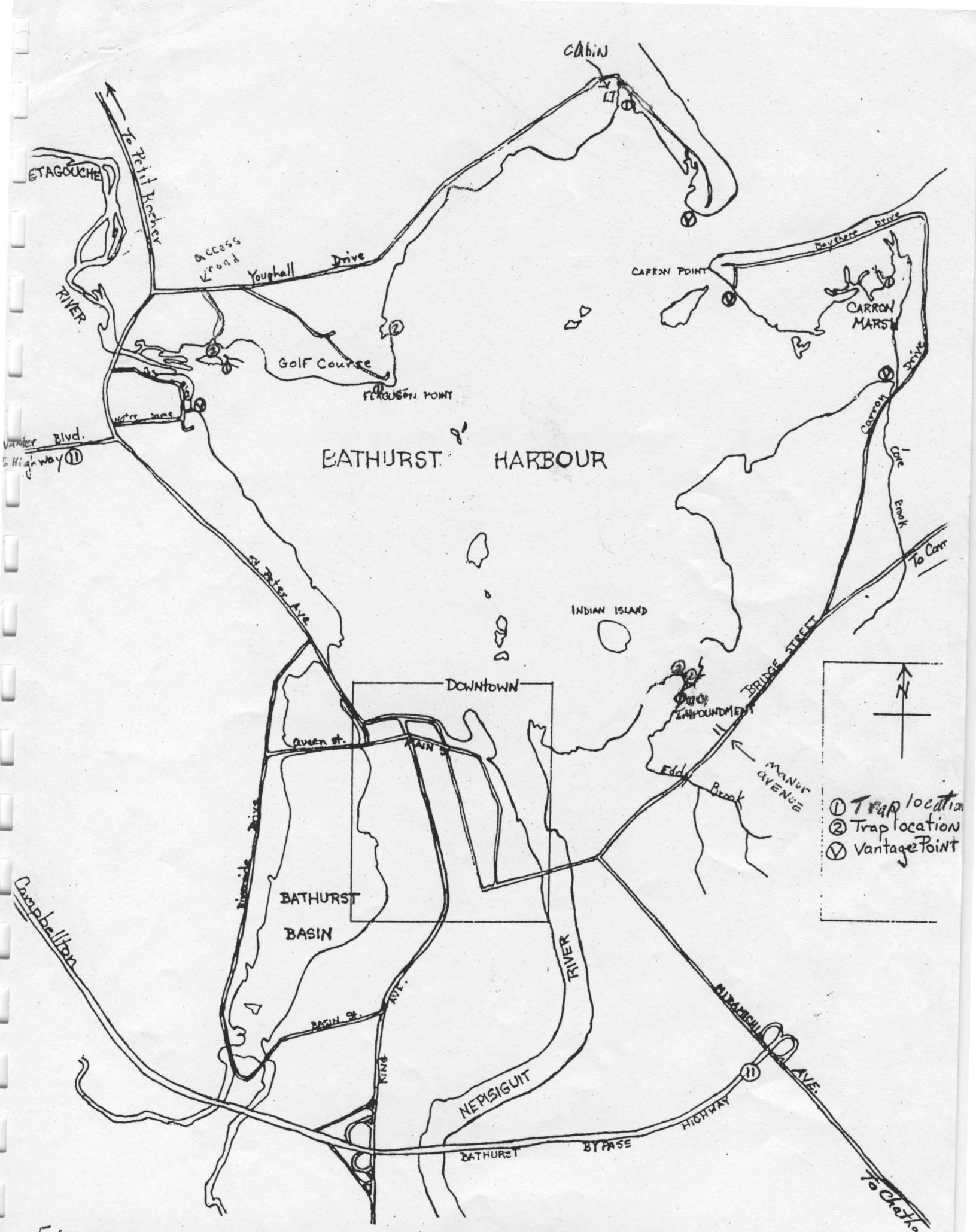


FIGURE 1 TRAP LOCATIONS IN BATHURST HARBOUR 1989

Waterfowl Banding Project

New Brunswick-Nova Scotia Border Area

July 24 - August 30, 1989

Crew Members

Dale Patterson

Peter Van Zost

A waterfowl bait trapping station was reopened in the Amherst point area again in 1989. Marshes trapped were the Russel impoundment on the John Lusby salt marsh, the Amherst Point bird sanctuary, and a third marsh near the road to Nappan.

The bait trapping period for 1989 started on July 24. On the 24th we surveyed the area for potential trap sites and pre-baited 8 sites in the 2 marshes. We banded a total of 6 species of which the Black Duck was the most important. The bait used was whole corn, whole barley, and cracked corn mixed together. This seemed to work well and attracted most species of waterfowl common to this area. The recapture rate was up compared to the last 2 years. This year, we again put a trap near the road to Nappan, where we observed 25-30 blacks each day.

Amherst Point Area

In 1989 the ducks seemed to be more numerous than in previous years and we captured our first duck within a week of pre-baiting. The first trap was set on the 25 of July. We put out 2 or 3 traps at a time and set the ones that were already out. By August 3, we had all traps out and set in the Amherst point, impoundment 1 area. The number of birds captured was low at first but things picked up by the middle of August. By the 3rd week of August recaptures were beginning to outnumber new captures. Our number 2 trap in Amherst point was the most productive, as was the trap in that location in 1988. Overall, Amherst point was very productive in 1989 compared to the last few years. We observed 30-40 Black Ducks in impoundment 1 each day.

Russel Impoundment (John Lusby Salt Marsh)

In the Russel impoundment things started out slowly because the birds did not get on the bait as quickly as they did in the Amherst Point Area. By the first week of August we had all traps set

impoundment each day. They were mostly blacks, but there was some Blue-wing teal, widgeon, pintail, mallards. After the first week we moved the second trap to another location because it wasn't producing any ducks, but that was the only trap that never produced. These traps produced mostly blacks but began to fill up with recaptures fairly early in the season. We averaged 30 ducks a day but towards the end most of them were recaptures. Overall the Russel impoundment was the most productive and we observed the most ducks each day at the Russel impoundment.

Trap Mortality

Our first trap mortality was on August 6. There were 3 Black Ducks, 2 not banded. The apparent cause of death was drowning because there was no signs of predation. All birds were locals.

On August 9 there was another dead Black Duck in trap #1 and we closed it down for a few days, then re-opened it again. The duck didn't have any marks on it and we assumed the cause of death was drowning.

On August 14 there was a dead Black Duck in trap #3 of the Amherst point impoundment. There were no marks on this duck.

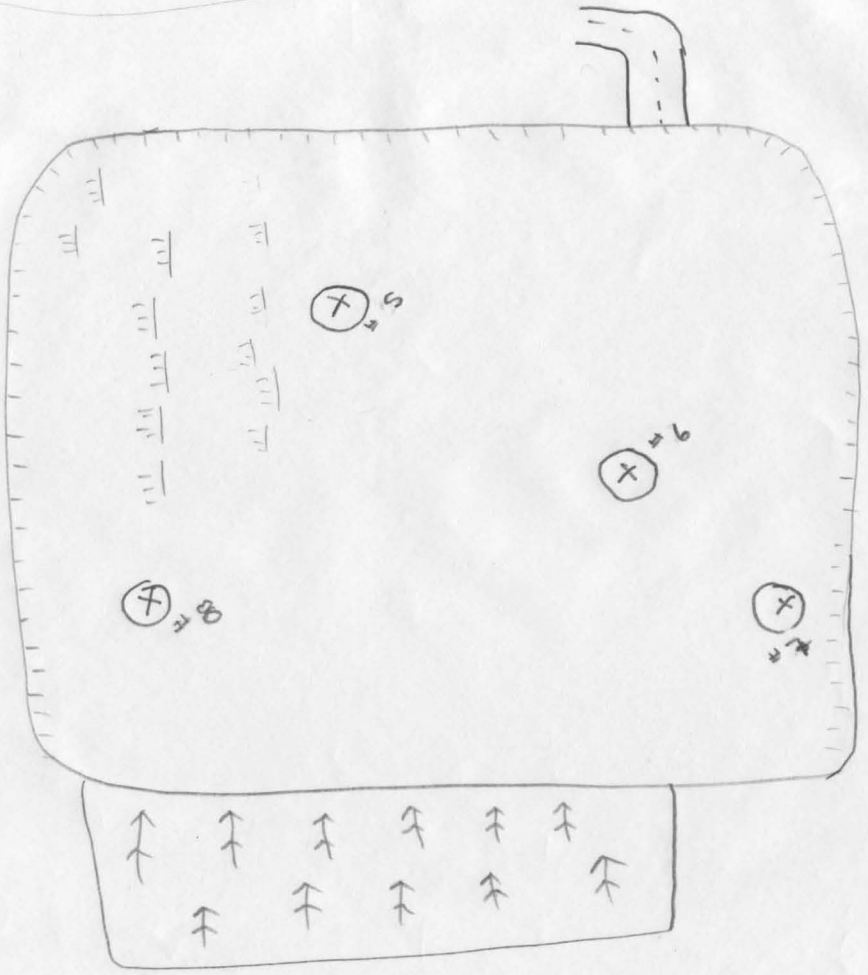
Recommendations

1. Support poles should be fixed to the outside of the trap to eliminate the potential of drowning.

2. A mixture of whole corn, barley and cracked corn worked well for all ducks.

Table 1. Age and sex breakdown of ducks banded at Amherst Pt. Area, 1989.

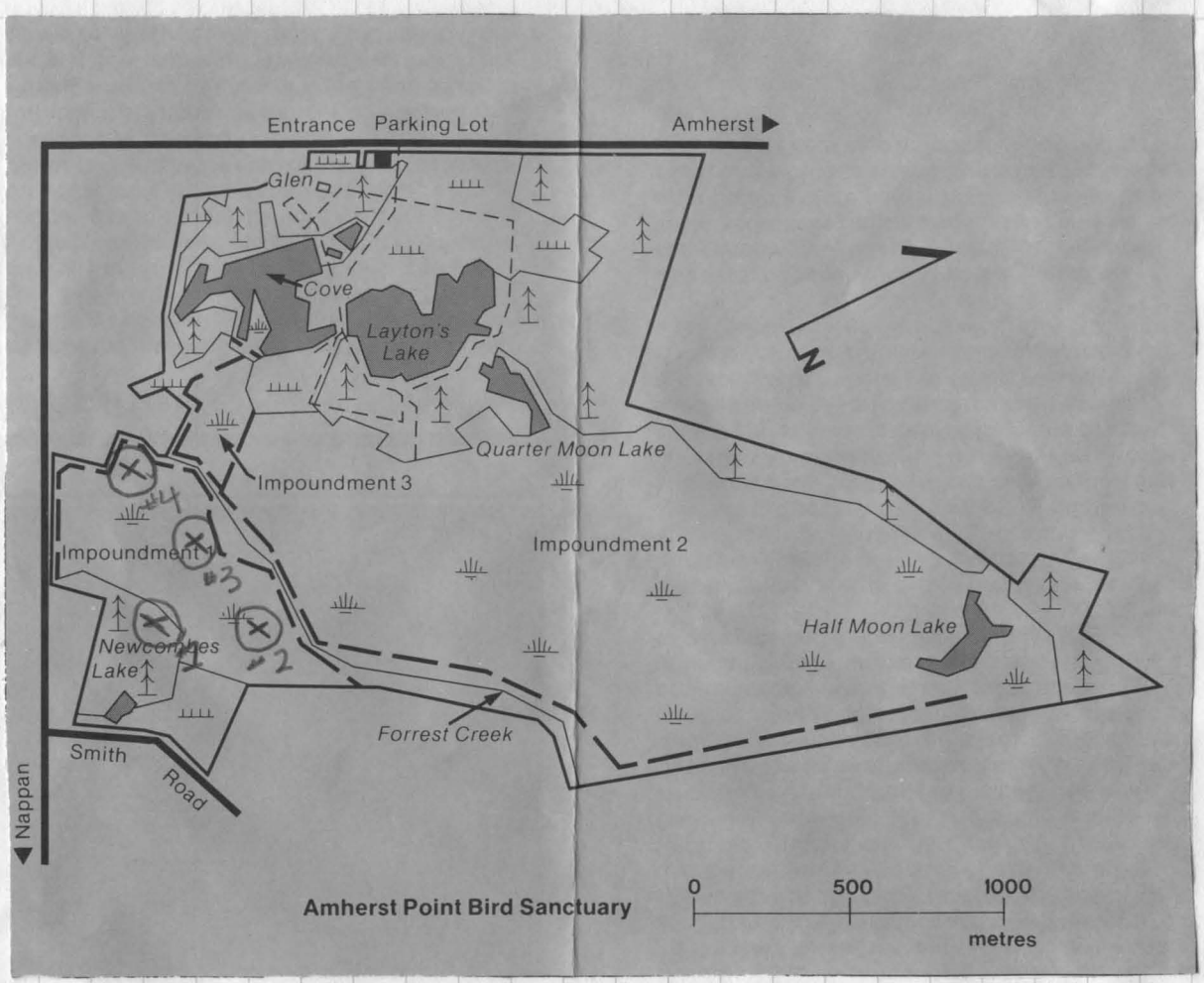
	Local			Hatch Year			After Hatch Year			
	M	F	U	M	F	U	M	F	U	Total Species
Black	14	4	-	125	44	-	31	15	-	233
Mallard	-	-	-	13	3	-	2	2	-	20
Ring-neck	5	4	-	3	2	-	-	-	-	14
Purple Gallinule	1	-	-	-	-	-	-	-	-	1
Hybrid	-	-	-	6	-	-	3	-	-	9
Blue-winged Teal	-	-	-	-	2	-	-	-	-	2
Widgeon	-	-	-	-	1	-	-	-	-	1
Totals	20	8	-	147	52	-	36	17	-	280



Key

- woodland
- trap Location
- bull rushes
- Access to imp.
- cumb. basin
- dyke

Fig 1 Trap Locations. Russel Impoundment. - 1989



Key

- (X) trap location
- Marsh
- Woodland
- Field
- road
- dike
- trail.

Fig 2. Trap Locations Amherst Point Impoundments - 1989.

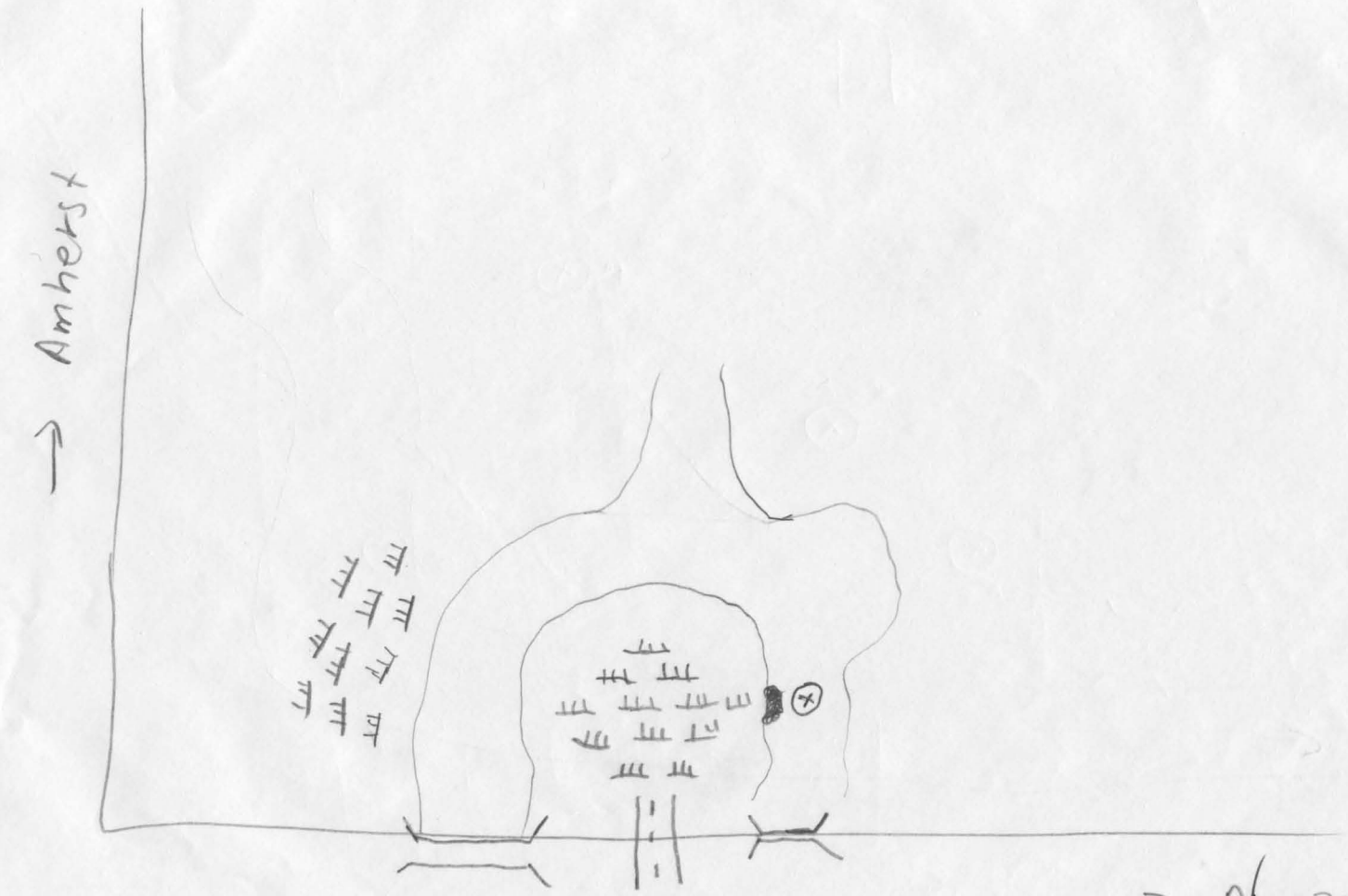


Fig. 3. Trap Location Nappan Marsh · 1989.

(~2 → 2)

WALLACE BAY

1989 Wallace Bay NWA, NS

Waterfowl Banding Report

July 24 - August 25, 1989

Richard W. Daury
R.R. #1, Port Mouton,
Queens Co., N.S.

Craig G. Smith
163 McGee Street,
Springhill, N.S.
B0M 1X0

Efforts were made to band all waterfowl species captured from 07/24/89 to 08/25/89. The first ten days were spent observing, baiting and preparing potential trap sites. Selected trap sites are shown in figure 1 by trap number. The first bird was banded on 08/03/89 and the last on 08/25/89. In total, 206 waterfowl were banded and 105 of these birds (black ducks and ring-necked ducks) were blood sampled for protoporphyrin and lead assays.

The observation of waterfowl during this period was also recorded. The total numbers of birds banded, by species, with age and sex breakdown are presented in Table 1. Black Ducks and Blue-winged Teal were the most visible and numerous throughout the banding period. Table 2 further summarizes the waterfowl observations. The number and class of broods observed each day are presented in Table 3. Brood observations may be minimal since an outboard motor was used while traveling the marsh.

Trap success (birds per trap day) is presented in Table 4p. This table also shows the species composition and the total number of waterfowl banded. Two birds were found dead during the banding operation: a hatch year male blue-winged teal was found dead with head injuries outside an uncovered trap and a hatch year male ring-necked duck was found dead in a trap with eight other waterfowl with no apparent injuries.

Large numbers of birds were not captured at a site each day. The reason for this is unknown, but two 4m pieces of wire were used to decrease crowding within the trap. All traps usually had birds to be banded each day. No other problems were encountered.

Total costs calculated for the banding of waterfowl only (no blood work) was $2704.56. All trapping and banding materials are being returned to the Sackville office.

Table 1. Total number of waterfowl banded for each species by sex and age class at the Wallace Bay N.W.A. bait station, 1989.

Species	Local			HY			AHY			Total
	M	F	T	M	F	T	M	F	T	
Am. Black Duck	5	3	8	42	19	61	3	10	13	82
Blue-winged Teal	-	1	1	16	21	37	4	1	5	43
Green-winged Teal	-	-	-	3	1	4	-	2	2	6
Pintail	4	3	7	-	-	-	-	-	-	7
Ring-necked Duck	12	7	19	8	9	17	1	5	6	42
Wood Duck	2	1	3	1	2	3	15	1	16	22
Hooded Merganser	-	-	-	1	-	1	-	-	-	1
Mallards	-	-	-	2	-	2	1	-	1	3
Totals	23	15	38	73	52	125	24	19	43	206

Table 2. Waterfowl observations made during bait trapping at the Wallace Bay N.W.A., 1989.

Date	BD	BWT	GWT	HM	M	RN	WD	W	Total
July 24	8	10	0	0	0	5	0	0	23
25	15	15	2	0	0	9	0	6	47
26	30	40	1	0	0	7	0	4	82
27	40	50	1	0	0	5	0	0	96
28	25	40	0	0	0	8	0	0	73
29	35	40	0	0	0	10	0	4	89
30	60	50	0	0	0	7	0	0	117
31	60	50	0	0	0	16	0	0	126
Aug. 1	50	9	0	3	0	0	0	0	62
2	30	13	0	1	0	0	0	0	44
3	65	0	0	0	0	3	0	0	68
4	60	20	0	0	0	12	0	2	94
-									
6	70	120	0	0	0	10	0	3	203
7	60	50	7	0	0	7	0	1	125
8	40	30	0	0	0	11	0	2	83
9	60	12	0	0	1	9	2	1	85
10	60	9	0	0	2	14	0	1	86
11	35	60	0	0	0	15	0	7	117
12	60	30	2	4	1	14	1	0	112
13	65	60	0	0	0	17	2	2	146
14	55	30	0	0	0	9	0	1	95
15	40	25	0	3	0	21	1	7	97
16	35	45	0	1	0	15	1	0	97
17	30	50	2	3	0	0	0	10	95
18	25	55	0	0	0	14	2	5	101
19	20	50	0	0	0	7	3	3	83
20	10	70	0	0	0	7	4	7	98
-									
23	19	40	3	0	0	7	1	4	74
24	15	90	0	0	0	7	3	12	127
25	11	20	0	0	0	3	0	0	34
Total:	1188	1183	18	15	4	269	20	82	2769
birds/ obs.day	39.6	39.4	0.6	0.5	0.13	9.0	0.7	2.7	92.3

Species Key:

BD-Black Duck
BWT-Blue-winged Teal
GWT-Green-winged Teal
HM-Hooded Merganser
P-Pintail
RN-Ring-necked Duck
WD-Wood Duck

Table 3. Brood observations made during bait trapping at the Wallace Bay N.W.A., 1989

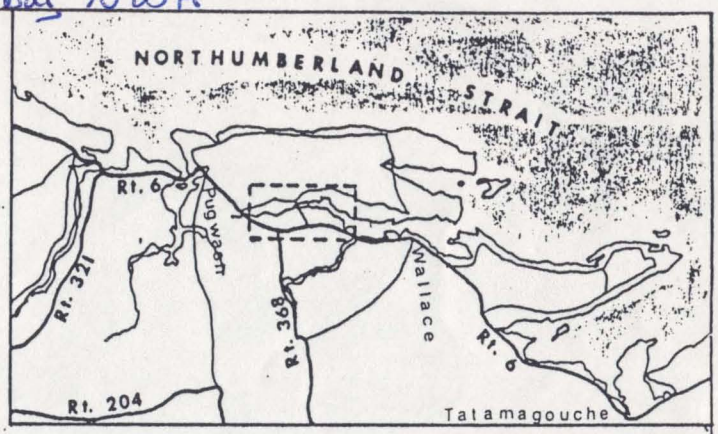
Date	Impoundment	Species	No.	Age Class
July 24	1	RN	7	2C
			5	2B
			6	2B
			6	2A
			6	1C
July 25	3	W	7	1C
			3	1C
July 27	2B	RN	7	2A
July 29	3	W	7	2A
July 31	1	RN	?	1C
			?	1C
			?	1C
	2A		?	2B
			?	2B
	2B		?	2A
Aug. 1	1	BWT	7	1C
Aug. 3	1	RN	7	1B
Aug. 6	1		6	2C
	2A		5	2A
	2B		2	1B
Aug. 7	1	BWT	6	2A
	2A	RN	5	2A
Aug. 8	1		6	2A
Aug. 9	2B		5	2A
Aug. 10	1		5	1C
	2B	BWT	6	1B
Aug. 11	2A	RN	7	2A
Aug. 12	2B	BWT	3	1A
Aug. 13	1	RN	5	2B
	2A		6	2A
Aug.17	1		3	1C

Species Key:

BD-Black Duck
BWT-Blue-winged Teal
GWT-Green-winged Teal
HM-Hooded Merganser
P-Pintail
RN-Ring-necked Duck
WD-Wood Duck

Figure 1 MAP of Wallace Bay NWA

O TRAP LOCATION



WALLACE BAY NATIONAL WILDLIFE AREA

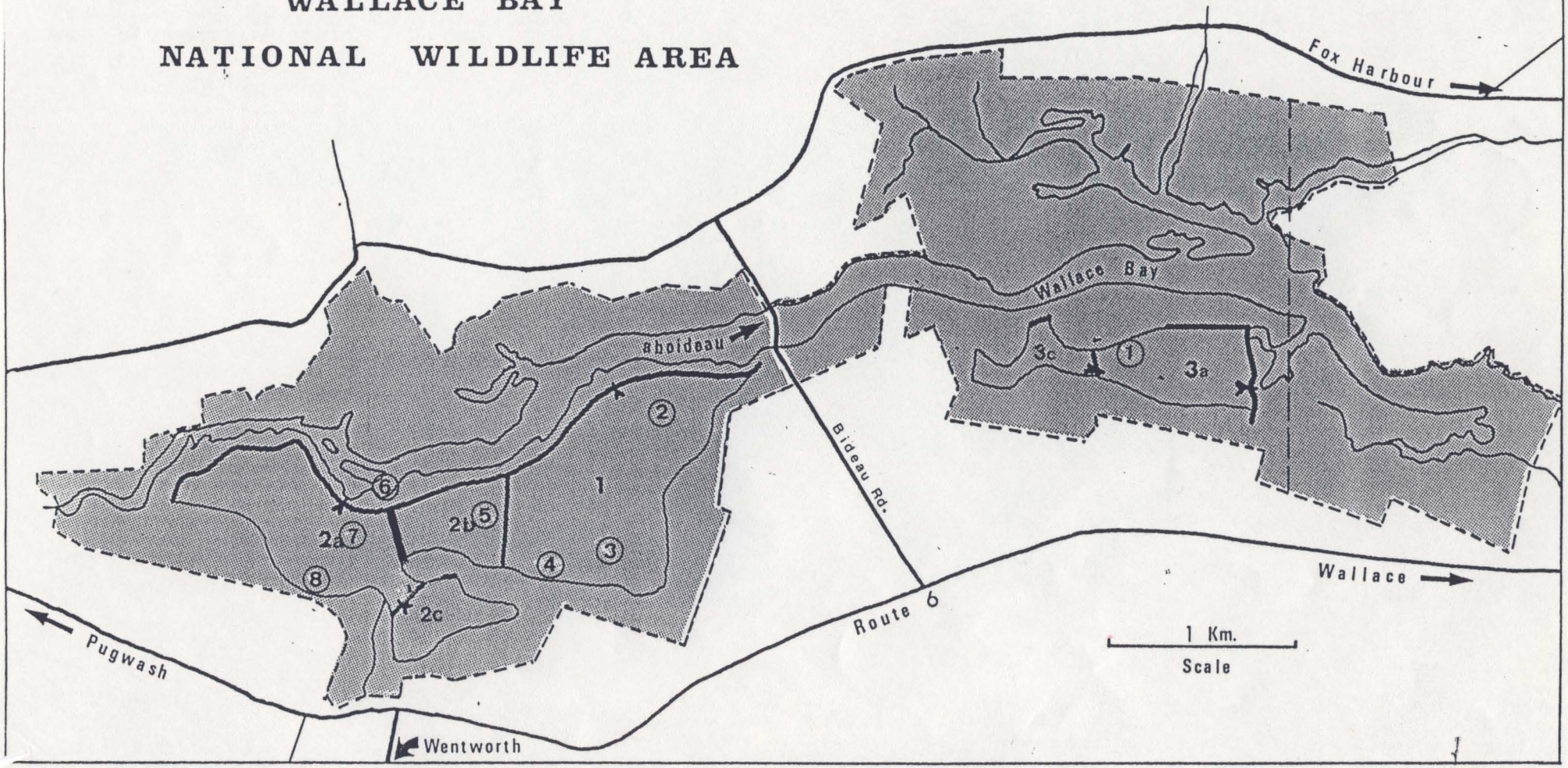


Table 4. Trap success (by trap number) at the Wallace Bay N.W.A. bait station, 1989

Trap #	1	2	3	4	5	6	7	8	Total Number
BD:	8	7	26	4	6	8	4	19	82
BWT:	4	4	0	11	0	24	0	0	43
GWT:	0	0	0	0	2	3	0	1	6
HM:	0	0	0	0	0	1	0	0	1
M:	1	0	0	0	2	0	0	0	3
P:	0	0	0	0	0	0	0	7	7
RN:	7	0	4	7	0	4	18	2	42
WD:	6	0	0	4	4	0	4	4	22
Total	26	11	30	26	14	40	26	33	206
bird/ trap day	1.4	0.6	1.4	1.1	0.8	1.7	1.5	1.41	1.3

Species Key:

BD-Black Duck
BWT-Blue-winged Teal
GWT-Green-winged Teal
HM-Hooded Merganser
P-Pintail
RN-Ring-necked Duck
WD-Wood Duck

CAPE BRETON
N.S.

Waterfowl Banding Report

Cape Breton Island

August 14 - September 20, 1989

Oscar Dewberry

Dale Thompson

Andrew Hicks

Personnel arriving at the Nova Scotia Lands and Forest Station office at Northeast Margaree on August 15 included William R. Barrow, Wildlife Technician, Andrew Hicks, bander and Oscar Dewberry, Wildlife Biologist (retired). Two aluminum canoes, a 4.5 hp OB motor, three rolls of weld wire (1" x 2" x 100'), nylon netting, bait (consisting of oats and cracked corn) paddles, life jackets and various other miscellaneous and personal items were brought and stored in the Lands and Forest shop or office buildings. Bill Barrow pointed out various trap sites on the 15th which included several sites used during the 1967-1973 trap period as well as productive areas located during the August 1988 Surveys. Sites included North Margaree River Inlet and Marsh Lake Ainslie, Mabou Harbour and Marsh, and the Inverness area.

Baiting of individual sites was initiated by Hicks and Dewberry on the 16th when sites were baited on the Margaree River, Lake Ainslie (Scotsville and McCormick Corner), Mabou Marsh and Harbour (Glengarry) and Johnny Bans ponds off Mabou Harbour entrance.

The first two traps were constructed on August 20 at McCormicks Corner and one at Scotsville. One each was constructed on August 21 at Mabou Marsh, Glengarry and Margaree River Inlet. A. Hicks departed the station on August 22 at Scotsville in preparation for travelling to the Labrador station and the first birds (three black ducks) were captured on August 24. Additional trap locations were needed and surveys were made in the Judique locality at Indian Point Pond, Livingston, Gillis and Alan Aines Ponds on August 25.

Additional traps were constructed after the arrival of Dale Thompson on August 26. These included, two at Indian Point Pond, one at Alan Aines and the Margaree River Marsh and a second trap at Glengarry. Daily checks at the MCormick Corner site indicated very low waterfowl use compared to sightings as previously noted. These two traps were relocated to Gillis Pond and Alan Aines Ponds on September 2.

Daily trap checks were conducted thereafter for the remainder of the trap period excluding September 6 when the day was utilized for a tour of the Highlands Park and Northern Cape Breton Island. Average daily distance from northeast Margaree to Indian Point pond and other intermittent sites was approximately 190 km. Nine to ten hours were required per day for trap checks over this route. Waterfowl sighting per trap inspections are listed in Table 3. Station trap success for the entire period is listed in Table 2. Age, sex, and species composition of birds banded are listed in Table 1.

Because of low waterfowl sightings, traps were relocated from three original locations as follows. The two from McCormick Corner on September 3 to Alan Aines and Gillis Pond and one Aines trap was later relocated to Glengarry. Thus, three traps were eventually located at Glengarry which contributed substantially to the total number of bandings at this location. Another trap originally constructed in the north end of Aines Pond and the Scotsville trap (now Aines) were relocated to the Livingston Pond on September 12. Trap sites are further identified in Table 2. A total of 12 sites were trapped during the period. Three points were surveyed and not trapped: the Johnny Bans Pond, northeast Mabou and the Inverness Harbour.

A total of 13 traps were constructed. All were in the water except two traps were located on the marsh, completely out of the water. Each of these were in the Mabou Marsh and each was successful in catching Black Ducks. One of the two was the standard two-funnel cloverleaf, constructed of two 12' lengths of 4' welded wire and the other was a kidney-shaped trap 16" high by 48" length. This trap also had two entrances and as all traps, a nylon net top. With exception of the smaller trap all were identical.

TRAP LOCATIONS:

Margaree River Inlet and Marsh Area (Map 1). Access to this site was across property owned by Winston Marple from Highway 395 approx. 4 km. south of Margaree Harbour. Traps were constructed in both the Inlet and upstream river marsh and both were highly successful. The Marsh trap was relocated to the Inlet on September 14 due to the number of birds then using or observed in the Marsh Area. No problems were encountered at this site except from cormorants. Two were captured in August and Bald Eagles were observed frequently throughout the trap period. Three otter were observed in the Inlet and beaver from a large beaver lodge near the original trap never appeared to interfere with birds use or trap success. The Inlet bottom condition was very soft. Following periods of rainfall the runoff from adjacent fields causes the entire Inlet to become red stained which probably accounts for the silt buildup. The stain cleared with each tide. Extensive growths of Ruppia were found throughout the Inlet section, thus providing an abundance of foods for

Black Ducks, Blue and Green-winged Teal commonly observed at this site. As the bottom condition of the marsh section was also soft, a small opening was cleared by hand scythe and the trap was located at the edge where it was almost out of the water at low tide. Both black ducks and green winged-teal were captured in this trap. While the only mergansers observed during the trap period were in the river adjacent to the marsh and Inlet sections, none were captured or banded.

Lake Ainslie (Map 2) provided three trap sites, McCormicks Corner, Scotsville and Kenloch. Two traps were constructed in the lake at McCormick Corner approximately 1.5 km from the hard surface road. Access to the traps was by the Black River. Ring-necks were originally observed daily in both the river and in the lake but moved out prior to the relocation of traps on September 2. Both a good bottom condition and brood habitat exist in the section where the traps were constructed thus accounting for the broods of Ring-necked Ducks observed in the early trap period. Further surveys were made on the west shore of the lake from the Kenloch section but habitat was not as good. An abundance of soft stem bulrush exists throughout this section and throughout the other section of the lake. Lake levels appear to be approximately 3' below normal pool levels. Black Ducks were seen sporadically during the early surveys but due to the low numbers and inconsistence no effort was made to trap at this location. The two traps installed were placed in water approximately .5 in depth for ring-necks but they were never attracted to the baits. The one ring-neck banded was a local taken on the day traps were relocated.

The Scotsville location was approximately 0.5 km south of Pattersons General store. Access was from a driveway off Highway 395 directly across the road from farm house located 100 m up the hill. Black Ducks, blue-winged teal and ring-necks were observed at this location. The trap location was in a small cove approx. 800 m from the driveway. The bottom condition of the cove (trap site) was extremely silty thus practically obscuring all whole gain corn used as bait. Growths of Pondweeds, waterlilies and other undesirable vegetation were in abundance at this site. Cracked corn did not sink as quickly and appeared to work best. Any future trapping at this location should be with either a floating-trap or one with a bottom. In the initial surveys at this location four (4) broods of Ring-necked Ducks were commonly observed. Because of the silt bottom an effort was made to clear a trap location. This was found impractical because of the vegetation and a possible racoon problem. Trap results (Table 1) did not appear to justify continued use, and this trap was relocated to the Livingston Pond on September 12.

The Kenloch trap access was by way of Jim Littles (Littles Lodge) approx. 1 km from Kenloch Presbyterian Church. The 17' aluminum canoe and 4.5 hp Evinrude motor were located at the "lodge" and used for daily checks. Black Ducks, Mallards, Blue-winged Teal and Ring-necked Ducks were commonly observed in this section and brood habitat was similar to the Scotsville Section. A natural barrier or bar extends completely across the lake and is now overgrown with softstem bulrushes, thus providing good brood habitat. While the bottom condition was sandy and firm similar to the McCormick Corner section, high winds were common during the entire trap period and

rough water occasionally made access difficult or impossible. Although birds were commonly observed, none could be lured to trap sites in significant numbers. Only one trap was located in this section and the "bar" crossing the lake was never utilized. This was because of the lack of birds, better trap potentials at other locations and difficulty in reaching the site on windy days.

By far the most productive trap sites are identified on Map 3 in the Mabou Section. Two locations were utilized. The Glengarry marsh section was accessed from Mabou west by Highway 19 then right on West Mabou Road across Nicholsons Island. After crossing the bridge off the island, turn left three-fourth km and proceed one km to Colin Campbells residence situated in a scenic view on the left side of road. Entrance to the trap site was through Mr. Campbells pasture and downhill to the marsh. This site was trapped extensively and three traps were used. Ducks were captured daily in each during the latter portion of the trap period. Black Ducks, Mallards and both Blue and Green-winged Tea were observed in this location. While the bottom condition was deep mud, trapping conditions were not impaired as baits apparently did not sink here as at other locations. Extensive growths of Ruppia also occurred throughout the site and apparently food plus shelter greatly contributed to the waterfowl attraction. A heavy algae bloom, tidal action and deposits of algae on the traps was the most severe problem encountered at this site. Bald eagles were also commonly observed in this locality throughout the trap period but were never noted to cause any problem except to flush ducks when they approached at a low level. Obviously this site provides some fishing

potential as several large perch were taken from traps on two occasions.

The other Mabou Area site was across Mabou River downstream from the Glendyer Station. The actual trap site was reached by crossing the river, usually at low tide from Highway 252, one km south of Glendyer Station. A narrow band of wooded bank on the opposite side of the river obscured the lake adjacent to an abandoned railway right-of-way. This trap was initially located in the water but because of a very soft, siltly bottom was removed and placed on the marsh in a "flattened" portion of the vegetated area. Trap success was good (Black Ducks) with the trap completely out of the water. Birds trapped out of the water are much easier to process than wet birds and sites such as this that can utilized are recommended. The soft bottom conditions plus extensive algae growth and tidal action were eliminated by relocating this trap. Dense growths of Ruppia are also common in this pool. While fishermen were observed at this site on two occasions no problems were encountered. Both racoon and mink tracks were seen nearby yet no depredation or trap destruction occurred. This site as well as all other trap sites were identified by signs as a, "Waterfowl Banding Station".

During early September an increase in blue and green-winged teal populations was observed in a pond section of the river adjacent to the Highway and remnants of two rolls of welded wire were used to build a low-silhouette trap. This trap was also located out of the water on the dry marsh. While no teal were taken in this trap three Black Ducks were trapped thus further supporting the trapping of Black

Ducks out of the water. The practice has commonly been used by the Writer in trapping Wood Ducks in Georgia.

Three sites were utilized in the Inverness municipality (Map 4). These sites include The Livingston Pond, Alan Aines Pond and Gillis Pond. While the Livingston Pond had excellent concentrations of duck on the initial survey, and some were observed at each trap visit, they never appeared interested in the baits, therefore none were banded at this location. It is believed area residents visited the site more than once judging from daily location changes for a canoe and boat. Bottom conditions were poor at this site but supported excellent growths of Ruppia. Silt conditions are increasing in this area judging from the run-off in the Creek following periods of rainfall. This site should be more thoroughly investigated before any future trapping efforts are expended. Access to this pond was from Highway 19 at the first dirt road south of the creek, thence right again approximately .2 km from highway by farmhouse away from road.

The Gillis Pond and Aines ponds are nearby and divided only by a natural dune buildup. Access to each of these ponds were from the Shore Road. The Gillis Pond is utilized by the Gillis Family as a portion of cow pasture and the edge conditions are badly deteriorating from cattle use and grazing. Black Ducks and some teal were observed on numerous occasions near the trap which was located in the west end of the pond nearest the beach area. Later checks indicated a better trap site could have been located at the east side, near entrance to pasture. Mrs. Gillis advised that was where trapping was carried out during the 1967-73 period.

Two sites were utilized in the Aines Pond. The north end location was very shallow but provided the only birds trapped in this pond and was the only location where Wood Ducks were taken during the trap period. Black Ducks were also captured at this location. The site at the opposite end of the pond was also used by Gillis' cattle and the edge condition was similar to the Gillis Pond. Both ponds also support dense growths of Ruppia. Access to the Gillis Pond as well as south end of Aines was from Mrs. H. Gillis who lives in the house opposite a locked gate into the pasture off Shore Road.

The third most productive site was the Indian Point Pond (Map 5). The property adjacent to the pond is owned by Mr. Tommy MacDonnell who lives on the opposite side of road from pond. This pond also supports extensive growths of Ruppia and also has heavy algae growths. Black Ducks, Blue and Green-winged Teal were commonly observed at this site and several of each species were banded. No problems were encountered at this site. One bald eagle was commonly observed on the shore near traps and on the opposite side. Beaver and/or muskrat signs were common throughout the adjacent marsh area.

This site is located approximately one km north of South Shore Road Junction with Highway 19. Entrance was by road adjacent to Historical marker in shape of a cross commemorating the first church at Indian Point.

RECOMMENDATIONS

1) That a more central location for crew accommodation be investigated. Based on Trap location and success (Table 1) a center for operations in the Inverness area would be more practical. Perhaps facilities may be available at RCMP, Federal Forestry or DOT, all near Inverness.

2) That a CWS vehicle be available for trap checks. The use of personal vehicles at $.29 per km is believed to exceed costs of CWS vehicle as available during the first 10 days of operations.

3) That the trap period extend later in September. Based on observations, Blue-winged Teal moved out in early September yet green-wings, Black ducks and Mallards did not decline and possibly increased. A possible trap period of August 20 thought September 30 would produce better results. No gadwall,pintail or wigeon were observed during this trap period.

4) That possibilities of land sets be explored. Two traps were completely out of the water and accounted for a total of 33 black ducks banded (Mabou Marsh). No depredation occurred from ground dwelling or avian predators and only two birds (black ducks) were found dead, apparently from drowning in the traps.

5) More traps should be available for use. While approximately 100 retraps were taken (mostly at the banding site) additional traps could be used on a route of this length.

MAP 1.


Anse des Arsenault
Belle Côte
Belle Côte Beach
Mackinnons Beach
The Monster
Cape Grey
Dawsons Cove
Margaree Harbour
Motels
Blanchards Bk
Margaree Harbour
Old Bridge
MARGAREE RIVER
Elie Brook
Mink Brook
Gallant River
East Branch
Gallant
Dana Brook
Scotch Hill
Brook
Marsh Bk
Margaree
Trail
Baker Hill
Mill Brook
Spruce Hill
Long Marsh Pool
Fiddle Pool
Arsenaults Brook
Gallant
Blue Deep Brook
Arsenaults Pd
Seal Pool
Big McDaniel Pool
Long Marsh Gulch
Arsenaults Hill
Fordview
Tompkins Bk
Long Pool
Boulter Brook
Marsh Brook
Shingle Brook
Margaree
CAPE BRETON
44
45
46
47
49
50
51
52
53
950
900
850
800
750
1000
1250
500
450
400
250

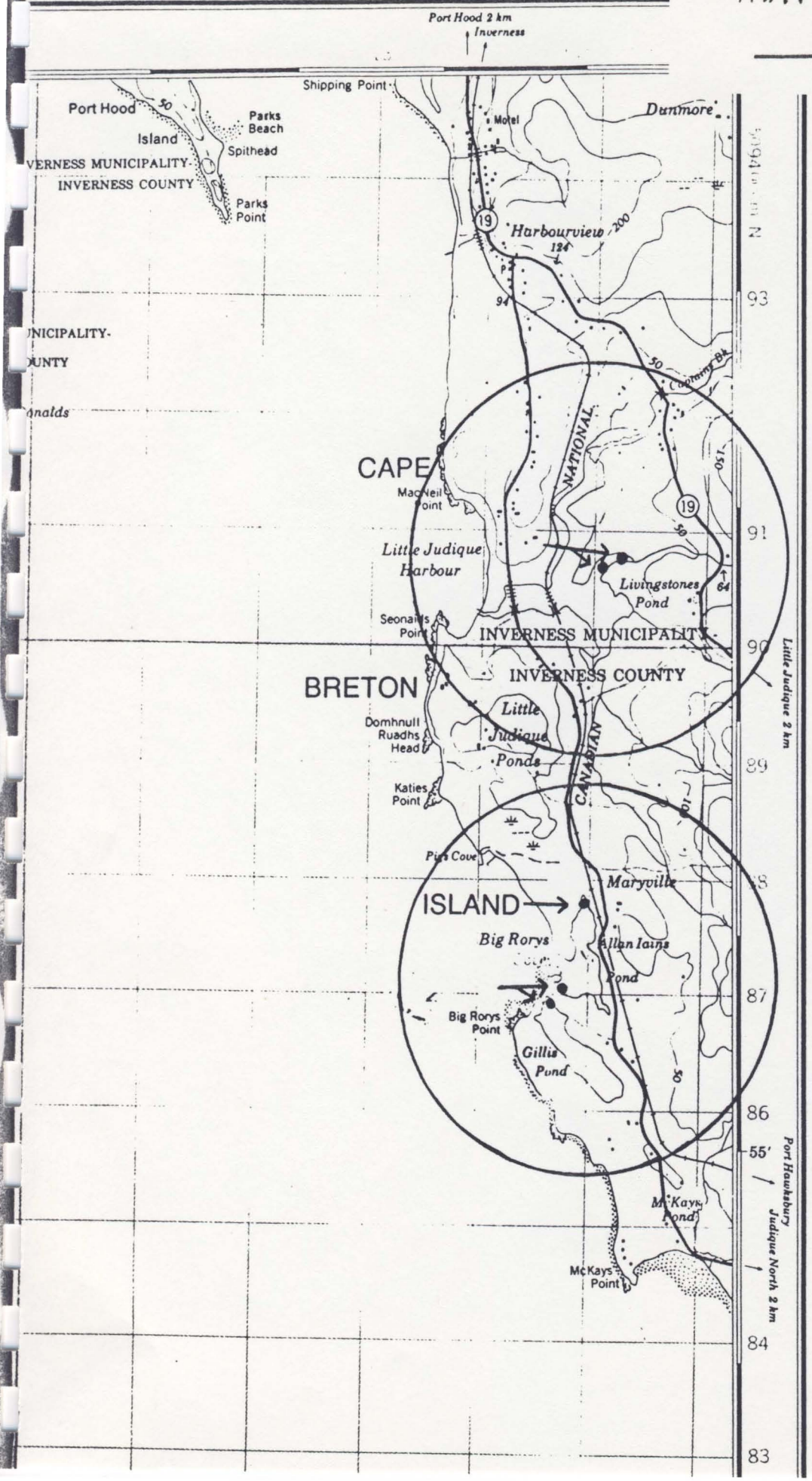

MAP 2.
→• ... TRAP LOCATION
→•... TRAP LOCATION
Mountain
Shaws Mountain
Deepdale
Kenloch
Strathlorne
Strathlorne Station
Loch
Ban
MacCormicks Corner
Mount Young
Mason Point
Upper Margaree
Mount Borden
Pipers Glen
Scotsville
Sawmill
North Ainslie
MacLeans Cove
Dunbars Point
Doherty Cove
Ainslie Pt
Twin Rock Valley
MacMillans Point
Ranalds Cove
Howard MacLeans Point
East Lake Ainslie
MacMillans Mountain
LAKE AINSLIE
189±
395


MAP 3.
→ • ... TRAP LOCATION
Glenora Falls
Smithvil
Hawleys Hill
Glendyer
Mabou Mountain
Mabou Harbour Mountain
Mabou Harbour Mouth
Mabou Harbour
Northeast Mabou
Northeast Cove
The Sand Dunes
The Flats
Sams Pt
MacPhees Island
MacPhees Cove
MacEachern Cove
Hughes Pt
Johnny Bans Ponds
Same Cove
MacLeans Pt
Indian Pt
Mabou Harbour
Priest Pt
Glendyer Station
Mabou
MABOU
Hills
West Mabou Harbour
Goose Point
Murphy Point
Big Cove
Mabou Station
Nicholsons Island
Rankinpille
Glengarry
Cement Plant
Southwest Ridge
Campbell Ridge
Southwest Mabou
Malcolm
Silos
Delhanty
Gillis
Mull River
CN
18
19
20
21
22
25
27
28

EDITION 3

MAP 4.

→ ●... TRAP LOCATION



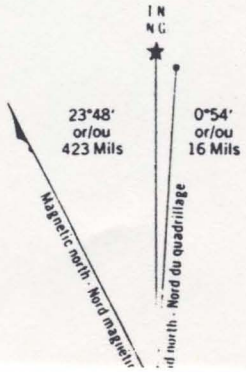
GLOSSARY GLOSSAIRE

Airfield	Terrain d'aviation
Arena	Aréna
City Limits	Limites de ville
Customs	Douane
Ditch	Fossé
Dugout	Abreuvoir
Dump	Dépotoir
Filtration Plant	Usine de filtration
Gas	Gaz
Golf Course	Terrain de golf
Junk Yard	Ferraille
Kiln	Four
Lookout	Belvédère
Mine Waste	Déblai de mine
Oil Wells	Puits de pétrole
Park	Parc
Rink	Patinoire
Senior Citizens Home	Foyer de l'âge d'or
Ski Area	Station de ski
String Bog	Fondrière à filaments
Surveyed Line	Ligne arpentée
Tank	Réservoir
Water	Eau
Winter Road	Chemin d'hiver

For a complete glossary see reverse side
Pour un glossaire complet, voir au verso

ABBREVIATIONS ABRÉVIATIONS

Aband	Abandoned	Abandonné, ée
C	Cemetery	Cimetière
CO	County	Comté
E	Elevator	Élévateur
Fy	Ferry	Traversier
IR	Indian Reserve	Réserve indienne
H	Hospital	Hôpital
L	Lot	Lot
Micro	Microwave	Micro-ondes
Mun	Municipality	Municipalité
P	Post Office	Bureau de poste
PH	Power House	Centrale électrique
RCMP	Royal Canadian Mounted Police	Gendarmerie Royale Canadienne
Res	Reservoir	Réservoir
Trans Sta	Transformer Station	Poste de transformateurs
TFL	Tree Farm Licence	Licence de sylviculture



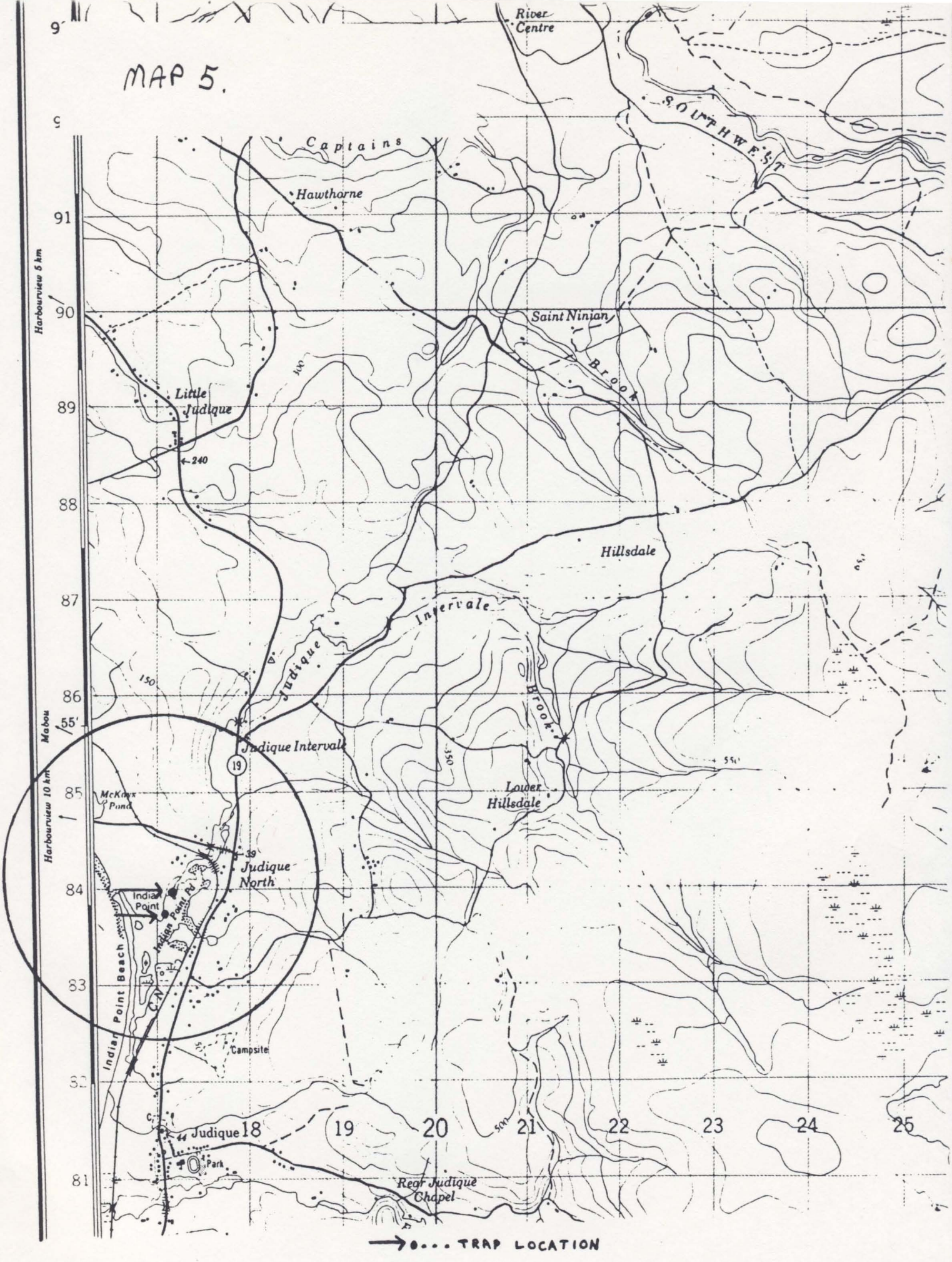

MAP 5.
River Centre
SOUTHWEST
Captains
Hawthorne
Saint Ninian
Brook
Little Judique
Judique
Hillsdale
Intervale
Judique Intervale
Brook
Lower Hillsdale
McKays Pond
Judique North
Indian Point
Indian Point Rd
Indian Point Beach
C.N.
Campsite
Judique
Park
Rear Judique Chapel
Harbourview 5 km
Harbourview 10 km
Mabou
TRAP LOCATION

Table 1. Age, sex, and species composition of waterfowl banded at Cape Breton Island Station, 1989

	Local			Hatch Year			Adult			Total
	M	F	T	M	F	T	M	F	T	
Mallard	-	-	-	2	-	2	-	-	-	2
Black Duck	-	-	-	87	81	168	4	11	15	183
Hybrid	-	-	-	10	6	16	-	-	-	16
Ring-necked Duck	-	1	1	-	-	-	-	-	-	1
Green-Winged Teal	-	-	-	8	13	21	2	-	2	23
Blue-Winged Teal	-	-	-	7	7	14	1	-	1	15
Wood Duck	-	-	-	-	-	-	2	-	2	2
Totals	0	1	1	114	107	221	9	11	20	242

Table 2. Cape Breton Station banding by location 1989

		Kenloch	Scotsville	Margaree River	McCormick Corner	Glengarry	Indian Point	Gillis Pond	Aines Pond	Mabou Marsh	Livingston	
August	24		2 black									2
	25											
	26											
	27											
	28			1 BWT								1
	29			1 Bk-Mal		1 Black						1
	30		1 Black	1 GWT 3 Black			9 Blacks			8 Blacks		23
	31			1 Black 2 BWT		4 Blks	1 Black		4 Blacks			12
Sept.	01			1 Black 1 GWT		4 Blks	1 Black			3 Blacks		10
	02			4 GWT 1 BWT	1 RN	3 Blks	5 Blacks					14
	03			2 Black		8 Blacks						4
	04	1 BWT	1 Black	2 Black		3 Black	3 Blacks					10
	05			1 BWT		2 Black	1 Black		1 Wood duck			5
	06											
	07	1 Bl		3 Black		3 Black	3GWT 2BWT 1BWT			2 Blacks		14
	08			1 Black		2 Black	1GWT			4 Blacks		9
	09			6 GWT 3 Black		1 Black			1 Wd. duck	4 Blacks		15
	10	1 Bl		5 Black		3 Black		1 Black		4 Black	Mal x Blk	14

Table 2. Cape Breton Station banding by location 1989

	Kenloch	Scotsville	Margaree River	McCormick Corner	Glengarry	Indian Point	Gillis Pond	Aines Pond	Mabou Marsh	Livingston	
11	1 BWT		2 Black 6 Black		6 Black	1 GWT	1 Black				11
12	2 BWT		1 GWT		5 Black 3 Bl.M.x	1 GWT					15
13			1 Black 2 Bl.M.x		6 Black	2 Black					12
14			3 Black		3 Black 1 Bl.Mx	4 Black 2 Bl.Mx			1 Black 2 Black		13
15	1 BWT		1 Black 2 GWT		8 Black	4 Black			1 Mallard 2 Mal.Bl.x		22
16			1 Black		4 Black 1 Mall.	3 Black 1 GWT	2 Bl.Mal.				10
17			5 Black		6 Black	1 Black 1 GWT			2 Black		18
18	2 BWT		3 Blacks		1 Black	1 Black					8
Totals	9	4	66	1	72	50	2	6	33		243

Table 3a. Waterfowl observations at Margaree River, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16	30	2				1 B. eagle
1	5					
18	4				8	
19	2	4				1 B. eagle
20		5				
21	6	5				
22	3					
23	6	6				2 B. eagles
24	3	4				
25		3				
26	0					
27		6				
28		1				
29	7	6				
30	8	12				
31	8	8	16			2 B. eagles
Sept. 1	12	6				2 B. eagles
2	10		2			2 B. eagles
3	0					
4	1	6				1 B. eagle
5	2	1			16	
6	no survey					
7	2	2				1 B. eagle
8	6					
9	21		4			1 B. eagle
10	12	8				
11	18					
12	10	1				2 B. eagles
13	8					
14	25					1 B. eagle
15	8					
16	20					
17	0					
18	22					1 B. eagle

Table 3b. Waterfowl observations at McCormick Corner, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18	3			25+ (1,9,1,5, 6 br. 2)		
19	6			50		
20				30+ 3 br. (7,2,2)		
21				3+ 2 br. (2,2)		1 B. eagle
22				5+ 2 br. (2,2)		
23				2 br. (1,1)		1 B. eagle
24	0					
25				8		
26	-					
27	1	4		16+ 2 br. (5,3)		1 B. eagle
28				2		1 B. eagle
29	1					
30				6+ 1 br. (3)		
31				3		3 Mal
Sept. 1	0					
2	relocated trap					
3	no further surveys					
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

Table 3c. Waterfowl observations at Scotsville, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16	0					
17	16			2 br. (2,3)		
18	0					
19				2		
20	16			4		
21	22	1		4		
22	8					
23	0					
24	0					
25	0					
26	0					
27	0					1 B. eagle
28	6					
29	6			1		
30	1					
31	3					
Sept. 1	0					
2	0					
3	0			3		
4	0					
5	0					
6	no trap check					
7	1					
8	1	1		5		
9	0	5		21		2 B. eagles
10	2	2		2		
11	1					
12	Relocated trap no further surveys					
13						
14						
15						
16						
17						
18						

Table 3d. Waterfowl observations at Mabou Marsh, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16	20					
17	0					
18	12	4				
19	20					
20	0					
21	16					
22	12					
23	34					
24	0					
25	1					
26	1					
27	0					
28	1					
29	30					
30	0					
31	0					
Sept. 1	3					
2	6					
3	0					
4	40	20 Teal				
5	26	14 Teal				
6	no survey					
7			30			
8	12		30			
9			20			
10	2		40			
11	10		40			
12	15					
13	10					
14	10					
15	0					
16	0					
17	4		9			
18			2			

Table 3e. Waterfowl observations at Kenlock, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23	3	4		3 Br.(5,2,2)		
24	0					
25	4			5		
26	0					
27	2	8		16		3 B. eagles
28	0					
29	0					
30	0					
31						3 mal.
Sept. 1	10					
2						3 mal.
3	2					2 mal.
4	3					3 mal.
5				5		4 mal.
6	no survey					
7	0					
8				1		
9				60,2		
10	0					
11		3		4		4 mal.
12				1		
13				3		
14	1	1 teal		20		3 mal.
15	3			14		
16				4		
17	3			4		
18						3 mal.

Table 3f. Waterfowl observations at Indian Point, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23						
24	12		16			
25			no observations			
26	10					
27	0					
28	22					
29	10					
30	1	25				1 B. eagle
31	10					
Sept. 1	1					
2	3					
3	4					
4	0					
5	0					
6	no survey					
7		6				
8		12				
9	2	30 teal				
10	9	2				
11	1		8			
12			10			
13	0					1 B. eagle
14	5		38			
15	4					
16	0					
17	17		4			
18	3		1			

Table 3g. Waterfowl observations at Gillis Pond, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31	3					
Sept. 1	25	6				2 mal.
2	25	15				
3	1					
4	6	6				
5	0					
6	no survey					
7	0					
8	5					
9	4					
10	4					
11	15					
12	65					
13	0					
14	10		12 teal			
15			14 teal (distant)			
16	15		10			
17	6					
18		50 ducks				

Table 3h. Waterfowl observations at Alan Aines Pond, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23						
24						
25	5					
26	12	8				
27	0					
28	20	12				
29	6					
30	0					
31	0					
Sept. 1	3	6				
2	0					
3	8					
4	0					
5	0					
6	no survey					
7	2	1				
8	0					
9	0					
10	0					
11	0					
12	Relocated trap, no further surveys					
13						
14						
15						
16						
17						
18						

Tabl 3i. Waterfowl observations at Livingston Pond, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Sept. 1						
2						
3						
4						
5						
6						
7						
8						
9						
10						1 B. eagle
11	100		100 teal			
12	150		100 teal			1 B. eagle 4 mal.
13	75		50 teal			2 mal.
14	15					
15	0					
16	2					1 B. eagle
17	24	4				
18	2					

Table 3j. Waterfowl observations at Johnny Bans Pond, Cape Breton during preseason banding, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17	2					
18	0					
19	0					3 B. eagles
20	0					
21	-					
22	-					
23	-					
24	0					
25	-					
26	-					
27	0					
28	no further surveys					
29						
30						
31						
Sept. 1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

Table 3k. Waterfowl observations at Glengarry, Cape Breton during waterfowl surveys, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17	72		8 teal			
18	30					
19	20	8				
20	10	8				
21	18					
22	22	2				
23	0					
24	0					1 B. eagle
25	0					
26	10					
27	30	10				
28	15	6				1 B. eagle
29	20	30				
30	40	Blacks and teal				
31	65	Blacks and teal				
Sept. 1	8					
2	2					
3	1	1				
4	10	12				
5	1					
6	0					
7	12	25				
8	30	3				1 B. eagle
9	15					
10	8					
11	22					
12	8					1 B. eagle
13	50					1 B. eagle
14	17	10 teal				
15	25	2 teal				
16	15					1 B. eagle
17	17					
18	3					

Table 31. Waterfowl observations at Inverness Harbour, Cape Breton during waterfowl survey, 1989.

Date	Blk	BWT	GWT	R-N	C. Merg.	Misc.
Aug. 16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Sept. 1						
2						
3						
4						
5						
6						
7						
8	8					
9	No further surveys					
10						
11						
12						
13						
14						
15						
16						
17						
18						

CENTRAL PEI

Banding Report

Central, P.E.I. Station

August 6 - September 4, 1989

September 5, 1989

By: Tommy Godfrey
James Hughes

Introduction

A total of 609 ducks wase banded during the 1989 season. These ducks were captured by bait-trapping between August 6 and September 4. The banders were Tommy Godfrey, leader and James Hughes. All ducks were banded on the Central part of Prince Edward Island.

A total of 113 black duck, 409 blue-winged teal, 60 green-winged teal, 17 wood duck, 9 pintail, 1 mallard was banded. Five (5) banding locations were used throughout P.E.I.: Fullerton's Marsh, Johnston's River, Glenfinnan Pond, Ten Mile house and New Glasgow Sanctuary. A total of 11 traps were maintained at these locations.

The number of black ducks banded is considerably less than the number of blue-winged teal banded. Banding dropped off considerably during the last week of trapping and only a few ducks were banded each day.

Results are presented by trapping area and the total age, sex, species composition of the ducks banded is summarized in Table 1.

FULLERTON'S MARSH

Fullerton's Marsh is a fresh water impoundment located on the Trans Canada Highway five (5) miles east of Charlottetown. The marsh has several species of pondweed (Potamogeton). On the northern side of the impoundment dyke is an inlet off the Hillsborough River. The marsh is surrounded by a strip of woods. The western, southern, and eastern sides of the wetland are covered primarily by cattail (Typha). Two small streams enter from the eastern and southern sides. The western end offered the best trapping location where there was shallow bottom and cover from the cattails.

Three traps were maintained at this location (Figure 1). A trap on the southern side of the marsh at the mouth of the stream was very productive for blue-winged teal. Our only problem with predation was at this site. Nine (9) blue-winged teal, of which 3 were banded, were found dead(2 had their heads chewed off). Mink predation was suspected. Also found in this trap on the first day of banding was a muskrat, which was let out unharmed. This trap site was soon abandoned and traps 2 and 3 were set at the western end.

Several species of ducks were observed feeding at the western end. There were as many as 50 blue-winged teal and green-winged teal seen daily. Many black ducks were also observed daily.

Summary of Ducks Banded at Fullerton's Marsh

Species	L	HY	AHY	Totals
Black Duck	1	15	1	17
Blue-winged Teal	1	150	6	157
Green-winged Teal	-	24	18	42
Wood Duck	-	-	8	8
Pintail	-	-	-	-
Other	-	-	-	-

JOHNSTONS RIVER

One of the largest marshes on P.E.I., Johnstons River is located 9 miles northeast of Charlottetown. The entire marsh is surrounded by cattail. Route 257 and some alders border the southern side (Figure 2). The only submergent growth is pondweed. The water depth was fairly deep except for areas along the cattail which was between 6 and 18 inches. The southern end of the river provided lots of cover and many ducks were observed there.

Three traps were set at this site. Trap number one was not very productive as the water was found to be too deep. The open area where trap two was placed was productive for the first two weeks. Trap number 3 which had the most shallow water and lots of cover, showed good success and many blacks were banded at this trap.

There was no problem with the public here as all traps were beyond easy walking distance. As many as 25 blue-winged and green-winged teal were observed daily along with about 10 black ducks. Black duck banding was very successful at this site and 49 were banded.

Summary of Ducks Banded at Johnstons River Imp.

Species	L	HY	AHY	Totals
Black Duck	6	43	0	49
Blue-winged Teal	1	45	4	50
Green-winged Teal	-	1	4	5
Wood Duck	-	-	2	2
Pintail	-	-	-	-
Other	-	-	-	-

GLENFINNAN POND

This is a deep fresh water pond. It's located about 11 miles northeast of Charlottetown. Pondweed and Algae were the only submergent vegetation. The western end of the pond is bordered by Route 21 (Figure 3). Alders surround the southern end of the pond and old dead trees cover the northern end. The eastern end of the pond, provided the best trap location as many birds were observed feeding in this shallow, cattail covered area. A small stream is located at this end also. The bottom is generally hard but soft in places.

One trap was set in the eastern end of the pond. This was our best trap of the season and many times there were 4 or 5 different species in this trap.

Blue-winged teal and green-winged teal, and blacks were seen daily. Many broods of different species were observed here in the summer resulting in the different species banded. A young brood of blue-winged teal were seen in the first week of banding.

Summary of Ducks Banded at Glenfinnon Imp.

Species	L	HY	AHY	Totals
Black Duck	8	19	0	27
Blue-winged Teal	1	33	1	35
Green-winged Teal	6	1	-	7
Wood duck	-	-	7	7
Pintail	-	-	-	-
Mallard	-	1	-	1

TEN MILE HOUSE

This fresh water pond is located on Route 260 just off the Kings Byway on Route 2. The pond has thick beds of pondweed. All four sides are covered with cattails and surrounded by wooded areas. Two small streams enter on the northern end and one on the western side. Deep channels run through the pond with shallow areas along all sides.

The largest number of traps was set at this site. Two were set up on the northern side with one directly in front of the stream. Two more traps were set at the Eastern end where ducks were observed feeding. These two (2) traps produced for the first week, but the birds moved up to the more shallow area (western end), we also moved the traps. Both traps were reset in cove areas where ducks were seen feeding.

Disturbance has many people fishing along the bank and by boat resulted in low black duck numbers trapped. This pond attracted blue-winged teal, green-winged teal, pintail and blacks. Many blacks were observed but with the large amount of blue-winged teal, blacks stayed out of the traps because they were filled with teal.

Summary of Ducks Banded at Ten Mile House Imp.

Species	L	HY	AHY	Totals
Black Duck	-	14	-	14
Blue-winged Teal	1	161	5	167
Green-winged Teal	-	6	-	6
Wood Duck	-	-	-	-
Pintail	-	8	1	9
Other	-	-	-	-

NEW GLASGOW

This banding station was located on Route 13 from Hunter River to Cavendish, P.E.I. The sanctuary is tidal. The banks are lined with grass and cattails cover the southern end. Fields surround the area which provides good food for the many birds that come in the fall. The bottom is very muddy except along the western side where scattered hard patches are found.

Two traps were placed in the sanctuary along this western side (one was set in a cove in the southern end).

This was a late banding site. Many black ducks were observed by the local Game Warden. He contacted us and we started baiting and trapping at the site.

As many as 30 black ducks and 30 geese were observed daily. Both were feeding on the corn.

Summary of Ducks Banded at New Glasgow Sanctuary

Species	L	HY	AHY	Totals
Black Duck	-	4	2	6

Overall success for this year was very good. We banded a large number of blue-winged teal, and 113 Black Ducks.

Johnstons River was our best location for black duck banding as 49 were banded. Blue-winged teal were banded in great numbers as 30 were found in one trap on more than one occasion. A number of wood ducks were banded also.

Several ducks were seen swimming out the funnels the first few days. We suggest that each bander stand with one foot in the funnel area while taking birds out.

Equipment, including wire traps, mesh tops and poles are left at Fish & Wildlife's Warehouse in Beach Grove. All are in good shape and ready for use.

We would like to express our appreciation to the P.E.I. Fish & Wildlife Division, especially Tommy Duffy and John Clements for their helpful assistance.

Table 1. Age, Sex and species composition of waterfowl banded at the Central P.E.I. station in 1989.

Species	Local		Hatch year			After Hatch Year		Total
	M	F	M	F	U	M	F	
Black Duck	7	8	43	49	2	2	2	113
Blue-w. Teal	3	1	186	201	2	13	3	409
Green-w. Teal	2	4	16	15	-	20	3	60
Wood Duck	-	-	-	-	-	17	-	17
N. Pintail	-	-	5	3	-	-	1	9
Mallard	-	-	-	1	-	-	-	1
Totals	12	13	250	269	4	52	9	609

Appendix I

Table i. Fullerton's Marsh

Date		Black Duck		Blue W-Teal		Green W-Teal		Wood Duck		Pintail		Other	
		Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded
August	15	10		40	36	20	3			8			
	16	10		40	15	20	2			8			
	17	5	2	50	18	20	5	1	1				
	18	8	1	25	23	15	2	2	2				
	19	15		35	19	15	5			5			
	20	12	2	30		20							
	21	9	2	25		15	1						
	22	10	1	30		15							
	23	5	1	40	7	20		3	3				
	24	15	1	25	2	15							
	25	12		30	13	20	1						
	26	15	3	45		25	14	2	2				
	27	10	1	30		20	3						
	28	10	1	30	22	20	2	2					
	29	10		25	1	15							
	30	10		20		10	1						
	31	8	1	15		10							
Sept.	01	10		15		5	3						
	02	5	1	15	1	10							
	03	4		10		10							
	04												
Total			17		157		42		8				

Table ii. Johnstons River

Date	Black Duck		Blue W-Teal		Green W-Teal		Wood Duck		Pintail		Other	
	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded
August 15	5		15	5	5							
16	10	2	25	11	5							
17	6		15	8	10							
18	3	1	15	3	4		1	1				
19	8	1	20	3	5	1					WID1	
20	10	4	20		10	1						
21	8	3	15		5							
22	10	1	20		5							
23	10	2	8	2	4		1	1				
24	10	3	10	2	5							
25	20	7	25	9	5							
26	25	6	30		10	3						
27	20		20		5							
28	15	7	15		5							
29	12	1	10	1	4							
30	10	2	15	1	4							
31	15	5	30	2	5							
Sept. 01	12	1	20	3	5							
02	15	3	25		5							
03	10		35		10							
04												
Totals		49		50		5		2				

Table iii. Glenfinnon Pond

Date	Black Duck		Blue W-Teal		Green W-Teal		Wood Duck		Pintail		Other	
	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded
August 15	10		20	4	6							
16	10	1	25		4	1						
17	5	2	25	3	5	1						
18	5	3	10	1	4							
19	6	2	10	6	5		2	2				
20	15	4	10		5		2	2				
21	5	1	15		7	3	1	1				
22	8	2	10		5	2						
23	8		15	1	5		2	2				
24	10		10	1	4		1				1 Mallard	Banded
25	12	3	8	9	5							
26	10	1	15		5							
27	10		10		4							
28	12	2	10		5							
29	10	1	12	1	6							
30	15	1	10		5							
31	10	2	15	2	5							
Sept. 01	15	2	15	2	5							
02	10		25	2	5							
03	10		20	3	10							
04												
Total		27		35		7		7				1

Table iv. Ten Mile House

Date	Black Duck		Blue W-Teal		Green W-Teal		Wood Duck		Pintail		Other	
	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded
August 15	15		70	3	25	4						
16	15		70	3	20							
17	25		60	14	15				1	1		
18	20		60	11	15	1			2		Geese 21	
19	15		60	8	15							
20	10		50		10				5			
21	15		70		20				4			
22	12	1	60		10				2	2		
23	20		70	54	20							
24	15	2	60	22	20							
25	20		50	8	25				4		Geese 20 Widgen 1	
26	20		70		30	1			4		Ring-neck 3	
27	15		70		30				1			
28	12	7	50	13	20							
29	5		40	10	15						Geese 31	
30	10	1	30	8	15				2			
31	8		30	12	20				10	4		
Sept. 01	15	3	60	1	10				5	2		
02												
03												
04												
Total		14		167		6				9		

Table v. New Glasgow

Date	Black Duck		Blue W-Teal		Green W-Teal		Wood Duck		Pintail		Other	
	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded	Seen	Banded
Aug. 15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29	40		10		5				10		Geese	25
30	40		15		6				12			
31	30		15		5				4		Geese	31
Sept. 01	30		20		10				8			
02	40		20		10				5		Geese	30
03	30	3	15		5						Geese	30
04	30	3	20		10						Geese	45
Total		6										

Fullerton's Marsh

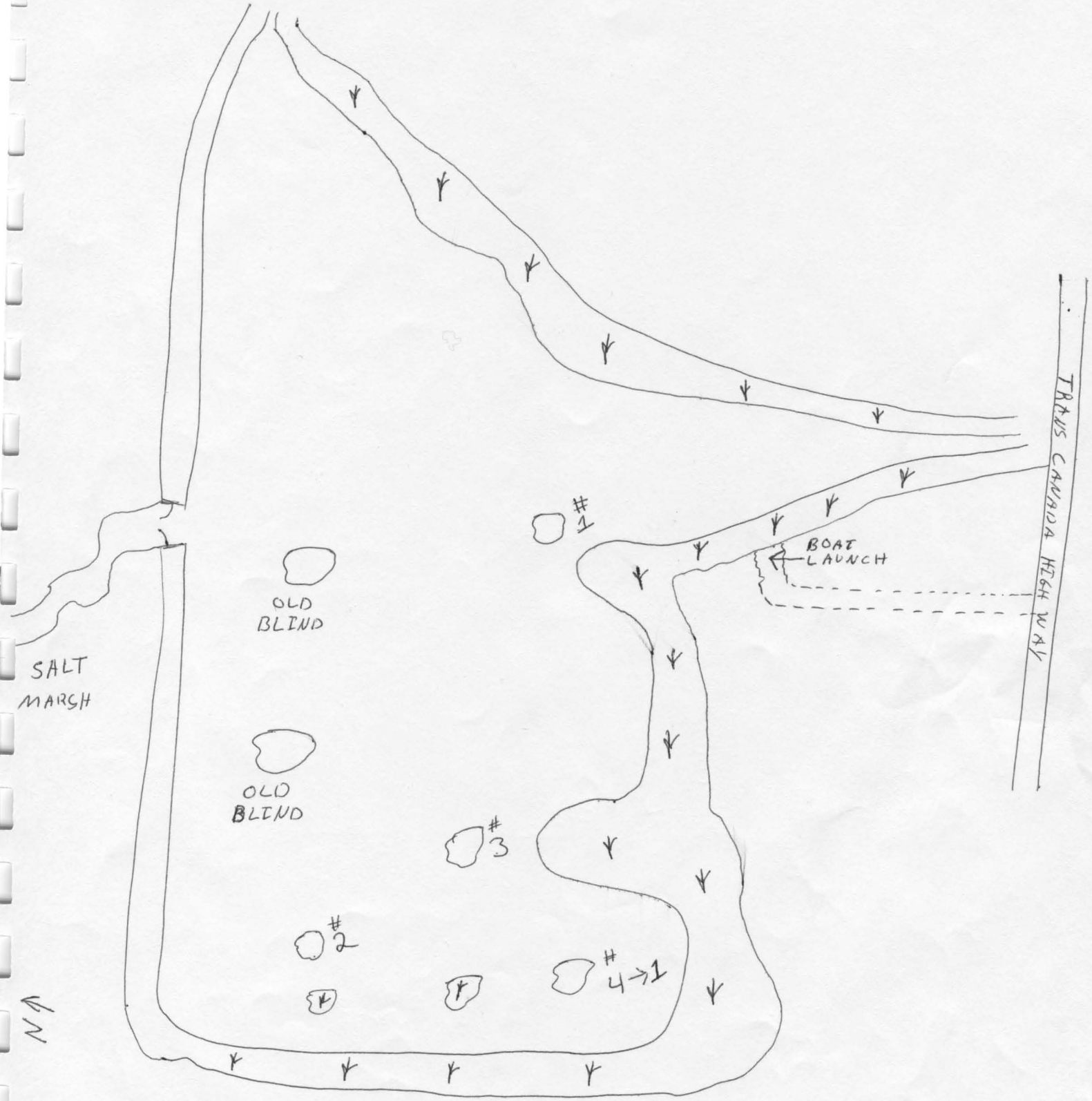


Figure 1.

Johnstons River

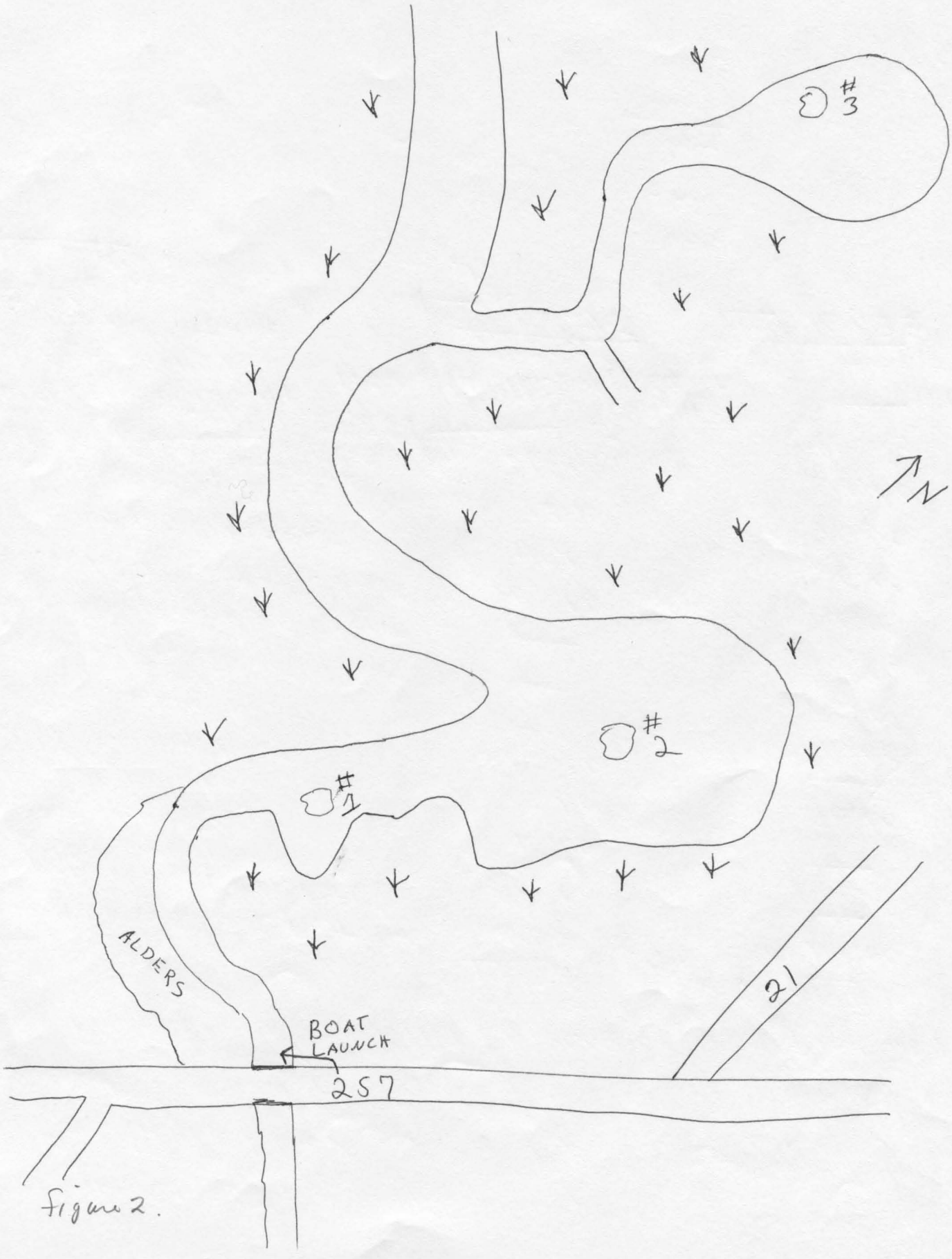


figure 2.

Glenfinnan Pond

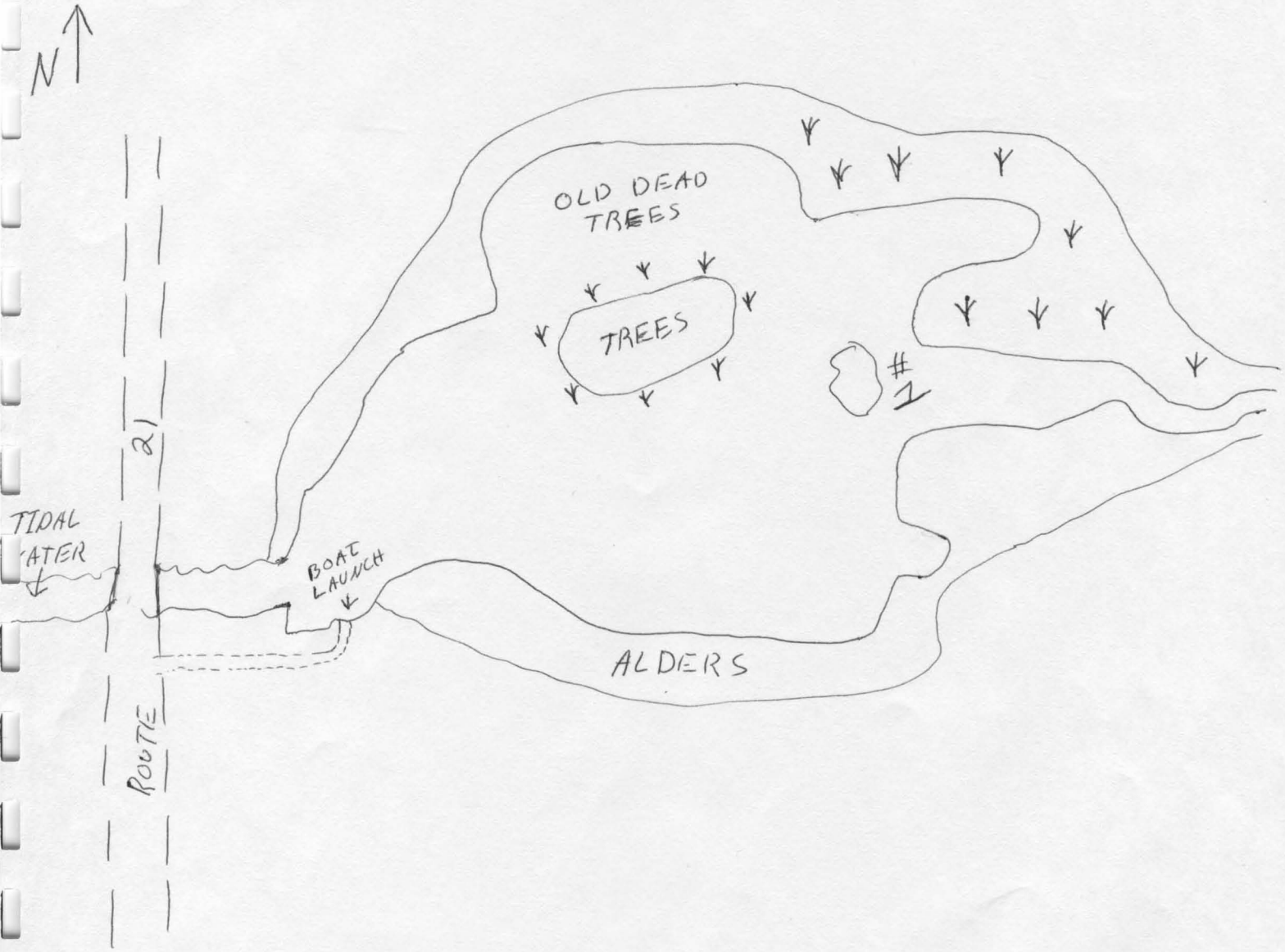


Figure 3

Ten Mile Route

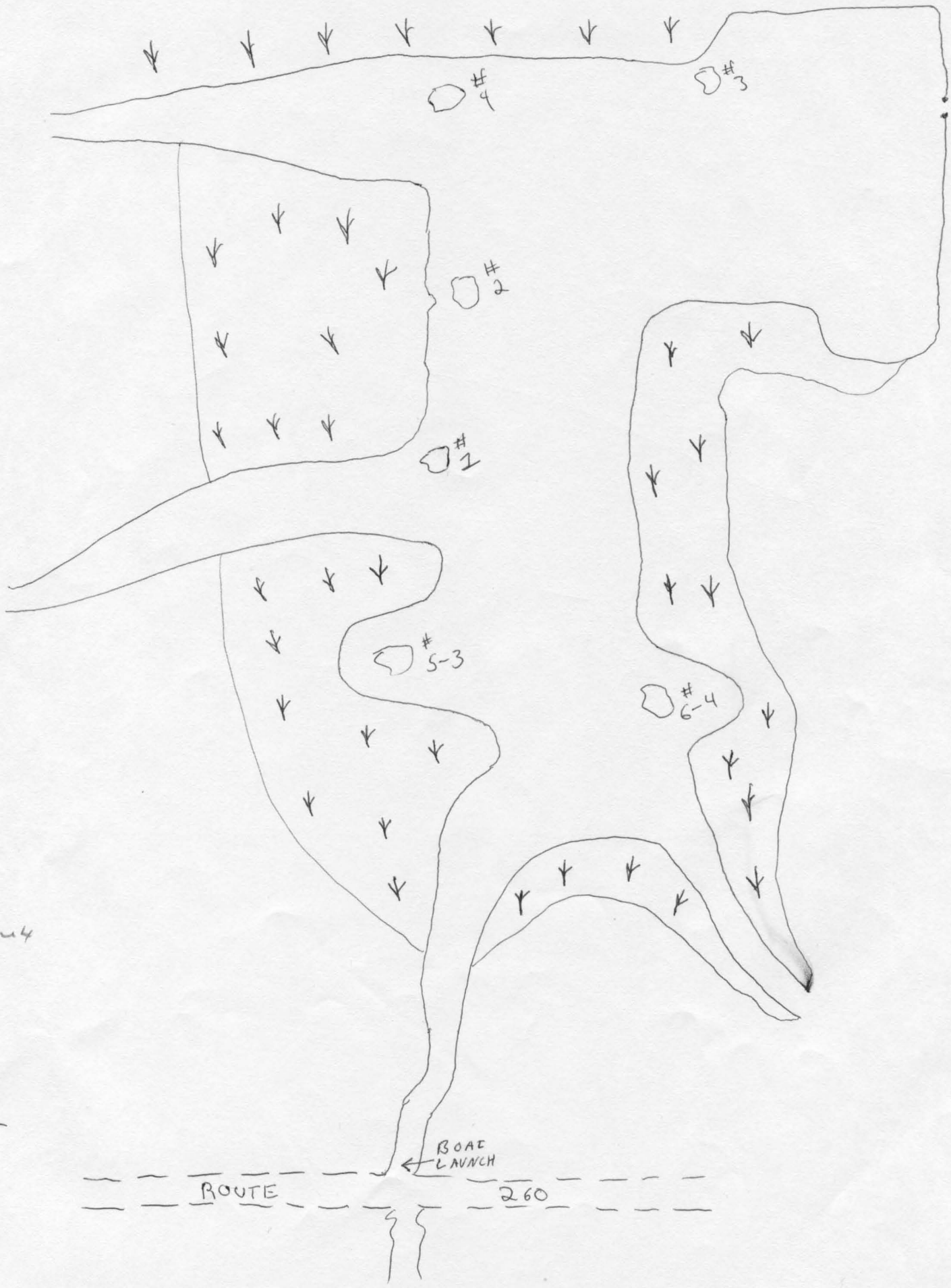
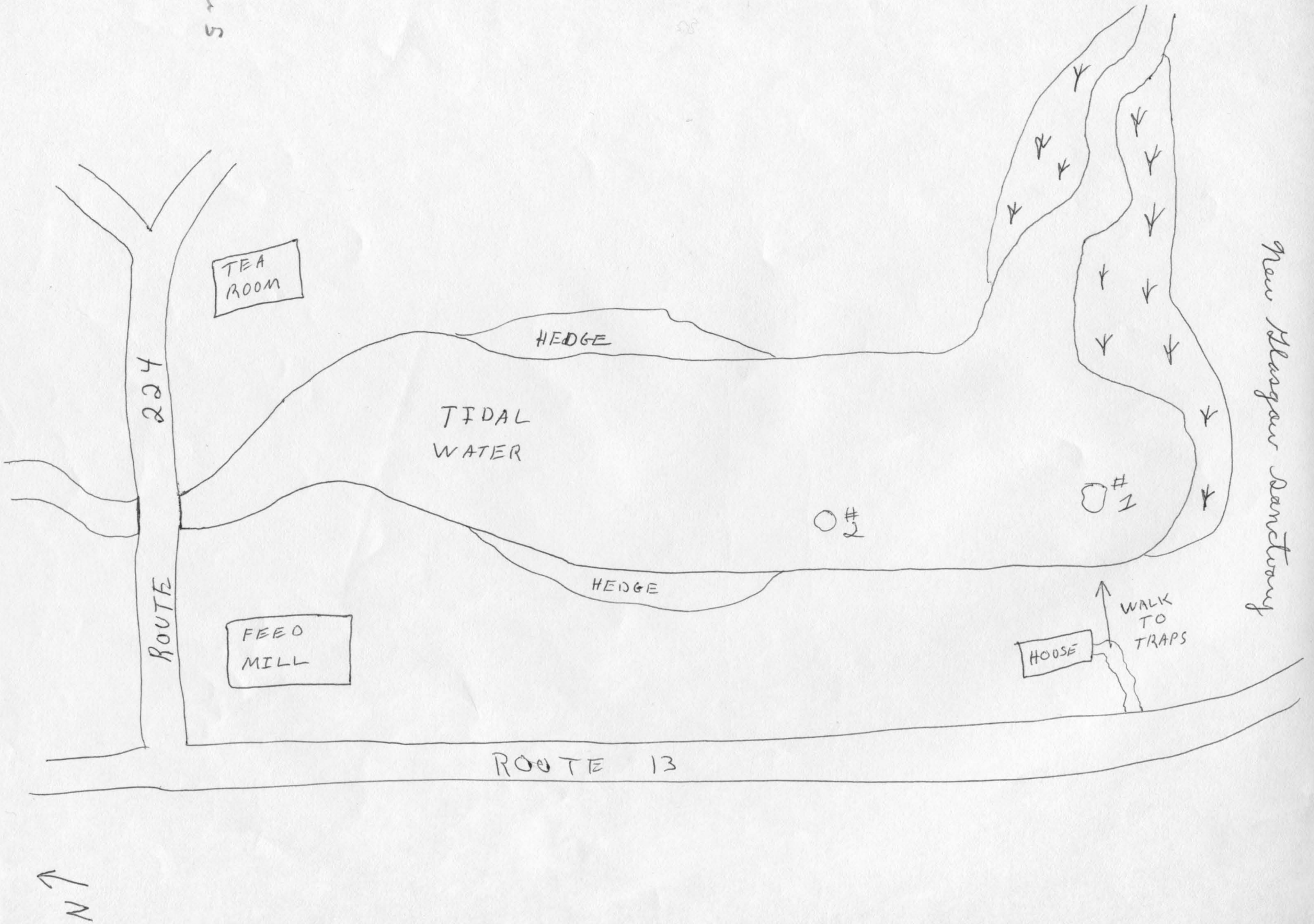


Figure 4

Figure 5



New Hingham Sanctuary

ROCKET NETTING

Rocket Netting Within the Atlantic Region 1989

A - Codroy Valley, Newfoundland 24 April - 5 May

B - Orwell Bay, P.E.I. 16 October - 27 October

C - Baikie Lake Labrador 8 September - 27 September

W. R. Barrow
Wildlife Technician
Canadian Wildlife Service
Sackville, New Brunswick

Introduction

During the 1989 spring season rocket nets were used to capture Canada Geese in the Grand Codroy estuary. This was the first occasion where geese were captured with rocket nets and for neck collaring on Newfoundland. Capturing geese in Atlantic Canada has at best been difficult and this first attempt to capture birds at the terminus of their northern journeys was no exception.

The Grand Codroy Valley:

Located in the southwest corner of insular Newfoundland (Fig. 1) it is well known for its tourist potential in particular hunting fishing and other recreational activities. Five small communities surround the estuary system in what was once an active farming area. Today many people commute for employment and the tourist industry remains the primary income source.

The most visible wildlife event occurs during the spring and fall waterfowl migrations. Thousands of geese and many ducks use this area for rest and food. In 1987 the Grand Codroy Estuary was recognized as a Wetland of International Importance under the Ramsar Convention. The habitat and wildlife resource are unique for Newfoundland and federal-provincial agencies are now active in protecting this estuary.

CWS Activities

The most recent banding efforts have been financed by the Canadian Wildlife Service and member states in the Cooperative Waterfowl Banding Program. Bait-trapping and night-lighting methods were used to capture and band a segment of the Newfoundland-Labrador waterfowl population. Banding was continuous between 1979-87 with approximately 4000 birds banded (Table 1). The Codroy area has been selected as a permanent banding site and programs should resume in the early 1990's. The new Ramsar Identity will enhance future banding and hopefully eliminate many of the inherent problems.

Waterfowl Observations

Canada Geese were the most numerous waterfowl species in the Grand Codroy Valley for the twelve day period 24 April - 5 May 1989. Other waterfowl species were not as obvious and it appears that the fall migration is more significant for dabbling ducks.

Approximately 2000 geese were observed in the estuary system and numbers were consistent until breeding ground dispersal. Smaller flocks were observed at the Stephenville Crossing (232) and 10 mi.. north of Port aux Basques (130). Newfoundland wildlife personnel recorded 300 geese near Burgeo during an aerial survey. Two neck

collars (5XK9 and 9XK3) fitted on P.E.I. birds in 1988 were observed at Codroy. These sightings were probably the first records for Newfoundland-Labrador birds.

Six dabbling duck species were observed in the Codroy area. Pintail (24) and Black Ducks (20) were the most common. Green-winged Teal (10), Blue-winged Teal (1), Wigeon (2) and Ring-necked Duck (35) were sighted daily. No seaducks were observed in the area and only one bay duck species, the C. Goldeneye (20) frequented the area. Red-breasted Mergansers (35) and Common Mergansers (12) utilized the entire estuary system.

Species diversity and numbers appear to be greater during the fall migration. Large numbers of Canada Geese, Black Ducks, and Green-winged Teal are the most obvious. The maximum buildup of geese is probably later than the banding station duration, 3000 birds had been recorded on two previous occasions. Peak totals of 600 Black Ducks and Green-winged Teal are slightly higher than respective yearly averages (398-333). Counts for the remaining species have never exceeded 100 birds. Table 11 summarizes the observation records by Codroy area banding crews.

Results

Nine Canada Geese and five Black Ducks were captured with rocket nets in the Grand Codroy valley in 1989. Black Ducks were banded and released immediately. Additional processing for geese included morphological measurements for the New Jersey Department of Environment and Protection and the fitting of neck collars. The age and sex breakdown and band and collar sequence for waterfowl banded are found in Table 3.

The costing breakdown and eventual cost per bird is presented in Table IV. The cost per bird (270.63) is triple that for a five year average of rocket netting on Prince Edward Island. It is however not unusual for experimental stations in Newfoundland-Labrador to have costing figures exceed 300-400 dollars and occasionally 5000 dollars.

Discussion

Small numbers (60) of Canada Goose migrants were first sighted on the John Lusby salt marsh, Nova Scotia and at Orwell, Hyde River and West River, P.E.I., 15 Marsh 1989. Most habitat remained frozen and large numbers of geese were not sighted until March 30.

Concentrations were recorded at Northport, Nova Scotia (4000) and Orwell, P.E.I. (6000) however these birds moved out before a banding effort was initiated. Funding for the 1989 rocket net

exercise was not approved until early April, but then unstable weather in the form of heavy fog and rain, strong winds and snow prevented any banding set-up. Prebaiting at Orwell was unsuccessful as only 600 birds were dispersed throughout the area. In addition a severe wind storm on April 7th appeared to push birds to the mid and western sections of the island. The 1989 rocket net program was redirected to Newfoundland where geese were staging, on bait, and the option to band at a more northern location had potential.

The wariness of Canada Geese approaches mystic or at least remarkable perception. The Upper Ferry Field (Fig. 1) was baited daily and 300-400 geese utilized the area for food and shelter. Once nets were installed geese vacated the area and returned only in small numbers and with extreme caution. Only when the net was placed near the high tide level marked with rubble and other flotsam would geese approach the bait. Geese were still cautious and frequented the net area in low numbers.

Near Millville at Gails Island a simple and quick investigative walk on to the island was sufficient disturbance to deter goose activities. Although an ideal area for netting, waterfowl never frequented this island for the remainder of the work period.

Geese never appeared to feed aggressively on land or in the water. Most birds seemed content to drift in and out the river with

the tides feeding on aquatics, loafing and preening for most of the day. This was a departure from behaviour of P.E.I. birds which often showed agression during feeding. Aggressive moments were evident when paired birds defended any intrusion of their territory. This sexual behaviour limited the number of geese in front of a net. Although copulation likely occurs near the nesting area a gander was observed standing on a goose for several minutes.

Black Duck and Pintail behaviour was one of constant turmoil compared to geese. Pairing was not complete and courtship flights, chases and aggression overlapped feeding creating a chaotic atmosphere around the net fields.

With the exception of day one, clear, sunny but cool weather prevailed. Both geese and netters were waiting for a change in weather. Rough windy conditions would alter normal routine and enhance banding while a moderating influence would open many of the inland barren ponds and promote nesting. Unfortunately mild weather prevailed and sorties inland increased on May 1. Geese left the valley May 3 and 4 after a heavy wind and rainstorm and the banding operation was terminated.

Recommendations

(1) Baiting and netting preparations should commence during mid-April or whenever first birds appear.

(2) A strong spotting scope is available at Pasadena and neck collar observations for W. Nfld. should be encouraged.

(3) A bait trap for dabbling ducks is possible, and advantageous for station personnel.

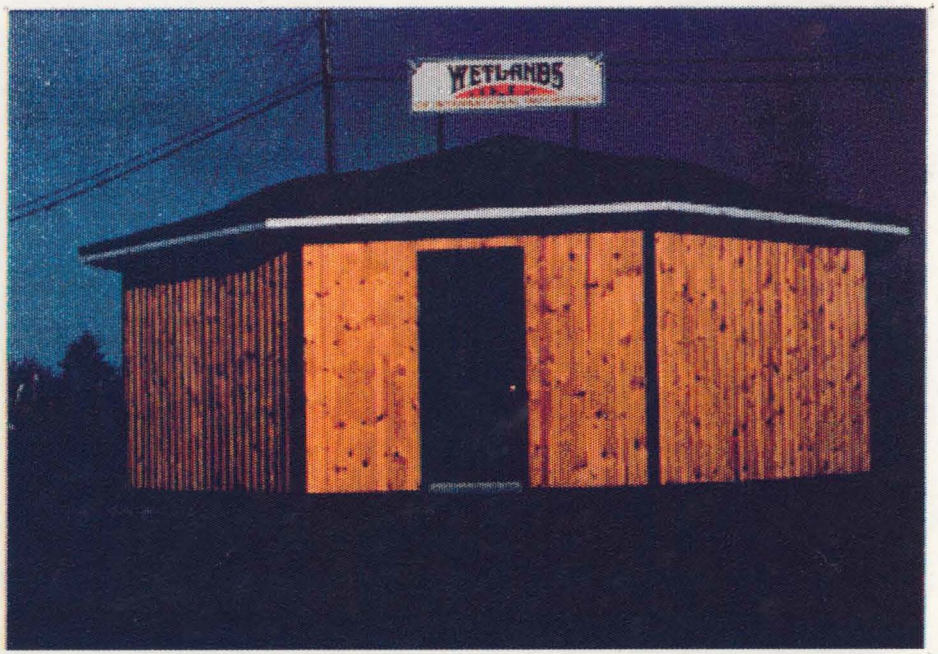
(4) Non-breeding and/or molting geese use the Grand Codroy Island system. In addition broods are not uncommon. A three day exercise to band flightless birds may prove productive.

(5) From all reports a fall rocket net operation would be more successful. Local support is available and very encouraging.

Acknowledgements

The support provided by the Newfoundland wildlife personnel was outstanding. Roy McIssac did all the preliminary work, prebaited and assisted in observations and banding. Roy will always remember this session as the longest days of his life. Aubrey Anderson assisted in banding and goose observations along the west coast. He also provided new meaning to the Newfoundland phrase "squid bucket".

The cooperation and hospitality of the Gillis family from Codroy was greatly appreciated. The MacNeil family (Angus, Betty, Krista) from Upper Ferry opened their home daily in addition to access and use of their land.



GRAND CODROY VALLEY 1989

ROCKET NETTING CANADA GEESE GRAND CODROY VALLEY, NEWFOUNDLAND 1989

B.

Orwell Bay

A co-operative American and Canadian goose banding project was recommended for P.E.I. in 1989. Two American crews were to rocket net for successive two week sessions during the early fall. A Canadian crew would work November until freeze-up. Unfortunately personnel problems limited the American effort to one crew working a shortened cycle due to travel and set up time. Adverse weather, record snow and cold temperatures terminated the second work session. Tentative plans for 1990 recommend a similar effort during the spring migration in addition to an experimental net set-up never used in the northeast. Crew members Paul Merola and Tom Early banded fifteen geese at Orwell in 1989. The age and sex breakdown, band and collar sequence is shown in the following table:

HY		AHY		Total
M	F	M	F	
3	7	2	3	15

Band Series 698-83818-24

Neck Collars - 6XM1 -6XM0, 5XM8, 5XM0, 0XY0, 0XY5, 0XY6

C.

Baikie Lake

An experimental rocket net program was combined with a bait trap station at Baikie Lake, Labrador in 1989. Crew members Vern Stotts, Queenstown Md., and Andrew Hicks, Sackville, N.B. captured 29 geese, 5 by funnel traps and 24 from rocket net shots. Those rocket netted and collared were the first ever for Labrador birds. Recommendations for future and extensive Canada Goose work in Labrador may replace this project. However the potential remains for rocket net work in the Churchill area. The age and sex breakdown with band sequence and collar numbers are provided in the following table:

HY		AHY		Total
M	F	M	F	
5	13	6	5	29

Band Series 718-15601 - 15629

Neck Collars 1XU1-1XU0, 3XU1-3XU0, 4XU1-4XU5, 4XU7-4XU0

Table 1. Total birds banded Grand Codroy, Newfoundland 1979-1987

	1979		80	81	82	83	84	85	86	87	Total
Mallard	-	-	1	-	4	-	2	-	1	-	8
Black Duck	26	20	321	39	243	371	233	183	184	67	1687
Blk X Mal Hyb	-	-	4		-	14	1	5	5	3	32
G-w.Teal	4	15	44	77	198	415	425	458	358	94	2088
B-w. Teal	-	6	-	20	1	4	-	-	6	1	38
Am. Wigeon	3	11	-	16	-	-	-	-	-	-	30
N. Pintail	25	8	4	28	4	9	17	8	2	5	110
Wood Duck	-	-	-	1	-	-	-	-	-	-	1
N. Shoveler	-	-	-	1	-	-	-	-	-	-	1
R.n. Duck	-	-	-		-	-	-	1	1	-	2
R.-b. Merganser	-	-	-	1	-	-	-	-	-	-	1
Total	58*	60*	374	183*	450	813	678	655	557	170	3998

*night lighting

bait trapping

Table II. Banding Crew waterfowl observations Grand Codroy 1980-87

	1980	1982	1983	1984	1985	1986	1987
Mallard	5		4	4	-	-	1
Black Duck	600		550	550	250	250	190
Green-w.Teal	350		300	600	300	200	250
Blue-w. Teal	30		15	4	12	-	
Am. Wigeon	20		5	7	60	2	
N. Pintail	50		30	5	15	60	
Wood Duck	-		-	-	-		
N. Shoveler	-		-	-	2		
R-n. Duck	55		30	20	20		
G. Scaup	75		-	-	20		
L. Scaup	1		-	-	-		
C. Goldeneye	35		2		4		
S. Scoter	30		-	-	-		
B. Scoter	8		-	-	-		
W.-w. Scoter	15		-	-	-		
R-b. Merganser	40		15	20	27	25	
C. Merganser	-		-	-	2	-	
Canada Goose	-		3000	3000	1100	122	400

Observers

1980	Stew Tingley - Randy Hicks
1982	Eric Wade - Tim Bowman
1983	Jim Hawkins - Dave Morrow
1984	Dave Morrow - Brent Eagles
1985	Dave Morrow - Pierre Ryan
1986	Pierre Ryan - Andrew Barron
1987	Bryan Pellerin - Charles Karpyn

Table III. Age & sex breakdown for waterfowl banded at Grand Codroy, Nfld. 1989

	SY		AHY		Total
	M	F	M	F	
Canada Goose	-	1	5	3	9
Black Duck	-	-	4	1	5
Total	-	1	9	4	14

Table IIIb. Band & collar sequence used at Codroy

628-75062 - 70

4XM0
5XM1 - 5XM7
5XM9

1427-97811 - 15

Table IV. Cost analysis for the 1989 spring goose banding effort on Newfoundland

Wages	Bait	Hardware	Cabin & Groceries	Gas	Travel meals-lodging-ferry	Total Cost
1380.00	45.20	15.00	592.33	192.64	102.00 - 108.50	2435.67

# of Geese - 9

Cost per Goose $270.63

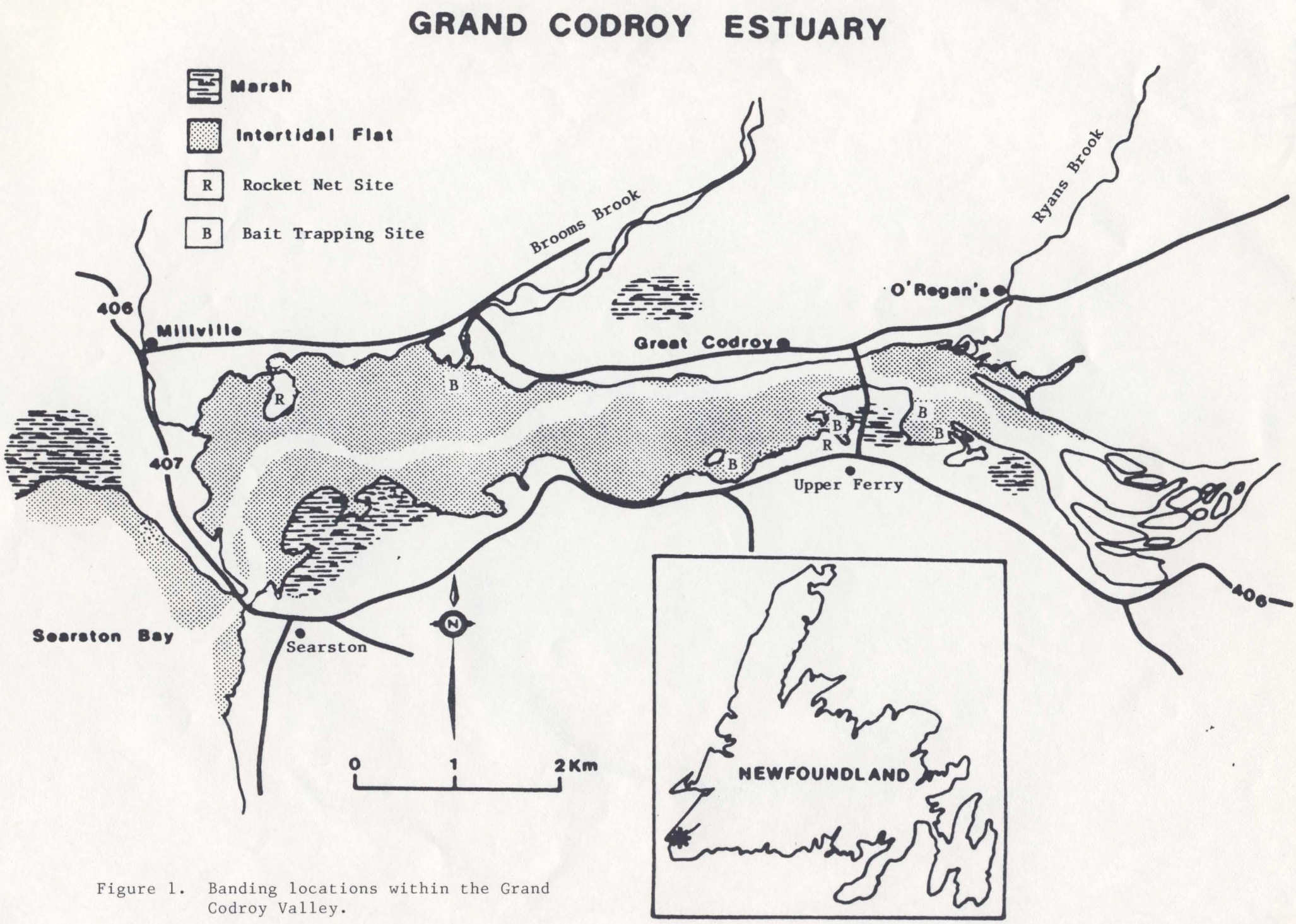


Figure 1. Banding locations within the Grand Codroy Valley.

CARMANVILLE
NFLD

Waterfowl Banding Project

Carmanville, Newfoundland

August 1 - September 18, 1989

Crew Members

George Brinson

WATERFOWL BANDING - CARMANVILLE, NFLD. - 1989

A waterfowl bait trapping station was in operation in the Carmanville, Nfld. area again in 1989 as part of the Atlantic Flyway Co-operative Banding Program. This has been the seventh consecutive year of operation. The project operated from August 01 to September 18. Three hundred fifty-seven ducks were banded, and three birds from previous bandings were recaptured. A total of 360 birds was banded.

As in previous years, all banding was done on Middle Arm, the salt-water bay adjacent to the town of Carmanville. The location used was the same as the previous year, the extreme south end of the arm, the most favoured spot for waterfowl.

Baiting began August 01. Cracked corn and barley were the grains used to attract ducks. First traps were erected on August 14, with first birds banded August 16. Baiting continued until September 10, and banding ending September 18, approximately one week prior to opening of hunting season.

A total of 151 American Black Ducks, 3 Mallard, 11 Northern Pintail, 168 American Green-winged Teal and 24 Blue-winged Teal were banded. Also, on September 17, one Canada Goose was trapped. I had no bands at the site, so the bird was released un-banded. Geese normally arrive on the arm by mid-October.

Comparing this season to 1988, the numbers are up somewhat. The numbers are comparable to 1987 which was the best year to date. The most interesting statistic this year is the number of Blue-winged Teal trapped, which totaled 24 birds. Blue-winged Teal were very prevalent throughout the area. Pintails were also to be found in small numbers throughout the local area. Species, age and sex of banded birds is listed in Table I.

One Green-winged Teal was recaptured from the 1988 banding, one black from 1988 and one from 1986 banding on arm.

Comparing the number of adults to hatch-year birds being trapped, the statistics are similar to past two years: banded Black Ducks were 7% AHY and Green-winged Teal were 9% AHY birds.

In addition, this year, random samples of weights of the two major species were taken, and are as follows:

Black Duck	Males	1195 grams (34 birds sampled)
	Females	1100 grams (30 birds sampled)
	Overall average	1148 grams (2.5 lbs.)
Green-wing Teal	Males	324 grams (42 birds sampled)
	Females	290 grams (39 birds sampled)
	Overall average	307 grams (.66 lbs.)

A sample of both species was also done during the 1987 banding project and the weights of each species are identical in each case.

In general, birds were present on the arm throughout whole of the banding period, especially Green-winged Teal. Blacks were not plentiful at the beginning, but numbers suddenly increased at the end of the first week of September, and at the termination of project, there were approximately 175 Black Ducks on the arm. During the last few days of banding there were also Scaup present and most interestingly, 3 immature Bufflehead. Mergansers were scarce, as they were in 1988. Quite a number of Double-crested Cormorants were to be found on the arm during late August.

No problems were incurred with predators, although mink were very common in area. Goshawks were also fairly common. No problems were encountered with poaching. The local RCMP detachment must be commended in it's effort to keep the whole situation in check.

CONCLUSIONS

Overall, the highest number of birds was banded in 1989 since the beginning of banding in the area in 1983. The high number of Blue-wing certainly enhanced the project, although Blacks are the target species. This year's total of 151, certainly must be considered excellent for an area such as this. Hopefully the work can continue, as much remains to be added to the knowledge of waterfowl from Newfoundland. More work is still needed.

George Brinson
Box 204, R.R. #1
Carmanville
Nfld. A0G 1N0

Table I. Age, sex, and species composition of birds banded at the Carmanville banding station in 1989.

	HY			AHY			Totals		
Species	M	F	T	M	F	T	M	F	T
Black Duck	72	69	141	3	7	10	75	76	151
Mallard	2	1	3	-	-	-	2	1	3
Pintail	2	8	10	-	1	1	2	9	11
G.-w. Teal	75	78	153	6	9	15	81	87	168
B.-w. Teal	8	14	22	-	2	2	8	16	24
Totals	159	170	329	9	19	28	168	189	357

CAPE TREES
NFLD

Waterfowl Banding Station Report

Cape Freels, Newfoundland

August 14 - September 22, 1989

Crew Members

Ammon Pickett
Marc Hefferton

A total of 103 ducks was banded at the Cape Freels Station during the second season of operation. This total consisted of 22 Black ducks and 81 American Green-Winged Teal. A complete age and sex breakdown is contained in Table 1.

Information on the number of birds (ducks) observed is contained in Table 2. These birds frequented the marshes, flashets in the proximity of areas 1, 2 and 3.

The habitat of all trapping areas is similar. There is extensive bogland with some low trees, scrub and fen in the minute valleys. In these small depressions are many flashets and steadies. These contain much mud and many grassy patches.

The banding station was set up in a different location than the previous year. Instead of setting up on the sea coast, we moved approximately two kilometers inland and monitored an area not less than 10 sq. kilometers. The area is officially known as Seal Cove Brook, which empties into the salt water (Atlantic Ocean) at the western end of Templeman. The most appropriate method to travel this area is by A.T.V.

After spending several days observing a number of Green-winged Teal and Black Ducks, and after baiting the areas, traps number one and two were erected in Black Duck Steady. Later numbers three and four were set up at the Overfalls, and trap number six was set up at Rocky Pond. All traps were in operation by August 20. See Fig. 1 for trap location on a sketch diagram, and Fig. 2 for the precise location on a composite map 1/50,000 from the A781 Series, map

2F/14. A Jim Scale was used to obtain the weight of each bird which was recorded on field sheets with other data.

We did not witness, or were not aware of any losses due to predation. Nor, did we encounter any other problem during the banding period. Apparently, we had the co-operation of the local residents and some of them often accompanied us to the trapping area.

Inventory of Equipment Stores at Cape Freels Station

Trap Wire - Sufficient to construct 4-3 funnel traps and 2-2 funnel traps. However, 20% needs to be replaced.

6 burlap bags
6 banding Station Signs - mounted on posts
8 pieces of netting
2 bait buckets
3 bags of cracked corn - 40 kg. each
2 dip nets

Returned to Sackville - CWS

Items	Number
pliers - needle nose	2
pliers - spreaders	1
pliers - wire cutters	1
banding notebooks	X
schedules	X
pencils and pens	X
banding manual	X

Bands

#4 624-13746-13800
664-39402-39500
664-29201-29300

#5 865-69901-70000

#6 896-68201-68300

#7 1507-55223-55300
1507-55301-55400
1507-55401-55500
1507-55501-55600

#8 728-1501-15700

Conclusions and Recommendations

As numbers in Table 1 indicate, this area has much potential for bird banding. Ben Carter's Bk., which is in the same general area, seems a good prospect for another year.

Because the mass of birds that we were interested in migrated during the early part of September, and because 90 per cent of these birds could fly freely by August 1, I recommend that the operating period run from the first week in August to mid-September another year, since the birds may follow the same pattern as they did this year.

Acknowledgements

I wish to express my thanks to Michael and Walter Hefferton for their support and help throughout the duration of the project. Also a special thank-you to Marc Hefferton, crew member, who proved himself to be a reliable and worthy companion over and over again. Finally, we would like to thank the members of the CWS at Sackville, especially Myrtle, for volunteering so many ideas and so much advice that really became an asset in implementing the project.

Table 1. Age, sex, and species composition of birds banded at the Cape Freels banding station, 1989.

Species	HY		AHY		Totals
	M	F	M	F	
Black Duck	8	13	0	1	22
AM.Green-winged Teal	50	28	2	1	81
Totals	58	41	2	2	103

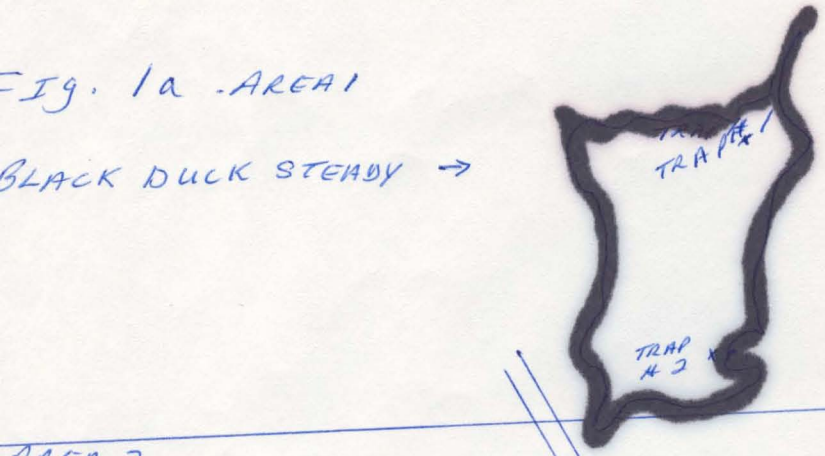
Table 2. Waterfowl observations at the Cape Freels banding station, 1989.

Species Date	Black Duck	AM. Green-W.Teal
Aug. 7-14	30	45
Aug. 15-21	75	80
Aug. 22-28	90	100
Aug. 29 - Sept. 3	145	180
Sept. 4 - 10	70	100
	20	35
Sept. 11-17	15	10
Sept. 18-22	8	10

Table 3. Trap success at the Cape Freels banding staion, 1989.

Species Trap & Location	Black Ducks (No.)	AM. Green-W.Teal (No.)	Totals
#1 Black Duck Steady	2	30	32
#2 Black Duck Steady	3	37	40
#3 Overfalls	9	8	17
#4 Overfalls	4	6	10
#5 Overfalls	4	0	4
#6 Rocky Pond	0	0	0
Totals	22	81	103

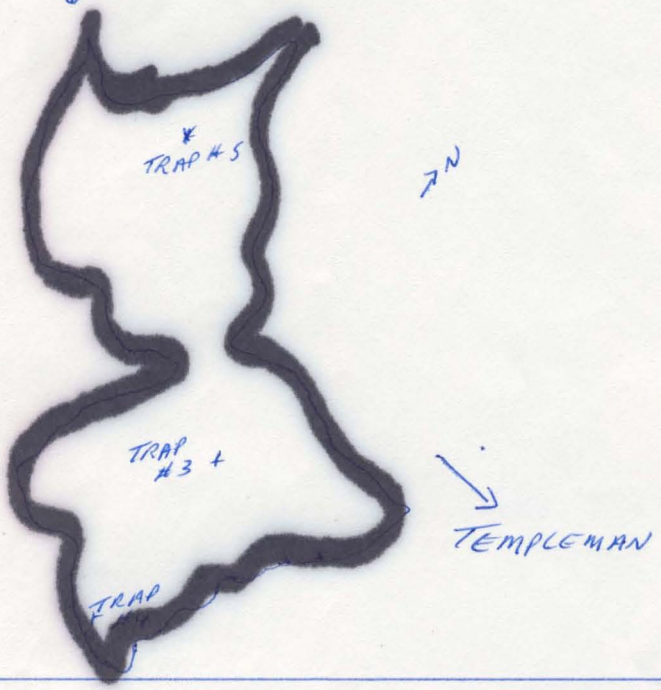
Fig. 1a - AREA 1



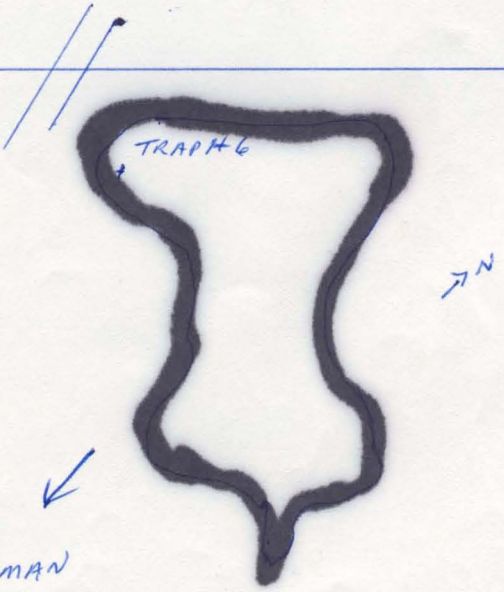
AREA 2

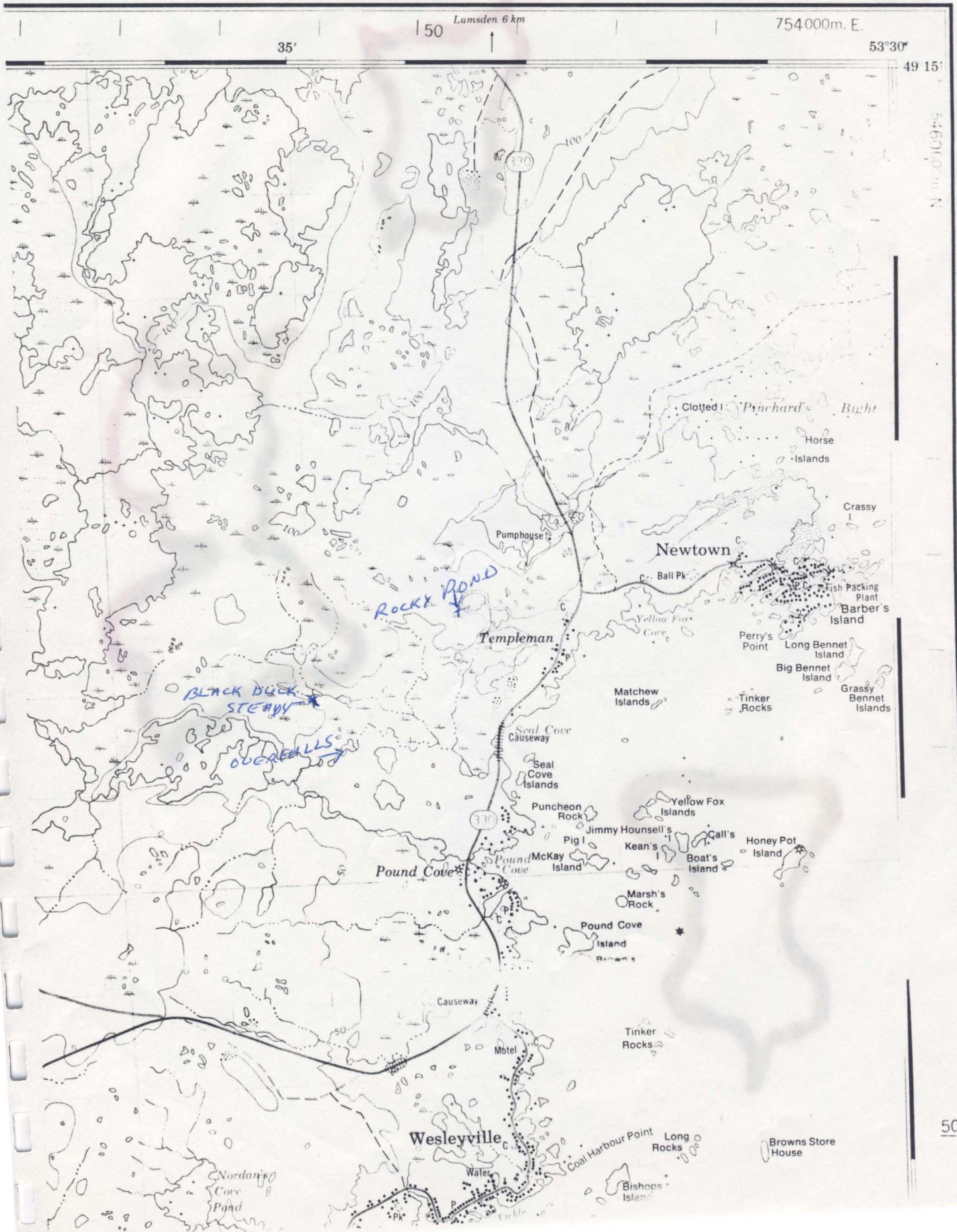
OVERFALLS

1.b



1.c. AREA 3 ROCKY POND




Lumsden 6 km
50
754000m. E.
35'
53°30'
49 15'
5460000m. N
100
330
Clotted I
Pinchard's Bight
Horse Islands
Crassy I
Pumphouse
Newtown
Ball Pk
Fish Packing Plant
Barber's Island
ROCKY POND
Templeman
Yellow Fox Cove
Perry's Point
Long Bennet Island
Big Bennet Island
Grassy Bennet Islands
BLACK DUCK STEADY
Matchew Islands
Tinker Rocks
Seal Cove Causeway
Seal Cove Islands
Puncheon Rock
Yellow Fox Islands
Jimmy Hounsell's I
Pig I
Kean's I
Call's I
Honey Pot Island
Pound Cove
McKay Island
Boat's Island
Marsh's Rock
Pound Cove Island
Causeway
Tinker Rocks
Motel
Wesleyville
Coal Harbour Point
Long Rocks
Browns Store House
Nordan's Cove Pond
Water
Bishops Island
Pk

BAIKIE LAKE
LABRADOR

Waterfowl Banding Project

Baikie Lake, Churchill Falls, Labrador

August 24 - October 4, 1989

Crew Members

Vernon D. Stotts
Andrew H. Hicks

This banding project was part of a Co-operative Waterfowl Banding Program between the Atlantic Flyway provinces and states and the federal wildlife services. It was the third year that waterfowl were banded at Baikie Lake, Labrador (Julian River a nearby site was included with this station in 1987 and 1988).

The primary objective was to band a sufficient sample of Black Ducks and Green-winged Teal inhabiting the region to calculate such factors as survival rates and distribution of recoveries. An additional objective was to test rocket-netting techniques to capture local Geese.

Description of Area

Baikie Lake (Fig. 1) lies within the Smallwood Reservoir at coordinates 53°27'N and 64°38'W. It is about 450 m above sea level with a 10 m drop into and out of the lake proper at rapids/falls in Unknown River.

Upland habitat is primarily open boreal forest dominated by black spruce (Picea mariana) with scattered balsam fir (Abies balsamea) and tamarack (Larix laricina). Forests are interspersed with string bogs. Open areas are dominated by mosses/lichens and have good crops of blueberries (Vaccinium spp.), crowberries* (Empetrum spp.), partridgeberry* (Vaccinium vitis-idaea), bunch berry* (Cornus canadensis), skunk currant* (Ribes glandulosum), and squashberry (Viburnum edule). Lake, pond, and river shores are fringed by

relatively open thickets of speckled alder (Alnus rugosa), sweet gale (Myrica gale), and willow (Salix sp.). Many islands occur, the biggest being sandy flats with expanding growth of cotton grass (Eriophorum sp.), spikerushes* (Eleocharis spp.), sedges* (Carex spp.) miscellaneous grasses* (Graminae), and fireweed (Epilobium angustifolium).

The shores have extensive beds of awlwort* (Subularia aquatica), horsetail (Equisetum sp.), and mare's-tail (Hippuris vulgaris). Shallow water has occasional growth of water stonewort (Callitriche sp.), burreed* (Sparganium sp.), and pondweed (Potamogeton natans). Those plants starred above are heavily fed on by waterfowl locally. Geese also make daily flights toward higher slopes northward presumably to feed on berries.

This region is part of the Precambrian Shield having outcrops of rocks, boulders and sands. Most aquatic bottoms, marshes/fens, and bogs are underlaid by hard sands. Work on the hydroelectric project in the last two decades has speeded erosion on Baikie Lake borders through construction of dams, roads, and utility lines. Baikie Lake lies downstream from the "Ossak Dam" and can be reached by a 1160 m trail from the stone/gravel road bordering the northern edge.

This area is subject to early frosts and snowfall with daily precipitation events of varied intensity. Between 1-29 September daily low temperatures ranged from 23°-56°F and highs from 38°-76°F. Snow occurred on 3 September and regularly after 23 September. Accumulated precipitation during that period was 8.0 cm rainfall and about 14.0 cm snowfall. Winds (up to 50 mph) were quite consistently

west to southwest with minor instances and major weather events at other compass points.

Methods

W. R. Barrow and A. H. Hicks arrived at Churchill Falls on 24 August to locate a camp site and expand the walking trail to Baikie Lake to accommodate a Yamaha 3-wheeler (used to haul heavy items). Additionally, all banding traps at Julian River were found and transported to the Baikie Lake trail and the traps cached at Baikie Lake were located. By the time V. D. Stotts arrived on 31 August a cabin (Rueben Perry's) had been rented at "Ossak Dam", 22 km west of the Baikie trail. Some bait had also been stored at trail head.

W. R. Barrow left Churchill Falls on 4 September. Stotts and Hicks stored equipment in Churchill Falls on 2 October and departed on 4 October.

Reconnaissance and baiting began on 1 September with corn (540 kg. used) being used at cannon net sites for geese and barley (360 kg used) for duck sites. Later some corn was mixed with barley for ducks, because the geese were on most sites anyway and because corn seemed to be a better bait for Black Ducks.

The first lily-pad-shaped traps were set on 8 September and eventually 16 traps measuring about 25' in circumference and 4' or 2' high with slit entrances were erected. One mini-size corral trap was briefly tested and soon converted to a lily-pad structure. Traps were held in place by 2 steel conduits (3/4" diam.) and 1 heavy, wooden bag-stake. Tops were of black garden netting and green nylon netting. Ducks were retrieved with a long-handled, fine-mesh,

deep-bag dipnet, placed in burlap bags to speed drying and reduce stress, and taken to neutral locations (to band away from baited sites).

All traps were moved 1-3 times (10'-200') primarily to reduce repeating birds and to move away from deep holes dug by Canada Geese. A single strand of 11 ga. steel wire (6'L) formed in a "U" or "V" at trap entrances (6" above water level) reduced some intrusions by Canada Geese.

The initial rocket-net site was located several hundred meters from water and had a vulnerable observation site. Thereafter, sites (2) were set at water's edge with a good concealed observation site nearby that could be approached unseen.

Traps were closed once for 2 days. The first 6 traps were permanently closed and stored nearby in willow-alder thickets on 25 September and the last 10 on 27 September.

Standard U.S. FWS bands were applied to legs of ducks and geese. All Canada Geese handled also had the accepted black-on-yellow, Atlantic Flyway neck collar applied (letters and members reading up); culmen and tarsal lengths were measured on adults. Blood smears for parasites were made from a small puncture of the tarsal vein on a sample of ducks.

Results

A total of 294 ducks and 5 geese was banded from self-catching traps (Table 1). Additionally, 24 Canada Geese were banded from 2 net-shots. A total of 210 duck-trap days indicated an

average rate of 1.42 birds per trap-day, a rate equal or higher than the average near Parke Lake, Labrador from 1984-87.

The age ratio of Black Ducks was 62.7% young. In Green-winged Teal it was 90.0%. No locals of any species were noted.

Five retraps were captured: 2 Black Ducks (adult), 2 Green-winged Teal (1 immature), and 1 Canada Goose (ASY M).

Birds repeating in traps became a problem by the tenth day of banding (about 18 September) (Table 2). It was quickly apparent that ducks, especially teal and Pintail, were moving through the lake early in September. By about September 20, similar to the area near Parke Lake, new birds dwindled rapidly and repeats became a problem with a danger of injury to themselves.

The Canada Goose population appeared to be essentially local with flocking tendencies becoming apparent after September 20. Observations at net-shots on 17 and 21 September indicated high territorial antagonism between family groups approaching/following baitlines. This made possibilities of catching large numbers of birds unlikely in each net-shot.

The area was relatively predator-free. One nylon net top was slashed in several places but no duck mortality occurred. One Green-winged Teal was drowned in a trap entrance.

Regular, almost daily counts of birds (birds in traps excluded) were made on Baikie Lake (Table 3). Major duck species peaked prior to 7 September; Black Ducks at 81 birds on 3 September, Green-winged Teal at 123 on 5 September, and Pintails at 91 on 6 September. Goldeneyes and Red-breasted Mergansers had relatively low,

stable populations. Canada Geese, generally, had a stable, local population of 300 with double that number late in September.

It is believed that Bald Eagles have a nest in an easterly peninsula at Baikie Lake. Ospreys tend to nest only on powerline structures short distances away from the lake. Other raptors and loons are also shown (Table 3).

Locations of traps/rocket-net sites are plotted on a rough map (Figure 2) and trap-catch data are shown for each site (Table 4). Trap sites 1, 2, 6 and 12 were traps exposed to high winds and were notably catchers of Black Ducks. Green-winged Teal and Pintail tended to catch best in secluded, enclosed waters even though the highest numbers were seen on exposed shores. North Island's East Bay had consistent, high numbers of Green-winged Teal, but too many geese prevented good duck-use of traps.

The culmen and tarsi were measured on 8 adult Canada Geese (Table 5). In the third year of sampling ducks in Labrador for blood parasites, 87 smears were made (Table 6); these slides were scanned by Dr. Gordon Bennett at Memorial University in St. John's, Newfoundland. Blood parasite infection was not as widespread or intense as in the birds screened near Parke Lake in 1986 and 1987 (Table 7). If birds are banded in sufficient numbers at Baikie Lake, it will be important to compare recovery information from the 2 stations.

As indicated earlier all wings were checked for soft primaries. Only 1 immature bird (Black Duck) had a green primary. Several adult female Black Ducks had 1-5 soft primaries (noted up through 25 September).

Checks of webs on ducks for "pinto-pigmentation" again showed it to be a trait of adult Black Ducks in this region (4 of 30 adult males and 9 of 29 adult females). Also, 1 each HY female Green-winged Teal and Pintail showed pinto, plus 1 adult male Canada Goose.

Water levels decreased about 18-20 centimeters between early and late September, creating minor problems in canoe navigation. Late in September, however, daily snow and rain resulted in total recovery of lost water levels.

A 3-year summary of waterfowl banding, results of small mammal trapping in 1989, and our equipment inventory are shown in Appendices I-III.

Recommendations

1. This station should be continued until a suitable sample of Black Ducks and Green-winged Teal are banded for proper analysis of critical parameters. Catches of teal can be increased by initiating captures no later than 25 August to take advantage of early peaks in this species. Pintail, and possibly Black Duck, captures would also increase by earlier field activities.

2. Three weeks of intensive duck banding efforts will always bring repeating birds to problem levels, apparently anywhere in Labrador. Therefore, by 15 September duck banding should cease, or at least take a recess of several days, while efforts continue on Canada Geese.

3. Because Canada Geese are a problem at duck traps and because water levels are relatively stable, non-slit funnels, strand wires, and other goose-feeding deterrents should be tried. A 75:25 barley: corn mix, probably is the best overall duck mix, but it is also more attractive to geese than barley alone.

4. The South Sand Island should be strictly a goose-catching area. Self-catch traps on the extreme northeastern and southeastern points with slit mouths designed for geese will catch immature birds (only), possibly an average of 4-6/day. The 10'W X 10'L X 4'H panel traps used at Tinker Harbour and Indian House Lake would work well. Birds will catch best in water sets, but land traps may prove productive.

5. At least 4 rocket-net sites should be used: 1 at East Gut on the North Sand Island and the rest on the south Sand Island at mid-north opposite North Island's South Gut, at the southeast edge, and at a shoreline site midway between these two sites.

6. A standard 30'W X 70'L rocket-net identical to this year's is better than shorter models. Because of antagonism between family groups an even longer net would be better. The 70' net will allow 4 families to follow mini-strings of corn to the net-line with minor territorialism.

7. Three dummy nets of similar color and length to the rocket-net are needed to place at the 3 rocket-net sites not being primed to shoot. Using a rotation method, it should be possible to make at least 2 shots at each site during the season with an average catch of 15-20 birds each. In conjunction with self-catch sites, it should be possible to catch about 150 geese between 25 August and 20 September.

8. Unknown River runs deep and wide without, we believe, any rocks between the 2 big sand islands. There is a dogleg with about 3/4 mile of good water at each end of that bend. This is sufficient to take Otter, Beaver, and Cessna 185-206 float-planes without problems. Caching of bait, extra wire, and rocket-nets can make this banding station more efficient.

9. Bait required for this station under the above guidelines is 12 40-kg bags of barley (7 stored at Churchill now) and 20-25 40-kg bags of corn (2 stored).

10. The Yamaha 3-wheeler was a life-saver to haul bait, canoe, net equipment, and other heavy items to trail end. It is, however, hazardous to operate. A 4-wheeler would be much safer.

11. An FM radio suitable for local weather forecasts is a necessity for efficient operation of jet-nets.

12. See Appendix III.

Acknowledgements

Myrtle Bateman and Bill Barrow supervised this operation. Bill Barrow made it possible to use the 3-wheeler by providing a chainsaw and supervising trail-cutting to Baikie Lake. He also contacted CFLCo linemen about cabins whereupon he was able to rent Rueben Perry's 12' X 18' "furnished" cabin. Several CFLCo personnel (Carew, Thorne, Stockley, Pinkson, Pittman, Clarke, and Murphy) helped immensely with shipping, storage, laundry, and shower problems. See 1987 and 1988 reports for good local contacts.

The 17' square-end Grumman canoe with shiftable, tiltable, 4.5 Johnson outboard motor was the ideal means of water transportation for this shallow, rocky lake.

(Submitted 1 December 1989)

Figure 1. Map of Baikie Lake in relation to Churchill Falls.

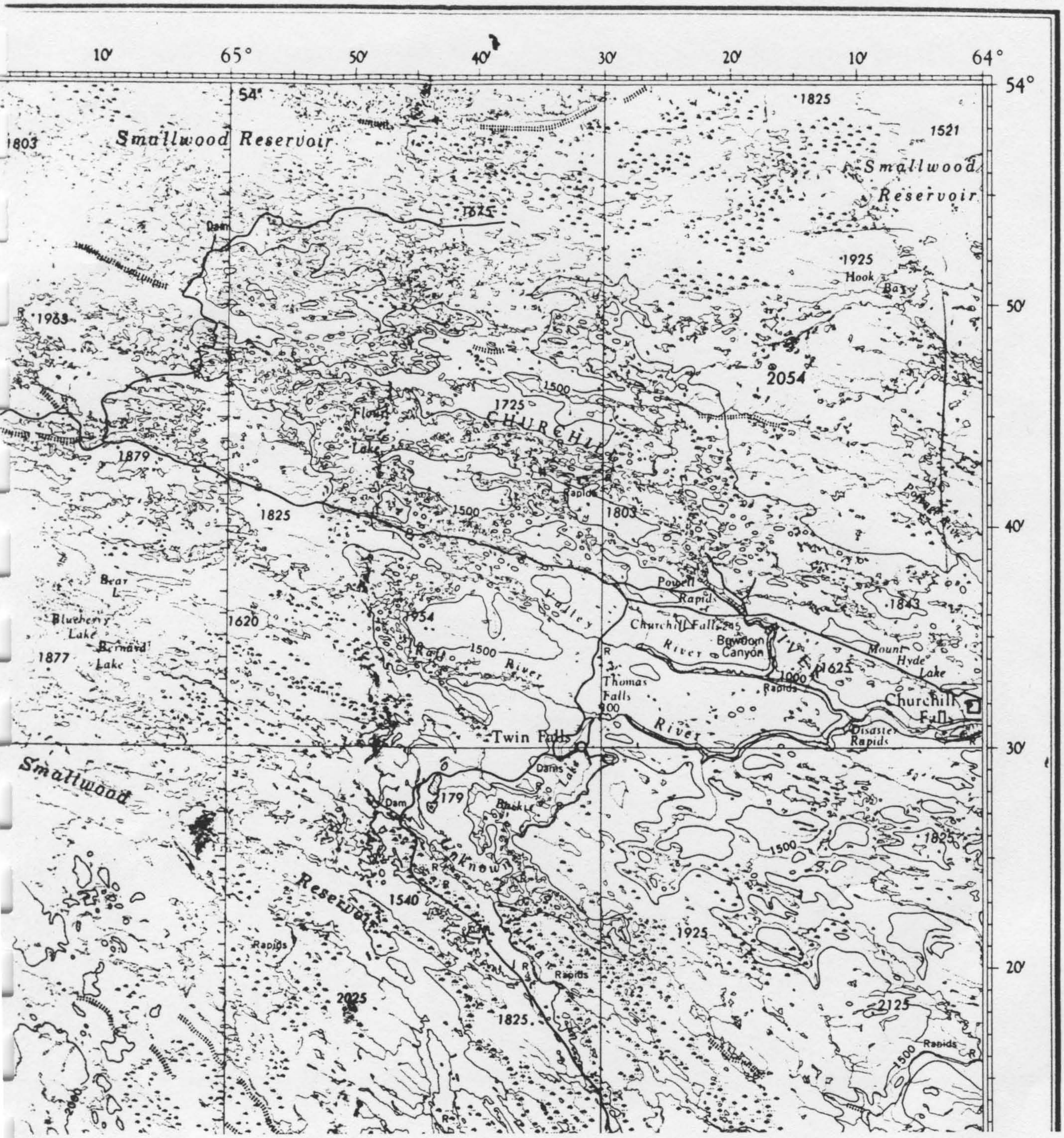

10'
65°
50'
40'
30'
20'
10'
64°
54°
50'
40'
30'
20'
Smallwood Reservoir
Smallwood Reservoir
Smallwood
Reservoir
1803
1825
1521
1925
Hook Bay
2054
Dam
1725
1500
CHURCHILL
RIVER
Flour Lake
1879
1825
1500
Rapids
1803
Powell Rapids
Bear L.
Blueberry Lake
Bernard Lake
1877
1620
954
Valley
Churchill Falls
Bowdoin Canyon
Mount Hyde Lake
1843
1625
Rattle
River
1500
Thomas Falls
River
Rapids
Churchill Falls
Disaster Rapids
Twin Falls
Dams
Dam
179
Unknown
Reservoir
1540
1500
1825
1925
Rapids
Rapids
2025
1825
2125
Rapids
1500

Table 1. Sex, age, and species of waterfowl banded at Baikie Lake, 1989

Species	Immature[a]		Adult[b]		Total
	M	F	M	F	
Mallard	1	3		1	5
Mallard & Black Duck			1		1
Black Duck	44	52	30	27	153
Green-winged Teal	35	46	1	8	90
Pintail	25	17		3	45
Canada Goose	5	13	6	5	29
Total					323

[a] no locals were noted.

[b] no SY birds were noted.

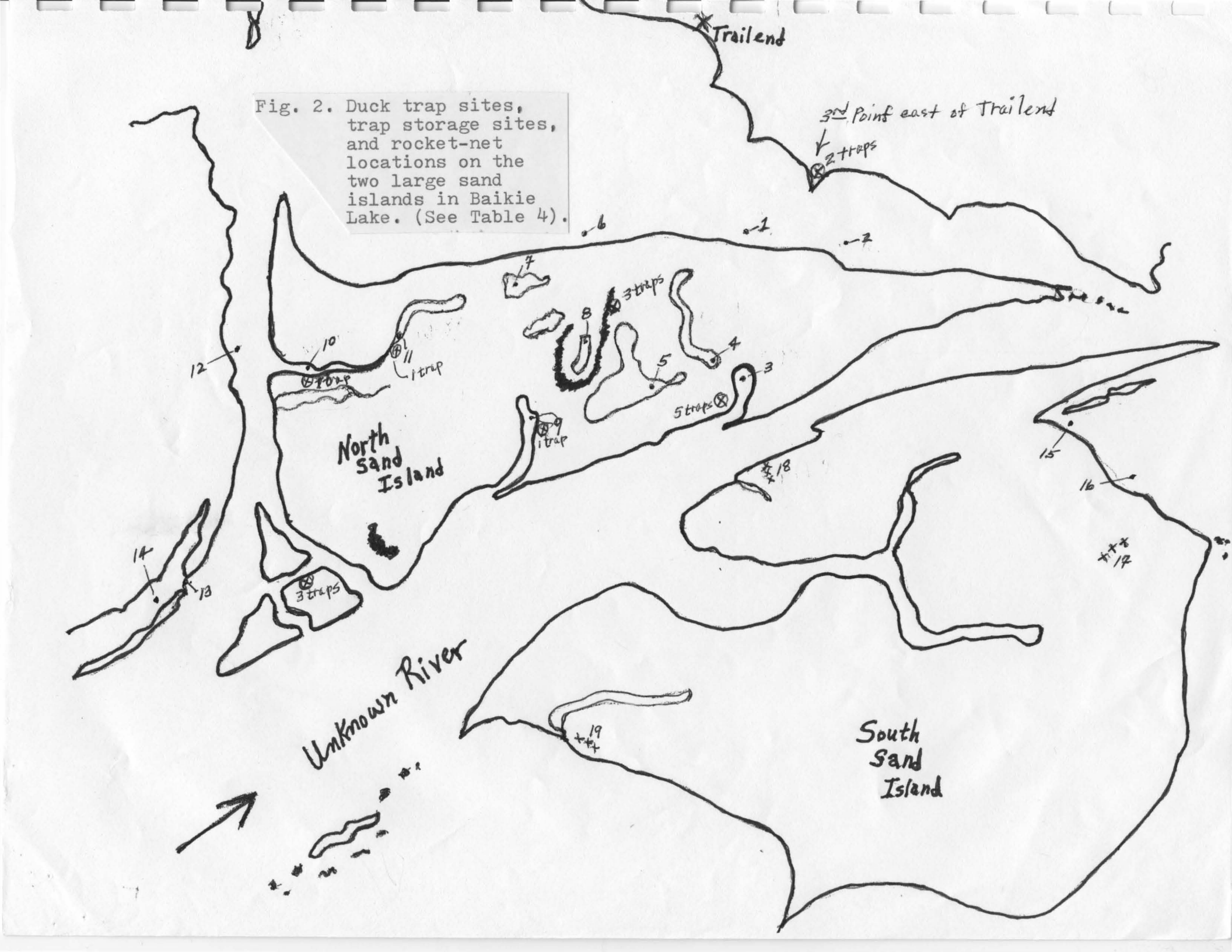


Fig. 2. Duck trap sites, trap storage sites, and rocket-net locations on the two large sand islands in Baikie Lake. (See Table 4).

Table 2. Total daily duck catch, Baikie Lake, 1989.

Date	New Birds	New Retraps	Repeat Birds	Dead Birds	Total Birds	% New Bandings
9/8	12				12	100.0
9/9	9		1		10	90.0
9/10	21	1	1		23	91.3
9/11	16		3		19	84.2
9/12	22	1	10		33	66.6
9/13	24		8		32	75.0
9/14	13		7		20	65.0
9/15	17		18		35	48.6
Wk. 1	134	2	48		184	73.9
9/16	24*		23	1	48	50.0
9/17	22*		26		48	45.8
9/18	15*	1	23		39	38.5
9/19	Traps not functional					
9/20	Traps being reset					
9/21	58*	1	46		105	55.2
9/22	18*	1	32		51	35.3
Wk. 2	137	3	150	1	291	47.1
9/23	18		43		61	29.5
9/24	11*		30		41	26.8
9/25	10*		20		30	33.3
9/26	8		30		38	21.1
9/27	5	1	28		34	14.7
Wk. 3	52	1	151			25.5

*Geese were caught (none repeated).

Table 3. Waterfowl, raptor, and loon observations, Baikie Lake, Sept. 1989

	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	20	21	22	23	24	25
Black Duck		12	81	77	52	52	49	6	17	16	6	50	30	15	6	36	40	13	7	16	29	6	13
G-W. Teal	40	20	77	55	123	105	95	91	47	55	50	22	47	4	42	41	12	62	21	7	6	15	4
N. Pintail	2	21	28	73	14	91	44	29	24	7	6	16	4	24	9	12	1	10			5		6
N. Shoveler	3	3	3																				
Scaup			4		2												18		1		2	14	
Goldeneye		2	3	2	2	2	3		5	15	5	6	26	10	6	8	9	27	11	10	6	4	6
B. Scoter															1	1	1						
S. Scoter									2				2				12						
R-b.Merganser	8			7	24			8		11	12		29	1	1	5	15	18	27	2			8
Canada Goose	300	336	334	17	437	293	344	216	311	164	475	352	126	415	81	177	371	495	140	215	128	475	396
Goshawk																		1					
Harrier			3		2	2						1								1			
R-l. Hawk				1			1		1									1					
Bald Eagle			A																I				
Osprey	2				1	1					1	1	1					1		1		1	
Merlin																	1						2
Peregrine																							
S-e. Owl															1								
Common Loon	1		3							6				1		2	1	2					

Sept. 26	Sept. 27
Canada Geese – 650	370
Black Duck – 10	5
Green-w Teal – 27	4
Golden eye – 5	4
Peregrine – 1	–
Merlin – 1	1
Scaup – –	14
Osprey – –	1

Table 4. Individual trap catches (new birds) at Baikie Lake banding station, 1989

Trap Name/Map No.[a]	Black Duck	G-W Teal	Pintail	Mallard	Canada Goose	Mallard x Blk D	Total
North Island							
N. Shore (1)	13		7				20
NE. Shore (2)	26	3	5				34
S. Gut (3)	18	5	1				25
E. Oxbow (4)	16	19					35
Big Pond (5)	20		8				28
NW. Shore (6)	11	1				1	13
Small Pond (7)	2	10	14				26
Woods Pond (8)		11	1				12
SW. Gut (9)	18	17	3	1			39
W. Gut (10)	7	4	1		4		16
W. Oxbow (11)		15					15
W. Cutthru (12)	12		2				14
Tri-Island							
Tall (13)	6	6		3	1		16
Short (14)							0
South Island							
E. Bay Tall (15)	2		2				4
E. Bay Short (16)	2		1				3
E. Jet-Net (17)					9		9
Mid-N. Jet-Net (18)					15		15
W. Jet-Net (19)							0

[a]See Fig. 2

Table 5. Culmen and tarsal lengths (mm) of adult Canada Geese banded at Baikie Lake, 1989.[a]

Sex	Culmen	Tarsus
Male No.		
1	52.85	88.15
2	53.74	87.01
3	56.45	90.50
4	59.50	94.25
5	59.96	96.50
Female No.		
1	55.20	88.60
2	51.00	81.25
3	50.70	81.50

[a]Calipers were unavailable for first net-shot.

Table 6. Blood smears made from ducks captured at Baikie Lake, 1989.

	Mallard	Black Duck	G-W Teal	Pintail
HYM		11	14	8
HYF	1	16	11	3
AHYM		9		
AHYF		6	5	3
Total	1	42	30	14

Table 7. Blood parasites noted from blood smears made from ducks at Baikie Lake, 1989[a]

Species	Age	N	Leucocytozoon simondi	Haemoproteus mettionis	Micro-filaria	No Parasites noted
Mallard	HY	1				1
Black Duck	HY	27	11			16
	AHY[b]	15	5	2		9
G-w. Teal	HY	25	17	1		7
	AHY	5	1		1	3
N. Pintail	HY	11	5			6
	AHY	3		1		2

[a] Blood smears read by Gordon Bennett, Memorial university.

[b] One female with both parasites.

Appendix I. Summary of waterfowl banded near Churchill Falls, 1987-89[a]

Species	Year	Hatch Year M	Hatch Year F	After Hatch Year M	After Hatch Year F	Total	Retrap M	Retrap F
Mallard	1989	1	3		1	5		
Mal x Black	1989			1		1		
Black Duck	1988	12	6	1	4	23		
	1989	44	52	30	27	153		2
G-W Teal	1987	14	38		3	55		
	1988	2	18		3	23		
	1989	35	46	1	8	90	1	2
N. Pintail	1988	1				1		
	1989	25	17		3	45		
Canada Goose	1989	5	13	6	5	29	1	

[a].Trap stations at Baikie Lake were operated all 3 years and at Julian River in 1987-88.

Appendix II. Results of small mammal trapping at Ossokmanuren and Baikie Lakes, 1989

Line No.	Date	Basic Habitat	Red-back Vole	Meadow Vole	Masked Shrew	Total
1A	Sept. 6	Black spruce 30% shoreline	13	0	0	13
1B	Sept. 7	"	9	0	0	9
1C	Sept. 8	"	7	0	0	7
2A	Sept. 10	Black spruce 70% cover[a]	5	0	0	5
2B	Sept. 11	"	8	0	0	8
2C	Sept. 12	"	5	0	0	5
3A	Sept. 15	Rockpit edge Bl spruce 10%	0	3	0	3
3B	Sept. 16	"	1	2	0	3
3C	Sept. 17	"	3	2	3	8
4A	Sept. 21	Baikie L Shoreline-Salix Myrica	0	4	0	4
4B	Sept. 22	"	0	2	1	3
4C	Sept. 23	"	0	4	3	7
5A	Sept. 29	Black spruce 80% swamp brook	1	4	0	5
5B	Sept. 30	"	5	0	1	6
5C	Oct. 1	"	6	1	1	8
Total						85

[a]. Location of melanistic Red-back Voles.

Appendix III. Inventory of equipment used, stored, and/or freighted to Sackville

Stored in Old Tire Shop

7 Bags barley
2 Bags corn
1 17' square-end canoe
21 Burlap bags (7 small, 10 medium, 4 large)
1 Yamaha 3-wheeler (ATC 200E Shaft #24W112281 on 2 wheel trailer under yellow tarp)
1 Long handled dipnet

Stored at Rueben Perry Cobin

1 45 gal. drum (blue & gray, texaco kerosene label)

Stored in Truck

1 Ford truck/cap (#ZF7CF10 FOBCA87710)
1 4.5 Johnson outboard motor
1 3 gal. OBM gas tank
1 Anchor & short line
2 Propellors
1 Bailer
2 Life vests
1 FLoat coat
4 Paddles (1 found at Baikie)
4 Plastic bait buckets (no tops)
1 Hillary survival tent & extra poles
9 Carry-lite black duck & mallard decoys
1 Orange tarp (bad shape)
1 Black tarp (bad shape)
1 White toolbox (OBM tools)
1 Red toolbox (general tools)
1 Red toolbox (nails/screws)
3 Dip nets
4 4 liter pails (for cameras)
1 yellow rain suit
1 2 gal. gas can
3 5 gal. gas can
1 Round mouthed shovel (salvaged at dump)
1 Camp box (2 lanterns, 2 burner stove, cooking & eating utensils, mis. items, 2 5-gal. water cans)
1 Aluminum box (Hatchet Bucksaw, 2 collapsible water jugs, misc. oils, 288 slides & boxes)
54 Rodent traps (25 Victor, 29 museum special)
1 Barrel fuel pump
2 Gas funnels (1 pc fine-mesh filter)
1 Bag of mixed netting
1 Axe
1 Milk crate

Shipped/took to Sackville

1 70' x 30' cannon net
1 50 shot blasting machine
1 Ammeter
5 Jet cannons with screw clevises
1 Spool filled with 16 ga. electrical wire
2 Wire blasting harnesses
1 pr. vinyl gloves (to handle oily/rusty cannons)
3 pr. size 9 chest waders (1 new)

Stored at Baikie L.

7 4-ft. 1 entrance traps
9 2-ft. 1 entrance traps (see Fig. 2)

Needed for Future

1 Good can opener
1 8' x 10' tarp with extra grommets for foul weather lean-to
1 Slip-joint banding pliers
1 Tire pressure gauge
1 Windshield scraper
1 FM portable radio with exterior aerial
50' 1/4" rope
500' Hard-finish cotton cord
1 Roll goose trap wire (14 ga. 4'H x 100'L, 2" x 4" mesh)
2 pairs insulated rubber gloves
1 Lack of truck power needs help
1 Repair of trike's leaky front wheel
3 Dummy rocket nets (green, 1 1/2" bar, waste pcs.)
1 Good water-tight 4-gal. plastic pail with cover (for bands, tools, field books)
30 Sheets water-resistant note paper & banding field forms
6 "Baited Area" signs +++ trap top netting (1"- 1 1/2 bar mesh)

CWS AIRBOAT

Waterfowl Banding Project

CWS Airboat

Crew Member

W. R. Barrow

Introduction

Fifteen marshes were nightlighted throughout New Brunswick, Prince Edward Island and Nova Scotia during the 1989 field season. Similar to 1988 most work coincided with several priority Black Duck projects. Extensive modifications to the boat and trailer unit and the purchase of a portable airdrive unit were highlights for this year's nightlighting program.

Results

A total of 941 birds and 12 species of waterfowl was banded in 1989. Black Duck, Blue-winged Teal, Green-winged Teal and Ring-necked Duck continue to be the most important numerically with respective percentages of 22, 29, 17 and 15. The grand total (941) was slightly higher than the previous three year average (692) however substantially lower than our most productive session in 1972 when 2398 birds were banded. Seven nights were worked in oligotrophic areas of southwestern New Brunswick where a nightly average of four birds was less than the 45 birds per night average on the more productive areas of the Atlantic Region. The number of waterfowl banded, age and sex breakdown and banding location are presented in Tables I and II.

Discussion

The airboat crew contributed significantly to several studies throughout the Atlantic Region in 1989. The airboat was worked a total of 20 nights and 46 operating hours. In addition to banding, the boat was used during Green Wing Day sponsored by Ducks Unlimited, Amherst and for searching several marshes in Nova Scotia and Prince Edward Island for crippled, dead or lead poisoned waterfowl.

Nasal Tag Study

Black Ducks from the Antigonish Watershed were captured with the CWS Airboat and nasal tagged for the second consecutive year. Dr. Norm Seymour and Masters student Shannon MacLean have conducted extensive surveys which include breeding pair aerial surveys, nest searches, brood surveys and detailed behaviour studies. Approximately 100 Black Ducks have been nasal tagged in the salt marsh estuary system with the airboat. This marking program has provided insight into Black Duck habitat use and social relationships that influence recruitment. The impact of hunting, habitat loss/degradation and Black X Mallard hybridization are other factors considered. Intensive behaviour observations of marked birds have contributed to the known biology of this species.

(1) Resident birds may winter in the Atlantic Region but migrate the following winter

(2) First year breeding females will nest near their natal area but exhibit very poor reproductive success in that no young have yet fledged

(3) To date no young males have returned to the natal area

(4) Broods will stay together into late fall.

(5) Early pair bonding of blacks is counter-productive to hybridization

(6) Competition for prime nesting habitat contributes to brood mortality

(7) Blacks and mallards are not competitive on salt marsh habitat

(8) Productivity appears greatest on the inland freshwater marshes

(9) Coastal birds appear more susceptible to hunting mortality

(10) A productive brood rearing site close to nest areas will influence brood success and is a vital consideration in future management programs.

(11) Black Duck brood mortality, due to human disturbance, may reach 15% but appears insignificant for Mallards.

(12) Competition with mallards appears futile. Mallards are more aggressive in prime habitat selection, forced copulation or rape of Black Ducks and aggressive searches for additional mates. Despite this there are no records for successful brood production of Mallards in the study area.

(13) A "Breeding Pair Survey Window" in the Antigonish study area is suggested between 25 April and 5 May when 85% of the Black Duck breeding population is paired, or there is a tending male with the female laying eggs.

A Black Duck recovery rate of 15% for these nasal tagged birds is exceptionally high for a two year program. The hunter response is inflated somewhat due to interest in the nasal disc program and it is suggested that the total banding program (response rate) is stagnated from lack of imagination.

Black Duck Telemetry Study

CWS Research Biologist Gerry Parker was assisted by Technician John Maxwell in the third consecutive year of Black Duck telemetry work. Unlike the previous two years where the study centered around the Shepody National Wildlife Area, a zone of managed and controlled water levels, this year's work was in the Lepreau Area of southwestern New Brunswick on beaver flowages, oligotrophic lakes and acidic sphagnum ponds.

Extensive preliminary ground and aerial surveys were required to locate and identify suitable broods for transmitter work. Twenty-four blacks were captured after extensive boat and trailer modifications, changing normal nightlighting procedures, and adjusting

to different waterfowl response in what is best described as a preliminary and learning effort. The following table summarizes preliminary data for this study:

	# collars	opening day kill available birds	unretrieved birds	% hunting mortality opening day	waterfowl hunting	migration weather
Shepody NWA	103	50%	33%	80%	-	X
Lepreau Area	22	18%	12.5%	50%	-	X

The recommended 1990 transmitter study has tremendous potential with a split program including an increased Lepreau effort and a similar study at Amherst Point Migratory Bird Sanctuary.

Lead Shot Study

Investigations into the incidence of lead pellet contamination continued in 1989. During 1988, the program was a three stage effort comprising (1) bottom sampling of waterfowl marshes,

(2) measuring lead content in blood samples from local waterfowl, and (3) using waterfowl gizzards submitted by hunters for ingestion rates.

Preliminary results indicate a dramatic variation depending on marsh, substrate and hunting pressure. Within the N.S.-P.E.I. program shot densities ranged from 2.26 shot/m^2 at Wallace Bay NWA to 4.93 shot/m2 at Fullerton's Marsh, P.E.I. N.B. samples shown as percentages were as low as 0% for Germantown D and 24% for Grassy Island.

Eleven percent of the Nova Scotia Black Ducks blood samples indicated lead shot ingestion while in N.B. 8% indicated shot ingestion.

Gizzard analysis for the Nova Scotia and P.E.I. programs suggest an ingestion rate of 8% for Black Ducks and 19% for Ring-necked Ducks. In N.B. the rates for these species are 5% and 18% respectively.

In 1989, 58 ducks were collected on P.E.I., 71 at East Amherst, 5 at Wallace Bay NWA, and 100 at Shepody NWA with the airboat for blood lead analysis. Results from this survey are presently unavailable.

The airboat was used for the first time to salvage crippled, dead, or lead-poisoned waterfowl following the opening day of the hunting seasons. Carcasses collected contributed to the lead shot monitoring program. Nine species totalling twenty birds were recovered for

analysis. Three Ring-necked Ducks collected on P.E.I. were diagnosed by the Atlantic Veterinary College as being lead poisoned. These are the first documented records for incapacitation from lead poisoning in the Atlantic Region.

Recommendations

Routine maintenance and modifications are necessary. During 1989 a new teflon hull, trailer standardization, and boat repairs cost approximately $5500.00. Without those repairs continued work within the more remote areas would be impossible.

Prior to 1990 minor repairs are required for the trailer wiring, the battery connection, the electric winch and the holding cage. The purchase of new life jackets and ear protectors are necessary. Strobe lights with supports should be manufactured or purchased and a set of new trailer ramps are required.

A Canadian Wildlife Service supported airboat has contributed significantly to the Co-operative Waterfowl Banding Program for over twenty years. This program should continue in addition to support for other waterfowl research projects. The purchase of a portable air drive unit in 1989 will enhance the nightlighting effort of the 1990's.

Acknowledgements

The CWS Airboat draws heavily on volunteer help. Danny Sears, Dan Barrow, Tom Duffy and Jack Stone helped in nightlighting and crippled bird searches. Randy Hicks operated the boat two nights on P.E.I., and all of the project leaders and assistants contributed to the banding operation. Your help was appreciated.

Table 1. Age and sex breakdown of waterfowl banded with the CWS airboat - 1989

Species	Local			Hatch Year			After Hatch Year			Unk.	Total
	M	F	T	M	F	T	M	F	T		
Mallard	2	2	4	2	2	4	1	1	1	-	10
Black Duck*	53	48	101	50	33	83	7	14	21	-	205*
Blk x Mal Hyb.	2	-	2	2	-	2	-	-	-	-	4
G-w. Teal	4	9	13	53	51	104	21	25	46	-	163
B-w. Teal	29	27	56	83	76	159	24	32	56	-	271
Am. Wigeon	22	18	40	10	16	26	3	7	10	-	76
N. Shoveler	4	4	8	1	-	1	-	-	-	-	9
N. Pintail	-	-	-	3	7	10	-	-	-	-	10
Wood Duck	-	-	-	-	-	-	23	2	25	-	25
R-necked Duck	47	50	97	5	16	21	11	11	22	-	140
Gadwall	-	1	1	2	1	3	1	-	1	-	5
G. Merganser	8	8	16	-	-	-	-	-	-	-	16
H. Merganser	-	-	-	2	2	4	-	2	2	-	6
Am. Coot	-	-	-	-	-	-	-	-	-	1	1
	171	167	338	213	204	417	91	94	185	1	941

*Total includes 41 Black Ducks banded under N. Seymour's sub-permit.

Table 2. Total waterfowl banded by location - CWS Airboat 1989

N.S.	Mallard	Black Duck	BxM Hyb.	G-w Teal	B-w Teal	Am. Wig.	N. Shov.	N. Pin.	Wood Duck	R-n Duck	Gadwall	C. Merg.	H. Merg.	Am. Coot	Total
E. Amherst	9	37	2	28	98	31	1	8	5	38	4		3	1	265
Antigonish		41		18	14	2						16			91
Wallace Bay		9			11				1	10					31
PEI															
Johnsons R.		27		4	24	10	4			12					81
Whitlocks Pd.		4		18	15	2			1	7					47
Deroche Pt.		6		34	13	17		2	8	12	1				93
Mt. Stewart		15		2	8	9									34
Marie R.				1	1					2					4
Fullertons Pd.		6			2										8
N.B.															
Shepody NWA	1	33	2	58	85	5	4		10	59			2		259
Lepreau Area(s)		27											1		28
Totals	10	205	4	163	271	76	9	10	25	140	5	16	6	1	941

US AIRCRAFT

Waterfowl Banding Project

U. S. Airboat - Saint John River, N.B.

August 1 - August 23, 1989

Crew Members

Carl Ferguson, USFWS, Parker River NWR, Newburyport, MA

Robert Stovall, USFWS, Mason Neck, NWR, Woodbridge, Va.

Dan Barrow, River Philip, Nova Scotia

St. John River Waterfowl Banding Station

Sheffield, New Brunswick, 1989

PERSONNEL: Carl Ferguson, USFWS, Parker River NWR, Newburyport, MA
Robert Stovall, USFWS, Mason Neck NWR, Woodbridge, VA
Dan Barrow, River Philip, Nova Scotia

SUMMARY: The 1989 airboat crew captured and banded 768 ducks of 11 species and 1 hybrid during 31.3 hours of airboat operation from August 8 until August 23. The airboat crew operated in 18 marshes in or adjacent to the Saint John River, between the communities of Oromocto and Oak Point.

NARRATIVE: We departed Parker River NWR, Newburyport, MA on August 7, arrived late that same night at Sheffield, New Brunswick and met the Canadian airboat crew member, Dan Barrow. On August 8, we inventoried the banding equipment and made a familarization run on Grand Lake for the new crew. Due to illness, Mr. Lee Holyoke of the Green and White Cabins at Jemseg, New Brunswick, could not lodge the airboat crew this year. After 15+ years we shifted operations from Jemseg to Sheffield, New Brunswick. We began banding operations on the night of August 8.

On August 8, we made initial contact with C.W.S., Sackville, New Brunswick Department of Natural Resources in Fredericton and the Gagetown and Oromocto RCMP Detachments. We also contacted the Ducks Unlimited Office in Fredericton and several local landowners.

Water levels on the 8th were the second highest in the past seven years. After a very dry July, heavy rains occurred during the first week of August, as much as 6" during a 24 hour period. This year was the "sea trials" for the new Panther airboat.

Black ducks were down this year in about all of the natural and DU impounded marshes we worked in. The new airboat, with the polymer bottom, less weight, and increased horsepower enabled us to capture ducks in the most shallow portions on the marshes. We spent less time hung up and more time looking for ducks. Because of this and the high water, we were able to operate in more shallow areas with the new boat than with the boat we have been using the past five years. We still couldn't find large concentrations of hatching year black ducks. The best areas this year for black ducks were Upper Babbits Meadow and the newer Foshay DU project, and for the natural marshes, the Blobs portion of Portobello and the southernmost section of marshes on Grand Lake. In both Grand Lake and Portobello black ducks roosted overnight in a "hay meadow" situation, still flooded from the recent heavy rains. These four areas produced over 80 per cent of the total blacks. The 31.3 hours of operation, down 10+ from the past five year totals, reflects the mobility and ease of operation with the new airboat. We covered the same marshes and two additional ones using less airboat hours.

RECOMMENDATIONS

Operations

Continue to encourage the New Brunswick Department of Natural Resources and the Fredericton office of Ducks Unlimited to make launch sites into more DU impoundments. More DU projects should be worked in the future to maximize the number of ducks per hour banded.

Equipment

The new Panther airboat performed extremely well. The well for the propeller wash will have to be rethought; Panther Airboat Corporation is working with us on that. This boat should perform well in future banding operations in Canada. An additional bilge pump should be put in the boat. Also future airboat operators should be trained in operational and safety aspects of the airboat.

Acknowledgements

I would like to thank Myrtle Bateman, C.W.S., Pat Kehoe and Al Hanson, New Brunswick Department of Natural Resources, Fish and Wildlife Branch; Andrew McGinnis and Rob Capozi of Ducks Unlimited, Canada; landowners Thomas Gilbert and Casey Demoyne; and special thanks to George Haas, Region 5 Migratory Bird Coordinator for making the new airboat possible. It's a team effort.

A job well done for the 1989 airboat crew members, Robert and Dan; a hardworking crew.

Contacts for the St. John River, New Brunswick Waterfowl Banding Station

Canadian Wildlife Service, Myrtle Bateman, Banding Coordinator for the Atlantic Region, Environment Canada, Canadian Wildlife Service, Sackville, New Brunswick EOA 3CO, (506) 536-3025.

New Brunswick Department of Natural Resources, Fish and Wildlife Branch, Pat Kehoe, Wetlands Specialist, Box 6000, Regent Street Extension, Fredericton, New Brunswick E3R 6H6 (506) 453-2440.

Ducks Unlimited, Canada, Andrew McGinnis, Hodgson Road, Fredericton, New Brunswick (506) 458-8848.

RCMP Gagetown Detachment, Gagetown, New Brunswick (506) 488-2273.

Lodging - Riverview Motel, Jim Donovan, Sheffield, New Brunswick (506) 357-5167.

Land Owners:

Upper & Lower Babbits Meadows and round Meadow

Thomas Gilbert
R.R. #1
Oromocto, New Brunswick
E2V 2G2
(506) 357-8002

Upper Babbits & Round Meadow

Eugene Burpee
R.R. #1
Oromocto, New Brunswick
(506) 357-6079

Boyd's Marsh

Casey DeMonye

P. O. Box 150

Gagetown, New Brunswick

E0G 1V0

(506) 488-2485

Foshay Lake; 2 Ducks Unlimited Projects

Chet Campbell

C/O Tractors and Equipment

Smythe Street

Fredericton, New Brunswick

E3B 3H6

(506) 488-2860

Foshay Farm Manager: Henry Knight (506) 488-2231

Oromocto River launch site & Morrow Pond

Eugene Hanson

R.R.#3

Oromocto, New Brunswick

E3V 2G3

(506) 357-3730

Attachment 1. Equipment List for the St. John River, New Brunswick Banding Station, August, 1989.

The Panther airboat and all nightlighting equipment is stored and maintained at Parker River NWR, Northern Blvd., Newburyport, MA 01950. The refuge telephone number is (508) 465-5754. The refuge manager is John Fillio.

(1) 16' x 8' Panther Airboat/350 cubic inch GM engine
(1) 19' dual axle airboat trailer
(1) 2400 watt/120 volt Homelite generator
(1) 4-wheel drive, 1-ton truck provided by a Region 5 refuge
(3) 2 large black duck size and 1 smaller teal size holding cage
(4) capture nets
(1) 4 gallon plastic fuel container for airboat generator

Airboat Tool Box Equipment

(1) 16 pc. drive socket set (7/16" - 1 1/2") + 5/8" deep well socket
(1) 12" pipe wrench
(1) 12" crescent wrench
(2) 8" crescent wrenches
(1) 10" crescent wrench
(1) 10" vise grips
(1) 5" vise grips
(1) needle nose pliers
(2) regular pliers
(2) phillips screwdrivers, large & small
(4) regular screwdrivers, large to small
(1) claw hammer
(17) open end/box wrenches from 1 1/16 to 3/8 inches
(1) pack of medium wire connectors
(1) pack of medium eyelet wire connector ends
(1) pack of medium washers
(1) boat plug chain
(1) tube of silicon seal w/spout
(1) sparkplug socket
(2) rolls of electrical tape
(2) rolls of medium gauge electrical wire
(1) roll of medium gauge steel wire
(1) tire pressure gauge
(1) generator sparkplug
(2) airboat engine sparkplugs
(1) airboat engine thermostat w/gasket
(1) pack of assorted sizes sheet metal screws
(8) assorted sizes of screw hose clamps
(1) screw driver racket set ranging from 7/16" to 1/4" + 2" & 6" extensions
(3) lengths of rubber hoses, fuel line sizes
(2) backup plugs for truck/trailer
(*) fuses: 30 amps - 6
25 amps - 9
20 amps - 7

Airboat Box Equipment

(1) compass
(3) vise grip attachments for Wheaton Lamps
(3) spare bulbs for front capture lights - 50 amp, 500 watt
(2) lengths of rope, 1 long nylon and 1 short length manila
(4) flotation vests
(3) flotation seats/cushions
(5) sections of metal PAP
(3) quarts of engine oil
(6) spare nets
(1) torque wrench/adaptor
(4) plastic flashlights
(10) flashlight batteries
(4) pr. of ear protection
(3) construction type blinking lights
(8) 6-volt batteries for above lights
(4) bungi cords
(1) roll of pink flagging
(2) extra air filters for airboat engine
(3) funnels, 2 med. size, 1 small size
(2) tie-down straps for airboat
(1) pr. boot dryers
(1) battery charger
(2) lengths of 3/32" steel cable, 1 short & 1 long
(1) extra high pressure oil cooler hose
(1) electric winch remote control cable
(1) 45'electrical extension cord
(1) set of Wheaton lamp electrolyte filler, 2 bottles
(1) length of 1 1/2" radiator hose approx. 2 feet long
(1) caulking gun
(1) tube of silicon caulking
(1) pack of coarse sandpaper
(1) flare gun, emergency w/13 flares
(4) emergency road flares, 3-5 minutes duration
(1) grease gun
(1) grease cartridge
(1) oil filter PF24
(2) electric fuel pumps for airboat engine
(2) cans of WD-40 lubricant
(1) can of dark green spray paint
(1) roll of weather stripping
(4) pair of eye goggles/protection

Other Equipment

(3) light poles w/baskets
(1) alum. pole extension
(1) sand anchor
(1) sand anchor extension
(1) steel bar for turning sand anchor
(1) hand winch/come-along
(1) banding box stand
(1) boat anchor w/rope
(2) operator spotlights, 1-200,000 cp & 1-300,000 cp
(2) hand held spotlights
(1) complete banding box w/banding tools
(1) roll of duct tape

Table 1. Age, sex and species composition for waterfowl banded by the U.S.A. Airboat - 1989

Species	Local		Hatch year		After Hatch Year		Total
	M	F	M	F	M	F	
Mallard	9	6	2	7	4	1	29
Black Duck	23	36	59	64	2	14	198
Bl X Mall Hyb	1	1	-	-	-	-	2
Green-w. Teal	10	6	10	5	10	18	59
Blue-w. Teal	45	46	76	75	15	38	295
Am. Wigeon	35	30	5	5	10	6	91
N. Pintail	-	1	2	1	-	-	4
Wood Duck	5	10	6	12	37	6	76
N. Shoveler	-	1	2	2	-	-	5
Ring-n. Duck	-	1	-	-	1	-	2
C. Goldeneye	-	-	1	-	-	-	1
R.-b. Merganser	-	-	1	-	-	-	1
Total	128	138	164	171	79	83	763

Fig. 1

Launch Sites –

Marsh Areas Worked –

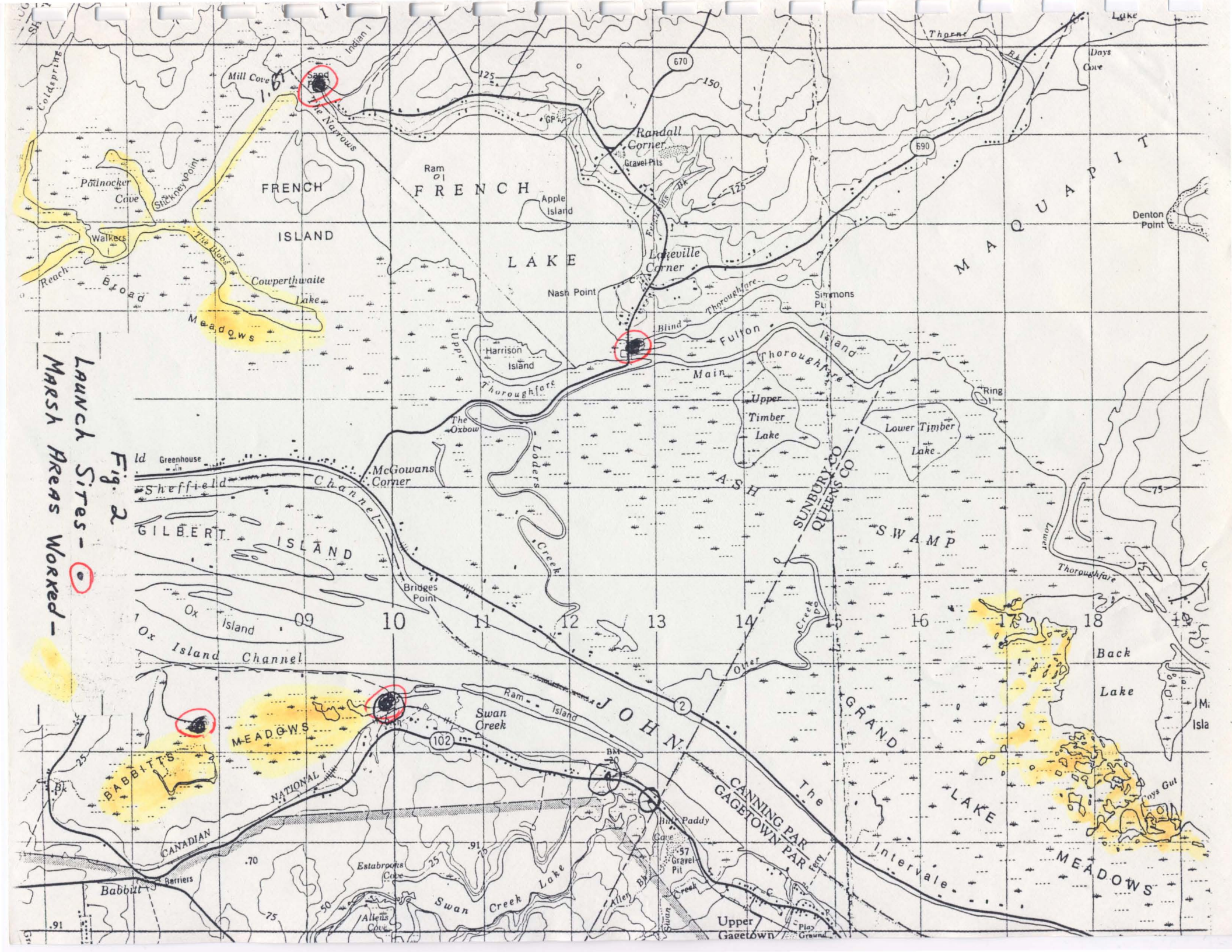


Fig. 2
Launch Sites - ⊙
Marsh Areas Worked -
FRENCH ISLAND
FRENCH LAKE
MAQUAPIT
Randall Corner
Gravel Pits
Apple Island
Denton Point
Lakeville Corner
Nash Point
Simmons Pt
Harrison Island
Fulton Island
Main Thoroughfare
Upper Thoroughfare
Blind
Upper Timber Lake
Lower Timber Lake
Ring
The Oxbow
Loders Creek
McGowans Corner
Sheffield Channel
GILBERT ISLAND
Ox Island
Ox Island Channel
Bridges Point
ASH SWAMP
SUNBURY CO
QUEENS CO
Outer Creek
Lower Thoroughfare
Back Lake
Swan Creek
Ram Island
JOHN
GRAND LAKE
MEADOWS
BABBITTS
NATIONAL
CANADIAN
CANNING PAR
GAGETOWN PAR
Ferry
The Intervale
Bird Paddy Cove
57 Gravel Pit
Upper Gagetown
Play Ground
Swan Creek Lake
Estabrooks Cove
Allens Cove
Barriers
Babbitt
Cowperthwaite Lake
Meadows
Reach
Broad
Walkers
Cove
Stickney Point
Padnocker
Coldspring
Mill Cove
Sand Pt
Indian I
The Narrows
The Blokd
Thoroughfare
Days Cove
Lake
670
590
102
2
09
10
11
12
13
14
15
16
17
18
19
125
150
75
50
25
.91
.70
BM
GP
Bk


Lake
Indian Point
Marshalls Island
CANNING P.
CAMBRIDGE PA
Purdy Shoals
Cove
LAKE
MEADOWS
Coys Gut
Intervale
Grassy Pt
Gravel Pits
JEMSEG
Coytown
Ganters Slat
RIVER
Thatch Island
Grimross Island
Trout Creek
Jemseg
Little Lake
Coys Lake
Duck Ck
Grimross Canal
Grimross Neck
GAGETOWN
Oak
Harts Lake
McAllisters Island
Dingee Pt
Deveber Pt
Dingee Marsh
Orchard
Mount
Flats
Dykeman Lake
Raft Channel
Coreys
CAMBRIDGE PARISH
GAGETOWN PARISH
Nevers
Creek
Mill Road
Gagetown
ISLAND
Huestis Island
Huestis Ck
Airfield
Hayden
Road
Outline
Cultivation
Orchards
Mill Bk
Scovil Ferry Pt
Scovil
The Jugway
BM 27
Burden
Gate
GP
Brook
102
Boyds Marsh
Upper Musquash
LAWSON PASSAGE
FOSHAY
LAKE
83
82
81
80
79
78
77
76
75
74
73
72
71
FIG. 3
Launch Sites —
Marsh Area Worked —
10'
21
22
23
24
25
25
541
551
561
571
581
591

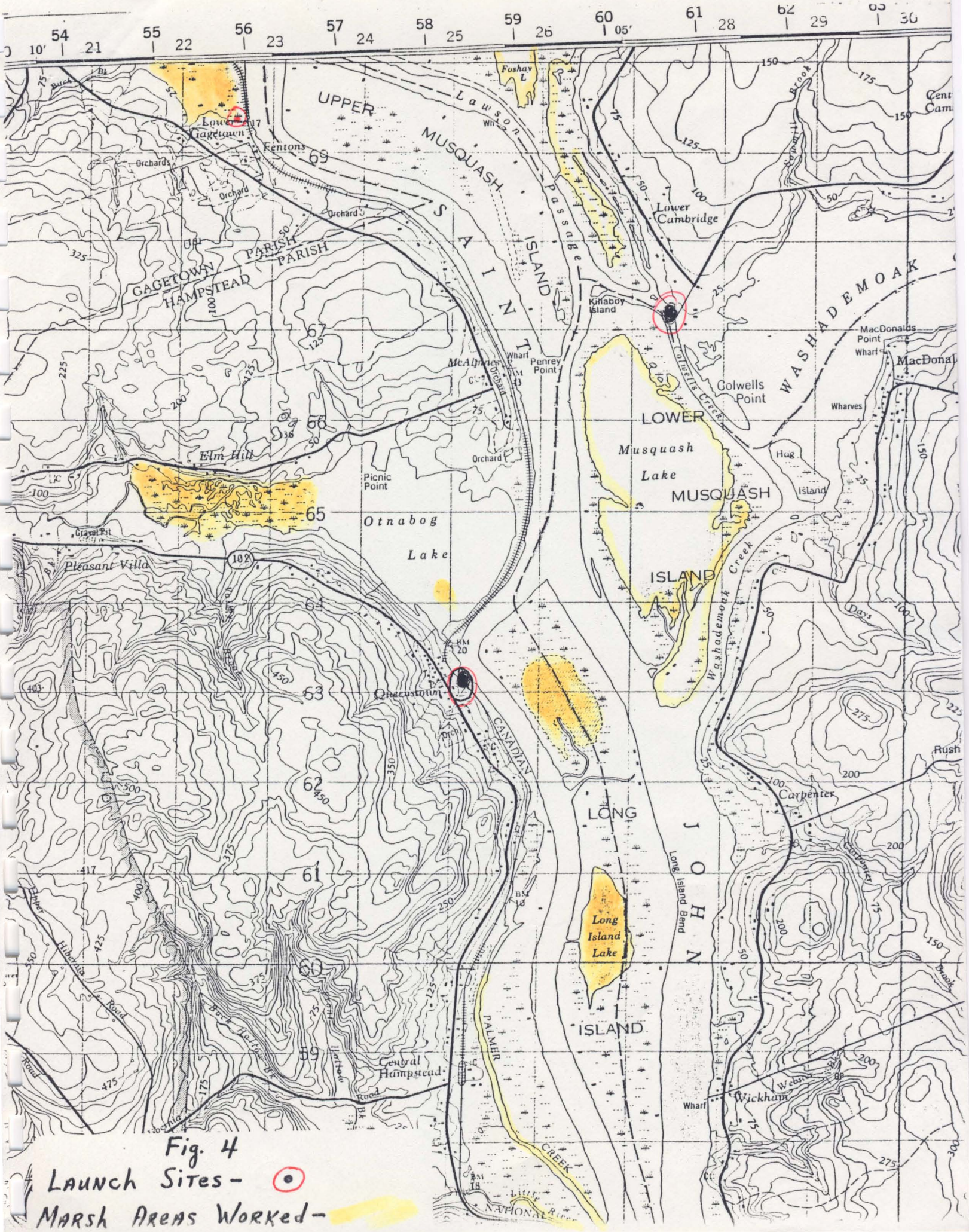


Fig. 4

LAUNCH SITES - ⊙

MARSH AREAS WORKED -

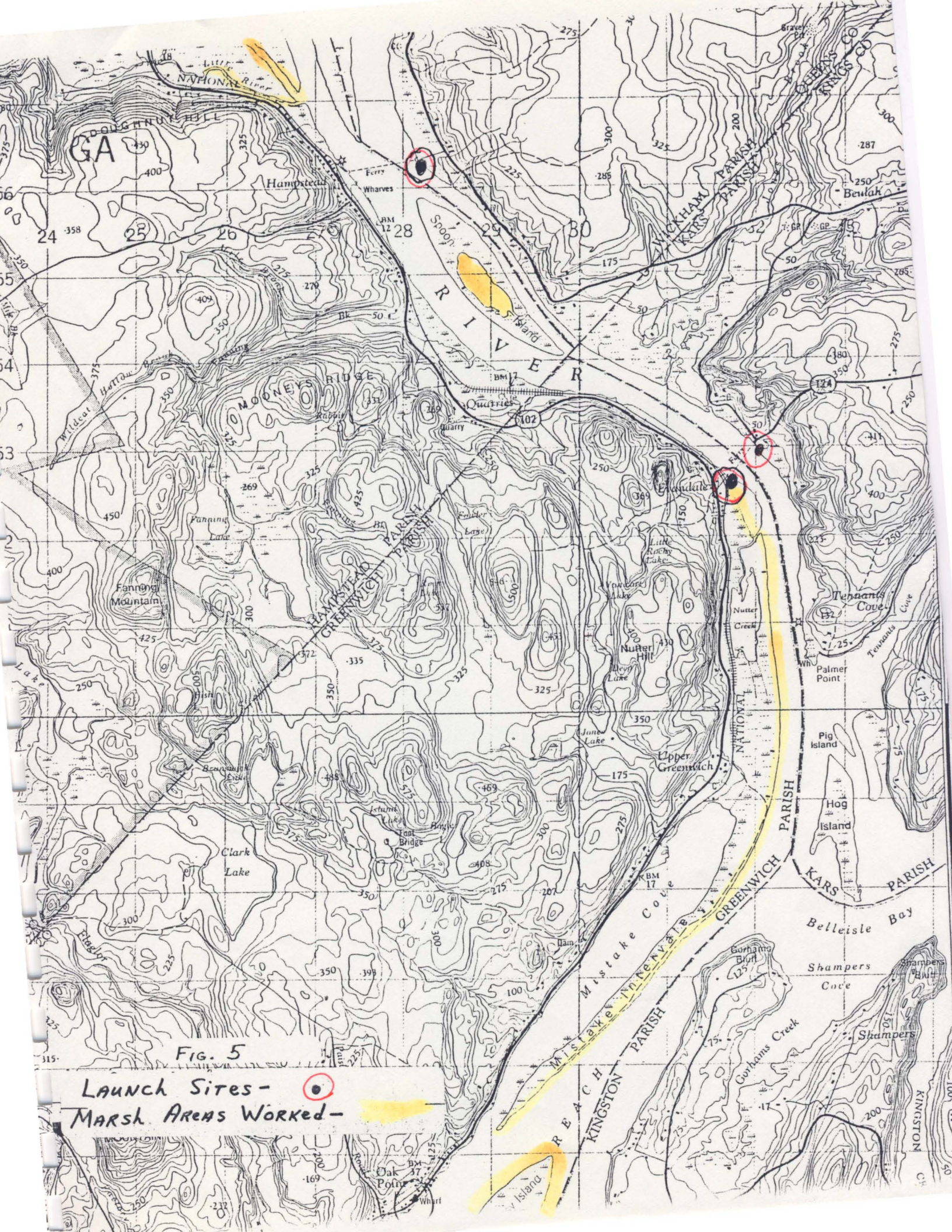


FIG. 5

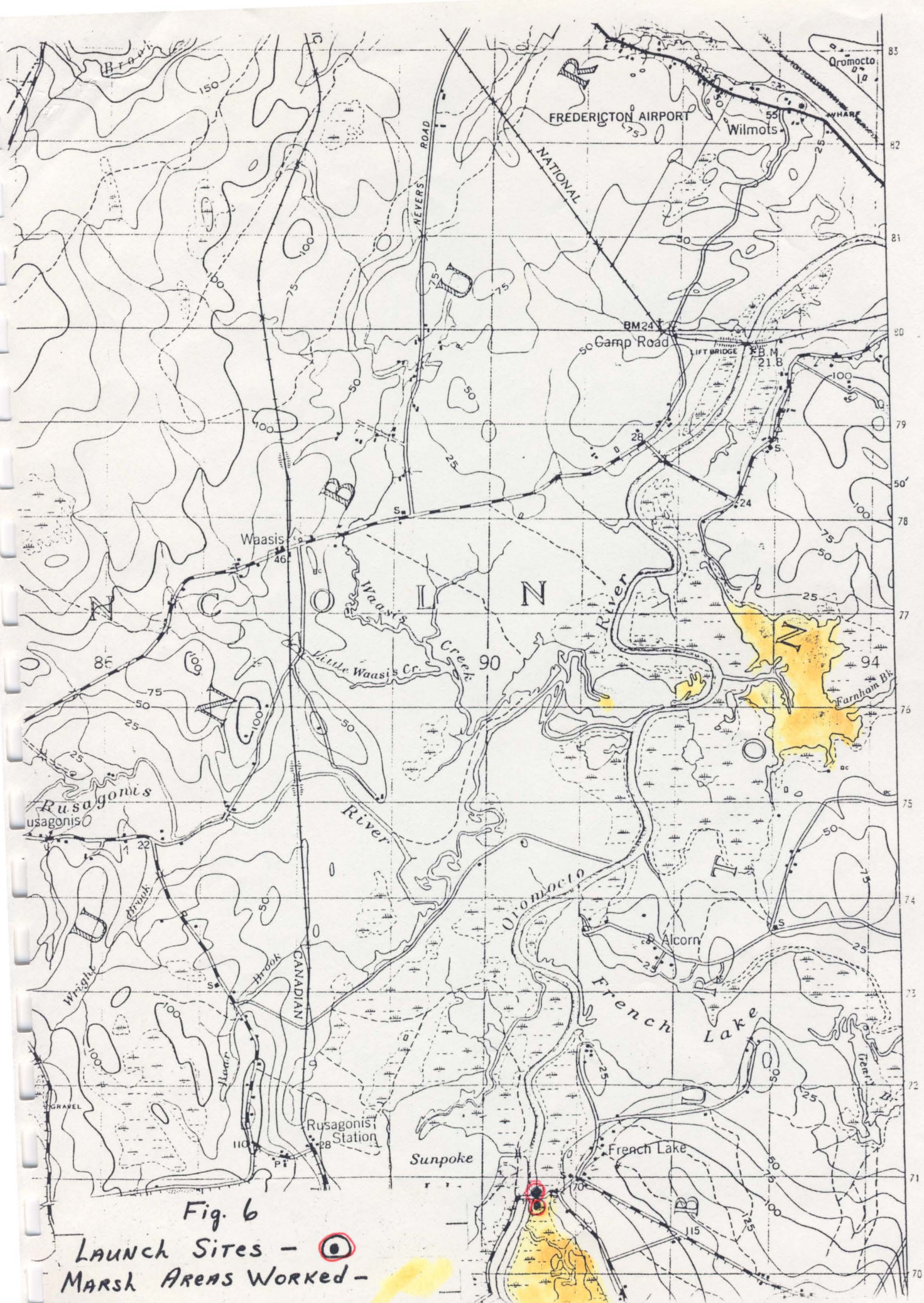


Fig. 6

LAUNCH SITES - ⊙

MARSH AREAS WORKED -

Dog Work in the Atlantic Region

1989

W. R. Barrow

Introduction

As early as 1966 wildlife workers in North America experimented with oral anesthetics. Alpha-chloralose was the primary drug and was first used on turkeys, hogs, bear and geese. It proved to be more economical than coventional capture methods; however a lengthly induction period (30 minutes) was the major disadvantage.

It was soon discovered that the induction time could be reduced by combining alpha-chloralose with the fast acting tranquilizer diazepam. A study by Crider, Stotts, and McDaniel experimented with 33 dosage combinations and captured approx. 3300 waterfowl. Time of year, condition of birds and species caused differences in physiological effects of the drugs. Further experimentation and the use of other drugs was recommended.

The N.S. Lands and Forests Wildlife Office at Kentville was the first to experiment with the diazepam alpha-chloralose combination in the Atlantic Region. Following the U.S.A. guideline 33 geese and 2 Black Ducks were captured and banded in April 1969. Small numbers of birds and aggressive feeding behaviour were limiting factors in this experiment.

In 1989 Canadian Wildlife Service personnel used a diazepam and alpha-chloralose mixture to capture and band flightless young and molting adult mallards in the town of Sackville, New Brunswick. This effort was designed to provide input for the mallard monitoring program, and the influence of semi- domesticated mallards on the wild waterfowl population.

Dogs have been used by Canadian Wildlife Service personnel since the mid 1950's and have contributed to the Co-operative Waterfowl Banding Program for nearly a decade (see dog banding reports 1981-83). In 1989 a German Wire-haired Pointer (Flint) was used to retrieve and to assist in drive trapping drugged mallards, banding local Black Ducks, capturing Black Ducks for nasal tag and telemetry studies, and responding to public inquiries. The dog was part of a crippling loss and lead shot study and was instrumental in retrieving some of the first documented lead poisoned birds in for the Atlantic Region.

Results

Three species of waterfowl totalling 144 birds were captured in this effort. Black Ducks were the most numerous and comprised 67% of ducks banded. The age and sex breakdown with totals are shown in Table 1. The initial banding efforts were mainly inventory work and conditioning for the dog. A total of 45 broods was observed because of the dog activity. Table 2 summarizes the waterfowl brood sightings.

Discussion

The behavioural aspects of Black Ducks is always interesting and varies with habitat. The defence mechanism (run & hide) for a hen Black Duck on a salt marsh and one in a boreal zone is completely different. The salt marsh broods are less mobile and use a spartina carpet to hide and mask any scent. At Lepreau in southwestern New Brunswick after long distance observation a Black Duck hen took her brood from the lake through a softwood stand, up a dry creek bed, and cutover slash, through a culvert, across a beaver dam, into a spagnum bog and onto a hardwood ridge. After catching only two birds, a co-worker remarked that these blacks must be a combination of Kentucky ridge runner, brush rabbit and nuclear sub.

The desire to hide on land appears stronger than that for aquatic habitat. I stopped on a busy highway to observe a hen Black Duck and brood at 300 yards distance. She immediately recognized a difference, left the river and took the brood into a hay field. In 1988 I walked the full length of a 250 yd pond with a hen and brood in front of me. Instead of crossing the pond to aquatic cover she led her brood out of water onto a spirea bog.

The gregarious behaviour of adult male molting Black Ducks in Labrador (CWS int. report 1982) is similar for females, with further survey implications. Two groups of molting hens were identified as broods during aerial surveys a bias probably not considered previously. Of further importance and determined by cloaca examination was that this sample contained breeding and non-breeding birds. On three occasions one at Indian Pond, Cape Breton and twice at the Ram Pasture, Sackville, N.B.

molting hen Black Ducks have been captured with a brood. This "aunt-brood relationship" is well documented for Common Eider and may be a factor in Black Duck biology.

The extremes in weather for 1988 and 1989 were apparent in dog work operations. Late snowstorms and record rain throughout the spring and summer of 1988 were reflected in the brood production. Renesting was common and flightless young Black Ducks were captured as late as 16 September. Last year(1989) should be remembered as the perfect year for nesting although the summer was hot and some habitat experienced drought conditions. No late broods were banded in 1989 because of other work commitments, however, the potential to expand dog work exists for either late nesters or successful renesting birds.

Mixed and/or family groups of waterfowl broods are common for such waterfowl as geese, mergansers, ring-necks and the teal. Feeding protection and social development are functions of this behaviour although simple mistakes do occur. Black Ducks appeared immune to this situation; however, a presumably lost duckling was adopted by a hen mallard and brood. The hen and brood were drugged and banded within the Sackville town limits.

The drug program was unique in that it was used on a resident flock composed of flightless young and adults within the Sackville, N.B. town limits. Similar to the American and Nova Scotia Lands & Forests experiments, whole corn was treated with diazepam and alpha-chloralose. Unlike those experiments, young birds would not eat whole corn. Feeding behaviour was limited to working the corn within the bill area and then discharging it. Those which swallowed some kernels displayed erratic head

movements, fluttering eye lids, occasionally falling on chest when on land or lighting dozing on the water. In a second attempt diced dry bread was fed to mallards with the same results. The only birds captured were those that ate treated bread softened by water. Treated soft bread was eaten aggressively during the third feeding attempt.

A feeding frenzy made it impossible to control doseage but no mortality was recorded. Anesthesia began immediately and although the affect lasted up to 12 hours a sudden noise or alarm call would wake most birds. Complicated capture methods necessary in the previous efforts were not required as birds were flightless and contained on small predator free ponds. A drive trap set up simplified capture efforts and is probably more practical than drugging for the molting adults but not for young birds during the staggered brood rearing season.

Recommendations

Approximately fifty broods of Mallards were produced within the Sackville town limits in 1989. A new waterfowl park will contribute to this population and further banding is required. A new but quieter airdrive unit acceptable for residential work should contribute to this program.

A dog will continue to provide input into numerous CWS programs in 1990.

Table 1 . Age, sex and species composition of waterfowl banded with dogs - 1989.

Species	Local M	Local F	After Hatch Year M	After Hatch Year F	Total
Mallard	15	10	14	6	45
Black Duck	46	43	-	8	97
N. Pintail	2	-	-	-	2
Total	63	53	14	14	144

Table 2. Brood Observations

Location	Date	Brood	Age	Number
Ram Pasture	21 June	Green-w. Teal	2 broody females	-
		Pintail	3 broody females	-
		Blue-w. Teal	1 nest, 9 eggs	-
	8 July	Black Duck	2B	-
		Black Duck	3B	-
	19 July	Black Duck	2B	-
		Black Duck	2C	-
		Blue-w. Teal	2 broody females	-
	12 Aug.	Black Duck	2A	-
		Black Duck	2C	-
Lepreau Area	14 July	Black Duck	2A	-
		Black Duck	2C	-
	16 July	Black Duck	2A	-
	22 July	Black Duck	2B	-
		Black Duck	2B	-
		Black Duck	2C	-
West Saint John	12 July	Black Duck	2B	-
		Black Duck	2B	-
Saint John lagoon	12 July	Black Duck	9 broods	-
		Wigeon	3 broods	-
Cape Jourimain	25 June	Black Duck	2 broody females	-
		Black Duck	2B	-
Tongues Is.	29 July	Black Duck	2B	-
		Pintail	1B	-
Aulac River	28 July	Pintail	3	-
Daniels Flats	12 July	Black Duck	1B	4
		Black Duck	3	4
		Black Duck	2B	6
Tantramar Dam	28 July	Black Duck	1A	9
New Horton	6 Aug	Black Duck	2A	-
		Black Duck	2A	-
		Black Duck	2B	-
		Black Duck	2B	-
Waterside	6 Aug	Black Duck	3	3 broods
		Black Duck	2A	-
		Black Duck	2C	-
Coles Island	8 Aug	Black Duck	2A	-
		Black Duck	2B	-

Atlantic Flyway Cooperative
Banding Program..1989