

Sackville Env. Can. Lib./Bib.



39 504 557

ATLANTIC FLYWAY COOPERATIVE BANDING PROGRAM

Atlantic Provinces

1990

compiled by

M. C. Bateman

W. R. Barrow

Canadian Wildlife Service

Atlantic Region

February 1991



REPORT

QL  
677.5  
A881  
1991



Environment  
Canada

Canadian Wildlife  
Service

Environnement  
Canada

Service canadien  
de la faune



CANADIAN WILDLIFE SERVICE  
P. O. BOX 1590  
SACKVILLE, N. B.  
EOA 3C0

REPORT  
QL  
677.5  
A881  
1991

COOPERATIVE BANDING PROGRAM

ATLANTIC PROVINCES

1990

Compiled by

M.C. Bateman

W.R. Barrow

Canadian Wildlife Service

Atlantic Region

February 1991



This report is a summary of the 1990 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

1990

The preseason Black Duck banding effort in the Atlantic Provinces in 1990 consisted of eight bait stations, two Canadian Wildlife Service airboat operations and a dog-banding effort (Figure 1). The 1990 pre-season Black Duck banding program was very similar to the 1989 program following the 1989 revisions to address changing information needs. Long term monitoring stations at the NB-NS Border and at Bathurst NB were operated. The bait station at Codroy Newfoundland was operated in 1990 and is planned to continue as a long term monitoring station in future years. Bait stations at Cape Freels and Baikie Lake (Churchill Falls) were again operated. Bait stations initiated in 1989 on Prince Edward Island and in Cape Breton to monitor the effects of changes in harvest regulations were continued. The Carmanville station continued to add slowly but efficiently to the sample from that area of Newfoundland. The Cape Freels station was again inefficient and will be replaced in 1991.

A total of 4764 birds was banded in 1990 (Table 1). In addition to the bait stations, airboats, and dog-banding directed toward Black Ducks, 554 Common Eider were banded at Hare Bay, Newfoundland; and 197 Canada Geese were banded and neck-collared on



Prince Edward Island, in Labrador and New Brunswick. Waterfowl were banded in all four Atlantic Provinces (Table 2); 1011 birds (21.2 percent of total) in New Brunswick, 1060 birds (22.2 percent) in Nova Scotia, 899 birds (18.9 percent) in Prince Edward Island, 1433 birds (30.1 percent) on insular Newfoundland, and 321 (6.7 percent) in Labrador.

A total 1797 black Ducks (38 percent of total waterfowl), 1029 Green-winged Teal (22 percent) and 495 Blue-winged Teal (10 percent) were banded in 1990 (Table 2). Canada Geese and Common Eiders were banded in special studies, as were some of the Black Ducks. Fewer Black Ducks were banded in 1990 than in 1989 (1937 blacks) with one more bait station in operation in 1990 than in 1989. The Bathurst bait station was again the most successful operation banding 517 Black Ducks. The Churchill Falls-Baikie Lake station was successful by Labrador standards banding 119 Black Ducks and 109 Green-winged Teal. The Black Duck:Mallard ratio (1:0:06) was similar to the 1989 ratio (1:0:07).

The number of Green-winged Teal (1029) banded in 1990 was higher than in several years: 691 were banded in 1989, 453 in 1988, 643 in 1987, 995 in 1986. In 1990, 59 percent of the green-wings was banded in Newfoundland-Labrador. The Newfoundland-Labrador bait stations normally capture more green-wings than the Maritime stations.

The number of Blue-winged Teal banded in 1990 (495) was relatively low. Sixty nine percent of Blue-wings banded were captured on Prince Edward Island.

The total cost of the banding program in 1990 was 54,392 (Table 3). The cost per Black Duck banded was \$31.24, lower than in



1989 (\$33.75 per black) but higher than in 1988 (\$27.99 per black) or 1987 (\$29.04 per black). The highest cost per Black Duck was at the PEI bait station (\$159.53 per black) which was relatively unsuccessful in 1990, and the lowest (bait station) was at Carmanville (\$10.89). The cost per Black Duck was also low at the Bathurst bait station (\$11.68 per black).

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

The goals for Black Duck banding based on numbers required to 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 a bait station in 1990 ranged from 92 percent immature at the Carmanville bait station and on the PEI airboat to 38 percent at Churchill Falls (Baikie Lake) (Table 4 to 15). The proportions of young birds banded at the NB-NS Border station and at Bathurst were lower than in 1989 (60 percent compared to 80 percent at the border and 51 percent compared to 72 percent at Bathurst).



The generally lower proportions of young Black Ducks banded may be a reflection of a cold wet spring and resulting poor production.

Eighteen banders took part in 1990 waterfowl banding in the Atlantic Region (Table 16). In addition to those listed in Table 16, six conservation officers from the Pennsylvania Game Commission participated at the Cape Breton bait station and Fred Hartman, Pennsylvania Game Commission, participated in the rocket netting on Prince Edward Island.

Table 1 - Summary of Waterfowl banded in the Atlantic Provinces by station 1990

	Mallard	Black Duck	Blk. x Mal.	G-W Teal	B-W Teal	Am. Wigeon	N. Pintail	Wood Duck	N. Shoveler	Gadwall	R-n Duck	L. Scaup	H. Merg. C. Merg.	Eider	Canada Goose	Misc.	Total
Cape Freels, Nfld	-	-	-	132	-	-	-	-	-	-	-	-	-	-	-	-	132
Carmanville, Nfld	-	184	1	185	4	-	2	-	-	-	-	-	-	-	-	-	376
Hare Bay, Nfld	-	-	-	-	-	-	-	-	-	-	-	-	-	554	-	-	554
Codroy, Nfld	2	188	3	178	-	-	-	-	-	-	-	-	-	-	-	-	371
Churchill Falls, Nfld	4	119	-	109	-	-	46	-	-	-	-	2	-	-	29	-	309
MB-NS Border Area	6	156	2	-	-	-	1	-	-	-	46	-	-	-	-	2*	213
Cape Breton, NS	9	195	4	24	8	-	3	9	-	-	14	-	-	-	-	-	266
Central PEI - bait	3	27	1	47	93	-	9	3	-	-	-	-	-	-	-	-	183
Rocket Netting PEI-NB	37	3	1	-	-	-	-	-	-	-	-	-	-	-	142	-	183
Bathurst, NB	16	517	4	167	-	-	31	-	-	-	2	-	-	-	19	-	756
Dog work	8	53	-	-	-	-	1	-	-	-	-	-	-	6	7	-	75
CWS-Panther airboat	19	258	6	137	152	56	13	35	12	32	80	-	9-8	-	-	38*	855
CWS-Dragonfly airboat	6	97	-	50	238	21	12	7	11	38	11	-	-	-	-	-	491
<b>Total**</b>	<b>110</b>	<b>1,797</b>	<b>22</b>	<b>1,029</b>	<b>495</b>	<b>77</b>	<b>118</b>	<b>54</b>	<b>23</b>	<b>70</b>	<b>153</b>	<b>2</b>	<b>9-8</b>	<b>560</b>	<b>197</b>	<b>40</b>	<b>4,764</b>

\*Misc. Birds - 25 P.-b Grebe  
15 Am. Coot

\*\*Total includes 930 birds banded under Brinson and CWS St. John's permit



Table 2 - Provincial totals and percentages for waterfowl banded in the Atlantic Region 1990

Species	New Brunswick		Nova Scotia		PEI		Newfoundland		Lab		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mallard	62	6	33	3	9	1	2	-	4	1	110	2
Black Duck	645	64	514	48	142	16	372	26	124	39	1797	38
Blk x Mal Hyb.	4	-	12	1	2	-	4	-	-	-	22	-
G-W Teal	187	18	98	9	140	16	495	35	109	34	1029	22
B-W Teal	8	-	142	13	341	38	4	-	-	-	495	10
Am Wigeon	4	-	51	5	22	2	-	-	-	-	77	2
N. Pintail	32	3	17	2	21	2	2	-	46	14	118	2
Wood Duck	15	1	27	3	12	1	-	-	-	-	54	1
R-n Duck	28	3	106	10	19	2	-	-	-	-	153	3
N. Shoveler	-	-	12	1	11	1	-	-	-	-	23	-
L. Scaup	-	-	-	-	-	-	-	-	2	-	2	-
Gadwall	1	-	31	3	38	4	-	-	-	-	70	1
H. Merganser	6	-	3	-	-	-	-	-	-	-	9	-
G. Merganser	-	-	8	-	-	-	-	-	-	-	8	-
C. Eider	-	-	6	-	-	-	554	39	-	-	560	12
Canada Goose	19	2	-	-	142	16	-	-	36	11	197	4
Misc.	-	-	40	4	-	-	-	-	-	-	40	1
<b>Totals</b>	<b>1011</b>		<b>1060</b>		<b>899</b>		<b>1433</b>		<b>321</b>		<b>4764</b>	

Table 3 - Co-operative Waterfowl Cost Summary - Atlantic Region - 1990

Station	Salaries	Bait	Food & lodging	Shipping & transport.	Equipment supplies	Total cost	# of birds	Cost birds	# of Black Ducks	Cost Black Ducks
Cape Freels Nfld	*2700.00	-	- (150.00)	*780.00	-	*3480.00 (150.00)	132	27.50	-	-
Carmanville, Nfld	*1600.00	*150.00	- (150.00)	-	*102.91	*1852.91 (150.00)	376	5.33	184	10.89
Hare Bay, Nfld-	-	-	-	-	-	-	554	-	-	-
Godroy, Nfld	*3150.00	*237.20	*1200.00 (150.00)	*1016.37	*80.93 (360.00)	*5683.50 (510.00)	371	16.69	188	32.94
Churchill Falls Labrador	*2300.00 (600.00)	*800.00	*999.70	*3370.60	*1560.53	*9030.83 (600.00)	309	31.17	119	80.93
NB & NS Border Area	*2250.00	*223.85	-	*584.06	- (360.00)	*3057.91 (360.00)	213	16.05	156	21.91
Cape Breton, NS	*1971.00 (300.00)	*319.75	*1293.90 (300.00)	*1202.97	- (360.00)	4787.62 (960.00)	266	21.61	195	29.47
Central PEI	*2250.00	*152.79	-	*694.44 (850.00)	- (360.00)	*3097.23 (1210.00)	183	23.54	27	159.53
Bathurst, NB	*3050.00	*686.00	*825.00	*830.00	*285.00 (360.00)	*5676.00 (360.00)	756	7.98	517	11.68
Dog Work	-	-	-	-	-	-	75	-	53	-
CWS Dragon fly airboat	*440.00 (1440.00) **1440.00	-	-	*1041.60 (1560.00)	*149.55 (3000.00)	*1591.15 (6000.00) **1440.00	491	18.39	97	93.10
CWS Panther airboat	(1000.00)	-	(500.00)	(1500.00)	(1395.47)	(4395.47)	855	5.14	258	17.04
Rocket Netting NB-PEI	(3500.00)	(386.40)	(929.00)	(593.00)	(150.00)	(5558.40)	183	-	-	-
Totals	27951.00	2954.99	6497.60	14023.04	8524.39	59951.02				
					***	54392.62	3952	13.76	1741	31.24

CWS funds (20253.87)  
Co-op funds \*38257.15  
PEI F & W funds \*\*1440.00

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

\*\*\* Costing figures do not include Hare Bay, Dog work or Rocket net totals.



Table 4 - Age, sex and species composition of waterfowl banded at Bathurst, NB - 1990

Species	<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	
Mallard	2	5	7	6	3	9	16
American Black Duck	134	132	266	125	126	251	517
Blk. X Mallard Hyb.	2		2	2		2	4
Green-Wing Teal	54	98	152	3	13	16	167
Northern Pintail	10	12	22	2	7	9	31
Ringneck				1	1	2	2
Canada Geese	2	2	4	7	8	15	19
Totals	204	249	453	364	158	304	757

Table 5 - Age, sex and species composition of waterfowl banded at the NB - NS Border Area - 1990

Species	<u>Local</u>				<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>			
	M	F	U	Total	M	F	Total	M	F	Total	M	F	U	Total
Mallard	-	-	-	-	1	-	1	2	3	5	3	3	-	6
Black Duck	3	12	-	15	50	28	78	42	21	63	95	61	-	156
Black/Mallard Hybrid	-	-	-	-	-	1	1	1	-	1	1	1	-	2
Nothern Pintail	-	-	-	-	1	-	1	-	-	-	-	-	-	1
Ring-necked Duck	17	23	-	40	-	1	1	-	5	5	16	29	-	46
Pied-billed Grebe	-	-	2	2	-	-	-	-	-	-	-	-	2	2
Total	20	35	2	57	52	30	82	45	29	74	117	94	2	213



Table 6 - Age, sex and species composition of waterfowl banded on Cape Breton Island, NS - 1990

Species	<u>Local</u>				<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>
	M	F	U	Total	M	F	Total	M	F	Total	
Mallard	-	-	-	-	4	1	5	1	3	4	9
Black Duck	5	4	-	9	64	72	136	16	34	50	195
BlackxMallard Hybrid	-	-	-	-	1	1	2	2	-	2	4
Green-winged Teal	-	-	-	-	9	4	13	5	6	11	24
Blue-winged Teal	-	-	1	1	2	2	4	1	2	3	8
Ring-necked duck	1	1	-	2	3	6	9	2	1	3	14
Wood Duck	-	-	-	-	-	-	-	9	-	9	9
Notnorn Pintail	-	-	-	-	-	1	1	1	1	2	3
Totals	6	5	1	12	84	88	170	37	46	83	266

Table 7 - Age, sex and species composition of waterfowl rocket netted on PEI - 1990

Species	<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Total</u>
	M	F	T	M	F	T	
Black Duck	-	-	-	1	2	3	3
Canada Goose	11	33	44	54	44	98	142



Table 8 - Age, sex and species composition of waterfowl banded in  
Central PEI - 1990

Species	<u>Local</u>		<u>Hatch Year</u>		<u>After Hatch Year</u>		<u>Totals</u>
	M	F	M	F	M	F	
Mallard	-	-	-	1	1	1	3
Black duck	-	3	12	6	4	2	27
Mallard X Bl. Duck	-	-	-	-	-	1	1
Blue-winged teal	-	2	45	27	18	1	93
Green-winged teal	-	-	15	13	8	11	47
Pintail	-	-	3	4	1	1	9
Wood duck	-	-	1	-	1	1	3
Totals		5	76	51	33	18	183

Table 9 - Age, sex and species composition of waterfowl banded at Codroy - 1990

Species	<u>Local</u>				<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>			
	M	F	U	Total	M	F	Total	M	F	Total	M	F	U	Total
Mallard	-	-	-	-	2	-	2	-	-	-	2	-	-	2
Black duck	-	-	-	-	107	38	145	15	28	43	122	66	-	188
Black/Mallard Hybrid	-	-	-	-	1	-	1	2	-	2	3	-	-	3
Green-winged Teal	-	-	-	-	115	58	173	1	4	5	116	62	-	178
Total	-	-	-	-	225	96	321	18	32	50	243	128	-	371



Table 10 - Age, sex and species composition waterfowl banded at Cape  
 Freels - 1990

Species	<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	
American Green-winged Teal	59	71	130	1	1	2	132
Total	59	71	130	1	1	2	132

Table 11 - Age, sex and species composition of waterfowl banded at Carmanville, Nfld - 1990

Species	<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Total</u>		
	M	F	T	M	F	T	M	F	T
Black Duck	84	86	170	1	13	14	85	99	184
Black/Mallard Hybrid	-	1	1	-	-	-	-	1	1
Green-winged Teal	77	96	173	5	7	12	82	103	185
Blue-winged Teal	3	1	4	-	-	-	3	1	4
Pintail	2	-	2	-	-	-	2	-	2
Total	166	184	350	6	20	26	172	204	376



Table 12 - Sex, age and species composition of waterfowl banded at  
Baikie Lake, Labrador - 1990

Species	<u>Local</u>		<u>Hatch Year</u>		<u>After Hatch Year</u>		<u>Total</u>
	M	F	M	F	M	F	
Mallard	-	-	-	-	3	1	4
Black Duck	2	2	22	18	52	23	119
Green-winged Teal	-	-	54	45	5	5	109
N. Pintail	-	-	20	20	-	6	46
Lesser Scaup	-	-	-	2	-	-	2
Canada Goose	-	-	7	6	9	7	29
Total	2	2	103	91	69	42	309

Table 13 - Age, sex and species composition of waterfowl banded with the CWS Panther Airboat - 1990

Species	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>	
	M	F	Total	M	F	Total	M	F	Total	Unk	
Mallard	-	1	1	5	6	11	3	4	7	-	19*
Black Duck	69	86	155	42	24	66	12	25	37	-	258*
Blk X Mal Hyb.	-	-	-	1	4	5	1	-	1	-	6
Green-w Teal	7	11	18	33	30	63	35	21	56	-	137
Blue-w Teal	5	2	7	56	39	95	37	13	50	-	152
Am. Wigeon	7	8	15	13	19	32	2	7	9	-	56
N. Shoveler	2	1	3	2	4	6	1	2	3	-	12
N. Pintail	3	2	5	5	1	6	-	2	2	-	13
Wood Duck	-	-	-	-	-	-	31	4	35	-	35
Ring-n Duck	4	22	26	21	11	32	7	15	22	-	80
Gadwall	6	9	15	6	11	17	-	-	-	-	32
H. Merganser	-	1	1	4	3	7	-	1	1	-	9
C. Merganser	3	5	8	-	-	-	-	-	-	-	8
P-B Grebe	-	-	-	-	-	-	-	-	-	23	23
American Coot	-	-	-	-	-	-	-	-	-	15	15
<b>Total</b>	<b>106</b>	<b>148</b>	<b>254</b>	<b>188</b>	<b>152</b>	<b>340</b>	<b>129</b>	<b>94</b>	<b>223</b>	<b>38</b>	<b>855</b>

\*124 Black Ducks and 7 Mallards were marked with radio transmitters or nasal saddles

Table 14 - Age, sex and species composition of waterfowl banded with the CWS dragonfly airboat - 1990

Species	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>	
	M	F	Total	M	F	Total	M	F	Total	Unk	
Mallard	2	1	3	2	0	2	-	1	1	-	6
Black Duck	28	22	50	23	17	40	2	4	6	1	97
Green-w Teal	6	9	15	8	7	15	11	9	20	-	50
Blue-w Teal	62	55	117	35	36	71	27	23	50	-	238
Wigeon	2	5	7	3	5	8	4	2	6	-	21
Shoveler	2	-	2	5	3	8	-	1	1	-	11
Pintail	4	3	7	2	2	4	-	1	1	-	12
Wood Duck	-	-	-	1	-	1	6	-	6	-	7
Ring-n Duck	1	2	3	1	-	1	2	5	7	-	11
Gadwall	14	19	33	2	-	2	-	3	3	-	38
Total	121	116	237	82	70	152	52	49	101	1	491



Table 15 - Age, sex and species composition for waterfowl banded with dogs in the Atlantic Region - 1990

Species	<u>Local</u>		<u>Hatch Year</u>		<u>After Hatch Year</u>		<u>Total</u>
	M	F	M	F	M	F	
Mallard	2	3	-	-	3	-	8
Black Duck	29	22	-	-	-	2	53
N. Pintail	1	-	-	-	-	-	1
C. Eider	-	-	-	-	1	5	6
Canada Goose	1	4	-	-	2	-	7
Total	33	29	-	-	6	7	75

Table 16 - Personnel - 1990 Atlantic Region Banding Project

<u>Station</u>	<u>Banders</u>	<u>Address</u>
Churchill Falls, Lab	Andrew Hicks Stan Brownell	Sackville, NB " "
Carmanville, Nfld	George Brinson	Carmanville, Nfld
Cape Freels, Nfld	Ammon Pickett Michael Hefferton	Templeman, Nfld " "
Godroy, Nfld	Don Kimball Desi Cheverie	Sackville, NB Souris, PEI
Eider banding	Ian Goudie Pierre Ryan	St. John's, Nfld " "
NB-NS Border Area	Don Kimball Dale Patterson	Sackville, NB " "
Cape Breton	Oscar Dewberry	Bainbridge Ga. USA
PEI bait trapping	Stephen Bettles Kelly Crawford	Cornwall, PEI Winsloe, PEI
PEI rocket netting	Bill Barrow	Sackville, NB
CWS Dragon fly airboat	Paul Walker Dale Thompson	Charlottetown, PEI Cardigan, PEI
Bathurst, NB	Allison Foster Trevor Wadman	Berwick, NS Summerside, PEI
Dog Work	Bill Barrow	Sackville, NB
CWS Panther airboat	Bill Barrow	Sackville, NB

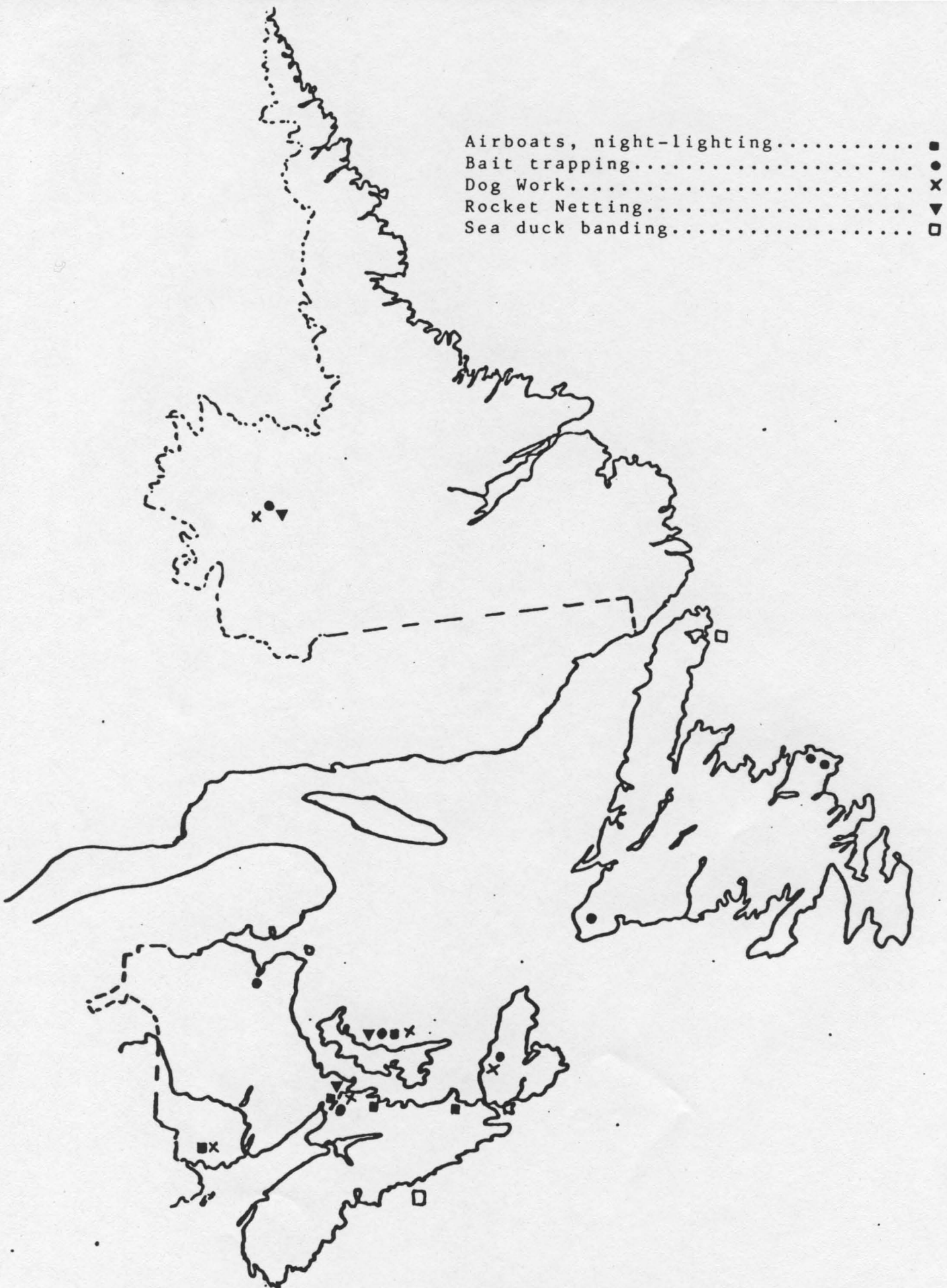


Figure 1 - Waterfowl banding locations in the Atlantic Provinces 1990



Bathurst - MSB.

Waterfowl Banding Project

Bathurst, N.B.

September 4 - October 21, 1990

Crew Members

Allison W. Foster, Jr.

Trevor L. Wadman

Upon arriving in Bathurst, N.B., on September 4, 1990, we were introduced to our accommodations at Ingle Neuk cabins on Youghall Drive.

On September fifth and sixth, several trips were made during various tidal intervals throughout the whole harbour to find concentrations of feeding ducks and to choose which of these sites would be most suitable for placement of traps and accessibility for the crew. Trap sites are shown in Figure 1. A general waterfowl survey was also performed and is summarized in Table 1.

From September 7th to 9th, all traps and equipment were collected from the shed behind The Department of Natural Resources in Petit Rocher. All of the traps were erected without their top netting to examine them for tide water clearance during high tide. The 1989 Bathurst banding report by McCollum and Foster recommended placement of traps with a maximum amount of clearance, as they reported several ducks drowning from extremely high tides. This recommendation was taken into account and traps were moved until at least 75 cm of the top of the trap could be seen during high tide (Fig. 1). In the latter part of October, we experienced some very high tides, which totally covered some of the shorter traps. We closed the trap entrances for several days until water levels receded. Prior to activating traps, whole corn was used to entice birds to the capture area.

On September 10th all traps were covered with netting and several ducks were observed to be feeding on the corn previously dispersed. The placement of all 10 traps is as follows; 2 double funnels traps behind our cabin, 1 double funnel near the driving



range at the Golf Course, 2 triple funnels and 1 single funnel at the mouth of the Tatamagouche River, 1 triple funnel in the D.U. impoundment at Roger Frenettes', 2 double funnels along the shore of Roger Frenettes', and 1 double funnel at Carrons marsh.

Our first successful capture and banding took place on September 11th, and banding was steady until we left on October 21. Figure 2 is a graphical summary of waterfowl banded each week in 1990. The mouth of the Tatamagouche River, D.U. impoundment and the shoreline at Roger Frenettes' proved to be the most successful trap sites.

This year we had an unfortunate problem with 2 foxes, one at the Golf Course site and one at Roger Frenettes', which accounted for 20 kills. Initial identification of the predator was difficult because no sign was left except decapitated ducks in the traps.

We assumed the predator was a mink, as several are known to exist in the area, and upon consultation, acquired a mink trapping permit from the local Department of Natural Resources in Bathurst. Two leg hold traps and mink scent were borrowed from Charlie McAleenan and set up near the 2 traps at Roger Frenettes'. Other methods to deter predation included closing the traps in the evening and opening them again in the morning, moving the traps offshore where they would always be surrounded by water. During low tide at dusk, closing traps at problem areas prevented predation. On September 20th a skunk was found in one of the traps and was carefully released with no visible damage done to its right paw. On October 4th we caught a Red Fox in one of the traps and released it after examining it for any visible damages to one of

its front paws. We assumed the fox would not return to the area after encountering a trap, however, 2 weeks later it did and killed 3 ducks. We, therefore, removed one of the duck traps and moved the other one several meters further out into deeper water. No more fatalities were found.

There was a total of 23 fatalities this year, of which 20 were killed by fox. Three of the fatalities were ducks which caught the band on their leg on straight pieces of uncut wire surrounding the door of some of the traps, and were found hanging upside down with a broken leg and significant loss of blood. These ducks were humanly dispatched by quickly and cleanly breaking the neck.

#### Summary and Recommendations

The Bathurst banding station proved to be very successful this year with the second highest number of ducks ever banded (757), the highest number of Green-wing teal (168) banded, and the first banding and neck collaring of 19 Canada Geese.

The Bathurst station also proved to be one of only a few stations to report total numbers banded higher than the 1989 total. The low numbers encountered at the other banding stations was apparently due to a cold spring and a low number of hatch year birds surviving.

By constantly watching the tidal heights and moving the duck traps or closing them when necessary, we didn't have any fatalities due to drowning, a problem which this station has experienced every banding season in the past. The tidal heights in the harbour fluctuate tremendously and must be constantly watched. The 1991 crew should make it their first priority to increase the height of

two of the remaining three traps which are only 4' high. One of the triple funnel 4' high traps will not need to be extended, as it will be used in the Ducks Unlimited impoundment where water is at a constant depth.

Many of the people in the area are aware of what is going on; however, on one occasion individuals were observed (not by us) releasing ducks from a trap. It is necessary to constantly maintain the banding signs to keep people away from the traps and to let the public know what the traps are used for. It is recommended that the 1991 crew obtain at least 10 signs, as several were lost in the strong fall winds.

The ducks are observed to change feeding areas from year to year and during the banding period as well. It is recommended that the ducks be constantly watched and traps moved accordingly.

Mortalities due to predators can be eliminated by checking the trap frequently, particularly before dark, and ensuring the trap is situated in water. It is also recommended that predator be relocated if trapped.



Table 1. Harbour Surveys, September 6 - October 17  
 \*First known sighting in the area

Species	Sept 06	Sept 10	Sept 14	Sept 17	Sept 20	Sept 25	Oct 04	Oct 10	Oct 17
American Black Duck	300	500	500	900	900	900	900	900	900
Mallard	3	6	8	10	10	8	6	8	8
Northern Pintail	5	6	30	30	40	80	20	6	2
Green-Wing Teal	3	6	15	30	30	60	80	200	200
Blue-Wing Teal	8	12	20						
Ringneck	2	2	6	20	24	24	16	4	6
Common Snipe							2	4	6
Red B. Merganser	2	2	6	10	10	56	47	30	30
Hooded Merganser							12	30	60
American Coot							1	1	1
Canada Geese	15	45	80	300	700	3000	3500	3800	4000
Snow Geese									1
Great Blue Heron	60	80	90	100	110	140	200	200	200
Night Heron	20	20	30	28	26	28	30	30	30
Common Goldeneye		2	2						
Bald Eagle				1			1	1	
Goshawk							1		
Peregrine Falcon								1	
*Glossy Ibis						1			

Table 2. Species, age, and sex of Birds banded at the Bathurst Station 1990

Species	<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	
American Black Duck	134	132	266	125	126	251	517
Mallard	2	5	7	6	3	9	16
Blk. X Mallard Hyb.	2		2	2		2	4
Green-Wing Teal	54	98	152	3	13	16	167
Northern Pintail	10	12	22	2	7	9	31
Ringneck				1	1	2	2
Canada Geese	2	2	4	7	8	15	19
Totals	204	249	453	364	158	304	757

Recaptures	AHY M	AHY F	Total
Black Duck	22	27	49

### Equipment

Material left in the White Shed at Petit Rocher DNR Office are as follows:

Duck traps    4-2 funnel (6-8') traps  
                  3-3 funnel (6') traps  
                  \*2-2 funnel (4') traps  
                  1-3 funnel (4') traps

11 top nets for traps in a canvas bag  
2 bait buckets

4 burlap bags (best for putting ducks in for banding)  
2 lengths of yellow plastic rope

Many used poles for extras  
Several new lengths of pipe for poles (10')

\*(These should be extended to 6 or 8' with the extra wire provided).

### Acknowledgements

We would like to thank the proprietors of the co-op feed store for some important insight into local feeding ducks and the only location of the Snow Goose we saw.

We would also like to say thanks to Charlie McAleenan for the loan of his traps and scent as well as information on the Bathurst harbour and area.

Many thanks to Ken and Jean Babin, proprietors of Ingle Neuk cabins for their hospitality and use of their phone.

Thanks to Roger Frenette for allowing us to set traps on his land.



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 and barley can be purchased at Bathurst Agriculture Co-op 548-8730. Weekly tide times are published in the Northern Light on Wednesdays. Weather and tide times are available at 548-3220.

If you need any additional information or questions, please do not hesitate to contact us at the following addresses.

Mr. Allison W. Foster, Jr.  
RR#2 Shaw Road  
Berwick, Nova Scotia  
B0P 1E0  
Ph: (902) 538-9882

Mr. Trevor L. Wadman  
RR#3 Wilmot Valley  
Summerside, P.E.I.  
C1N 4S9  
Ph: (902) 436-5241

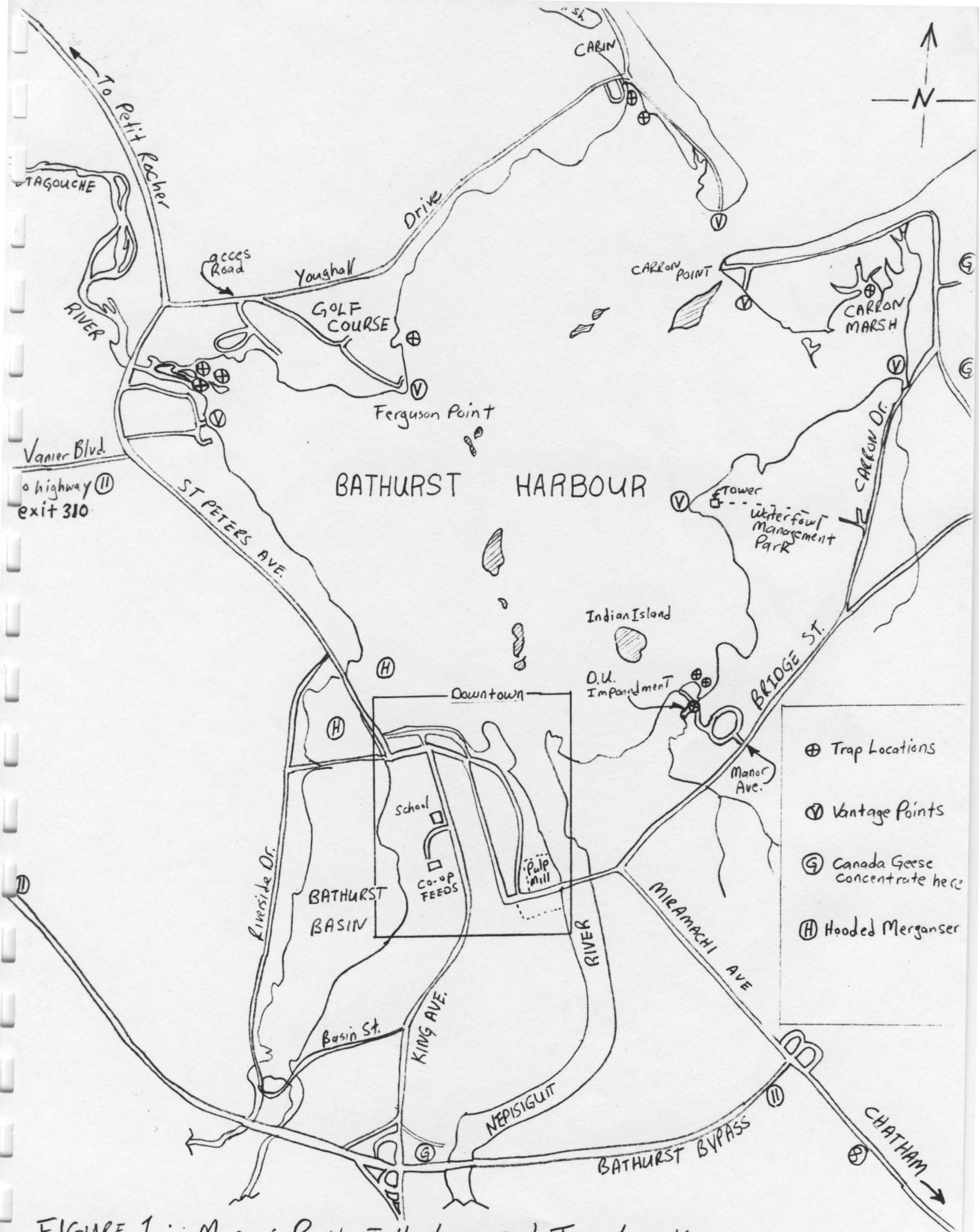


FIGURE 1: Map of Bathurst Harbour and Trap Locations

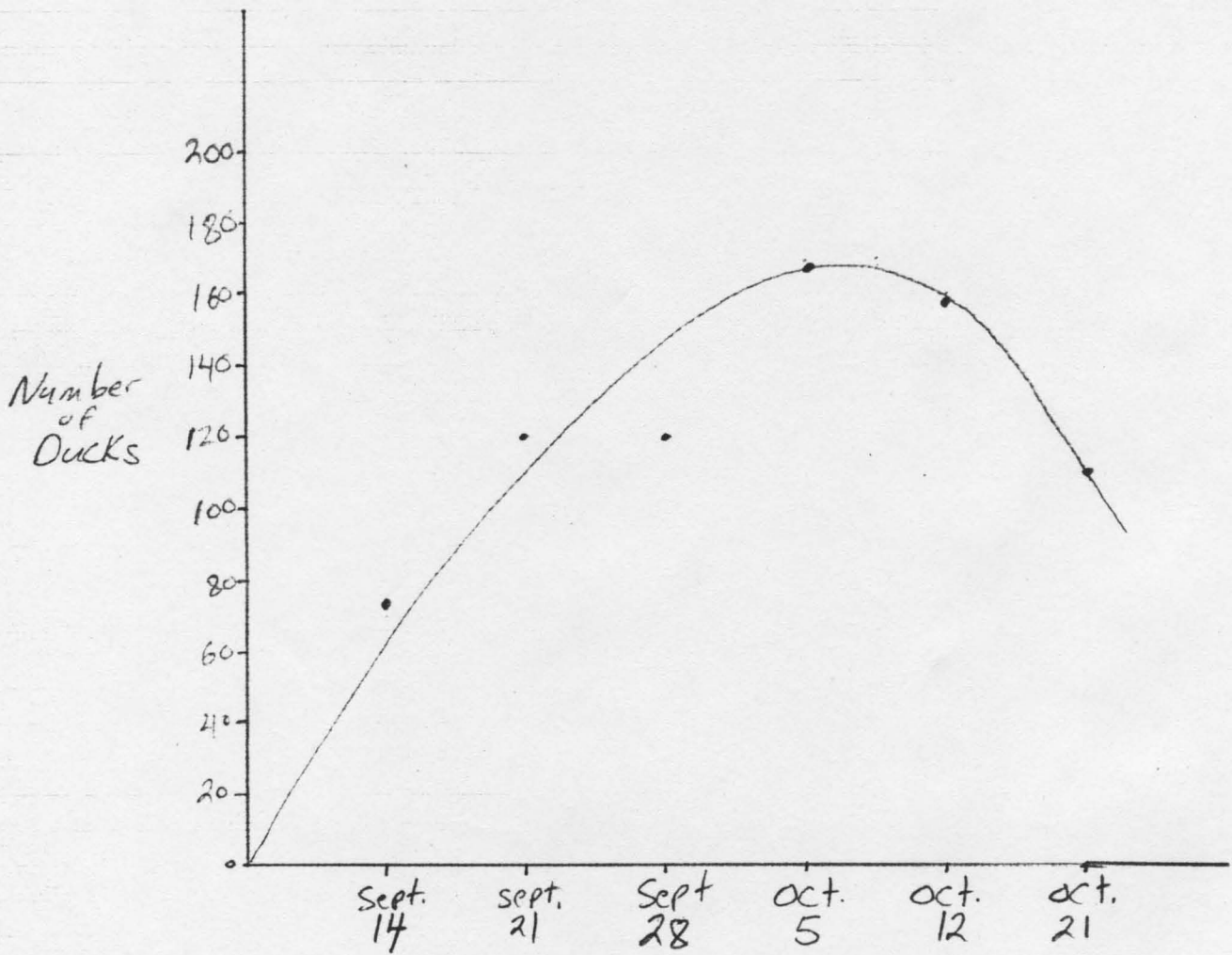


Figure #2

Number of Ducks and Geese trapped and banded/week at The Bathurst Station



WB-105 Border

Waterfowl Banding Project  
Nova Scotia - New Brunswick Border Area  
August 1 - 30, 1990

Crew Members  
Don Kimball  
Dale Patterson

## Introduction

With technical and financial support provided by the Canadian Wildlife Service as part of the Co-operative Waterfowl Banding Program, the Border Area banding station re-opened on August 1, 1990. With the exception of a site located on the Maccan River, all bait trap locations were placed within the Chignecto National Wildlife Area which is situated within the most easterly limits of the Cumberland Basin. This area is part of the Bay of Fundy region. Bait trap locations were affected very little, if at all by tidal influence.

## Acknowledgments

We thank Mr. Keith Russell for providing access through his property.

## Methods and Materials

Potential trap sites were first explored for significant numbers of waterfowl, water levels were checked, and accessibility noted. The chosen sites were then baited with a mixture of whole barley, whole, and cracked corn for a period of 5-7 days before setting the wire traps in place.

The traps were constructed by using 1" x 2" sq. mesh wire, 3/4" x 5' metal conduit (inserted into the wire for support), and a covering of 1/2" gauge nylon netting. After a period of 2-3 days to allow ducks to become acclimated to the presence of the traps, the wire sections (generally 2 or 3) were placed close together to create funnels for the ducks to enter while feeding. The nylon netting was then secured to the tops of these enclosures to prevent birds from exiting through the top.



Traps were then checked daily for ducks and then baited when necessary. However, in order to prevent high mortality of young broods, traps were visited twice daily during the period of August 13-19. This was discontinued however, when it was thought to have caused too much disturbance of the birds in and around the trap sites. Birds that were captured were scooped out by using standard fishermen's dip nets.

### Results

During the 1990 bait trapping season at the Border Area station, a total of 12 traps were operated over a period of 213 trap days from Aug. 12 - 30.

A total of 3 waterfowl and 1 grebe species were banded. The total number of birds banded was 213 (Table 1). This figure included 6 Mallards, 2 Black Duck/Mallard Hybrid, 156 Black Ducks, 1 Northern Pintail, 46 Ring-Necks, and 2 Pied-billed Grebes (Table 1).

A total of 25 foreign recaptures were recorded at the border station. This included 1 individual (Band # 1157-545-554), an AHY male Black Duck, with a very worn band which was replaced (Band # 2307-585-69). The peak number of birds banded occurred on Aug. 26 when 14 Black Ducks and 6 Ring-necks were banded (Fig. 1). The most successful trapping site was on the John Lusby Marsh at the Russell Impoundment's trap # 1 where a total of 33 ducks was banded. This was followed by trap # 5 in the Amherst Point Sanctuary, and trap # 2 located in the Burgess Imp. with totals of 28 and 26 respectively.

The maximum number of waterfowl observed occurred on Aug. 21 when the peak number included 50 Canada Geese, 70 Black Ducks, 80 Green-winged Teal, 63 Blue-winged Teal and 6 Ring-necked Ducks (Table 2.)

Results indicate that the wetland with the heaviest waterfowl use during the banding period was located at the Russell Imp. in the John Lusby marsh.

### Discussion

The banding season at the Border Area station began considerably later than in previous years, with prebaiting of potential sites commencing on Aug 3, compared to July 24th in 1989. Trapping efforts began later also with most traps operational on Aug. 12 as opposed to an approximate date of Aug 7 in 1989.

The total number of waterfowl banded was lower than in 1989 (233 birds banded) and 1987 (337) but higher than in 1988 (170) (Table 2.). An extremely cold period of below average temperatures in May when early nesting waterfowl were breeding may have contributed to fewer ducks available in the border area in 1990.

The number of Ring-necked Ducks banded was a record 46 individuals. Of the total number banded 42 were flightless local birds from broods in Impoundment 1 in the Amherst Point Sanctuary. Several young Ring-necks were observed here on the final trapping day on Aug. 30 at the age class 2A and still too small for banding.

Green-winged and Blue-winged Teal were present in substantial numbers at both the Russell and Burgess Impoundments. However no birds were captured here or at the other bait trap locations.

## Mortalities

The number of mortalities (10 ducks or 4.7% of total birds) was slightly higher than in the previous banding year. Seven Black Ducks and 3 Ring-Necks were found dead. Several individuals had badly damaged heads and necks, which may have been battered by protruding wire ends in the funnels. Drowning was a factor in at least one death. Predator problems were non-existent and there was no evidence of poaching or human disturbance at any of the sites.

## Recommendations

An earlier starting date would produce more trap days and should result in a greater number of captures.

The importance of placing poles on the outside of trap wire should continue to be stressed as failure to do this in one incidence clearly resulted in one Ring-neck mortality.

Wire ends protruding from the funnel ends should be cut off to prevent birds from damaging themselves while moving about inside the traps.

In order to maximize the potential of areas with the heaviest densities of birds, additional effort should be exerted to place more traps in these areas. ie. Russell and Burgess Impoundments in the John Lusby marsh.



Table 1. Age and sex composition of waterfowl banded at the Border Area banding station 1990.

Species	<u>Local</u>				<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>			
	M	F	U	Total	M	F	Total	M	F	Total	M	F	U	Total
Black Duck	3	12	-	15	50	28	78	42	21	63	95	61	-	156
Mallard	-	-	-	-	1	-	1	2	3	5	3	3	-	6
Black/Mallard Hybrid	-	-	-	-	-	1	1	1	-	1	1	1	-	2
Northern Pintail	-	-	-	-	1	-	1	-	-	-	-	-	-	1
Ring-necked Duck	17	23	-	40	-	1	1	-	5	5	16	29	-	46
Pied-billed Grebe	-	-	2	2	-	-	-	-	-	-	-	-	2	2
<b>Total</b>	<b>20</b>	<b>35</b>	<b>2</b>	<b>57</b>	<b>52</b>	<b>30</b>	<b>82</b>	<b>45</b>	<b>29</b>	<b>74</b>	<b>117</b>	<b>94</b>	<b>2</b>	<b>213</b>

Table 2. Waterfowl observations at the Border Area 1990

Date	Canada Goose	Black Mallard Duck	Green- winged Teal	American Wigeon	Northern Shoveler	Blue- winged Teal	Ring- necked Duck	Total
Aug. 14	-	-	144	-	-	6	6	156
15	-	-	31	-	-	12	4	47
16	-	-	17	-	2	6	1	26
17	-	5	19	-	-	24	3	51
18	No numbers available.....							
19	-	-	164	-	6	18	2	190
20	-	6	65	65	-	70	5	211
21	-	4	125	64	-	36	5	234
22	-	10	48	30	1	60	-	149
23	-	10	106	44	-	70	-	230
24	50	70	80	-	-	63	6	219
25	-	5	43	40	3	70	-	161
26	-	-	26	23	2	30	3	84
27	-	-	14	15	-	35	-	64
28	-	-	72	2	-	94	3	171
29	-	5	64	10	-	95	-	174
30	-	-	34	10	-	20	-	64

Fig. 1. Total No. Waterfowl Banded at the Border Area Banding Station - 1990

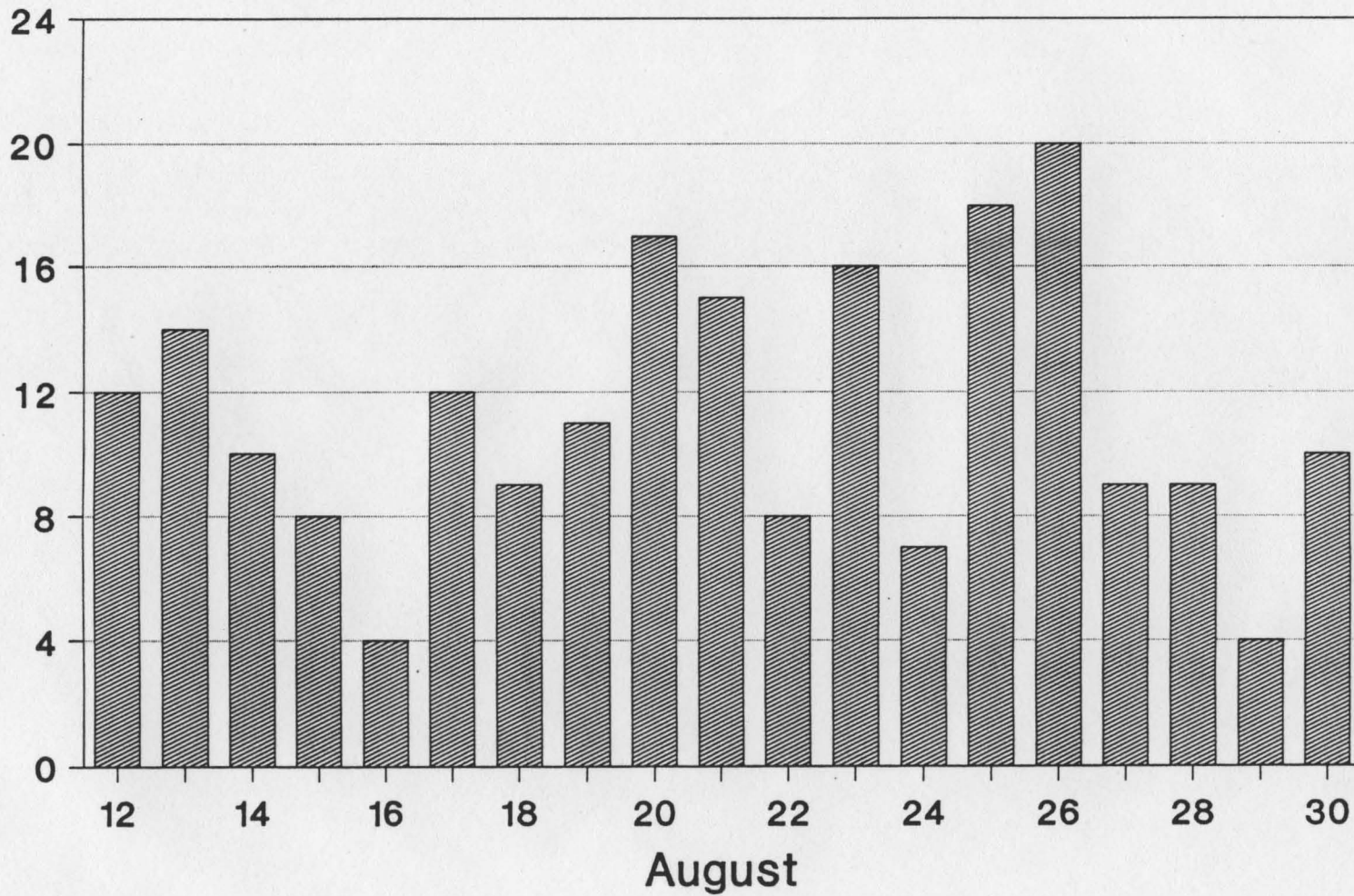
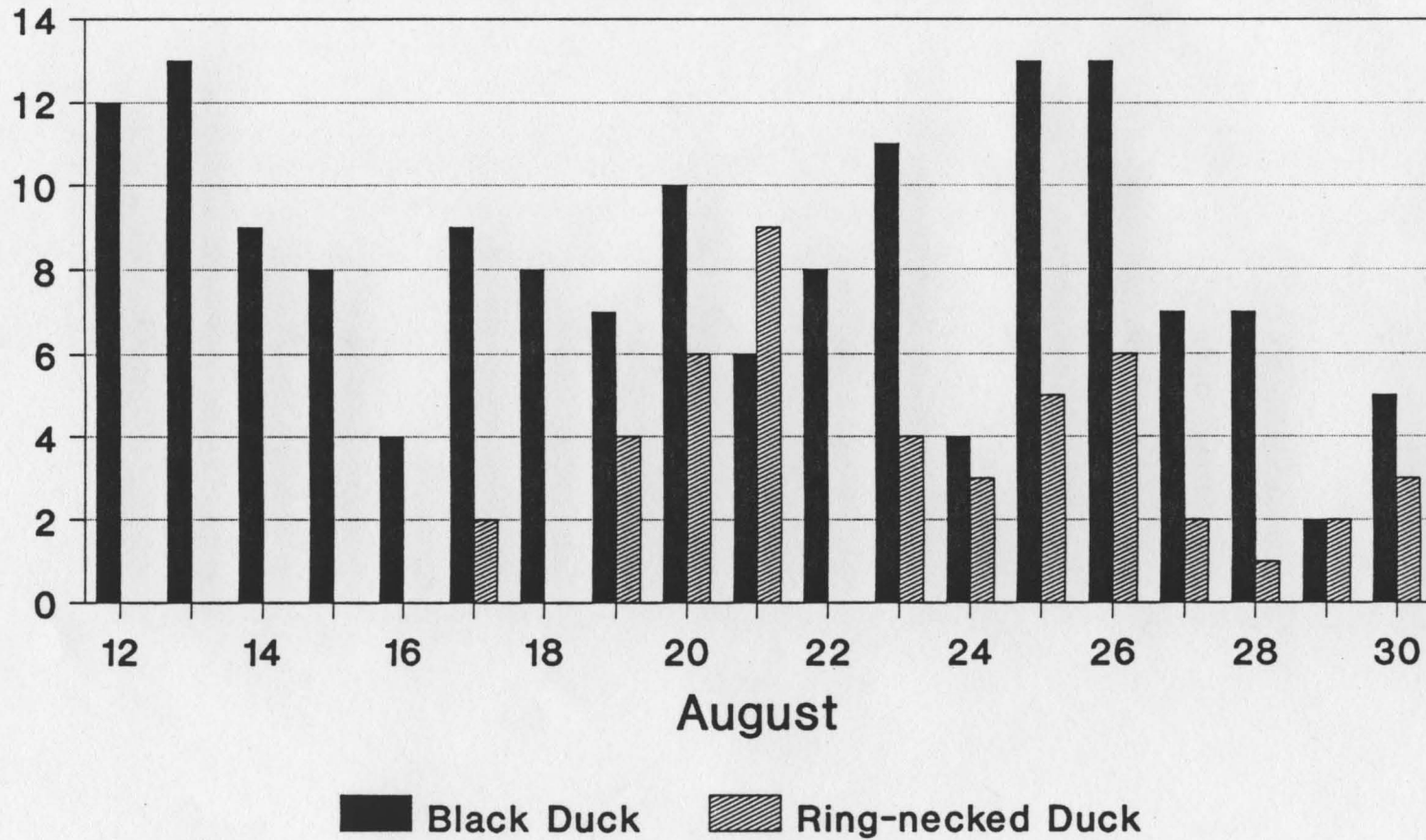
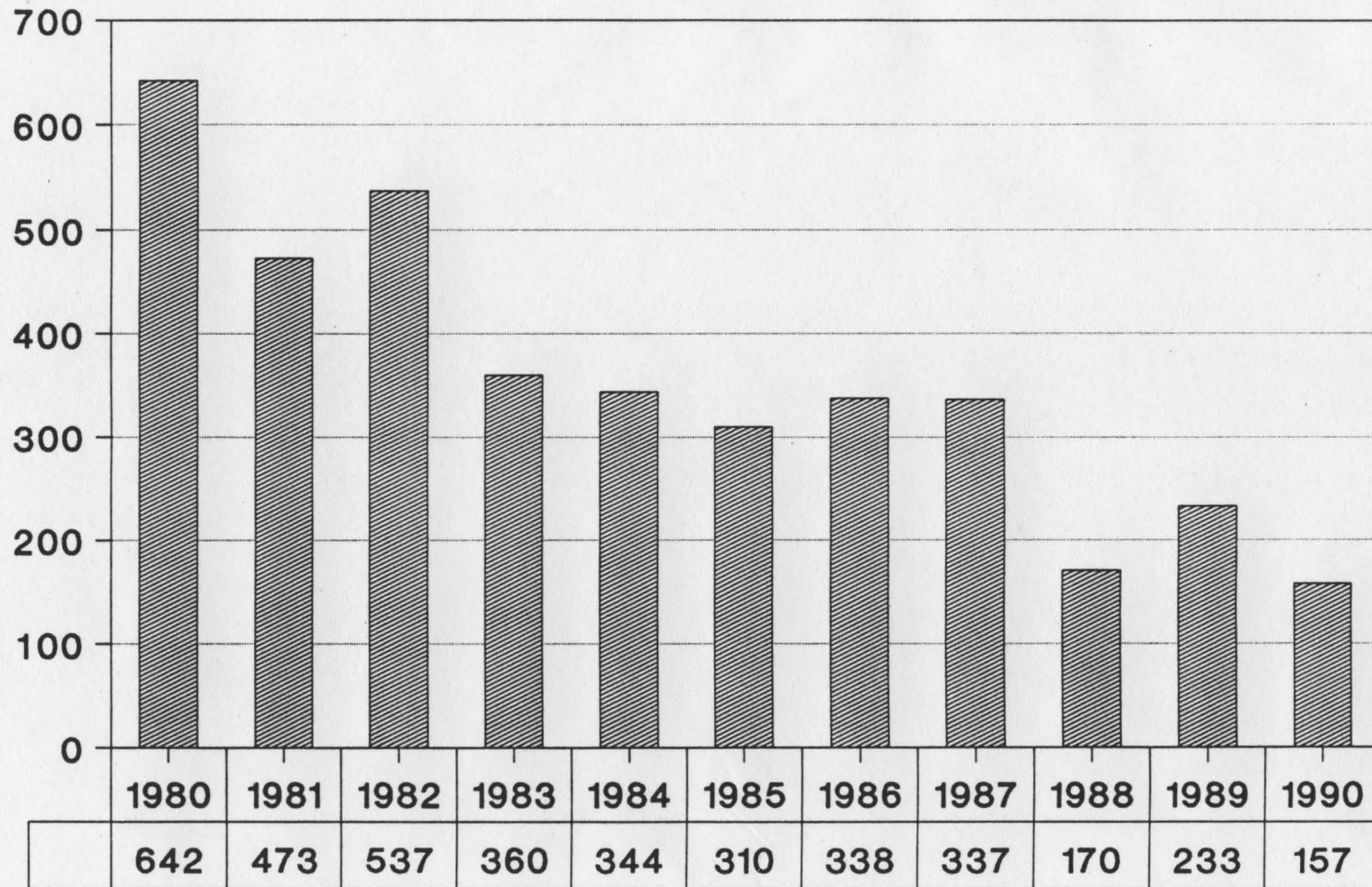




Fig. 2. Total No. of Black and Ring-Necked Ducks Banded at Border Area Banding Station - 1990



**Fig. 3. No. Black Ducks Banded in the  
N.S./N.B. Border Area, 1980-1990**



Bait Trap Locations  
 AMHERST POINT SANCTUARY  
 IMPOUNDMENT 1  
 1990

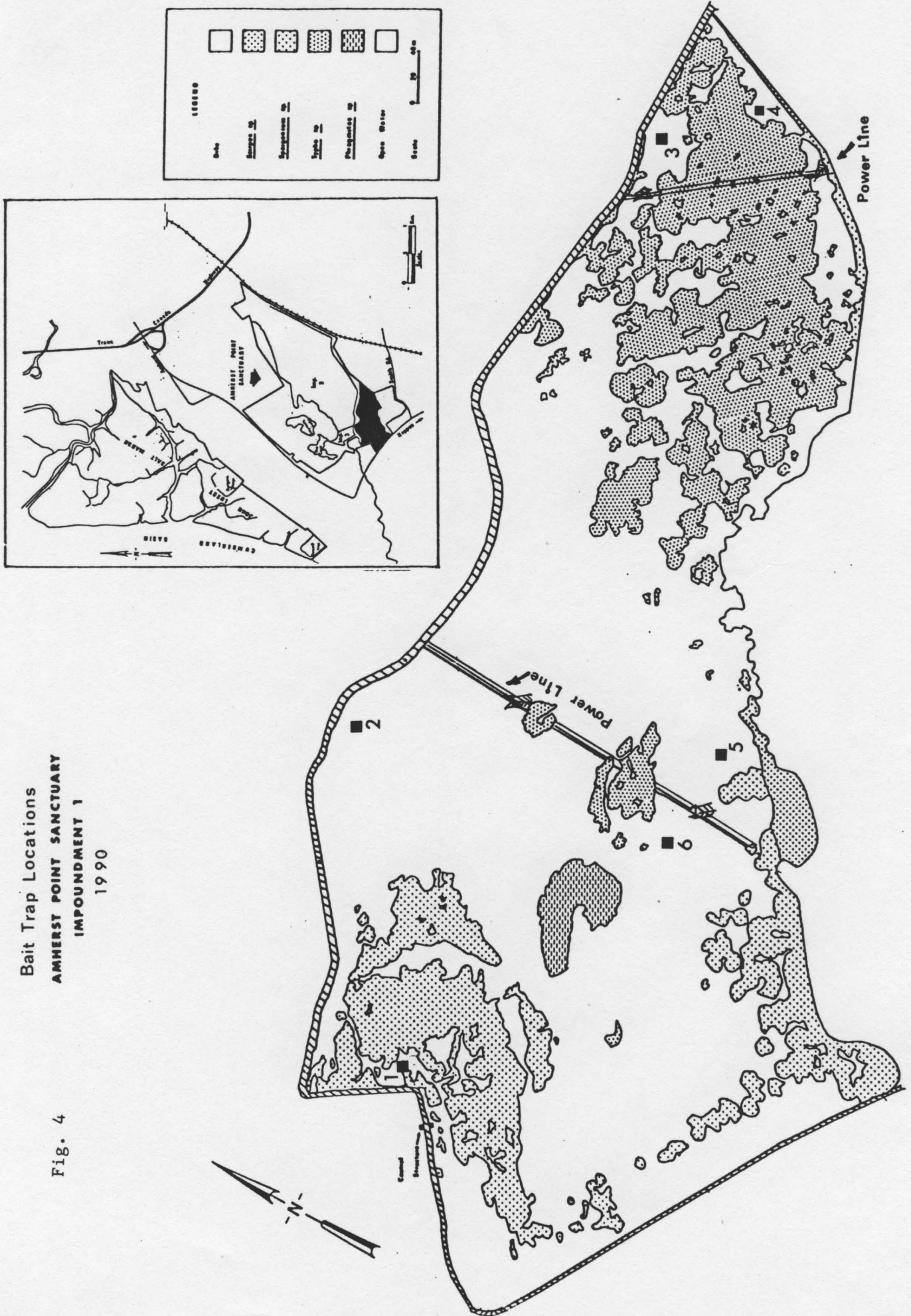


Fig. 4



BAIT TRAP LOCATIONS  
JOHN LUSBY SECTION  
CHIGNECTO N.W.A.  
1990

Fig. 5

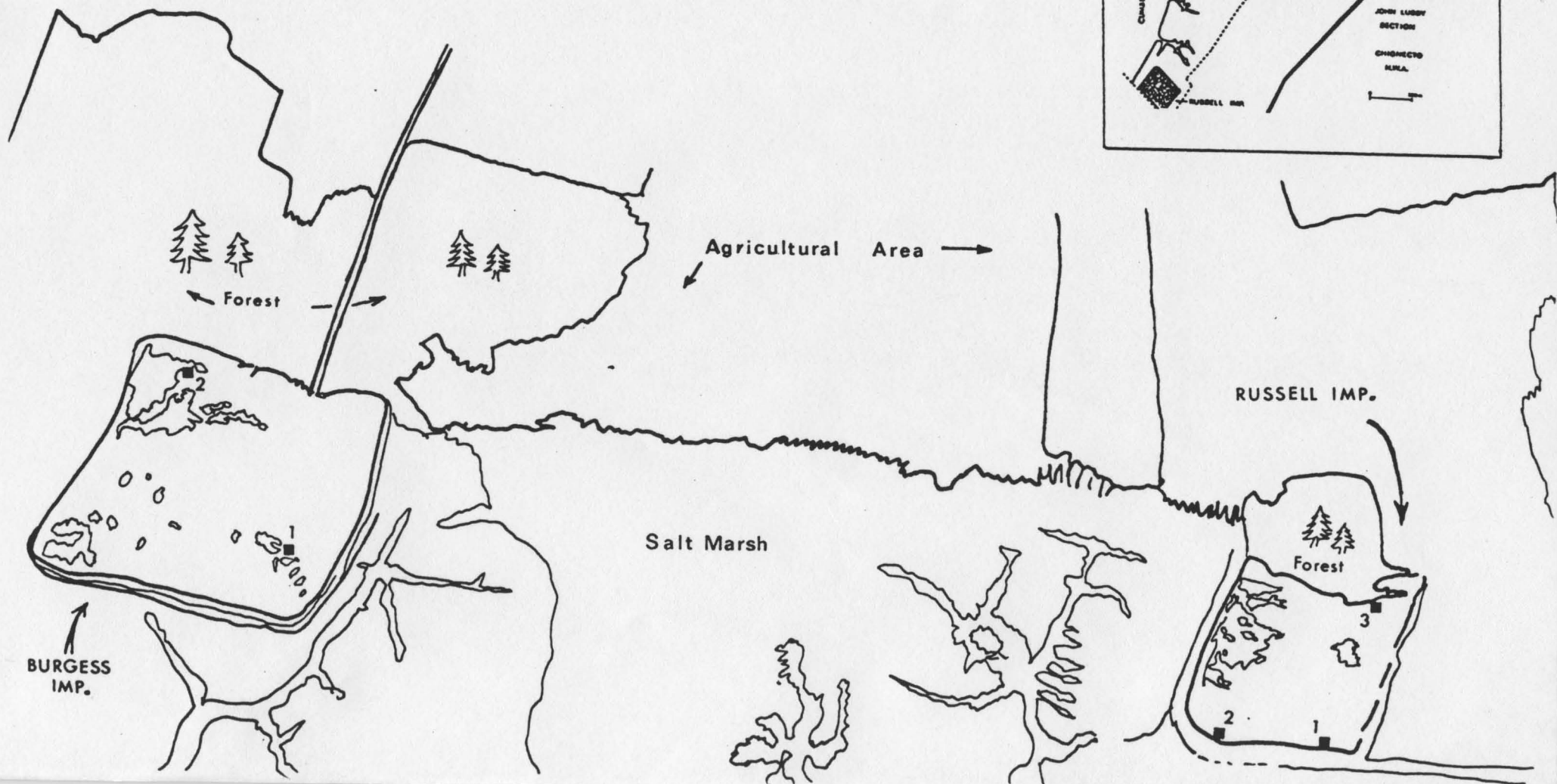
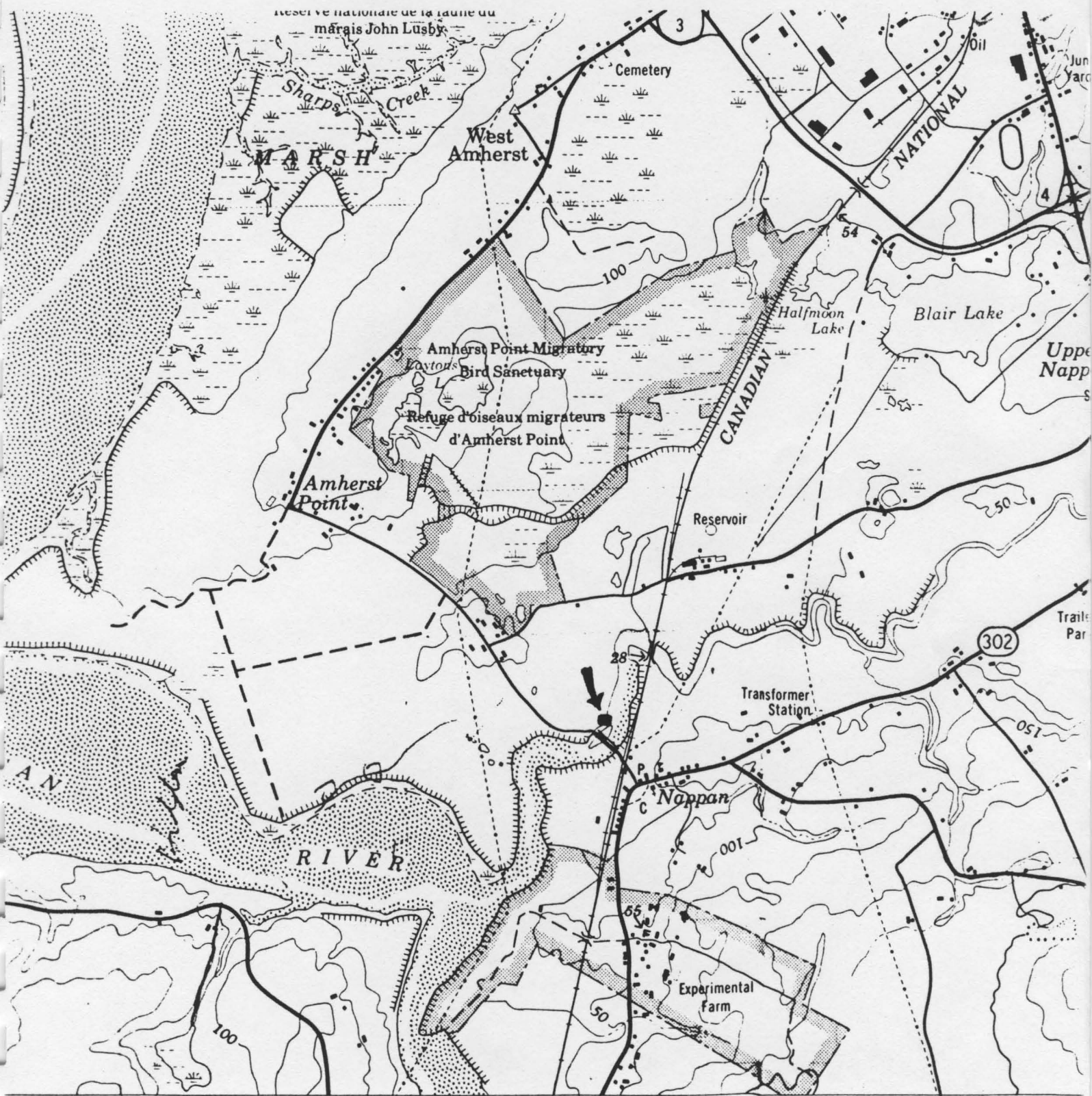


Fig. 6. Bait Trap Location, Maccan River, 1990



Cape Breton



Waterfowl Banding Report  
Cape Breton Island  
August 20 - September 30, 1990

Oscar Dewberry Crew Chief  
Wildlife Biologist

This station was again operated from the Nova Scotia Lands and Forests (NSL&FW) office at North East Margaree. A total of eleven people were involved with operations this year. In addition to the crew chief, other personnel were Pennsylvania Game Commission (PAGC) Conservation Officers (CO) Greg Houghton, Bill Ragota, Dan Garner, Bernie Schmader, Dave Myers and Keith Falasta. Two local residents, Mark Hart and Daniel Murphy were employed during the time PAGC personnel were enroute or had departed the station. Assistance was also appreciated from Myrtle Bateman and Bill Barrow, Canadian Wildlife Service (CWS).

Enroute from Pennsylvania, CO's Houghton and Ragota had picked up a 17' aluminum canoe and other supplies at CWS, Sackville New Brunswick and Oscar Dewberry at Halifax International Airport. Upon arriving at the station on August 21, traps, materials and supplies stored from the 1989 operations were checked. Baits (whole grain and cracked corn and barley) were purchased or ordered, and land owner contacts and waterfowl surveys initiated.

Trap installation began on August 22. Due to the travel schedule of the initial PAGC banding assistants efforts were made to capture birds as quickly as possible in order to provide "hands on" experience. Thus, during the period August 22 through 25, six traps were installed and the first ducks (three Black Ducks) were trapped and banded on August 25.

The first traps were installed at Glengary (map 1), the most productive site of the 1989 trap period. Three traps were installed and each remained at this location until September 30.

Other traps installed at 1989 trap sites included two at Indian Point (map 2) and one at the Margaree River Inlet (map 3). Other traps located at previously used sites included two at Livingston Pond and one at Gillis Pond (map 4) and one in Lake Ainslie near Kenlock (map 5). By August 27, eleven traps were installed with additional sites on the Margaree River (Map 3) Lake Ainslie and Mabou Marsh near Glendyer (map 6). Another roll of 1x2x48 inch welded wire was obtained on August 18 and four other traps were later constructed providing a total of 15, 48 inch high traps this year. Other sites initially surveyed and baited that were used in 1989 included Scotsville and MacCormick Corner on Lake Ainslie and Johnny Bans Ponds near the entrance to Mabou Harbour and Alan Lains Pond near Judique. Low numbers of birds were seen at these locations and with exception of another location in MacCormicks Corner, neither site was trapped this year. Daily visits were made to each trap throughout the trapping period. The average daily distance to check all traps was approximately 192 km. During the time that three, two-man crews of PAGC personnel were present, traps could be checked in 7 to 8 hours because of the third person but when only two people were present 9 to 10 hours were required for daily trap inspections. During each trap inspection all waterfowl and bald eagles observed in the area were recorded and are listed in Table I. All waterfowl banded by trap locations are listed in Table II and the sex, age and species composition in Table III.

A minimum of trap relocation was carried out this year at the



nine trap stations (Table II). Two traps installed in the Margaree Rivers Marsh on August 27 were relocated 4 km upstream on September 5 and 6. Another trap initially located in Lake Ainslie on September 3 was relocated to Gillis Pond on September 8 and one other on Lake Ainslie was relocated to another point in the Lake. All traps used were the standard 2 funnel clover - leaf type with a nylon net top. Birds were trapped in each of the 15, 48 inch traps. One other trap was constructed from a remnant of the 48 inch width wire. This trap was of the same design but it was only 24 inches high. It was installed out of the water in a section of high marsh at Glendyer. A standard 48 inch trap was used at this location last year and several Black Ducks were trapped. Although birds were usually observed nearby none were trapped in the low silhouette trap this year. Surveys in addition to those at Johnny Bans Pond and Scotsville were carried out at 12 other locations this year.

These include McKays Pond, Southerland Pond, Whale Cove, Broad Cove Marsh, Hayes River Pond, MacDonalds Glenn, Indian Point Pond (at Mabou), Inverness Harbour Pond, Murphys Pond, Northeast Mabou Cove and Doherty and MacCleans Coves on Lake Ainslie. Among these locations baiting was only carried out on Johnny Bans, McKays, Scotsville, Doherty Cove and other locations of the Loch Ban section of Lake Ainslie.

#### TRAP LOCATIONS

Four locations were used in the Loch Ban section (map 5) of Lake Ainslie. Access to two were from the Scotsville to Deepdale

Road, 1 km West of Kenloch Presbyterian Church at Jim Little's Cabin. One trap was at Kennedy Brook entrance to the lake near the church and the other was 800 m. east of the Cabin along the lake edge. Excellent sandy bottom conditions were found at each Lake Ainslie trap site except the one along the bank east of Little's Lodge. Bank erosion from wave action has contributed to heavy silt deposits throughout this section as well as a sandbar build-up completely across the lake. Broods of Ring-necked Ducks, Black Ducks and Common Mergansers were observed in this section of the Loch during initial surveys and trap locations. The third trap was located on the west side of the Loch across from the lodge approx. 4 km south of the church. Access was via the abandoned railroad right of way and spur line along the lake. On the first visit to this site on September 1, approximately 250-300 Ring-Necked Ducks were observed along the west shoreline. Both whole and cracked corn were spread as bait and the trap was installed on September 3. Although these ducks remained in this section, none were attracted to the bait or trap and it was relocated to Gillis Pond on September 8. Good nesting and brood cover are available for Ring-necked Ducks in this section and Dan Banks, Biologist WSL & F reported extensive use by Ring-necked Ducks. The fourth trap site in the Loch was 2 km east of MacCormick Corner or Black River Bridge. Access to the lake was by the first road to the lake past the residence. The trap at the Kennedy Brook inlet was relocated to this site on September 27 after it was determined that Ring-necked Ducks were using this location. These birds were found to

be feeding on a small aquatic plant quillwort (*Isoetes* sp.) which was being uprooted and drifting to shore in significant quantity. Scrap old lettuce was obtained from the Margaree CO-OP Store and scattered throughout the section of lakes. A retainer was constructed to hold the lettuce in 24-30 inch water. Three days after trap installation, four birds were trapped and banded and lettuce leaves are believed to have be the attracting bait.

Similiar to 1989 two locations were bait tapped in the Mabou area. Access to the three traps in Glenqary was again through Mrs. Colin Campbells pasture, 8 km west of Mabou off highway 19. To reach this location exit highway 19 on west Mabou road and cross Nicholson Island turning left on the first dirt road. Numbers of ducks observed at this location were lower their daily sightings in 1989. Stands of *Ruppia* continue to be abundant at both Mabou sites. This is obviously stimulated by affluent from dairy farms upstreams on each river, the Southeast Mabou at Glenqary and the Mabou River at Glendyer. The bottom condition at both sites was deep mud and traps were constantly shifted due to wind, wave, and duck activity in unstable substrate. Birds were observed to escape from each of the three traps at Glenqary as well as the one at Margaree River Inlet and at Gillis Pond. Traps may possibly need bottoms if they are located in extremely soft mud, silt or fine sandy bottom conditions.

Access to the Mabou River traps at Glendyer was by wading the river from a point off highway 252, 1 km south of highway 19. The two traps were located in a pond area separated from the river by



the wooded bank on the opposite side. Only one of these two waterfowl (the 48 inch) was productive this year. The only sign of trap depredation that occurred this year was at this location. The remains of a Green Winged Teal was recovered from the 48 inch trap on September 24. Raccoon tracks and feces were noted at this location and the sides of the 24 inch were pushed in on two occasions probably by forced entry of a racoon. Although the low silhouette trap was completely out of the water except on extremely high tides the other trap was also out of the water at half tide or lower. The trap success improved at this site only after relocating it to more shallow water.

Three trap locations were used in the Judique section south of Port Hood. Each of these locations were used in 1989. These were the Indian Point, Gillis and Livingston Pond sites. The Indian Point site was again located 1 km west of the abandoned railroad bridge 02 km south of highway 19 on the Shore Road. Entrance to the marsh was by crossing Tommy MacDonnells property at the point where the historic marker is located on the Shore Road. This site was the most productive of the Judique locations and more ducks were also observed at this location. Bottom conditions were both silt and sand. Heavy growths of *Ruppia* occur throughout this section especially west of the trap locations where the waters are sheltered from wave action. Additional baiting attempts in this section were negative and the bottom conditions were more silty as well. Broods of both Black Ducks and Blue-winged Teal were observed in this section and beaver and muskrats were also

observed. Flightless Black Ducks and three Pintail were trapped at this location.

Livingston Pond was surveyed by Canoe from the Shore Road prior to locating traps this year. The location used in 1989 was used again because of accessibility and the number of birds observed in the initial survey. Access was by the dirt road 1 km south of Captains River on highway 19 then right on the first road to the farm house. Danny MacNeil permitted his drive and pasture to be used to reach the marsh. This location has both silt and sandy bottom conditions probably because of sediments from the river as well as bank erosion. Heavy growths of *Ruppia* also occur in this section due to the saline effects. Good brood habitat is available for nesting Black Ducks and three flightless Black Ducks were trapped from a brood observed in late August. Domestic ducks and geese owned by Mr. MacNeil were attracted to these traps and these ducks were removed from the traps on more than one occasion. One Green-winged Teal was found dead in one trap and was presumed to have drowned. Daily observations of ducks at this location were significantly lower than observed in the 1989 counts.

Access to Gillis Pond was through the driveway and gate to the pasture of Mrs. H. Gillis who lives in one of the two houses on the opposite side of Shore Road. Initial surveys of the 1989 trap site indicated both Black Ducks and teal were using the pond. Darrell Gillis who assisted in the 1967-73 program visited the site in late September and pointed out those locations in the ponds previously

used. One site is an extensive cattail marsh with an extremely silty bottom and another is in the Alan Aines Pond nearby and is now a rocky beach section of the cow pasture. He also identified two other locations in both the south and north ends of Aines Pond that was previously used. One of these sites was baited this year but birds were not attracted. The other is nearest the Shore Road and should be considered if the Cape Breton Station operates in 1991. Access to that point would be from Shore Road approximately 0.7 km north of the pasture gate. Mr. Gillis advised that each of the traps used in that section in the previous program had wire bottoms.

The Margaree River was trapped from the Harbour upstream for approximately 8 km, MacKinnons Pond, a deep fresh water pond separated from MacKinnons Beach at the harbour only by a barrier sand dune, was surveyed in late August and Black Ducks, teal (both species), and Ring-neck Ducks were observed. This pond is too deep to trap except in the south end or brook entrance where sand and silt build-up has occurred. Access was through adjacent pasture land owned by Angus MacKinnon from the top of the hill at highway 19. One trap was placed in the shallow end of the pond on August 30 and remained throughout the trap period. Nesting and brood habitat surround much of the pond and one brood of ring-necks was observed. All of the Ring-necked Ducks trapped at this location were capable of flight when banded but they are thought to have been hatched and reared at this site. In addition to the trap at the inlet, two traps were located in the Margaree River Marsh



approximately 1 km upstream. These traps were accessible only by canoe and these as well as the Inlet trap were reached by crossing property owned by Mr. Winston Marple between highway 395 and the inlet. This property is 3.5 km from the Margaree River Bridge at the Harbour. Observations of waterfowl use at each of these traps indicated fewer sightings made in this section than in 1989 and surveys from the highway and from the canoe indicated more Black Ducks were using a portion of the Barrocks Pool 1 km upstream from the north Margaree River Bridge. The two marsh traps were relocated to this section and access was by canoe launched from the marsh 100m north of the bridge. Unfortunately an extremely heavy silt or mud bottom also prevailed at these locations just as found at each of the other Margaree trap locations. *Ruppia* was found in the inlet but not in the other section trapped at these locations. Good nesting and brood habitats are available throughout this section and broods of Black Duck, Blue-winged Teal and Common Mergansers were observed.

Although no mammalian or avian depredation occurred except on the teal from the Glendyer Marsh, four Otter were observed at the Inlet and one in the Barracks Pool. Raccoon tracks were common at each trap site and a lynx was found dead in Margaree Inlet trap on September 27. It appeared that the animal entered the trap on low tide during the time it was completely out of the water and drowned on flood tide. No visible sign of an escape attempt was noted as the trap and nylon net were intact when the trap was checked on September 27. Four Black ducks were in the trap with the drowned

animal. The carcass was removed and carried to the Banding Station where it was picked up by NSL & F personnel.

#### RECOMMENDATIONS

1. Changing personnel as occurred this year does not contribute to the efficient operation of the station. Additional orientation, training in sexing and aging and route familiarization was required that could be devoted to more productive uses.
2. With the existing equipment and traps only two people are necessary.
3. Additional wire should be on hand to install bottoms on traps if needed.
4. A minimum of 15 traps should be available at this section.
5. With exception of the Crew Chief employ local residents, if possible.
6. A vehicle preferably a pick-up truck should be furnished by CWS for use in checking traps and station operation.
7. If an outboard motor is to be supplied to the station, it should be thoroughly checked to insure proper working condition.
8. A small boat trailer would be more convenient for transporting the 17' canoe.
9. The trap period for this station should continue to be August 20 through September 30.
10. A more central station location is needed.

TABLE #1. WATERFOWL OBSERVED AT TRAP SITES, CAPE BRETON ISLAND 1990

Date:	AUG 21	22	23	24	25	26	27	28	29	30	31
Margaree River	15 Bwt 4 Blk	No Survey	40 Bwt 4 Blk 1 BEagle	6 Blk 29 Bwt 2 Br CMerg	8 Blk 20 Bwt	4 Blk 20 Bwt	20 Blk 10 Bwt 1 BEagle	14 Blk 8 Bwt 2 BEagle	10 Blk 6 Bwt	18 Blk 10 Bwt 1 BEagle	2 Blk 3 Bwt
Kenloch Station	No Survey	" "	2 Blk	14 Bwt 1 Blk 1 Br Bwt 2 Br Rnd loon	0	4 Blk 8 Bwt 2 Br Rnd 1 Br CMerg 4 Loon	0	2 Rnd 1 Bwt	14 Blk 2 Mal 4 Bwt 2 BrRnd 3 BEagle	6 Mal 1 BEagle 4 Loon	1 Rnd 1 BEagle
Indian Point		2 Blk 1 Bwt	10 Blk 2 Br Bwt	2 Blk 1 Bwt 1 BEagle	9 Blk	20 Blk 1 Rnd 1 Br Rnd 1 Br C Merg	3 Blk	10 Blk 2 Bwt	3 Blk	1 Br Blk	10 Blk 1 Bwt
MacCormick Corner		1 Blk 1 Bwt 1 BEagle	No Survey	No Survey	No Survey	0	4 Blk 3 Bwt 2 BrRnd 3BEagle	0	0	No Survey	No Survey
Livinston Pond			8 Blk 9 Bwt 1 BEagle	0	4 Blk 5 Bwt	1 Blk 12 Bwt		3 Blk 10 Bwt	14 Gwt 8 Blk	2 Blk	0
Glengary		40 Blk 35 Bwt 2 BEagle	35 Blk 15 Bwt	20 Blk 30 Bwt	50 Blk 1BEagle	0	6 Blk 30 Bwt	25 Blk	3 Bwt	20 Blk 30 Bwt	26 Blk
Glondver		2 Blk	6 Bwt	0	20 Bwt	0	30 Bwt 20 Gwt 5 Blk 3 BEagle	10 Blk	65 Bwt 1 Blk	10 Bwt 2 Blk	4 Blk 40 Bwt
MacKinnon Pond		No Survey	No Survey	No Survey	No Survey	1 Br Rnd	0	10 Bwt 3 Blk 1 BrRnd	12 Blk 20 Gwt 4 Rnd	8 Blk 20 Bwt 2 Rnd 1 Br Rnd	0
Gillis Pond		5 Bwt 2 BEagle	3 Blk 1 BEagle	No Survey	1 BEagle	No Survey	No Survey	No Survey	No Survey	0	0
Scotsville				2 Blk 1 Br Rnd	No Survey	No Survey	4 Blk 2 Bwt	2 BEagle	1 Gwt 2 Br Bwt	No Survey	2 BrRnd

\* Br (Brood): All broods with 1 adult bird; ( ) indicates No. ducklings.



TABLE #1 (CONT'D) WATERFOWL OBSERVED AT TRAP SITES, CAPE BRETON ISLAND 1990

Date	Sept 1	2	3	4	5	6	7	8	9	10	11
Margaree River	10 Blk	12 Blk	8 CMerg	26 Blk 4 Bwt	23 Blk	24 Blk 8 Bwt 1 BEagle	26 Blk 4 Bwt	2 Blk	10 Blk 5 Bwt	0	17 Blk 3 Bwt
Kenlock Station	15 Rnd	1 BEagle	13 Blk 1 BrRnd 3 Loon	7 Blk 2 Rnd	1 BEagle	2 BEagle 1 Loon	2 Blk 1 BEagle	8 Blk	0	0	3 Blk 7 Bwt
Indian Point	30 Gwt	3 Blk	0	2 Gwt	0	2 BEagle	0	0	8 Blk	0	6 Blk
MacCormick Corner	250-300 Rnd	No Survey	150 Rnd 8 Blk 3 BEagle	No Survey	No Survey	0	0	200 Rnd Relocated trap	No Survey	0	0
Livingston Pond	0	5 Blk	0	0	0	5 Blk	3 Blk 14 Bwt	0	2 Blk	3 Blk	1 Blk 20 Bwt
Glengary	6 Blk	30 Blk 22 Bwt	12 Gwt	18 Blk	9 Blk	0	0	28 Blk	0	0	0
Glendyer	2 Blk 30 Bwt	90 Bwt 2 Blk	8 Bwt	0	40 Bwt 10 Blk 3 BEagle	10 Bwt 1 BEagle	26 Bwt 8 Blk	18 Bwt 6 Blk	60 Bwt 5 Blk	60 Bwt	21 Bwt
MacKinnon Pond	0	1 Br Rnd	8 Bwt	2 Blk 6 Rnd	4 Bwt 6 Rnd	4 Rnd 2 Blk 4 Bwt	4 Rnd	0	4 Rnd 3 Bwt	8 Blk 5 Bwt 4 Rnd	9 Rnd
Gillis Pond	0	0	18 Blk 1 BrBlk	20 Blk 4 Bwt	20 Blk	0	0	18 Blk 12 Bwt	6 Blk	12 Blk 1 Bwt 1 Br Blk	25 Blk 5 Bwt
Scotsville	No Survey	2 Mal 3 Bwt 13 Rnd	0	No Survey	No Survey	No Survey	11 Blk 2 Bwt	No Survey			

\* Br (Brood): All broods with 1 adult bird; ( ) indicates No. ducklings.

TABLE #1 (CONT'D) WATERFOWL OBSERVED AT TRAP SITES, CAPE BRETON ISLAND 1990

Date	Sept 12	13	14	15	16	17	18	19	20	21
Margaree River	12 Blk 3 Bwt	4 Blk	0	10 Blk 12 Bwt	30 Blk 10 Bwt 1 Wc	13 Blk 20 Bwt 1 BEagle	8 Blk 2 Bwt 1 BEagle	2 Bwt 30 Blk 1 BEagle	24 Blk 2 Bwt 1 BEagle	25 Blk
Kenlock Station	0	8 Blk 4 Loon	0	0	4 Blk 4 Loon 2 BEagle	5 Blk 2 Loon	0	0	2 Blk	5 Blk 2 Loon 1 BEagle
Indian Point	8 Blk 2 Gwt 2 Bwt	8 Blk 1 BEagle 2 Bwt	5 Blk 8 Bwt	0	6 Blk 1 BEagle	25 Blk 1 Bwt	25 Blk 6 Bwt	9 Blk	26 Blk 4 Bwt	0
MacCormick Corner	0	No Survey	400 Rnd	No Survey	No Survey	No Survey	No Survey	35 Rnd	25 Rnd	10 Rnd 2 BEagle
Livingston Pond	0	0	6 Bwt 8 Blk	10 Blk 2 Bwt	3 Blk	8 Blk	3 Blk	2 Blk	11 Blk 1 Bwt	6 Blk 1 Bwt
Glengary	23 Blk	0	40 Blk	3 Blk 10 Bwt	8 Blk 10 Bwt	3 Blk	2 Blk 1 Mal	26 Blk 12 Bwt	16 Blk	0
Glendyer	45 Bwt	20 Bwt	10 Blk 40 Bwt	6 Blk 40 Bwt	60 Bwt 8 Blk	20 Blk 18 Bwt 15 Gwt 2 BEagle	10 Blk 25 Bwt 10 Gwt 12 Wd	10 Blk 40 Bwt 12 Wc	40 Bwt 8 Blk	26 Bwt 12 Gwt 10 Blk
MacKinnon Pond	12 Blk 8 Gwt 5 Rnd	0	7 Blk	0	1 Rnd	0	0	5 Rnd	4 Rnd 8 Blk	0
Gillis Pond	24 Blk 4 Bwt	12 Blk 1 BEagle	0	8 Blk 2 Gwt	6 Blk	5 Blk 2 BEagle	0	3 Blk	6 Blk	11 Blk 2 Bwt
Scotsville								1 BEagle		

\* Br (Brood): All broods with 1 adult bird; ( ) indicates No. ducklings.

TABLE #1 (CONT'D) WATERFOWL OBSERVED AT TRAP SITES, CAPE BRETON ISLAND 1990

Date	Sept 22	23	24	25	26	27	28	29	30
Margaree River	10 Blk 1 Bwt 1 BEagle	26 Blk 2 Mall 2 Bwt	14 Blk 4 Bwt 1 Mall 1 BEagle	2 Blk	12 Blk 6 Rnd	6 Blk 2 Mall	5 Blk	18 Blk Picked up 2 traps	0
Kenlock Station	2 Bwt	2 Bwt	3 Bwt 2 Rnd 4 BEagle	3 Bwt 3 Loon	1 Bwt 1 Rnd	2 Rnd	1 Blk 1 Loon	4 Blk	9 Rnd
Indian Point	0	15 Blk 3 BEagle	1 Gwt 3 BEagle	0	0	5 Gwt	21 Blk	0	4 Blk 1 BEagle
MacCormick Corner	30 Rnd	58 Rnd 5 Blk	125 Rnd	No Survey	0	2 Rnd	4 Rnd	11 Rnd	3 Rnd
Livingston Pond	0	13 Blk 4 Bwt	10 Blk 6 Bwt	30 Blk 8 Bwt	12 Blk 6 BEagle	2 Blk	0	4 Bwt Picked up trap	
Glengary	15 Blk 1 BEagle	10 Blk	1 BEagle	0	0	21 Blk 8 Gwt 4 Bwt	25 Blk 10 Bwt	1 BEagle	3 Blk
Glendyer	30 Bwt 10 Blk 10 Wc	8 Blk 6 Gwt 4 Bwt 6 Wd	10 Bwt	6 Blk 30 Bwt	20 Bwt 4 Blk	20 Blk 10 Bwt 30 Gwt	20 Blk 18 Wd 10 Bwt 14 Gwt	10 Bwt 2 Blk 1 BEagle	50 Bwt 10 Blk 10 Wd
MacKinnon Pond	0	13 Blk 4 Rnd	0	5 Rnd 4 Bwt	5 Rnd 2 BEagle	5 Blk 4 Rnd	5 Rnd	3 Blk 5 Rnd	0
Gillis Pond	3 Bwt 1 Loon	16 Blk	16 Blk 12 Bwt	0	6 Blk 1 Mall	0	1 Blk	4 Blk	1 BEagle
Scotsville									

\* Br (Brood): All broods with 1 adult bird; ( ) indicates No. ducklings.



TABLE #2 BIRDS BANDED BY TRAP LOCATION: CAPE BRETON ISLAND 1990

Date	Aug 25	26	27	28	29	30	31	Sept 1	2	3	4	5	6
Margaree River	3 Blk	1 Blk	1 Blk	2 Blk	2 Blk	2 Blk	3 Blk 1 Mal-hyb.	2 Gwt	1 Blk	1 Blk			
Kenlock Station									2 Blk 1 Mal-hyb.	1 Blk	2 Blk 2 Mal-hyb. 2 Mall	2 Blk 2 Mall	4 Blk
MacCormick Corner													
Indian Point			1 Blk				3 Blk		2 Blk		2 Gwt	1 Blk 1 Gwt	
Glengary			2 Blk		4 Blk		1 Blk	2 Blk	1 Blk	1 Blk	3 Blk	1 Blk	4 Blk
Glendyer													
Livingston Pond									2 Blk	4 Blk	1 Blk		2 Blk
Gillis Pond													
MacKinnon Pond										2 Bwt		1 Bwt 1 Blk	2 Bwt

TABLE #2 (CONT'D) BANDING BY TRAP LOCATION: CAPE BRETON ISLAND 1990

Date	Sept 7	8	9	10	11	12	13	14	15	16	17	18
Margaree River		3 Blk	4 Blk	4 Blk		2 Blk		1 Blk	2 Blk 1 Gwt		2 Blk 2 Rnd	1 Blk
Kenlock Station	1 Blk	1 Blk	4 Blk 1 Mall	1 Blk	1 Blk	1 Blk		1 Blk	1 Blk	1 Blk		
MacCormick Corner												
Indian Point	1 Gwt	1 Gwt 3 Blk	2 Blk	1 Pin	6 Blk	2 Pin 2 Blk 1 Gwt		4 Gwt 2 Blk	1 Gwt		1 Blk	1 Mal-hyb. 1 Blk
Glengary	2 Blk	4 Blk	2 Blk	3 Blk		1 Blk	4 Blk	3 Blk	2 Blk 1 Mall			
Glendyer												
Livingston Pond		2 Blk		1 Blk 1 Gwt				3 Blk	1 Blk	1 Blk	2 Blk	
Gillis Pond												
MacKinnon Pond		1 Bwt		1 Blk		1 Blk 1 Bwt			1 Blk		1 Blk	

TABLE #2 (CONT'D) ANDING BY TRAP LOCATION: CAPE BRETON ISLAND 1990

Date	Sept 19	20	21	22	23	24	25	26	27	28	29	30
Margaree River	1 Wc	1 Blk		1 Blk			1 Blk	1 Blk		1 Blk	3 Blk	
Konlock Station	1 Rnd	1 Rnd				2 Blk 1 Mal- hyb.		1 Rnd			1 Rnd	
MacCormick Corner												4 Rnd
Indian Point	3 Blk	3 Blk	1 Blk 2 Gwt	1 Gwt	1 Gwt			1 Blk	1 Gwt		1 Gwt	
Glengary	2 Blk	2 Blk		1 Blk	1 Blk		2 Blk	1 Mall		1 Mall 1 Blk	1 Blk	
Glendyer		1 Blk 1 Mall	4 Blk 1 Gwt	2 Blk					2 Wc		2 Wc 1 Blk	4 Wc
Livingston Pond		1 Blk	1 Blk	1 Blk		2 Blk			2 Gwt		2 Blk	
Gillis Pond	1 Blk			2 Blk	1 Blk						1 Blk	
MacKinnon Pond								1 Rnd	1 Rnd		1 Rnd	1 Rnd

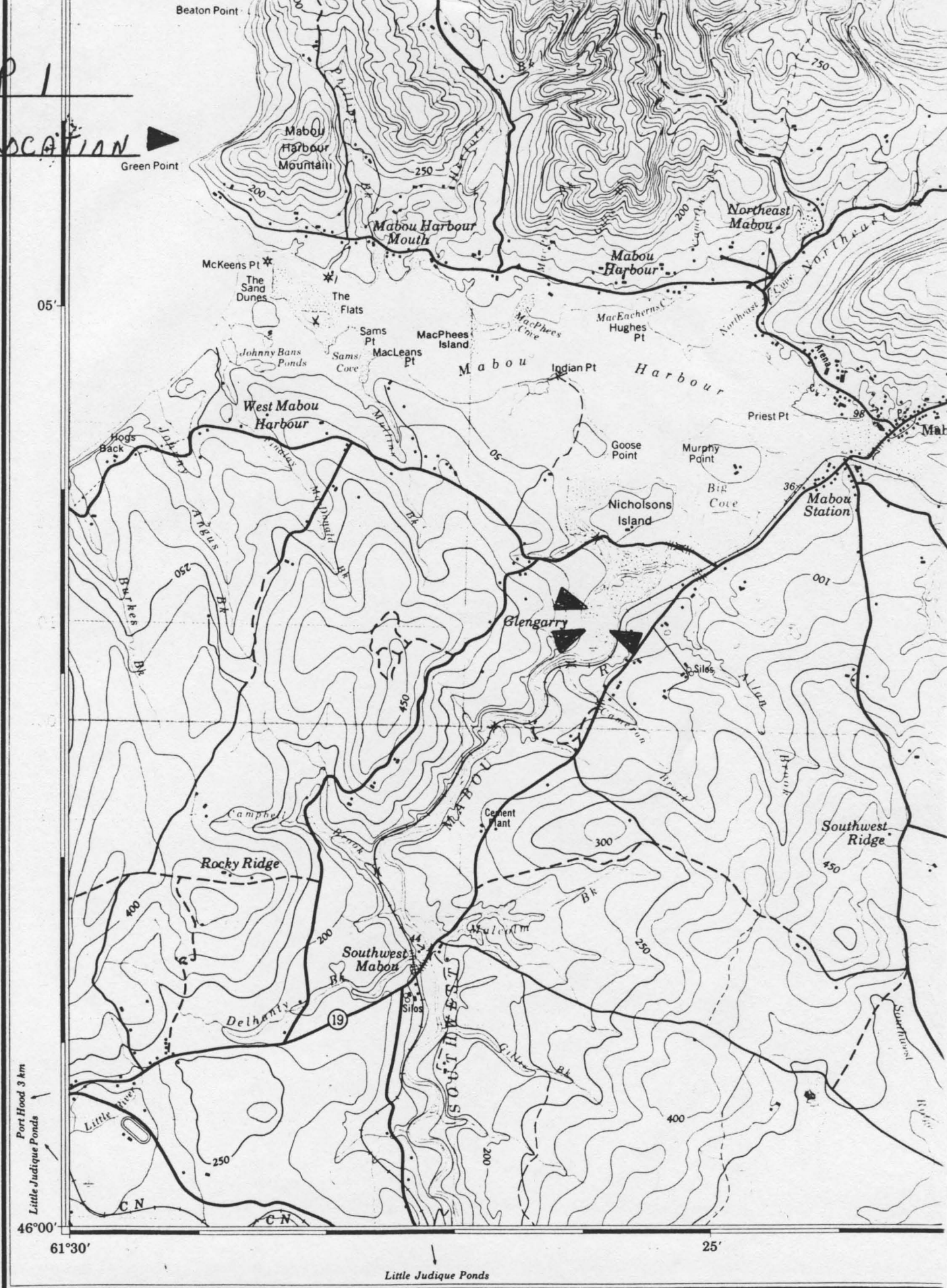


TABLE #3 SEX, AGE AND SPECIES OF WATERFOWL BANDED: CAPE BRETON ISLAND, 1990

	ADULT			HATCH YEAR			LOCAL			Unk	TOTAL
	M	F	T	M	F	T	M	F	T		
Black Duck	16	34	50	64	72	136	5	4	9	-	195
Mallard	1	3	4	4	1	5	-	-	-	-	9
BlackxMal Hybrid	2	-	2	1	1	2	-	-	-	-	4
Green- winged Teal	5	6	11	9	4	13	-	-	-	-	24
Blue-winged Teal	1	2	3	2	2	4	-	-	-	1	8
Ring-necked duck	2	1	3	3	6	9	1	1	2	-	14
Wood Duck	9	-	9	-	-	-	-	-	-	-	9
Northern Pintail	1	1	2	-	1	1	-	-	-	-	3
TOTALS	37	46	83	84	88	170	6	5	12	1	266

MAP 1

TRAP LOCATION



Port Hood 3 km  
 Little Judique Ponds

46°00'

61°30'

25'

Little Judique Ponds



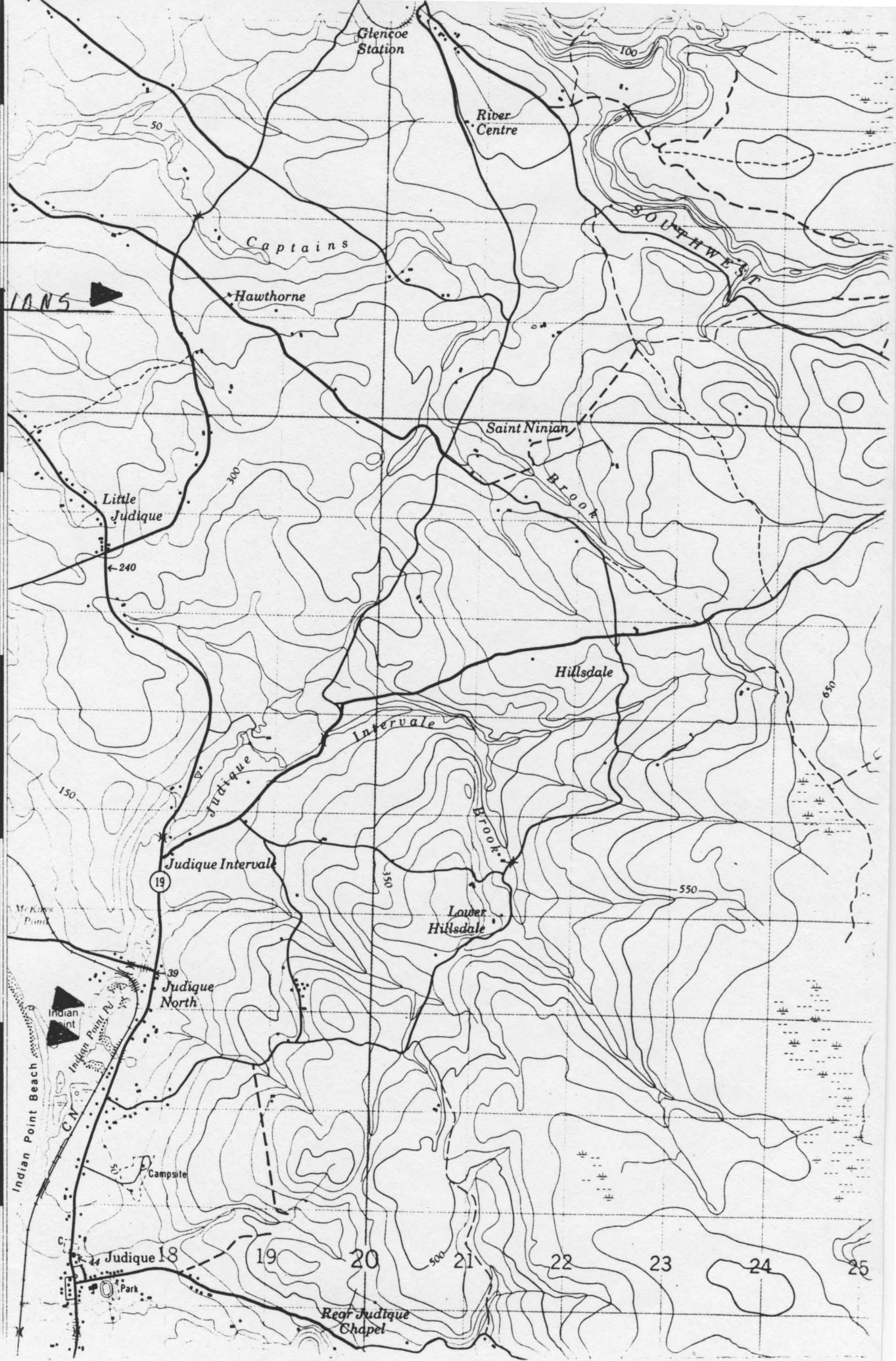
MAP 2

TRAP LOCATIONS

Harbourview 5 km

Mabou 10 km

55° N



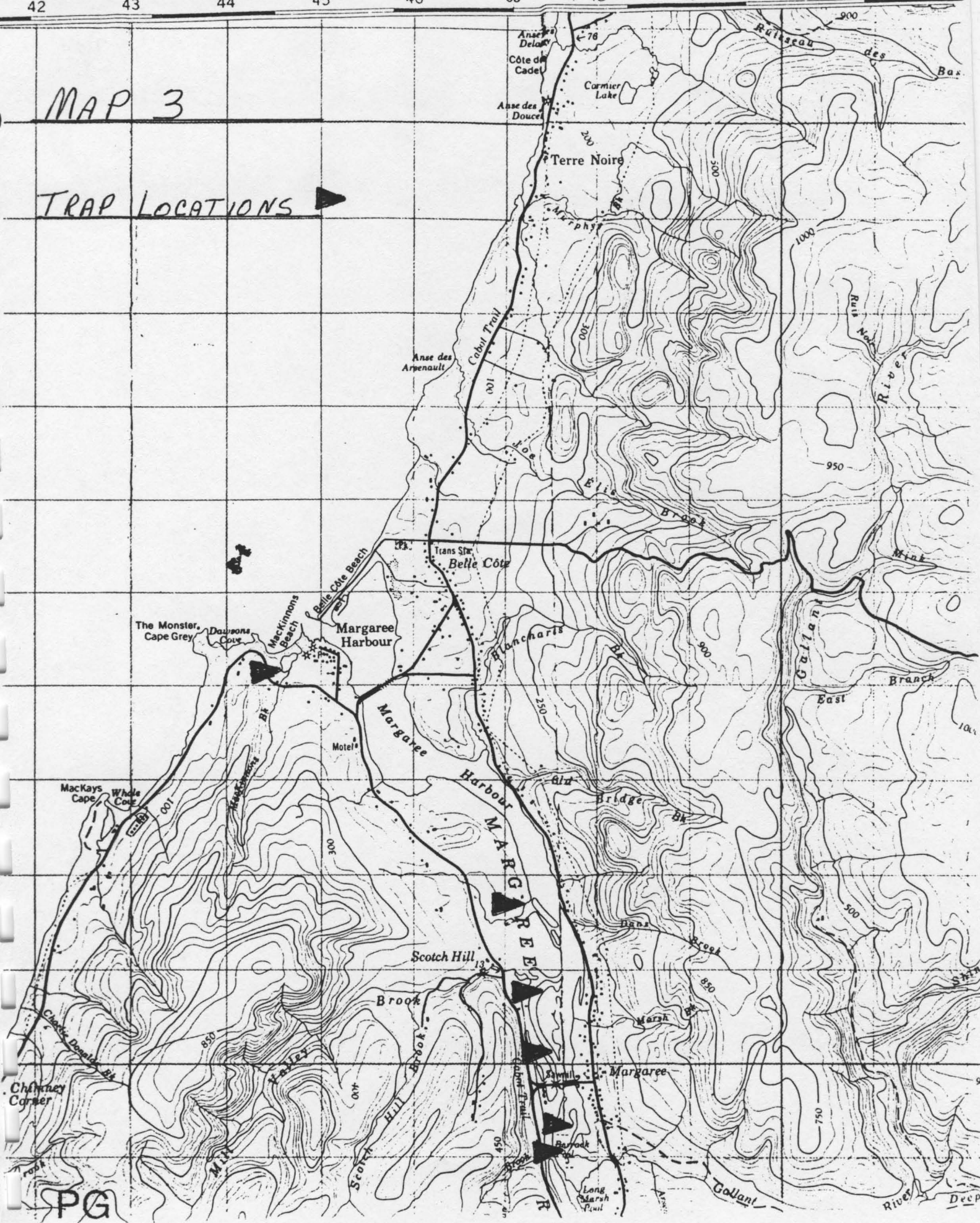


Cap Le Moine 1 km

42 43 44 45 46 05' 48 49 50 51

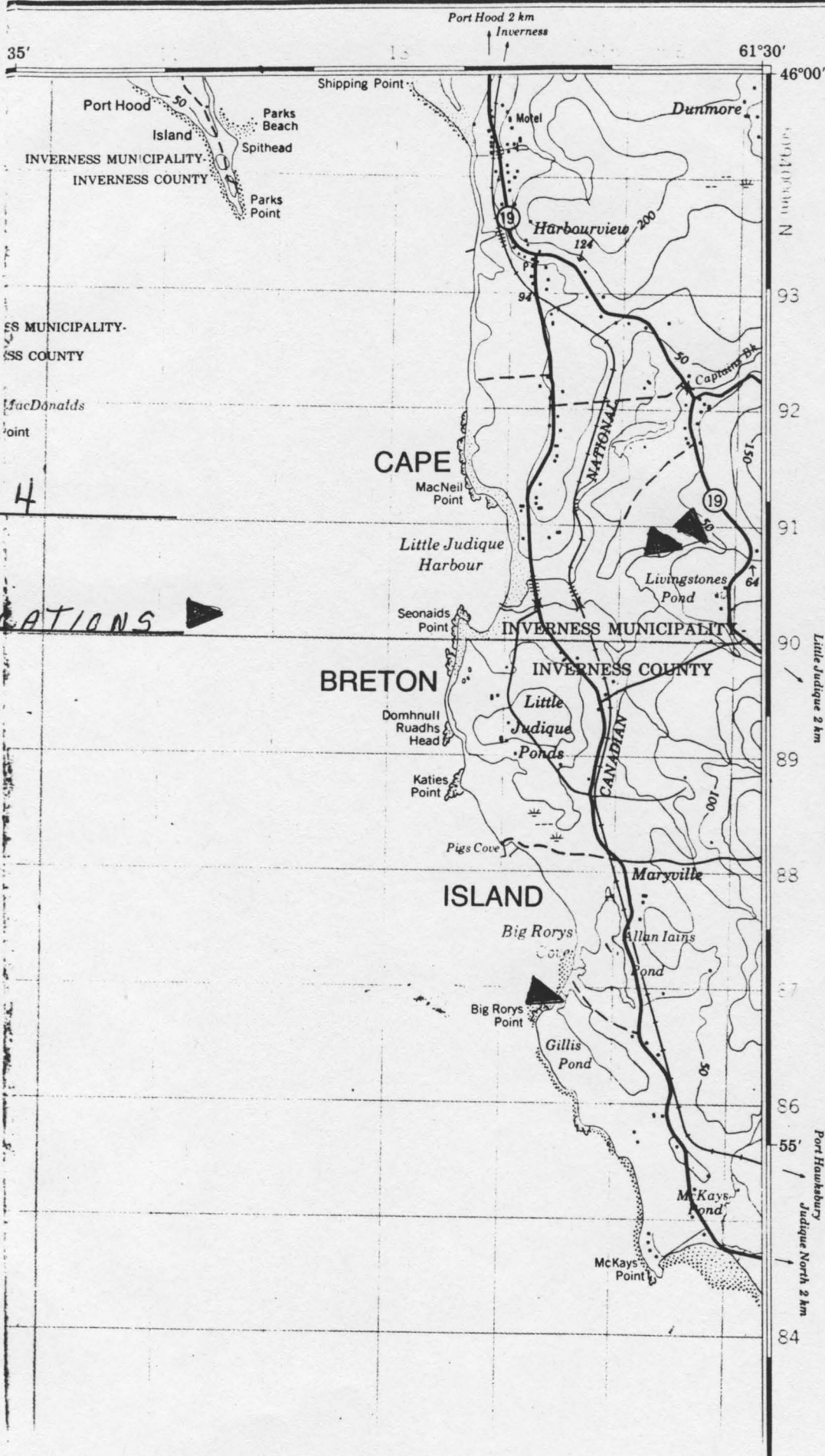
MAP 3

TRAP LOCATIONS



PG

Military users refer to this map as Reference de cette carte pour usage militaire



GLOSSARY

- Airfield .....
- Arena .....
- City Limits .....
- Customs .....
- Ditch .....
- Dugout .....
- Dump .....
- Filtration Plant .....
- Gas .....
- Golf Course .....
- Junk Yard .....
- Kiln .....
- Lookout .....
- Mine Waste .....
- Oil Wells .....
- Park .....
- Rink .....
- Senior Citizens Home .....
- Ski Area .....
- String Bog .....
- Surveyed Line .....
- Tank .....
- Water .....
- Winter Road .....

For a complete glossary see reference. Pour un glossaire complet voir la référence.

ABBREVIATIONS

- Aband ..... Abandoned
- C ..... Cemetery
- CO ..... County
- E ..... Elevator
- Fy ..... Ferry
- IR ..... Indian Reserve
- H ..... Hospital
- L ..... Lot
- Micro ..... Microwave
- Mun ..... Municipal
- P ..... Post Office
- PH ..... Power House
- RCMP ..... Royal Canadian Mounted Police
- Res ..... Reservoir
- Trans Sta ..... Transformer Station
- TFL ..... Tree Farm License



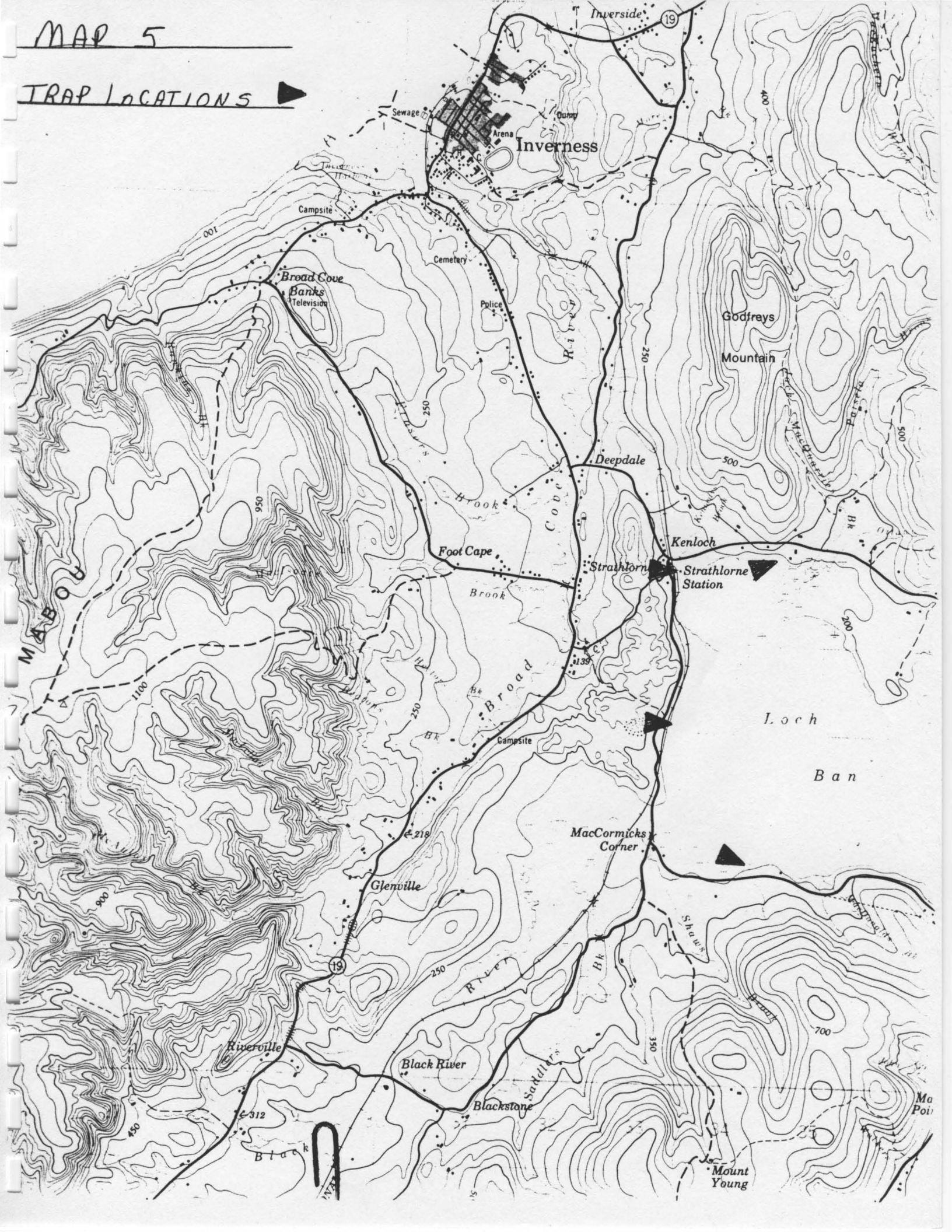
MAP 4

TRAP LOCATIONS



MAP 5

TRAP LOCATIONS





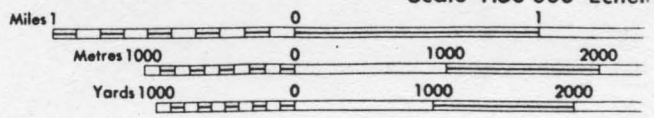


**MAP 6**  
**TRAP LOCATIONS**

ds.	Routes		
surface, all weather	pavée, toute saison	dual highway 2 chaussées séparées	more than 2 lanes plus de 2 voies
rd surface, all weather	pavée, toute saison	2 lanes 2 voies	less than 2 lanes moins de 2 voies
le or stabilized surface, all weather	gravier, aggloméré, toute saison	2 lanes or more 2 voies ou plus	less than 2 lanes moins de 2 voies
e surface, dry weather	de gravier, temps sec		
classified streets	rues hors classe		
rt track	de terre		
cut line or portage	sentier, percée ou portage		
FOR COMPLETE REFERENCE SEE REVERSE SIDE    POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO			

**LAKE AINS**  
**NOVA SCOTIA**

Scale 1:50 000 Échelle



Rocket Meeting



P.E.I. Canada Goose Rocket Net Exercise

20 March - 15 April 1990

Crew Members

W. R. Barrow, CWS, Sackville, N.B.

F. Hartman, Pennsylvania Game Commission



## Introduction

A combined effort by P.E.I., U.S.A. and Canadian wildlife agencies contributed to a successful program with the banding and neck-collaring of 142 Canada Geese in spring 1990. Eight banding operations have been carried out since 1983 and to date 532 geese have been banded on P.E.I. This year's results are the final contribution to the neck collar program initiated by Rick Malecki, Cornell University, N.Y. Future banding will contribute to a new neck collar program initiated by Jay Hestbeck, Massachusetts Cooperative Wildlife Research Unit. This study will assess the impact of resident geese on migrants in addition to determining distribution, survival rates, age and sex ratios, population estimates and the effects of regulations on these two distinct populations.

## Methods

Prebaiting was initiated by P.E.I. Conservation Officer, John Clements on March 16 shortly after the first migrants were sighted on P.E.I. Prebaiting and station set-up continued for a week until the arrival of Fred Hartman, Pennsylvania Fish & Wildlife biologist. The USA equipment (fixed rocket net boxes) were stationed in the Orwell area while the more mobile CWS ground sets were used in five areas between Tryon and Souris (Fig. 1). The first nets were fired on March 28 resulting in 21 geese banded at Tryon and 12 at Orwell.

The input from the PEI Fish & Wildlife Branch contributed significantly to a successful program. The central and eastern sections of PEI were patrolled daily by radio equipped personnel in contact with mobile banding crews.

### Results and Discussion

A total of 142 geese and 3 blacks was banded during this spring exercise (Table 1 and 2). It was the eighth seasonal effort for P.E.I. and the fifth seasonal neck collar program since 1987. The total of 142 geese banded was the highest to date surpassing the previous high in 1985 by 22 birds. A grand total of 625 geese have been banded 1983-1990; all but 93 were banded on P.E.I. Spring banding on P.E.I. appears to be more successful as the seasonal average for this period is nearly triple that for fall banding (117 vs 44). A summary of the seven year goose banding program is presented in Table 3.

Unlike post season banding where many factors (weather, hunting pressure, farming practice, goose behaviour, and unlimited coastal and agriculture food source) will determine success, only weather conditions appear to be the constant but dominant factor in spring banding. The extremes for this influence were experienced during the 1989-90 banding seasons. In 1989 spring storms prevented station set-up to the extent that even observations were made with difficulty. Fog, rain and moderating temperatures hastened migration and banding was redirected to Codroy, Nfld. During 1990 a false spring in mid March opened some coastal areas and exposed many fields used traditionally by goose migrants. Bitter cold with westerly winds followed forcing ice to shore throughout most of the Northumberland Strait Zostera feeding zone. Only the agriculture zone was available for feeding geese a factor most favourable for a rocket net exercise.

The seasonal flock composition is predictable but interesting. Fall banding efforts capture more immature geese and

conversely spring banding favors the adult geese. It appears that most of the harvest is young birds with good adult survival for the following breeding season. The adult per immature ratio (2.7:1) is unusually high considering they are the most wary and presumably less trapable and that immatures should outnumber adults. It is suggested that many of the second year immature birds which are difficult to separate by age class have inflated the adult totals. In addition, the sex ratio appears to favour females in both age classes. To date 347 females and 277 males have been banded with a 1.3:1 ratio. The adult ratio is approximately equal (1:1) and the immature female cohort double (2.2:1) that of immature males (Table 3).

Tables 4A and 4B summarize the costing for the P.E.I. goose banding programs 1983-90. The total cost in 1990 (5558.40) was the highest on record; however the cost per goose was less than half the six year average and the lowest since 1983. The costing figure is more an index of CWS effort than actual economics. The contribution from the P.E.I. Wildlife Division in 1990 was considerable and not factored into any accounting. The wages and travel costs for Fred Hartman from Pennsylvania were not available. In addition, clerical work, supervisory time, and equipment depreciation were not considered. An estimate for the entire program would approach \$20,000 costing \$140 to band each goose.

Two net set-ups were employed on P.E.I. in 1990. Three net boxes provided by the Pennsylvania Game Commission were set near Orwell. Six CWS ground sets were mobile throughout Queens and Kings counties, P.E.I. Approximately 75% of the birds were banded with ground sets which is a reflection of more nets and somewhat more



flexibility. The ground sets require more care after set-up, were prone to malfunction, and affected by weather. The box nets were heavy and hard to transport, and too obvious for wary geese. The conditioning period for box nets would sometimes take a week whereas ground sets were functioning within a day. Maintenance for net boxes was minimal and with larger nets were more productive per shot. One person can set up a ground net while a crew is required for any net box operation. The combination of both sets contributed to a successful program.

The neck collar program was initiated in 1983 however Canadian Wildlife Service participation was delayed until 1987. A total of 460 bands and 437 collars have been fitted on geese since 1987. The discrepancy in band and collar totals is due to misplaced collars in 1988, neck-collaring a recapture in 1989 and banding local geese too small for collars in 1990. A listing of the collar and band inventory used during the four year Canadian program is presented in Table 5.

Table 6 summarizes the recovery percentages for those programs 1987-1989. Those data for 1990 banding programs in P.E.I., N.B. and Labrador are presently unavailable. First year sightings within the province of banding and multiple yearly sightings in the same province or state for subsequent years were not considered. Example - three sightings for collar #8XK3 in New York between 2 Dec. 1988 and 3 March 1989 were recorded as one. The time spent on an area is useful for determining wintering grounds and habitat use but are not considered in this brief. Bird collar #8XK3 was harvested in Labrador in September 1989 so in actual fact the four collar records

are two, one each for Labrador and New York. The neck collar program is unique in that recovery percentages are based on hunter harvest returns and observations of live birds.

To date 244 banded birds, 131 band recoveries and a recovery percentage of 54% are on record. This exceeds by far the 13% recovery percentage based entirely on hunter harvest for a sixty-seven year period 1920-1987. Variances for individual years depends on the data flow and time lapse for processing. Recovery percentages for 1987-88 are approximately 70% while those for 1989 approach 45%.

When multiple recoveries for successive years are considered recovery percentages can exceed 100 percent. The Goose with collar #1XK9 was banded in 1987, observed on P.E.I. in four successive seasons and harvested in Massachusetts, January 1990. This visual and multiple recovery technique has enhanced data return to the extent that recovery information has increased by 75% in one-tenth the time.

In addition to sighting locations the neck collar program and corresponding hunter interest has increased the normal hunter recovery report rate. In just three years of neck collar returns the recovery percentage exceeds that for a thirty-year program with a 50% larger sample base (Table 7). A shift in the harvest pattern from the southern states is indicated but the 20 percent decline for areas south of Long Island and corresponding increases for New England and Canadian returns may be an invalid assumption.

The list of sightings (Table 8) may be indicative of the present wintering range of Atlantic Province Canada Goose. Other than the three Ohio birds (probably an error) a strict coastal regime is indicative of this population. A similar trend as noted for harvest

recoveries is again obvious in that the southern limits of Atlantic Province Canada Goose wintering range has decreased. Large numbers of returns for Virginia and North Carolina are not appearing. Geese are banded in the Carolina's (Table 9) but little exchange is presently indicated.

Since 1983 over thirty thousand geese have been neck collared within the Atlantic Flyway. The accumulation of data is astounding and will continue for years to come. A summary report by USA biologists is anticipated for late 1991.



### Recommendations

- 1) The most productive and efficient time to band geese on P.E.I. appears to be spring migration. There is no conflict or concern over enforcement, hunters, or farming, manpower is available and geese are more susceptible to netting.
- 2) A program designed to follow the migration into Malpeque Bay could potentially result in 300-500 geese banded.
- 3) The standard bait of whole or cracked corn was often ignored by geese. A barley, oat and corn mixture was more effective.
- 4) Ground sets required special attention (at some exposed locations on an hourly basis). Frost will heave net anchor stakes necessary for proper net pattern.
- 5) A portable radio is necessary for a mobile banding crew. Staggered shots, and moving to many sites in a day was only possible with constant communication by portable radio.

### Acknowledgements

Without the assistance of the P.E.I. Fish and Wildlife Division, a rocket net program would be less effective. Supervisory support from Art Smith, Randy Dibblee and Nelson Hurry was vital to the program. A special thanks to John Clements and Tom Duffy who assisted in the "trench work". Thanks also to Fred Hartman who assisted in all aspects of the banding, tolerated two weeks of my cooking and endured two wrangy, wire-haired pointers.

Table 1. Age and Sex breakdown for waterfowl banded on P.E.I. - Spring 1990

	SY			AHY			Total
	M	F	Total	M	F	Total	
Canada Goose	11	33	44	54	44	98	142
Black Duck				1	2	3	3

Table 2. Age and Sex breakdown and location for Canada Geese banded on P.E.I. - Spring 1990.

	SY			AHY			Total
	M	F	Total	M	F	Total	
Orwell Bay	-	7	7	16	13	29	36
Glenfinnan	3	8	11	12	8	20	31
Warren Grove	-	-	-	1	1	2	2
Tryon	6	16	22	22	15	37	59
Augustine Cove	2	2	4	3	7	10	14
Souris	-	-	-	-	-	-	-
Total	11	33	44	54	44	98	142

Table 3. Summary of Atlantic Region Goose banding efforts 1983-1990

Date	Species	Immature		Adult		U	Total
		M	F	M	F		
1983(S) <sup>1</sup>	Canada Goose	-	-	11	13	-	24
1984(S)	"	-	1	8	12	-	21
1985(S)	"	-	-	60	60	-	120
1987(F)	"	12	17	7	9	-	45
1988(S)	"	-	-	41	52	-	93
1988(F)	"	13	32	11	15	1	72
1989(S)*	"	-	1	5	3	-	9
1989(F)**	"	8	20	8	8		44
1990(S)	"	11	33	54	44		142
1990(F)***	"	10	12	18	15		55
Total	"	54	116	223	231	1	625

\*Codroy, Nfld. (9 birds)

\*\*Baikie Lake, Labrador (29 birds)  
Orwell, P.E.I. (15 birds)

\*\*\*Baikie Lake, Labrador (29 birds)  
Churchill Area, Labrador (7 birds, dog work)  
Bathurst, N.B. (19 birds)

<sup>1</sup>S = spring banded

F = fall banded



Table 4A. Cost analysis for the 1990 spring goose banding effort on P.E.I. (CWS contribution only)

Wages	Bait	Hardware & repairs	Cabin & groceries	Gas	Travel			Total	Total # of geese	Cost per goose
					Meals	Lodging	Ferry			
3500.00	386.40	150.00	690.00	468.00	214.00	25.00	125.00	5558.40	142	39.14

Table 4B. Cost/goose P.E.I. Goose Banding 1983-89 (CWS contributions only)

1983	1984	1985	1987	1988(S)	1988(F)	1989	6-year Average
39.17	157.33	71.01	95.60	58.85	76.48	N.A.	83.07

Table 5. Listing of band and neck collar numbers used for the Atlantic Region rocket net program 1987-90.

Date	Location	Band Sequence	Collar Numbers	Total Banded
3 Oct.- 3 Nov. 87	Orwell Bay P.E.I.	698-83701-83745	1XK1-1XK0 2XK1-2XK0 3XK1-3XK0 4XK1-4XK0 5XK1-5XK5	45
6 Apr. - 29 Apr. 88	Orwell & Pownal Bay Area, P.E.I.	628-75035-75061 698-83978-84000 718-15535-15550 728-15422-15450	5XK6-5XK0 6XK1-6XK0 7XK1-7XK0 8XK1-8XK0 9XK1-9XK0 0XK1-0XK0 1XM1-1XM0 2XM1-2XM0 3XM1-3XM0 4XM1-4XM5 4XM7-4XM9	93
1 Oct. - 15 Nov. 88	Orwell Bay P.E.I.	698-83746-83800 698-83801-83817	5XY1-5XY0 6XY1-6XY0 7XY1-7XY0 8XY1-8XY0 9XY1-9XY0 0XY1-0XY3	72 (53 collared)
24 Apr. - 5 May 89	Codroy, Nfld.	628-75062-75070	4XM0- 5XM1-5XM7 5XM9	9
16 Oct. - 27 Oct. 89	Orwell Bay P.E.I.	698-83818-83832	6XM1-6XM0 5XM8- 5XM0- 0XY5-0XY6 0XY0-	15
8 Sept. - 27 Sept. 89	Baikie Lake	718-15601-15629	1XU1-1XU0 3XU1-3XU0 4XU1-4XU5 4XU6 (recapture) 4XU7-4XU0	29   (1)

Table 5. Listing of band and neck collar numbers used for the Atlantic Region (cont'd.) rocket net program 1987-90.

Date	Location	Band Sequence	Collar Numbers	Total Banded
20 Mar.- 10 Apr. 90	P.E.I. Orwell Glenfinnan Warren Grove Tryon Agustine	628-75071-75100 728-15201-15215 728-15504-15600	0XY7-0XY9 4XY1-4XY0 3XY1-3XY0 2XY1-2XY0 1XY1-1XY0 7XM1-7XM0 8XM1-8XM0 0XM1-0XM0 2XU1- 2XU3-2XU0 7XU1-7XU2 7XU4-7XU0 9XU1-9XU4 9XU6-9XU7 9XU9-9XU0 0XU1-0XU6 0XU8-0XU0 8XU1-8XU0 9XM1-9XM0 2XT1-2XT0 3XT1-3XT2 3XT4-3XT5	142
15 Aug. - 24 Aug.	Churchill Falls Labrador area	718-15630-15636	6XT2-6XT3	7 (2 collared)
22 Aug - 26 Sept.	Baikie Lake, Lab.	728-15601-15629	5XU2-5XU4 5XU6-5XU0 6XU1-6XU0 8XT1-8XT0 9XT2	29
4 Sept. - 21 Oct.	Bathurst, N.B.	728-15216-15234	1XT0-1XT9 4XT0-4XT8	19



Table 6. Recovery data (observations and shot) for geese neck collared in the Atlantic Provinces 1987-90

Banding Location	Total Banded	Canadian Recoveries			U.S.A. Recoveries			Recovery Percentage
		# Shot	# Observed	%	# Shot	# Observed	%	
Insular Nfld. 1989	9	-	4	44	2	-	22	66
Labrador 1989	29	-	4	14	2	5	24	38
PEI 1987	45	7	33	89	8	20	62	151
PEI 1988(S)	93	8	51	63	4	25	31	94
(F)	53	6	44	94	3	12	28	122
PEI 1989(F)	15	3	-	20	-	1	7	27

S = spring banded

F = fall banded

Table 7. Comparison of recovery rates for normal banding and the neck collar program based on harvest returns.

	Normal Banding		Neck Collar Program	
Total banded	380		244	
Total recovered	26		39	
Recovery rate	7%		16%	
Canadian recoveries				
PEI	4		16	
NB	-		2	
NS	3	46%	4	61%
Nfld	1		2	
PQ	4		-	
New England recoveries				
ME	-		1	
NH	1		-	
MA	2	15%	3	21%
RI	1		2	
CT	-		2	
Southern U.S.A.				
NY	2		3	
NJ	-		2	
DE	3	38%	2	18%
MD	2		-	
NC	3		-	

Table 8. Sightings of P.E.I. neck-collared geese throughout the Atlantic Flyway.

Location	Total Sightings	Percent
Prince Edward Island	128	64
New Brunswick	3	1
Nova Scotia	1	-
Newfoundland-Labrador	3	1
Maine	4	2
Massachusetts	12	6
Rhode Island	4	2
Connecticut	7	3
New York	8	4
New Jersey	12	6
Delaware	6	3
Maryland	10	5
Ohio	3	1 (probably error)
Total	201	



Table 9. Number of geese neck-collared in the U.S.A. 1983-1987.

State	No. Banded	Percent
New York	5594	18
New Jersey	2397	8
Pennsylvania	2515	8
Maryland	8859	29
Delaware	2813	9
Virginia	2584	8
North Carolina	4961	16
South Carolina	751	2
Total	30456	

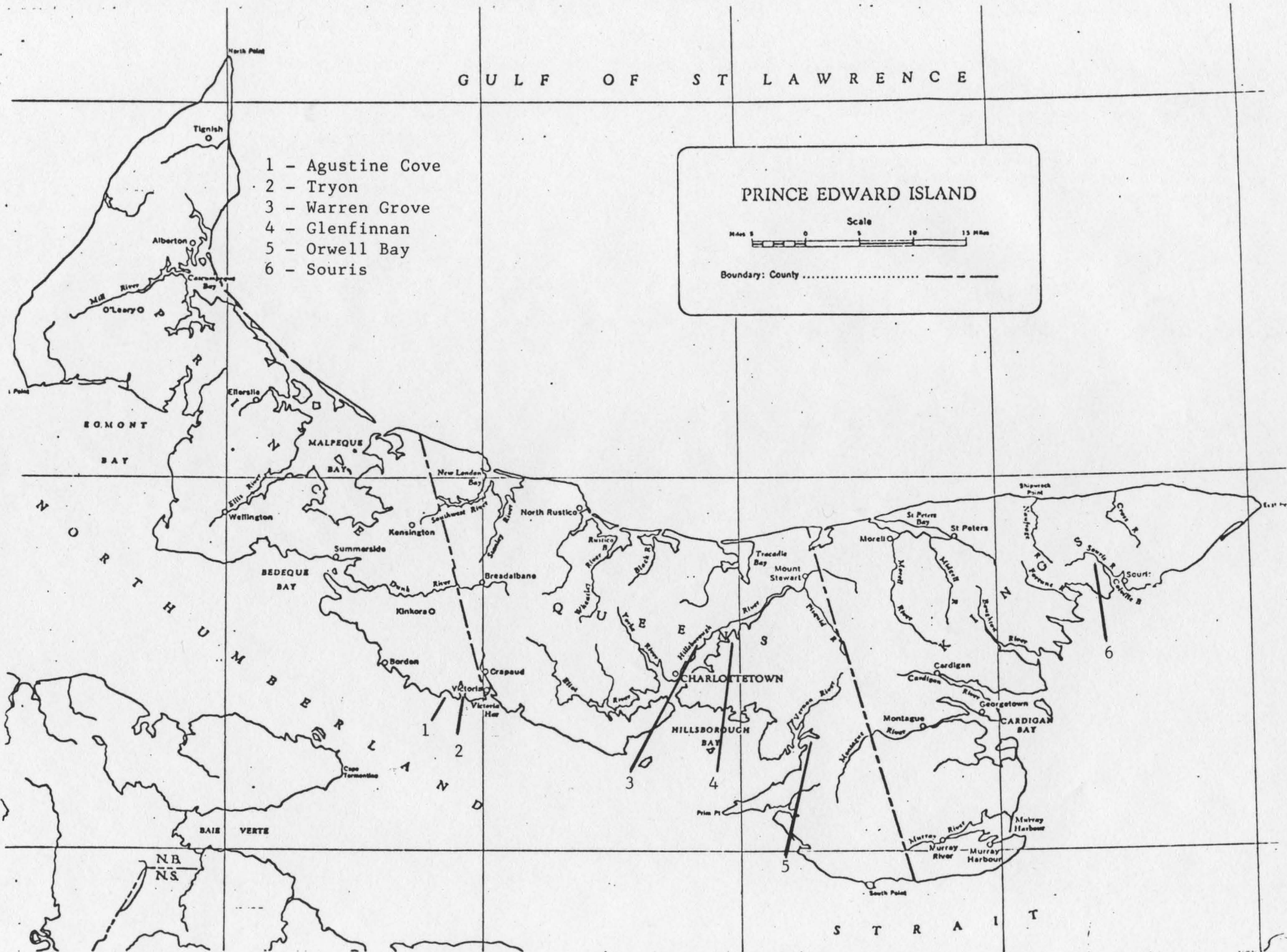


Figure 1. Rocket net banding locations P.E.I. 1990

PRINCE EDWARD ISLAND - CENTRAL

BAIT STATION REPORT

Stephen Bettles  
Kelly Crawford  
August, 1990.



## TABLE of CONTENTS

- Table of contents	i
- Abstract	ii
- Introduction	1
- Materials and Methods	2
- Banding Procedure	3
- Results	4
- Discussion	6
- Appendix	7
- Acknowledgements	12
- Bibliography and References	12

### List of Figures

Fig 1 Summary of ducks banded	5
Fig 2 Map of Bunbury	8
Fig 3 Map of Johnston's River	9
Fig 4 Map of Pisquid Impoundment	10
Fig 5 Map of Miller's Creek	11

### List of Tables

Tab 1 Total number of ducks banded with respect to age	4
---	---

## ABSTRACT

The 1990 bait station banding season on Prince Edward Island took place between the dates of August 1 and August 31 at various sites along the Hillsborough River. Sites selected were; Bunbury, Johnston's River, Pisquid Impoundment, and Miller's Creek in Ten Mile House. A total of 183 ducks was trapped using funnel traps and banded; 27 of these were American Black Duck (Anas rubripes). Other species trapped included Blue-wing Teal (Anas discors), American Green-wing Teal (Anas crecca), Wood Duck (Aix sponsa), Northern Pintail (Anas acuta), Mallard (Anas platyrhynchos), and a Mallard - Black Duck hybrid. Several other species were seen including Northern Shovelers (Anas clypeata) and American Wigeon (Anas americana). Miller's Creek proved to be the most successful area with a total of 93 ducks banded. Bunbury also had promising potential with 5 black ducks being caught in the few days the trap was open.

## INTRODUCTION

The U.S. Fish and Wildlife Service and the Canadian Wildlife Service contributed funds to the Central Prince Edward Island banding station as part of the Co-operative Waterfowl banding program. The Prince Edward Island bait trapping station operated August 1 to August 31, 1990. Four principal sites were chosen along the Hillsborough River in Queen's county; Fullerton's Marsh, Johnston's River, Tuddy's Pond in Glenfinnan, and Miller's Creek in Ten Mile House. Tommy Godfrey, the bander from the 1989 season, assisted in choosing locations and setting traps.

Poor weather during the last two weeks in May contributed to poor waterfowl production. Fewer ducks available resulted in limited success at these sites for the first two weeks. Paul Walker, airboat operator for the CWS, banded most ducks at Tuddy's Pond so after several recaptures and his recommendation, the trap was removed. Among the few ducks seen at Fullerton's Marsh were one brood of American Black Duck (*Anas rubripes*), several Blue-winged teal (*Anas discors*) and some Northern Shoveler (*Anas clypeata*). As well, this trap proved to be unsuccessful and was removed after two weeks.

Traps were placed at two new locations; Pisquid Impoundment and Bunbury. These traps proved to be successful during the short time they were in place and were maintained until the termination of the program.



## MATERIALS and METHODS

The C.W.S., Atlantic Region Head Office in Sackville, New Brunswick supplied all bands, bait buckets, scoop nets, paddles and P.F.D's, a canoe, a rental truck and trap material. Trap material (traps, poles and netting) were obtained from the Fish and Wildlife warehouse located at Beach Grove, West Royalty, P.E.I. where it had been stored for the previous year. Cracked corn and whole oats were purchased in 88 Lb. bags from Agro Co-op, Exhibition Dr., P.E.I. A number of duck decoys was borrowed from Mr. Bruce Smith, P.E.I. Dept. of the Environment.

On the first day, each location was scouted and areas where large numbers of ducks seemed to be congregating were baited. Bait was distributed in a 50 foot diameter around where the traps were to be set. The same areas were baited on the second day in a similar manner but the radius was decreased to half or a 25 foot diameter.

Traps were placed in the baited areas on the third day and were left in the open position with two feet between poles. The baiting diameter was once again decreased to include an area of approximately 10 feet surrounding the trap with a large concentration of bait being put in the trap.

Traps were closed and netting was placed over the top on the fourth day. The size of the openings were approximately four inches or 10 cm's. Baiting was limited to one pail and an area of about one foot outside of the trap with the majority of the bait being put into the trap. The traps were maintained in the closed position for the remainder of the program with daily routine checks, baiting and maintenance.

## BANDING PROCEDURE

When any ducks were encountered in the traps the netting was folded back and ducks were removed from the traps with scoop nets and then placed in empty bait bags to limit excitement injuries. Using proper handling procedures (C.W.S. Banding Manual) ducks were removed from the bait bags one at a time. The following data were recorded for each duck; age [local (L), hatch year (HY) or after hatch year (AHY)], sex, where the duck was caught, band number, and/or recapture band number if pertinent. Bands were placed on the leg loosely around the tarsometatarsus. The duck was then examined for overall health and released.

## RESULTS

During the 1990 banding season a total of 183 ducks was banded, 27 of these were black ducks. Miller's Creek proved to be the most successful area with a total of 93 ducks being banded. The second was Pisquid Impoundment with 66 ducks, followed by Johnston's River with 14 banded and Bunbury with only 8 banded. Table 1 explains composition of the ducks banded with respect to age breakdown (i.e. Local, Hatchyear, After Hatchyear). Local ducks (L) are ducks that are born and raised in the immediate area and are unable to fly long distances. Hatch year (HY) ducks are those that are born the year of banding and are able to fly from one marsh to another and after hatch year (AHY) ducks are adults. Figure 1 shows the composition of ducks banded per site while viewing along the Z-axis while it shows which sites were best for each species along the X-axis.

SPECIES	L		HY			AHY		TOTAL
	M	F	M	F	M	F		
Black duck		3	12	6	4	2	27	
Blue-winged teal		2	45	27	18	1	93	
Green-winged teal			15	13	8	11	47	
Mallard				1	1	1	3	
Pintail			3	4	1	1	9	
Wood duck			1		1	1	3	
Mallard X Bl Duck						1	1	
TOTALS		5	76	51	33	18	183	

Table 1. Species age and sex break down for waterfowl banded in Central Prince Edward Island 1990.



# Summary of Ducks Banded in PEI Central

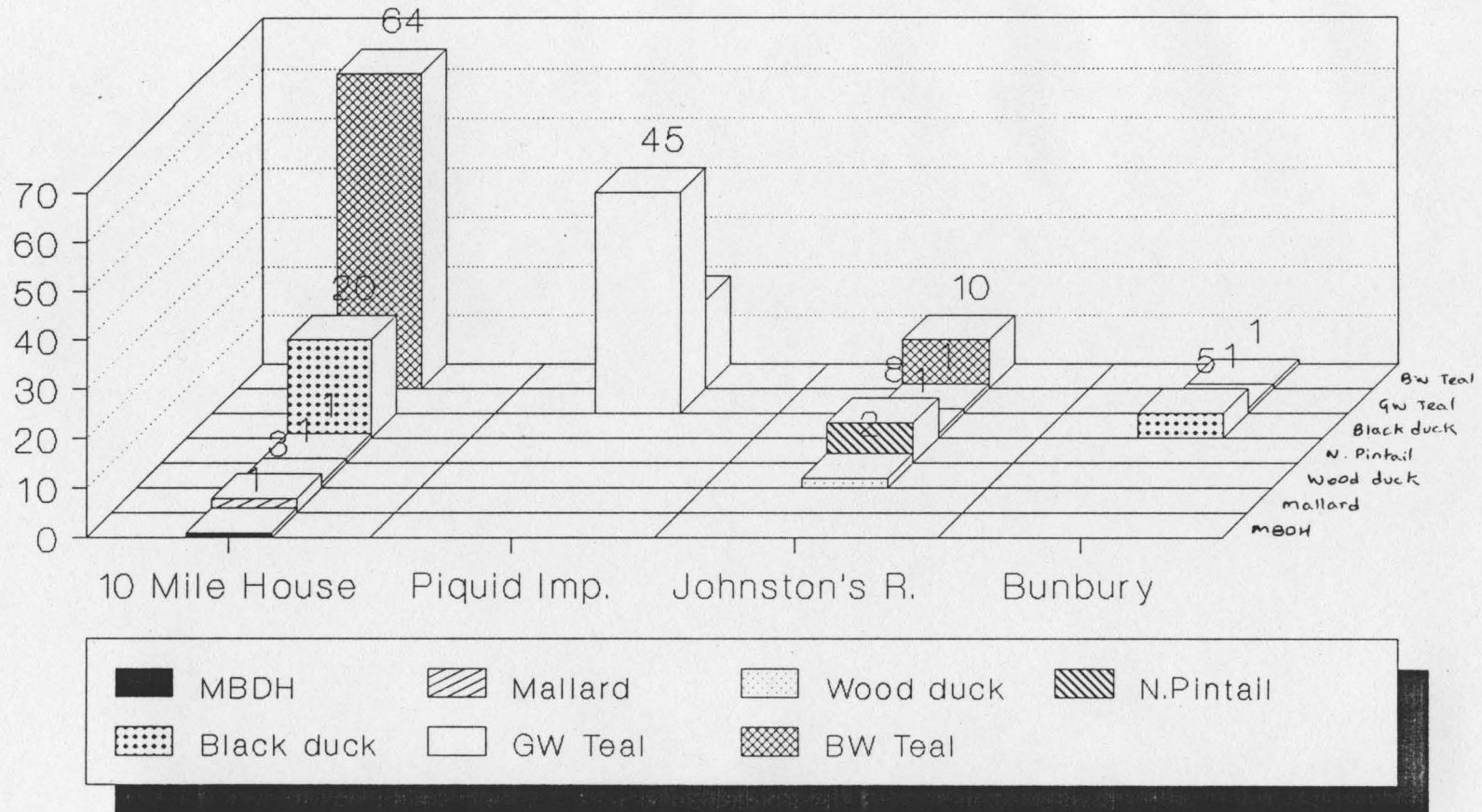


Figure 1. See text for explanation.

## DISCUSSION

According to an estimated cost/benefit ratio, the 1990 Prince Edward Island banding season may not be considered a successful one. Compared to the 1989 results, banding was down by over 300%. This could be caused in part by the heavy rains and cold weather in late may and the heavy rain storms throughout the summer creating high mortality factors for young ducklings. Brood surveys conducted by the P.E.I. Fish and Wildlife Division also indicated brood numbers to be low with a late staggered hatch (R.Curley Per.comm).

It may seem more beneficial to start baiting during the last week in July and extend banding to the first week in September in order to achieve greater results. During the last week, the number of ducks per trap increased. Another week would have yielded more ducks trapped.

Three ducks (one pintail and two blue-winged teal) were found dead in the traps with broken necks. Many others suffered lesions on their upper mandible and forehead from collisions with the cage. Some of the traps were rusted adding further to the injuries. It is recommended that a number of new traps be used for this bait station in years to follow as well as smaller sized mesh around the trap from the bottom to six inches above the waterline to alleviate these injuries.

## APPENDIX

Bunbury is located 6 km north-east of Charlottetown on the Bunbury road. Before reaching Fullerton's Marsh, there is a small pond on the right. Access is easy from the road. Approximately 1 km upstream is a dyke. Beyond that is the pond which is laden with submerged tree stumps and algae. See figure 2.

Johnston's River is located approximately 14 km north-east of Charlottetown on Route 257. Access is not easy at first due to low alder and dense cattails along the stream. Eventually the stream opens into a large marsh that contains many branches and hidden ponds. See figures 3.

Pisquid Impoundment is located on Route 21 approximately 4 km east of Mount Stewart. Access was made possible by travelling down a field belonging to Mr T. Jay. The Impoundment is dense with wild rice and cattails but several hidden openings revealed large quantities of ducks. See figures 4.

Miller's Creek is located on Route 260 in Ten Mile House. Access is easy from the road. This pond is shallow throughout ranging from a few centimetres to three meters in depth. The average depth of the pond is approximately 50 cm providing excellent habitat for dabbling ducks. Cattails around the entire perimeter provides excellent cover. See figure 5.



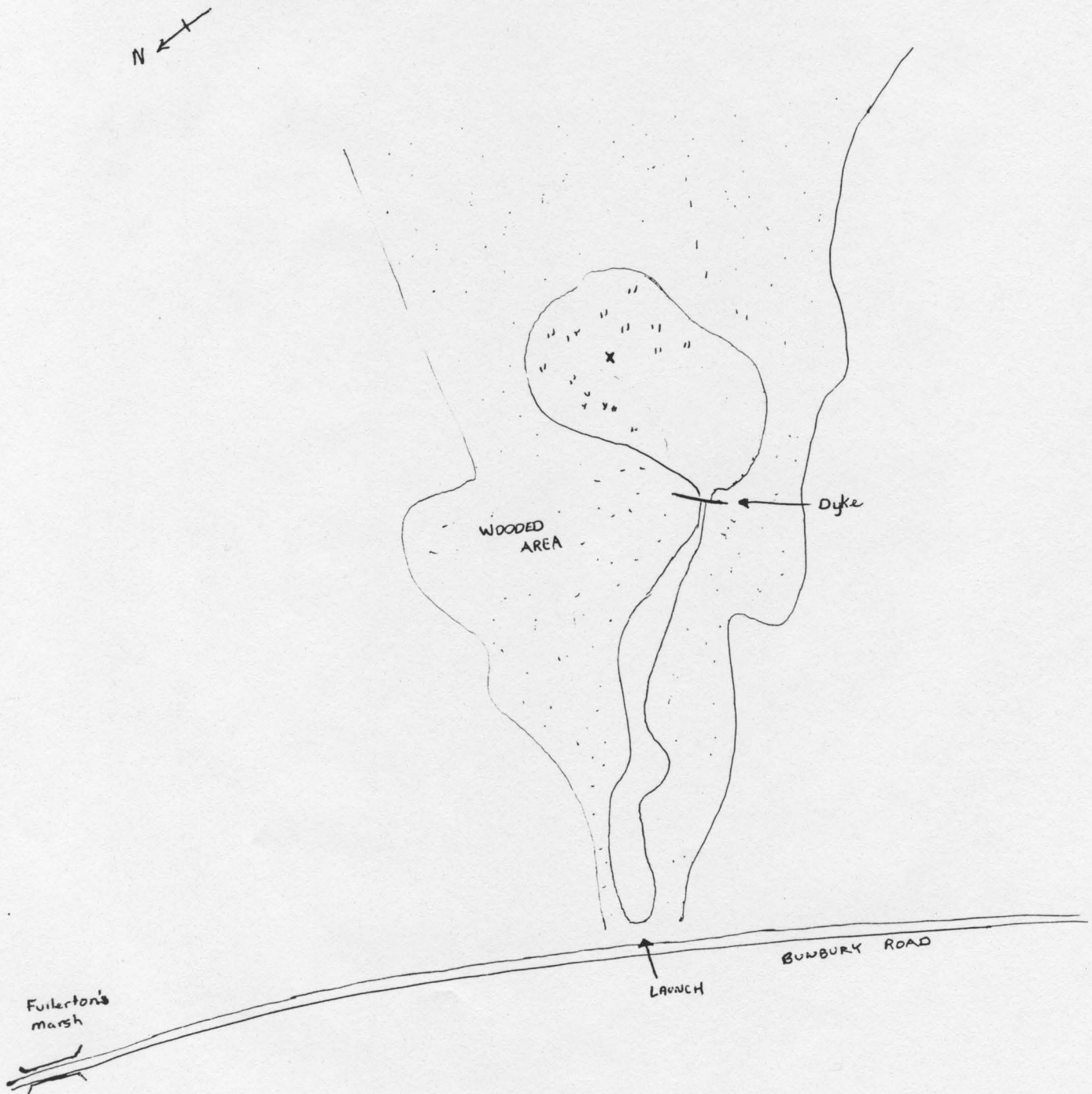
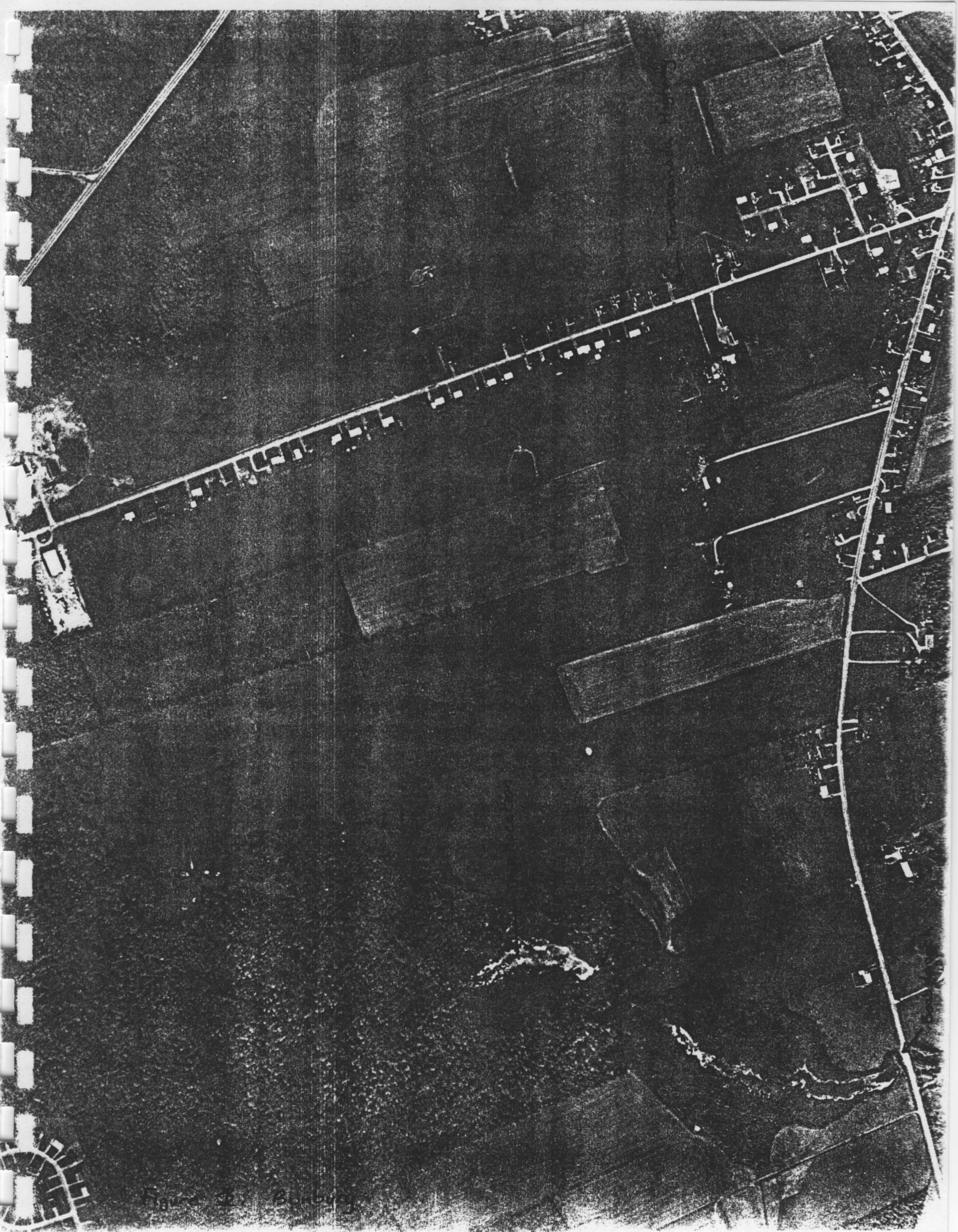


Figure 2 Bunbury





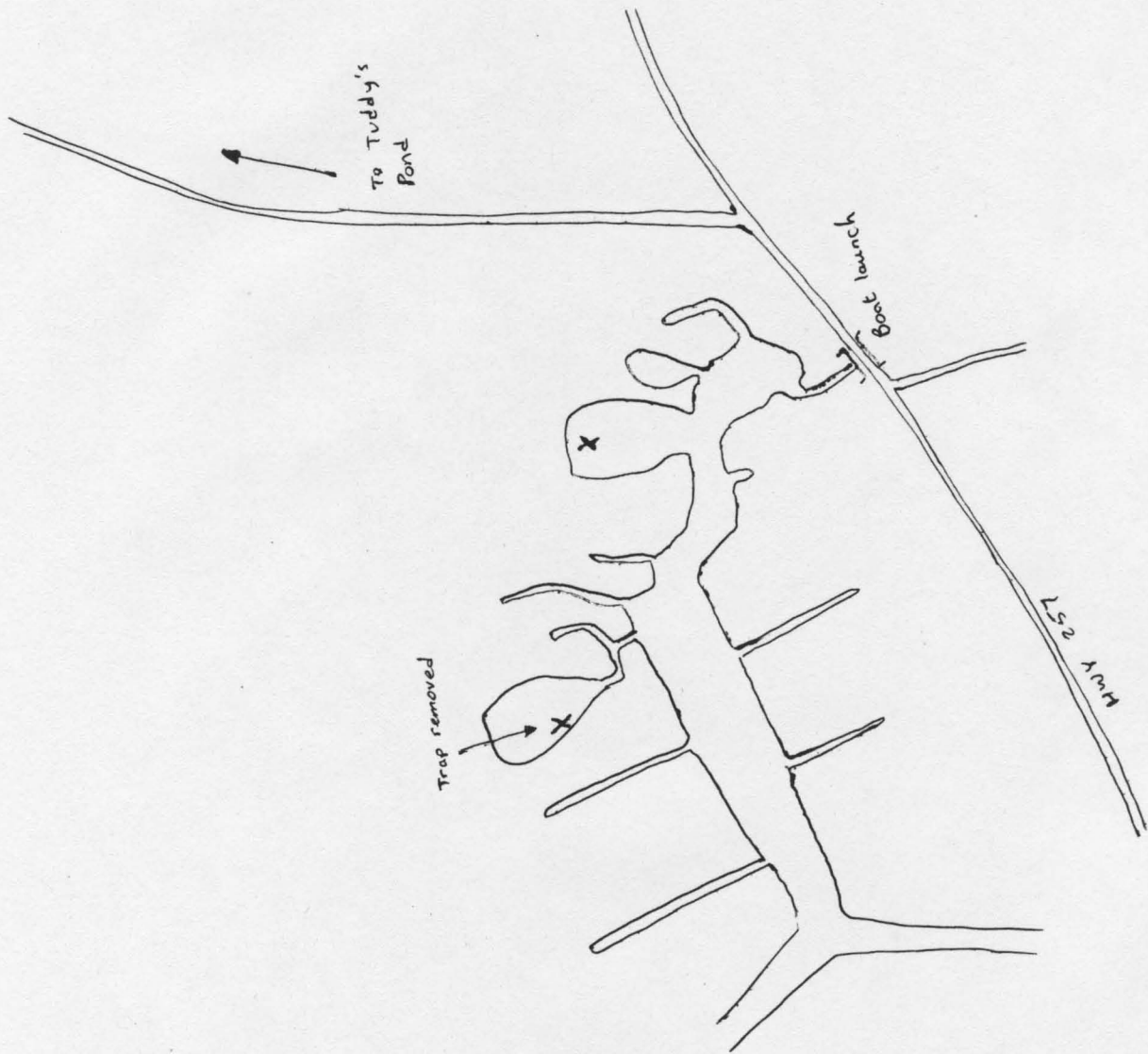


Figure 3 Johnston's River



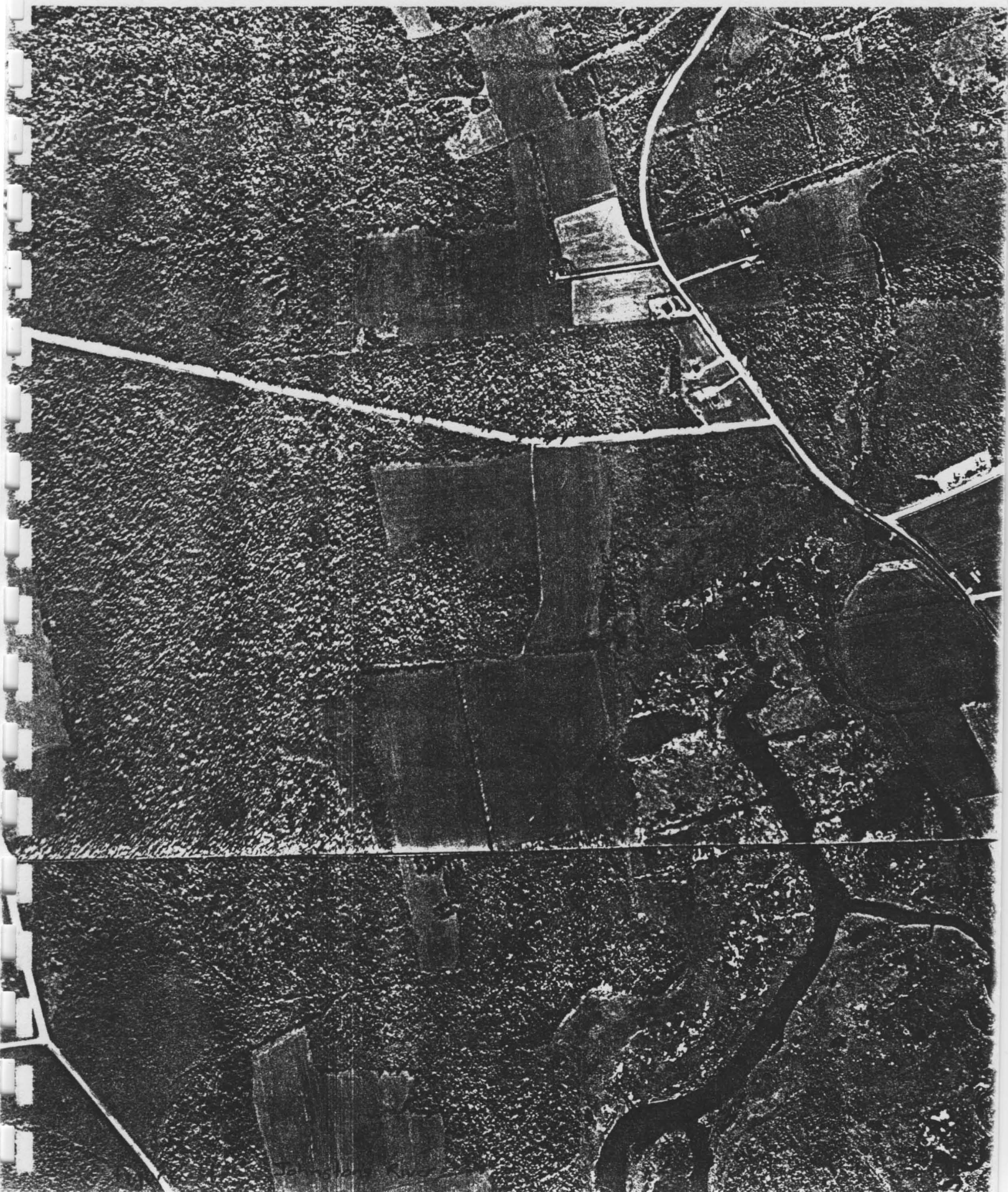




Figure 4 Pisquid Impoundment





Figure 5 • Pisquid



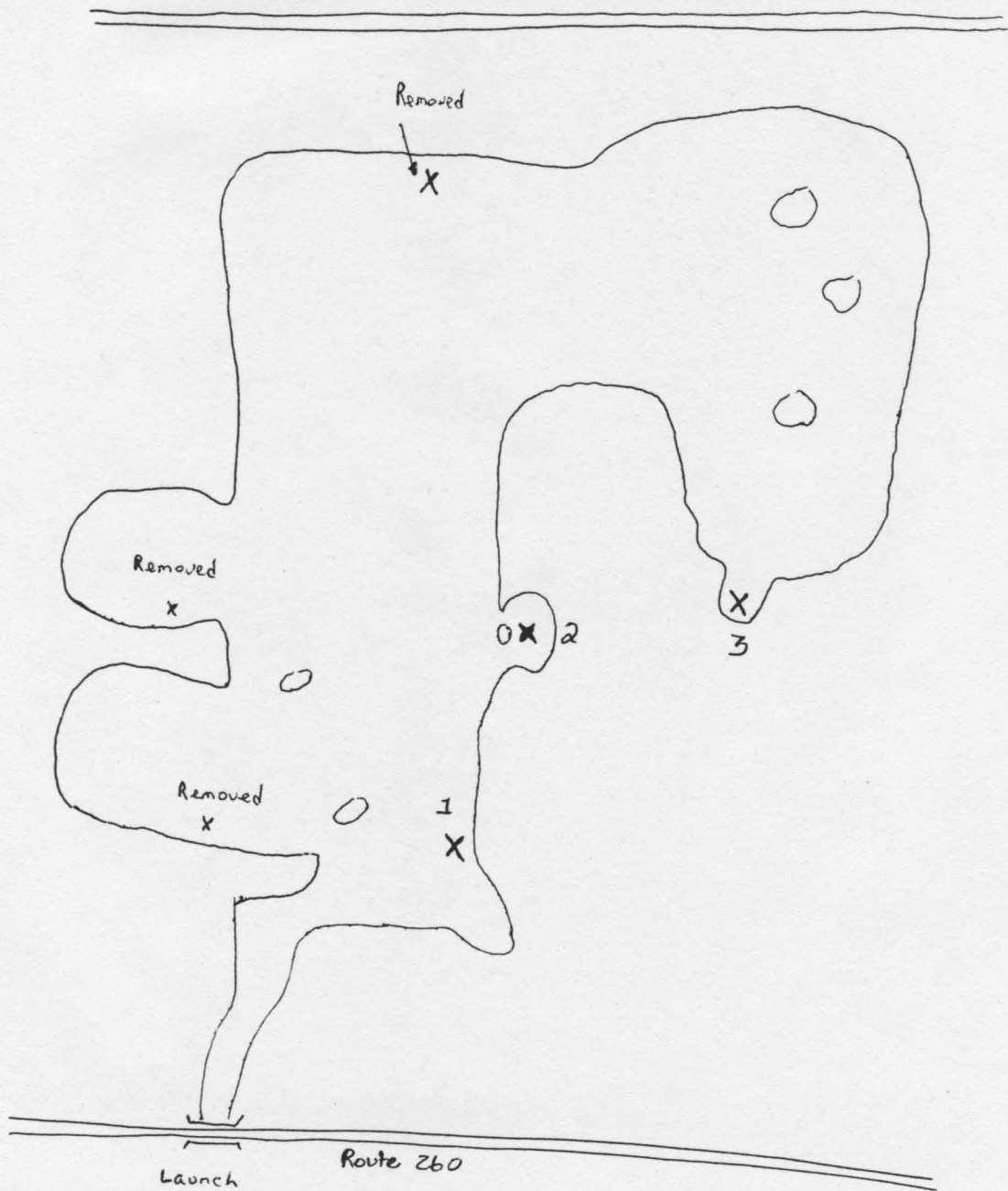


Figure 5 Miller's Creek

## ACKNOWLEDGEMENTS

- Tilden Rental Cars, Moncton for the use of the pick-up truck.
- Tommy Godfrey, Fish and Wildlife for his valued time.
- Bruce Smith, Dept. of the Environment for the use of his decoys.
- Michael Creighan, for helping me prepare this report.

and I would especially like to thank

- Rosemary Curley, P.E.I. Fish and Wildlife for the use of her canoe and her advice.

## BIBLIOGRAPHY and REFERENCES

Curley R. P.E.I. Fish and Wildlife Division. Personal communication, 1990.

Peterson R.T. *A Field Guide to the Birds of Eastern and Central North America*  
Houghton Mifflin Company, Boston, 1980.

Welty J.C. & Baptista L. *The Life of Birds*, Fourth Ed.  
Saunders College Publishing, New York, 1988.

Canadian Wildlife Service *Bird Banders Manual*

Codroy



Waterfowl Banding Project

Codroy Valley, N.F.L.D.

Sept. 7 - Oct 16

Crew Members

Don Kimball

Desi Cheverie

## INTRODUCTION

With technical and financial support provided by the Canadian Wildlife Service as part of the Co-operative Waterfowl Banding Program, the Codroy Valley station opened on September 7. This instigated the first banding effort after a two year shut-down period, the last banding effort having been in the fall of 1987.

All waterfowl bait trap locations were located within the boundaries of the Grand Codroy River estuary, a location which is within the most westerly section of the Codroy Valley. All waterfowl banding locations were highly affected by tidal influence, and careful consideration was required when choosing bait trap sites.

## Acknowledgements

Mr. and Mrs. A. Gillis provided the excellent accomodations.

We thank Pat Glavine for his assistance throughout the banding project as well as for valuable advice regarding the prevention of poaching problems.

Eugene O'Quinn, Mike White, and George McArthur provided access to trap sites on their property.

Bill Green, of the Newfoundland Wildlife Division, loaned us mink traps for predator control.



## RESULTS

During the 1990 Bait trapping season at the Codroy Valley station a total of 11 traps were operated over a period of 167 trap days from the period Sept. 7 - Oct. 16. A total of 371 waterfowl (three duck species ) was banded during the 40 days of the station's operation. The total included: 2 Mallards, 3 Black Duck/Mallard Hybrids, 188 Black Ducks, and 178 American Green-winged Teal ( Table 1). The largest number of birds banded occurred on Sept. 14 when 36 Green-winged teal were trapped. Trapping success proved to be highest in Cormiers Marsh, where 5 traps produced 182 banded birds.

### Trap Site Success

Trap # 1, located in Cormiers marsh was the most successful capture site, where a total of 79 waterfowl were banded. This included 68 Green-winged Teal and 11 Black Ducks. It should be noted that although the first Green-wings were trapped here on Sept 14, Black Ducks did not use this trap until Oct. 1 even though they were trapped elsewhere as early as Sept. 16.

Other traps with significant numbers of captures were Trap # 1 located on McArthurs Island (54 birds banded consisting of 51 Black Ducks, 1 Mallard, 1 Hybrid, and 1 Green-winged Teal), and Trap # 2 in Cormiers marsh, (54 birds banded consisting of 16 Black Ducks, and 38 Green-winged Teal).

### Waterfowl Observations

The greatest number of waterfowl observed occurred on Oct. 3 when 1115 birds were recorded. This figure included 1000 Canada Geese, 60 Black Ducks, 46 Green-winged Teal, and 9 Ring-necked Ducks (Table 2.).



Cormiers marsh provided the greatest density of waterfowl found in the Codroy Valley estuary. On Sept. 14, 304 waterfowl were found here alone. A high number of these birds were usually found using the pond located at the bottom of the field behind Cormier's poultry barns. Aquatic plant life here was very rich, and sometimes even created difficulty scooping birds from the traps without entangling masses of it within the dip nets.

#### Local Recaptures

The first retrapped birds were captured on Sept. 16, with a total of 3 individuals. By Oct 16 the greatest number of retraps occurred, with totals of 11 Black Ducks and 4 Green-winged Teal. A total of 16 unbanded waterfowl was captured on this date also.

#### Foreign Recaptures

On October 4 the first foreign recapture (AHY F Band # 2317-11001) was recorded. No additional foreign banded birds was captured throughout the banding period.

#### DISCUSSION

After a two year absence a banding crew was again established in the Codroy Valley estuary. Prebaiting of potential trap sites commenced on Sept. 9, with all sites (with the exception of trap # 5 baited on Sept. 20) operational on Sept. 23. All sites were visited once daily at varying times depending on tidal influence.

American Green-winged Teal were the first birds captured, with two individuals trapped on Sept 13, while Black Ducks, which were present in large numbers, were not captured until Sept 16. Northern Pintail occurred in substantial numbers also (Table 2.) but were not banded at any of the trapping localities.



It should be noted that of the 178 Green-wings captured only 5 were adult birds. The remaining 173 were hatched in the current year (Table 1).

The total of 371 waterfowl banded at Codroy valley, represented a substantial increase over the 1987 total of 170 birds, and the number of Black Ducks (188) was the greatest number of this species captured since 1984 (total 233). Seventy seven percent of Black Ducks banded were hatching year birds, the remaining 23% were after hatch years (Table 1).

#### Media Coverage

On Sept. 24 a reporter from the GULF NEWS visited the station resulting in an article and accompanying photos on Oct 2.

#### Eel Fishermen

It is worth noting that the number of eel fishermen increased dramatically in 1990 over previous years (Pat Glavine pers. comm.) By Sept. 22 very few areas were without their traps. Cormiers marsh appeared to have the greatest numbers of fishing locations. Their frequent activity could easily have provided considerable disturbance to waterfowl, and is a factor worth looking into.

#### Poaching Incidents

With a history of frequent poaching incidents occurring at the Codroy Valley banding station, it seemed likely that this would be a considerable problem again in 1990. As a deterrent night patrols were manned at erratic dates and time periods to discourage predictability. There is no evidence to suggest that any of the bait traps were disturbed by poaching or other human interference.



### Mortalities

Mortalities (3.2% of ducks banded) consisted of 5 Black Ducks and 7 Green-winged Teal. At least one Black duck and 1 Green-wing appeared to have been killed by mink. Two live-traps were placed near these sites but no mink was captured and there was no evidence to suggest that additional kills occurred. In at least 4 of the Green-winged Teal deaths it appeared that drowning was the cause, perhaps by the disturbance created by the larger Black Ducks captured within these same traps. Two Black Ducks were found dead with their heads caught between a pole and the outside of the trap wire!

### RECOMMENDATIONS

The importance of hiring an individual from within the local community cannot be stressed enough. Their insight into poaching methods, and word of mouth to inform others in their area of the objectives of waterfowl banding appears to be a very valuable contribution.

A supply of mink traps should be a standard item supplied for use at the Codroy bait station.

Additional bait traps should be erected in the Cormiers pond site where waterfowl appear to be numerous.

Trapping sites at Gale's Peninsula area could prove productive in future years.



Equipment stored at Gillis' cabins

Trap wire (1 part roll and 32 precut used pieces)

Netting

Metal poles

2 aluminum buckets

2 dip nets

1 bag of whole corn

1 bag of cracked corn

1 bag of barley

Table 1. Age and sex composition of waterfowl banded at the Codroy Valley station 1990.

Species	<u>Local</u>				<u>Hatch Year</u>			<u>After Hatch Year</u>			<u>Totals</u>			
	M	F	U	Total	M	F	Total	M	F	Total	M	F	U	Total
Black Duck	-	-	-	-	107	38	145	15	28	43	122	66	-	188
Mallard	-	-	-	-	2	-	2	-	-	-	2	-	-	2
Black/Mallard Hybrid	-	-	-	-	1	-	1	2	-	2	3	-	-	3
Green-winged Teal	-	-	-	-	115	58	173	1	4	5	116	62	-	178
<b>Total</b>	-	-	-	-	225	96	321	18	32	50	243	128	-	371



Table 2. Waterfowl observations Codroy River area Sept. 8 - 30, 1990.

Date	Canada Goose	Mallard	Black Duck	Green- winged Teal	American Wigeon	Northern Pintail	Blue- winged Teal	Ring- necked Duck	Total
Sept. 8	-	-	450	63	43	28	12	1	597
9	52	-	196	175	44	24	-	-	491
10	55	-	122	102	25	11	-	-	315
11	10	5	205	108	47	45	-	-	420
12	130	8	127	125	43	42	7	-	482
13	190	2	308	115	45	22	-	-	682
14	225	-	450	110	45	72	8	4	914
15	50	-	331	155	33	24	-	-	598
16	-	-	224	120	40	25	-	5	414
17	-	-	227	140	32	15	-	-	414
18	-	-	120	122	56	10	-	-	308
19	-	-	85	95	50	-	-	-	230
20	-	-	94	100	50	-	-	-	244
21	59	-	115	109	35	-	-	8	326
22	-	-	137	102	55	3	-	8	305
23	180	1	82	112	30	3	-	-	408
24	-	-	112	94	40	-	-	-	246
25	250	-	128	56	50	-	-	-	484
26	293	-	183	55	36	12	-	-	579
27	275	2	180	65	3	17	-	-	542
28	300	4	51	61	14	-	-	-	430
29	350	-	165	58	15	-	-	-	588
30	-	-	57	56	-	-	-	-	113



Table 2 (Cont'd). Waterfowl observations Codroy River area Oct. 1 - 15, 1990

Date	Canada Goose	Mallard	Black Duck	Green- winged Teal	American Wigeon	Northern Pintail	Blue- winged Teal	Ring- necked Duck	Total
Oct. 1	600	-	51	61	12	4	-	-	728
2	92	-	19	27	-	-	-	2	140
3	1000	-	60	46	-	-	-	9	1115
4	1027	-	16	12	3	-	-	-	1058
5	125	-	20	18	6	-	-	-	169
6	175	-	2	5	18	-	-	-	250
7	-	-	30	3	9	-	-	7	57
8	800	-	41	18	-	-	-	-	859
9	127	-	89	3	16	-	-	-	235
10	25	-	241	9	11	-	-	-	286
11	137	-	236	7	16	-	-	-	396
12	125	-	301	8	19	-	-	5	458
13	-	-	10	6	11	-	-	-	27
14	157	1	187	6	11	-	-	8	287
15	165	-	127	3	4	1	-	8	308



Fig. 1. Total No. Waterfowl Banded  
at Codroy Valley Station - 1990

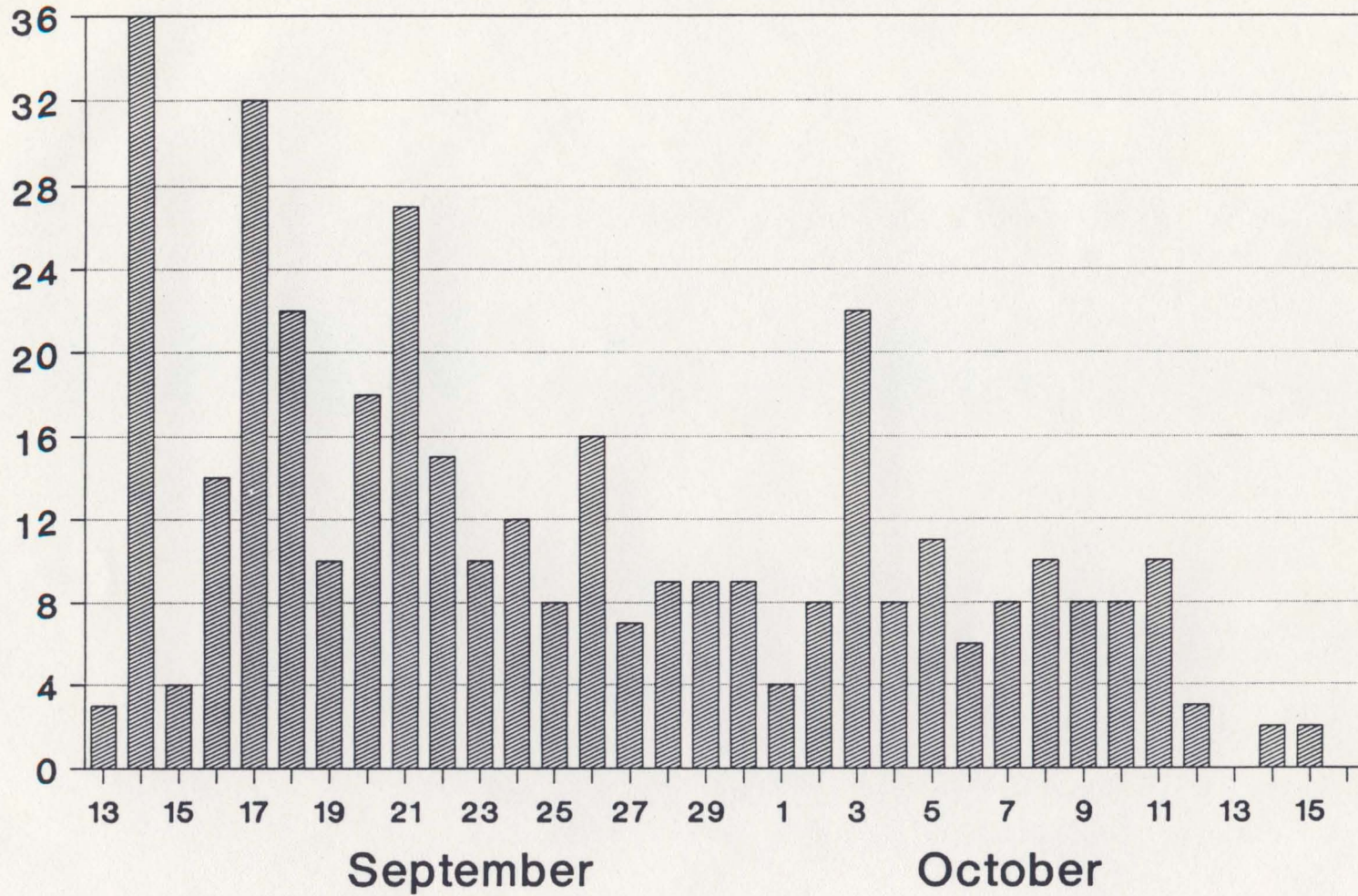
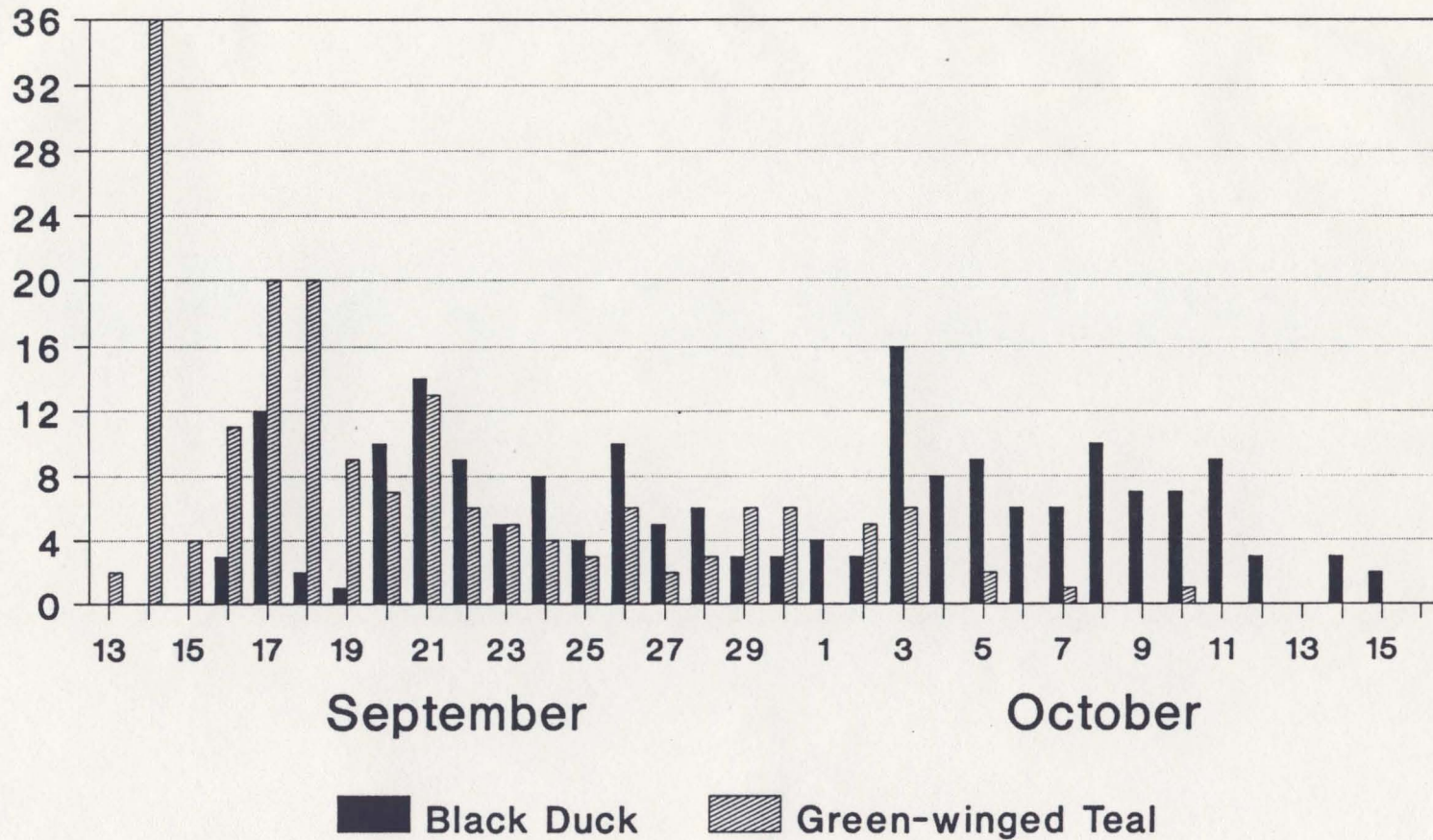




Fig. 2. Total No. Black Ducks and Green-winged Teal Banded at Codroy Valley Banding Station - 1990





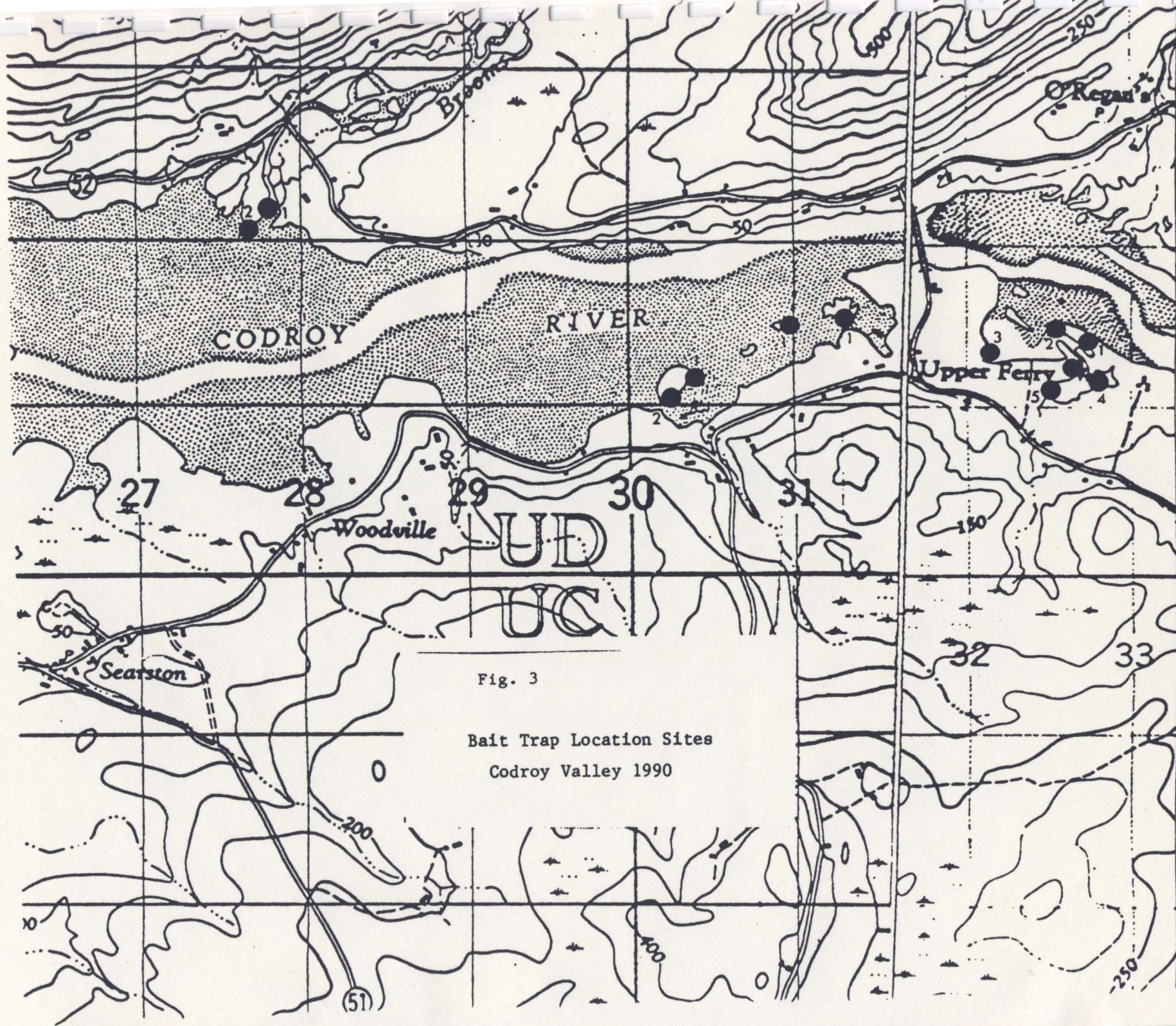


Fig. 3

Bait Trap Location Sites  
Codroy Valley 1990



Cape Fwels

WATERFOWL BANDING STATION REPORT  
CAPE FREELS, NEWFOUNDLAND  
AUGUST 7 - SEPTEMBER 18, 1990

CREW MEMBERS  
AMMON PICKETT  
MICHEAL HEFFERTON



Preliminary surveys indicated that three sites would be ideal for bait trapping in 1990. Six traps were set up at Black Duck Steady, Little Goose Pond and Shoal Arm Brook (Figure 2). Two areas trapped in 1989 were omitted this year: the Rocky Pond area was unsuccessful in 1989 and was unproductive this year, the Over Falls area was successful in 1989 but beaver activity prevented trapping in 1990. Disturbance from fisherman limited success in the Shoal Arm zone.

The Black duck Steady area was the most productive in 1990 as 85 percent of the waterfowl were captured here. Approximately 90 percent of the total was banded on inland habitat and justification for future banding will depend on locating inland sites similar to Black Duck Steady.

Station one baiting began on August 7, on August 12 we erected the traps and on August 16 we finished making the traps operational. The first successful capture and banding occurred on August 18. In view of the fact, that the duck season would open on September 22, we stopped trapping on September 18.

There were three unbanded fatalities. The first unfortunate incident which involved two American Green-winged Teal occurred at The Gut. The other at Black Duck Steady. These birds were the victims of a common predator in this area--the mink.

A total of 132 American Green-winged Teal was banded. Table 1 contains a complete age and sex breakdown for waterfowl banded in 1990. The total (132) for 1990 is the second highest on record over the three year program at Cape Freels. Unlike the two

previous years no Black Ducks were banded, although observations (Table 4) indicated their presence throughout the trapping period. A summary for the three years program is presented in Table II. A Pesola Scale was used to obtain the weight of each bird which was recorded on field sheets along with the other pertinent data.

Inventory equipment stored at Cape Freels Station:

Traps wire - sufficient to construct 4-3 funnel traps and 2-2 funnel traps.

4 burlap bags

11 banding station signs

8 pieces of netting

2 bait buckets

2 dip nets



**Returned to Sackville - CWS**

<b>Item</b>	<b>No.</b>
Pliers-spreaders	1
Pliers-needlenose	2
Pliers-wire cutters	1
Kit bag	1
Pesola Scale	1
Pencils and Pens	x
Banding Manual	1
Banding Notebook	x
Schedule	x

**Bands**

#4 664-31333-31400  
 #5 885-90601-90700  
 #6 896-68201-68300  
 #7 2307-59101-59200  
 #8 150756601-56700  
 #9 718-15552-15600

**Acknowledgements**

We appreciate the efforts of local residents, in keeping activities and disturbances at a minimum. We are appreciative of the fact that Myrtle Bateman took time from her busy schedule to visit us. We sincerely thank Walter Hefferton for his contribution of time and effort to the project.



Table I. Age, Sex, and species composition of birds banded at Cape Freels Banding Station, 1990.

Species	Hy		AHy		Total
	M	F	M	F	
Am. Green-winged Teal	59	71	1	1	132

Table II. Summary of waterfowl banded at Cape Freels NFLD 1988 - 1990.

Year	Species			Total
	Green-w. Teal	Black Duck	Blk x Mal Hybrid.	
1988	159	22	2	183
1989	81	22	-	103
1990	132	-	-	132
Total	372	44	2	418

Table III. Trap success at the Cape Freels Banding Station, 1990.

Traps No. Location	American Green-winged Teal
#1 Black Duck Steady	69
#2 Black Duck Steady	43
#3 Little Goose Pond	5
#4 The Gut	15
#5 Ben Carter's Brook	0
#6 Shoal Arm Brook	0
TOTAL	132

Table IV. Waterfowl observation at the Cape Freels banding station, 1990.

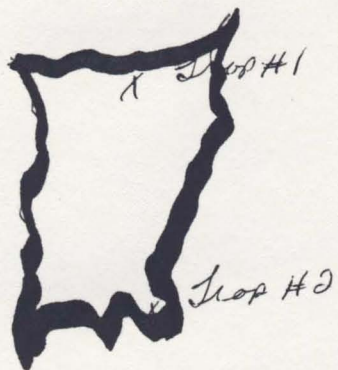
Species	Black Duck	Am. Green-winged Teal
Date		
Aug 6-11	30	85
Aug 12-18	60	140
Aug 19-25	120	160
Aug 26-Sept 1	140	100
Sept 2-8	100	80
Sept 9-15	50	15
Sept 16-20	20	10



Area 1

Fig 1.a

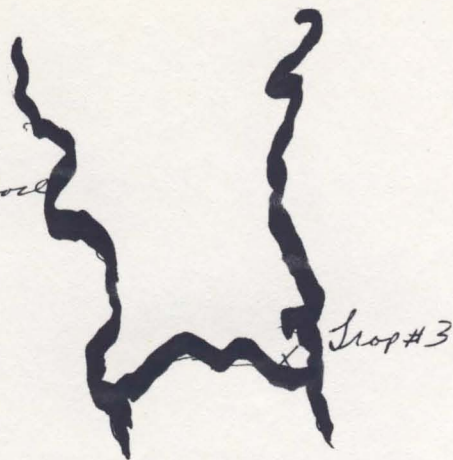
Black Duck  
Steady



Area 2

Fig 1.b

Little Hood  
Pond



Area 3

Fig. 1.c

The Gut

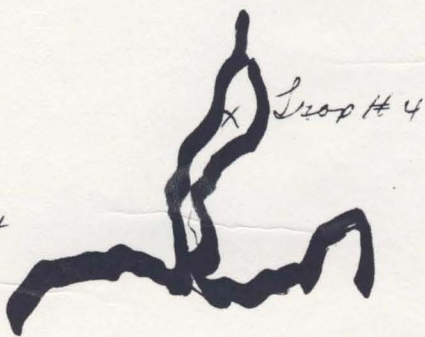


Fig 1.d

Ben Carter's  
BK.



Fig 1.e

Shool App. BK.





Fig 2

EDITION 3

2 F/4

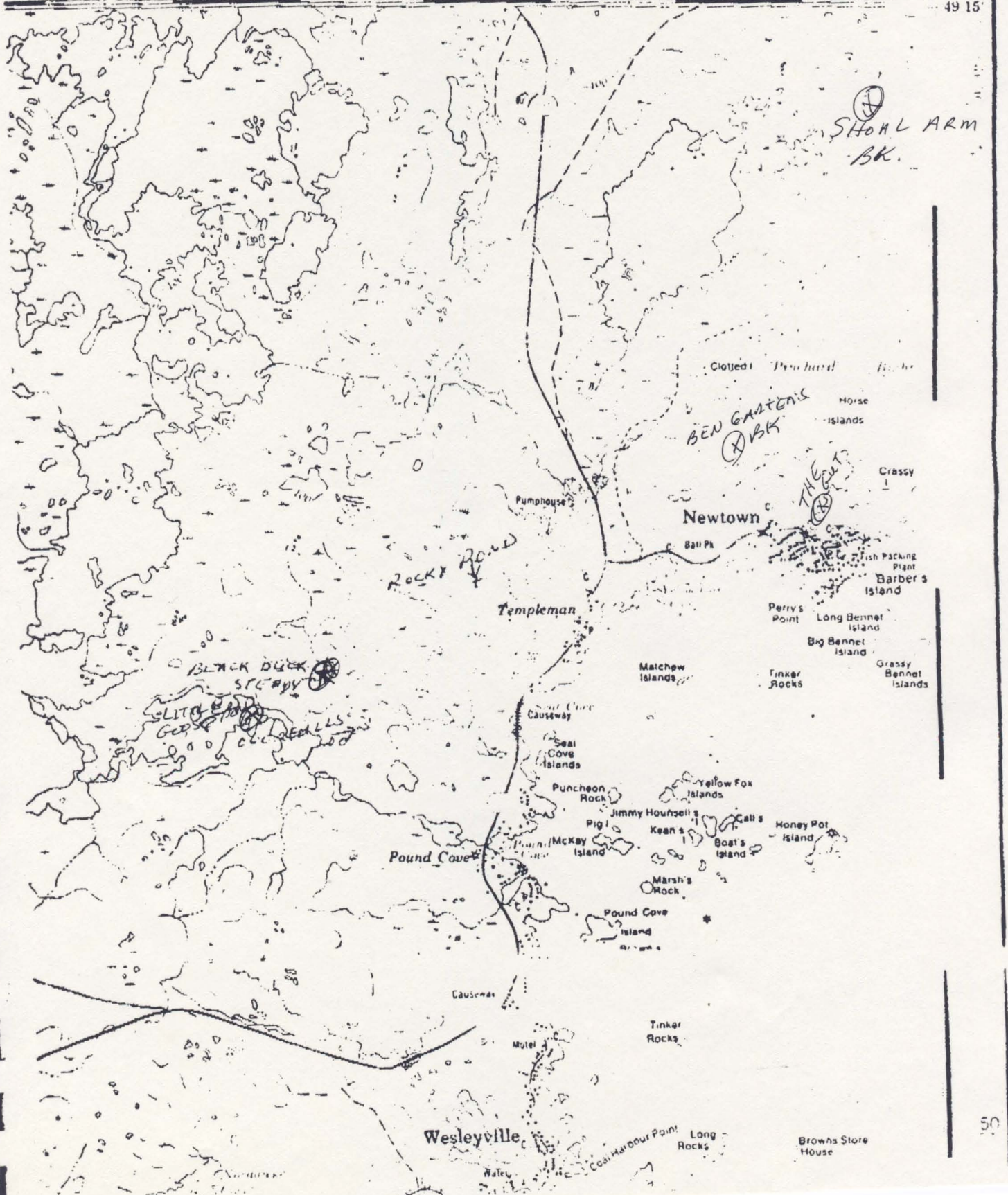
150 Lunaden 8 km

754000m. E.

35'

53°30'

49 15'





Cannonsville

WATERFOWL BANDING - CARMANVILLE, NEWFOUNDLAND 1990

Crew Members

George Brinson

Date: September, 1990



A waterfowl bait trapping station was in operation in the Carmanville, Newfoundland area, again in 1990, as part of the Atlantic Flyway Co-Operation Banding Program. This has been the eighth consecutive year of operation. The project operated from August 1, to September 17, 1990. Three hundred seventy-six (376) ducks were banded, and two birds from previous year's banding were recaptured, bringing the total to three hundred seventy-eight (378) birds.

All banding took place on Middle Arm, the salt-water bay adjacent to the town of Carmanville. The location used was the innermost section of the arm, being the more ideal concentration spot for waterfowl.

Baiting began August 3, 1990. Cracked corn was the grain used to attract the ducks. First traps were erected on August 20, with first birds being banded August 21. Baiting continued until September 15, and banding terminated September 17.

A total of 184 American Black Ducks, 1 Mallard/American Black Duck Hybrid, 2 Northern Pintail, 4 Blue-wing Teal and 185 Green-wing Teal was banded. Two green-wings were recaptured from the 1989 banding project.

Comparing the number of adults to hatch-year birds being trapped, the statistics are similar to the past 3-4 years. Black Ducks had a 7.5% AHY ratio to hatch-year birds and Green-wing Teal compared at 6% AHY to hatch-year birds. No weight samples were taken this year. Species, age and sex of banded birds is listed in Table I.

Table I. Age and sex breakdown, 1990  
Carmanville, NF.  
Waterfowl banding project.

Species	HATCH YEAR			AFTER HATCH YEAR			TOTAL		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Black Duck	84	86	170	1	13	14	85	99	184
Black/Mallard Hybrid		1	1					1	1
Pintail	2		2				2		2
Blue-wing Teal	3	1	4				3	1	4
Green-wing Teal	77	96	173	5	7	12	82	103	185
Totals	166	184	350	6	20	26	172	204	376

Banding at Carmanville in 1990 proved to be the most successful effort to date. Peak numbers for total birds banded and total blacks banded are indicative of a very successful



season. Green-wing Teal numbers were also high, suggesting there was excellent production in the local region. The number of Blue-wing Teal captures was down from the 1989 high to 4 birds. No other Blue-wing Teal were observed. Northern Pintail were observed in low numbers, but only 2 were trapped.

Birds were present on the arm throughout the banding period. Good numbers were banded at mid-point of project, while retraps were very prevalent during last week of banding, indicating that most of the waterfowl present had been captured.

No problems were encountered. Predators were common, with mink posing the most serious threat. Goshawks were common the first week in September. No birds were lost. Poaching was not a problem. As in 1989, the local RCMP detachment must be commended in it's effort to keep the whole situation in check.

In conclusion, it should also be noted that this particular area is about to be designated as a waterfowl sanctuary. As of August 1, 1990, it was closed to hunting and about to come under provincial sanctuary status. There will be no hunting of any wild life species, so the area should afford a refuge for all wildlife. The potential to band Canada Geese, which come to the arm in fair numbers by early October and remain until freeze-up in late November should be considered. Most years, approximately 75-100 geese frequent the arm.

Hopefully, banding can continue, even though low numbers of birds are being banded, but must be considered good in this particular part of the Atlantic Flyway, when the geographical location is considered. Overall knowledge, will be slowly added to the present information required to manage waterfowl in the future.

#### Acknowledgements:

I would like to thank the following: Myrtle Bateman, CWS, Sackville, NB, for her visit and assistance on two visits to the banding site. Her technical comments were appreciated.

Cst. Ken Chatman, RCMP detachment, Carmanville, NF, for the assistance on two visits to the banding operation.

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



Bairdie Lk.



Waterfowl Banding Project  
Baikie Lake, Labrador  
August 22 - September 26, 1990

Crew Members

Andrew Hicks

Stanley Brownell

Banding at Baikie Lake, Labrador in 1990 was the fourth consecutive year as part of the USA & Canadian cooperative waterfowl Banding Program. The 1990 and 1989 activities were concentrated at Baikie Lake excluding Julian River where banding took place in 1987-88.

Our goal was to band a large sample of the available ducks and geese visiting Baikie Lake during the early stages of migration. Bait trapping and rocket net techniques were employed to catch waterfowl and in addition to small mammals were snap trapped in order to determine the species composition and relative abundance within the Baikie Lake area.

We had originally planned to run this station for 6 weeks but due to insufficient amounts of bait, we closed operations after 5 weeks.

The access to Baikie Lake is approximately 60 km from Churchill Falls. The approximate map co-ordinates are 53° 28' N and 64° 38' W. The lake has a main inflow to the south and the major outflows are in a north easterly direction. The lake area is surrounded by forest composed of Black Spruce 80%, 2% Balsam fir, 5% Tamarack. Sphagnum moss and lichens are predominant understorey with scattered alders and several species of shrubs and berries. Bog areas are prominent but don't seem to harbour any waterfowl. There are two major islands in the main portion of the lake (see map 1) where most of our bait traps were located. These were Sandy islands with some dense growths of alder (Alnus rugosa), willows (Salix sp.) and sweet gale (Myrica gale). One island has mostly



sand near the water's edge (South Sand Island on Map 2). North Sand Island has a variety of grass like plants (Eriophorum, Eleocharis, Carex, Epiloum etc.). The lake itself is relatively free from emergent vegetation except for small amounts of burreed (Spurgonium sp.) and pond weed (Potomogoten sp.). Mare's Trail (Hippuris vulgaris) and Horsetail (Equisetum sp.) occur quite extensively with varied amounts of awlwort (Subulera aquatica).

The Islands within this lake are changing rapidly as can be seen by comparing Map 1, which was published in 1985 from aerial photos taken in 1979, and Map 2, our interpretation of the area. The island structure has changed extensively in 10 years. The weather during banding was relatively mild compared to what was experienced last year. The only major snowfall (7-10 cm) occurred on September 10. However, it snowed on September 13, 14, 18 but the snow was mix with rain. Precipitation was recorded every day between August 22 and September 26. This caused water levels to rise approximately 30-35 cm. Initially the water level in the lake appeared low as compared to 1989 observations. Wind was often flowing prevalent from the west or slightly south west. This should be taken into consideration if cannon netting is to be continued.

#### METHODS

Bill Barrow, Jack Stone and "Flint" arrived in Churchill Falls on August 14 to set up camp and to try to band flightless ducks and geese in various areas around Churchill Falls. Andrew Hicks and

Stanley Brownell arrived on the evening of August 22. A new cabin, which was investigated in 1989, was selected because of its proximity to Baikie Lake (see Map 1). The cabin was more refined(!) than the one used in 1989 as well as was insulated. This new location eliminated a 20 minute drive to Baikie Lake which was experienced when staying at the 1989 cabin. Bill and Jack had already prepared the banding station by having most of the necessary supplies transported to the site (canoe, trike, camp gear, some feed, etc.)

We started preliminary observations and baiting at Baikie Lake on August 23, 1990. Geese were present in good numbers but very few ducks were observed. Bill Barrow and Jack Stone left Churchill Falls on August 24. The 3 cannon net sites used in 1989 were again selected and were baited with corn from the on start of our activities on August 23. These are the 3 best locations to attempt cannon netting because appropriate cover is available and the normal wind direction is correct for our shooting direction. There are very limited alternatives due to the vegetative cover that persists and also by the long distance to the water from other potential net sites. The geese were baited with 100% corn while the duck traps were baited with a barley corn mix (75/25 and later 50/50). The first bait traps were set and operational on August 30, 1990. They were all lily pad shaped traps with a single entrance. This type of trap was found to be the most effective in 1989. We ran only 12 traps this year because low water levels limited our trapping sites. Seven of these traps were 2 feet tall

and worked well in shallow water areas.

Five of the traps were 4 feet tall and were used in more open areas with regular water level fluctuation. Two types of top netting was used, green nylon mesh and black plastic garden netting. Although both worked adequately the black plastic mesh broke strands frequently and contributed to waterfowl loss when we were approaching the traps. Birds were collected from the traps and placed in burlap bags and transported away from the trap sites to band. The traps had to be moved several times due to the increasing water levels and also because of the geese which dug around the edges of the traps. The traps were operational between August 31 and September 22 and stored in concealed locations as outlined on Map 2. Red flagging tape also marks these locations. All birds were banded on the left leg with standard U.S. Fish and Wildlife bands. The Canada Geese were also neck collared with Atlantic Flyway colours (black on yellow). Andrew Hicks and Stanley Brownell left Churchill Falls, Labrador on the evening of September 26, 1990.

The total amount of bait used at this station in 1990 was 12-40 kg bags of barley and 22-40 kg bags of corn.

## RESULTS

In 1990, during 20 trapping days a total of 309 waterfowl were banded. Six species of waterfowl were banded of which black ducks were the most numerous comprising 38% of the total banded. Green-winged Teal, Pintail or Geese made up 35, 15, and 9 percent



respectfully of the total waterfowl banded. All of the ducks were bait trapped but of the 29 geese banded 24 were rocket netted, 4 were bait trapped and one was netted from a canoe.

Of the total Black Ducks captured 37 were produced this year. The Green-wing Teal had 90.8% of the total banded produced this year. The Pintail had a similar age rates with 87.0% of the total being hatch year birds.

There was a major difference in sex ratios within each species captured (Table #1). Black Ducks had a 1.8:1 male to female ratio. A large number of adult males captured. The Mallard sex ratio was 3 males to 1 female but the total number captured was only 4 so this may not accurately reflect the population. The Green-wing Teal sex ratio was quite even with a 1.15:1 male to female ratio. In Pintail the sex ratio was again fairly even with a 0.77:1 ratio indicating slightly more females were present. The sex ratio of Canada Geese was also quite even with a ratio of 1.2:1 male to female.

We had fairly good retrap success this year. We captured 28 previously banded birds. Of this 28, 3 were Pintails, 1 was a Mallard-Black Hybrid and 22 were Black Ducks. All of these birds were banded at Baikie Lake in 1989. There were two other Black Duck retraps one which was banded in 1988 at Baikie Lake. The other was banded at the Bathurst Harbour, N.B. station in 1989. The retrap success is indicative of the successful banding effort in 1989. Daily waterfowl catches are outlined in Table #2 One can see that although new bird catches dropped off significantly by

September 10, we were still getting a large number of recaptures. The initial success in the early stages of the program can be attributed to the presence of large numbers of Green-winged Teal. We caught the last Green-wing Teal on September 9 to give a total of 109 Green-winged Teal. Although large flocks were observed after this they were preparing to leave the Baikie Lake area and were not concerned with our traps or the bait provided.

By looking at Table #7, which is a daily record of our bird sightings on Baikie Lake we can see that Black Ducks never did show up in any great numbers. Both Green-winged Teal and Pintail arrived early and moved off early. If we consider the weather experienced in the early breeding season, it could be hypothesized that the early breeding Black Ducks failed in their first nesting attempt and the young produced in a later attempt had not moved through the banding area by the time we finished. This is also reinforced by the fact that 44% of all new Black Ducks captured were after hatch year males. In 1990 we also captured 4 local Black Ducks that were age classed as 2 b's at the time of capture. This would indicate that there were late broods of Black Ducks present. No Scoter's were observed this year and Goldeneye and Lesser Scaup numbers were consistently low again indicating that birds are late in moving in 1990.

The Cannon netting of Geese had its problems. We only fired twice and both time at site #13 as indicated on Map 2. We had been baiting all 3 sites from the beginning with very good response on the part of the geese. We fired the first time on September 17 and

netted 14 geese plus 1 bird with a broken wing. We reset the net at the same location to see if birds would readjust to it. We were all set to fire but after extensive rain all 3 original locations were flooded out. We moved our net slightly inland from site #13 and set up on the sand flats. We fired on September 20 and netted 10 geese plus 2 mortality victims (Table #5). At this point we were running out of corn for the bait traps. High water levels eliminated the usefulness of other sites making our preliminary baiting efforts useless. However, the 3 sites depicted in Map 2 are very good sites especially #13 and #14. They should definitely be considered in any future cannon netting activities at Baikie Lake. It is important to note that Baikie Lake appears to be a staging area for family groups of geese before the migration. Only a few flightless birds were noted early in our banding efforts. The geese didn't hesitate to accept the bait and then was no convincing evidence that territorial antagonism was affecting the success of our sites. We viewed as many as 150 geese working our bait line and area. It should be possible to improve upon our numbers if weather and other influencing factors co-operate with future attempts. We were dealing with a consistent population of about 400 geese.

Various raptors were noted in our daily bird sighting Table #7. They preyed mostly on small mammals found on the island with the exception of the Bald Eagle and Osprey which were observed fishing in Baikie Lake, however no successful dives were observed. On September 19 we observed a Peregrine Falcon diving at a small



flock of Green-winged Teal. We observed it making two sweeps at them before retreating, possibly due to our approach in the canoe.

Particular catch figures are outlined in Table #3. The shore traps are the most successful traps. We observed Green-winged Teal using the edges and on points of the islands. The ponds and guts through the islands were quite effective on Black Ducks and Pintails. Table #2 shows our daily catch results. One can see that our early activities were proving very successful until catches crashed around September 9. They never did recover again, possibly indicating the unavailability of new birds.

Small mammal trapping was carried out again in 1990. The results are outlined in Table #6. It would appear that vole populations are low this year if compared with the catch success of 1989. No masked shrews were captured at all this year although some predation on captured Red backed Voles and Meadow Voles was believed to be attributed to shrews. One melanistic Red backed Vole was captured this year. Two were caught in 1989 and this suggests that it's not an uncommon occurrence in this part of Labrador.

In the 1990 banding operations at Baikie Lake we experienced a few cases of trap mortality (see Table #5 for an explanation of causes). Most of these deaths can be attributed to injuries incurred from the traps or possibly to stress. There was no evidence which pointed to predation as a cause in these deaths but a mink was sighted within 200 m of one of our traps which did have some unexplained deaths. Three geese were killed as a result of

cannon netting activities. A list of reference names is included in Appendix 1 which may be an aid to the crew carrying out operations in 1991. As well an inventory of stored and required equipment is included in Appendix 2.

The truck is stored at the CFLCO garage. Everett Pinkson has removed the battery and stored it. The keys to the truck were to be taken to Mike Norcott at the Town Services Office. The Constables have assured me that if we contact them in 1991 before the crew arrives they will bring the truck out to the airport so it will be there on the banding crews arrival.

#### RECOMMENDATIONS

1. This station success depends on migration chronology with weather conditions the dominant factor. The most appropriate time appears to be from 25 August - September 30. However some flexibility in duration is required.
2. Periodic breaks in banding may eliminate some of the recapture problems.
3. Bait trapping of geese should be tried especially near south Sand Island. An ideal location is near cannon net site #14.  
(Map 2)
4. A larger net would lead to better success in capturing geese. We found that the net was missing several birds even though large numbers of geese were present and within the span of the opened net. A larger net may increase production and eliminate some of the fatalities experienced this year.

5. Two dummy nets would be useful in preliminary baiting at all the cannon net site. This year we used lengths of top netting but the wind blew it around some. However, I think it was effective in getting the geese accustomed to the net.
6. The amount of bait required to run this station properly would be 15-40kg bags of barley, 25-30 40kg bags of corn.

These amounts are only estimates based on what was used this year. Less bait would have been required if recaptures had left the area but they continuously got captured over and over. The amount listed above should be sufficient and any extra can be stored.



Table #1. Sex, Age, Breakdown of waterfowl banded at Baikie Lake, Labrador 1990.

Species	Local		Hatch Year		After Hatch Year		Sex Ratio M:F	Total
	M	F	M	F	M	F		
Mallard	0	0	0	0	3	1	3:1	4
Black Duck	2	2	22	18	52	23	1.8:1	119
G.W.Teal	0	0	54	45	5	5	1.15:1	109
N. Pintail	0	0	20	20	0	6	0.77:1	46
Lesser Scaup	0	0	0	2	0	0		2
Canada Goose	0	0	7	6	9	7	1.2:1	29
Total	2	2	103	91	69	42		309

Table #2 Daily waterfowl catches Baikie Lake, Labrador 1990.

Date	New Birds	New Retraps	Recaptures	Dead Birds	Total Birds	% New Bandings
08/31	12	0	0	0	12	100.0
09/1	13	4	1	0	18	72.2
09/2	48	1	3	1 (G.W)	53	90.6
09/3	20	0	4	0	24	83.3
09/4	14	2	12	0	28	50.0
09/5	26	1	15	1 (P.T.)	43	60.5
09/6	36*	2	19	1 (G.W)	58	62.1
<b>WEEK 1</b>	<b>169</b>	<b>10</b>	<b>54</b>	<b>3</b>	<b>236</b>	<b>71.6</b>
09/7	21	2	16	0	39	53.8
09/8	26	1	33	1 (G.W.)	61	42.6
09/9	12	2	26	1 (P.T.)	41	29.3
09/10	4	1	16	0	21	19.0
09/11	Traps not	operational				
09/12	Traps not	operational				
09/13	Traps being	Reset				
<b>WEEK 2</b>	<b>63</b>	<b>6</b>	<b>91</b>	<b>2</b>	<b>162</b>	<b>38.9</b>
09/14	5**	2	7	1 (B.K.)	15	33.3
09/15	5	1	14	2 (B.K.)	22	22.7
09/16	13*	2	19	0	34	38.2
09/17	25(c)	3	15	1 (C.G.)	44	56.8
09/18	4	0	16	1 (B.K.)	21	19.0
09/19	7	2	18	0	27	25.9
09/20	15(c)	1	26	2 (C.G.)	44	34.1
<b>WEEK 3</b>	<b>74</b>	<b>11</b>	<b>115</b>	<b>7</b>	<b>207</b>	<b>35.7</b>
09/21	6*	1	17	0	24	25.0
09/22	4	0	18	1 (M.L.)	23	17.4
<b>WEEK 4</b>	<b>10</b>	<b>1</b>	<b>35</b>	<b>1</b>	<b>47</b>	<b>21.3</b>
<b>Grand Total</b>	<b>316</b>	<b>28</b>	<b>295</b>	<b>13</b>	<b>652</b>	<b>48.5</b>

\* - Canada goose caught in trap.

\*\* - 2 Canada geese caught in trap.

(c) - Cannon net shot.

G.W. - Green-winged Teal

B.K. - Black Duck

C.G. - Canada Goose

P.T. - Pintail

M.L. - Mallard

Table #3 Individual Trap catches of New Birds at Baikie Lake, Labrador 1990.

Trap Name/ Map No.	G.W. Teal	N. Pintail	Lesser Scaup	A.Black	Mallard	Canada Goose	Total
North Shore #1	2	6		3		1	12
North East Point #2	44	7		1			52
South Gut #3	3	5		6	1	2	17
East Oxbow #4	16	3		9	1		29
Big Pond #5	9	12		20			41
Woods Pond #6	1			14			15
Small Pond #7		4		10			14
North West Shore #8	10	10	2	8			30
South West Gut #9	7			26	2		35
Tri Island #10	18			23	1	1	43
West Cutthru #11				2			2
West Gut #12				1			1
West Cannon Net #13						24	24
South Cannon Net #14							
North Cannon Net #15							
*Netted with Dip Net						1	1



Table #4 Summary of waterfowl banded near Churchill Falls, Labrador 1987-1990.

Species	Year	Local		Hatch Year		After Hatch Year		Total	Retrap	
		M	F	M	F	M	F		M	F
Mallard	1990	0	0	0	0	3	1	4	0	0
	1989	0	0	1	3	0	1	5	0	0
MalxBlk	1990	0	0	0	0	0	0	0	1	0
	1989	0	0	1	0	0	0	1	0	0
Black	1990	2	2	22	18	52	23	119	15	9
	1989	0	0	44	52	30	27	153	0	2
	1988	0	0	12	6	1	4	23	0	0
G.W.Teal	1990	0	0	54	45	5	5	109	0	0
	1989	0	0	35	46	1	8	90	1	2
	1988	0	0	2	18	0	3	23	0	0
	1987	0	0	14	38	0	3	55	0	0
Pintail	1990	0	0	20	20	0	6	46	1	2
	1989	0	0	25	17	0	3	45	0	0
	1988	0	0	1	0	0	0	1	0	0
Lesser Scaup	1990	0	0	0	2	0	0	2	0	0
Canada Goose	1990	0	0	7	6	9	7	29	0	0
	1989	0	0	5	13	6	5	29	1	0

Table #5 Sex, Age, Species of dead waterfowl at Baikie Lake, Labrador 1990.

Species	Sex	Age	Apparent Cause of Death and Band Number	Date of Death
G.W. Teal	F	Hv	Drowned (head stuck in trap)	Sept. 2/90
	M	Hv	Drowned (head stuck in trap)	Sept. 6/90
	F	Hv	Drowned (head stuck in trap) 624-13786	Sept. 8/90
Pintail	M	Hv	Drowned (head stuck in trap)	Sept. 5/90
	F	Hv	Dispatched (head stuck in top mesh) 896-62237	Sept. 9/90
Black	M	AHv	No apparent cause 1507-55268	Sept. 14/90
	M	AHv	No apparent cause 1507-55228	Sept. 15/90
	M	Hv	No apparent cause 1507-55261	Sept. 15/90
	F	Hv	No apparent cause 1467-59923	Sept. 18/90
Mallard	M	AHv	No apparent cause but battered badly 1507-55270	Sept. 22/90
C. Goose	M	Hv	Dispatched (broken wing-caused by cannon)	Sept. 17/90
	M	Hv	Broken neck (caused by cannon)	Sept. 20/90
	M	Hv	Died in burlap bag (No apparent cause)	Sept. 20/90

Table #6 Results of small mammal trapping near Baikie Lake, Labrador 1990.

Line No.	Date	Basic Habitat	Red Backed Vole	Meadow Vole	Total
1A	Sept. 12	70% Black Spruce, 5% Speckled Alder, 5% Balsam Fir	13*	0	13
1B	Sept. 13		6	0	6
1C	Sept. 14		5	2	7
2A	Sept. 15	Cut over Black Spruce adjoining Lake.	5	0	5
2B	Sept. 16	Speckled Alder and Myrica Gale	6	1	7
2C	Sept. 17	predominant.	4	3	7
3A	Sept. 19	10% Eastern Larch, 10% Black	2	1	3
3B	Sept. 20	Spruce, 30% Labrador Tea	3	1	4
3C	Sept. 21	Located beside brook.	0	1	1
4A	Sept. 22	Bog Area: 1% Eastern Larch.	0	6	6
4B	Sept. 23	5% Myrica Gale	0	6	6
4C	Sept. 24		0	3	3
Total					68

\* Melanistic Red Back Vole trapped at this location.







Table #7 (Cont'd) Waterfowl, Raptor, Loon observations for August 23 - September 22 at Baikie Lake, Labrador 1990.

Species	Sept 18	19	20	21	22
Black Duck	12	15	18	16	14
Mallard					
Pintail	8		5	3	2
G.W. Teal	75	70			1
C. Goldeneye	2			2	2
R.B. Merganser		9			16
C. Merganser					
L. Scaup		2			
Canada Goose	200	150	150	400	400
C. Loon		2	2		
Osprey	1	1	1	1	1
N. Harrier		2		1	
Peregrine Falcon		1			
Short Eared Owl					
Rough Legged Hawk				1	
Bald Eagle				1	



## Appendix I.

## Contacts in Churchill Falls

Ed Mullally -	1990 cabin owner
Reuden Perry -	1989 cabin owner
Doug Goodvear -	Royal Newfoundland Constabulary
Frank Hashell -	Royal Newfoundland Constabulary
Bill Carew -	CFLCO Warehouse Manager
Everett Pinkson -	CFLCO Garage Manager
Dan Pittman -	Churchill Inn Manager
Francis Clarke -	Town Manager
Mike Norcott -	Town Services Superintendant (concerning storage)
Jack Murphv -	Helicopter Hanger Manager
Des Mullally -	Bank of Nova Scotia Manager
Tony Bvrde -	Grocery Store Manager
Ron Peddle -	R.S.P Tire Repair
Mike Power -	Yamaha Dealer
Alec Jacobs -	a person to talk to about bird numbers, etc.
Shirley Moore -	Air Atlantic Representative

Appendix 2. Inventory of equipment stored in Churchill Falls and shipped to Sackville.

Stored in old tire shop

- 2 - 17ft freighter canoes
- 1 - Yamaha 3 wheeler (ATC 200E shaft drive serial #24W12281) on 2 wheel utility trailer. Covered by canvas tarpaulin.
- 1 - Hillary survival tent
- 9 - Plastic duck decoys
- 1 - Barrel fuel pump
- 1 - 4.5 Hp. evinrude outboard
- 2 - Paddles

Stored in Truck

- 1 - 1981 Ford truck 1 cap (#2F7CF10 FOBCA87710)
- 1 - 4.5 Hp. Johnson outboard motor
- 1 - 3 gal outboard motor gas tank
- 1 - Anchor
- 2 - Propellers
- 2 - Life vests
- 2 - Float coats
- 2 - Paddles
- 2 - Plastic Bait pails (5 gallon)
- 1 - Orange tarpaulin (new)
- 1 - Black tarpaulin (old)
- 1 - White toolbox (contains. OBM tools and 1 - 3 cell flashlight)
- 1 - Red toolbox (general tools)

- 1 - Small red toolbox (nails and assorted materials)
- 3 - Dip nets
- 5 - 5 gall. gas can (4 red, 1 Blue)
- 1 - 2 gall. gas can
- 1 - Round mouthed shovel
- 1 Pair size 10 hip waders (very good condition)
- 1 Axe
- 2 Bag mixed netting
- 2 Gas funnels
- 1 Milk Crate
- 1 Banding pail & cover
- 1 Tie down straps (rubber) for canoe
- 1 Wooden camp box (2 lanterns, 2 burner stove, cooking utensils, 25 gall. water cans plus other misc. items)
- 1 Green tote box - hatchet, ethanol, various oils, bowsaw, clothesline, pulley, clothespins and misc. items.
- 53 Small mammals traps - 24 victor, 29 museum special.
- 1 Coil blasting wire
- Several white banding area signs

Shipped to Sackville

- 288 Slides & boxes
- 1 Cannon net
- 5 Cannons
- 1 50 Shot blasting wire
- 1 Ammeter



1 Coil 16 ga blasting wire

1 Shotgun & 2 boxes of .5 00 buckshot shells.

Needed for future

Hard finish cotton cord

2 Pair Insultated rubber gloves

1 New front tire for trike

4 New lug bolts for rear wheel of trike

"Baited Area" signs (orange ones are more visible)

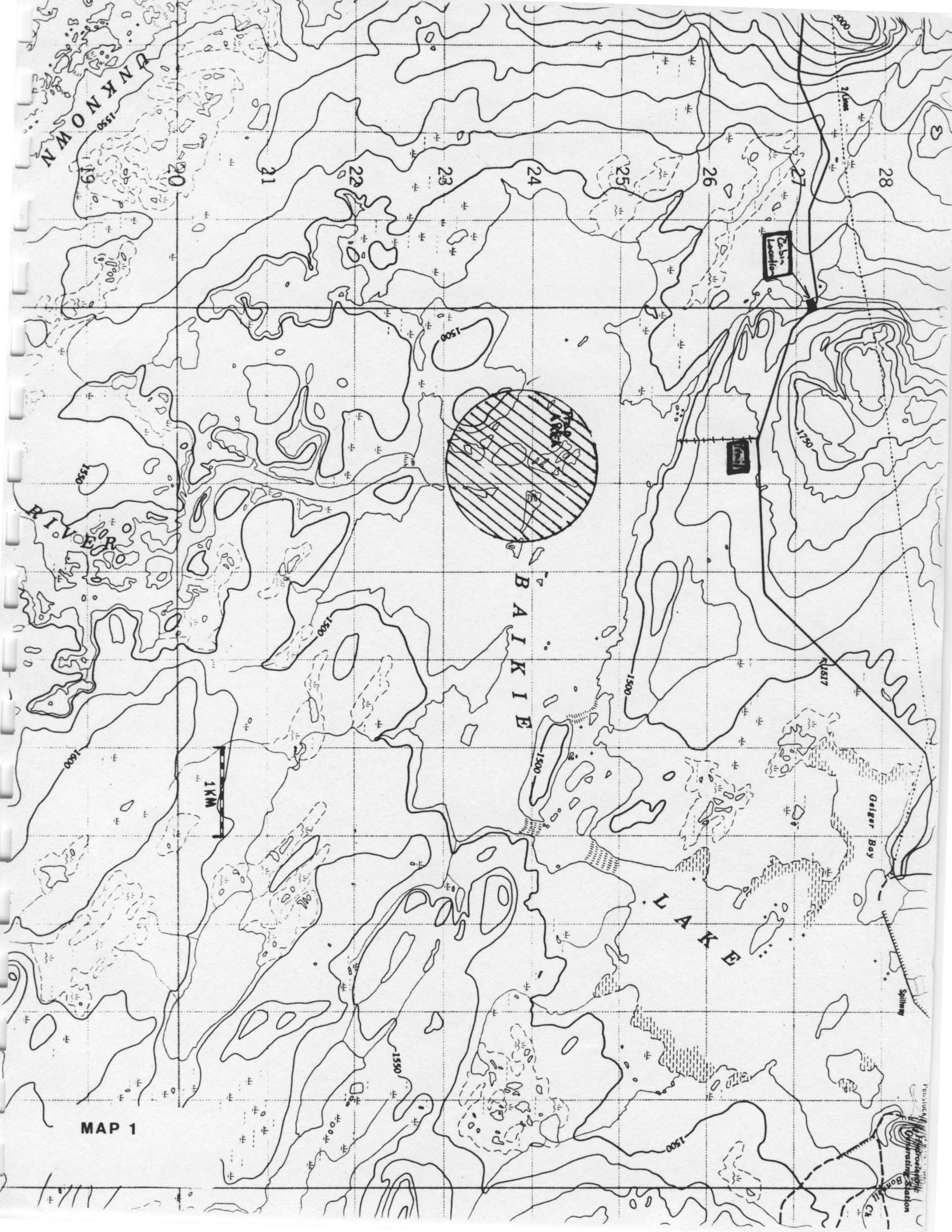
Burlap bags - especially at least 5 large ones for geese.

A FM radio with exterior antenna would be an asset.

Stored at Lake

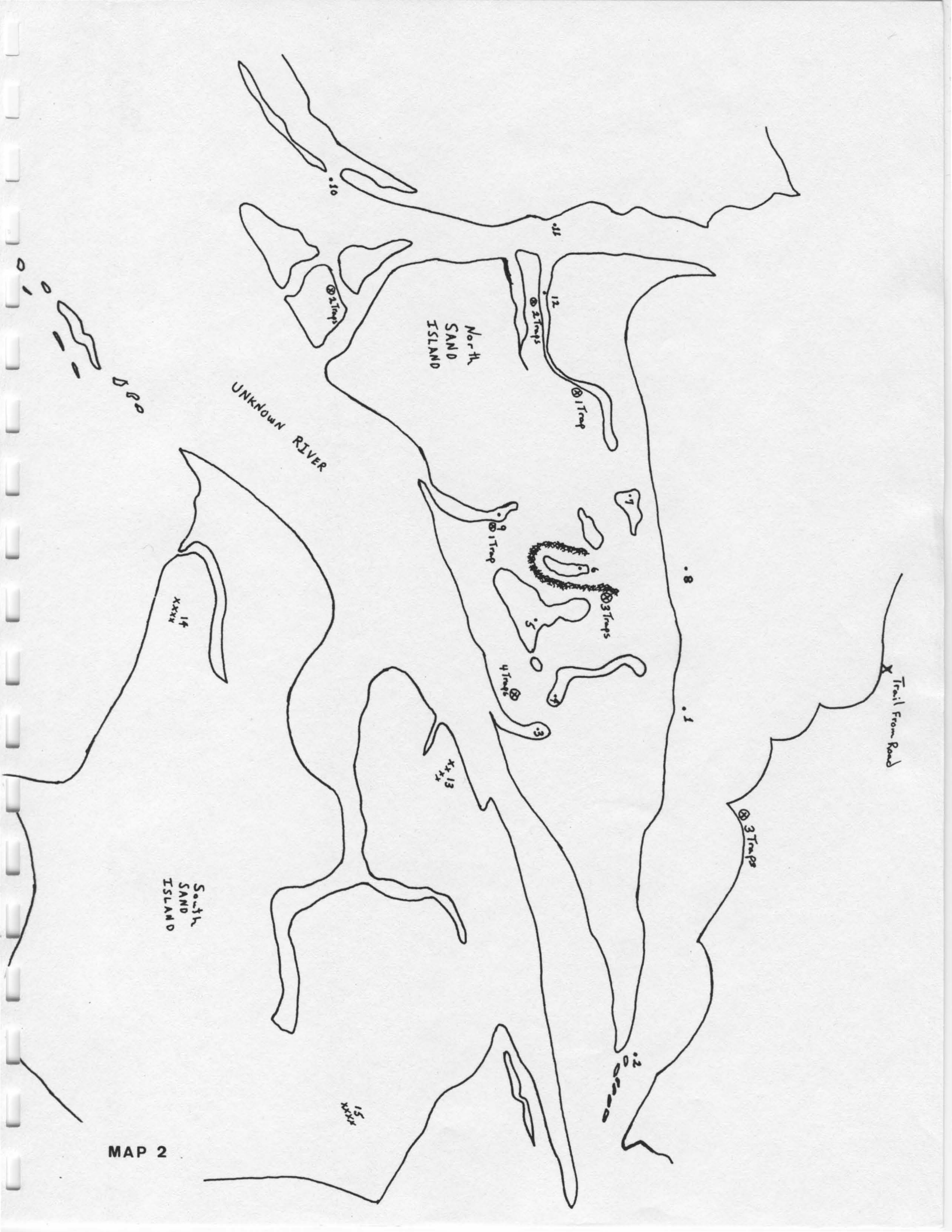
7 - 4ft 1 funnel traps 1" x 2" mesh

9 - 2ft 1 funnel traps 1" x 2" mesh



MAP 1

Produced by  
Geographic Institute  
Boston, MA



MAP 2



CWS Panther Airboat

Night - Lighting

1990

W. R. Barrow

In addition to contributing to the Co-operative Waterfowl Banding Program the CWS Panther airboat assisted in five additional projects. Assignments included two telemetry studies, a nasal tag program, a Ring-necked duck capture and X-ray study and a salvage operation for dead crippled or toxic waterfowl. Approximately sixty-three hours in running time were necessary to band 855 birds, and assist in those programs.

#### Black Duck Telemetry Studies

Canadian Wildlife Service Research Scientist Gerry Parker was assisted by summer employee Danny Sears in the final year of a two year Lepreau Study, and in the first year of a two year Amherst Point Migratory Bird Sanctuary study. Seventy-two Black Ducks were captured for banding and fitted with transmitters. The Lepreau birds behaved quite differently from those in 1989. There was little or no movement towards the coast and those which weren't sedentary disappeared entirely. Extremes in weather over this two year period influenced this behaviour. The sancturary principle was reinforced by the Amherst Point sample. A large portion of the radio collared birds stayed on their natal sancturary marsh with harvest in the surrounding area. A harvest figure of 80 percent and a 47 percent crippling loss is similar to hunted marshes but these data are preliminary and sample size is limiting. It may however suggest that a large un hunted buffer zone is required around this small sancturary.

### Nasal Tag Study

Black Ducks were captured with the CWS airboat and nasal tagged for the third consecutive year within the Antigonish harbour estuary. Dr. Norn Seymour supervised the project and was assisted by masters student Stacey Hewitson and N.S. L&F personnel Murray Workman and Mark Pulsifer. To date, approximately 150 Black Ducks have been nasal tagged in the salt marsh estuary system. Seven mallards were marked in 1990. These were the first records for successful mallard brood production within the Antigonish Watershed. Intensive behaviour observations of marked birds contribute to the knowledge of the biology of this species. One segment of this study was published in the Canadian Journal of Zoology, July 21, 1989: "Forced Copulation in sympatric American Black Ducks and Mallards in Nova Scotia."

### Ring-necked Duck X-ray program

Fifty-nine pre-season ring-necks were captured with the airboat and X-rayed for lead shot ingestion. Eight birds were collected at Pisquid P.E.I., twenty-five in Cumberland Co., N.S., and twenty-six at White Birch near Sackville N.B. Twenty-nine percent tested positive although individual marsh results were extreme. No lead was detected in the N.S. sample but the P.E.I. and N.B. samples had respectively 88 and 38 percent contamination.



### Salvage Operations

The CWS airboat contributed to the collection of 55 dead crippled or toxic waterfowl in a post-season recovery operation. Eleven species of waterfowl and two marsh bird species were collected for post mortem analysis at the Atlantic Veterinary College, Charlottetown, P.E.I. Thirteen percent of this collection was diagnosed as lead poisoned birds.

### Banding Results

Twelve species of waterfowl and a total of 855 birds was captured and banded with the CWS airboat. This total includes hybrids and two species of marsh birds. Thirty percent of those banded were Black Ducks, 18 percent Blue-winged Teal, and 16 percent Green-winged Teal. Nine species, of which Ring-necked Ducks, American Wigeon, Wood Duck and Gadwall were most numerous, comprised the remaining thirty-six percent.

Thirty-eight non-game coot and grebes were banded in an effort to generate some band return data for those species. To date and over the 26 year history of the banding program only fourteen band returns are on record for this component of the marsh environment.

Seventy Gadwall were banded in 1990 with night-lighting techniques. The new Dragonfly airboat banded 38 on P.E.I. and the

Panther airboat banded 32 in the Amherst area, both record provincial totals.

Table 1 summarizes the age, sex, species composition of the banded birds.

#### Recommendations

Most of the 1989 recommendations were implemented and contributed to a zero time-loss season. Maintenance and modifications are routine considerations and those for 1991 are no exception.

The trailer wiring should be installed entirely on the boat. The electric winch which is presently part of this system should be wired independently.

The engine efficiency has decreased over the years to the point where it is running at two thirds its original power. A valve job is long over due.

A customized weather guard for the boat motor is recommended. The axle and bearing system require servicing.

#### Acknowledgements

All of the project leaders assisted in the banding program. Dan Sears creator of "The Flounce" or flying pounce as a netting technique was vital to most of the programs. Keith McAloney and Randy Hicks operated the boat two nights as part of a Green-wing Day sponsored by Ducks Unlimited. The volunteer help from Jack Stone, Dan Barrow, Roland Cormier, Tom Duffy and John Clements contributed to a successful season.

Table 1. Age & Sex breakdown of waterfowl banded with the CWS Panther Airboat 1990.

Species	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Unk	Total
	M	F	T	M	F	T	M	F	T		
Mallard		1	1	5	6	11	3	4	7		19*
Black Duck	69	86	155	42	24	66	12	25	37		258*
Blk X Mal Hyb				1	4	5	1		1		6
Green-w Teal	7	11	18	33	30	63	35	21	56		137
Blue-w Teal	5	2	7	56	39	95	37	13	50		152
Am. Wigeon	7	8	15	13	19	32	2	7	9		56
N. Shoveler	2	1	3	2	4	6	1	2	3		12
N. Pintail	3	2	5	5	1	6		2	2		13
Wood Duck							31	4	35		35
Ring-n Duck	4	22	26	21	11	32	7	15	22		80
Gadwall	6	9	15	6	11	17					32
H. Merganser		1	1	4	3	7		1	1		9
C. Merganser	3	5	8								8
P-B Grebe										23	23
Am. Coot										15	15
Total	106	148	254	188	152	340	129	94	223	38	855

\*124 Black Ducks and 7 Mallards were marked with radio transmitters or nasal saddles.



Dragon Fly  
Mitsuba

P.E.I. Waterfowl Banding Project

C.W.S. DragonFly Airboat

July 15 - August 22, 1990

Crew Members

Paul Walker (Crew Leader)

Dale Thompson

## Introduction

Thirty seven Marshes were nightlighted throughout Prince Edward Island during July and August 1990, with primary emphasis on capturing and banding Black Ducks. This banding effort was conducted with two permanent crew members and several volunteers.

## Discussion & Results

The airboat was worked a total of 37 nights and 48.4 operating hours, on various marshes throughout the Island.

Few difficulties were encountered. A tune up was required, and resulted in purchasing a set of new spark plugs, which were easily replaced. The propeller caused heavy vibration while running, and broke the muffler mount on several occasions. The front of the boat cracked twice, and had to be welded.

A total of 491 birds was banded on P.E.I. between July 15, and August 22, 1990. These included 50 Green-winged Teal, 11 Ring-necked Ducks, 7 Wood Ducks, 12 Pintail, 11 Shoveler, 21 Wigeon, 38 Gadwall, 238 Blue-winged Teal, 97 Black Ducks, and 6 Mallards.

The age, sex and species of birds banded with the P.E.I. airboat in 1990 are summarized in Table 1.

Tables 2-11 illustrate age and sex breakdown of birds banded by location by the P.E.I. airboat in 1990.



A total of 9 birds was recaptured in the 1990 season. Five Blue-winged Teal, 2 Black Ducks, 1 Wood Duck, and 1 Ring-necked Duck. A summary of the waterfowl recaptures is presented in Table 12.

#### Acknowledgements

All volunteer help was greatly appreciated this year.

Chris Faulkner  
John Clements  
Tom Duffy  
Al Godfrey  
Tom Godfrey  
Stephen Bettles  
Scott Makepeace  
Ian Walker  
Brenda Brydon

List of Band Numbers for the 1990 Nightlighting Season:

664-31401 to 31450  
664-35407 to 35407  
885-49101 to 49200  
865-72501 to 72600  
885-49001 to 49039  
956-19401 to 19500  
2307-59901 to 60000  
2307-59501 to 59503  
1467-49201 to 49201

#### Recommendations and Observations

1. An additional holding cage would prevent overcrowding of captured birds, speed up processing time when volunteer help is present, eliminate recaptures of previously banded birds on the same night and most importantly contribute significantly to the total numbers of birds banded, especially on larger areas.

2. The small airboat, while being more mobile than the large units, was incapable of passing through dense vegetation. It is felt that this had a negative effect on total numbers of birds banded both by preventing pursuit of birds escaping into dense cattail and bullrushes and by making it impossible in most areas to "drive" birds out into open water.

3. A portable hand winch or come-along towing cable should be added to the boats equipment inventory. The airboat and trailer had to be detached from the truck on several occasions and towed separately to level ground before reattaching to the vehicle.

4. A hand held spotlight was added to the airboat operation in July and contributed substantially to the total number of birds banded.

5. While an effort was made to band birds throughout Prince Edward Island, priority should be given to larger more productive areas such as Mt. Stewart marsh, Whitlock's Pond and Ten Mile House. Future airboat operators should schedule nightlighting on these and other areas twice, with smaller areas worked between visits to these (the assumption being that a similar 5-week operation will take place in future years).

6. Generally, areas with abundant dead wood in the form of limbs, stumps and fallen trees cannot be worked effectively and are not

worth the effort. These obstructions make it impossible to pursue flightless birds.

7. A marine battery was used to power the hand held spotlight. It is recommended that a portable battery charger be added to the airboat inventory.

8. Because of its smaller size, the Prince Edward Island Airboat performed best with a two man crew. A third person with a second net can be accommodated but requires extra caution on the part of the driver.

9. Several repairs were required to the muffler support and the bow attachment for the trailer's hand winch.

10. A clamp-on taillight system is recommended for 1991. The boat and trailer were transported throughout the 1990 season with reflectors only.

11. The addition of a centrally located drain would facilitate faster draining of excess water. Bailing by hand was required on most occasions.



12. A portable bilge pump would also assist in this process and would add an extra measure of safety on rough water or in the event of hull damage.

13. A credit card should be issued to the crew leader.

Table 1. Age and sex breakdown of waterfowl banded with the P.E.I. airboat  
1990.

Species	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>				Total
	M	F	T	M	F	T	M	F	T	UNK	
Green-Winged Teal	6	9	15	8	7	15	11	9	20	0	50
Ring-Necked Duck	1	2	3	1	0	1	2	5	7	0	11
Wood Duck	0	0	0	1	0	1	6	0	6	0	7
Pintail	4	3	7	2	2	4	0	1	1	0	12
Shoveler	2	0	2	5	3	8	0	1	1	0	11
Wigeon	2	5	7	3	5	8	4	2	6	0	21
Gadwall	14	19	33	2	0	2	0	3	3	0	38
Blue-Winged Teal	62	55	117	35	36	71	27	23	50	0	238
Black Duck	28	22	50	23	17	40	2	4	6	1	97
Mallard	2	1	3	2	0	2	0	1	1	0	6
Totals	121	116	237	82	70	152	52	49	101	1	491

Table 2. Age and sex breakdown of Green-Winged Teal banded by location P.E.I.  
Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
North River	5	1	6	0	0	0	0	0	0	6
De Roche Pond	1	5	6	0	1	1	2	0	2	9
Johnstons River	0	0	0	1	1	2	2	1	3	5
McKies Pond	0	0	0	0	0	0	0	1	1	1
Rochford Pond	0	1	1	0	1	1	0	0	0	2
Noonans Marsh	0	0	0	0	0	0	3	0	3	3
Whitlocks Pond	0	2	2	0	0	0	0	1	1	3
Ten Mile House	0	0	0	1	0	1	0	0	0	1
Mount Stewart Marsh	0	0	0	1	1	2	0	0	0	2
Pisquid Impoundment	0	0	0	3	1	4	2	3	5	9
Black Pond	0	0	0	0	0	0	2	0	2	2
Everglades	0	0	0	2	2	4	0	3	3	7
Totals	6	9	15	8	7	15	11	9	20	50



Table 3. Age and sex breakdown of Blue-Winged Teal banded by location P.E.I.  
Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Johnstons River	3	7	10	2	6	8	11	6	17	35
Glenfinnan #2	4	5	9	5	1	6	0	2	2	17
Cousins Pond	0	0	0	0	0	0	2	1	3	3
Officers Pond	2	2	4	1	2	3	0	2	2	9
Fullertons Marsh	3	2	5	0	0	0	1	0	1	6
Noonans Marsh	0	0	0	0	0	0	1	0	1	1
Whitlocks Pond	7	7	14	1	1	2	2	1	3	19
Mount Stewart Marsh	12	9	21	3	3	6	1	1	2	29
De Roche Pond	0	0	0	7	5	12	3	1	4	16
Arsenaults Pond	4	1	5	7	8	15	0	0	0	20
Blanchards Pond	5	1	6	0	0	0	1	3	4	10
Black Pond	1	8	9	0	0	0	4	0	4	13
East Lake	1	2	3	1	1	2	0	0	0	5
Leards Pond	4	1	5	1	1	2	0	0	0	7
Livingstons Pond	10	3	13	0	2	2	0	0	0	15
Pisquid Impoundment	1	4	5	4	3	7	0	5	5	17
Everglades	1	0	1	2	2	4	0	0	0	5
Pius MacDonalds	0	0	0	1	1	2	0	0	0	2
Rochford Pond	4	3	7	0	0	0	1	1	2	9
Totals	62	55	117	35	36	71	27	23	50	238

Table 4. Age and sex breakdown of Ring-Necked Duck banded by location - P.E.I. Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
De Roche Pond	0	0	0	0	0	0	0	1	1	1
Noonan's Pond	0	0	0	0	0	0	0	1	1	1
Whitlock's Pond	1	0	1	0	0	0	1	0	1	2
Ten Mile House	0	0	0	0	0	0	1	0	1	1
Johnston's River	0	2	2	0	0	0	0	2	2	4
Everglades	0	0	0	1	0	1	0	1	1	2
Totals	1	2	3	1	0	1	2	5	7	11

Table 5. Age and sex breakdown of Wood Duck banded by location - P.E.I.  
Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Noonan's Marsh	0	0	0	0	0	0	2	0	2	2
Whitlock's Marsh	0	0	0	0	0	0	1	0	1	1
Johnstons River	0	0	0	1	0	1	2	0	2	3
Blanchards Pond	0	0	0	0	0	0	1	0	1	1
Totals	0	0	0	1	0	1	6	0	6	7

Table 6. Age and sex breakdown of Pintail banded by location - P.E.I. Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Ten Mile House	4	3	7	0	1	1	0	0	0	8
Pisquid Impoundment	0	0	0	2	1	3	0	1	1	4
Totals	4	3	7	2	2	4	0	1	1	12



Table 7. Age and sex breakdown of Shoveler banded by location - P.E.I.  
Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Mt. Stewart Marsh	0	0	0	5	3	8	0	0	0	8
Glenfinnan #2	2	0	2	0	0	0	0	0	0	2
Pisquid Impoundment	0	0	0	0	0	0	0	1	1	1
Totals	2	0	2	5	3	8	0	1	1	11

Table 8. Age and sex breakdown of Gadwall banded by location - P.E.I. Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Rochfords Pond	14	19	33	2	0	2	0	3	3	38
Totals	14	19	33	2	0	2	0	3	3	38

Table 9. Age and sex breakdown of Wigeon banded by location - P.E.I. Airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Mt. Stewart Marsh	2	2	4	1	2	3	0	0	0	7
De Roche Pond	0	0	0	0	0	0	1	0	1	1
Black Pond	0	0	0	0	0	0	2	2	4	4
Rochford Pond	0	0	0	1	0	1	0	0	0	1
Johnston's River	0	0	0	1	1	2	0	0	0	2
Pisquid Impoundment	0	3	3	0	2	2	1	0	1	6
Totals	2	5	7	3	5	8	4	2	6	21

Table 10. Age and sex breakdown of Black Ducks banded by location - P.E.I. airboat 1990.

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>				Total
	M	F	T	M	F	T	M	F	T	UNK	
North River	1	2	3	0	0	0	0	1	1	0	4
Glenfinnan #2	3	5	8	1	0	1	1	0	1	0	10
Officer's Pond	10	6	16	3	4	7	0	2	2	1	26
Noonan's Marsh	2	4	6	0	1	1	0	0	0	0	7
Whitlock's Pond	5	0	5	0	0	0	0	0	0	0	5
Ten Mile House	1	2	3	9	3	12	0	0	0	0	15
Johnson's River	0	0	0	1	0	1	0	0	0	0	1
Mt. Stewart	0	0	0	1	2	3	0	0	0	0	3
Arsenault's Pond	1	0	1	1	2	3	0	0	0	0	4
Blanchards Pond	1	2	3	2	0	2	0	1	1	0	6
Black Pond	2	0	2	2	3	5	1	0	1	0	8
East Lake	0	0	0	1	0	1	0	0	0	0	1
Livingstons Pond	0	1	1	0	0	0	0	0	0	0	1
Pisquid Impoundment	1	0	1	0	1	1	0	0	0	0	2
Everglades	1	0	1	2	0	2	0	0	0	0	3
Pius MacDonalds Pond	0	0	0	0	1	1	0	0	0	0	1
Totals	28	22	50	23	17	40	2	4	6	1	97

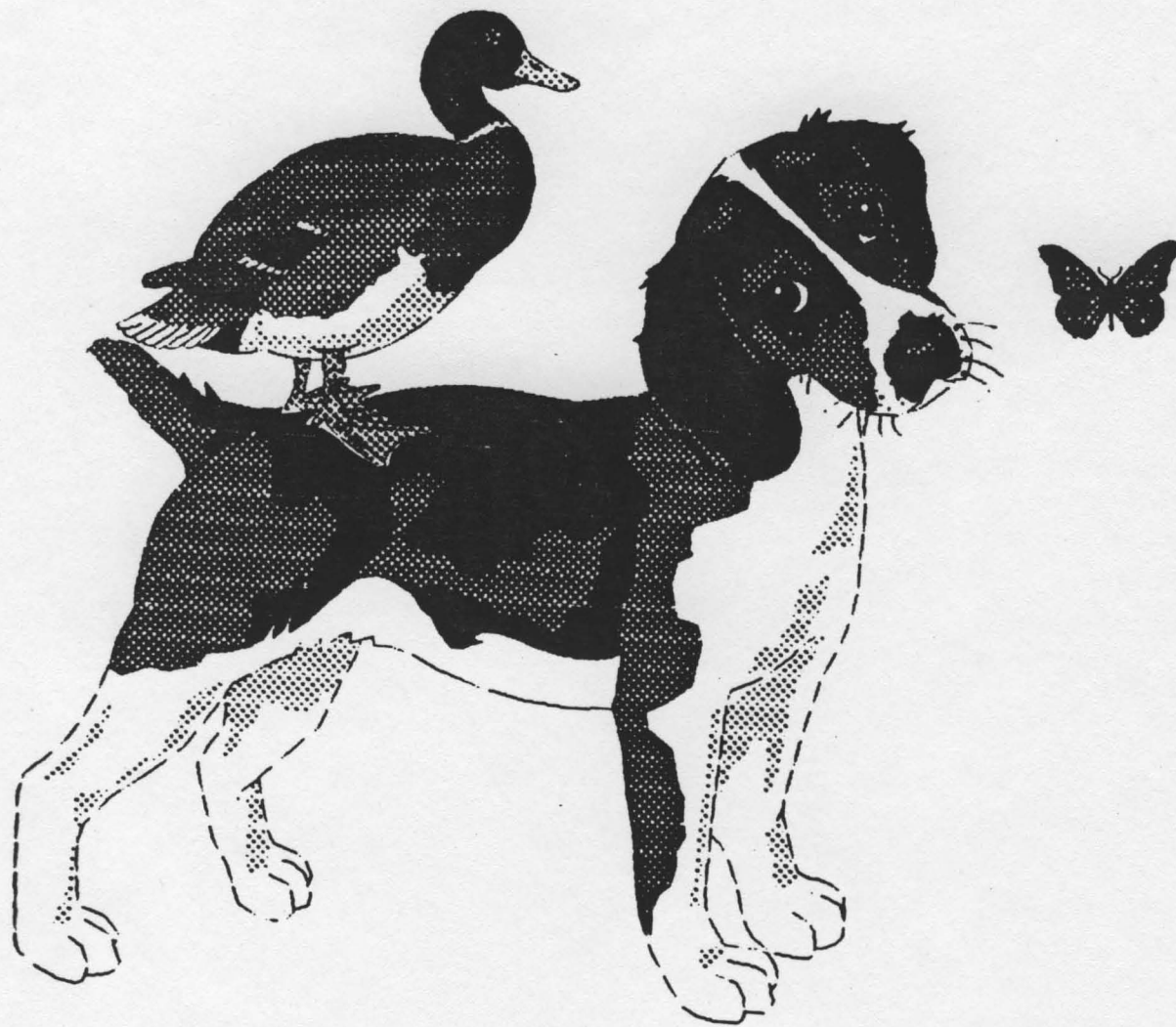


Table 11. Age and sex breakdown of Mallard ducks banded by location - P.E.I.  
Airboat 1990.

---

Location	<u>Local</u>			<u>Hatch Year</u>			<u>After Hatch Year</u>			Total
	M	F	T	M	F	T	M	F	T	
Officer's Pond	0	0	0	0	0	0	0	1	1	1
Black Pond	2	1	3	0	0	0	0	0	0	3
Pius MacDonald	0	0	0	2	0	2	0	0	0	2
Totals	2	1	3	2	0	2	0	1	1	6

DOG WORK IN THE ATLANTIC REGION - 1990



W.R. BARROW, WILDLIFE TECHNICIAN  
CANADIAN WILDLIFE SERVICE  
SACKVILLE, N.B. FEBRUARY 1991

## Introduction

Dog banding in 1990 was unique by Atlantic Region standards. For the first time in the history of this banding program a dog assisted in banding waterfowl in all four Atlantic provinces. A dog-helicopter combination was used for the first time, and contributed to the telemetry program. Canada Geese captured in Labrador with a dog and neck collared were probably the first in this program.

The spring of 1990 is note-worthy in that for many areas in the Atlantic Region it was the coldest on record. Three weeks of cold rain and snow in May set farming back three weeks. The impact on migratory birds is still undetermined; however, the following observations indicate the severity of this natural phenomenon:

- 1) A scarcity of broods as of 7 July with those observed exhibiting high mortality (small brood size).
- 2) Late courtship behaviour for Black Ducks, Mallards and Blue-winged Teal indicative of renesting attempts.
- 3) Several mallard-black pursuit flights were observed after the adult male blacks were congregating in post-breeding groups. This situation - nest failure followed by renesting - may promote hybridization.
- 4) For the first time in twenty years adult female woodcock were recorded in the wing survey sample in "full wing moult".
- 5) Class 1 (or downy) Black Duck and Blue-winged Teal ducklings were observed on PEI during opening week of the hunting season.



- 6) Seventy-eight percent of forty broods observed in Labrador were flightless for the opening day hunt on September 1.
- 7) Canada Goose fall migration to PEI was two weeks late.
- 8) Moulting hen Black Ducks and Ring-necked Ducks were more noticeable in the 1990-91 Species Composition Survey. Twenty-nine percent of the Newfoundland-Labrador ring-necks exhibited some degree of wing moult.
- 9) Several marshes exhibited a staggered hatch with extremes from downy young to flying broods.
- 10) Twenty broods were too young for banding on 29 July during a night-lighting operation - a situation unheard of in the past.
- 11) Moulting male Canada Geese were captured in Labrador three weeks beyond normal moult chronology.
- 12) Primary production (plant and animal) was delayed two-three weeks on most marshes in the Atlantic Region.
- 13) A marsh bird survey with the CWS Dragonfly at the Amherst Point Migratory Bird Sanctuary on June 15, 1990 suggested that 50 percent of the grebe nests were destroyed by high water.
- 14) Reports of die-offs for non-game species (swallows, warblers) were common.

#### Results and Discussion

In 1990 two Wire-haired Pointers (Flint and Ginger) were used to band local Black Ducks as part of the Co-operative Waterfowl Banding Program. In addition to assistance in a Nova Scotia Lands & Forests eider banding program and a Black Duck telemetry study, they

were part of a crippling loss and lead shot study and contributed to the Canada Goose neck collar program.

Five species of waterfowl totalling 75 birds were captured with dogs worked by CWS personnel in 1990. Black Ducks were the most numerous and comprised 71% of the banded birds. Incidental species banded were mallard (8), geese (7), eider (6) and pintail (1). Table 1 summarizes the age and sex composition of banded birds by species. The total was approximately fifty percent less than in 1989 due to the late season and commitments to other programs.

Banding local waterfowl or the flightless immature population component is essential for comprehensive management strategies. In 1990 seven of twelve operations banded local waterfowl. Only night lighting exercises banded more locals than dogwork. Relative to effort and expense however dog work remains the most efficient method of capturing local Black Ducks. In 1990 ninety-six percent of the Black Ducks banded with dogs were local and eighty-three percent of the total banded were local birds. A summary for the local waterfowl banded by station is presented in Table 2.

#### Nova Scotia Lands & Forests (NSL&F) Sea-duck Banding

Common Eider banding has been ongoing within the NSL&F Eastern Shore Islands Wildlife Management Area since 1970. This zone, located north east of Halifax near Sheet Harbour, is approximately 4.5 sq. miles and consists of 43 islands. The most obvious bird life includes eider, gulls, cormorants, great blue heron and osprey. The most spectacular (L. petrel) goes largely unnoticed due to its nocturnal behaviour. Big White Island alone has an estimated

population of 100,000 petrels where up to 1000 have been banded in one night's work.

Approximately 3000 pairs of eider nest annually within the island management area. To date 3300 have been banded with dogs and 117 band recoveries give a very low recovery rate of 3.6 percent. In 1990 three dogs were used to band 211 eider.

One of the most interesting aspects of eider management is the experiments with five types of artificial nest structures. Artificial nest use has increased yearly with some female eider returning to the same island and identical structure. In 1990 eider eggs were collected from Tobacco Is. as part of the introduction program for Hare Bay, Newfoundland.

#### Black Duck Telemetry Study

For the third consecutive year dogs were used to capture Black Ducks for banding and fitting with radio transmitters. Dependence on dog work was minimal as the required sample was obtained through improved night-lighting procedures. Seven of fifty Black Ducks were captured with dogs for this study in 1990.

#### Crippling Loss and Lead shot Study

The search for crippled or toxic waterfowl in the Atlantic Region was intensified in 1990. Dogs were used in PEI, NS and NB and assisted in the recovery of fifty-five birds. Thirteen percent of this sample was diagnosed as lead poisoned birds.

#### Canda Goose Neck Collar Programs

A neck collar program initiated in 1985 by Rich Malecki,



Cornell University, N.Y. was terminated this year after banding and collaring over thirty thousand geese. Only 500 geese were banded in the Atlantic Region due to late program implementation and the difficulty with banding geese within this region. During 1989-90, sixty geese were captured and collared on the Labrador breeding grounds with rocket nets and dogs. The new neck collar program proposed by J. Hestbeck, Massachusetts Cooperative Wildlife Research Unit will consider this population segment.





SEVERAL PROGRAMS CHARACTERIZED DOG WORK IN 1990





Table 1. Age, Sex and Species Composition of Waterfowl Banded with Dogs in the Atlantic Region 1990.

	Local		Hatch Year		After Hatch Year		Total
	M	F	M	F	M	F	
Mallard	2	3	-	-	3	-	8
Black Duck	29	22	-	-	-	2	53
N. Pintail	1	-	-	-	-	-	1
C. Eider	-	-	-	-	1	5	6
Canada Goose	1	4	-	-	2	-	7
Totals	33	29	-	-	6	7	75

Table 2. Summary of local waterfowl banded by station - 1990.

Station	Black Ducks			Waterfowl		
	Local	Total	%	Local	Total	%
Dog Work	51	53	96	62	75	83
Panther Airboat	155	258	60	254	855	30
Dragonfly Airboat	50	97	52	237	491	48
NB-NS Border	15	156	10	57	213	27
Cape Breton	9	195	5	12	266	5
PEI	3	27	11	5	183	3
Baikie Lake	2	119	2	2	309	1



CENTRAL WILDLIFE SERVICE

5700 ... ..

EOA 300

REPORT

QL  
677.5

A881

1991

**REPORT**

QL  
677.5  
A881  
1991

Bateman, Myrtle  
Cooperative banding program Atlantic  
Provinces 1990.

Name

RWDawry

Date

Feb 1/93

Bateman, Myrtle