

C. MacKinnon
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1979 Avifaunal Census Results for Shepody, Chignecto,
and Cape Jourimain National Wildlife Areas

L.D. Morton
Canadian Wildlife Service

January, 1980



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Introduction

Monitoring of avifaunal use through regular censuses was initiated on four National Wildlife Areas in the 1978 field season (Hounsell, 1979. Int. Report). These censuses were continued during 1979 with several modifications in design and procedure. In addition to these areas, coverage was expanded to include the Cape Jourimain National Wildlife Area.

This report will deal with data collected during surveys of impoundments in Shepody, Chignecto, and Cape Jourimain National Wildlife Areas.

Survey Sites

Shepody NWA (Germantown Marsh Unit) -

As well as Impoundments A and B, counts were also done on Impoundment C (Fig. 1).

Impoundment A (22 ha), as revealed by a mid-summer vegetation survey, has extensive stands of wild rice (*Zizania* sp.) which serve as an attractant for waterfowl during late summer and early fall. Water to vegetation interspersion ratio, however, does not represent good breeding habitat. Most of the open water in the impoundment is found in the channels adjacent to the dikes (see Hounsell, 1979 for management details).

Impoundment B (30 ha) is another easily accessible area for census purposes and features moderately good brood-rearing habitat. Emergent vegetation (mainly *Spartina pectinata* and *Typha* spp.) is well interspersed with water.

Impoundment C (52 ha), the largest of the three impoundments surveyed, was flooded initially in the fall of 1977. Prior to flooding,

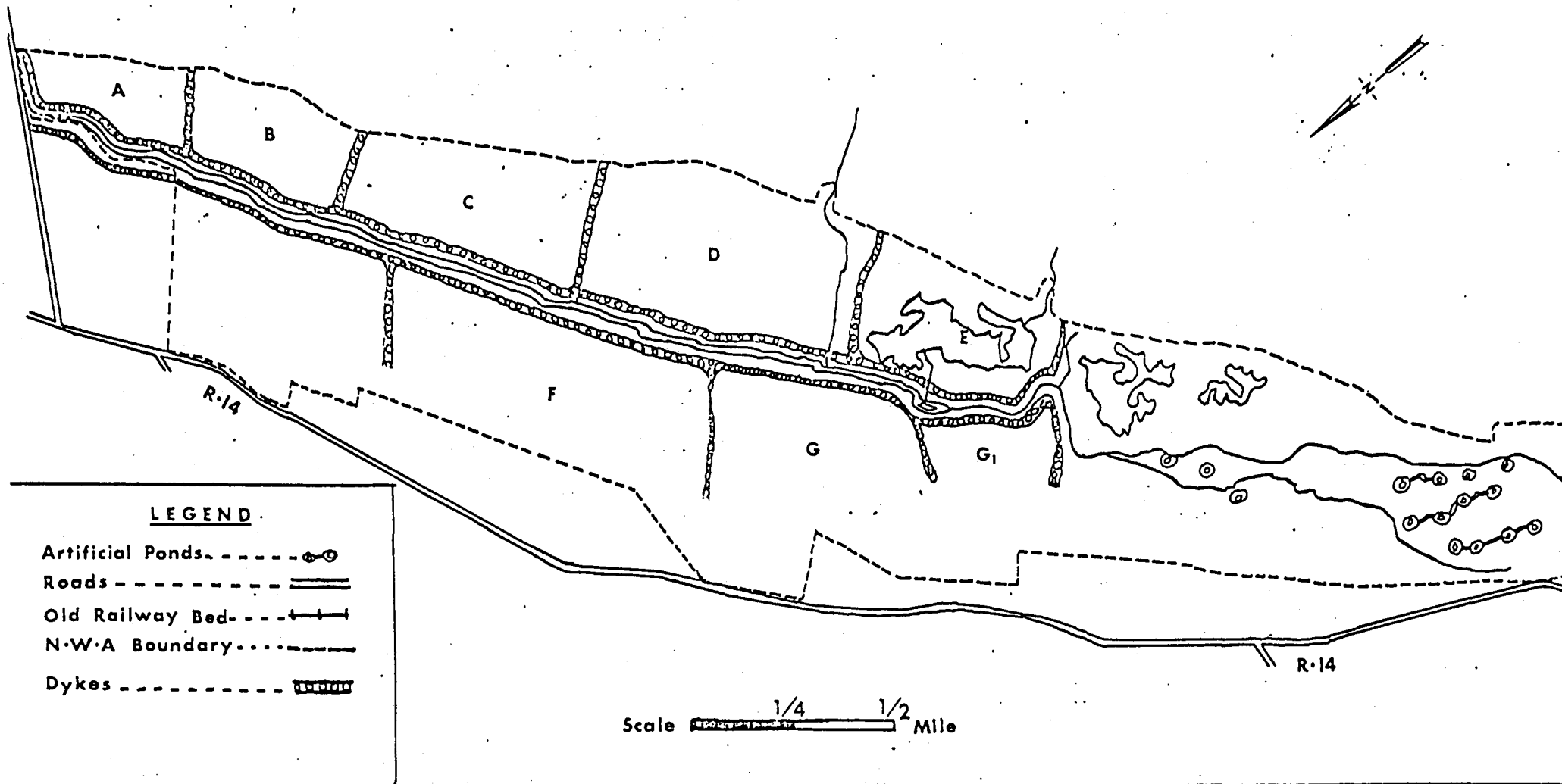


Fig. 1. Shepody National Wildlife Area - Germantown Section

level ditching by dragline was carried out. There have been no subsequent management activities. Good vegetation to water ratios produce favourable waterfowl breeding habitat and extensive patches of open water are especially attractive to Ring-necked Ducks.

Chignecto NWA (John Lusby Marsh Unit)-

In addition to the Burgess Impoundment, coverage was extended to include the Russell Impoundment in the avifaunal census (Fig. 2).

Impoundment 1 (Russell) contains approximately 12 ha and was flooded initially in the spring of 1972 following level ditching of the site. The absence of a constant water inflow often results in the exposure of patches of mud in mid-summer, thereby drawing large numbers of shorebirds seeking roosting sites.

Impoundment 2 (Burgess), containing 18 ha was flooded initially in the spring of 1974 following construction of several small islands in the northeast corner. Water levels fluctuate here too, but not to the same degree as in the Russell Impoundment. This site is used by large numbers of waterfowl from early July through early fall.

Cape Jourimain NWA (Fig. 3)-

Impoundments, per se, have not been constructed in this area though there are two more or less discrete portions. (Bayfield Marsh, south of Highway 995, has had a water control structure installed and is scheduled for flooding in spring 1980). The two brackish marshes were censused until mid-September, whereas the two salt marshes exhibited sufficient vegetation by mid-June to preclude accurate counts. Special attention was given to the

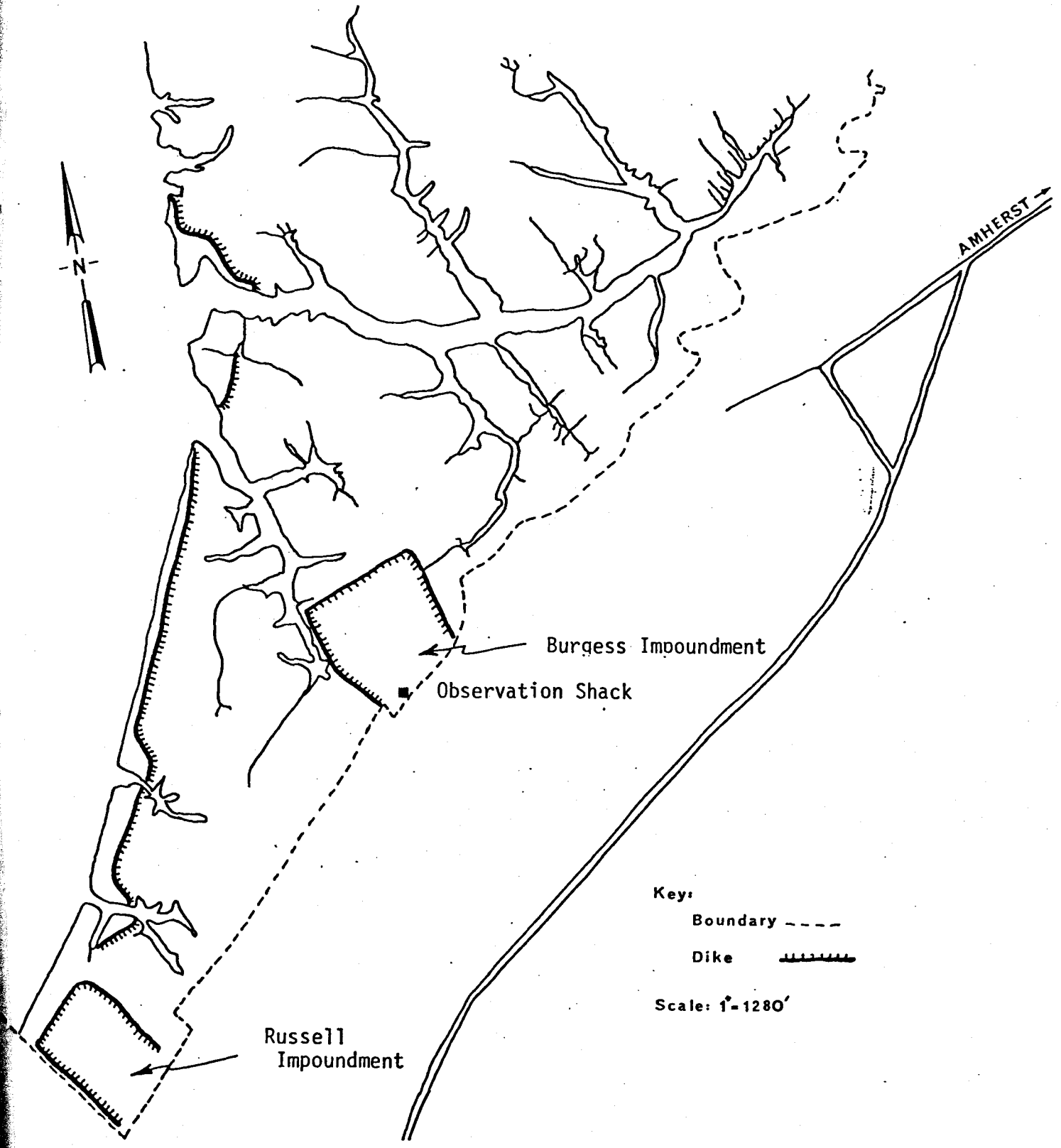


Fig. 2. Chignecto National Wildlife Area - John Lusby Marsh Unit

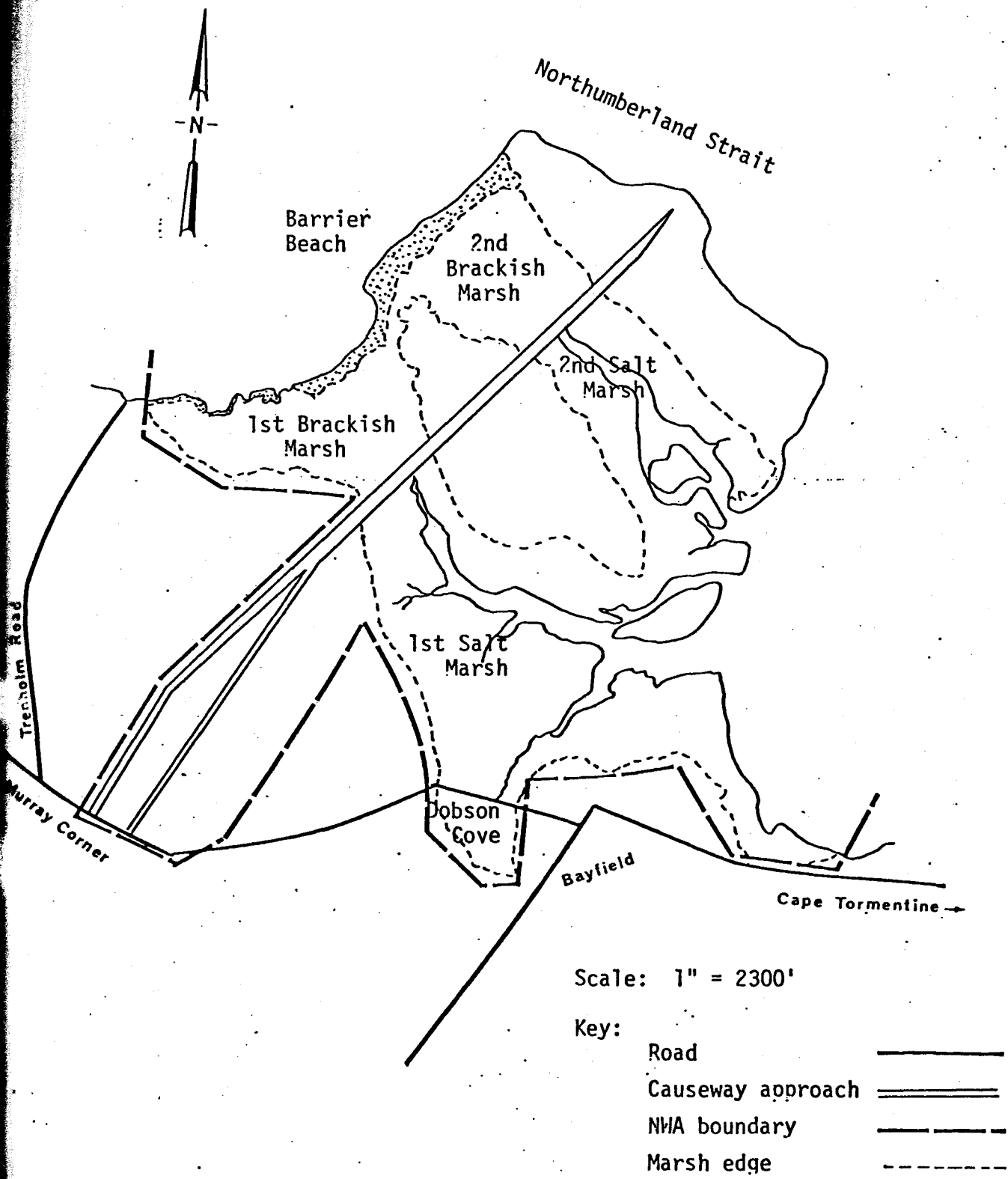


Figure 3. Cape Jourimain National Wildlife Area

barrier beach separating the two brackish marshes from the Northumberland Strait during shorebird migration. This area was then treated as a separate entity for data-recording purposes.

Methods

The three National Wildlife Areas were visited at approximately two week intervals from May through September. Areas censused were examined by use of 20X spotting scope and/or 10 X 40 binoculars, usually from a prominent point overlooking the site. Following is a brief description of the census method for each area:

Shepody NWA - Germantown Marsh Unit

Two observers began at west end of Impoundment C. Open patches of water there provided good visibility so fixed-point observations were conducted for 15 to 30 minutes. One observer followed the main dike from Impoundment C to the lower end of Impoundment A, while the second observer crossed over to follow the nature trail (old rail bed). Both stopped periodically, where good visibility was afforded, to scan the impoundments for activity. Birds flushed were observed and flight direction noted to eliminate possibility of a recount in another impoundment. Count time usually took 2 1/2 to 3 hours.

Chignecto NWA - John Lusby Marsh Unit

Russell Impoundment - counts were begun in the southeast corner with the observers travelling in a clockwise direction around the impoundment dike. Usually one-half hour was sufficient to complete the count.

Burgess Impoundment - the same pattern was followed as established during the previous summer, commencing with scanning the impoundment from the observation shack (see Fig. 2). Count time varied from one-half to one hour.

Cape Jourmain NWA -

Counts for all the sites (1st and 2nd Salt Marshes, and 1st and 2nd Brackish Marshes) were made from the abandoned causeway approach. This elevated roadbed facilitated viewing of these marshes with the exception of the salt marshes after mid-June because of obscuring vegetation. During the peak of shorebird migration, observers walked across the brackish marshes to census the barrier beach area more accurately. In addition, the two "impounded" brackish marshes were canoed occasionally to check the islands for activity (i.e. tern colonies).

The following tables are a summary of avifaunal observations on the above three National Wildlife Areas.

Table 1.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment A (Area 22 ha)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
<u>Waterfowl (Broods not included)</u>						
Black Duck	5	1	2			4
Blue-winged Teal	6	9	2	2	4	185
American Wigeon		1				
Wood Duck		4		2	6	7
Ring-necked Duck	1			1		3
Total	12	15	4	5	10	199
<u>Waterfowl Broods</u>						
Black Duck			5(IIa)		8(III)	
Black Duck					11(IIa)	
Blue-winged Teal				5(IIc)		
Ring-necked Duck				9(IIa)		
Total			1	2	2	
<u>Non-Waterfowl</u>						
Pied-billed Grebe	1			1		1
Great Blue Heron					2	
American Bittern	1	3	2	1		
Marsh Hawk						2
Sora		4	1			
American Coot			1			
Common Snipe	1	1	1			
Spotted Sandpiper		1	1	1		
Belted Kingfisher			1			
Common Flicker		1		1		
Eastern Kingbird		1	1			
Tree Swallow	4					
Bank Swallow	100		9	4	10	

(cont'd.)

Table 1.

9.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment A (Area 22
(cont'd.)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
Barn Swallow	4	6	2	4		
Common Crow		2			7	
Gray Catbird			1			
Bobolink			6			
Red-winged Blackbird	6	20	18	19	4	150
Common Grackle	1					
Savannah Sparrow			1			
Swamp Sparrow			1			
Total	118	38	47	30	24	153

Remarks:

Impoundment relatively poor in terms of brood-rearing habitat (5 broods on 22 ha) largely due to poor cover. Extensive stands of wild rice draw in large flocks of blue-winged teal during late summer and early fall. The area is used to a somewhat lesser extent by black ducks, ring-necked ducks and wood ducks.

Table 2.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment B
(Area 30 ha)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
<u>Waterfowl (Broods not included)</u>						
Black Duck	5	4	5	14	26	27
Green-winged Teal	4	1	4	5	20	
Blue-winged Teal	4	12	2	10	28	14
American Wigeon	2		4		4	
Wood Duck				1	1	28
Ring-necked Duck	4		13	1	5	
Total	19	17	28	31	84	69
<u>Waterfowl Broods</u>						
Black Duck			5(IIa)	6(III)		
Black Duck				10(IIb)		
Black Duck				7(IIb)		
Black Duck				8(IIb)	3(IIa)	
Green-winged Teal					6(IIb)	
Blue-winged Teal				6(IIa)	7(Ib)	
Blue-winged Teal				5(IIa)	5(IIa)	
Ring-necked Duck					12(IIc)	
Total			1	6	5	
<u>Non-Waterfowl</u>						
Pied-billed Grebe	1	3	1	2	6	3
Great Blue Heron				1	3	
Green Heron				1		
American Bittern		2	1	2		2
Marsh Hawk					1	1
Sora	3	3	4	1	3	
American Coot			2	1	1	

(cont'd.)

Table 2.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment B
(Area 30 ha)
(cont'd.)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
Common Snipe	1	1				5
Spotted Sandpiper				2		
Lesser Yellowlegs				1		
Semipalmated Sandpiper			4			
Great Black-backed Gull				1		
Eastern Kingbird	1			2		
Bank Swallow	10		9	4	15	
Barn Swallow	4			1	3	
Common Crow				2		
Long-billed Marsh Wren					2	
Cedar Waxwing					6	
Tennessee Warbler			1			
Yellow Warbler			2			
Red-winged Blackbird	12	20	12	22	1	10
Common Grackle	1	1	1			
Savannah Sparrow				2		
Swamp Sparrow					2	
Song Sparrow		7				
Total	33	37	37	45	43	21

Remarks:

Good brood-rearing habitat (12 broods on 30 ha). Alder fringe near old railbed provides excellent cover for wood ducks.

Table 3.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment C
(Area 52 ha)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
<u>Waterfowl (Broods not included)</u>						
Black Duck	28	11	13	15	33	22
Pintail	1					
Green-winged Teal		3	5	5	10	26
Blue-winged Teal	5	13	8	5	9	21
American Wigeon	1	4		2		
Wood Duck	2	1			1	9
Ring-necked Duck	39	28	17	11	8	
Total	76	60	43	38	61	78
<u>Waterfowl Broods</u>						
Black Duck			6(IIb)	5(IIb)	8(IIb)	
Black Duck			6(IIa)	9(IIc)	12(IIb)	
Black Duck			3(IIb)		4(IIc)	
Black Duck			9(Ic)			
Pintail			6(Ic)			
Green-winged Teal					4(IIc)	
Blue-winged Teal				5(IIb)		
Ring-necked Duck				7(Ic)	6(IIb)	
Ring-necked Duck				6(IIa)	5(Ic)	
Ring-necked Duck					4(IIb)	
Ring-necked Duck					11(IIb)	
Ring-necked Duck					6(IIa)	
Ring-necked Duck					8(IIc)	
Ring-necked Duck					6(IIb)	
Total			5	5	11	

(cont'd.)

Table 3.

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment C
(cont'd.) (Area 52+ha)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
<u>Non-Waterfowl</u>						
Pied-billed Grebe	3	3	8	9	6	5
Great Blue Heron					1	
American Bittern	3	3	3	2	5	1
Marsh Hawk					1	
Virginia Rail	1					
Sora	3	4	8	3	4	
American Coot		2	3	7		
Semipalmated Plover				16	3	
Killdeer				3		1
Common Snipe			2	2		
Spotted Sandpiper		1	4	3		1
Greater Yellowlegs				1	4	
Lesser Yellowlegs				18	4	
Pectoral Sandpiper					2	
Semipalmated Sandpiper				900		
Dowitcher <small>↳ Short-billed</small>				300	8	
Great Black-backed Gull		1		1	1	
Herring Gull		1			1	1
Black Tern	1			5		
Belted Kingfisher		1				
Eastern Kingbird	1					
Bank Swallow		30	35	3	20	
Barn Swallow		1		2		
Cliff Swallow					1	
Common Crow		1		1		
Long-billed Marsh Wren					3	
Cedar Waxwing					6	
Yellow-rumped Warbler			1		2	
Common Yellowthroat					1	

(cont'd.)

1979 Avian Observations - Shepody NWA, Germantown Section, Impoundment C
(cont'd.) (Area 52 ha)

Species	Date of Observation					
	May 29	June 18	July 6	July 19	Aug. 1	Sept. 21
Bobolink				1		
Red-winged Blackbird		30	29	40	4	4
Common Grackle		2				
Savannah Sparrow			4	1		
Sharp-tailed Sparrow					1	
Swamp Sparrow			1	1	2	1
Song Sparrow				1		
Total	12	80	98	1320	80	14

Remarks:

Impoundment fairly good in terms of brood-rearing habitat (21 broods on 52 ha). Good water/cover interspersions. Site appears to be especially suitable for ring-necked duck habitat (i.e. extensive patches of open water).

1979 Avian Observations - Chignecto NWA, John Lusby Section, Russell Impoundment
(Area 12 ha)

Species	Date of Observation					1
	June 1	June 14	July 3	July 16	July 30	
<u>Waterfowl</u> (Broods not included)						
Black Duck	3				15	47
Pintail					8	3
Green-winged Teal	7	1				
Blue-winged Teal	1	1			35	9
American Wigeon	1	1	2			11
Total	12	3	2		58	70
<u>Waterfowl Broods</u>						
American Wigeon			1 (I Ib)			
Total			1			
<u>Non-Waterfowl</u>						
Great Blue Heron	2					1
Marsh Hawk	1					
Osprey		1				
Lesser Yellowlegs				52	10	2
Least Sandpiper				10		
Semipalmated Sandpiper				35		
Dowitcher					10	
Short-eared Owl				1		
Bank Swallow		1		1	5	
Barn Swallow	6				10	
Common Raven	2					1
Savannah Sparrow		2		1		
Total	11	4		100	35	4

Remarks:

Impoundment poor in terms of waterfowl breeding and brood-rearing habitat due to lack of vegetation. Has been extensively used by shorebirds as roosting area after summer drawdown of water level.

Table 5.

1979 Avian Observations - Chignecto NWA, John Lusby Section, Burgess Impoundment
(Area 18 ha)

Species	Date of Observation					
	May 28	June 14	July 3	July 16	July 30	Sept. 18
<u>Waterfowl (Broods not included)</u>						
Black Duck	14	16	76	11	50	74
Pintail	4	2	88	7	15	50
Green-winged Teal		12	10	4	1	
Blue-winged Teal	10	18	74	43	26	15
American Wigeon		26	73	4	14	21
Shoveler	2		1			
Total	30	74	322	69	106	160
<u>Waterfowl Broods</u>						
Black Duck			4(IIa)	3(IIb)		
Pintail			6(IIb)	6(IIb)		
Pintail				9(IIa)		
Pintail				8(IIb)		
American Wigeon				5(IIb)		
Total			2	5		
<u>Non-Waterfowl</u>						
Pied-billed Grebe						1
Great Blue Heron				1	3	2
American Bittern	1					1
Marsh Hawk						2
Common Snipe			1			
Spotted Sandpiper			12	1	2	
Greater Yellowlegs				4		
Lesser Yellowlegs			25	25	4	

(continued)

Table 5.

17.

1979 Avian Observations - Chignecto NWA, John Lusby Section, Burgess Impoundment
(cont'd.) (Area 18 ha)

Species	Date of Observation					
	May 28	June 14	July 3	July 16	July 30	Sept. 18
Willet						1
White-rumped Sandpiper						3
Semipalmated Sandpiper			35	7		
Dowitcher			80			
Herring Gull	1	1				
Black Tern					1	
Belted Kingfisher				1	2	1
Tree Swallow	2					
Bank Swallow		2	60	1	20	
Barn Swallow	1			6	20	
Common Crow		4		1	1	
Starling		15				
Yellow-rumped Warbler				1		
Common Yellowthroat					1	
Bobolink				30		
Red-winged Blackbird	6	1	5	42		
Rusty Blackbird			1			
Common Grackle	1	1	5			
Savannah Sparrow					4	7
Sharp-tailed Sparrow					1	
Total	12	9	239	120	59	18

Remarks:

Brackish state of this impoundment seems to be ideal for waterfowl use. Adjacent cover is adequate for nesting habitat and small mounds within the impoundment serve as a further attractive feature. Exposed mud areas used to some extent as roosting sites for shorebirds.

Table 6.

1979 Avian Observations - Cape Jourimain NWA, 1st Salt Marsh

Species	Date of Observation				
	May 7	May 15	May 23	June 1	June 14
<u>Waterfowl</u>					
Black Duck	1		1	4	
Green-winged Teal				2	
Blue-winged Teal		1			
Ring-necked Duck	1				
Red-breasted Merganser		6			
Total	2	7	1	6	
<u>Non-Waterfowl</u>					
Great Blue Heron				1	
American Bittern		1			1
Killdeer	3		2		1
Black-bellied Plover			11	2	
Common Snipe				1	
Greater Yellowlegs	22	4	2		
Spotted Sandpiper				1	
Willet		2		2	1
Least Sandpiper		20	15		
Herring Gull				5	
Common Tern			2		
Belted Kingfisher		1			
Bank Swallow				32	50
Barn Swallow				1	
Cliff Swallow					10
Common Crow			2		
American Robin					1
Starling					2
Red-winged Blackbird					3
Common Grackle				7	1
Total	25	28	34	52	70

(continued)

Table 6.

1979 Avian Observations - Cape Jourimain NWA, 1st Salt Marsh

Remarks:

Salt marsh is used mainly in spring as resting place during migration and fall as a staging area (especially blue-winged teal) prior to migration. Not much use is evidenced during breeding and brood-rearing period though much of the area is obscured by vegetation.

Dobson Cove area frequently used by shorebirds for feeding and resting.

Table 7.

1979 Avian Observations - Cape Jourimain NWA, 2nd Salt Marsh

Species	May 7	May 15	May 23	June 1	June 14
<u>Waterfowl</u>					
Black Duck	2			2	
Ring-necked Duck	8				
Red-breasted Merganser		4		2	
Total	10	4		4	
<u>Non-Waterfowl</u>					
Great Blue Heron	1			1	
Willet			1		
Great Black-backed Gull				2	5
Herring Gull				1	
Common Tern		1	3		
Common Flicker	1				
Common Crow		1		3	
Starling		2			
Bank Swallow					3
Yellow-rumped Warbler		2			
White-throated Sparrow		2			
Total	2	8	4	7	8

Table 8.

1979 Avian Observations - Cape Jourimain NWA, 1st Brackish Marsh

Species	Date of Observation								
	May 7	May 15	May 23	June 1	June 14	July 4	July 20	Aug. 3	Sept. 17
<u>Waterfowl</u> (Broods not included)									
Mallard									1
Black Duck			1	2	4		1	12	40
Pintail	2	1		1	4				35
Green-winged Teal	3	7			8				20
Blue-winged Teal					2		11	17	475
American Wigeon									25
Scaup Sp.	24	11							
Red-breasted Merganser		2							
Total	29	21	1	3	18		12	29	596
<u>Waterfowl Broods</u>									
Black Duck							11(Ic)		
Total							1		
<u>Non-Waterfowl*</u>									
Great Blue Heron							10	1	2
Snowy Egret								1	
American Bittern							1		1
Osprey					1		1		

(continued)

Table 8.

1979 Avian Observations - Cape Jourimain NWA, 1st Brackish Marsh (cont'd.)

Species	Date of Observation								
	May 7	May 15	May 23	June 1	June 14	July 4	July 20	Aug. 3	Sept. 17
Killdeer					3				
Black-bellied Plover				1					
Common Snipe					1		1	1	
Spotted Sandpiper						2			
Greater Yellowlegs		5				3			5
Lesser Yellowlegs			4			6	200	55	
Willet			4	1	12	7	3	4	
Red Knot						1			
Least Sandpiper								30	
Semipalmated Sandpiper						2			
Dowitcher					75				
Great Black-backed Gull					25	9	14		
Herring Gull			1		25	4	10		
Ring-billed Gull					10		5		
Bonaparte's Gull					60				
Common Tern			10	17	30	10	9		
Belted Kingfisher					1	1			
Tree Swallow		40							
Bank Swallow				10		30			
Barn Swallow				2					
Common Crow			1			6		3	1
Starling						1			

(continued)

Table 8.

1979 Avian Observations - Cape Jourimain NWA, 1st Brackish Marsh (cont'd.)

Species	Date of Observation								
	May 7	May 15	May 23	June 1	June 14	July 4	July 20	Aug. 3	Sept. 17
Bobolink		1							
Red-winged Blackbird		4	2	1	12	2		1	
Rusty Blackbird		3							
Common Grackle				6		2			
Savannah Sparrow					2		2		
Song Sparrow					1	2			
Total		53	22	38	258	88	256	96	9

*Note: Only waterfowl were counted during the May 7 census.

Remarks:

This site appears to be fairly good brood-rearing habitat though only one brood was observed. Cover to open water ratio is more balanced than in the other brackish marsh. Mud flats and adjacent dunes are used extensively, especially during late summer and early fall, by various species of shorebirds. Shallow water makes suitable fall staging area for blue-winged teal.

Table 9.

1979 Avian Observations - Cape Jourimain NWA, 2nd Brackish Marsh

Species	Date of Observation								
	May 7	May 15	May 23	June 1	June 14	July 4	July 20	Aug. 3	Sept. 17
<u>Waterfowl</u> (Broods not included)									
Canada Goose	2								
Black Duck				1	7	33		75	72
Pintail		6	1		4	4			15
Green-winged Teal	25			1	5				25
Blue-winged Teal			1			25			225
American Wigeon					1		6		2
Ring-necked Duck		18					5		
Scaup	38	10		2					
Total	65	34	2	4	17	62	11	75	339

Waterfowl Broods

Black Duck						6(IIa)			
Total						1			

Non-Waterfowl

Great Blue Heron						1		3	
Killdeer		1		1		1			
Common Snipe					1				
Spotted Sandpiper			1	2					

Table 9.

2.

1979 Avian Observations - Cape Jourimain NWA, 2nd Brackish Marsh (cont'd.)

Species	Date of Observation								
	May 7	May 15	May 23	June 1	June 14	July 4	July 20	Aug. 3	Sept. 17
Greater Yellowlegs		1	5					5	
Lesser Yellowlegs						6	65	20	
Willet					2	2			
Great Black-backed Gull	5							1	
Herring Gull		1				4	3	30	
Ring-billed Gull						2			
Bonaparte's Gull									1
Common Tern			15	5	3	31	40	20	
Short-eared Owl		1							
Belted Kingfisher				1		1		1	2
Bank Swallow				10		12		30	
Cliff Swallow						2			
Common Raven									1
Common Crow						3			1
Red-winged Blackbird		4				2			
Rusty Blackbird		2							
Common Grackle				18	15				
Total	5	10	21	37	26	62	108	110	5

Table 10.

1979 Avian Observations - Cape Jourimain NWA, Barrier Beach

Species	Date of Observation		Total
	Aug. 3	Aug. 17	
<u>Waterfowl</u>			
Black Duck		41	
Green-winged Teal		70	
Blue-winged Teal		120	
Total		231	
<u>Non-Waterfowl</u>			
Great Blue Heron		3	
Semipalmated Plover	50	90	
Black-bellied Plover		22	
Ruddy Turnstone	1	6	
Spotted Sandpiper		1	
Greater Yellowlegs	25	70	
Lesser Yellowlegs	64	85	
Willet		2	
Red Knot		6	
Pectoral Sandpiper	5	1	
White-rumped Sandpiper			
Least Sandpiper	20	25	
Semipalmated Sandpiper	40	50	
Sanderling		10	
Dowitcher		4	
Hudsonian Godwit		30	
Great Black-backed Gull	10	35	
Herring Gull	200	70	
Ring-billed Gull		25	
Bonaparte's Gull	15	35	
Common Tern	25	45	
Caspian Tern		1	
Belted Kingfisher		3	
Common Crow		1	
Total	455	620	

Remarks: Barrier beach area most frequently used by wide variety of shorebirds, particularly in late summer

Literature Cited

Hounsell, R. G. 1979. Avifaunal use of selected impoundments at four Maritime National Wildlife Areas May - October, 1978.