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in 1986 and 1987

by

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REPORT

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Introduction

In 1986 and 1987 we captured a total of 7585 shorebirds of eight species at Dorchester Cape, New Brunswick. Of that total 2563 were captured in 1986 and 5,022 were captured in 1987. This report is an account of the work undertaken and the procedures used during both years.

Personnel

In both field seasons, one full-time CWS employee was assigned to the project. A second CWS employee was borrowed from the Fredericton field office for a four-week period in 1986 and a two-week period in 1987. In total 33 and 36 volunteers were utilized in 1986 and 1987 respectively. A number of the volunteers were CWS staff but the majority were interested amateurs.

Most volunteers in 1986 were part-time and assisted for one to five days per week. In 1987, however, two volunteers stayed full-time on the project for its duration of 6 weeks. Volunteers were fairly easy to find when the high tide occurred after 3 pm and before the labour day weekend. A

dedicated core of about 8 volunteers made the project viable. In total more than two dozen volunteers assisted during both years. A list of names of volunteers is given in Appendix 1.

Banding Station

In both 1986 and 1987 the James Baker cottage at Dorchester Cape was rented and used as a banding station. The Baker cottage is ideally located since it is on the seaside of the road and most of the shorebirds roosted within a few hundred feet of it. As well as a banding station this cottage served as a meeting place, meal room and an overnight accommodation for visiting volunteers. In 1987, it became necessary to rent the Tracy cottage, next door to Baker's to accommodate larger numbers of overnight volunteers. CWS supplied food for volunteers.

Methods (1986)

In 1986 mist nets were used to capture shorebirds. These nets were standard 36 mm x 12 m x 2.6 m, four shelf mist nets made of polyester or teteron. Each net was attached to two 4 m x 1.25 cm light duty steel pipes. A net was set by forcing the ends of the pipes into the beach and anchoring them with two pieces of heavy duty fishing line which were in turn fastened to wooden pegs driven into the beach (Figure 1).

Nets were set parallel to the rising or receding tide line (Figure 1). They were set as close as possible to the water to encourage the birds to fly pass on the land side of the net. Only one or two nets could be satisfactorily tended by a four member crew. This was because the nets had to

be moved frequently to keep them from being flooded at flow tide and to keep them as close as possible to the water line at ebb tide.

The procedure was as follows: A mist net was set within a few hundred feet of a flock of roosting birds. One person hid in the bushes behind the net while two others went around the flock and started to move them towards the net. When a large group of birds landed or flew between the net and the land, the hidden person jumped up, shouted, waved his arms and ran towards the birds. More often than not this caused some of the birds to fly into the mist net. Birds were then removed from the net and placed in holding crates. The net was reset and the procedure repeated.

Cardboard cartons were used for holding crates initially. Cartons had several disadvantages however. They could not be washed or cleaned after use which resulted in fouled birds. They quickly fell apart and did not permit a flow-through of air to prevent overheating of the birds. To replace the cartons, holding crates made of wood and fish net were constructed. The crates were 16"x8"x12" high, framed with 1"x2" spruce with bottom and sides of 1/4" plywood. The ends and top of the crate were covered with 1" fish net and stapled in place. The top net was permanently fastened along one side only to permit birds to be placed into or removed from the crate.

Each crate could safely hold 50 Semipalmated Sandpipers. Crates of birds were kept in a cool, quiet and dark place inside the cottage prior to banding.

In 1986 all birds captured were banded with only a single numbered leg band. Wing length, bill length, bill width, weight and age of each bird were recorded. A crew of at least four people was necessary for this procedure. One person removed the bird from the cage and aged it and attached

the leg band, a second person took wing and bill measurements, a third person weighed and released the bird and the fourth person recorded the data.

Methods (1987)

Mist nets have a number of severe limitations when attempting to trap near large roosts of shorebirds on the Bay of Fundy:

- tides move in and out so quickly that nets must be moved frequently. Moving nets is time consuming and quickly uses up effective trapping time.

- high winds are common along the Bay of Fundy. This alone creates a number of special problems such as (a) tides that move more rapidly and rise much higher than expected thus flooding the mist nets; (b) billowing of nets which makes it difficult or impossible for birds hitting a net to become entangled; (c) entanglement of birds in the netting which often results in near-destruction of a net to remove very few birds; (d) the collapse of nets with resultant bird casualties from drowning, suffocation etc.

Because of the foregoing, mist nets can be the cause of very high casualties amongst shorebirds. This resulted in our attempts to develop a better trapping technique throughout the 1986 season. Two different drop traps were designed and tested but both proved ineffective.. It was not until the beginning of the 1987 season that we did succeed in designing a better capturing technique.

I spent many many days during the winter and spring of 1987 investigating possible new shorebird trapping techniques. The technique that appeared to offer the greatest promise was a modified version of the heligo land trap. Peter Hicklin, Scott Makepeace and I set up such a trap at Dorchester Cape on July 20, 1987. It turned out to be possibly the largest shorebird scarecrow ever designed. The birds would not even come near it, even when we deployed several dozen tempting semi-palmated sandpiper decoys.

Then, around July 25 George Finney designed a trap, had John Maxwell build a prototype and asked me to make the necessary additions and modifications and test it. The principle was excellent but the mechanics were lousy. It was while attempting to make this trap work that the Fundy pull trap came into existence. At first it appeared to be just too simple to use successfully. By July 30 however, it was clear that we had stumbled upon perhaps one of the most simple, yet effective bird traps ever built.

The Fundy pull trap is comprised of the following: 1 3m length of light duty 1/2" steel pipe, a 4 m x 8 m piece of 2" monofilament fish net, 2 1.25 m lengths of 1/2" steel pipe and a monofilament cod line. Simply attach the 3 m pipe to the fish net by slipping it through the meshes at one end, force the two pieces of 1.25 m into the soil or beach at a 35° angle where one wishes to set the trap, place the rolled up netting and 3 m pipe behind the two pieces of angled pipe. A length of cod line is tied to the nets and led up into the nearby bushes. One person then hid in the bushes and when a good number of birds (at least several hundred) landed behind the net, the net was pulled. Birds were removed from underneath the net (The Fundy pull trap is illustrated in Fig. 2).

While in 1986 all birds were weighed and measured, in 1987 only 50 birds per day were so processed. In 1987, in addition to the USF&WS numbered band, two other bands were attached to the birds. The first was a standard aluminum band with a Canadian address on the outside and a second white plastic flag which denoted that the bird had been banded in Canada. In 1987 birds were held in the same manner as 1986.

Results

In 1986, a total of 2563 shorebirds were captured, processed and released (Table 1). These were captured on 35 banding days between August 20 and September 15 for an average catch of 73 birds per day. Daily catch range was 2-246.

In 1987, 5022 shorebirds were captured and banded (Table 1). We caught these birds during 24 banding days. Average daily catch was 209 birds per day. Daily catch range in 1987 was 3-608.

Recommenations for Future

In order to carry out an effective program in 1988, during which time I plan to band 10,000+ shorebirds we must have the following:

- both cottages rented again
- permission for Neville Garrity's services for the entire 7 week banding period
- at least two and preferably 4 full-time volunteers
- appropriate hot-water clean-up facilities for dishes and people

- control of the operations aspect of the project by the permanent field supervisor. Changes in any aspect of the total field operation of the project should be channelled through that person. This is especially applicable when large groups wish to visit the banding station. Any large group should be accompanied by a member of CWS staff (one not directly involved in the project at that time) to act as guide/interpreter/crowd controller.

Table 1. Numbers of shorebirds captured with mist nets in 1986 and with the Fundy Pull Trap in 1987 at Dorchester Cape, N.B.

Species	1986	1987	Total
Semipalmated Sandpiper Ad.	1811	4908	6719
Juv.	684	9	693
Semipalmated Plover	65	26	91
White-rumped Sandpiper	1	12	13
Sanderling	-	1	1
Ruddy Turnstone	-	1	1
Bairds Sandpiper	-	2	2
Western Sandpiper	-	1	1
Recaptures	-	60	60
Total	2563	5022	7585

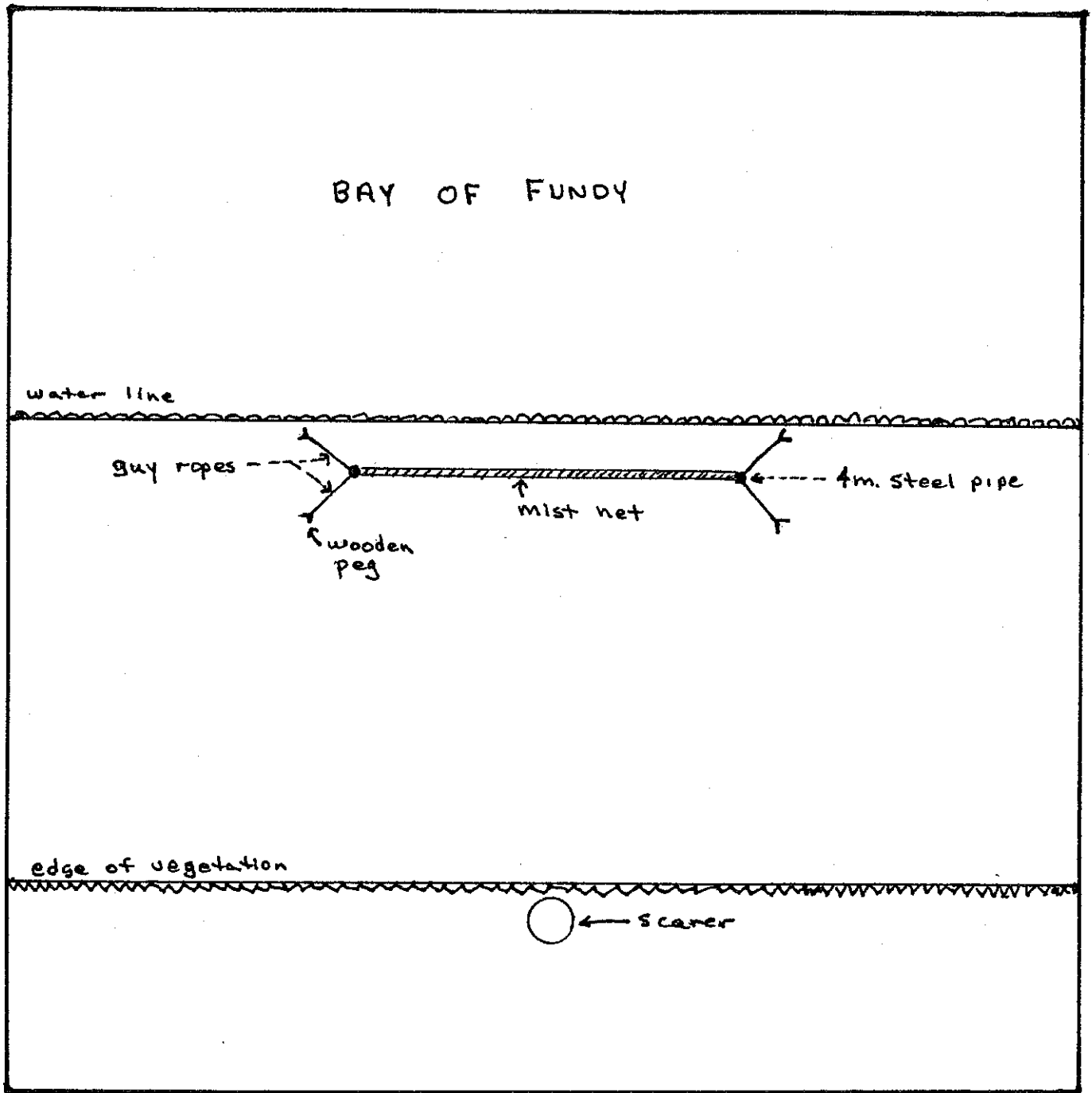


Figure 1. Showing mist-net set-up used to capture shorebirds at Dorchester Cape in 1986.

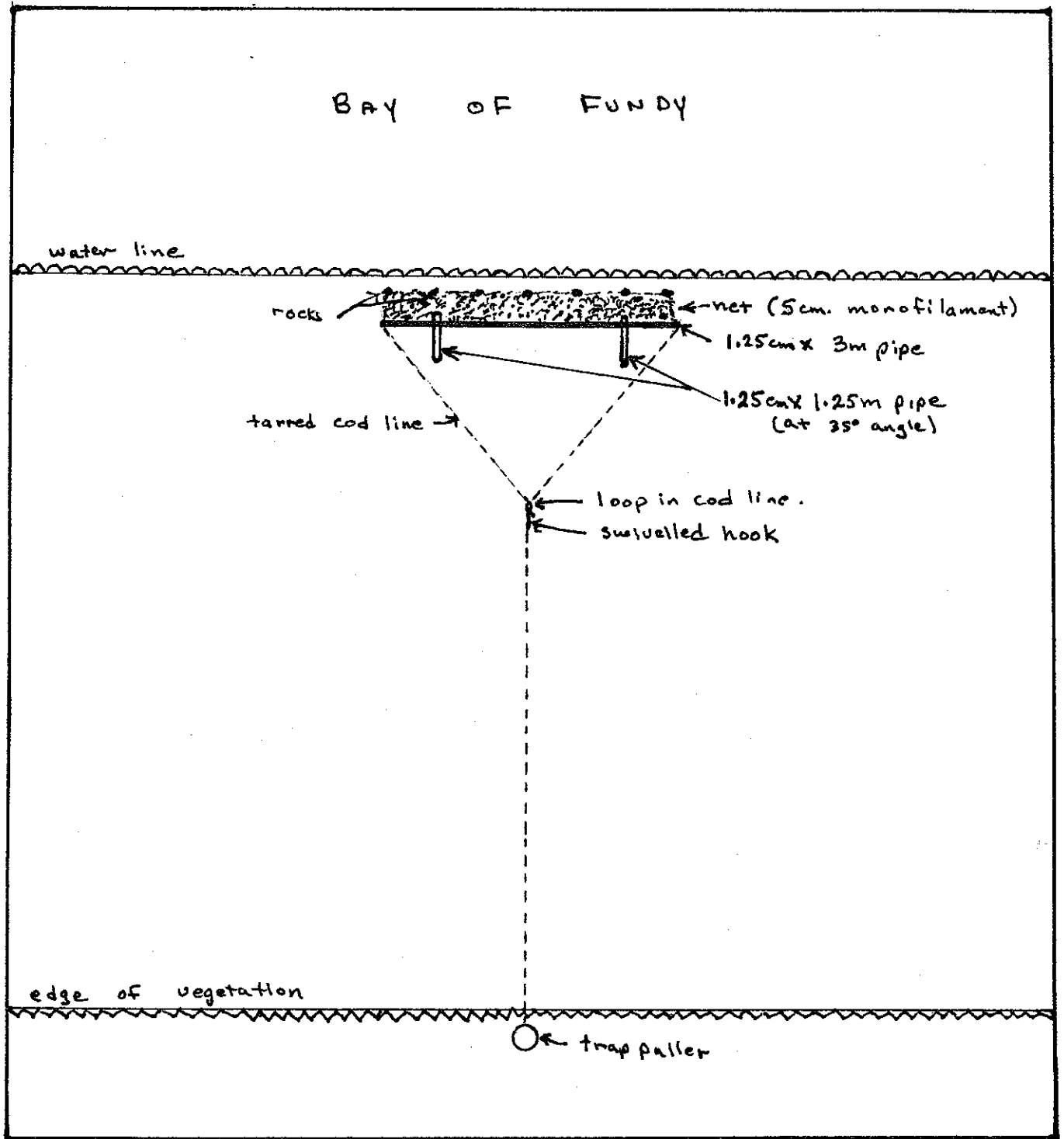


Figure 2. Showing set-up of Fundy PULL TRAP used to capture shorebirds at Dorchester Cape in 1987.

Appendix 1. Volunteers who assisted with shorebird banding in 1986 and
1987 at Dorchester Cape

Name		1986	1987
George, Pat, Jeremy & Christie Finney	Sackville, N.B.	4	4
Bruce, Ann & Carl Johnson	Sackville, N.B.	3	3
Elaine Hounsell	" "	1	-
Nancy MacKinnon	" "	1	-
Colin MacKinnon	" "	1	-
Sandra Hounsell	" "	1	1
Susan Wehrell	" "	1	1
Susan Rodda	" "	1	1
Hannah McNally	" "	1	-
Ann Williamson	" "	1	-
Betty McPhee	" "	-	1
Bill McHenry	" "	-	1
Wally Dewitt	" "	-	1
Rhonda Kelley	Shelburne, N.S.	1	1
Doug Hounsell	Sackville, N.B.	-	1
Laurie Holmes	" "	-	1
Bill Whitman	Halifax, N.S.	1	-
Brad & Daria Smith	Michigan, U.S.A.	1	1
Mary Ann Bennett	Georgia, U.S.A.	1	1
Donna Burris	Georgia, U.S.A.	1	1
Janice Garrity	Fredericton, N.B.	1	1

The Illsley family	Dorchester, N.B.	6	6
Margaret Currie	Moncton, N.B.	1	1
Filt Fauerstack	Moncton, N.B.	1	1
Michelin Manseau	Quebec	1	1
Pat Kehoe & Assistants	Fredericton, N.B.	5	5
Scott Makepeace	Fredericton, N.B.	1	-
Ruth Penner	Sackville, N.B.	-	1
Reed MacManus	Memramcook, N.B.	1	1
Carolyn Peach	Sackville, N.B.	1	-
Total		33	36