

## SANDERLINGS (*CALIDRIS ALBA*) BANDED IN CANADA RECOVERED IN CHILE

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**Playeros Blancos (*Calidris alba*) anillados en Canadá y recuperados en Chile.**

**Key words:** Sanderling, *Calidris alba*, migration, Canada, Chile.

### INTRODUCTION

Many species of shorebirds that breed in the northern hemisphere, especially in the Canadian Arctic, migrate southward for the boreal winter. During their migrations they use three main routes: the Pacific, Central and Atlantic flyways (Morrison 1984, Myers *et al.* 1990). During their non-reproductive season these birds can be found on the Pacific coast of North America and on both coasts of South America, reaching the southern extreme of Chile and Argentina (Canevari *et al.* 2001). Sanderlings (*Calidris alba*) wintering on the coast of Chile and Peru use mainly the central corridor of North America during their northward migration to the Arctic. Only few birds migrate north from the Pacific coast of South America along the Atlantic coast of the United States. The southbound migration from the Arctic to coastal Chile and Peru occurs through the Atlantic coast of North America, then crossing to the Pacific coast through the Panama isthmus of Central America (Myers *et al.* 1990).

All staging areas are crucial parts of migratory routes; they are used mainly for resting, accumulating fat reserves, and molting; all these events are necessary for completing a successful annual cycle (Myers *et al.* 1984a). Chaplin Lake (Saskatchewan, Canada, 50°25'N, 106°40'W) is used as a staging site by a various shorebird species during fall and spring migrations. The area is considered as part of the Western Hemispheric Shorebird Reserve Network since May 1997 and extends over nearly 20 square miles (18,211.5 ha), making it the second largest salt water body in Canada.

According to D. Swatzky (unpubl.), 32 species of shorebirds commonly occur or breed in the area. A census done in May 1994 by Swatzky showed that the Sanderling and the Semipalmated Sandpiper (*Calidris pusilla*) are the two most abundant species, with nearly 53,000 and 28,000, respectively.

The southern component of the migration cycle of a wide variety and a great number of shorebirds includes the coastal areas of northern and central Chile which are used for

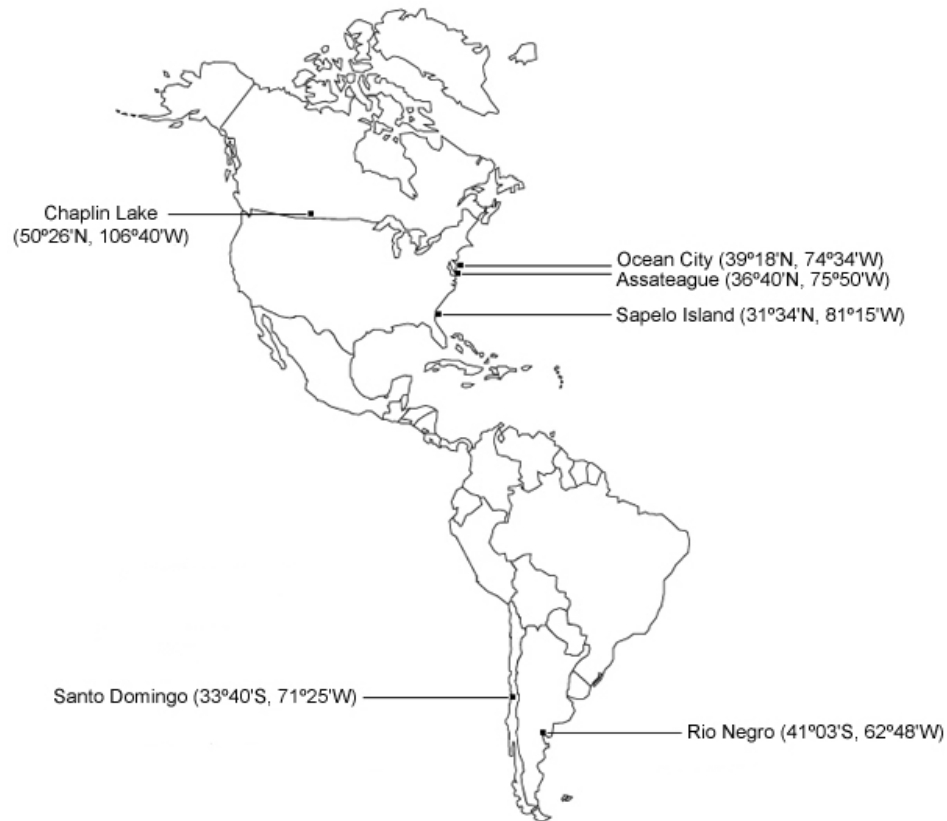


FIG. 1. Locations referred to in this study.

staging and wintering during the boreal winter (Sallaberry & Tabilo 1990).

The arrival of Nearctic migrants in the Southern Hemisphere has seldom been reported. Recently, Collins *et al.* (2003) reported on the occurrence of some shorebird species in central Chile in August and September, during the southward migration, which coincides with the arrival of the first migratory birds from the Northern Hemisphere.

The purpose of this study is to analyze information from birds banded at Chaplin Lake during the northward migration and recovered on the wintering grounds in South America.

## METHODS

The data for Chaplin Lake were obtained during and after the Prairie Canada Shorebird Conservation Workshop, held in Chaplin, Saskatchewan, Canada, between 25 and 28 May 1999. Sanderlings were captured during four nights, from sunset to sunrise, using black and tan mist nets (ATX; 36m/m mesh, 2.6 m high, 12 m long and 4 shelf), following Myers & Sallaberry (1984) recommendations.

All the birds were color-banded following the protocol of the Pan American Shorebird Program (Myers *et al.* 1984b), with nothing on the tibia, white flag over green band on the tarsus of the left leg; metal band (stainless

steel) on the tibia, nothing on the tarsus of the right leg. All birds were measured before being released.

The recovery of banded Sanderlings came from two sources: 1) observations by experienced volunteers in the United States and Argentina (these observations were not part of a sampling campaign, so there is no estimation of sampling effort); 2) observations by ourselves and volunteers, during three 2-day visits to Santo Domingo Beach (33°42.9'S; 71°39.6'W) in January, February and March 2000. Santo Domingo beach is 14.5 km long, bordered on the east (inland) by the El Yali National Wildlife Reserve. Sanderlings, the most abundant migratory species on this beach (Sallaberry pers observ.), were surveyed during high tide when most of the birds were roosting in huge flocks. Three groups of two observers each used spotting scopes and radios at different locations along the beach to coordinate observations of banded birds. Locations of observation and recovery sites are shown in Figure 1.

## RESULTS

At Chaplin Lake, between 30,000 and 35,000 Sanderlings were feeding in mixed flocks with Semipalmated Sandpipers and a few White-rumped Sandpipers (*Calidris fuscicollis*). On the wintering grounds in Chile, the Sanderlings were typically found in flocks of 3000 to 5000 birds.

A total of 256 Sanderlings were banded at Chaplin Lake. As far as we know, no other Sanderling has been banded at this place. We obtained a total of 35 sight recoveries of color-marked individuals at other locations in North and South America: 3 on the Atlantic coast of North America during the southward migration; 2 on the Atlantic coast of Argentina (one during the southward, and one during the northward migration); and 30 birds on the Pacific coast of Chile (17 during the boreal

wintering and 13 during the northward migration).

## DISCUSSION

Census data indicate that Chaplin Lake is an important stopover site during northward migration for Sanderlings. The largest concentration of Sanderlings on the wintering grounds is in southern Peru, northern and central Chile (Morrison & Ross 1989, Myers *et al.* 1990).

Our observations suggest that at least a portion of the Sanderling population that stops at Chaplin Lake during spring migration uses the Atlantic coast of North America during fall migration. A fraction of these birds would cross from the Atlantic to the Pacific coast for reaching Southern Peru and Northern Chile, while the rest would continue southward on the Atlantic coast for reaching Argentina (Figure 1). Myers *et al.* (1990) found that Sanderlings that winter on the Pacific coast of South America mainly use the central corridor on their way north, while the Atlantic route is the most commonly used during southward migration. The sightings of Sanderlings banded at Chaplin Lake are consistent with this pattern. Myers *et al.* (1990) also identified the Atlantic route as the only one used by the Sanderlings that winter on the Atlantic coast of South America, but the sighting of Sanderlings banded at Chaplin Lake in Río Negro, Argentina, shows a new migration route for these birds, the central pathway. This corridor is identified by Morrison (1984) and Gratto-Trevor & Dickson (1994) as the one used by Semipalmated, White-rumped and Baird's (*Calidris bairdii*) sandpipers during northward migration.

The recovery of birds in Río Negro, Argentina, shows that at least a portion of the birds that stage at Chaplin Lake winter on the Atlantic coast of South America. Small to moderate concentrations of Sanderlings win-

ter on the southern half of the Atlantic coast of South America, with numbers in southern Brazil and the Rio Negro area, Argentina (Myers 1980, Morrison & Ross 1989).

Although, there is no way of knowing whether the Sanderlings observed at Santo Domingo during January, February and March 2000 were the same birds, at least 13 individuals banded at Chaplin Lake were recovered during a single survey. This represents 5% of the birds banded at Chaplin Lake. Many other birds undoubtedly occur on other long beaches in North or Central Chile, where large concentrations of Sanderlings were reported wintering (Myers *et al.* 1984b, Morrison & Ross 1989).

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