

DISTRIBUTION AND ABUNDANCE OF WINTERING PIPING PLOVERS IN SOUTH CAROLINA

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Abstract – Comprehensive surveys of the South Carolina coast for Piping Plovers (*Charadrius melodus*) occurred during January and February of 1997-1999 and 2001. Surveys were conducted within 3 hours of high tide. Location, abundance, weather condition and habitat were recorded for each observation. In 1998, the number of dogs and people at each site was recorded along with disturbance to Piping Plovers. One hundred and three (1997), 94 (1998), 100 (1999) and 80 (2000) Piping Plovers were observed primarily within 1km of inlets on sandy substrates on barrier islands or sandbars. Most sites used by the Piping Plovers were undeveloped, accessible only by boat and fairly undisturbed by humans. The most important site for Piping Plovers (approximately 50%) was the Kiawah, Deveaux Bank, Seabrook, and Bird Key complex of islands situated between North Edisto River and Stono Inlet. Harbor Island and Huntington Beach State Park were also important wintering sites. Resightings of color banded Piping Plovers suggest that the birds that winter in South Carolina breed in all three northern geographic regions (Atlantic, Great Lakes, and Northern Great Plains). The next survey for Piping Plovers in South Carolina will be February 2005.

INTRODUCTION

The first comprehensive statewide winter census for Piping Plovers was conducted in 1997 by South Carolina Department of Natural Resources. Incomplete surveys of South Carolina were conducted prior to 1997 starting in 1991. Eighty Piping Plovers were recorded in the 2001 international census but survey effort was low and wintering numbers were probably underestimated. The 1997-1999 surveys were more complete than earlier surveys and the later 2001 international census, thus we report methods and results as published in Dodd et al. 1999. The number of Piping Plovers seen at sites surveyed in all years from 1991-2001 is also reported below and suggests a stable wintering population in South Carolina.

METHODS

During mid-January 1997 (8 - 21), 1998 (10 - 23), and 1999 (14 - 24), we coordinated a census of Piping Plovers on the coast of South Carolina. Observers surveyed all beaches and sand bars exposed at high tide (approximately 309 linear km). Observers surveyed the entire stretch of each beach, with the exception of portions of some beaches that lacked exposed substrate at high tide (e.g. Fripp Island), sections of Hilton

Head Island with unsuitable shorebird habitat in 1997 and 1998, and the south end of Isle of Palms in 1998. In addition, observers surveyed a few impounded spoil disposal sites in 1998 and 1999 (approximately 21 linear km).

RESULTS

The distribution and total number of Piping Plover varied little among years: 103, 94, and 100 plovers used 16, 14, and 18 sites in 1997, 1998, and 1999, respectively. Overall, Piping Plovers wintered at 26 sites, however plovers used only nine of these sites all three years. Each winter, Piping Plovers inhabited approximately a third of coastal beaches and sand bars, using sites from Hilton Head Island to Murrells Inlet, with the exception of 1999 when plovers inhabited Waites Island, the most northeastern island in the state. At wintering sites, plovers tended to use sandy substrates adjacent to protected bodies of water within 1 km of an inlet. The Deveaux Bank, Kiawah, Seabrook, and Skimmer Flats group of islands was the most important area for Piping Plovers ($N_{1997} = 59$; $N_{1998} = 48$; $N_{1999} = 43$), ranking with other wintering areas considered internationally important (see Haig and Plissner 1993, Plissner and Haig 1997).

A third (1999) to a half (1997 and 1998) of Piping Plovers wintered on developed beaches, however a large proportion of these plovers wintered on the northeast end of Kiawah Island, approximately 3 km from the nearest beach access or dwelling. Moreover, most sites used by Piping Plovers are undeveloped ($\geq 62\%$) and accessible by boat only ($\geq 56\%$). In 1998 and 1999, observers recorded no humans and dogs during censuses of most ($\geq 61\%$) sites used by Piping Plovers.

REFERENCES

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Figure 1. Piping Plover distribution and abundance in South Carolina mid-January 1997.

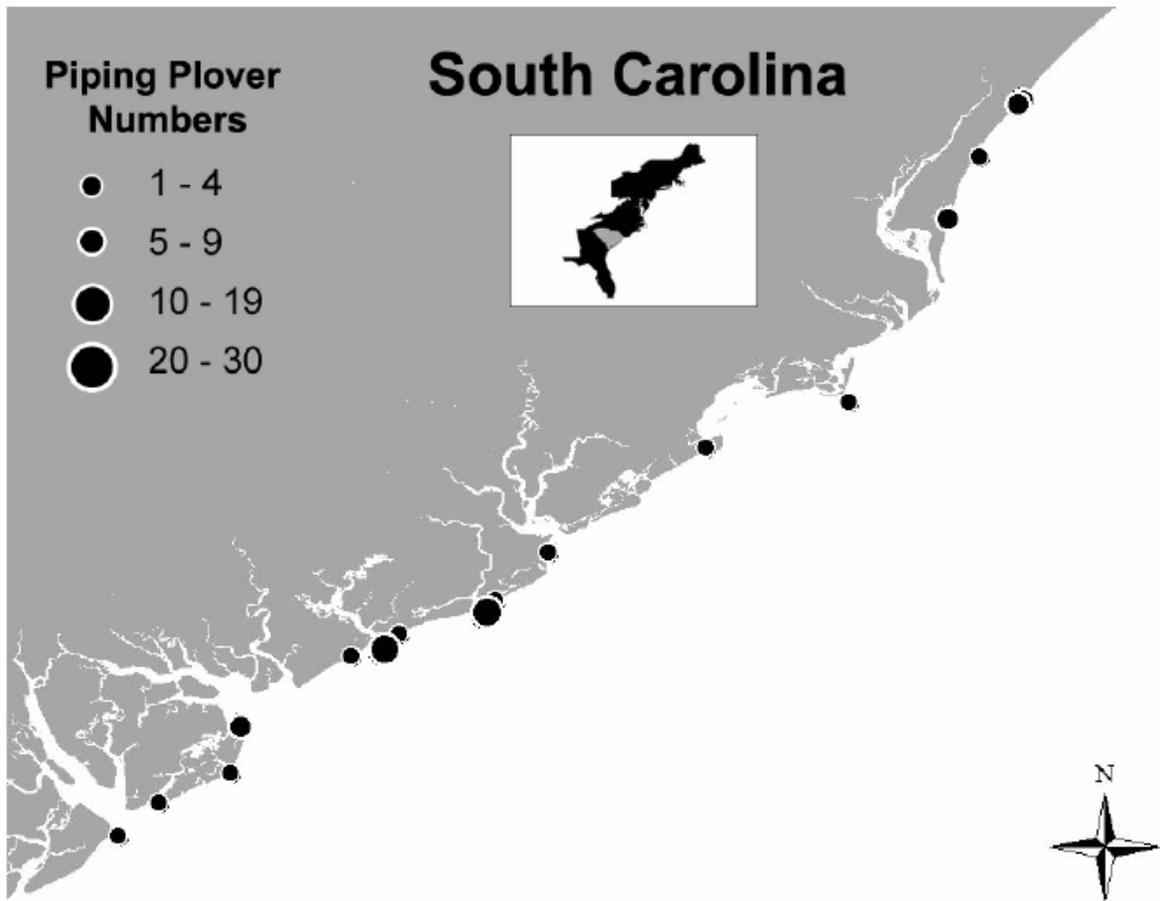


Figure. 2. Wintering Piping Plover numbers at 6 sites in South Carolina.

