

**MOVEMENTS, HABITAT USE, AND SURVIVAL OF NON-BREEDING PIPING PLOVERS.** Katherine R. Mehl<sup>1</sup>, Kiel L. Drake<sup>2</sup>, Jonathan E. Thompson<sup>3</sup>, and Curt Zonick<sup>4</sup>. <sup>1</sup>Ducks Unlimited Canada, 562 Water Street, St. John's, NL, A13 2A2, Canada; Phone: (709) 738-5405; Fax: (709) 738-5407; k\_mehl@ducks.ca. <sup>2</sup>Department of Biology, University of Saskatchewan, 112 Science Place, Saskatoon, SK, SK S7N 5E2. <sup>3</sup>Ducks Unlimited Canada, #200 10720-178<sup>th</sup> Street, Edmonton, AB, T5S 1J3, Canada. <sup>4</sup>P.O. Box 339, Corbett, OR, 97019.

To understand movements, habitat use, and survival of non-breeding Piping Plover (*Charadrius melodus*), we monitored 49 radio-marked Piping Plovers along the southern Laguna Madre of Texas from August 1997 - April 1998. Radio-marked plovers remained within the study area, exhibiting strong site fidelity to non-breeding areas throughout fall, winter, and spring. Seasonal home-range size and core areas differed only between fall and winter with home range and core areas smaller in fall relative to winter. Mean home-range size (based on 95% of locations) was 12.6 km<sup>2</sup> with a core area size (50% of locations) of 2.9 km<sup>2</sup>. Mean linear distance moved during the study period was 3.3 km. Plover movements during fall were smaller than movements in winter and spring. Habitat use varied seasonally with plovers using algal flats more often during fall and spring and exposed sand flats most often during winter. Plovers seldom used dredge material placement areas and fresh water habitats. No known plover mortality occurred during the study period. High survival and strong site fidelity along the southern coast of Texas suggests that the non-breeding period of the annual cycle may not contribute to the declining population of Piping Plovers over-wintering in this region. However, because Piping Plovers spend most of the year on non-breeding areas, they are likely to be adversely affected by loss of those sites, emphasizing the importance of conserving these coastal habitats.