



### **Piping Plover (*Charadrius melodus*)**

The piping plover is a small (17-18 centimeters [cm] long, 43-63 grams [g]), sand-colored shorebird (Palmer 1967, Elliot-Smith and Haig 2004) which breeds in three geographic regions of North America. Genetically, these three populations are confirmed to be of two separate subspecies (AOU 1945, 1957, Miller et al. 2010). As described in more detail in the *Taxonomic Classification and Application of the 1996 Distinct Population Segment (DPS) Policy section* in the 2009 5-Year Review (USFWS 2009a), plovers that breed on the Atlantic Coast of the U.S. and Canada belong to the subspecies *C. m. melodus*. The second subspecies, *C. m. circumcinctus*, comprises two distinct population segments (DPSs). One DPS breeds on the Northern Great Plains of the U.S. and Canada, while the other breeds on the Great Lakes. The subspecies are considered phenotypically indistinguishable, although slight clinal plumage variations between populations have been noted (Elliot-Smith and Haig 2004). Most piping plovers arrive on wintering grounds with breeding plumage (a single black breastband, which is often incomplete, and a black bar across the forehead) and typically resume it prior to northward migration. During the winter, the birds lose the black bands, the legs fade from orange to pale yellow, and the bill turns from orange to mostly black.

In January, 1986, the piping plover was listed as endangered in the Great Lakes watershed of both the U.S. and Canada, and as threatened in the remainder of its range in the U.S. (Northern Great Plains, Atlantic and Gulf Coasts, Puerto Rico, Virgin Islands), Canada, Mexico, Bahamas, and the West Indies, (USFWS 1985, COSEWIC 2001). Recovery plans were developed for the three distinct U.S. breeding populations: the threatened Atlantic Coast population (USFWS 1988a, USFWS 1996), the endangered Great Lakes population (USFWS 1988b, USFWS 2003), and the threatened Northern Great Plains population (USFWS 1988b) (revision now underway).

Critical habitat was designated for the Great Lakes population in 2001 (USFWS 2001a), while a different rule determined critical habitat for the Northern Great Plains population in 2002 (USFWS 2002). No critical habitat has been proposed or designated for the Atlantic Coast breeding population, but the needs of all three breeding populations were considered in the 2001 critical habitat designation for wintering piping plovers (USFWS 2001b) and in subsequent re-

designations (USFWS 2008, 2009b). All piping plovers are classified as threatened on their shared migration and wintering range outside the watershed of the Great Lakes.

Piping plovers migrate through and winter in coastal areas of the U.S. from North Carolina to Texas and in portions of Mexico and the Caribbean (USFWS 1985, Haig and Oring 1985, Haig and Oring 1988, Hoopes et al. 1989). Migration routes and habitats overlap breeding and wintering habitats; and unless the birds are banded, most migrants passing through a site are indistinguishable from breeding or wintering piping plovers along the Atlantic coast (USFWS 2009a).

Piping plovers spend up to 10 months of their life cycle on their migration and winter grounds, July 15 through as late as May 15 (USFWS 2010). Southward migration from the breeding ground occurs from July to September, with the majority of birds having migrated by August (USFWS 1996, USFWS 2003). In their analysis of 10 years of band sightings, Stucker et al. (2010) confirms earlier studies findings of both temporal and spatial patterns of migration and wintering Great Lake birds (Pike 1985, Haig 1992, Wemmer 2000) and confirms that female plovers leave for and reach the winter grounds before males, arriving in July and staying through April. Piping plovers depart the wintering grounds beginning in mid-February, with peak migration in March, and continuing through mid May (Haig 1992).

Habitat loss and degradation on the migration and wintering grounds continues to be a serious threat to the species. Since plovers spend at least two-thirds of their annual life cycle as non-breeders, their survival and recovery are fundamentally dependent on the continued availability of sufficient habitat in their migration and wintering range. All piping plover populations are inherently vulnerable to even small declines in the survival of adults and fledged juveniles (USFWS 2009a). Recovery of the three piping plover populations will not be possible without directed conservation efforts in the coastal migration and wintering range.

### **LITERATURE CITED**

American Ornithologists' Union [AOU]. 1945. Twentieth supplement to the checklist of North American birds. *Auk* 62: 436-449

AOU. 1957. Checklist of North American birds. 5th edition. Baltimore, Maryland.

Committee on the Status of Endangered Wildlife in Canada [COSEWIC]. 2001. Canadian Species at Risk, May 2001. Committee on the Status of Endangered Wildlife Species in Canada. Ottawa, Ontario, Canada.

Elliott-Smith, E. and S. M. Haig. 2004. Piping plover (*Charadrius melodus*), in *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology;

<http://bna.birds.cornell.edu.floyd.lib.umn.edu/bna/species/002>, accessed August 2011.

- Haig, S.M. and L.W. Oring. 1985. The distribution and status of the piping plover throughout the annual cycle. *Journal of Field Ornithology* 56: 266-273
- Haig, S.M. and L.W. Oring. 1988. Distribution and dispersal in the piping plover. *Auk* 105(3): 630-638.
- Haig, S. M. 1992. Piping plover. In A. Poole, P. Stettenheim, and F. Gill (eds.), *The birds of North America*, No. 2. Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists' Union.
- Hoopes, E.M., C.R. Griffin, and S.M. Melvin. 1989. Atlantic Coast piping plover winter distribution survey. Unpublished report to the U.S. Fish and Wildlife Service, Newton Corner, Massachusetts. 6 pp.
- Miller, M. P., S. M. Haig, C. L. Gratto-Trevor and T. D. Mullins. 2010. Molecular population genetic structure in the piping plover. *Auk* 127:57-71.
- Palmer, R.S. 1967. Piping plover. In Stout, G.D. (ed.), *The shorebirds of North America*. Viking Press, New York. 270 pp.
- Pike, E. 1985. The piping plover at Waugoshance Point. *Jack-Pine Warbler* 63:36-41.
- Stucker, J.H., F.J. Cuthbert, B. Winn, B.L. Noel, S.B. Maddock, P.R. Leary, J. Cordes, and L.C. Wemmer. 2010. Distribution of non-breeding Great Lakes piping plovers (*Charadrius melodus*) along Atlantic and Gulf of Mexico coastlines: ten years of band sightings. *Waterbirds*: 33:22-32.
- U.S. Fish and Wildlife Service [USFWS]. 1985. Determination of endangered and threatened status for the piping plover. *Federal Register* 50:50726-50734.
- USFWS. 1988a. Atlantic Coast piping plover recovery plan. Newton Corner, Massachusetts.
- USFWS. 1988b. Recovery plan for piping plovers (*Charadrius melodus*) of the Great Lakes and Northern Great Plains. U.S. Fish and Wildlife Service, South Dakota, and Twin Cities, Minnesota.
- USFWS. 1996. Piping plover (*Charadrius melodus*), Atlantic Coast population, revised recovery plan. Hadley, Massachusetts.
- USFWS. 2001a. Final determination of critical habitat for the Great Lakes breeding population of the piping plover. *Federal Register* 66:22938-22969.
- USFWS. 2001b. Final determination of critical habitat for wintering piping plovers. *Federal Register* 66:36037-36086.

- USFWS. 2002. Final designation of critical habitat for the Northern Great Plains breeding population of the piping plover. Federal Register. 67:57637-57717.
- USFWS. 2003. Recovery plan for the Great Lakes piping plover (*Charadrius melodus*). U.S. Fish and Wildlife Service, Fort Snelling, Minnesota.
- USFWS. 2008. Revised designation of critical habitat for the wintering population of the piping plover (*Charadrius melodus*) in North Carolina. Federal Register 73:62816-62841.
- USFWS. 2009a. Piping plover (*Charadrius melodus*) 5-year review: summary and evaluation. Northeast Region, Hadley, Massachusetts.
- USFWS. 2009b. Revised designation of critical habitat for the wintering population of the piping plover (*Charadrius melodus*) in Texas. Federal Register 74:23476-23524.
- USFWS. 2010. Biological opinion on U.S. Army Corps of Engineers FWS Log No. 2010-F-0014, Town of Hilton Head Port Royal Sound Shoreline Restoration and Stabilization, Beaufort County, South Carolina. Charleston Field Office, South Carolina.
- Wemmer, L.C. 2000. Conservation of the piping plover (*Charadrius melodus*), in the Great Lakes region: a landscape –ecosystem approach. Ph.D. dissertation, University of Minnesota, St. Paul Minnesota.