

Standard Local Operating Procedures for Endangered Species South Florida

Piping Plover

The Standard Local Operating Procedures for Endangered Species (SLOPES) for the piping plover (*Charadrius melodus*) provides a tool to assist the user in determining if their project, *i.e.*, a Federal permit, a Federal construction project, or other such action, may adversely affect piping plovers. The U.S. Fish and Wildlife Service (Service) placed the piping plover on the list of threatened and endangered species in 1985. Threats to piping plovers include pedestrian and motorized recreation, inlet and shoreline stabilization, inlet dredging, beach raking, beach nourishment, and oil spills.

Life History

The piping plover is divided into three North American breeding populations; the Great Lakes (listed as endangered), the Northern Great Plains, and the Atlantic Coast (both listed as threatened). It does not breed in Florida, however, individuals from all three breeding populations winter in Florida. The ecology of the piping plover is summarized in the *Piping Plover, Atlantic Coast Population, Revised Recovery Plan* (Service 1996), the *Recovery Plan for the Great Lakes Piping Plover* (Service 2003), and the *South Florida Multi-species Recovery Plan* (Service 1999).

Adult survivorship during the winter is an important factor in maintaining and increasing current population levels (Haig and Oring 1985; Nicholls and Baldassarre 1990; Haig and Plissner 1993). We believe that recovery of the piping plover is contingent on protecting wintering habitat for more than double the current number of birds (Service 1996).

Piping plovers show strong site fidelity and return to the same wintering area year after year. They begin arriving in July, with some late-nesting birds arriving in September. They may spend 7 to 8 months at the wintering area (Haig and Oring 1985; Service 1996). A few birds may be present year round, but sightings are rare in late May, June, and early July.

Habitat

Piping plovers use geologically dynamic coastal areas that include intertidal beaches, tidal flats, and associated dunes subject to erosion, accretion, succession, and sea level change.

Distribution

Historical data indicate piping plovers regularly wintered in the south Florida counties of Broward, Collier, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, St. Lucie, and Sarasota (Howell 1932; Nicholls 1989; Service 1996; Plissner and Haig 1997). Encounters with the species are most common within the consultation area delineated in Figure 1. Table 1 lists known and potential piping plover wintering sites in the south Florida region.

Critical Habitat

Critical habitat for wintering piping plovers has been designated in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (66 FR 36038). Thirty-four critical habitat units were designated in Florida. Eleven were designated in south Florida and they are distributed as follows; Collier County (1), Lee County (4), Martin County (1), and Monroe County (5) (Fig. 1). See www.plover.fws.gov for critical habitat maps.

Important components of intertidal areas include sand and mud flats where vegetation is sparse or absent. In some cases, tidal flats may be covered partially or entirely by a mat of blue-green algae. Adjacent unvegetated or sparsely vegetated sand, mud, or algal flats above high tide are important roosting areas. Such sites may have debris, detritus, or topographic relief, less than 50 cm (19.7 in) above substrate surface that offers refuge from high winds and cold weather.

Important components of the beach/dune ecosystem include surf-cast algae that supports plover prey; sparsely vegetated beach above mean high tide and seaward of the dunes (or a vegetation line, structure, or road where no dunes exist); sand spits; salterns; and broad, unvegetated washover areas with little or no topographic relief.

Determination

The SLOPES flowchart in Figure 2 can help you determine the impact of your project on piping plovers. If your project is outside the consultation area (Figure 1) then no effect to the piping plover is anticipated. If you encounter a piping plover on your site outside the consultation area then appropriate protective measures should still be implemented (see below). If your project is inside the consultation area but no suitable habitat is present then no effect is anticipated.

If the project is inside the consultation area then check to see if suitable habitat is present. If suitable habitat is present your project may affect the piping plover. A survey of beaches, tidal flats, and associated dunes should be carried out and observations summarized in a biological assessment. See the SLOPES Introduction for details on how to prepare a biological assessment. The survey should be completed during the period when piping plovers are most likely to be found on the wintering grounds; August through April. See Appendix A for survey details and Appendix B for a list of sites that contain suitable habitat. If piping plovers are known on site or are assumed to be on site then formal consultation is necessary.

Also, if critical habitat is present formal consultation is necessary. Early contact and discussion with the Service will facilitate the completion of the project. A biological assessment of the project impacts including the survey results and protective measures should be forwarded the South Florida Ecological Services Office to start the formal consultation process.

Table 1. Known and Potential Piping Plover Wintering Sites in the South Florida Region.

Broward County	Monroe County
Delray Beach South (A34)	Bahia Honda SRA (A44)
Hollywood/Pompano (A35)	Barracuda Key (A47)
Charlotte County	Boca Grande Key (A48)
Charlotte Beach SRA (G38)	Carl Ross Key, Sandy Key (A40)
Englewood Beach (G37)	Lake Ingraham (A39)
Knight/Don Pedro (G38)	Marvin Key (A?)
Charlotte/Lee County	Ohio Key South (A42)
Boca Grande (G39)	Sawyer Key (A46)
Dade County	Snake Bight, Sandy Key (A41)
Crandon Park (A38)	West Summerland Key (A45)
Virginia Key CWA (A37)	Palm Beach County
Indian River County	Loxahatchee River (A?)
Cavalla Rd/TSP (A28)	MacArthur Beach/Jetty (A31)
Indian River Lagoon (A27)	MacArthur SP South (A32)
Sebastian Inlet (A26)	St. Lucie County
Lee County	Hutchinson Island (A29)
Bunche Beach (G43 / FL-25)	Cavalla Rd/FPI (A28)
Cayo Costa (G40 / FL-22)	Sarasota County
Ft. Myers Beach (G44 / FL-26)	Casperson Beach (G36)
North Captiva Island (G41 / FL-23)	Midnight Pass (G35)
Sanibel/Captiva, Captiva (G42 / FL-24)	Midnight Pass/NC (G35)
Martin County	North Lido Key (G34)
Martin County (A30)	Selby Gardens (G34)
	Siesta Drive Bridge (G34)
	South Lido Park (G34)

Number in parentheses is International Piping Plover Census location (Plissner and Haig 1997).

Protective Measures

Anthropogenic changes to coastal habitats are a primary threat to wintering piping plovers. Those areas designated as critical habitat have been determined to be the most heavily used and therefore most important areas. All projects that might alter natural coastal processes in or adjacent to critical habitat should be evaluated for effects to the piping plover. Below are measures that you might incorporate into your project to minimize impacts on the piping plover.

- Provide long-term protection through acquisition, conservation easements, and zoning.
- Maintain the natural beach and coastal dune formation. The dune system is a natural protection against erosion and storms.
- Limit beach armoring. Armoring can cause loss of intertidal beach habitat where piping plovers feed and roost.
- Do not rake feeding and roosting areas. Small changes in topography and shoreline wrack provide shelter for piping plovers from strong winds.
- Protect tidal flats from dredging and filling as these are important piping plover feeding and roosting areas.
- Restrict timing and location of coastal stabilization projects. Beach nourishment or other coastal construction activities should be scheduled from May to July in primary wintering sites and critical habitat.
- Establish and maintain an emergency response plan for oil and chemical spills.
- Regulate motorized recreation, pedestrian recreation, and pets.

Literature Cited

- Eubanks, T. 1992. The piping plover in Texas: winter survey guidelines. Draft report for Great Lakes/Northern Plains piping plover recovery team.
- Fussell, J.O. 1990. Census of piping plovers wintering on the North Carolina Coast - 1989-1990. Report to the North Carolina Wildlife Resources Commission. Raleigh, North Carolina.
- Haig, S.M. and L.W. Oring. 1985. The distribution and status of the piping plover throughout the annual cycle. *Journal of Field Ornithology* 56:334-345.
- Haig, S.M. and J.H. Plissner. 1993. Distribution and abundance of piping plovers: results and implications of the 1991 international census. *Condor* (95):145-156.
- Howell, A.H. 1932. Florida bird life. Coward-McCann, Inc.; New York.
- Nicholls, J.L. 1989. Distribution and other ecological aspects of piping plovers wintering along the Atlantic and Gulf Coasts. M.S. thesis, Auburn University; Auburn, Alabama.
- Nicholls, J.L. and G.A. Baldassarre. 1990. Winter distribution of piping plovers along the Atlantic and Gulf Coasts of the United States. *Wilson Bulletin* 102(3):400-412.
- Plissner, J.H. and S.M. Haig. 1997. 1996 International Piping Plover Census. Report to U.S. Geological Survey, Biological Resources Division, Forest and Rangeland Ecosystem Science Center; Corvallis, Oregon.
- U.S. Fish and Wildlife Service (Service). 1996. Piping Plover (*Charadrius melodus*), Atlantic Coast Population, Revised Recovery Plan. Hadley, Massachusetts.
- U.S. Fish and Wildlife Service (Service). 1999. South Florida multi-species recovery plan. Atlanta, Georgia. <http://verobeach.fws.gov/Programs/Recovery/vbms5.html>. Accessed 10 October 2003.
- U.S. Fish and Wildlife Service (Service). 2003. Recovery Plan for the Great Lakes Piping Plover (*Charadrius melodus*). Ft. Snelling, Minnesota.

GIS Layers

Consultation Area	Plover_ca
Critical habitat	Plover_ch

Appendices

Appendix A - Guidelines for Conducting Surveys for Piping Plovers in Wintering Habitat
Appendix B - List of Known and Potential Piping Plover Wintering Sites

Appendix A

**Guidelines for Conducting Surveys
for Piping Plovers in Wintering Habitat**