

Guidelines for Conducting Surveys for Piping Plovers in Wintering Habitat

The following guidelines have been adapted from Fussell (1990) and Eubanks (1992) to assist individuals in conducting surveys for piping plovers (*Charadrius melodus*) in wintering habitat. These guidelines should also assist Service biologists in ensuring that useful information is collected by Federal action agencies for section 7 consultations.

The piping plover and the snowy plover (*Charadrius alexandrinus*) may be found together in wintering areas along the Gulf of Mexico. The piping plover may also be found with the Wilson's plover (*Charadrius wilsonia*) and the semipalmated plover (*Charadrius semipalmatus*) along the Atlantic and Gulf coasts during the winter. Care should be taken to make the proper identification.

Surveying piping plovers can be difficult because they appear to depend on a variety of habitats throughout the winter, and habitat use varies depending on tidal regime, weather conditions, season, and disturbance. Plovers are often found in tight clusters on prime feeding sites, and may be overlooked, especially in large shorebird concentrations. While some ornithologists find surveying for plovers on roosting habitat to be the most efficient (Fussell 1990), an inexperienced eye may easily miss a cluster of roosting plovers, because they are often huddled down in the sand or along the wrack line (Eubanks 1992).

The following are important considerations for conducting piping plover winter surveys:

1. Consult Available Information: Prior to conducting a survey, consult the local Service Field Office and/or State Nongame/Heritage Program for the most up-to-date listing of known piping plover wintering sites in the State (see Appendix B for a complete list of known and potential wintering sites in south Florida). Available information on a site may negate the need for a survey, or may vary the scope and/or intensity of the survey. It is important to note the nearest known plover occurrence in relation to the project site, because it may provide some insight into possible piping plover occurrence within the survey/project area.

2. Survey Timing and Frequency: In order to determine presence of piping plovers at a site, a series of field surveys should be conducted during the winter period. It is recommended that at least one survey be conducted per week (or four surveys per month) over a three-month period. Surveys should preferably be conducted during December and January when the plovers are most sedentary, and during one month in the migration period (August 1 - October 15 or February 15 - April 15). Piping plovers exhibit diurnal shifts in habitat use, thus observations should be conducted for a minimum of five hours during daylight hours and should be evenly distributed throughout this period. Survey time periods should be conducted during daylight hours from 30 minutes after sunrise to 30 minutes before sunset and should include a wide range of tidal conditions and habitat types. The amount of time necessary to survey each site will obviously depend on the amount and type of habitat to be covered. Areas should be surveyed slowly and thoroughly (large mixed flocks of roosting shorebirds especially need to be thoroughly and carefully searched in order to locate piping plovers).

3. Other Pertinent Data: Surveyors should note the presence or absence of other shorebird species during each survey. This information may be helpful in assessing the probability of piping plovers frequenting a specific coastal site. Also, weather conditions and tidal stage should be noted because habitat use may vary depending on these factors. Habitats with and without plovers should be characterized.

4. Surveyor Qualifications: Surveyors should be knowledgeable about shorebird identification, and be capable of discerning a piping plover in winter plumage from other small plovers. Surveyors should also be familiar with plover ecology and behavior to ensure a thorough survey.

5. Survey Conditions: Surveys should not be conducted during poor weather (*e.g.*, heavy winds greater 25 mph, heavy rains, severe cold) since birds may seek protected areas during these times.

6. Recording of Data: Daily surveys should be recorded and summarized and plover locations should be recorded on maps indicating areas surveyed and habitat types. A sample form for data collection is provided below.

SUGGESTED SURVEY FORM

Site Name (and County):

Date:

Time Begin/End:

Weather Conditions: (temp., wind speed and direction, cloud cover)

Tidal Stage (incoming low, outgoing low, incoming high, outgoing high):

Area of Coverage (km/mi):

Ownership of Site:

Number of Plovers Observed:

Habitat (sandflat, mudflat, beach):

Historical Information on Site:

Nearest Known Plover Occurrence (site name/miles or km):

Banded Plovers (combinations):

Other Shorebird Species Observed:

Approximate Number of Shorebirds Seen Within Census Area:

Additional Comments Pertinent to the Survey:

(Include a map of the survey area with plover locations marked on it. Photocopies of aerial photos are particularly useful.)

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.