

potentially affected optimal habitat would be impacted in any given year (or approximately 8 miles). In years following emergency events, the impacted area is expected to increase to approximately 25 percent or less of the total mileage, or 20 miles of shoreline. Over the past 10 years, two Congressional Orders occurred due to emergency events (2004-2005 hurricane season, and the 2012 hurricane season). The increased sand placement activities due to emergency events are anticipated to occur once in a 7-year period. This estimate is considered to be conservative, as many of the lands identified as optimal piping plover habitat are undeveloped. Since upland development is generally not threatened in these areas, the cost of placing sand on these shorelines is not justified.

Sand placement resulting from maintenance dredging projects is the most likely activity to affect these areas due to the preference to keep sand within the littoral system. It is expected the exact mileage of shoreline affected by the proposed action will vary from year to year. Maintenance dredging and sand placement activities may result in an unspecified number of piping plovers occupying these areas to be taken in the form of harm (*e.g.*, death, injury) and harassment as a result of this action.

### **EFFECT OF THE TAKE**

In this P<sup>3</sup>BO, the Service determined the proposed project is not likely to result in jeopardy to the piping plover.

### **REASONABLE AND PRUDENT MEASURES**

The Service has determined the following Reasonable and Prudent Measures are necessary and appropriate to minimize take of the piping plover in the Action Area. If the Corps is unable to comply with the Reasonable and Prudent Measures and Terms and Conditions, the Corps as the construction agent or regulatory authority may:

1. Inform the Service why the Term and Condition is not reasonable and prudent for the specific project or activity and request exception under the P<sup>3</sup>BO; or
2. Initiate consultation with the Service for the specific project or activity.

The Service may respond by either of the following:

1. Allowing an exception to the Terms and Conditions under the P<sup>3</sup>BO; or
2. Recommending or accepting initiation of consultation (if initiated by the Corps) for the specific project or activity.

The post construction survey requirements are described in Reasonable and Prudent Measure #5 and Term and Condition #8. These requirements are subject to congressional authorization and

the allocation of funds. If the Corps or Applicant cannot fulfill these Reasonable and Prudent Measures, the Corps will notify the Service when initiating consultation for the project.

1. All sand placed on the beach or in the nearshore shall be compatible with the existing beach and will maintain the general character and functionality of the existing beach.
2. The Corps or the Applicant will notify the Service of the commencement of projects that utilize this P<sup>3</sup>BO for the purposes of tracking incidental take of the species.
3. The Corps shall protect habitat features considered preferred by plovers outside of the project footprint in accordance with Terms and Conditions 3, 4, 5, and 6.
4. The Corps will facilitate awareness of piping plover habitat by educating the public on ways to minimize disruption to the species.
5. The Corps, the Applicant, or the local sponsor shall provide the mechanisms necessary to monitor impacts to piping plovers within the Action Area.
6. The Corps shall facilitate an annual meeting with the Service to assess the effectiveness of the protection and minimization measures outlined in this P<sup>3</sup>BO.

## **TERMS AND CONDITIONS**

1. Beach compatible fill shall be placed on the beach or in any associated dune system. Beach compatible fill must be sand that is similar to a native beach in the vicinity of the site that has not been affected by prior sand placement activity. The fill material must be similar in both coloration and grain size distribution to that native beach. Beach compatible fill is material that maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system. Fill material shall comply with FDEP requirements pursuant to the Florida Administrative Code (FAC) subsection 62B-41.005(15). A Quality Control Plan shall be implemented pursuant to FAC Rule 62B-41.008(1)(k)4.b.
2. The Corps or the Permittee must provide the following information to the Service Field Supervisor of the appropriate Field Office at least 10 business days prior to the commencement of work:
  - a. Project location (include FDEP Range Monuments and latitude and longitude coordinates);
  - b. Project description (include linear feet of beach, actual fill template, access points, and borrow areas);
  - c. Date of commencement and anticipated duration of construction; and
  - d. Names and qualifications of personnel involved in piping plover surveys.

3. Prior to construction, the Corps shall delineate preferred piping plover habitat (intertidal portions of ocean beaches, ephemeral pools, washover areas, wrack lines) adjacent to or outside of the project footprint that might be impacted by construction activities. Obvious identifiers shall be used (for example, pink flagging on metal poles) to clearly mark the beginning and end points to prevent accidental impacts to use areas.
4. Piping plover habitat delineated adjacent to or outside of the project footprint shall be avoided to the maximum extent practicable when staging equipment, establishing travel corridors, and aligning pipeline.
5. Driving on the beach for construction shall be limited to the minimum necessary within the designated travel corridor, which will be established just above or just below the primary “wrack” line.
6. Predator-proof trash receptacles shall be installed and maintained during construction at all beach access points used for the project construction to minimize the potential for attracting predators of piping plovers. Workers shall be briefed on the importance of not littering and keeping the project area trash and debris free. See Appendix B for examples of suitable receptacles.
7. Educational signs shall be installed at public access points within the project area with emphasis on the importance of the beach habitat and wrack for piping plovers. When the project area has a pet or dog regulation, the provisions of the regulation shall be included on the educational signs.
8. For one full piping plover migration and winter season (beginning July 15 to May 15) prior to construction, and 2 years following each dredging and sand placement event, bi-monthly (twice-monthly) surveys for piping plovers shall be conducted in the beach fill and in any other intertidal or shoreline areas within or affected by the project. If a full season is not available, at least 5 consecutive months with three surveys per month spaced at least 9 days apart are required. During emergency projects, the surveys will begin as soon as possible prior to, and up to implementing the project. Piping plover identification, especially when in non-breeding plumage, can be difficult. If pre-construction monitoring is not practicable, it will be so indicated in the notification to the Service (see Term and Condition #2 above) and the Service will decide whether to require a separate individual consultation. See introductory paragraph to Reasonable and Prudent Measures earlier in this document.
9. The person(s) conducting the survey must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information listed below. The following will be collected, mapped, and reported:

- a. Date, location, time of day, weather, and tide cycle when survey was conducted;
- b. Latitude and longitude of observed piping plover locations (decimal degrees preferred);
- c. Any color bands observed on piping plovers;
- d. Behavior of piping plovers (*e.g.*, foraging, roosting, preening, bathing, flying, aggression, walking);
- e. Landscape features(s) where piping plovers are located (*e.g.*, inlet spit, tidal creeks, shoals, lagoon shoreline);
- f. Habitat features(s) used by piping plovers when observed (*e.g.*, intertidal, fresh wrack, old wrack, dune, mid-beach, vegetation);
- g. Substrata used by piping plovers (*e.g.*, sand, mud/sand, mud, algal mat);
- h. The amount and type of recreational use (*e.g.*, people, dogs on or off leash, vehicles, kite-boarders); and
- i. All other shorebirds/waterbirds seen within the survey area.

All information shall be provided in an Excel spreadsheet. Monitoring results shall be submitted (datasheets, maps, database) on standard electronic media (*e.g.*, CD, DVD) to the appropriate Field Office by July 31 of each year in which monitoring is completed. If an appropriate web based reporting system becomes available, it would be used in lieu of hard copy/media.

[NOTE: As a condition to a permit from the FDEP, the bird monitor may also be required to report shorebird data to the Florida Fish and Wildlife Conservation Commission (FWC) <https://public.myfwc.com/crossdoi/shorebirds/SigninExploreData.aspx>.]

10. The Corps shall meet with the Service and the FWC (and BOEM as appropriate) annually to discuss the effectiveness of the avoidance measures and additional measures to include for future projects. The agencies will also review the projects utilizing this P<sup>3</sup>BO the previous year to ensure that the reporting requirements for calculating the extent of take are adequate. This meeting will also explore:

- a. The possibility of using dredged materials to enhance potential or existing piping plover habitat within and adjacent to the project area;
- b. Methods for funding beneficial use opportunities for dredged materials that are not least-cost disposal to benefit piping plovers and their habitat;
- c. The development of shore protection design guidelines that can be utilized during future project planning to protect and/or enhance piping plover habitat; and
- d. Incorporating artificial lagoons or ephemeral pools into project designs adjacent to inlets where sand placement is proposed.

## **CONSERVATION RECOMMENDATIONS**

Section 7(a) (1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and