The following fact sheet is intended to provide information to assist with the review of projects such as beach nourishment and dune construction, inlet dredging, jetty maintenance, marina dredging, dock and pier replacement/construction, pipeline installation, and beach scraping, which occur within the range of piping plovers on Long Island.

Please note: stand alone guidelines for conducting fireworks events and managing beach recreational activities are found on http://pipingplover.fws.gov. We recommend you consult those guidelines if your project involves fireworks or recreational management activities.

**Listing and Status Information**

**Common Name:** Piping Plover  
**Scientific Name:** *Charadrius* melodus  
**Listing date:** January 10, 1986, Atlantic Coast Population  
**Federal Status:** Threatened  
**New York State Status:** Endangered  
**Recovery Unit:** New York-New Jersey  
**Recovery Unit Population Goal:** 575 pairs over five years  
**Recovery Unit Productivity Goal:** 1.5 chicks fledged per pair  
**Current Population and Productivity Trends:** Go to [http://pipingplover.fws.gov](http://pipingplover.fws.gov)

**Description, Identification, and Life History**

**Length:** 5.5 inches  
**Weight:** 1.5-2.25 ounces  
**Coloration:** Orange legs, single black neck band across forehead, bill yellowish with black tip  
**Call:** Two to four note whistle  
**Breeding Season:** April 1 to September 1  
**Arrival at Breeding Grounds:** Early to mid-March  
**Egg laying period:** Mid-April to July 1.  
**Clutch size:** 3-4 eggs  
**Number of clutches:** Up to 3 depending on success of previous nest attempts  
**Incubation Period:** 25-31 days  
**Development:** Young are precocial, leaving the nest site shortly after hatching to forage with adults  
**Diet:** Marine worms, insect larvae, crustaceans, mollusks  

**Distribution:** South Shore - Atlantic Ocean and back-bay shores from Breezy Point, Queens County, to Montauk Point, Suffolk County;
East End Peconic Bay System – North and South Shores of Peconic Bay System

North Shore – Long Island Sound beaches and bays from Prospect Point, Nassau County, to Southold Beaches, Suffolk County.

Plum Island and Fishers Island are also included in its breeding range on Long Island

**Habitat Characteristics:** Piping plover nests are situated above the high tide line on coastal beaches, sandflats at the ends of sandspits and barrier islands, gently sloping foredunes, blowout areas behind primary dunes, and washover areas cut into or between dunes. They may also nest on areas where suitable dredge material has been deposited. Nest sites are shallow scraped depressions in substrates ranging from fine grained sand to mixtures of sand and pebbles, shells, or cobble (Bent 1929, Burger 1987a, Cairns 1982, Patterson 1988, Flemming et al. 1990, Maclvor 1990, Strauss 1990). Nests are usually found in areas with little or no vegetation although, on occasion, piping plovers will nest under stands of American beachgrass (*Ammophila breviligulata*) or other vegetation (Patterson 1988).

**Anthropogenic Factors Affecting the Population:**

**Recreational Activities:** Fireworks, off-road vehicle driving, and pedestrians, spurred by residential and public land development projects.

**Habitat Modification/Destruction:** Beach nourishment, as well as shoreline and channel stabilization projects.

**Project Reviews:**

The following list of contacts is provided for your use in obtaining information on the status of piping plovers and their habitat at the project site level, as well as any specific permits that may be required in support of the project proposal.

**FISH AND WILDLIFE SERVICE (FWS):**

**Long Island Field Office:** Steve Papa and Steve Sinkevich  (631) 776-1401
Long Island National Wildlife Refuge Complex:  Deb Long  (631) 286-0485

**NATIONAL PARK SERVICE (NPS)**

Fire Island National Seashore: Daniel Barrera  (631) 687-4768
Gateway National Recreation Area: Doug Adamo  (718) 338-3625

**DEPARTMENT OF THE ARMY**

U.S. Army Corps of Engineers (Corps): Lenny Houston  (212) 264-9056
STATE

New York State Department of Environmental Conservation (NYSDEC)

Region I (Nassau and Suffolk Counties):
Michelle Gibbons or Chip Hamilton (631) 444-0305
Region II (Rockaway Peninsula): Joe Pane (718) 482-4941

New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP)

Gary Lawton (631) 581-1072
Annie McIntyre (Jones Beach State Park) (631) 679-7254
Betsy Wintenberger (Robert Moses State Park) (631) 667-0449

NEW YORK CITY

New York City Department of Parks and Recreation
Yvonne McDermott (Urban Park Rangers) (212) 360-2771
1 (800) 201-PARK (pager)

SUFFOLK COUNTY

Suffolk County (Dept. of Parks, Recreation, and Conservation)
Bill Sickles (631) 854-4949
Nick Gibbons (631) 854-4981

LOCAL TOWNS

Town of Babylon
Brian Zitani (Dept. of Environmental Control) (631) 422-7640

Town of Brookhaven
Anthony Graves (Dept. of Environmental Protection) (631) 451-6457

Town of East Hampton (Natural Resources)
Larry Penny, Lisa D’Andrea, Latisha Coy (631) 324-0496

Town of Hempstead
Tara Schneider (Conservation & Waterways) (516) 431-9200
John Zarudsky & Jim Browne (516) 897-4126

Town of Huntington
Ken Feustal (631) 351-3187

Town of Smithtown
Matt Lankowicz (Dept. of Environment & Waterways) (631) 360-7514
Conservation Measures:

We do have some recommendations to avoid or minimize the likelihood of adverse impacts that we can provide at this early stage should you wish to incorporate them into your project. They are found below under the heading of Conservation Measures.

In general, the type of information that would be helpful to include in any evaluation are:

- a detailed project description
- a map (and summary table) of the proposed project area with habitat cover types
- a summary table of the proposed amount of disturbance to each habitat type
- an overlay of project construction activities on the habitat map
- a description of the habitat onsite
- photographs representative of all cover types on the site and encompassing views of the entire site
- a topographic map with the project area identified
- lat/long coordinates of the project area

Staff from our office may be available to assist with an initial site visit to determine whether additional detailed habitat analyses or surveys will continue to be recommended, however, due to current workload, it may be months before a site visit is possible.

Should potential habitat be present and proposed for disturbance, the Service (and/or applicant or involved Federal agency) will need to determine the likelihood of piping plover presence and evaluate the potential impacts of the proposed project on the piping plover.

**PIPING PLOVER CONSERVATION MEASURES**

**Avoidance of Direct Effects**

In areas verified to be suitable habitat and/or documented piping plover breeding areas, the Service recommends that all construction activities should be completed outside of the plover breeding season, for the following reasons: The Service’s standard recommendation for avoiding any potential for directly impacting piping plover is to conduct activities outside the piping plover breeding season or April 1 to September 1.

- Piping plovers have been observed as early as February 24 in Virginia (Cross 1991), March 11 in New York (Goldin 1990), March 15 in Massachusetts (Maclvor 1990), and March 28 in Nova Scotia (Mills 1976, cited in Cairns 1977).

- By early April, males begin to establish territories (Patterson 1988, Maclvor 1990, Cross 1991), which they defend aggressively against adjacent males by performing “horizontal threat,” “parallel run,” and aerial displays characterized by Cairns (1982).
• Eggs may be present on the beach from mid-April to late July. Clutch initiation dates have been recorded as early as April 21 in Virginia (Cross 1991), April 15 in New York (C. Brittingham, The Nature Conservancy, pers. comm. 1994), April 20 in Massachusetts (Maclvor 1990), and April 24 in Nova Scotia (Cairns 1977).

• A comparison of data from North Carolina (Coutu et al. 1990, McConnaughey et al. 1990, Wrenn 1991), Rhode Island (C. Raithel, files), and Nova Scotia (Cairns 1977), reveals completed clutches from first nest attempts as early as mid-April and as late as mid-June, with a peak in all three areas between April 30 and May 7. Plover nests and eggs are very difficult to detect, especially during the 6-7 day egg-laying phase when the birds generally do not incubate (Goldin 1994a).

• Full-time incubation usually begins with the completion of the clutch, averages 27-30 days, and is shared equally by both sexes (Wilcox 1959, Cairns 1977, Maclvor 1990).

• Broods may move hundreds of meters from the nest site during their first week of life. Chicks remain together with one or both parents until they fledge (are able to fly) at 25 to 35 days of age. Depending on date of hatching, flightless chicks maybe present from mid-May until late August, although most fledge by the end of July (Patterson 1988, Goldin 1990, Maclvor 1990, Howard et al. 1993). After fledging, adults and young may congregate on neutral (non-territorial) feeding grounds prior to southward migration (Cairns 1977).

In summary, to avoid direct adverse effects from habitat modification or degradation, or from activities that disrupt behavior or that may result in death or injury to the species by significantly impairing behavior patterns such as breeding, feeding or sheltering, construction should take place outside of the breeding season.

**Minimization of Indirect Effects:**

The beaches created or nourished with dredged material should be similar to nearby suitable piping plover habitat in terms of topography and grain size.

Piping plover nests are situated above the high tide line on coastal beaches, sandflats at the ends of sandspits and barrier islands, gently sloping foredunes, blowout’ areas behind primary dunes, and washover areas cut into or between dunes. They may also nest on areas where suitable dredge material has been deposited. Nest sites are shallow scraped depressions in substrates ranging from fine grained sand to mixtures of sand and pebbles, shells, or cobble (Bent 1929, Burger 1987a, Cairns 1982, Patterson 1988, Flemming et al. 1990, Maclvor 1990, Strauss 1990).

Nest sites are shallow scraped depressions in substrates ranging from fine grained sand to mixtures of sand and pebbles, shells, or cobble (Bent 1929, Burger 1987a, Cairns 1982, Patterson 1988, Flemming et al. 1990, Maclvor 1990, Strauss 1990). Appropriate sediment surveys should be conducted at the dredge and disposal sites to ensure sediment composition and grain sizes are comparable.
A number of studies and observations have shown that plovers generally utilize beaches with flattened topography for nest site selection. Please refer to Burger (1987), Houghton (2005), and U.S. Fish and Wildlife Service for additional information on this topic. Based on these and other observations from Service field biologists, the Service’s best professional advice is to ensure that the design profile and post construction template for and beach nourishment and dune construction project or beach scraping project ensure that the beach is constructed with flattened slopes.

Dune construction projects should avoid the use of snow fencing and beach grass on the seaward slope of the constructed dunes

Piping plover nests are usually found in areas with little or no vegetation although, on occasion, piping plovers will nest under stands of American beachgrass (*Ammophila breviligulata*) or other vegetation (Patterson 1988, Flemming *et al.* 1990, Maclvor 1990).

Snowfencing and plantings of American beach grass (*Ammophila breviligulata*), sea oats (*Unioa paniczdata*), and other vegetation accelerate the processes that degrade plover habitat and should be avoided. Installation of snowfences and “planting” of discarded Christmas trees in blowouts, overwashes, or elsewhere on the beach should also be avoided.

Management plans which address off-road vehicles, pedestrian activities, beach raking, etc., should be developed and implemented in association with all projects that involve beach nourishment and dune construction, or other manipulation of the beach environment or changes in land use (see:  [http://pipingplover.fws.gov](http://pipingplover.fws.gov)).

Disturbance by humans and pets is a continuing threat to Atlantic Coast plovers, whose habitat is a favorite recreation ground for millions of people. Various management techniques can mitigate impacts of beach recreation on piping plovers, but must be implemented annually as long as the demand for beach recreation continues.

Pedestrians may flush incubating plovers from nests, exposing eggs to avian or mammalian predators or excessive temperatures. Repeated exposure of shorebird eggs on hot days may cause overheating, killing the embryos (Bergstrom 1991), while excessive cooling may kill embryos or retard their development, delaying hatching dates (Welty 1982). Pedestrians can also displace unfledged chicks (Strauss 1990, Burger 1991, Hoopes *et al.* 1992, Loegering 1992, Goldin 1993b), forcing them out of preferred habitats, decreasing available foraging time, and causing expenditure of energy.

While removal of human-created trash on the beach is desirable to reduce predation threats, the indiscriminate nature of mechanized beach-cleaning adversely affects piping plovers and their habitat. In addition to the danger of directly crushing piping plover nests and chicks and the prolonged disturbance from the machine’s noise, this method of beach-cleaning removes the birds’ natural wrackline feeding habitat (Eddings and Melvin 1991, Howard *et al.* 1993).

Dredging often results in impacts to the natural environment which are not readily apparent to the naked eye. One such impact is the effect that dredging can have on invertebrate species which serve as a foraging resource for piping plover, in particular the recovery rates of these species is of concern in the context of the timing of the piping plover season. The following is information related to the recovery rates of intertidal fauna based on a study conducted by the
U.S. Army Corps of Engineers (Corps) for a project in New Jersey which may assist you in minimizing impacts by timing beach nourishment activities to coincide with the season that would have the least effect on intertidal prey resources for piping plover (see U.S. Army Corps of Engineers.

The intertidal infaunal community may recover within 2.0 months following renourishment carried out between early August and early October. Therefore, renourishment during this period will likely have little or no adverse effect on piping plovers due to reduced prey availability. Recovery time following renourishment in mid- to late-October is expected to fall within the range of 2.0 to 6.5 months. Renourishment between November and January would coincide with the period of sharp seasonal decline in abundance, and the infaunal community would not be expected to recover for at least 6.5 months. Renourishment between mid-October and January, therefore, may result in reduced productivity, or possibly abandonment of nesting areas from reduced prey resources during the succeeding piping plover season.