

**BEACH STABILIZATION AND PIPING PLOVERS: OVERVIEW OF CONSERVATION ISSUES AND IMPLICATIONS FOR ESA SECTION 7 CONSULTATION.** David Rabon<sup>1</sup> and Anne Hecht<sup>2</sup>. <sup>1</sup>U.S. Fish and Wildlife Service, P.O. Box 33726, Raleigh, NC, 27606-3726; Phone: (919) 856-4520, ext. 16; Fax: (919) 856-4556; david\_rabon@fws.gov. <sup>2</sup>U.S. Fish and Wildlife Service, 73 Weir Hill Road, Sudbury, MA, 01776; Phone: (978) 443-4325; Fax: (978) 443-2898; anne\_hecht@fws.gov.

Section 7 of the Endangered Species Act (ESA) directs all Federal agencies to consult with the U.S. Fish and Wildlife Service before the agency implements activities (including issuance of permits or funding) that may directly or indirectly affect listed species and/or designated critical habitat. The section 7 consultation process can be used to reduce adverse effects of beach nourishment and other coastal stabilization projects on the threatened piping plover (*Charadrius melodus*). Deposition of dredged material (beach nourishment), jetty construction, inlet relocation, and beach bulldozing impede natural coastal processes that would otherwise create and maintain ephemeral pools and sparsely vegetated moist sediment flats that are heavily selected by migrating and wintering piping plovers. These same microhabitats are essential to successful piping plover reproduction at the southern end of their Atlantic Coast breeding range. Artificially nourishing beaches often exacerbates threats from public use by increasing beach access.

The conservation strategies outlined in piping plover recovery plans seek to maintain natural coastal processes that perpetuate high quality habitat. High priority recovery tasks include discouraging construction of structures and other developments; discouraging interference with natural processes of inlet formation, migration, and closure; and discouraging beach stabilization projects including construction of artificial “dunes.” While advocating primary reliance on conservation of natural habitat formation processes, the 1996 U.S. Atlantic Coast piping plover recovery plan acknowledges the potential role of artificial habitat creation and enhancement as compensation for disruption of natural processes. Implementation to date of such artificial habitat enhancement techniques has been very limited, however, and monitoring and evaluation of results are largely lacking. Beach nourishment projects can be timed to avoid direct impacts of construction on piping plovers. Disturbance to piping plovers from beach recreation can be reduced through beach management and community education programs. Pre- and post-construction monitoring and research can refine our understanding of impacts and help us improve protection measures.