

## APPENDIX D – ENVIRONMENTAL SITE SURVEY



**Environmental Site Survey in the Vicinity of the North  
Jetty at Canaveral Harbor, Brevard County, Florida**

*FINAL REPORT*

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## Purpose

The main objective of the site survey was to document the presence and location of beach mice, gopher tortoises, wetland areas and habitat/vegetation types in potential operational and construction zones near the north jetty of Canaveral Harbor on Cape Canaveral Air Force Station (CCAFS). The information gathered will aid the US Army Corps of Engineers (USCOE) in assessing potential impacts to environmental resources caused by the proposed sand-tightening and extension of the north jetty, as well as provide baseline data for the NEPA documents required for the permitting process. The selection of the preferred alternative construction plan, i.e. which Temporary Upland Stockpile and Staging Area to use, should be influenced by the results of this survey. An appendix is included in this document describing a relocation plan that can be used in support of gopher tortoise relocations that may become necessary.

## Study Areas

Six areas totaling 15 acres, all within 1 kilometer of the open beach on southern Cape Canaveral Air Force Station, were surveyed for this assessment. Approximately 50 percent of Area 1 as defined by USCOE included the north slope of the Trident berm (approximately 45 degree slope). The remainder of Area 1 had a disturbed appearance that may be attributed to past clearing activities or storm-related overwash that salt-killed less resistant vegetation. Due north of the berm, approximately 25 percent of Area 1, was open, disturbed and dominated by grasses with interspersed prickly pear cacti (*Opuntia humifusa*) and sapling varnish leaf (*Dodonaea viscosa*). The eastern most edge of Area 1, representing the remaining 25 percent, was dominated by grassy groundcover with some sandy openings, clumps of cordgrass (*Spartina bakeri*), and interspersed with short-stature sea grape (*Coccoloba uvifera*) and groundsel (*Baccharis halimifolia*). Area 1A was dominated by grasses, but did have a dense, tall patch of Brazilian pepper (*Schinus terbenifolia*) in the center. Both Areas 1 and 1A were classified as disturbed coastal dune/strand habitat.

Areas 2 and 3 were comprised of relatively dense vegetation dominated by Brazilian pepper; although, the Brazilian pepper that dominated the west side of Area 2 and the southeast section of Area 3 was interspersed with moderate densities of sea grape and coin vine (*Dahlbergia ecastophyllum*). The eastern side of Area 2 had some larger open areas dominated by dune/marsh grasses, saw palmetto, sea grape, and buckthorn (*Siderxylon tenax*). Minor openings were also present within the center of Area 3. A large colony of the state threatened shell mound prickly pear cactus (*Opuntia stricta*) was observed in one of these openings near the jetty access road as understory to the exotic mimosa (*Albizia julibrissin*). Both Areas 2 and 3 were classified as disturbed coastal dune/strand habitat.

Area 4 was essentially a Portside beach lying between Area 3 and the waterfront of the port perpendicular to the north jetty groin. Classic coastal dune vegetation

was found on the northwestern edge. The state endangered beach star (*Remireia maritima*) was present just above the high tide line.

Area 5 was added to the survey since it will likely be impacted by construction operations. It represents the beach zone along the north face of the north jetty groin with classic coastal dune/strand vegetation. Sea ox-eye (*Borrchia frutescens*) colonies dominated this area. The state threatened inkberry (*Scaevola plumieri*) was approximately 10 feet from Area 5, closest to the northeast side.

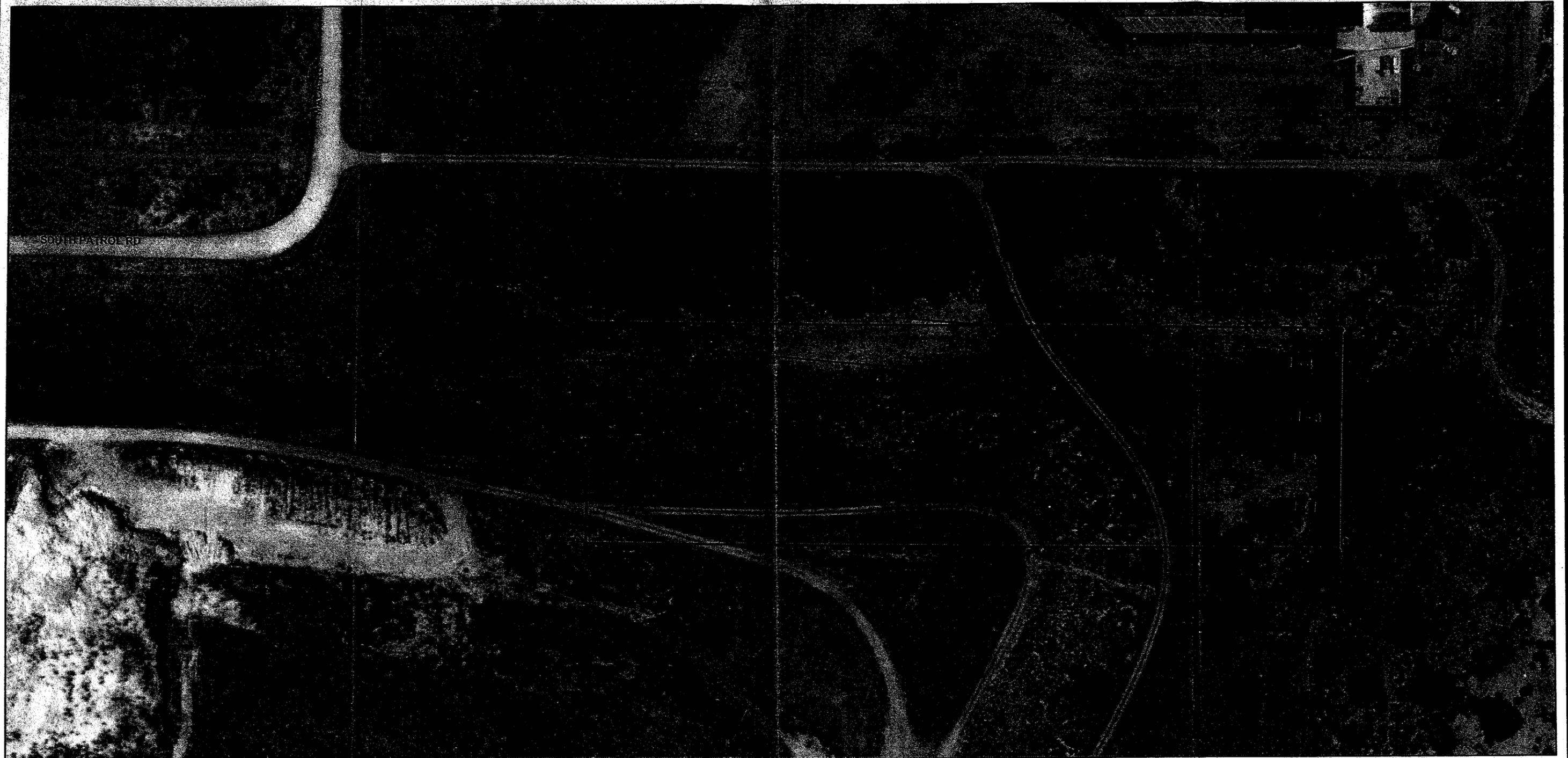
## **I. Southeastern Beach Mouse Survey**

The U.S. Fish and Wildlife Service officially listed the southeastern beach mouse (*Peromyscus polionotus niveiventris*) as a threatened species in 1989. Reasons for decline in southeastern beach mouse populations include habitat loss due to development and erosion, habitat fragmentation, predation from increasing numbers of house cats, and gradual sea-level rise due to global climatic changes (Stout 1992). The species is also vulnerable to ocean surges from storms and natural catastrophes such as hurricanes and tropical storms. Various researchers have found the beach mouse to be abundant on Cape Canaveral, suggesting that the Cape Canaveral area provided excellent habitat for this species (Humphrey et al. 1987, Extine and Stout 1987). The U.S. Air Force Integrated Natural Resource Management Plan (INRMP 2001) describes the Cape as the primary site for the continued existence of the species.

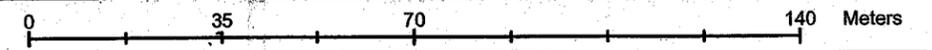
### **Methods**

Sites for transects or traplines were non-randomly selected on 27 March to yield adequate coverage of the areas delineated by USCOE for potential use in the upcoming construction project (Figures 1 and 2). Trapping for beach mice was conducted during the new moon phase, between 8 April and 11 April 2002.

Sherman live traps were positioned at 15-m intervals along transects that extended from 70 to 120 m depending on aerial extent of each of the study sites. One trap per station was utilized along the fourteen transects. The traps were baited with jumbo sunflower seeds each afternoon and were checked at first light the following morning. Cotton balls were placed in each trap to provide thermal protection from cooler night temperatures. Attempts were made to examine all species caught. Date and point of capture were recorded for each event. A sample of the captured beach mice were weighed with a Pesola 100 g scale and all were examined for general condition, gender, reproductive condition and the pelage color. A 1x1-cm patch of hair was clipped near the lateral region of one hip on each beach mouse to identify recaptures on subsequent days. Individuals captured on the first night were hair-clipped on the right while those on the second night were clipped on the left.



1 inch equals 32 meters



Environmental Site Survey in the Vicinity of the North Jetty at Canaveral Harbor

**Proposed Staging Areas Showing Beach Mouse Transects**  
**Areas 1 and 1A**  
 Brevard County, FL



**DYNAMAC**  
 CORPORATION

AC/PG May 2002

**Legend**

- Trap Transects
- ▭ Proposed Staging Areas

Figure 1