1 inch equals 63 meters

0 75 150 300 Meters

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

Proposed Staging Areas Showing Beach Mouse Transects Areas 2, 3, 4 and 5

Brevard County, FL

N W E S

DYNAMAC CORPORATION

AC/VPG May 2002

Legend

Trap Transects

Proposed Staging Areas

Figure 2

Results

In all, 180 trap stations were set for three nights to determine presence/absence of beach mice. The efforts resulted in 466 adjusted trap nights with 23 beach mouse captures, 55 cotton mice, two house mice and one six-lined racerunner, for a small mammal capture rate of 17.2%. The catch per unit effort (CPUE) of beach mice for each area is found in Table 1 with the highest CPUEs occurring in Areas 1, 4 and 5. Areas 4 and 5 are expected to be impacted directly by the jetty construction and Area 1 may be used as a lay-down zone.

Animals were generally processed within two minutes and released. All of the animals captured appeared in excellent condition. Of the beach mice that were sexed, 12 were male and 9 female. The beach mice were in not in reproductively active condition. Testes on all males were abdominal and females were all imperforate. There were a total of seven recaptured beach mice with two each from Areas 1, 3 and 5 and one from Area 2. The gender of recaptures was evenly distributed with four males and three females. Several of the cotton mice had or recently had botflys generally lodged in the inguinal region. Interestingly, one trap contained two cotton mice (male and female - subadults).

Table 1. Catch per unit effort for Southeastern Beach Mice in the proposed lay-down areas.

Area	Adjusted Trap-Nights	Number Captures	Number Recaptures	CPUE Beach Mice
1A	48	1	0	.020
1	152	10	2	.065
2	102	3	1	.029
3	91	2	1	.021
4	41'	4	1	.097
5	52	3	2	.057

Overall these capture rates are relatively low based on our experiences along the Cape Canaveral region. In 1990-1991, Provancha et al (1993) performed seasonal sampling of multiple transects located 24 kilometers north of the current study site yielding a CPUE of 0.136 for beach mice. Transects with consistently high CPUEs ranged from 0.16 to 0.35. Provancha and Smith (unpublished data) captured beach mice along transects/grids from 1996-1998 in the vicinity of the shuttle pads resulting in an overall CPUE of 0.08. Provancha and Chambers (unpublished 2001) performed 3-day assessments near several inactive launch pads 11 to 15 kilometers north of the current sites with CPUEs of 0.002 to 0.19. Humphrey and Frank (1992) encountered a CPUE of 0.32 for southeastern beach mice during a survey at Treasure Shores Park in Indian River County, Florida.

The USCOE is strongly considering the use of Areas 1A and 1 for lay-down operations for the upcoming sand tightening action. The North Jetty transects in 1A and 1 combined yielded approximately 420 linear meters with only 11 mouse captures during our assessment (CPUEs of 0.02 and 0.06). Swilling and Wooton (2002) described spatial units for Alabama and Perdido beach mice in 550 linear meters with an occupancy of 40-70 mice.

II. Gopher Tortoise Surveys

The objectives of the gopher tortoise study were to survey all suitable gopher tortoise (*Polyphemus gopherus*) habitat, mark relative locations of all burrows and label them as active, inactive, or abandoned. These data can be used to prepare a mitigation plan based on state standards for gopher tortoise relocation to suitable habitat depending on which areas are ultimately chosen to be impacted.

Methods

Gopher tortoise surveys were conducted 2-6 April 2002. Burrows were physically marked using pink survey flagging, with a unique number assigned to each burrow. In addition, burrow location was marked using a Trimble GPS. Burrows were visually categorized, based on external characteristics, as "active", "inactive", or "abandoned" following criteria established by Auffenberg and Franz (1982).

Results

Table 2 summarizes the number and status of burrows in each of the study areas. Areas 2 and 3 had the largest numbers of active burrows along their bounds but the maps (Figures 3 and 4) show the non-uniform distribution within those areas indicating that there may be options for use of the areas by avoiding the burrows.

Table 2. Number and Status of Gopher Tortoise Burrows

Area	Active	Inactive	Abandoned
1A	7	4	3
1	9	4	3
2	16	15	8
3	10	13	4
4	0	0	0
5	0	3	1