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# CHADWICK BEACH COTTON MOUSE SURVEY

## FINAL PERFORMANCE REPORT

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### Nongame Wildlife Section

**Project:** Survey and Monitoring

**Study:** Chadwick Beach Cotton Mouse Survey

**Period Covered:** 1 July 1988 - 30 June 1989

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**Abstract:** The Chadwick Beach cotton mouse (*Peromyscus gossypinus restrictus*) is endemic to Manasota Key, a barrier island along the coast of Sarasota and Charlotte counties in southwestern Florida. Recent surveys to locate Chadwick Beach cotton mice have been unsuccessful, and Repenning and Humphrey (1986) postulated that the subspecies was probably extinct. We conducted live-trap surveys for this mouse from 24 - 28 October 1988. Our total trapping effort consisted of 330 trap-nights divided among 4 areas of remaining suitable habitat on the key. The only small mammal captured was 1 cotton rat (*Sigmodon hispidus*). This supports Repenning and Humphrey's (1986) conclusion that the Chadwick Beach cotton mouse is extinct.

## INTRODUCTION

The Chadwick Beach cotton mouse is endemic to Manasota Key, Sarasota and Charlotte counties, Florida. The subspecies was described from 15 specimens collected at Chadwick Beach (a settlement at the southern end of Manasota Key) by Arthur H. Howell around March 1938 (Howell 1939). No additional specimens of *P. g. restrictus* have been collected since the topotypical series (Layne et al. 1977), despite a major survey effort in 1984 and 1985. Based on the results of the 1984 - 1985 survey effort, Repenning and Humphrey (1986) concluded that the subspecies was likely extinct.

The Commission has been interested in

the status of this subspecies since 1979, when it was added to the state list of endangered or potentially endangered taxa as a species of special concern. In 1987, it was reclassified to endangered. In 1988, the Nongame Wildlife Program completed a ranking of all 670 vertebrate taxa in Florida according to biological vulnerability, and *P. g. restrictus* ranked eighth on the list of priority taxa for attention (Millsap et al. 1989).

To help ascertain the current status of this mouse, the Commission's Nongame Wildlife Section and Bureau of Wildlife Management live-trapped at 4 locations on Manasota Key in October 1988. This report summarizes the results of this effort.

## STUDY AREA AND METHODS

Manasota Key is a 13 km-long peninsula that takes the form of a barrier island along the west coast of Sarasota and northern Charlotte counties, Florida. During the course of this study, the portion of the key in Sarasota County consisted mainly of widely-spaced single family beach houses built inland of the dune line. Most lots had been only partially cleared, such that substantial stands of native vegetation remained on the dunes and inland in maritime hammocks. Three state/county parks were present on the Sarasota County portion of the key: Caspersan Beach State Park, Manasota Beach County Park, and Blind Pass Beach County Park. The Charlotte County portion of the key was more heavily developed with multiple family dwellings and hotels, many of which were on or seaward of the dune line. The Charlotte County section of the key contained the Charlotte Beach State Recreation Area, immediately north of Stump Pass. Most undeveloped sections of the Charlotte County section of the key were vegetated by stands of Australian pine (*Casurina* spp.). Undeveloped dunes the entire length of the key, but especially in Sarasota County, were vegetated with sparse stands of sea oats (*Uniola paniculata*) and other grasses.

We attempted to capture mice in large folding Sherman live-traps baited with a combination of rolled oats and commercial bird-seed mix. To maximize chances of capturing mice, we placed traps in variable-length transects bisecting likely habitat. Trapping was conducted from 24 - 28 October 1988. We trapped at the following locations:

1. South end of Caspersan Beach State Park, Sarasota County, 300 m north of ferry landing at 27° 02.0' N latitude, 82° 26.5' W longitude. Traps ( $n = 40$ ) were set along slopes of dunes, across dune tops, and in a maritime hammock dominated by cabbage palms (*Sabal palmetto*). Traps

were operated 3 nights, for a total of 120 trap-nights of effort.

2. Manasota Beach County Park (also known as North Beach), Sarasota County, immediately north of northernmost boardwalk over dunes at 27° 00.5' N latitude, 82° 24.5' W longitude. Traps ( $n = 30$ ) were set along the tops of the dunes and in a maritime hammock dominated by palms inshore of the dune line. Traps were operated 4 nights, for a total of 120 trap-nights of effort.
3. Undeveloped 1 ha lot, 1.7 km south of Blind Pass Beach County Park, Sarasota County, at 26° 56.5' N latitude, 82° 22.5' W longitude. Traps ( $n = 15$ ) were set in a diverse maritime hammock of live oaks (*Quercus virginiana*), southern red cedar (*Juniperus silicicola*), and cabbage palms, with an understory of poison ivy (*Toxicodendron radicans*), Spanish dagger (*Yucca aloifolia*), and prickly apple (*Cereus gracilis*). Traps were set throughout the hammock, and were operated 3 nights for 45 trap-nights of effort.
4. Charlotte Beach State Recreation Area, north side of Stump Pass, Charlotte County, at 26° 52.5' N latitude, 82° 21.5' W longitude. Traps ( $n = 15$ ) were set in an open stand of Australian pine with an understory of sea oats and other grasses. Traps were operated for 3 nights, for a total of 45 trap-nights of effort.

## RESULTS AND DISCUSSION

Trapping efforts yielded 1 cotton rat (*Sigmodon hispidus*), which was captured in the transect at Caspersan Beach State Park (sample site 1). Our overall trapping success was 0.002 captures per trap night, only slightly less than Repenning and Humphrey's (1986) trapping success on Manasota Key of 0.007 captures per trap night.

Our results add further support to Repenning and Humphrey's (1986) conclusion

that the Chadwick Beach cotton mouse is extinct. Although our efforts were not exhaustive, they did focus on the most likely remaining suitable habitat. The best remaining maritime hammock habitat on Manasota Key was at our sample site 3, and this area has been trapped extensively. In addition to our efforts, Repenning and Humphrey (1986) invested 638 trap nights of effort here in 1984 - 1985 without success. However, the recent rediscovery of the Anastasia Island cotton mouse (*P. g. anastasiae*) suggests that barrier-island cotton mouse populations may be able to persist at low densities for many years (S. Humphrey, pers. comm.).

Additional, more exhaustive trapping efforts on Manasota Key at other times of the year (e.g., January - April) might be worthwhile but will be difficult to justify given the negative results of this and preceding surveys. If further surveys are conducted, however, it would be useful to trap in maritime hammocks on islands around Stump Pass and at the north end of Don Pedro Island. If cotton mice are captured at either locality, specimens (including tissue for genetic analysis) should be retained for systematic evaluation.

#### ACKNOWLEDGEMENTS

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