Common Name: ROUND-TAILED MUSKRAT

Scientific Name: *Neofiber alleni* True

Other Commonly Used Names: Florida water rat

Previously Used Scientific Names: none

Family: Cricetidae

Rarity Ranks: G3/S3

State Legal Status: Threatened

Federal Legal Status: none

Description: Round-tailed muskrats, the only members of the genus *Neofiber*, have dense, rich dark brown fur turning to gray at the base. The guard hairs are dark brown and glossy, and the belly fur is pale buff. The ears are small, and the front feet are smaller than the slightly webbed rear feet. This rodent grows to be 29 - 38 cm (11½ -15 inches) long, including a round, sparsely

haired tail. Adults weigh 200 - 330 grams (7 - 11½ ounces). Males are slightly heavier than females.

Similar Species: The muskrat (*Ondatra zibethicus*) is larger and the tail is laterally compressed. The ranges of these species do not overlap.

Habitat: Round-tailed muskrats live in shallow grassy ponds, marshes, and bogs. Preferred habitat appears to be floating mats of vegetation in the vicinity of open water with emergent sedges and floating-leaved vegetation. At Grand Bay in south Georgia, preferred habitat appears to exist mainly along the ecotone between mixed emergent marsh and dense chain-fern marsh. Prairies on the east side of the Okefenokee Swamp also provide good habitat, as do a few other swamps and Carolina bays in the vicinity. The easternmost Georgia occurrence record is of skulls found in barn owl pellets near Woodbine in Camden County.

Diet: The diet consists primarily of aquatic grasses, but also includes stems, roots, and seeds of other aquatic plants, and possibly crayfish.

Life History: Round-tailed muskrats produce 4 - 6 litters, each containing 1 - 4 young, throughout the year with a peak in late autumn. Gestation lasts 26 - 29 days; young are weaned at about 21 days and are fully mature 90 - 100 days after weaning. Round-tailed muskrats are primarily nocturnal; predators include hawks, owls, alligators, and water moccasins. Round-tailed muskrats weave dome-shaped houses of grasses, sedges, cat-tails, and other aquatic vegetation on floating mats of sphagnum or peat or attached to the bases of shrubs or small cypress trees. The houses measure 30 - 45 cm (12 - 18 in) wide at the base and 25 - 38 cm (10-15 inches) in height and are lined on the inside with fine, dry grasses. Two escape holes typically exit the floor of the house and lead to escape tunnels, or plunge holes, in the vegetation mat. Each muskrat utilizes several houses, and individuals sometimes share houses. They are non-territorial and live in dense colonies where habitat is suitable. During periods of low water, round-tailed muskrats occupy tunnels in the sphagnum mats rather than building houses. Round-tailed muskrats also construct floating feeding platforms, measuring 10 - 20 cm (4 - 8 inches) in diameter, from vegetation. Density estimates vary, depending upon habitat and methodology, from 1 - 3 per hectare (or about 1 per acre) at Grand Bay to 250 - 300 per hectare (100 - 121 per acre) in small central Florida marshes. They can become pests in South Florida sugarcane fields.

Survey Recommendations: Probably the best method to detect this species is by searching for their houses and feeding platforms, which are most easily spotted during the wintertime.

Range: Round-tailed muskrats are found throughout most of peninsular Florida and into parts of extreme southern Georgia from Camden County to Brooks County, including Okefenokee Swamp and Grand Bay.

Threats: South Georgia is on the edge of the range of the round-tailed muskrat, so it is likely that the species has never been abundant there. Populations are limited by the amount of suitable floating vegetation mats, so loss of any occupied wetland habitat has a big impact. Habitat can be lost not only through alteration of the natural hydroperiod (length and timing of wet and dry seasons), draining, and development, but also through natural succession due to lack of periodic

fire. Bogs and marshes gradually fill in and are taken over by woody vegetation unless fires retard the process. Under natural conditions, periodic fires, particularly during summer droughts, remove woody vegetation and burn deep holes in the peat. This drives a cyclical process of floating mat and open sedge marsh production so that suitable habitat is continuously created. However, control of naturally occurring fires has interrupted this cycle. Fire ant infestation of floating mats presents another problem, with ants often taking over muskrat houses and probably threatening nestlings. This problem increases as the amount of woody vegetation increases. The size of local round-tailed muskrat populations throughout the species' range apparently fluctuates dramatically as a result of environmental conditions.

Georgia Conservation Status: Some of the best round-tailed muskrat habitat is found in the Okefenokee National Wildlife Refuge and at Grand Bay Wildlife Management Area, both relatively secure.

Conservation and Management Recommendations: Maintaining suitable habitat is critical to ensuring the continuing survival of round-tailed muskrats in Georgia. This species has apparently disappeared from many areas because habitat is no longer suitable. Habitat needs to be managed such that high water levels are maintained most of the time, but such that fire can be used during periods of low water to prevent succession to woody vegetation. Winter drought can be important in floating mat production because it exposes the roots of vegetation to freezing temperatures. This kills the plants which later float up as mats. Sandhill cranes probably play a role in maintaining suitable habitat as well by consuming the roots of invasive plants thereby helping keep the mats open.

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Date Compiled or Updated:
J. Ozier, August 2008: Original account
K. Owers, November 2009: Updated status and ranks, added pictures

Round-tailed muskrat house at the base of a sweetbay