



SAN FRANCISCO
ESTUARY INVASIVE
SPARTINA PROJECT



Preserving native wetlands

Salt Marsh Harvest Mouse *Reithrodontomys raviventris*



Description

The salt marsh harvest mouse (*Reithrodontomys raviventris*) is a Federal Endangered species (Federal Register 35: 16047; October 13, 1970) and also a California state fully protected species. It is a small rodent, 2.75-3.0 inches (69-75 mm) in length and 0.3-0.5 ounces (9-14 g) in weight, in the Muridae family. As its name suggests it is a “groove toothed mouse with a red belly”. However, relatively few harvest mice have red bellies. Its back is brownish and it has agouti hairs which may show black when blown aside. The tail of the salt marsh harvest mouse is shorter than its body length and usually near unicolor. There are two subspecies, the northern subspecies and the southern subspecies.

Field identification of the species is difficult as they, particularly the northern subspecies, look similar to the western harvest mouse (*R. megalotis*). The undersides of the western harvest mouse range from white to dark gray.

The mouse is a “cover dependent” species that inhabits tidal and diked salt marshes characterized by dense stands of pickleweed (*Salicornia* spp.) There may be some daily movement between marsh to high elevation grasslands in spring or summer, or when adjacent grasslands provide protection from predators during high tide or flood events.

Behavior

Salt marsh harvest mice are primarily nocturnal, however crepuscular (sunrise or sunset) activity has been observed under lab conditions. They are good swimmers and climbers and are active year round. Nests are built with grasses, or abandoned bird nests used. Breeding is from spring to fall, with one to two litters of 3-4 offspring. Harvest mice are thought to feed on seed, grass and forbs including pickleweed (*Salicornia* spp) and salt grass (*Distichilis spicata*). In winter, they are known to consume fresh grass.



B. “Moose” Peterson

Distribution

There are two known subspecies with distinct ranges. The northern subspecies is found in San Pablo and Suisun Bay (Marin, Sonoma, Napa and northern Contra Costa counties) and the southern subspecies in Corte Madera, Richmond, and South San Francisco Bay (San Mateo, Alameda and Santa Clara counties).

Special considerations in relation to invasive *Spartina*

Harvest mice are rarely found in native cordgrass (*S. foliosa*) or alkali bulrush (*Schirpus* spp.). *S. densiflora*, *S. patens* and *S. alterniflora*-hybrids can all displace native pickleweed (*Salicornia* spp.), which provides critical habitat for the salt marsh harvest mouse.



Harvest Mouse Comparison Table



http://geolit.org/ffhs/harvest_mouse.htm.



B. Moose Peterson



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Species	Salt Marsh Harvest Mouse	Western Harvest Mouse	California Vole
Character	<i>Reithrodontomys raviventris</i>	<i>R. megalotis</i>	<i>Microtus californicus</i>
Length	<ul style="list-style-type: none"> • 2.75-3.0 in (69-75 mm) 	<ul style="list-style-type: none"> • 4.5-6.75 in (114-170 mm) 	<ul style="list-style-type: none"> • 6.25-8.38 in (120-140 mm)
Description	<ul style="list-style-type: none"> • Small (0.3-0.5 oz, 9-14 g) rodent • Dark brown to buff back • Underside of the Southern subspecies may be cinnamon • Tail is relatively fat, blunt-tipped, unicolored, lacks white hairs and is shorter than the head and body length • Dark back and ears • Gooved incisors (house mouse have un-grooved incisors) • Relatively placid 	<ul style="list-style-type: none"> • Slightly larger than the salt marsh harvest mouse weighing 0.375-0.75 ounces (9.1-21.9 g) • Underside, including its tail, range from white to dark gray • Tail tends to be pointed at the tip, bicolored and is generally longer than the head and body length • Back and ears not as dark as the salt marsh harvest mouse • Grooved incisors • Relatively “jumpy” or active 	<ul style="list-style-type: none"> • Dark gray to brown coat with contrasting white feet • Short bicolor tail • Make runways through vegetation, and burrow extensively in non-flooded areas • Often use driftwood for cover
Habitat	<ul style="list-style-type: none"> • Dense salt marsh vegetation, in particular higher marsh pickleweed (<i>Salicornia spp.</i>) 	<ul style="list-style-type: none"> • Upland grasslands 	<ul style="list-style-type: none"> • Extend from adjacent upland grasslands into both salt and fresh water wetlands

Data sources: http://sacramento.fws.gov/es/animal_spp_acct/salt_marsh_harvest_mouse.htm ; California Department of Pesticide Regulation. Salt marsh harvest mouse field identification card, http://geolit.org/ffhs/harvest_mouse.htm, Goals Project, 2000.

Four species of invasive *Spartina*, commonly called cordgrasses, are rapidly spreading and establishing in the salt marshes and mud flats in the San Francisco Estuary. First introduced twenty–five years ago, non-native *Spartina* populations have now spread to more than one thousand acres. Invasive *Spartina* can significantly alter the estuary both physically and biologically in ways which imperil the ecological balance and diversity of fragile habitats.

The rapid establishment and spread of invasive *Spartina* throughout the estuary is now of regional concern. The Invasive *Spartina* Project, administered by the California Coastal Conservancy, brings together citizens, resource managers and scientists in the Bay Area to find the best solutions to reduce and eliminate populations of invasive *Spartina*.

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