



SOUTHEAST GAP ANALYSIS PROJECT



Species Modeling Report

Marsh Rice Rat

Oryzomys palustris

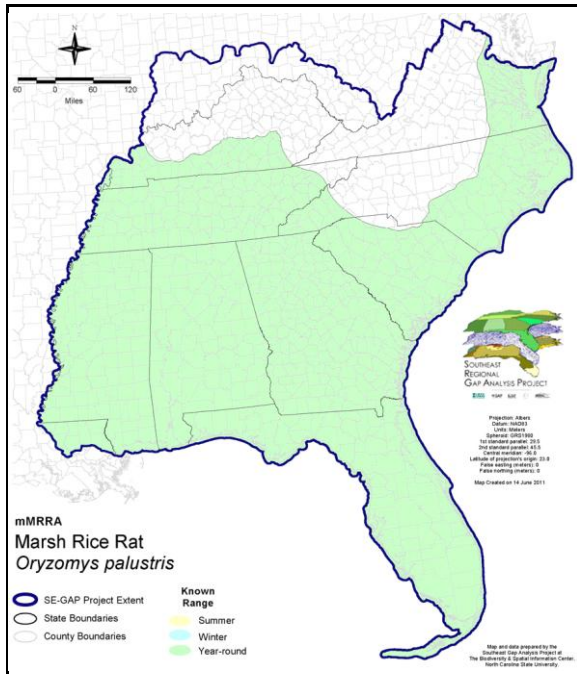
Taxa: Mammalian
Order: Rodentia
Family: Cricetidae

SE-GAP Spp Code: **mMRRA**

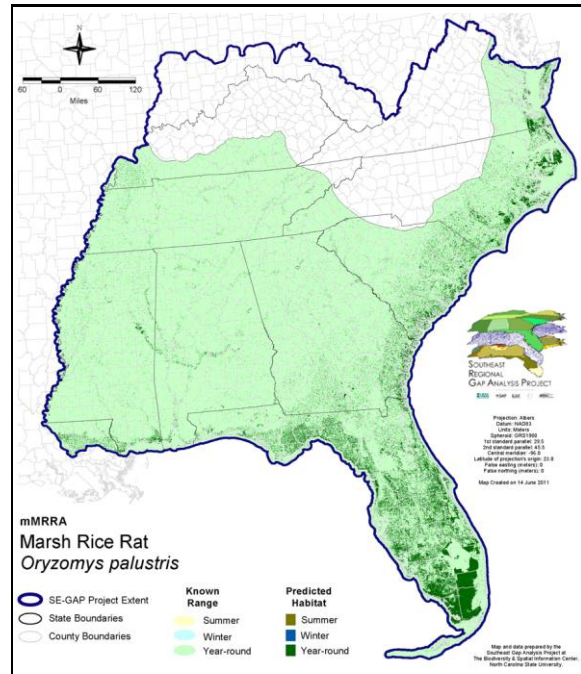
ITIS Species Code: 180336

NatureServe Element Code: AMAFF01010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mMRRA.pdf

Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mMRRA.pdf

GAP Online Tool Link: <http://www.gapservice.ncsu.edu/segap/segap/index2.php?species=mMRRA>

Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mMRRA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: IL (LT), KY (N), MS (Non-game species in need of management), NJ (S), OH (X), OK (Category II)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S5), DE (S3), FL (S5), GA (S5), IL (S2), KS (SNA), KY (S4), LA (S5), MD (S4), MO (SU), MS (S5), NC (S5), NJ (S3), OH (SH), OK (S2), PA (SX), SC (SNR), TN (S5), TX (S4), VA (S5)

SUMMARY OF PREDICTED HABITAT BY MANAGMENT AND GAP PROTECTION STATUS:

	US FWS		US Forest Service		Tenn. Valley Author.		US DOD/ACOE	
	ha	%	ha	%	ha	%	ha	%
Status 1	129,316.1	2	3,732.7	< 1	0.0	0	0.0	0
Status 2	132,679.2	2	12,899.3	< 1	0.0	0	83.3	< 1
Status 3	1,763.0	< 1	181,855.3	2	5,144.4	< 1	105,214.3	1
Status 4	5.0	< 1	< 0.1	< 1	0.0	0	23.3	< 1
Total	263,763.2	3	198,487.3	3	5,144.4	< 1	105,321.0	1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	378,641.1	5	1,133.1	< 1	12,568.1	< 1
Status 2	0.0	0	32,562.8	< 1	43,268.7	< 1	68.9	< 1
Status 3	2,460.3	< 1	192,796.1	2	0.0	0	1,006.5	< 1
Status 4	0.0	0	4.0	5	0.0	0	0.0	0
Total	2,460.3	< 1	604,004.4	8	44,401.8	< 1	13,643.5	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	70.1	< 1	0.0	0	0.0	0
Status 2	0.0	0	268.8	< 1	543,499.1	7	0.0	0
Status 3	36.1	< 1	388,193.1	5	52,588.8	< 1	130,683.9	2
Status 4	0.0	0	0.0	0	1,086.8	< 1	0.0	0
Total	36.1	< 1	388,532.1	5	597,174.7	8	130,683.9	2
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	935.7	< 1	0.0	0	0.0	0
Status 2	35,706.3	< 1	39,693.4	< 1	0.7	< 1	1,707.6	< 1
Status 3	0.0	0	12,840.1	< 1	4,770.5	< 1	67,544.8	< 1
Status 4	0.0	0	0.0	0	215.5	< 1	< 0.1	< 1
Total	35,706.3	< 1	53,469.3	< 1	4,986.7	< 1	69,252.5	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	2	0.0	0	526,397.0	7		
Status 2	0.8	< 1	0.0	4	842,439.3	11		
Status 3	174.7	< 1	1.2	< 1	1,147,073.1	17		
Status 4	5,128,594.0	65	61,096.2	< 1	5,192,107.1	66		
Total	5,128,769.7	65	61,097.8	< 1	7,708,016.5	100		

GAP Status 1: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, and intensity) are allowed to proceed without interference or are mimicked through management.

GAP Status 2: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive use or management practices that degrade the quality of existing natural communities.

GAP Status 3: An area having permanent protection from conversion of natural land cover for the majority of the area, but subject to extractive uses of either a broad, low-intensity type or localized intense type. It also confers protection to federally listed endangered and threatened species throughout the area.

GAP Status 4: Lack of irrevocable easement or mandate to prevent conversion of natural habitat types to anthropogenic habitat types. Allows for intensive use throughout the tract. Also includes those tracts for which the existence of such restrictions or sufficient information to establish a higher status is unknown.

PREDICTED HABITAT MODEL(S):

Year-round Model:

Habitat Description: Wolfe (1982) characterized the marsh rice rat as a semi-aquatic species commonly abundant in wetland environments but is not restricted to, locations near surface water (Golley 1962, Webster et al. 1985). Wet meadows and marshy areas are population strongholds for the species. But, it can be found in swamps, salt marshes, grassy areas, woodland clearings, along wet ditches, and the open edges of lakes and streams. (Brown 1997, Whitaker and Hamilton 1998). Amy Silvano 24jun05

Ecosystem Classifiers: All wetland vegetation. Amy silvano 24jun05

Elevation Mask: < 950m

Hydrography Mask:

Utilizes flowing water features with buffers of 60m from and 60m into selected water features.

Utilizes open water features with buffers of 60m from and 60m into selected water features.

Utilizes wet vegetation features with buffers of 60m from and unlimited into selected vegetation features.

Selected Map Units:

Functional Group	Map Unit Name
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Central Salt and Brackish Tidal Marsh
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Embayed Region Tidal Salt and Brackish Marsh
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Indian River Lagoon Tidal Marsh
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Sea-Level Fen
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Tidal Salt Marsh
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Tidal Wooded Swamp
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Southern Tidal Wooded Swamp
Brackish Tidal Marsh & Wetland	East Gulf Coastal Plain Tidal Wooded Swamp
Brackish Tidal Marsh & Wetland	Florida Big Bend Salt-Brackish Tidal Marsh
Brackish Tidal Marsh & Wetland	Mississippi Sound Salt and Brackish Tidal Marsh
Brackish Tidal Marsh & Wetland	South Florida Everglades Sawgrass Marsh
Brackish Tidal Marsh & Wetland	South Florida Mangrove Swamp
Brackish Tidal Marsh & Wetland	Southwest Florida Perched Barriers Salt Swamp and Lagoon - Mangrove Modifier
Brackish Tidal Marsh & Wetland	Southwest Florida Perched Barriers Salt Swamp and Lagoon - Marsh Modifier
Coastal Dune & Freshwater Wetland	Atlantic and Gulf Coastal Plain Interdunal Wetland
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Northern Dune and Maritime Grassland
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Southern Dune and Maritime Grassland
Coastal Dune & Freshwater Wetland	East Gulf Coastal Plain Dune and Coastal Grassland
Coastal Dune & Freshwater Wetland	Southwest Florida Dune and Coastal Grassland
Forest/Woodland	Atlantic Coastal Plain Central Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Northern Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Southern Maritime Forest
Forest/Woodland	East Gulf Coastal Plain Maritime Forest
Forest/Woodland	Mississippi Delta Maritime Forest
Forest/Woodland	Southeast Florida Coastal Strand and Maritime Hammock
Forest/Woodland	Southwest Florida Coastal Strand and Maritime Hammock
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Central Fresh-Oligohaline Tidal Marsh
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Embayed Region Tidal Freshwater Marsh
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Fresh and Oligohaline Tidal Marsh
Freshwater Tidal Marsh & Wetland	Florida Big Bend Fresh-Oligohaline Tidal Marsh
Water	Open Water (Brackish/Salt)
Water	Open Water (Fresh)
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Herbaceous Modifier
Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Forested Wetland
Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Herbaceous Wetland

Wetlands	Atlantic Coastal Plain Depression Pondshore
Wetlands	Atlantic Coastal Plain Large Natural Lakeshore
Wetlands	Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Taxodium/Nyssa Modifier
Wetlands	Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Oak Dominated Modifier
Wetlands	Atlantic Coastal Plain Northern Basin Peat Swamp
Wetlands	Atlantic Coastal Plain Northern Basin Swamp and Wet Hardwood Forest
Wetlands	Atlantic Coastal Plain Northern Pondshore
Wetlands	Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Peatland Pocosin
Wetlands	Atlantic Coastal Plain Sandhill Seep
Wetlands	Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
Wetlands	Central Appalachian Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	Central Florida Herbaceous Pondshore
Wetlands	Central Florida Herbaceous Seep
Wetlands	Central Florida Pine Flatwoods
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Offsite Hardwood Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Northern Depression Pondshore
Wetlands	East Gulf Coastal Plain Northern Seepage Swamp
Wetlands	East Gulf Coastal Plain Southern Depression Pondshore
Wetlands	East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods
Wetlands	East Gulf Coastal Plain Treeless Savanna and Wet Prairie
Wetlands	Floridian Highlands Freshwater Marsh
Wetlands	Lower Mississippi River Bottomland Depressions - Herbaceous Modifier
Wetlands	North-Central Appalachian Acidic Swamp
Wetlands	North-Central Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South Florida Bayhead Swamp
Wetlands	South Florida Dwarf Cypress Savanna
Wetlands	South Florida Freshwater Slough and Gator Hole
Wetlands	South Florida Hardwood Hammock
Wetlands	South Florida Pine Flatwoods
Wetlands	South Florida Pond-Apple/Popash Slough
Wetlands	South Florida Wet Marl Prairie
Wetlands	South Florida Willow Head
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior/Upper Coastal Plain Wet Flatwoods
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
Wetlands	Southern Coastal Plain Herbaceous Seepage Bog
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Basin Swamp
Wetlands	Southern Coastal Plain Seepage Swamp and Baygall
Wetlands	Southern Coastal Plain Spring-run Stream Aquatic Vegetation
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous Modifier
Wetlands	Southern Piedmont Seepage Wetland
Wetlands	Southern Piedmont/Ridge and Valley Upland Depression Swamp
Wetlands	Western Highland Rim Seepage Fen

Selected Secondary Map Units within each of Primary Map Units.

Functional Group	Map Unit Name
Prairie	Western Highland Rim Prairie and Barrens
Prairie	Eastern Highland Rim Prairie and Barrens
Prairie	Eastern Highland Rim Prairie and Barrens - Dry Modifier
Prairie	Pennyroyal Karst Plain Prairie and Barrens
Prairie	Southern Ridge and Valley Patch Prairie
Prairie	Bluegrass Basin Savanna and Woodland
Prairie	East Gulf Coastal Plain Jackson Plain Prairie and Barrens
Prairie	Florida Dry Prairie
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Herbaceous Modifier
Forest/Woodland	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Woodland Modifier
Prairie	Panhandle Florida Limestone Glade
Prairie	East Gulf Coastal Plain Jackson Prairie and Woodland
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)
Anthropogenic	Pasture/Hay
Anthropogenic	Row Crop

CITATIONS: Benson, D.L. & F.R. Gehlbach. 1979. Ecological and taxonomic notes on the rice rat (*Oryzomys covesi*) in Texas. *J. Mamm.* 60:225-228.

Birkenholz, D.E. 1963. Movement and displacement in the ricerat. *Quarterly Journal Florida Academy of Science* 26:269-274.

Brown, L. N. 1997. A guide to the mammals of the southeastern United States. University of Tennessee Press, Knoxville. xiv + 236 pp.

Caire, W., J. D. Tyler, B. P. Glass, and M. A. Mares. Z. Marsh (illustrator). 1989. *Mammals of Oklahoma*. University of Oklahoma Press, Norman. Oklahoma. 567 pp.

Davis, W. B. 1978. The mammals of Texas. Texas Parks and Wildlife Dept., Bull. No. 41. 294 pp.

Edmonds, K. E., and M. H. Stetson. 1993. The rice rat *ORYZOMYS PALUSTRIS* in a Delaware salt marsh: annual reproductive cycle. *Can. J. Zool.* 71:1457-1460.

Forys, E. A., and N. D. Moncrief. 1994. Gene flow among island populations of marsh rice rats (*ORYZOMYS PALUSTRIS*). *Virginia Journal of Science* 45(1):1-11.

Forys, E. A., and R. D. Dueser. 1993. Inter-island movements of rice rats (*Oryzomys palustris*). *Am. Midl. Nat.* 130:408-412.

Goldman, E. A. 1918. The rice rats of North America (genus *Oryzomys*). *North American Fauna* 43:1-100.

Golley, F.B. 1962. *Mammals of Georgia: A study of their distribution and functional role in the ecosystem*. University of Georgia Press, Athens, GA. 218 pp.

Goodyear, N. C. 1987. Distribution and habitat of the silver rice rat, *ORYZOMYS ARGENTATUS*. *J. Mammalogy* 68:692-695.

Goodyear, N. C. 1991. Taxonomic status of the silver rice rat, *ORYZOMYS ARGENTATUS*. *J. Mamm.* 72:723-730.

Goodyear, N. C. 1992. Spatial overlap and dietary selection of native rice rats and exotic black rats. *J. Mammalogy* 73:186-200.

Hall, E. R. 1981. *The Mammals of North America*. Second edition. 2 Volumes. John Wiley and Sons, New York, New York. 1181 p.

Hamilton, William J., Jr., and John O. Whitaker, Jr. 1979. *Mammals of the eastern United States*. Cornell Univ. Press, Ithaca, New York. 346 pp.

Honacki, J. H., K. E. Kinman, and J. W. Koepf (eds.). *Mammal species of the world*. Allen Press, Inc. and Assoc. Syst. Coll., Lawrence, Kansas. 694 pp.

Humphrey, S. R., and H. W. Setzer. 1989. Geographic variation and taxonomic revision of mink (*MUSTELA VISON*) in Florida. *J. Mamm.* 70:241-252.

Jones, J. K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffman, D. W. Rice, and C. Jones. 1986. Revised checklist of North American mammals north of Mexico, 1986. *Occas. Papers Mus., Texas Tech Univ.*, 107:1-22.

- Jones, J. K., Jr., et al. 1992. Revised checklist of North American mammals north of Mexico, 1991. Occas. Pap. Mus., Texas Tech Univ. (146):1-23.
- Lee, D. S., L. B. Funderburg Jr., and M. K. Clark. 1982. A distributional survey of North Carolina mammals. Occasional Papers of the North Carolina Biological Survey, No. 1982-10. North Carolina State. Mus. Nat. Hist., Raleigh, North Carolina. 72 pp.
- Lowery, G. H., Jr. 1974. The mammals of Louisiana and its adjacent waters. Louisiana State University Press, Baton Rouge. 565 pp.
- Negus, N.C., E. Gould, and R.K. Chapman. 1961. Ecology of the rice rat, *Oryzomys palustris* (Harlan) on Breton Island, Gulf of Mexico, with a critique on the social stress theory. *Tulane Stud. Zool.* 8:93-123.
- Smith, A.T. and M.J. Vrieze. 1979. Population structure of everglade rodents: responses to a patchy environment. *J. Mammalogy* 60:778-794.
- Webster, W. D., J. F. Parnell and W. C. Biggs Jr. 1985. Mammals of the Carolinas, Virginia, and Maryland. The University of North Carolina Press, Chapel Hill, NC.
- Whitaker, J.O. Jr. and W.J. Hamilton, Jr. 1998. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York. 583 pp.
- Wilson, D. E., and D. M. Reeder (editors). 1993. Mammal Species of the World: a Taxonomic and Geographic Reference. Second Edition. Smithsonian Institution Press, Washington, DC. xviii + 1206 pp.
- Wilson, D.E. and S. Ruff. 1999. The Smithsonian book of North American mammals. Washington, DC, Smithsonian Inst. Press. 750 p.
- Wolfe, J.L. 1982. *ORYZOMYS PALUSTRIS*. *Am. Soc. Mamm., Mammalian Species No.* 176. 5 pp.

For more information:: SE-GAP Analysis Project / BaSIC
127 David Clark Labs
Dept. of Biology, NCSU
Raleigh, NC 27695-7617
(919) 513-2853
www.basic.ncsu.edu/segap

Compiled: 15 September 2011

This data was compiled and/or developed
by the Southeast GAP Analysis Project at
The Biodiversity and Spatial Information
Center, North Carolina State University.