



SOUTHEAST GAP ANALYSIS PROJECT



Species Modeling Report

Muskrat

Ondatra zibethicus

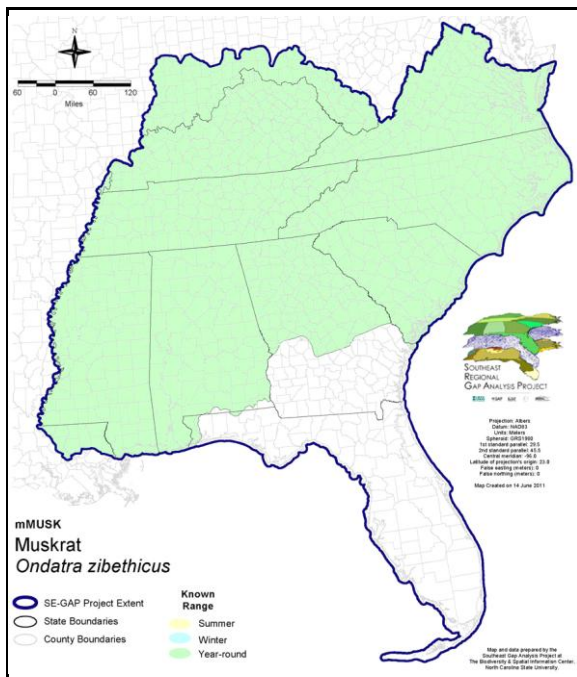
Taxa: Mammalian
Order: Rodentia
Family: Cricetidae

SE-GAP Spp Code: **mMUSK**

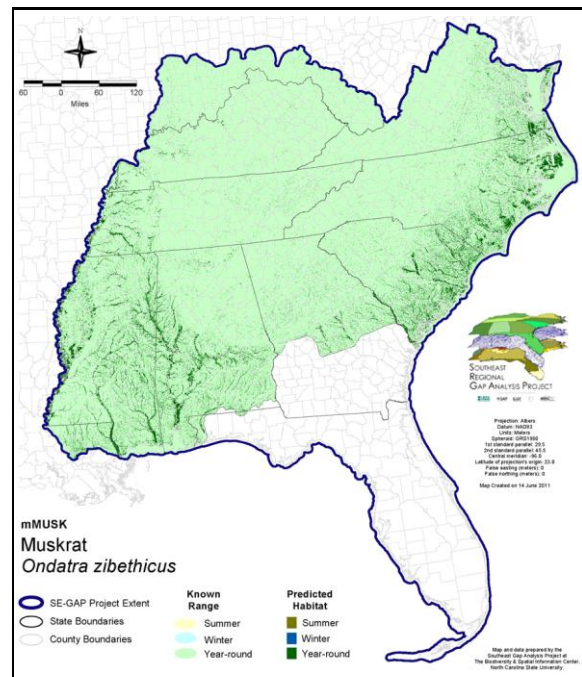
ITIS Species Code: 180318

NatureServe Element Code: AMAFF15010

KNOWN RANGE:



PREDICTED HABITAT:



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

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

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

Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mMUSK_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AL (FB), ID (G), KY (N), NV (YES), NY (GS), RI (Not Listed), UT (None), BC (4 (2005)), BC (4 (2005)), QC (Non suivie), SK (NIAC)

NS Global Rank: G5

NS State Rank: AK (S5), AL (S5), AR (S5), AZ (S4), CA (S5), CO (S5), CT (S5), DC (S4), DE (S5), GA (S5), IA (S5), ID (S5), IL (S5), IN (S4), KS (S5), KY (S5), LA (S4S5), MA (S5), MD (S5), ME (S5), MI (S5), MN (SNR), MO (SNR), MS (S5), MT (S5), NC (S5), ND (SNR), NE (S5), NH (S5), NJ (S5), NM (S4), NV (S5), NY (S5), OH (SNR), OK (S4), OR (S5), PA (S5), RI (S5), SC (SNR), SD (S5), TN (S5), TX (S5), UT (S4S5), VA (S5), VT (S5), WA (S5), WI (S5), WV (S5), WY (S5), AB (S5), BC (S5), BC (S5), LB (S5), MB (S5), NB (S5), NF (S5), NS (S5), NT (SNR), NU (SNR), ON (S5), PE (S5), QC (S5), SK (S5), YT (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	92,369.1	1	5,521.1	< 1	0.0	0	0.0	0
Status 2	169,573.2	2	5,752.0	< 1	0.0	0	1,732.6	< 1
Status 3	1,906.3	< 1	176,284.6	2	6,475.1	< 1	60,438.0	< 1
Status 4	21.2	< 1	0.0	0	0.0	0	17.4	< 1
Total	263,869.8	4	187,557.8	2	6,475.1	< 1	62,187.9	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	9,578.4	< 1	955.5	< 1	0.0	0
Status 2	0.0	0	8,761.4	< 1	21,322.4	< 1	0.0	0
Status 3	15,225.8	< 1	6,480.7	< 1	0.0	0	1,147.3	< 1
Status 4	0.0	0	1.0	0	0.0	0	0.0	0
Total	15,225.8	< 1	24,822.2	< 1	22,278.0	< 1	1,147.3	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	157.5	< 1	1.2	< 1	0.0	0
Status 2	0.0	0	388.8	< 1	175,762.4	2	23.7	< 1
Status 3	1,811.9	< 1	30,796.0	< 1	104,237.0	1	11,964.0	< 1
Status 4	0.0	0	0.0	0	9,475.1	< 1	0.0	0
Total	1,811.9	< 1	31,342.3	< 1	289,475.7	4	11,987.6	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	2,272.7	< 1	0.0	0	0.0	0
Status 2	35,201.0	< 1	54,335.2	< 1	2.3	< 1	307.7	< 1
Status 3	0.0	0	736.1	< 1	1,178.2	< 1	12,645.3	< 1
Status 4	0.0	0	0.0	0	665.9	< 1	0.0	0
Total	35,201.0	< 1	57,344.0	< 1	1,846.4	< 1	12,953.0	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	2	0.0	0	110,855.7	1		
Status 2	0.8	< 1	0.0	< 1	473,163.6	6		
Status 3	471.8	< 1	0.0	0	431,798.1	8		
Status 4	6,284,094.6	84	16,491.1	< 1	6,320,220.8	84		
Total	6,284,567.3	84	16,491.2	< 1	7,336,038.2	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: Muskrats are abundant from the Chesapeake tidewaters of Virginia down to northeastern North Carolina (Webster et al. 1985). They are less common to rare in the mountains, piedmont and southern portions of the coastal plain (Lee et al. 1982). Most individuals in the mountains have been observed in valley areas at elevations below 2400ft (Linzey and Linzey 1971). Muskrats prefer the tall vascular, non-woody plants of fresh or brackish water marshes for food and lodge building material (Whitaker and Hamilton 1998). Like beavers, muskrat lodges are built in shallow aquatic habitats. However, building material is predominantly of the reeds and sedges of the marsh. They are less abundant in wooded waterways, lakes, ponds and swamps, where they regularly burrow into waterside embankments rather than construct lodges (Webster et al. 1985). Prefers fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Rare or absent in large artificial impoundments where fluctuating water levels eliminate littoral zone plants (food supply) (Caire et al. 1989). Dens in bank burrow or conical house of vegetation in shallow vegetated water. Sometimes in uplands-Clough 1987. See Clark (1994) for information on habitat selection in experimental marshes undergoing succession in Manitoba.

Quoted from habitat notes - K. Cook - 6-7-05

Elevation Mask: < 731m

Hydrography Mask:

Slow Current Only

Utilizes flowing water features with buffers of unlimited from and 30m into selected water features.

Utilizes open water features with buffers of unlimited from and 30m into selected water features.

Utilizes wet vegetation features with buffer of 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	Mississippi Sound Salt and Brackish Tidal Marsh
Coastal Dune & Freshwater Wetland	Atlantic and Gulf Coastal Plain Interdunal Wetland
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
Water	Open Water (Brackish/Salt)
Water	Open Water (Fresh)
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Herbaceous Modifier
Wetlands	Atlantic Coastal Plain Brownwater Stream Floodplain Forest
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 Peatland Pocosin

Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
Wetlands	Central Appalachian Floodplain - Forest Modifier
Wetlands	Central Appalachian Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Forest Modifier
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Northern Depression Pondshore
Wetlands	East Gulf Coastal Plain Northern Seepage Swamp
Wetlands	East Gulf Coastal Plain Small Stream and River Floodplain Forest
Wetlands	East Gulf Coastal Plain Southern Depression Pondshore
Wetlands	Lower Mississippi River Bottomland and Floodplain Forest
Wetlands	Lower Mississippi River Bottomland Depressions - Forest Modifier
Wetlands	Lower Mississippi River Bottomland Depressions - Herbaceous Modifier
Wetlands	Mississippi River Low Floodplain (Bottomland) Forest
Wetlands	Mississippi River Riparian Forest
Wetlands	North-Central Appalachian Acidic Swamp
Wetlands	North-Central Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
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 - Forest Modifier
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous Modifier
Wetlands	Southern Piedmont Seepage Wetland
Wetlands	Southern Piedmont Small Floodplain and Riparian Forest

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