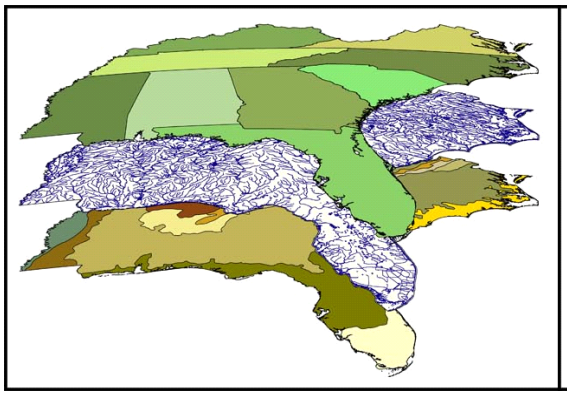


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

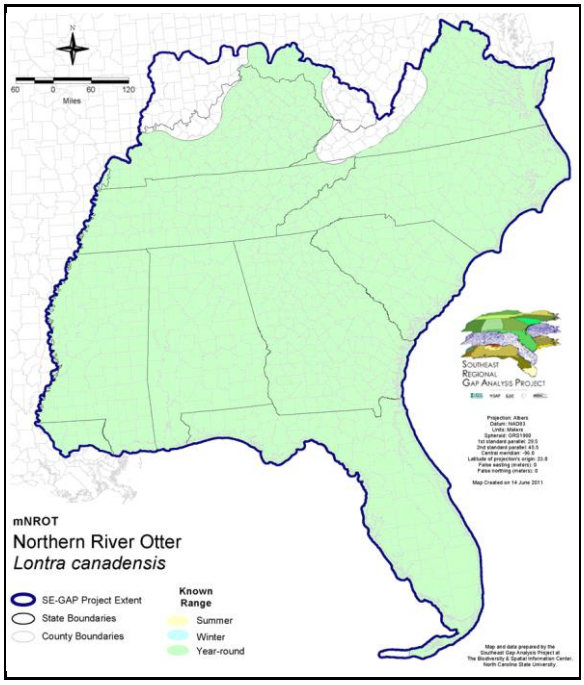
Northern River Otter

Lontra canadensis

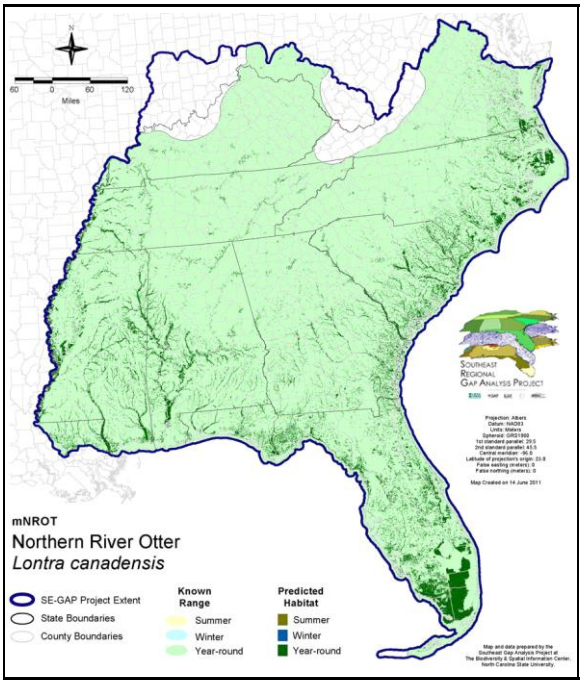
Taxa: Mammalian
Order: Carnivora
Family: Mustelidae

SE-GAP Spp Code: **mNROT**
ITIS Species Code: 180549
NatureServe Element Code: AMAJF10010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mNROT.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mNROT.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mNROT
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mNROT_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AL (FB), CO (ST), ID (G), IL (RT), IN (SSC), KY (N), ND (Level II), NE (T), NV (YES), NY (GS), RI (Not Listed), SD (ST), UT (None), VA (SC), BC (4 (2005)), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (S5), AL (S4), AR (S5), AZ (S1), CA (S4), CO (S3S4), CT (S5), DC (S1), DE (S4), FL (SNR), GA (S5), IA (S3), ID (S4), IL (S2), IN (S2), KS (S3), KY (S3S4), LA (S4), MA (S4), MD (S5), ME (S5), MI (S4), MN (SNR), MO (S3), MS (S4), MT (S4), NC (S4), ND (S1), NE (S2), NH (S5), NJ (S4), NM (SH), NV (S2), NY (S5), OH (S3), OK (S2), OR (S4?), PA (S3), RI (S4), SC (SNR), SD (S2), TN (S3), TX (S3), UT (S3), VA (S4), VT (S5), WA (S4), WI (S4S5), WV (S1), WY (S3), AB (S3), BC (S4S5), LB (S5), MB (S5), NB (S5), NF (S5), NS (S5), NT (SNR), NU (SNR), ON (S5), PE (SX), QC (S5), SK (S5), YT (S4)

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	141,192.1	2	5,517.8	< 1	0.0	0	0.0	0
Status 2	197,034.7	2	19,892.2	< 1	0.0	0	1,642.1	< 1
Status 3	1,967.3	< 1	229,395.7	2	5,109.8	< 1	108,254.3	1
Status 4	17.2	< 1	0.0	0	0.0	0	10.9	< 1
Total	340,211.3	4	254,805.7	3	5,109.8	< 1	109,907.3	1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	378,624.2	4	1,039.2	< 1	6,420.4	< 1
Status 2	0.0	0	25,619.4	< 1	41,171.7	< 1	54.0	< 1
Status 3	13,639.1	< 1	176,083.7	2	0.0	0	1,450.8	< 1
Status 4	0.0	0	3.0	0	0.0	0	0.0	0
Total	13,639.1	< 1	580,330.4	6	42,210.9	< 1	7,925.2	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	160.3	< 1	0.0	0	0.0	0
Status 2	0.0	0	659.6	< 1	645,433.0	7	13.7	< 1
Status 3	1,434.0	< 1	388,564.7	4	101,844.4	1	105,215.2	1
Status 4	0.0	0	0.0	0	6,270.1	< 1	1.3	< 1
Total	1,434.0	< 1	389,384.6	4	753,547.5	8	105,230.2	1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	2,437.2	< 1	0.0	0	0.0	0
Status 2	37,142.3	< 1	58,676.2	< 1	2.1	< 1	1,060.9	< 1
Status 3	0.0	0	12,148.1	< 1	3,830.2	< 1	53,851.5	< 1
Status 4	0.0	0	0.0	0	693.5	< 1	0.0	0
Total	37,142.3	< 1	73,261.5	< 1	4,525.7	< 1	54,912.4	< 1

	Private Land - No Res.		Water			Overall Total	
	ha	%	ha	%		ha	%
Status 1	0.0	< 1	0.0	0		535,391.5	6
Status 2	0.8	< 1	0.0	< 1		1,028,402.8	11
Status 3	482.3	< 1	1.1	< 1		1,203,272.0	15
Status 4	6,311,794.3	67	81,191.4	< 1		6,406,234.7	68
Total	6,312,277.6	67	81,192.7	< 1		9,173,300.9	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: These semi-aquatic mammals spend nearly all of their active time in and around water (Whitaker and Hamilton 1998). However, they will travel overland from one body of water to another (Lowman 1975). Lakes, rivers, streams, canals, ditches - fresh to salt. Mixed swamp, freshwater marsh, wet prairie, coastal scrub, mangrove, sloughs, lakes, ponds, streams, ditches, and canals (Layne et al. 1977) all provide suitable habitat.

River Otters need large areas within their home ranges that are generally isolated from human activity. So, extensive lengths of undeveloped river corridor, or lake or marsh shoreline are required for habitat to be suitable (Whitaker and Hamilton 1998). Otters typically center their activity around these areas, but may move among a number of these secluded areas within their home ranges (Lowman 1975, Brown 1997). Lakes, rivers, streams, canals, ditches - fresh to salt. Mixed swamp, freshwater marsh, wet prairie, coastal scrub, mangrove, sloughs, lakes, ponds, streams, ditches, and canals (Layne et al. 1977) all provide suitable habitat. Amy Silvano 27jun05

****Quotes taken directly from compiled state habitat notes.

Ecosystem Classifiers: All wetland environments and open water. Alternative- may be able to select all pixels that are within 60m of rivers and streams (forested) in addition to all wetland classes. Amy Silvano 27june05Amy Silvano 27jun05

Avoidance Mask: Medium - moderately intolerant of human disturbance.

Hydrography Mask:

Utilizes flowing water features with buffers of 60m from and 250m into selected water features.

Utilizes open water features with buffers of 60m from and 250m into selected water features.

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

Contiguous Patch Minimum Size (hectares): 80

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
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 - 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 Northern Wet Longleaf Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Peatland Pocosin
Wetlands	Atlantic Coastal Plain Sandhill Seep
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
Wetlands	Atlantic Coastal Plain Xeric River Dune
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 Florida Herbaceous Pondshore
Wetlands	Central Florida Herbaceous Seep
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	Cumberland Riverscour
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
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 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 Small Stream and River Floodplain Forest
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 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 Florida Bayhead Swamp
Wetlands	South Florida Dwarf Cypress Savanna
Wetlands	South Florida Freshwater Slough and Gator Hole
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 - Forest Modifier
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior Small Stream and Riparian
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 Blackwater River Floodplain Forest

Wetlands	Southern Coastal Plain Herbaceous Seepage Bog
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
Wetlands	Southern Piedmont/Ridge and Valley Upland Depression Swamp
Wetlands	Unconsolidated Shore (Lake/River/Pond)
Wetlands	Western Highland Rim Seepage Fen

CITATIONS:

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

Layne, J.N.; Stallcup, J.A.; Woolfenden, G.E.; McCauley, M.N.; Worley, D.J. 1977. Fish and Wildlife Inventory of the Seven-County Region Included in the Central Florida Phosphate Industry Area-Wide Environmental Impact Study. Volumes I and II. Also avai

Lowman, G. E. 1975. A survey of endangered, threatened, rare, status-undetermined, peripheral, unique mammals of thes.e. National Forests and Grasslands. USDA Forest Service Contract 38-2601. 121 pp.

Shirley, M. G., et al. 1988. Population estimates of river otters in a Louisiana coastal marshland. J. Wildl. Manage. 52:512-515.

Whitaker, J.O. Jr. and W.J. Hamilton, Jr. 1998. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York. 583 pp.

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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.