



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

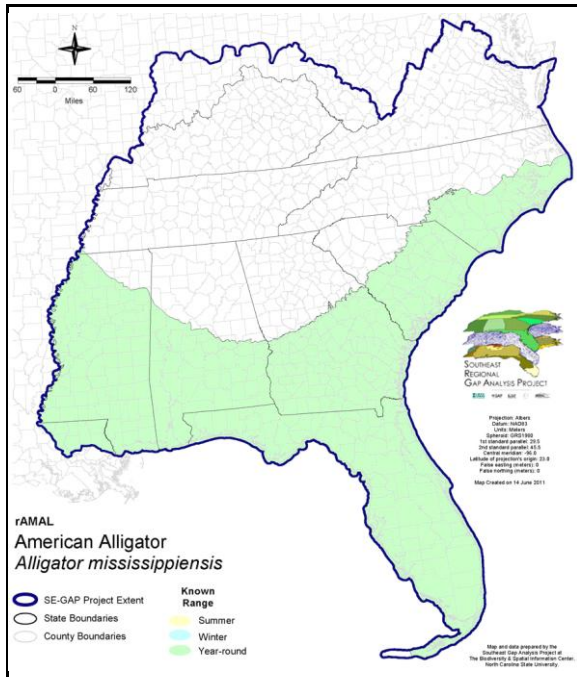
### American Alligator

*Alligator mississippiensis*

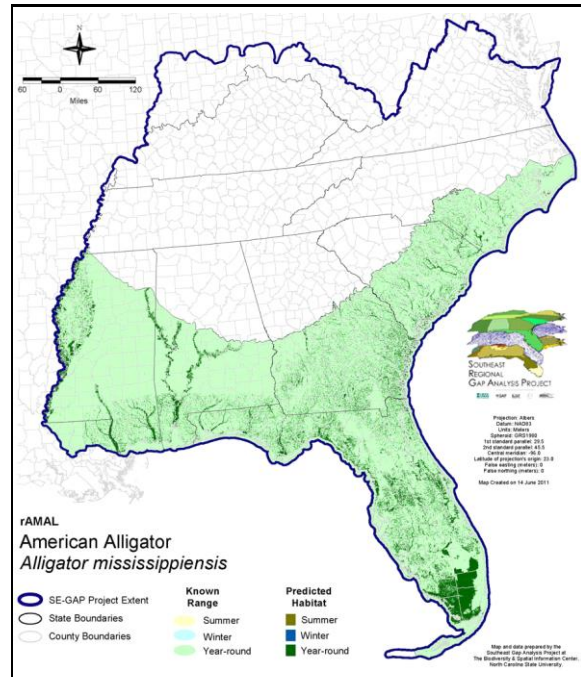
Taxa: Reptilian  
 Order: Alligatoria  
 Family: Alligatoridae

SE-GAP Spp Code: **rAMAL**  
 ITIS Species Code: 551771  
 NatureServe Element Code: ARABA01010

#### KNOWN RANGE:



#### PREDICTED HABITAT:



Range Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Range\\_rAMAL.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_rAMAL.pdf)

Predicted Habitat Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Dist\\_rAMAL.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_rAMAL.pdf)

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/rAMAL\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/rAMAL_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: SAT

State Status: AL (SP, GASP), FL (FT(S/A)), NC (T)

NS Global Rank: G5

NS State Rank: AL (S4), AR (S4), FL (S4), GA (S4), LA (S5), MS (S4), NC (S3), OK (S4?), SC (S5), TX (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	76,119.7	1	1,601.4	< 1	0.0	0	0.0	0
Status 2	63,186.6	< 1	19,523.1	< 1	0.0	0	0.0	0
Status 3	2.7	< 1	112,844.0	2	0.0	0	76,454.5	1
Status 4	15.1	< 1	< 0.1	< 1	0.0	0	0.0	0
Total	139,324.1	2	133,968.5	2	0.0	0	76,454.5	1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	355,234.1	5	1,101.7	< 1	10,115.8	< 1
Status 2	0.0	0	26,597.6	< 1	38,708.8	< 1	22.7	< 1
Status 3	6,499.5	< 1	234,979.6	3	0.0	0	1,053.6	< 1
Status 4	0.0	0	0.0	6	0.0	0	0.0	0
Total	6,499.5	< 1	616,811.8	9	39,810.5	< 1	11,192.1	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	78.9	< 1	0.0	0	0.0	0
Status 2	0.0	0	179.7	< 1	512,664.8	7	0.0	0
Status 3	2.3	< 1	371,069.1	5	36,454.1	< 1	85,779.4	1
Status 4	0.0	0	< 0.1	< 1	5,324.4	< 1	5.0	< 1
Total	2.3	< 1	371,327.9	5	554,443.4	8	85,784.4	1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	894.5	< 1	0.0	0	0.0	0
Status 2	15,624.7	< 1	23,582.6	< 1	0.0	0	1,186.8	< 1
Status 3	0.0	0	13,877.9	< 1	3,838.5	< 1	53,172.2	< 1
Status 4	0.0	0	0.0	0	225.5	< 1	0.0	0
Total	15,624.7	< 1	38,355.0	< 1	4,064.0	< 1	54,359.0	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	2	0.0	0	445,146.3			
Status 2	0.8	< 1	0.0	0	701,278.3			
Status 3	208.6	< 1	< 0.1	< 1	996,236.0			
Status 4	4,688,263.3	67	52,413.6	< 1	4,751,556.8			
Total	4,688,472.9	67	52,413.7	< 1	6,894,217.4			

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:** American Alligators may be observed in shallow water in river swamps, marsh-bordered lakes, bayous, and fresh or brackish marshes of the Atlantic and Gulf Coasts. They may also use large streams, canals, ponds, and tidal estuarine creeks (Palmer and Braswell 1995). They are, however, primarily a freshwater species (Bartlett and Bartlett 1999). The largest populations are located where human activity is restricted or controlled and they require relatively undisturbed shoreline areas for nesting. The males tend to be in larger bodies of open water and the females (except during courtship and mating) tend to be in the shallower waters of adjacent marshes and swamps where the nests are built. Alligators construct tunnel-like dens in the banks of water bodies with entrances often below the water surface. Multiple den sites are used by a single alligator and these dens account for the tenacity of individuals to remain in one home range for much of their life (Palmer and Braswell 1995). They often spend much foraging time (particularly younger alligators) in canals and other places where aquatic herbaceous vegetation is profuse. Large adults may also forage in densely vegetated marshes or in and around larger pools in extensive swamp forests. Both large marsh areas and extensive swamp forests may be critical to the stability of populations (Palmer and Braswell 1995). Mating occurs in the spring. They lay a clutch of about 20-60 eggs from May-July. The eggs hatch in about 9 weeks. The female stays near and may protect the nest during incubation, and she assists the emergence of the young by opening the nest mound. Hatchlings may stay together in the vicinity of the nest and mother for 1-3 years (Behler and King 1979, USFWS 1980). Reproductive success in the Everglades was constrained primarily by egg mortality caused by flooding (Kushlan and Jacobsen 1990). In north-central Florida, 31% of nests with complete clutches were destroyed by mammalian predators (Goodwin and Marion 1978). Stacy Smith, 7June05

**Avoidance Mask:** Medium - moderately intolerant of human disturbance.

**Hydrography Mask:**

Slow Current Only

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

Utilizes wet vegetation features with buffer of unlimited into selected vegetation features.

### Selected Map Units:

Functional Group	Map Unit Name
Beach	Atlantic Coastal Plain Sea Island Beach
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 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 Southern Dune and Maritime Grassland
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 Depression Pondshore

Wetlands	Atlantic Coastal Plain Large Natural Lakeshore
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Central Florida Herbaceous Pondshore
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	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	South Florida Bayhead Swamp
Wetlands	South Florida Cypress Dome
Wetlands	South Florida Freshwater Slough and Gator Hole
Wetlands	South Florida Pond-Apple/Popash Slough
Wetlands	South Florida Willow Head
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Cypress Dome
Wetlands	Southern Coastal Plain Seepage Swamp and Baygall
Wetlands	Southern Coastal Plain Spring-run Stream Aquatic Vegetation
Wetlands	Unconsolidated Shore (Lake/River/Pond)

**CITATIONS:** Ashton, R. E., Jr., and P. S. Ashton. 1985. Handbook of reptiles and amphibians of Florida. Part two. Lizards, turtles & crocodylians. Windward Pub., Inc., Miami. 191 pp.

Bartlett, R.D. and P.P. Bartlett. 1999. Field guide to Florida reptiles and amphibians. Gulf Publishing Co, Houston, TX. 280 p.

Behler, J. L., and F. W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York. 719 pp.

Brandt, L. A. 1991. Long-term changes in a population of ALLIGATOR MISSISSIPPIENSIS in South Carolina. *J. Herpetology* 25:419-424.

Brandt, L. A., and F. J. Mazzotti. 1990. The behavior of juvenile ALLIGATOR MISSISSIPPIENSIS and CAIMAN CROCODYLIUS exposed to low temperature. *Copeia* 1990:867-871.

Brisbin, I. L., Jr., and M. A. McDonald. 1989. Genetic patterns and the conservation of crocodylians: a review of strategies and options. Pages 156-168 in *Crocodyles: Proc. 8th Working Meeting of the Crocodile Specialist Group*, IUCN.

Brisbin, I. L., Jr., et al. 1986. A bibliography of the American alligator (ALLIGATOR MISSISSIPPIENSIS). i-111 + 1-xii + 1-116.

Conant, R. and J. T. Collins. 1991. A field guide to reptiles and amphibians: eastern and central North America. Third edition. Houghton Mifflin Co., Boston, Massachusetts. 450 pp.

Conover, M. R., and T. J. Dubow. 1997. Alligator attacks on humans in the United States. *Herpetological Review* 28:120-124.

Densmore, L. D., III, and P. S. White. 1991. The systematics and evolution of the Crocodylia as suggested by restriction endonuclease analysis of mitochondrial and nuclear ribosomal DNA. *Copeia* 1991:602-615.

Glasgow, V. L. 1991. A social history of the American alligator: the earth trembles with his thunder. St. Martin's Press, New York. x + 260 pp.

Goodwin, T. M., and W. R. Marion. 1978. Aspects of the nesting ecology of American alligators (ALLIGATOR MISSISSIPPIENSIS) in north-central Florida. *Herpetologica* 34:43-47.

Hunt, R. H., and J. J. Ogden. 1991. Selected aspects of the nesting ecology of American alligators in the Okefenokee Swamp. *J. Herpetology* 25:448-453.

International Union for Conservation of Nature and Natural Resources. 1982. Crocodyles. Proceedings of the 5th working meeting of the Crocodile Specialist Group of the Species Survival Commission. Gainesville, Florida, 12-16 August 1980.

Joanen, T., and L. McNease. 1970. A telemetric study of nesting female alligators on Rockefeller Refuge, Louisiana. Proceedings 24th Annual Conference Southeast. Assoc. Game and Fish Comm.:175-193.

Joanen, T., and L. McNease. 1972. A telemetric study of adult male alligators on Rockefeller Refuge, Louisiana. Proc. 26th Ann. Conf. Southeast. Assoc. Game & Fish Comm.:252-275.

King, F. W., and R. L. Burke, editors. 1989. Crocodylian, tuatara, and turtle species of the world: a taxonomic and geographic reference. Association of Systematics Collections, Washington, D.C. 216 pp.

- Kushlan, J. A., and T. Jacobsen. 1990. Environmental variability and the reproductive success of Everglades alligators. *J. Herpetology* 24:176-184.
- Luxmoore, R. A., et al., compilers. 1985. A directory of crocodylian farming operations. Jointly published by IUCN and CITES, Univ. Press, Cambridge, England. 204 pp.
- Mazzotti, F. J., and L. A. Brandt. 1988. A method of live-trapping wary crocodiles. *Herpetol. Rev.* 19:40-41.
- Mount, R. H. 1975. *The Reptiles and Amphibians of Alabama*. Auburn University Agricultural Experiment Station, Auburn, Alabama. vii + 347 pp.
- O'Brien, T. G., and P. D. Doerr. 1986. Night count surveys for alligators in coastal counties of North Carolina. *J. Herpetology* 20:444-448.
- Palmer, W. M., and A. L. Braswell. 1995. *Reptiles of North Carolina*. North Carolina State Museum of Natural Sciences, University of North Carolina Press, Chapel Hill, North Carolina.
- Rootes, W. L., and R. H. Chabreck. 1993. Reproductive status and movement of adult female alligators. *J. Herpetology* 27:121-126.
- Taylor, D., N. Kinler, and G. Linscombe. 1991. Female alligator reproduction and associated population estimates. *J. Wildlife Management* 55:682-688.
- Thorbjarnarson, J. B. 1996. Reproductive characteristics of the order Crocodylia. *Herpetologica* 52:8-24.
- U.S. Fish & Wildlife Service. 1980. Selected vertebrate endangered species of the seacoast of the United States--the American alligator. FWS/OBS-80/01.39.
- U.S. Fish and Wildlife Service. 4 June 1987. Reclassification of the American alligator to threatened due to similarity of appearance throughout the remainder of its range. *Federal Register* 52:21059-21064.
- Webb, G. J. W., et al., eds. 1987. *Wildlife management: crocodiles and alligators*. Surrey Beatty & Sons Pty Limited, New South Wales, Australia. 552 pp.
- Woodward, A. R., M. L. Jennings, and H. F. Percival. 1989. Egg collecting and hatch rates of American alligator eggs in Florida. *Wildl. Soc. Bull.* 17:124-130.

---

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](http://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.