



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Sooty Tern

*Sterna fuscata*

Taxa: Avian

Order: Charadriiformes

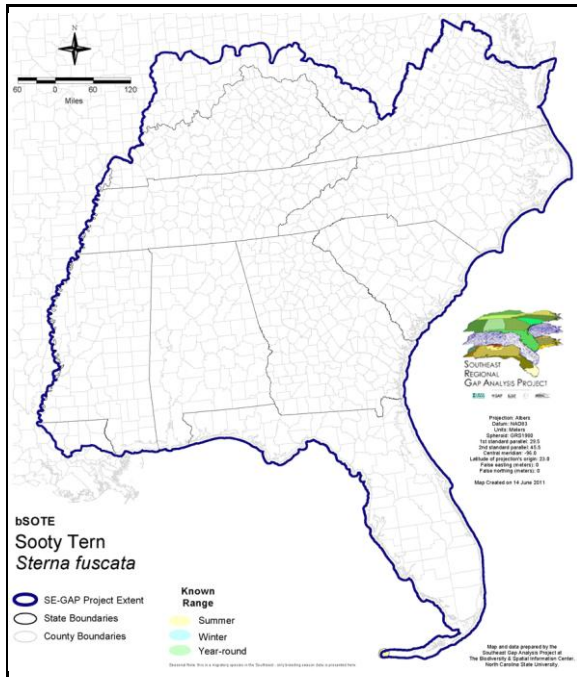
Family: Laridae

SE-GAP Spp Code: **bSOTE**

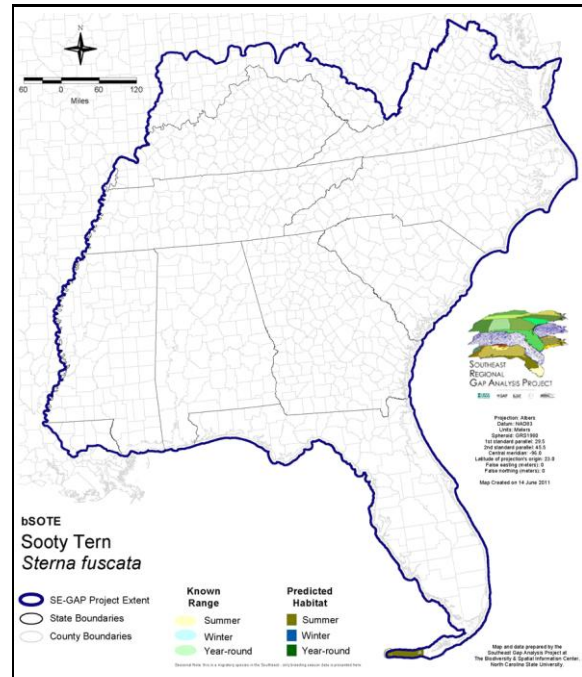
ITIS Species Code: 176894

NatureServe Element Code: ABNNM08150

#### KNOWN RANGE:



#### PREDICTED HABITAT:



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

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

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/bSOTE\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/bSOTE_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: NC (W2), NY (PB), TX (T), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AL (SNR), AR (SNA), DE (SNA), FL (S1), GA (SNA), HI (SNR), LA (S1B), MD (SNA), ME (SNA), MS (SNA), NC (SUB,S3N), NY (SNA), PA (SNA), SC (SNR), SC (SNR), TX (S2B), VA (SNA), WI (SNA), WV (SNA), NB (SNA), NS (SNA), ON (SNA), QC (SNA)

**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	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	0.0	0	0.0	0	0.0	0
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	0.0	0	0.0	0	0.0	0
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	0.0	0	0.0	0	0.0	0
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	0.0	0	0.0	0	0.0	0
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0 0			
Status 2	0.0	0	0.0	0	0.0 0			
Status 3	0.0	0	0.0	0	0.0 0			
Status 4	0.0	0	40.0	100	40.0 100			
Total	0.0	0	40.0	100	40.0 100			

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):

### Summer Model:

Habitat Description: Nests only on Dry Tortugas. Nests on isolated tropical and subtropical coral atolls and cays on fairly open, flat and sparsely vegetated habitats above flood tides. Strictly pelagic in foraging (Schreiber et al. 2002). Forages within 80km of breeding islands including the Dry Tortugas (King 1970, Gould 1974, Schreiber et al. 2002). M. Rubino, 31dec04.

Customized Model: There are no map units that represent coral atoll type habitats, so South Florida Shell Hash Beach is the only appropriate map unit for this species. In order to include the other keys that may be suitable, essentially, this species can be modeled by selecting all the islands in the Dry Tortugas. Since it is pelagic, it could be viewed as a non-terrestrial species.

Since this species forages within 80km of breeding islands (King 1970, Gould 1974, Schreiber et al. 2002), I decided to model the predicted distribution as only the Dry Tortugas and 80 km of open ocean (excluding land) from these islands. MJR 11 March 2008.

### Selected Map Units:

Functional Group	Map Unit Name
Beach	South Florida Shell Hash Beach
Water	Open Water (Brackish/Salt)

### CITATIONS:

- American Ornithologists' Union (AOU), Committee on Classification and Nomenclature. 1983. Check-list of North American Birds. Sixth Edition. American Ornithologists' Union, Allen Press, Inc., Lawrence, Kansas.
- Bent, A.C. 1921. Life histories of North American gulls and terns. U.S. Natl. Mux. Bull. 113. Washington, D.C.
- Berger, A.J. 1981. Hawaiian Birdlife. Second Edition. University of Hawaii Press, Honolulu, Hawaii. xv + 260 pp.
- Clapp, R. B., and P. A. Buckley. 1984. Status and conservation of seabirds in the southeastern United States. Pages 135-155 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Cooper, J., A. J. Williams, and P. L. Britton. 1984. Distribution, population sizes and conservation of breeding seabirds in the Afrotropical region. Pages 403-419 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No.
- Coulter, M. C. 1984. Seabird conservation in the Galapagos Islands, Ecuador. Pages 237-44 in Croxall et al. (editors). Status and Conservation of the World's Seabirds. International Council for Bird Preservation Technical Publication. No. 2.
- de Korte, J. 1984. Status and conservation of seabird colonies in Indonesia. Pages 527-545 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The birder's handbook: a field guide to the natural history of North American birds. Simon and Shuster, Inc., New York. xxx + 785 pp.
- Fairbairn, P., and A. Haynes. 1982. Jamaican surveys of the West Indian manatee TRICHECHUS MANATUS, dolphin TURSIOPS TRUNCATUS, sea turtles (families Cheloniidae and Dermochelyidae) and booby terns (family Laridae). FAO Fish. Rep. 278:289-295.
- Feare, C. J. 1984. Seabird status and conservation in the tropical Indian Ocean. Pages 457-471 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Fussell, J.O. III. 1994. A birder's guide to coastal North Carolina. Chapel Hill and London: The University of North Carolina Press.
- Gallagher, M. D., et al. 1984. The distribution and conservation of seabirds breeding on the coasts and islands of Iran and Arabia. Pages 421-456 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Garnett, M. C. 1984. Conservation of seabirds in the South Pacific region: a review. Pages 547-558 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Gould, P. J. 1974. Sooty Tern (*Sterna fuscata*). Pp. 6-52 in Pelagic studies of seabirds in the central and eastern Pacific Ocean (W. B. King, ed.). Smithsonian. Contrib. Zool. no. 158, Smithsonian. Inst. Press, Washington, D.C.
- Harrison, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. Collins, Cleveland, Ohio.
- Harrison, C.S., M.B. Naughton, and S.I. Fefer. 1984. The status and conservation of seabirds in the Hawaiian Archipelago and Johnston Atoll. Pages 513-526 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Hasegawa, H. 1984. Status and conservation of seabirds in Japan, with special attention to the short-tailed albatross. Pages 487-500 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Haynes, A. 1987. Human exploitation of seabirds in Jamaica. Biol. Conserv. 41:99-124.
- Kaufman K. 1996. Lives of North American Birds. Boston, New York: Houghton Mifflin Company.

- Kepler, C. B. 1978. The breeding ecology of sea birds on Monito Island, Puerto Rico. *Condor* 80:72-87.
- King, W. B. 1970. The Trade Wind Zone Oceanography Pilot Study. Pt. VII: observations of sea birds March 1964 to June 1965. U.S. Fish Wildl. Serv. Spec. Sci. Rep. Fish. no. 586
- Melville, D. S. 1984. Seabirds of China and the surrounding seas. Pages 501-511 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Pratt, H.D., P.L. Bruner, and D.G. Berrett. 1987. A field guide to the birds of Hawaii and the tropical Pacific. Princeton University Press, Princeton, New Jersey. 409 pp. + 45 plates.
- Raffaele, H.A. 1983. A guide to the birds of Puerto Rico and the Virgin Islands. Fondo Educativo Interamericano, San Juan, Puerto Rico. 255 pp.
- Robertson, C. J. R., and B. D. Bell. 1984. Seabird status and conservation in the New Zealand region. Pages 573-586 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Schlatter, R. P. 1984. The status and conservation of seabirds in Chile. Pages 261-269 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Publ. No. 2.
- Schreiber, E. A., C. J. Feare, B. A. Harrington, B. G. Murray, Jr., W. B. Robertson, Jr., M. J. Robertson, and G. E. Woolfenden. 2002. Sooty Tern (*Sterna fuscata*), The Birds of North America Online (A. Poole, Ed.).
- Spendelow, J.A., and S.R. Patton. 1988. National atlas of coastal waterbird colonies in the contiguous United States:1976-1982. U.S. Fish and Wildlife Service, Biological Report 88(5). x + 326 pp.
- Sprunt, A., IV. 1984. The status and conservation of seabirds of the Bahama Islands. Pages 157-168 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Stiles, F.G., and A.F. Skutch. 1989. A guide to the birds of Costa Rica. Comstock Publ. Associates, Cornell University Press, Ithaca, New York. 511 pp.
- Terres, J.K. 1980. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York.
- van Halewyn, R., and R. L. Norton. 1984. The status and conservation of seabirds in the Caribbean. Pages 169-222 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- van Tets, G. F., and P. J. Fullagar. 1984. Status of seabirds breeding in Australia. Pages 559-571 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Williams, A. J. 1984. Breeding distribution, numbers and conservation of tropical seabirds on oceanic islands in the South Atlantic Ocean. Pages 393-401 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.

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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.