



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Grasshopper Sparrow

*Ammodramus savannarum*

Taxa: Avian

Order: Passeriformes

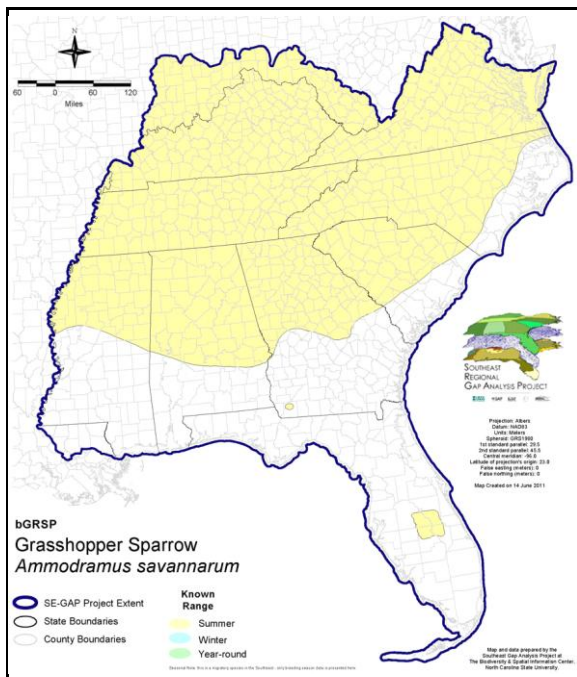
Family: Emberizidae

SE-GAP Spp Code: **bGRSP**

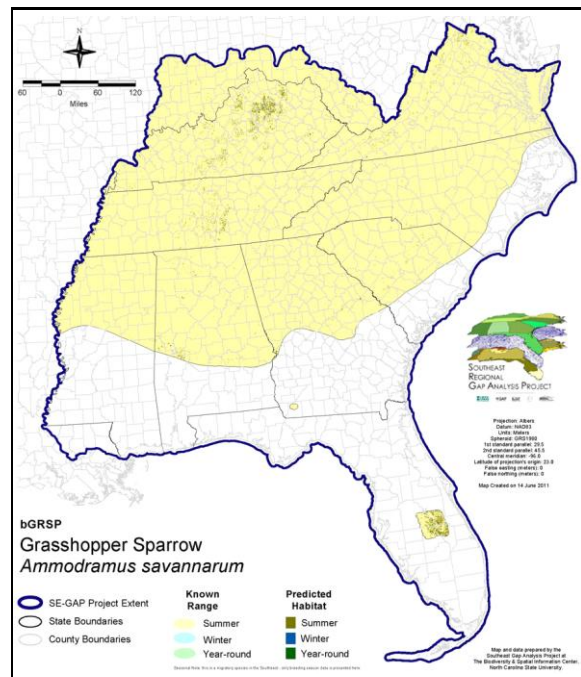
ITIS Species Code: 179333

NatureServe Element Code: ABPBXA0020

#### KNOWN RANGE:



#### PREDICTED HABITAT:



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

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

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/bGRSP\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/bGRSP_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AR (W), AR (W), CA (None), CT (E), CT (E), ID (P), ID (P), KY (N), MA (T), ME (E), MI (SC), NC (W1,W5), ND (Level I), NH (T), NJ (T/SC), NV (YES), NV (YES), NY (SC), OR (SV), RI (State Threatened), UT (SPC), VT (T), VT (T), WA (M), WA (M), WI (SC/M), WI (SC/M), BC (2 (2005)), QC (Susceptible)

NS Global Rank: G5

NS State Rank: AL (S3), AR (S3B), AR (S3B), AZ (S3), CA (S2), CO (S3S4B), CO (S3S4B), CT (S1B), CT (S1B), DC (S3N), DE (S3B), FL (SNRN), GA (S4), IA (S4B,S4N), ID (S2B), ID (S2B), IL (S5), IN (S4B), IN (S4B), KS (S4B), KY (S4B), LA (S3N), MA (S3B), MD (S4B), ME (S1B), MI (S3S4), MN (SNRB), MO (S3S4), MS (S3B,S3N), MT (S3B), NC (S3B,S1N), ND (SNRB), NE (S4), NH (S2B), NJ (S2B,S3N), NM (S3B,S3N), NV (SU), NV (SU), NY (S4), OH (S5), OK (S4B), OR (S2B), PA (S4B), RI (S1B,S1N), SC (SNRB,SNRN), SD (S4B), SD (S4B), TN (S4), TX (S3B), UT (S1B), VA (S4), VT (S2B), VT (S2B), WA (S3B), WA (S3B), WI (S4B), WI (S4B), WV (S3B), WY (S4), WY (S4), AB (S3S4), BC (S1S2B), MB (S2B), MB (S2B), NB (SNA), NF (SNA), NS (SNA), ON (S4B), PE (SNA), QC (S2B), SK (S4B)



**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	1,083.8	< 1	838.2	< 1	0.0	0	0.0	0
Status 3	0.0	0	948.2	< 1	114.6	< 1	26,377.9	4
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	1,083.8	< 1	1,786.3	< 1	114.6	< 1	26,377.9	4
	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	213.4	< 1	327.3	< 1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	213.4	< 1	327.3	< 1	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	7,624.3	1	0.0	0
Status 3	0.0	0	10,469.3	2	440.2	< 1	2,574.4	< 1
Status 4	0.0	0	0.0	0	129.2	< 1	0.0	0
Total	0.0	0	10,469.3	2	8,193.6	1	2,574.4	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	222.2	< 1	0.0	0	0.0	0
Status 2	0.0	0	106.0	< 1	0.0	0	0.0	0
Status 3	0.0	0	10.4	< 1	0.0	0	1,014.2	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	338.6	< 1	0.0	0	1,014.2	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	0	0.0	0	222.2	< 1		
Status 2	0.0	0	0.0	0	9,652.2	1		
Status 3	0.0	0	0.0	0	42,489.8	7		
Status 4	609,922.9	92	0.2	< 1	610,181.4	92		
Total	609,922.9	92	0.2	< 1	662,545.6	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: "Generally prefers moderately open grasslands and prairies with patchy bare ground; selects different components of vegetation depending on grassland ecosystem... Avoids grasslands with extensive shrub cover." (Vickery 1996). In Florida, the subspecies' "habitat consists of large (> 50 ha), treeless, relatively poorly-drained grasslands that have a history of frequent fires... It occurs in prairies dominated by saw palmetto and dwarf oaks. Bluestem grasses, St. John's wort and wiregrass are also components of habitat." ({Delany 1996, USFWS 1988, Delany et al. 1985}) in USFWS 1999). M. Rubino, 12jan05.

Customized Model: Buffer non-habitat edge 60m into suitable 50ha patches of open areas. Limit habitat in FL to prairies, wiregrass/St. John's wort/andropogon dominated MUs, and (if at all possible) overgrown or ungrazed pasture.

I removed the edge parameters for this species. MJR 14dec06.

Avoidance Mask: High - very intolerant of human disturbance.

Contiguous Patch Minimum Size (hectares): 50

### Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Pasture/Hay
Anthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)
Bald	Central Appalachian Montane Rocky Bald - Herbaceous Modifier
Bald	Central Appalachian Montane Rocky Bald - Shrub Modifier
Bald	Southern Appalachian Grass and Shrub Bald - Herbaceous Modifier
Bald	Southern Appalachian Grass and Shrub Bald - Shrub Modifier
Forest/Woodland	Alabama Ketona Glade and Woodland
Forest/Woodland	Appalachian Shale Barrens
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	Central Appalachian Alkaline Glade and Woodland
Forest/Woodland	Central Appalachian Pine-Oak Rocky Woodland
Forest/Woodland	Central Interior Highlands Calcareous Glade and Barrens
Forest/Woodland	Central Interior Highlands Dry Acidic Glade and Barrens
Forest/Woodland	Cumberland Sandstone Glade and Barrens
Forest/Woodland	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Woodland Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	Florida Longleaf Pine Sandhill - Open Understory Modifier
Forest/Woodland	Nashville Basin Limestone Glade
Forest/Woodland	Ridge and Valley Calcareous Valley Bottom Glade and Woodland
Forest/Woodland	Southeastern Interior Longleaf Pine Woodland
Forest/Woodland	Southern and Central Appalachian Mafic Glade and Barrens
Forest/Woodland	Southern Piedmont Glade and Barrens
Prairie	Bluegrass Basin Savanna and Woodland
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Herbaceous Modifier
Prairie	East Gulf Coastal Plain Jackson Plain Prairie and Barrens
Prairie	East Gulf Coastal Plain Jackson Prairie and Woodland
Prairie	Eastern Highland Rim Prairie and Barrens
Prairie	Eastern Highland Rim Prairie and Barrens - Dry Modifier
Prairie	Florida Dry Prairie
Prairie	Panhandle Florida Limestone Glade
Prairie	Pennyroyal Karst Plain Prairie and Barrens
Prairie	Southern Ridge and Valley Patch Prairie
Prairie	Western Highland Rim Prairie and Barrens
Wetlands	Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods

Wetlands	Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods
Wetlands	Central Florida Pine Flatwoods
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Treeless Savanna and Wet Prairie
Wetlands	South Florida Pine Flatwoods

- 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.
- Bakker, K. K., D. E. Naugle, and K. F. Higgins. 2002. Incorporating landscape attributes into models for migratory grassland bird conservation. *Conservation Biology* 16:1638-1646.
- Bent, A. C. 1968. Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies. *Bull. U.S. Nat. Mus.* 237.
- Bock, C.E., J.H. Bock, and B.C. Bennett. 1999. Songbird abundance at a suburban interface on the Colorado high plains. *Studies In Avian Biology.* 19:131-136.
- Carey, A. B., S. P. Horton, and B. L. Biswell. 1992. Northern spotted owls:influence of prey base and landscape character. *Ecological Monographs* 62:223-250.
- Delany, M. F. 1996a. Letter. April 16, 1996. On file at U.S. Fish and Wildlife Service, South Florida Ecosystem Office; Vero Beach, Florida.
- Delany, M. F.; H. M. Stevenson, and R. McCracken. Distribution, abundance, and habitat of the Florida grasshopper sparrow. *Journal of Wildlife Management.* 1985; 49(3):626-631.
- Droege, S., and J.R. Sauer. 1990. North American Breeding Bird Survey, annual summary, 1989. U.S. Fish and Wildlife Service, Biological Report 90(8). 22 pp.
- 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.
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1992. *Birds in jeopardy: the imperiled and extinct birds of the United States and Canada, including Hawaii and Puerto Rico.* Stanford University Press, Stanford, California. 259 pp.
- Hamel, P. B. 1992. *The land manager's guide to the birds of the south.* The Nature Conservancy, Chapel Hill, North Carolina. 367 pp + several appendices.
- Harrison, C. 1978. *A field guide to the nests, eggs and nestlings of North American birds.* Collins, Cleveland, Ohio.
- Harrison, H.H. 1975. *A field guide to bird's nests in the U.S. east of the Mississippi River.* Houghton Mifflin Company, Boston, Massachusetts. 257 p.
- Harrison, H.H. 1979. *A field guide to western birds' nests.* Houghton Mifflin Company, Boston. 279 pp.
- Herkert, J.R. 1994. Breeding bird communities of Midwest prairie fragments: the effects of prescribed burning and habitat-area. *Nat. Areas Journal* 14:128-135.
- Hilty, S.L., and W.L. Brown. 1986. *A guide to the birds of Colombia.* Princeton University Press, Princeton, New Jersey. 836 pp.
- Johnson, D.H., and L.D. Igl. 1995. Contributions of the Conservation Reserve Program to populations of breeding birds in North Dakota. *Wilson Bulletin* 107:709-718.
- Johnson, R.G., and S.A. Temple. 1990. Nest predation and brood parasitism of tallgrass prairie birds. *Journal of Wildlife Management* 54:106-111.
- Lack, D. 1976. *Island biology illustrated by the land birds of Jamaica.* Studies in Ecology, Vol. 3. Univ. California Press, Berkeley. 445 pp.
- National Geographic Society (NGS). 1983. *Field guide to the birds of North America.* National Geographic Society, Washington, D.C.
- Nicholson CP. 1997. *Atlas of the breeding birds of Tennessee.* Knoxville: University of Tennessee Press.
- Peterjohn, B.G., J.R. Sauer, and W.A. Link. 1994. The 1992 and 1993 summary of the North American Breeding Bird Survey. *Bird Populations* 2:46-61.
- Potter, E. F., J. F. Parnell, and R. P. Teulings. 1980. *Birds of the Carolinas.* Univ. North Carolina Press, Chapel Hill. 408 pp.
- 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.
- Ridgely, R.S., and G. Tudor. 1989. *The birds of South America. Vol. 1. The Oscine passerines.* Univ. Texas Press, Austin. 516 pp.
- Samson, F.B. 1980. Island biogeography and the conservation of prairie birds. *Proc. North Am. Prairie Conf.* 7: 293-305.

- Simpson MB Jr. 1992. Birds of the Blue Ridge Mountains. Chapel Hill and London: University of North Carolina Press.
- Smith, D.J., and C.R. Smith. 1992. Henslow's sparrow and grasshopper sparrow: a comparison of habitat use in Finger Lakes National Forest, New York. *Bird Observer* 20(4):187-194.
- 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.
- U.S. Fish and Wildlife Service [FWS]. 1988. Recovery plan for the Florida grasshopper sparrow. U.S. Fish and Wildlife Service; Atlanta, Georgia.
- U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Atlanta, GA. 2172 pp.
- Vickery, P.D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*). In *The Birds of North America*, No. 239 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.
- Whitmore, R. C. 1981. Structural characteristics of Grasshopper Sparrow habitat. *J. Wildl. Manage.* 45: 811–814.
- Wiens, J. A. 1973. Pattern and process in grassland bird communities. *Ecol. Monogr.* 43: 237–270.
- Zink, R.M., and J.C. Avise. 1990. Patterns of mitochondrial DNA and allozyme evolution in the avian genus *AMMODRAMUS*. *Syst. Zool.* 39:148-161.

---

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.