



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### American Redstart

*Setophaga ruticilla*

Taxa: Avian

Order: Passeriformes

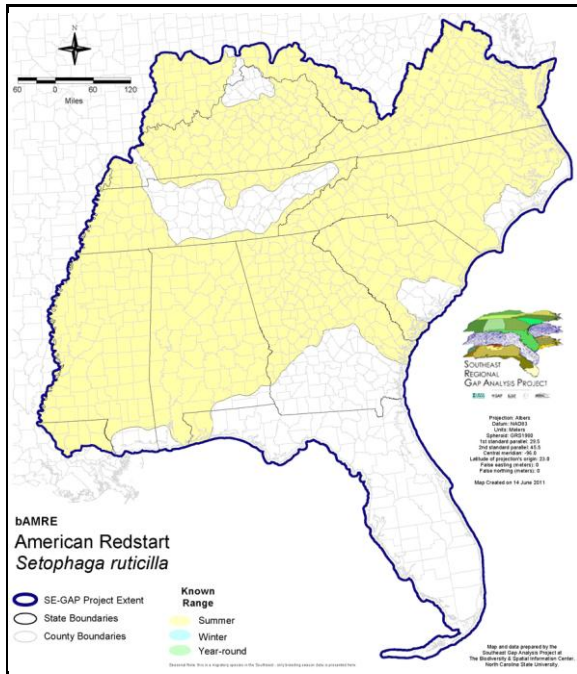
Family: Parulidae

SE-GAP Spp Code: **bAMRE**

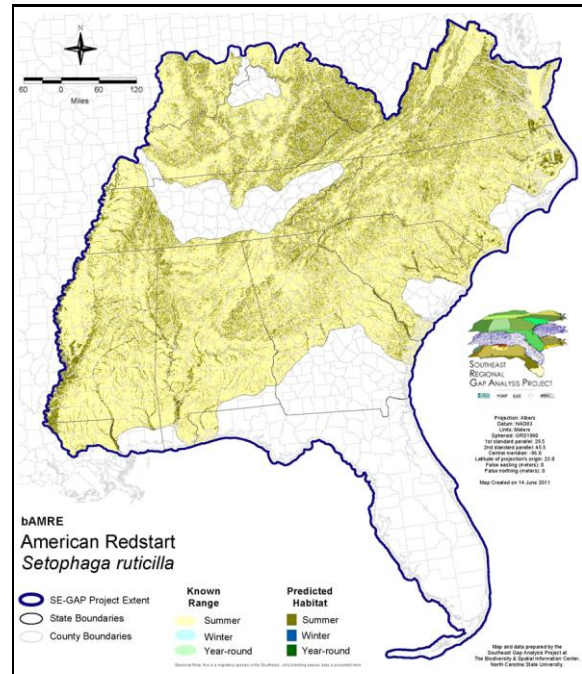
ITIS Species Code: 178979

NatureServe Element Code: ABPBX06010

#### KNOWN RANGE:



#### PREDICTED HABITAT:



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

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

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/bAMRE\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/bAMRE_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AR (W), AZ (WSC), ID (P), ID (P), KY (N), ME (SC), NJ (S/S), NV (YES), NY (PB), RI (Not Listed), UT (None), UT (None), BC (4 (2005)), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (S3B), AL (S4B), AR (S3S4B,S5N), AZ (S1), CA (SNRB), CO (S1B), CO (S1B), CT (S5B), CT (S5B), DC (S1B,S4N), DE (S1B), FL (S2), GA (S5), IA (S4B,S4N), ID (S4B), ID (S4B), IL (S5), IN (S4B), KS (S2B), KY (S4S5B), LA (S3B), MA (S5B), MD (S4B), ME (S5), MI (S5), MN (SNRB), MO (S4), MS (S5B), MS (S5B), MT (S5B), MT (S5B), NC (S5B), NC (S5B), ND (SNRB), NE (S4), NH (S5B), NJ (S4B), NM (S4N), NV (SNA), NY (S5), OH (S5), OK (S3B), OR (SU), PA (S5B), RI (S5B), SC (SNRB), SD (S4B), SD (S4B), TN (S4), TX (S2B), UT (SHB), UT (SHB), VA (S5), VT (S5B), VT (S5B), WA (S4B), WA (S4B), WI (S4B), WI (S4B), WV (S5B), WY (S4B,S5N), AB (S5), BC (S5B), LB (S2B), MB (S5B), MB (S5B), NB (S5B), NF (S5B), NS (S5B), NT (SNRB), ON (S5B), PE (S5B), QC (S5B), SK (S5B), SK (S5B), YT (S3S4B)

**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	64,044.7	< 1	14,187.8	< 1	0.0	0	0.0	0
Status 2	147,403.7	< 1	157,706.4	< 1	0.0	0	3,347.1	< 1
Status 3	1,118.5	< 1	891,604.2	5	8,396.4	< 1	149,618.4	< 1
Status 4	30.7	< 1	0.0	0	0.0	0	0.0	0
Total	212,597.6	1	1,063,498.3	6	8,396.4	< 1	152,965.5	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	130,652.6	< 1	0.0	0	0.0	0
Status 2	0.0	0	5,495.0	< 1	247.4	< 1	0.0	0
Status 3	17,200.0	< 1	39,948.2	< 1	0.0	0	57.2	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	17,200.0	< 1	176,095.8	< 1	247.4	< 1	57.2	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	585.7	< 1	55.1	< 1	0.0	0
Status 2	0.0	0	9,330.7	< 1	249,573.0	1	811.0	< 1
Status 3	10,183.2	< 1	83,065.7	< 1	135,018.5	< 1	35,680.9	< 1
Status 4	0.0	0	0.0	0	31,084.5	< 1	5.1	< 1
Total	10,183.2	< 1	92,982.1	< 1	415,731.1	2	36,497.0	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	7,573.9	< 1	0.0	0	0.0	0
Status 2	9,816.8	< 1	49,073.4	< 1	0.0	0	669.6	< 1
Status 3	0.0	0	1,686.9	< 1	1,962.8	< 1	13,932.7	< 1
Status 4	0.0	0	0.7	< 1	1,149.8	< 1	0.0	0
Total	9,816.8	< 1	58,334.9	< 1	3,112.7	< 1	14,602.3	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	217,099.8 1			
Status 2	0.0	0	0.0	0	633,474.0 3			
Status 3	385.7	< 1	0.0	0	1,389,859.3 12			
Status 4	15,084,009.4	82	7,124.5	< 1	15,154,458.5 83			
Total	15,084,395.1	82	7,124.5	< 1	17,394,891.6 100			

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 regarded as a forest interior species, the redstart prefers moist, deciduous, second-growth woodlands with abundant shrubs (Sherry et al. 1997). In the Piedmont and Coastal Plain they favor bottomland hardwoods and swamps, while in the mountains they use more open riparian hardwood forests/woodlands. They are less frequently encountered in medium-growth upland hardwoods (Hamel 1992). In the Southeast, important forest communities include elm-ash-cottonwood, southern mixed mesic hardwoods, oak-gum-cypress, oak-hickory and cove hardwoods, and yellow birch . M. Rubino, 30nov05.

Customized Model: Do NOT limit Coastal Plain or Piedmont floodplain/riparian MUs with flowing water buffer. NC-GAP used a 200 m buffer on wet veg, but I decided to let MUs determine habitat in swamps, bottomlands and other habitats with wet vegetation. Blake and Karr (1984) report minimum tract size used in Maryland was 70 ha. Sherry et al. (1997) state "prefers large, intact tracts of habitat > 4000 ha." based on Robbins (1979), Ambuel and Temple (1983), and Robbins et al. (1989).

Elevation Mask: < 1200m

Hydrography Mask:

Utilizes flowing water features with buffer of 250m from selected water features.

Contiguous Wet Vegetation Set (mesic) buffers of 250m from and unlimited into selected vegetation features.

**Selected Map Units:**

Functional Group	Map Unit Name
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood Modifier
Forest/Woodland	Atlantic Coastal Plain Dry and Dry-Mesic Oak Forest
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Limestone Forest
Forest/Woodland	East Gulf Coastal Plain Northern Dry Upland Hardwood Forest
Forest/Woodland	East Gulf Coastal Plain Northern Loess Bluff Forest
Forest/Woodland	East Gulf Coastal Plain Northern Loess Plain Oak-Hickory Upland - Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Northern Mesic Hardwood Forest
Forest/Woodland	East Gulf Coastal Plain Southern Loess Bluff Forest
Forest/Woodland	East Gulf Coastal Plain Southern Mesic Slope Forest
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Northern Atlantic Coastal Plain Dry Hardwood Forest
Forest/Woodland	South-Central Interior Mesophytic Forest
Forest/Woodland	Southern and Central Appalachian Cove Forest
Forest/Woodland	Southern and Central Appalachian Oak Forest
Forest/Woodland	Southern and Central Appalachian Oak Forest - Xeric
Forest/Woodland	Southern Coastal Plain Dry Upland Hardwood Forest
Forest/Woodland	Southern Interior Low Plateau Dry-Mesic Oak Forest
Forest/Woodland	Southern Interior Low Plateau Dry-Mesic Oak Forest - Evergreen Modifier
Forest/Woodland	Southern Piedmont Dry Oak-(Pine) Forest - Hardwood Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Hardwood Modifier
Forest/Woodland	Southern Piedmont Mesic Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Hardwood Modifier
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 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 Peatland Pocosin
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
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 Small Stream and River Floodplain Forest
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 Interior and Appalachian Rich Swamp
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Basin Swamp
Wetlands	Southern Coastal Plain Seepage Swamp and Baygall
Wetlands	Southern Piedmont Large Floodplain Forest - Forest Modifier
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous Modifier
Wetlands	Southern Piedmont Small Floodplain and Riparian Forest

## CITATIONS:

- Alsop FJ III. 1991. Birds of the Smokies. Gatlinburg: Great Smoky Mountains Natural History Association.
- Ambuel, B., and S. A. Temple. 1983. Area-dependent changes in the bird communities and vegetation of southern Wisconsin forests. *Ecology* 64:1057-68.
- 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.
- Arendt, W.J. 1992. Status of North American migrant landbirds in the Caribbean region:a summary. Pages 143-171 in J.M. Hagan III, and D.W. Johnston, editors. *Ecology and conservation of neotropical migrant landbirds*. Smithsonian Institution Press, Washing
- Bennett, S. E. 1980. Interspecific competition and the niche of the American redstart (*SETOPHAGA RUTICILLA*) in wintering and breeding communities. Pages 319-335 in B80KEA02NA.
- Bent, A.C. 1953. Life histories of North American wood warblers. U.S. Natl. Mus. Bull. 203. Washington, D.C.
- Blake, J.G., and J.R. Karr. 1984. Species composition of bird communities and the conservation benefit of large versus small forests. *Biological Conservation* 30:173-187.
- Bushman, E.S., and G.D. Therres. 1988. Habitat management guidelines for forest interior breeding birds of coastal Maryland. Maryland Department of Natural Resources, Wildlife Tech. Publ. 88-1. 50 pp.
- Collins, S. L., F. C. James, and P. G. Risser. 1982. Habitat relationships of wood warblers (Parulidae) in north central Minnesota. *Oikos* 39:50-8.
- Crawford, H. S., R. G. Hooper, and R. W. Titterington. 1981. Songbird population response to silvicultural practices in central Appalachian hardwoods. *Journal of Wildlife Management* 45:680-92.
- Cruikshank, A. D. 1979. American Redstart. Pages 139-41 in L. Griscom and A. Sprunt Jr. (editors). *The Warblers of North America*. Doubleday and Company, Inc., Garden City, New York.
- DeGraaf, R. M. 1985. Breeding bird assemblages in New England northern hardwoods. Pages 5-22 in R. J. Regan and D. E. Capen (editors). *Conference Proceedings:The impact of timber management practices on nongame birds in Vermont*. Montpelier, Vermont.
- Dunn, J.L., and K.L. Garrett. 1997. *A field guide to warblers of North America*. Houghton Mifflin Company, Boston.
- 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.
- Faaborg, J., and W.J. Arendt. 1989. Long-term declines in winter resident warblers in a Puerto Rican dry forest. *American Birds* 43:1226-1230.
- Fussell, J.O. III. 1994. *A birder's guide to coastal North Carolina*. Chapel Hill and London: The University of North Carolina Press.
- Griscom, L., and A. Sprunt, Jr. 1979. *The warblers of America*. Doubleday and Co., Garden City, New York. 302 pp.

- Hagan, J.M., III, and D.W. Johnston, editors. 1992. Ecology and conservation of neotropical migrant landbirds. Smithsonian Institution Press, Washington, D.C. xiii + 609 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.
- Hamel, P. B., H. E. LeGrand Jr., M. R. Lennartz, and S. A. Gauthreaux, Jr. 1982. Bird-habitat relationships on southeastern forest lands. U. S. Dep. Agric., For. Serv. Southeast. For. Exp. Sta. Gen. Tech. Rep. SE-22, Asheville, N. C. 417 p.
- Harrison, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. Collins, Cleveland, Ohio.
- Harrison, H.H. 1979. A field guide to western birds' nests. Houghton Mifflin Company, Boston. 279 pp.
- Harrison, H.H. 1984. Wood warblers' world. Simon and Schuster, New York. 335 pp.
- Holmes, R. T., T. W. Sherry, and L. Reitsma. 1989. Population structure, territoriality and overwinter survival of two migrant warbler species in Jamaica. *Condor* 91:545-561.
- Holmes, R.T., and T.W. Sherry. 1992. Site fidelity of migratory warblers in temperate breeding and neotropical wintering areas: Implications for population dynamics, habitat selection, and conservation. Pages 563-75 in J.M. Hagan III and D.W. Johnston, edit
- Johns, B. W. 1993. The influence of grove size on bird species richness in aspen parklands. *Wilson Bull.* 105:256-264.
- Keast, A., and E. S. Morton. 1980. Migrant birds in the Neotropics; ecology, distribution, and conservation. Smithsonian Inst. Press, Washington, D.C.
- Lack, D. 1976. Island biology illustrated by the land birds of Jamaica. *Studies in Ecology*, Vol. 3. Univ. California Press, Berkeley. 445 pp.
- Lefebvre, G., B. Poulin, and R. McNeil. 1992. Abundance, feeding behavior, and body condition of nearctic warblers wintering in Venezuelan mangroves. *Wilson Bulletin* 104:400-412.
- Lynch, J. F. 1989. Distribution of overwintering Nearctic migrants in the Yucatan Peninsula, I: general patterns of occurrence. *Condor* 91:515-544.
- Lynch, J. F. 1992. Distribution of overwintering Nearctic migrants in the Yucatan Peninsula, II: Use of native and human-modified vegetation. Pages 178-96 in J. M. Hagan III, and D. W. Johnston (editors). *Ecology and Conservation of Neotropical Migrant L*
- Parrish, J.D., and T.W. Sherry. 1994. Sexual habitat segregation by American Redstarts wintering in Jamaica: importance of resource seasonality. *The Auk* 111(1):38-49.
- Pashley, D.N. 1988. Warblers of the West Indies. I. The Virgin Islands. *Caribbean J. Sci.* 24:11-22.
- Pashley, D.N. 1988. Warblers of the West Indies. II. The Western Caribbean. *Caribbean J. Sci.* 24:112-126.
- Pashley, D.N., and R.B. Hamilton. 1990. Warblers of the West Indies. III. The Lesser Antilles. *Caribbean J. Sci.* 26:75-97.
- 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.
- Rappole, J.H., and D.W. Warner. 1980. Ecological aspects of migrant bird behavior in Veracruz, Mexico. Pages 353-393 in A. Keast and E.S. Morton, editors. *Migrant birds in the neotropics: ecology, behavior, distribution, and conservation*. Smithsonian Insti
- Ridgely, R.S., and G. Tudor. 1989. The birds of South America. Vol. 1. The Oscine passerines. Univ. Texas Press, Austin. 516 pp.
- Robbins, C. S., D. K. Dawson, and B. A. Dowell. 1989. Habitat area requirements of breeding forest birds of the middle Atlantic states: *Wildlife Monographs* No. 103.
- Robbins, C.S. 1979. Effect of forest fragmentation on bird populations. Pp. 198-212 in: R.M. DeGraff and K.E. Evans (ed.). *Management of north central and northeastern forests for nongame birds*. U.S. Dep. Agric. For. Serv., Gen. Tech. Rep. NC-51. 268pp.
- Robbins, C.S., B.A. Dowell, D.K. Dawson, J.A. Colon, R. Estrada, A. Sutton, R. Sutton, and D. Weyer. 1992. Comparison of Neotropical migrant landbird populations wintering in tropical forest, isolated forest fragments, and agricultural habitats. Pages 207-
- Sabo, S. R. 1980. Niche and habitat relations in subalpine bird communities of the White Mountains of New Hampshire, U.S.A. *Ecological Monographs* 50:241-60.
- Sherry, T. W., and R. T. Holmes. 1985. Dispersion and habitat responses of birds in northern hardwood forests. Pages 283-309 in M. L. Cody (editor). *Habitat Selection in Birds*. Academic Press.
- Sherry, T. W., and R. T. Holmes. 1988. Habitat selection by breeding American redstarts in response to a dominant competitor, the least flycatcher. *Auk* 105:350-364.
- Sherry, T.W., and R.T. Holmes. 1992. Population fluctuations in a long-distance neotropical migrant: demographic evidence for the importance of breeding season events in the American redstart. Pages 431-442 in J.M. Hagan III and D.W. Johnston, editors. *Eco*
- Sherry, T.W., and R.T. Holmes. 1994. American Redstart (*SETOPHAGA RUTICILLA*). Pages 286-287 in C.R. Foss, editor. *Atlas of breeding birds in New Hampshire*. Arcadia, Dover, NH.

Sherry, T.W., and R.T. Holmes. 1997. American Redstart (SETOPHAGA RUTICILLA). In A. Poole and F. Gill, editors, The Birds of North America, No. 277. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, DC. 32 pp.

Sliwa, A., and T. W. Sherry. 1992. Surveying wintering warbler populations in Jamaica: point counts with and without broadcast vocalizations. *Condor* 94:924-936.

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.

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