



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Black-throated Green Warbler

*Dendroica virens*

Taxa: Avian

Order: Passeriformes

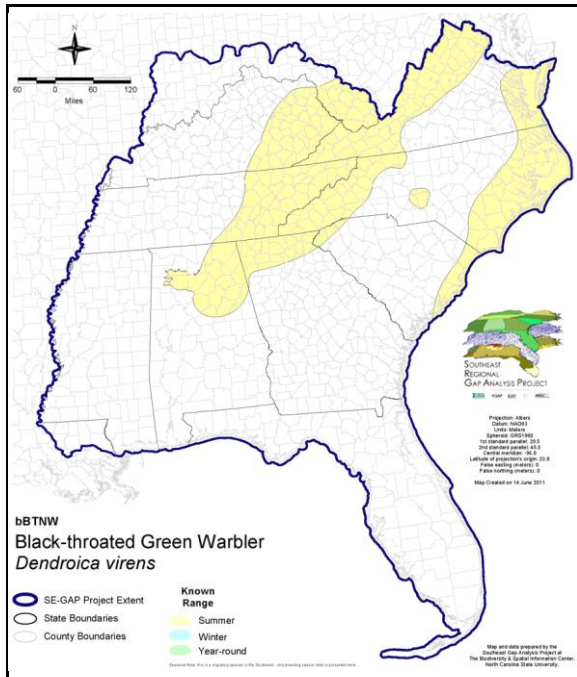
Family: Parulidae

SE-GAP Spp Code: **bBTNW**

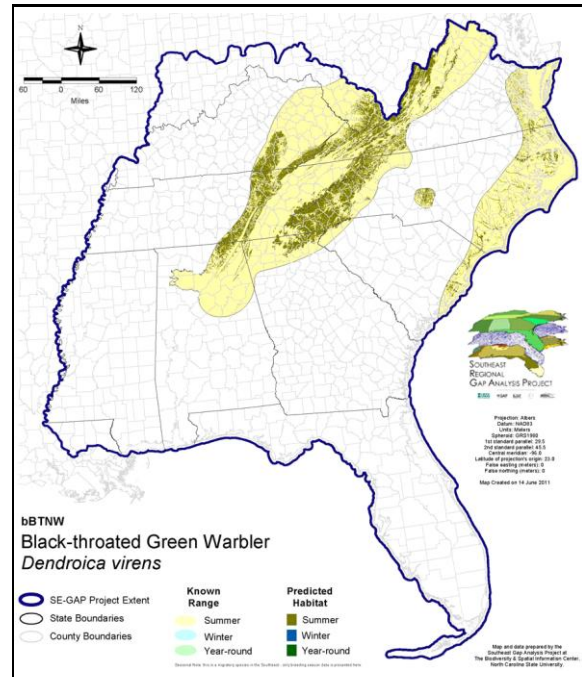
ITIS Species Code: 178898

NatureServe Element Code: ABPBX03100

#### KNOWN RANGE:



#### PREDICTED HABITAT:



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

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

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/bBTNW\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/bBTNW_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KY (N), NJ (S/S), NV (YES), NY (PB), OH (N), RI (Not Listed), UT (None), AB (SC), BC (3 (2005)), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (SNA), AL (S5B), AL (S5B), AR (S2B,S5N), AZ (SNA), CA (SNA), CO (SNA), CT (S5B), CT (S5B), DC (S4N), DE (SNA), FL (SNA), GA (S5), IA (S4N), IL (SNA), IN (S2B), KS (SNA), KY (S4B), LA (SNA), MA (S5B), MD (S4B), ME (S5B), MI (S5), MN (SNRB), MO (SNA), MS (SNA), MT (SNA), NC (S4B), NC (S4B), ND (SNA), NE (SNRN), NH (S5B), NJ (S3B), NM (S4N), NV (SNA), NY (S5), OH (S3), OK (S3N), OR (SNA), PA (S5B), RI (S4B), SC (S4), SD (SNA), TN (S5), TX (S4), UT (SNA), VA (S4), VT (S5B), VT (S5B), WA (SNA), WI (S4B), WI (S4B), WV (S5B), WY (SNA), AB (S3S4), BC (S3B), LB (S5B), MB (S4S5B), MB (S4S5B), NB (S5B), NF (S5B), NS (S5B), ON (S5B), PE (S5B), QC (S5B), SK (S4B), 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	32,385.0	< 1	32,259.5	< 1	0.0	0	0.0	0
Status 2	29,674.4	< 1	248,732.6	4	0.0	0	0.0	0
Status 3	300.2	< 1	1,068,643.2	16	1,825.1	< 1	6,452.7	< 1
Status 4	11.9	< 1	0.0	0	0.0	0	0.0	0
Total	62,371.4	< 1	1,349,635.3	20	1,825.1	< 1	6,452.7	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	217,639.8	3	0.0	0	0.0	0
Status 2	0.0	0	10,436.2	< 1	26.2	< 1	0.0	0
Status 3	0.0	0	68,303.4	1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	296,379.5	4	26.2	< 1	0.0	0
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	328.0	< 1	23.5	< 1	0.0	0
Status 2	0.0	0	7,455.7	< 1	152,719.2	2	24.3	< 1
Status 3	16,636.0	< 1	25,036.1	< 1	29,569.3	< 1	12,518.7	< 1
Status 4	0.0	0	0.0	0	4,757.0	< 1	0.0	0
Total	16,636.0	< 1	32,819.8	< 1	187,069.0	3	12,543.0	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	8,884.1	< 1	0.0	0	0.0	0
Status 2	5,275.6	< 1	35,000.1	< 1	0.0	0	580.7	< 1
Status 3	0.0	0	855.3	< 1	65.0	< 1	0.0	0
Status 4	0.0	0	2.1	< 1	189.9	< 1	0.0	0
Total	5,275.6	< 1	44,741.5	< 1	254.9	< 1	580.7	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	0	0.0	0	291,519.8	4		
Status 2	0.0	0	0.0	0	489,925.1	7		
Status 3	0.0	0	0.0	0	1,230,205.0	34		
Status 4	3,574,176.5	54	789.3	< 1	3,584,671.7	54		
Total	3,574,176.5	54	789.3	< 1	5,596,321.5	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: Black-throated green warblers occur in a wide variety of forest habitats over it's range, from boreal coniferous forest and mixed coniferous forests to completely deciduous forests at the southern edge of its range (Morse 1993). The species distribution consists of two disjunct populations, one in the mountains, and the other in the coastal plain (Potter et al. 1980). In the mountains it occurs in spruce-fir, hemlock, white and virginia pines, cove hardwoods, mixed mesophytic forests, oak-hickory, and tulip-poplar-oak forests (Nicholson 1997), including forest edge, second growth forests (NatureServe 2005). The coastal population represents the waynei subspecies, which breeds along the Atlantic coast from southeastern Virginia to South Carolina (Stupka 1963, Morse 1989, Dunn and Garrett 1997). This subspecies breeds in old growth cypress swamps, bottomlands, and mixed stands of often white spruce and deciduous trees (Stupka 1963, Hamel 1992, Dunn and Garrett 1997). The nest is generally placed at a height of about 30 feet (Stupka 1963, Alsop 1991), although they have been found from 8 inches to 75 feet or higher (Griscom and Sprunt 1957, Nicholson 1997). It is built against the trunk or out on the horizontal limb of a large tree, in the crotch of a tall sapling, or within a tangle of vines (Stupka 1963, Potter et al. 1980, Nicholson 1997). The birds forage at the tips of branches, preferably those of evergreens (Alsop 1991). Males tend to forage higher in the tree than do females (Ehrlich et al. 1988). Amy Silvano 16may05

Ecosystem classifiers: Evergreen (excluding ACP), Mixed (All), Hardwood (Excluding ACP), Cove & Montane Forests, Floodplain/Riparian (ACP only but excluding herbaceous modifiers). Amy Silvano 16may05

Customized Model: Species disappeared from several small northeastern forests (<100ha) that became isolated from similar habitat (Askins & Philbrick 1987). Nests from 2012m, the highest elevation in the Smokies, to 240m in gorges dissecting the Cumberlands (Nicholson 1997). Hamel (1992) identifies minimum elevation @ 600m in Southern Appalachians. \*\*\*HAND MODEL with different elevation parameters, 240m elevation minimum in Cumberland, 600m min in remainder of Appalachians, and NO ELEVATIONAL limit for range within the CP (species will be found in bottomland environments). Amy Silvano 16may05

Elevation Mask: > 240m and < 2500m

Contiguous Patch Minimum Size (hectares): 100

**Selected Map Units:**

Functional Group	Map Unit Name
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Tidal Wooded Swamp
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Southern Tidal Wooded Swamp
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood Modifier
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Pine Modifier
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest
Forest/Woodland	Atlantic Coastal Plain Northern Mixed Oak-Heath Forest
Forest/Woodland	Central and Southern Appalachian Montane Oak Forest
Forest/Woodland	Central and Southern Appalachian Northern Hardwood Forest
Forest/Woodland	Central and Southern Appalachian Spruce-Fir Forest
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Northeastern Interior Dry Oak Forest - Mixed Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
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 Appalachian Low Mountain Pine Forest
Forest/Woodland	Southern Appalachian Montane Pine Forest and Woodland
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-(Pine) Forest - Loblolly Pine Modifier
Forest/Woodland	Southern Piedmont Dry Oak-(Pine) Forest - Mixed Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Hardwood Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Mixed Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine 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
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Pine Modifier
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier
Wetlands	Atlantic Coastal Plain Brownwater Stream Floodplain Forest
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 Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest

- CITATIONS:** Alsop FJ III. 1991. Birds of the Smokies. Gatlinburg: Great Smoky Mountains Natural History Association.
- 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.
- Askins, R. A., M. J. Philbrick. 1987. Effect of changes in regional forest abundance on the decline and recovery of a forest bird community. *Wilson Bull.* 99: 7–21.
- Bent, A.C. 1953. Life histories of North American wood warblers. U.S. Natl. Mus. Bull. 203. Washington, D.C.
- Benzinger, J. 1994. Hemlock decline and breeding birds. II. Effects of habitat change. *Rec. New Jersey Birds* 20: 34-51.
- DeGraaf, R.M., and J.H. Rappole. 1995. Neotropical migratory birds:natural history, distribution, and population change. Comstock Publishing Associates, Ithaca, NY.
- 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.
- Griscom, L and A. Sprunt Jr. 1957. The warblers of America. New York: Devin-Adair Company. 356 p.
- 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.
- Harrison, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. Collins, Cleveland, Ohio.
- Harrison, H.H. 1984. Wood warblers' world. Simon and Schuster, New York. 335 pp.
- 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.
- Morse, D. H. 1989. American warblers:an ecological and behavioral perspective. Harvard University Press. 384 pp.
- Morse, D. H. and A. F. Poole. 2005. Black-throated Green Warbler (*Dendroica virens*). *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology; Retrieved from *The Birds of North American Online database*: <http://bna.birds>
- Morse, D.H. 1993. Black-throated green warbler (*Dendroica virens*). In A. Poole and F. Gill, eds., *The Birds of North America*, No. 55. The Academy of Natural Sciences, Philadelphia and The American Ornithologists' Union, Washington, DC.
- Nicholson CP. 1997. Atlas of the breeding birds of Tennessee. Knoxville: University of Tennessee Press.

- Parrish, J.D. 1995. Experimental evidence for intrinsic microhabitat preferences in the black-throated green warbler. *CONDOR* 97: 935-943.
- Potter, E. F., J. F. Parnell, and R. P. Teulings. 1980. *Birds of the Carolinas*. Univ. North Carolina Press, Chapel Hill. 408 pp.
- Rabenold, K. N. 1980. The black-throated green warbler in Panama:geographic and seasonal comparison of foraging. Pages 297-307 in B80KEA02NAUS.
- 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.
- Rodewald, P. G., K. G. Smith. 1998. Short-term effects of understory and overstorhy management on breeding birds in Arkansas oak-hickory forests. *J. Wildl. Manag.* 62:1410-1416.
- Sauer, J.R., and S. Droege. 1992. Geographical patterns in population trends of neotropical migrants in North America. Pages 26-42 in J.M. Hagan III and D.W. Johnston, editors. *Ecology and conservation of neotropical migrant landbirds*. Smithsonian Institu
- 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.
- Stupka A 1963. *Notes on the birds of the Great Smoky Mountains National Park*. Knoxville: The University of Tennessee Press.
- Terres, J.K. 1980. *The Audubon Society encyclopedia of North American birds*. Alfred A. Knopf, New York.

---

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.