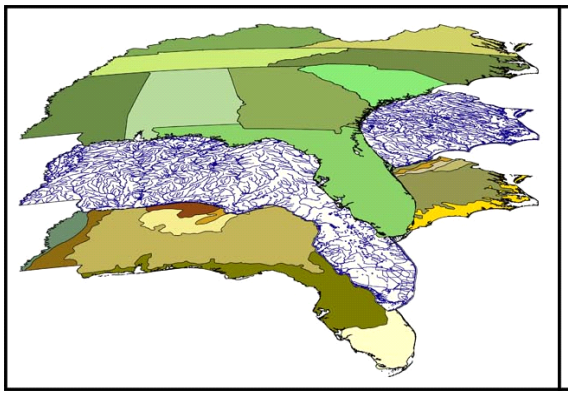


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

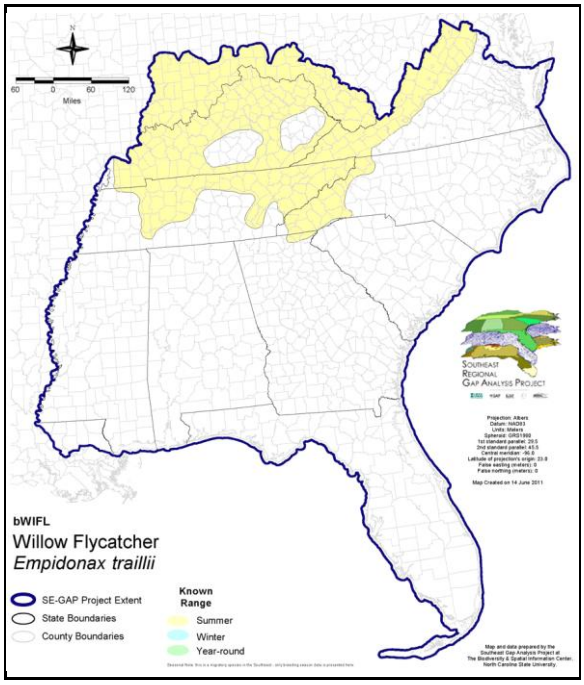
Willow Flycatcher

Empidonax traillii

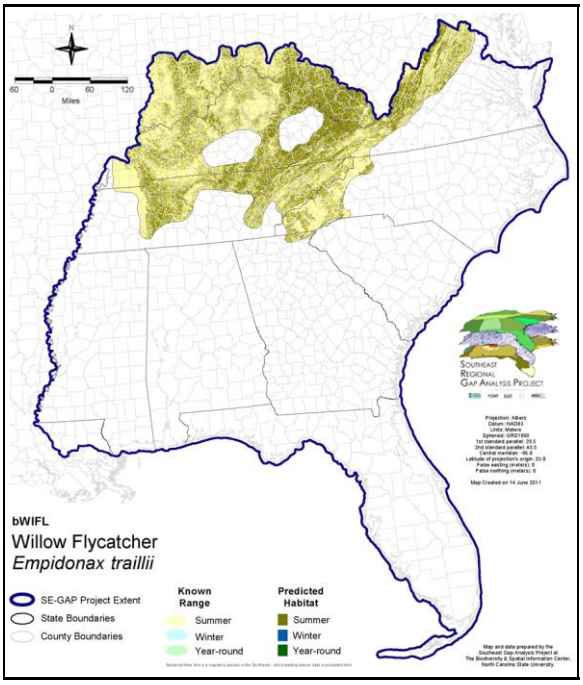
Taxa: Avian
Order: Passeriformes
Family: Tyrannidae

SE-GAP Spp Code: **bWIFL**
ITIS Species Code: 178341
NatureServe Element Code: ABPAE33040

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_bWIFL.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_bWIFL.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=bWIFL
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/bWIFL_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AZ (WSC), CA (Endangered), ID (P), ID (P), KY (N), NC (W2), NC (W2), NJ (INC/S), NV (YES), NY (PB), RI (Not Listed), UT (None), WI (SC/M), WI (SC/M), BC (4 (2005)), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (SNA), AL (SNR), AL (SNR), AR (S1B,S3N), AZ (S1), CA (S1S2), CO (S4), CT (S5B), CT (S5B), DE (S3B), FL (SNA), GA (S3), IA (S4B,S4N), ID (S5B), ID (S5B), IL (S5), IN (S4B), KS (S2?B), KY (S3S4B), LA (SNA), MA (S4B), MD (S4B), ME (S3?B), MI (S5), MN (SNRB), MO (S3?), MS (SNA), MT (S5B), MT (S5B), NC (S3B), NC (S3B), ND (SNRB), NE (S4), NH (S5B), NJ (S4B), NM (S4N), NV (S3B), NY (S5), OH (S5), OK (S4N), OR (S4), PA (S5B), RI (S3B,S3N), SC (S4), SD (S5B), SD (S5B), TN (S2S3), TX (S1B), UT (S4B), VA (S4B), VT (S4S5B), VT (S4S5B), WA (S4B), WA (S4B), WI (S4B), WI (S4B), WV (S4B), WY (S4B), WY (S4B), AB (S3), BC (S4B), MB (S2S3B), MB (S2S3B), NB (S1S2B), NS (S1B), ON (S5B), PE (S1B), QC (S4B), SK (S4B,S4M)

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	4,986.5	< 1	0.0	0	0.0	0
Status 2	5,773.1	< 1	117,073.8	1	0.0	0	0.0	0
Status 3	1,708.0	< 1	572,801.2	7	22,892.4	< 1	56,166.4	< 1
Status 4	21.8	< 1	0.0	0	0.0	0	0.0	0
Total	7,502.9	< 1	694,861.6	9	22,892.4	< 1	56,166.4	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	76,131.8	< 1	0.0	0	0.0	0
Status 2	0.0	0	7,185.4	< 1	0.0	0	0.0	0
Status 3	8,534.5	< 1	31,808.9	< 1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	8,534.5	< 1	115,126.1	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	131,219.0	2	1,159.0	< 1
Status 3	4,804.9	< 1	18,403.3	< 1	42,776.5	< 1	10,990.7	< 1
Status 4	0.0	0	0.0	0	6,570.3	< 1	0.0	0
Total	4,804.9	< 1	18,403.3	< 1	180,565.7	2	12,149.7	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	3,976.1	< 1	0.0	0	0.0	0
Status 2	0.0	0	10,735.1	< 1	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	1,203.7	< 1	8.6	< 1
Status 4	0.0	0	0.0	0	228.0	< 1	0.0	0
Total	0.0	0	14,711.2	< 1	1,431.6	< 1	8.6	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	85,094.5	1
Status 2	0.0	0	0.0	0	273,145.5	3
Status 3	0.0	0	0.0	0	772,099.1	16
Status 4	6,449,882.7	79	174.3	< 1	6,463,425.5	79
Total	6,449,882.7	79	174.3	< 1	7,593,764.6	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: This species inhabits open thickets of alders, willows, elders, and thicket growth near water, but it also tends to be found in drier brushy areas and overgrown pastures away from water. (B86MOU01AL). Found in the mountains uncommon to locally fairly common (but more widespread than Empidonax alnorum) and rarely in the piedmont (Hamel 1992, Simpson 1992). Favors areas of deciduous thickets and shrubs, or woodland edges (Hamel 1992, Kaufman 1996, Simpson 1992). Rarely far from water, i.e. swamps, streams, marshes, or bogs (Hamel 1992, Kaufman 1996). Frequently breeds in wet thickets of deciduous trees/saplings, often willows or alders (Hamel 1992, Harrison 1975, Kaufman 1996, Simpson 1992). They are also reported in open second growth, swamps, and open woodland (AOU 1983). Common in mountain meadows and along streams; also in dry brushy upland pastures (especially hawthorn) and orchards (NGS 1983). Willow flycatchers are rare in Georgia and breed sporadically in parts of the Piedmont and Blue Ridge. They may be found along streams or in open country near ponds or lakes; favoring willows and alders, they are almost always found near water (GA).

Willow Flycatchers forage on flying insects from tall shrubs and sapling thickets, catching them in flight or gleaning from foliage (Hamel 1992, Kaufman 1996). Hamel (1992) describes the Willow Flycatcher as 'foraging entirely within 20 feet of the ground.'

Nest is from 2 to 15 feet above the ground, on a horizontal branch or in the crotch of a vertical or diagonal limb (Kaufman 1996, Potter et al 1980). Nests primarily in swampy thickets, especially of willow and buttonbush (AOU 1983), also dogwood, elderberry, hawthorn, rose, tamarisk, and others; in fork or on horizontal limb of shrub, usually 1-3 m above ground (see Harris 1991).

Quoted directly from existing state habitat notes - K. Cook, 17Feb05

Additional information:

Habitat requirements of Willow flycatchers in the southeast US (Empidonax traillii traillii subspecies) have not received much research attention. Nicholson (1997) reports that Willow flycatchers expanded their range into Tennessee in 1958 and were breeding throughout the state by 1970. They were common in Arkansas in scrub-prairie until 1950 when they declined dramatiaclly (Holimon and Douglas 2003). In the southwest, this species is highly habitat specific and sensitive to habitat fragmentation. Due to less extreme environmental conditions in the southeast this species may be more plastic in the response to habitat and landscape composition.

Southwestern willow flycatchers breed in linear habitats wider than 10m and habitat patches as small as 0.8 ha. (Sogge et al. 1997).K. Cook, 17Feb05

Elevation Mask: < 850m

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffer of 1000m from selected water features.

Utilizes open water features with buffer of 1000m from selected water features.

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood Modifier
Forest/Woodland	Appalachian Shale Barrens
Forest/Woodland	Central Appalachian Alkaline Glade and Woodland
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Central Interior Highlands Calcareous Glade and Barrens
Forest/Woodland	Central Interior Highlands Dry Acidic Glade and Barrens
Forest/Woodland	Northeastern Interior Dry Oak Forest - Mixed Modifier

Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Northern Atlantic Coastal Plain Dry Hardwood Forest
Forest/Woodland	Ridge and Valley Calcareous Valley Bottom Glade and Woodland
Forest/Woodland	Southern and Central Appalachian Mafic Glade and Barrens
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-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Hardwood Modifier
Wetlands	Central Appalachian Floodplain - Forest Modifier
Wetlands	Central Appalachian Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	North-Central Appalachian Acidic Swamp
Wetlands	North-Central Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	South-Central Interior/Upper Coastal Plain Wet Flatwoods
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Western Highland Rim Seepage Fen

Selected Secondary Map Units within 30m of Primary Map Units:

Functional Group	Map Unit Name
Forest/Woodland	South-Central Interior Mesophytic Forest

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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.