

SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

Bald Eagle

Haliaeetus leucocephalus

Taxa: Avian

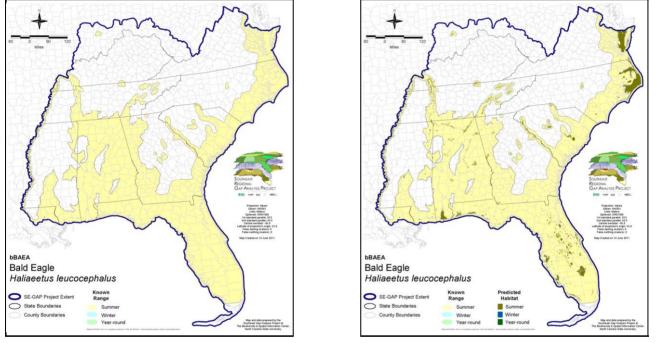
Order: Falconiformes

Family: Accipitridae

KNOWN RANGE:

SE-GAP Spp Code: **bBAEA** ITIS Species Code: 175420 NatureServe Element Code: ABNKC10010

PREDICTED HABITAT:



 Range Map Link:
 http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_bBAEA.pdf

 Predicted Habitat Map Link:
 http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_bBAEA.pdf

 GAP Online Tool Link:
 http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=bBAEA

 Data Download:
 http://www.basic.ncsu.edu/segap/datazip/region/vert/bBAEA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AL (SP), AZ (WSC), CA (Endangered), CO (ST), CT (T), DE (E), GA (T), IA (S), ID (P), IL (RT), IN (SE), KY (T), LA (Endangered), MA (E), ME (SC), MI (SC), MN (SPC), MS (LE), NC (T), ND (Level II), NE (T), NH (T), NJ (E), NM (T), NV (YES), NY (T), OH (T), OR (LT), PA (PT), RI (State Endangered), RI (State Endangered), SC (ST-Threatened), SD (ST), TN (D), TX (T), UT (SPC), VA (LT), VT (E), WA (S), WI (SC/P), BC (4 (2005)), NB (Reg.Endangered), ON (SC), ON (SC), QC (VulnOrable) NS Global Rank: G5

NS State Rank: AK (S5), AL (S3B), AR (S2B,S4N), AZ (S2S3B,S4N), CA (S2), CO (S1B,S3N), CT (S1B,S3N), DC (S2N,SXB), DC (S2N,SXB), DE (S2B,S3N), FL (S3), GA (S2), IA (S3B,S3N), ID (S3B,S4N), IL (S2B,S3N), IN (S2), KS (S2B,S4N), KY (S2B,S2S3N), LA (S2N,S3B), MA (S2B,S3N), MD (S2S3B), ME (S4B,S4N), MI (S4), MN (S3B,S3N), MO (S3), MS (S2B,S2N), MT (S3), NC (S3B,S3N), ND (S1), NE (S3), NH (S2), NJ (S1B,S1N), NM (S1B,S4N), NV (S1B,S3N), NY (S2S3B,S2N), OH (S2), OK (S1S3), OR (S4B,S4N), PA (S2B), RI (S1B,S1N), RI (S1B,S1N), SC (S2), SD (S1B,S2N), TN (S3), TX (S3B,S3N), UT (S1B,S3N), VA (S2S3B,S3N), VT (S1B,S2N), WA (S4B,S4N), WI (S4B,S2N), WV (S2B,S3N), WY (S3B,S5N), AB (S4), BC

(S5B,S5N), LB (S4B), MB (S4S5B), MB (S4S5B), NB (S3B), NF (S4B), NS (S5B,S4N), NT (SNRB), NU (SNRN), ON (S2N,S4B), ON (S2N,S4B), PE (S4B), QC (S3S4B), SK (S5B,S4M,S4N), YT (S4B)

SUMMARY OF PREDICTED HABITAT BY MANAGMENT AND GAP PROTECTION STATUS:

1	ι	JS FWS	US Forest	Service	Tenn. Valley A	Author.	US DOD)/ACOE
	ha	%	ha	%	ha	%	ha	%
Status 1	37,171.1	5	0.0	0	0.0	0	0.0	C
Status 2	25,770.8	3	1,620.3	< 1	0.0	0	0.0	C
Status 3	1,911.2	< 1	8,427.8	1	21,361.1	3	16,737.9	2
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	64,853.0	8	10,048.1	1	21,361.1	3	16,737.9	2
	US Dept. of	Energy	US Nat. Park	Service		NOAA	Other Federa	al Lands
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	20,809.0	3	857.8	< 1	4,037.9	< 1
Status 2	0.0	0	23,884.7	3	12,608.9	2	71.4	< 1
Status 3	375.3	< 1	800.6	< 1	0.0	0	0.0	0
Status 4	0.0	0	4.0	0	0.0	0	0.0	0
Total	375.3	< 1	45,499.1	6	13,466.7	2	4,109.3	< 1
	Native Am. I	Reserv.	State Park/His	st. Park	State WMA/Gar	neland	State	e Forest
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.6	< 1	0.0	0	0.0	0
Status 2	0.0	0	72.1	< 1	24,049.3	3	0.0	0
Status 3	0.0	0	43,362.3	5	9,122.0	1	3,497.9	< 1
Status 4	0.0	0	0.0	0	2,141.4	< 1	0.0	0
Total	0.0	0	43,435.0	5	35,312.6	4	3,497.9	< 1
1	State Coastal R	Reserve	ST Nat.Area/Pi	eserve	Other State	e Lands	Private Cons. E	asemt.
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	594.1	< 1	0.0	0	0.0	0
Status 2	13,068.8	2	10,830.2	1	0.0	0	135.9	< 1
Status 3	0.0	0	367.7	< 1	1,213.8	< 1	678.8	< 1
Status 4	0.0	0	0.0	0	3.7	< 1	0.0	0
Total	13,068.8	2	11,792.0	1	1,217.5	< 1	814.7	< 1
1	Private Land - I	No Res.		Water		·	Overa	all Total
	ha	%	ha	%			ha	%
Status 1	0.0	2	0.0	0			63,470.7	8
Status 2	0.8	< 1	0.0	4			112,113.5	14
Status 3	12.1	< 1	1.1	< 1			107,869.4	14
Status 4	468,127.3	58	38,929.1	5			511,347.5	64
Total	468,140.3	58	38,930.6	5			794,801.1	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.

Summer Model:

Habitat Description: Breeding habitat most commonly includes areas within 4km coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds (Andrew and Mosher 1982, Green 1985, Campbell et al. 1990). They forage near and over salt and freshwater - estuaries, lakes, open marshes, and shorelines (Hamel 1992). Most nest in live or dead pine trees (Collopy 1987), but also use cypress and mangrove trees (Layne et al. 1977, Kayle 1978). Marsh, water, and hardwoods habitats were used in proportion to availability. Cypress was significantly utilized because of its location along most lake edges (Wood & Collopy 1991). The top three preferred habitats for perching, flying, and soaring were cypress swamps (19.8%), pinewoods (19.2%), and hardwoods (15.7%). Other commonly used habitats were marshes (14.0%), lakes (11.9%), pastures with trees (9.8%), and pastures/clearcuts (4.0/3.6%) (Wood 1992).

> Their nest can weigh more than 100 lbs and is thus usually in mature trees (Brown and Amadon 1968). Normally it is the largest tree, taller than the surrounding stand, thus providing an easy flight path and open view of the nesting area. (Palmer 1988, Johnsgard 1990) Location of the nest is rarely in deep woods, but rather along the edge of the forest stand. (Hamel 1992, Palmer 1988) Like the nest tree, roosting and perching trees are among the tallest in the stand (Palmer 1988). Mature conifer and oldgrowth forests were selected during low and high tides, bottomland broadleaf trees on river islands were used for hunting perches. High use areas were shoreline habitat with large perch trees that offered an unobstructed view of foraging areas. Tree structure was more important than tree species (Garret et. Al. 1993).

> Avoids areas with nearby human activity (boat traffic, pedestrians) and development (buildings) (Buehler et al. 1991).

> Regarding spatial habitat characteristics, average nest distance to water is 576 m in north Florida and 1.48 km in central Florida. Most nests are within 3 km of open water greater than 10 ha in size (Collopy 1987). Home range size of resident pairs averaged 22 square km for breeding and nonbreeding periods with a range of 6-47 square km. Core areas averaged 0.1-1.0 square km (Garret et. Al. 1993).

Quoted directly from existing state habitat notes - K. Cook, 11Feb05

Additional information:

Stinson et al. (2001) Found that in Washington State blad eagles foraged and average of 500m over water from the shore (Buehler 2000).K. Cook, 11Feb05

Customized Model: Model: Difficult to model because respond to fine-scale habitat variables of old growth forest stands and trees. Buffer "large" water bodies and rivers to predict habitat. Water variables dist to, density, (nests loc. Near water can be quite far if no suitable nest trees) old mature forests with structure, completely avoid young forest stands & single age stands (not in pine or deciduous plantations), do not forage in forest, forage in open areas esp water and shorelines but will hunt in grasslands & agriculture (Stalmaster 1987). I could not find any information on water body size requirements (30 ha. Min. size is a best guess).

> Handmodeling tasks -DO NOT BUFFER OUT INTO OCEAN - they use shore. Only use Primary Map Units (water) to calculate contiguous patch size.

Mask of Forest Interior Avoidance: Exclude forest interiors with 120m buffer into them.

Avoidance Mask: Medium - moderately intolerant of human disturbance.

Hydrography Mask:

Utilizes flowing water features with buffers of 500m from and unlimited into selected water features.

Utilizes open water features with buffers of 500m from and unlimited into selected water features.

Contiguous Patch Minimum Size (hectares): 10

Selected Map Units:		
	Functional Group	Map Unit Name
	Beach	Atlantic Coastal Plain Northern Sandy Beach

Beach	Atlantic Coastal Plain Sea Island Beach	Π
Beach	Atlantic Coastal Plain Southern Beach	
Beach	Florida Panhandle Beach Vegetation	
Beach	South Florida Shell Hash Beach	
Beach	Southwest Florida Beach	
Beach	Unconsolidated Shore (Beach/Dune)	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Central Salt and Brackish Tidal Marsh	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Embayed Region Tidal Salt and Brackish Marsh	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Indian River Lagoon Tidal Marsh	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Sea-Level Fen	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Tidal Salt Marsh	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Tidal Wooded Swamp	
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Southern Tidal Wooded Swamp	
Brackish Tidal Marsh & Wetland	East Gulf Coastal Plain Tidal Wooded Swamp	
Brackish Tidal Marsh & Wetland	Florida Big Bend Salt-Brackish Tidal Marsh	
Brackish Tidal Marsh & Wetland	Mississippi Sound Salt and Brackish Tidal Marsh	
Brackish Tidal Marsh & Wetland	South Florida Everglades Sawgrass Marsh	
Brackish Tidal Marsh & Wetland	South Florida Mangrove Swamp	
Brackish Tidal Marsh & Wetland	Southwest Florida Perched Barriers Salt Swamp and Lagoon - Mangrove Modifier	
Brackish Tidal Marsh & Wetland	Southwest Florida Perched Barriers Salt Swamp and Lagoon - Marsh Modifier	
Coastal Dune & Freshwater Wetland	Atlantic and Gulf Coastal Plain Interdunal Wetland	
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Northern Dune and Maritime Grassland	
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Southern Dune and Maritime Grassland	
Coastal Dune & Freshwater Wetland	East Gulf Coastal Plain Dune and Coastal Grassland	
Coastal Dune & Freshwater Wetland	Southwest Florida Dune and Coastal Grassland	
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 Central Maritime Forest	
Forest/Woodland	Atlantic Coastal Plain Dry and Dry-Mesic Oak Forest	
Forest/Woodland	Atlantic Coastal Plain Fall-Line Sandhills Longleaf Pine Woodland - Loblolly Modifier	
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Offsite Hardwood Modifier	
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Scrub/Shrub Understory Modifier	
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest	
Forest/Woodland	Atlantic Coastal Plain Northern Maritime Forest	
Forest/Woodland	Atlantic Coastal Plain Northern Mixed Oak-Heath Forest	
Forest/Woodland	Atlantic Coastal Plain Southern Maritime 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	Central Appalachian Pine-Oak Rocky Woodland	
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Hardwood Modifier	
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Mixed Modifier	
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Pine Modifier	
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Loblolly Modifier	
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Offsite Hardwood Modifier	
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Scrub/Shrub Modifier	
Forest/Woodland	East Gulf Coastal Plain Limestone Forest	
Forest/Woodland	East Gulf Coastal Plain Maritime 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 Loess Plain Oak-Hickory Upland - Juniper Modifier	
Forest/Woodland	East Gulf Coastal Plain Northern Mesic Hardwood Forest	
		1.1

Forest/Woodland East Gulf Coastal Plain Southern Loess Bluff Forest Forest/Woodland East Gulf Coastal Plain Southern Mesic Slope Forest Forest/Woodland Florida Longleaf Pine Sandhill - Scrub/Shrub Understory Modifier Forest/Woodland Mississippi Delta Maritime 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 Northern Atlantic Coastal Plain Dry Hardwood Forest Forest/Woodland Forest/Woodland South Florida Pine Rockland Forest/Woodland South-Central Interior Mesophytic Forest Forest/Woodland Southeast Florida Coastal Strand and Maritime Hammock Forest/Woodland Southeastern Interior Longleaf Pine Woodland 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 Coastal Plain Dry Upland Hardwood Forest Forest/Woodland Southern Coastal Plain Oak Dome and Hammock 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 Mafic Hardpan Woodland Forest/Woodland Southern Piedmont Mesic Forest Forest/Woodland Southern Piedmont Northern Triassic Basin Dry 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 Forest/Woodland Southwest Florida Coastal Strand and Maritime Hammock Freshwater Tidal Marsh & Wetland Atlantic Coastal Plain Central Fresh-Oligohaline Tidal Marsh Freshwater Tidal Marsh & Wetland Atlantic Coastal Plain Embayed Region Tidal Freshwater Marsh Freshwater Tidal Marsh & Wetland Atlantic Coastal Plain Northern Fresh and Oligohaline Tidal Marsh Freshwater Tidal Marsh & Wetland Florida Big Bend Fresh-Oligohaline Tidal Marsh Water **Open Water (Aquaculture)** Water Open Water (Brackish/Salt) Water **Open Water (Fresh)** Wetlands Atlantic Coastal Plain Clay-Based Carolina Bay Forested Wetland Wetlands Atlantic Coastal Plain Clay-Based Carolina Bay Herbaceous Wetland Wetlands Atlantic Coastal Plain Depression Pondshore Wetlands Atlantic Coastal Plain Large Natural Lakeshore 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 Northern Pondshore Wetlands Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods Wetlands Atlantic Coastal Plain Peatland Pocosin Wetlands Atlantic Coastal Plain Sandhill Seep Wetlands Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods Wetlands Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall

Wetlands

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 Florida Herbaceous Pondshore
Wetlands	Central Florida Herbaceous Seep
Wetlands	Central Florida Pine Flatwoods
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	Cumberland Riverscour
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Scrub/Shrub Understory 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 Near-Coast Pine Flatwoods - Offsite Hardwood Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Northern Depression Pondshore
Wetlands	East Gulf Coastal Plain Northern Seepage Swamp
Wetlands	East Gulf Coastal Plain Southern Depression Pondshore
Wetlands	East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods
Wetlands	East Gulf Coastal Plain Treeless Savanna and Wet Prairie
Wetlands	Floridian Highlands Freshwater Marsh
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 Appalachian Acidic Swamp
Wetlands	North-Central Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South Florida Bayhead Swamp
Wetlands	South Florida Cypress Dome
Wetlands	South Florida Dwarf Cypress Savanna
Wetlands	South Florida Freshwater Slough and Gator Hole
Wetlands	South Florida Hardwood Hammock
Wetlands	South Florida Pine Flatwoods
Wetlands	South Florida Pond-Apple/Popash Slough
Wetlands	South Florida Wet Marl Prairie
Wetlands	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior/Upper Coastal Plain Wet Flatwoods
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Herbaceous Seepage Bog
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Basin Swamp
Wetlands	Southern Coastal Plain Nonriverine Cypress Dome
Wetlands	Southern Coastal Plain Seepage Swamp and Baygall
Wetlands Wetlands	Southern Coastal Plain Spring-run Stream Aquatic Vegetation
Wetlands	Southern Piedmont Large Floodplain Forest - Forest Modifier Southern Piedmont Large Floodplain Forest - Herbaceous Modifier
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous Modifier Southern Piedmont Seepage Wetland
Wetlands	Southern Piedmont/Ridge and Valley Upland Depression Swamp
wectarias	Southern Freumony Muge and Valley Optalla Depression Swallip
Wetlands	Unconsolidated Shore (Lake/River/Pond)

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.

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