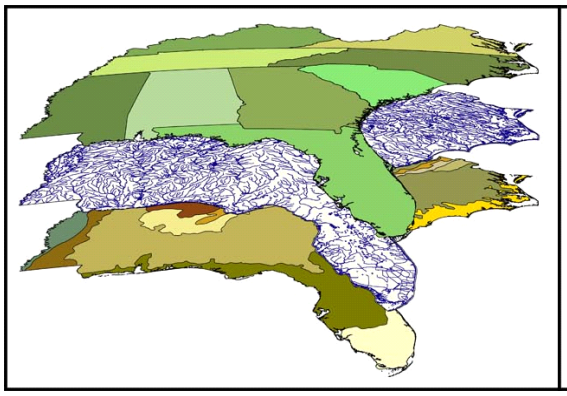


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

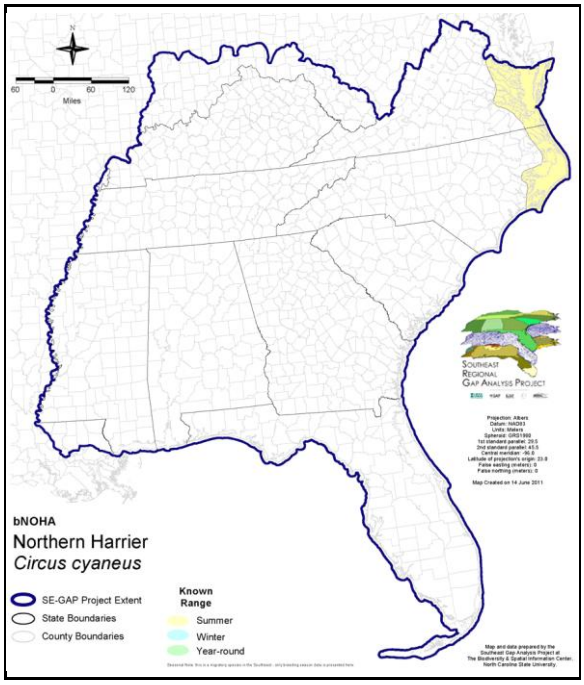
Northern Harrier

Circus cyaneus

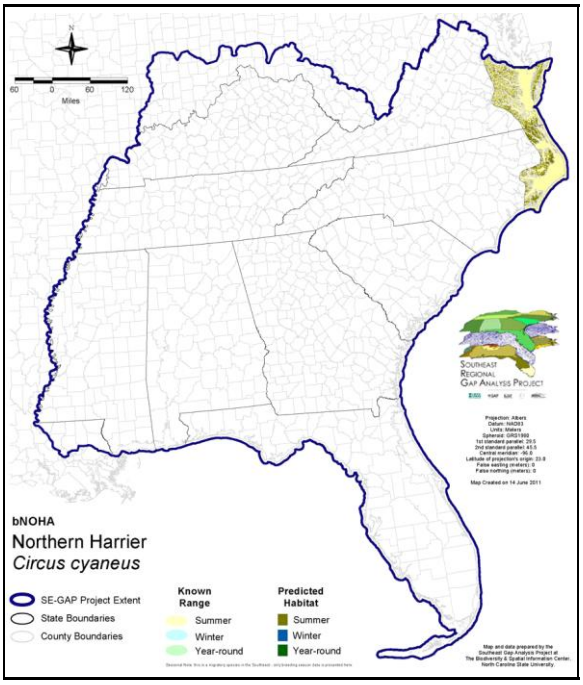
Taxa: Avian
Order: Falconiformes
Family: Accipitridae

SE-GAP Spp Code: **bNOHA**
ITIS Species Code: 175430
NatureServe Element Code: ABNKC11010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_bNOHA.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_bNOHA.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=bNOHA
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/bNOHA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AR (W*), CA (None), CT (E), CT (E), DE (E), IA (E), ID (P), IL (LE), IN (SE), KY (T), MA (T), ME (SC), MI (SC), MO (E), NC (SR), ND (Level II), NH (E), NH (E), NJ (E/U), NV (YES), NY (T), OH (E), RI (State Endangered), UT (None), VA (SC), WI (SC/M), BC (4 (2005)), ON (NAR), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (S4B), AL (S2B,S3N), AR (S1B,S4N), AZ (S1S2B,S5N), CA (S3), CO (S3B), CO (S3B), CT (S1B), CT (S1B), DC (S2N), DE (S1B,S4N), FL (SNRN), GA (S4), IA (S2B,S4N), ID (S5B,S5N), IL (S2B,S3N), IN (S2), KS (S2B,S4N), KY (S1S2B,S4N), LA (S5N), MA (S2B,S4N), MD (S2B), ME (S4B), MI (S3), MN (SNRB,SNRN), MO (S2), MS (S4N), MT (S4B), MT (S4B), NC (S1B,S4N), ND (SNRB,SNRN), NE (S4), NH (S1B), NH (S1B), NJ (S1B,S3N), NM (S2B,S5N), NV (S4), NY (S3B,S3N), OH (S2), OK (S3S5), OR (S3), PA (S3B,S4N), RI (S1B,S3N), SC (SNRN), SC (SNRN), SD (S5B), SD (S5B), TN (S4N), TX (S2B,S3N), UT (S4B,S3N), VA (S1S2B,S3N), VT (S2B,S3S4N), WA (S3B,S3N), WI (S3B,S2N), WV (S1B,S3N), WY (S4B,S5N), AB (S5), BC (S4B), LB (S3?), MB (S4B), MB (S4B), NB (S4B), NF (S3?B), NS (S5B), NT (SNRB), NU (SNRB), ON (S4B), PE

(S5B), QC (S5B), SK (S5B,S4M,S2N), YT (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	25,979.9	3	0.0	0	0.0	0	0.0	0
Status 2	57,131.5	6	0.0	0	0.0	0	0.0	0
Status 3	1,166.6	< 1	4,693.9	< 1	0.0	0	12,144.2	1
Status 4	29.1	< 1	0.0	0	0.0	0	25.7	< 1
Total	84,307.0	9	4,693.9	< 1	0.0	0	12,169.8	1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	344.3	< 1	0.0	0
Status 2	0.0	0	13,504.4	1	716.8	< 1	0.0	0
Status 3	0.0	0	1,879.6	< 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	15,384.0	2	1,061.0	< 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	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	98.1	< 1	10,688.0	1	0.0	0
Status 3	0.0	0	2,641.4	< 1	27,630.3	3	76.4	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	2,739.5	< 1	38,318.2	4	76.4	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	16,767.0	2	8,180.2	< 1	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	11.8	< 1	0.0	0
Total	16,767.0	2	8,180.2	< 1	11.8	< 1	0.0	0

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	26,324.1	3
Status 2	0.0	0	0.0	0	107,085.9	11
Status 3	0.0	0	0.0	0	50,232.2	6
Status 4	761,097.2	80	3,974.7	< 1	765,109.3	80
Total	761,097.2	80	3,974.7	< 1	948,751.5	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: Prairie, fresh and saltwater marshes, meadow and swamp are generally agreed to be the typical breeding and foraging habitat of harriers (Bent 1937, Ehrlich et al 1988, Hamel 1992, Harrison 1975, Snyder & Snyder 1991). Johnsgard (1990) goes on to elaborate 'grasslands, marshy habitats, open-country, medium to tall prairie grasslands and associated wetlands, fresh and saltwater marshes, swamps and bogs, wet meadows, logged over or burned woodlands, open muskegs and tundra,' are breeding habitats. Ponds, lakes and slow moving streams that are bordered by 'lush growth', as well as cultivated fields (e.g. hay, wheat, rye, sugar beet, alfalfa, sweet clover), and drier portions of estuaries, either brackish, fresh, or saltwater, that are grown to sedges, grasses, cattails or brush are often utilized (Palmer 1988). Breeding habitat in the northeastern U.S. includes abandoned fields, upland maritime heaths, wet hayfields, salt marshes, and cattail marshes (Serrentino 1992). Can nest miles from water (Call 1978).

Hammel (1992) reports that they absolutely avoid wooded habitats (Hamel 1992)

Nesting sites have included abandoned fields in dense stands of meadowsweet (SPIRAEA LATIFOLIA) or red-osier dogwood (CORNUS STOLONIFERA) in New Hampshire (Serrentino 1987), upland maritime heaths comprised of northern bayberry (MYRICA PENSYLVANICA), black huckleberry (GAYLUSSACIA BACCATA) and wild rose (ROSA spp.) in Massachusetts (Holt and Melvin 1986), and in wet hayfields dominated by reed canary grass (PHALARIS ARUNDINACEA) in Vermont (Laughlin and Kibbe 1985). Breeding sites in New Jersey saltmarshes on the Atlantic coast have been found in pure stands of common reed (PHRAGMITES AUSTRALIS), as well as in salt hay grass (SPARTINA PATENS) and smooth cordgrass (SPARTINA ALTERNIFLORA) (Dunne 1984). On Long Island, nests were found in stands of common reed and poison ivy (TOXICODENDRON RADICANS) (England 1989). Other nesting habitats in the Northeast are cattail marshes (Laughlin and Kibbe 1985, Serrentino 1989), bogs (Hall 1983, Laughlin and Kibbe 1985, Andrle and Carroll 1988), native grassland prairies (Genoways and Brenner 1985), and dwarf conifer forest (England 1989). In other regions of North America, harriers nest in a variety of upland and wetland habitats such as willow (SALIX spp.) swales and meadows (Hamerstrom and Kopeny 1981), pure stands of blackberry (RUBUS spp.) (Toland 1985), hayfields and cropland (Duebbert and Lokemoen 1977, Follen 1986) and undisturbed grass/legume vegetation (Duebbert and Lokemoen 1977).

The nest is built on the ground and is composed of dead grasses, weeds, and small twigs (Urner 1925, Bent 1937, Hecht 1951). Nests are frequently placed in dense vegetation (Duebbert and Lokemoen 1977, Hamerstrom and Kopeny 1981, Toland 1985, Serrentino 1987). Larger and deeper nests are often built in wet or flood-prone areas (Urner 1925, Sealy 1967). Harriers may use the same patch of shrubs, field, or general area for several years (Sealy 1967, Balfour and Cadbury 1979, Serrentino 1987, England 1989). Johnsgards (1990) summized that although harrier lean toward wet habitats, dry nest sites are preferred. Brown and Amadon (1968) report that nests are built on the ground and 'often in marshy places and commonly in low shrubby vegetation, tall weeds or reeds rather than very open sites. Palmer (1988) has a similar report of nests on 'grassy ground, among low brush or close beside a bush or tree or in mixed herbaceous/woody growth in damp places and often near water.'

Selection of hunting habitat is affected by several parameters including proximity to the nest site (Schipper 1977, Martin 1987, Serrentino 1987), prey abundance and availability (Schipper et al. 1975) vegetation structure (Schipper et al. 1975, Temeles 1986), and the presence of competitors (Temeles 1986). During the breeding season, females often hunt in areas adjacent to the nest site (Schipper 1977, Martin 1987, Serrentino 1987). Males hunt farther from the nest where they may encounter habitat types different than those located adjacent to nests. Home range was reported to be 623 acres by Schoener (1968).

Quoted directly from existing state habitat notes - K. Cook, 13Feb05

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Pasture/Hay
Anthropogenic	Row Crop
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)

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
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
Forest/Woodland	Atlantic Coastal Plain Central Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Northern Maritime Forest
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
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 Herbaceous Wetland
Wetlands	Atlantic Coastal Plain Depression Pondshore
Wetlands	Atlantic Coastal Plain Large Natural Lakeshore
Wetlands	Atlantic Coastal Plain Northern Pondshore
Wetlands	Atlantic Coastal Plain Peatland Pocosin
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain 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.