

## General Field Notes

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*General Field Notes* briefly report such items as rare sightings, unusual behaviors, significant nesting records, or summaries of such items.

First, second, or third sightings of species in either state must be submitted to the appropriate Bird Records Committee prior to publication in *The Chat*.

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### **First Nest Record of Swallow-tailed Kite (*Elanoides forficatus*) in North Carolina**

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Since 2003, Swallow-tailed Kites (*Elanoides forficatus*), a priority species in the NC Wildlife Action Plan (NCWRC 2005), have been seen regularly during the breeding season near the Cape Fear River in Bladen and Pender Counties (LeGrand et al. 2011). Despite the proximity of these sightings to long-established breeding populations as far north as the Great Pee Dee River in the lower Coastal Plain of South Carolina (SCDNR in prep.), the species has never been confirmed to breed in North Carolina. The most reliable evidence of possible Swallow-tailed Kite (STKI) breeding in NC was the sighting from a fixed-wing aircraft of a pair defending its territory on June 25, 2008, along the Cape Fear River west of Hwy. 11 in Bladen County (D.H. Allen and M. Whitehead, pers. obs.).

Due to the Swallow-tailed Kites continued display of site fidelity in southeastern NC and its use of remote wetland forested habitat, our objective was to perform aerial surveys of forested river systems, principally along the Cape Fear River, to provide definitive proof of its breeding status in NC.

#### **Methods**

We surveyed for Swallow-tailed Kites by fixed-wing aircraft at an average 140 m above ground along the Cape Fear River on May 7, 2013 and along the Waccamaw, Cape Fear, and Black Rivers on May 10, 2013 (Figure 1). We covered roughly 308 and 344 km on May 7 and May 10, respectively, and estimate that along these routes a minimum of 50 m was adequately surveyed on either side of the aircraft for a total of 5477 ha.

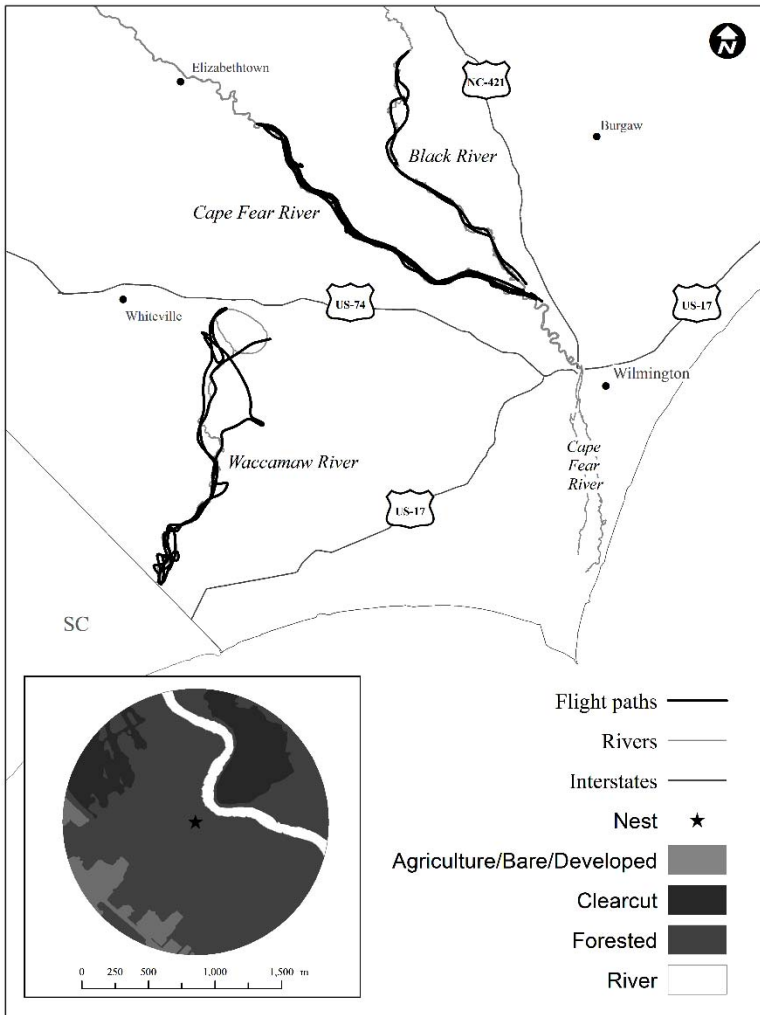


Figure 1. River systems surveyed on May 7 and 10, 2013 using fixed-wing aircraft. Inset map of habitats within 1 km of STKI nest.

The habitats of these three river systems are classified as Atlantic Coastal Plain Small Blackwater and/or Brownwater River Floodplain Forest, which are generally characterized by a mosaic of cypress and gum swamps with varying amounts of bottomland hardwoods (NatureServe 2013). The Cape Fear and Black Rivers belong to the largest water basin in the state, which is composed of 56% forest land, 24% agricultural lands, 9% urban areas, and 11% of other land covers (e.g., rural transport, small water areas, lakes, and

estuaries) (NCDWQ 2000). The Waccamaw River is located in the Lumber River Basin and includes 60% forest land, 25% agricultural/cultivated cropland, 7.1% urban, and 8% other (NCDWQ 2003).

We used ArcGIS 10.1 (ESRI 2012) with National Agricultural Imagery Program aerial imagery (USDA 2012) and 2001 NC Floodplain Mapping Program Light Detection and Ranging (LiDAR) data (Newcomb and Mitsova 2009) to delineate habitats and calculate mean canopy height within 1 km of any STKI encounter.

## Results

A Swallow-tailed Kite was seen at approximately 12:30 pm on May 7, 2013 in flight moving upstream along the Cape Fear River northeast of Hwy 87 in Bladen County. This bird was observed a second time, shortly thereafter, at its nest with an attending bird. This individual remained on the nest while we circled several times to photograph it, but we did not encounter the initial bird again. We did not find any other STKI during surveys along the Cape Fear, Waccamaw, and Black Rivers.

The nest was located in the top of a bald cypress (*Taxodium distichum*), which gave the impression of a younger (< 100 yr.) tree based on its more conical shape (Figure 2). Habitat within 1 km of the nest was predominately forested (224 ha) with a 187 ha patch of contiguous forest cover surrounding the nest. We classified the remaining habitats as clearcut (53 ha), agricultural/bare/developed (21 ha), and river (16 ha). Mean and maximum canopy heights of the forested area within the same vicinity were 22 m ( $\pm 8$  SD) and 72 m, respectively.

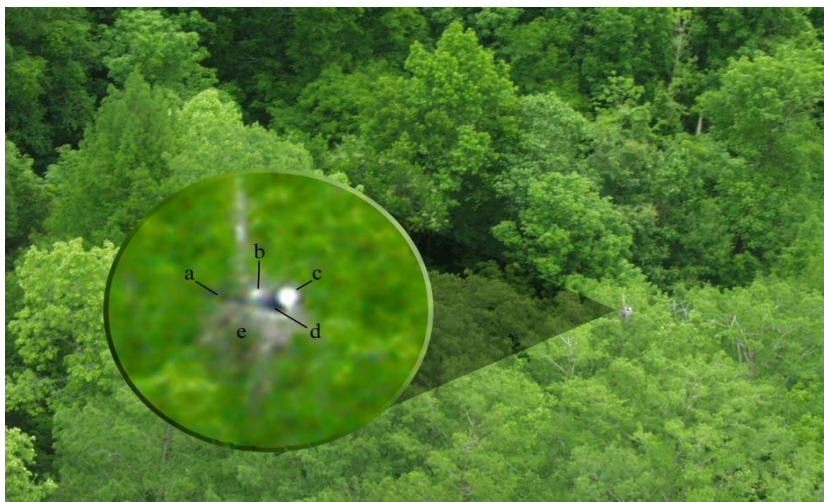


Figure 2. Adult Swallow-tailed Kite on nest (a = tail/primary feathers, b = rump, c = head, d = shoulder, e = nest) in Bladen Co., NC, May 7, 2013.

Photo by D.H. Allen.

## Discussion

In South Carolina and Florida, Swallow-tailed Kites preferentially select hardwood and cypress swamps for nesting. Within these habitats, they seek out pines (*Pinus* spp.) as nest trees, which produce significantly more young than nests built in cypress (Meyer 1995). Despite our nest's substrate, its proximity to open areas is a typical choice of nest placement. Agriculture and timber harvesting was more prevalent near our nest than nearby areas downstream, which may provide feeding opportunities, especially during the post-fledging period when adults and young often forage on flying insects prior to southbound migration (K. Meyer, Avian Research and Conservation Institute, pers. comm.). According to Meyer (2004), 68% of STKI nests found in northern Florida from 1997-1998 were on industrial forests and located in close proximity to areas actively managed for timber production. Our nest was situated over standing water within a large river swamp site on non-industrial private ownership, which is likely managed for timber and could be logged during dry periods.

Our overall impression of the Waccamaw River, with the exception of the heavily forested areas immediately south of the lake, was that suitable STKI habitat was more limited there as compared to the Cape Fear and Black Rivers. We recommend surveys of these river systems continue, with a focus on the Cape Fear and Black Rivers. Although we did not encounter any other STKI during our searches, three were observed in flight on May 14, 2013 near Roan Island along the Black River (C. Robinson, pers. obs.). Furthermore, on June 6, 2013 during an unrelated study along the Cape Fear River, two STKI were encountered roughly 4.6 km NW of the discovered nest (J.P. Carpenter pers. obs.) and within the reported range (3.7-26.5 km) of foraging adults in Florida (Meyer and Collopy 1995).

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