

## A STATUS SUMMARY OF THE SWALLOW-TAILED KITE (*ELANOIDES FORFICATUS*) IN ALABAMA, 1998–2003

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### INTRODUCTION

The Swallow-tailed Kite (*Elanoides forficatus forficatus*) is a Neotropical-Nearctic migratory raptor that has exhibited severe declines throughout its entire breeding range. Once breeding in as many as 21 states a century ago, it now nests in only seven southeastern states, and probably no more than 5,000 individuals remain at the end of each nesting season (Meyer 1995). Although population declines appear to have leveled in recent decades, this species is on the Partners In Flight's Watchlist and is designated as an extremely high priority species in need of conservation attention. In Alabama, it was recently assigned a Priority 2 designation (High Conservation Concern) based on its low relative abundance, locally clumped distribution, specialized habitat requirements, and potential threats of disturbance or destruction to its breeding and communal roost locations (Soehren 2004).

The current status and distribution of the Swallow-tailed Kite in Alabama is poorly understood. Information is primarily limited to published anecdotal observations and collected specimens (Gosse 1859; Howell 1928; Barkalow 1939; Baker 1964; Skinner 1964; Imhof 1976). One of the more interesting publications was by Skinner (1964) who documented the collection of two individuals from Alabama that fit the measurements of *E. f. yetapa*; a slightly smaller subspecies known from southern Mexico through the northern two-thirds of South America. Prior to 1999, no active nests had been officially documented in Alabama and the only evidence of nesting was from several reported observations of adults carrying nesting material (Imhof 1976). Further, no documentation regarding its breeding, post-breeding, and migratory biology exists from the state. To address this lack of information, the Alabama Department of Conservation and Natural Resources (ADCNR) State Lands Division's Natural Heritage Section (NHS) initiated annual surveys and began soliciting sighting reports to assess the species' current status in Alabama. Survey objectives were to determine current distribution, identify high concentration areas, and document nest and communal roost locations. The data accrued would establish important baseline information and provide

support towards future research efforts addressing the Swallow-tailed Kite's biology and conservation in Alabama.

In 1998, NHS personnel initiated two surveys in July, one by boat and one by plane, to determine general distribution in the southwestern portion of the state. Results from this survey were published (Soehren 1998). The following year, survey efforts focused on nest and communal roost searches along the lower stretches of the Alabama and Tombigbee Rivers where kites were observed during the 1998 surveys. In 2000, the NHS began soliciting sighting reports from the public and conducted limited nest and roost searches in portions of southwestern Alabama. From 2001 to September 2003, the NHS continued receiving sighting reports and performed limited nest and roost searches along the rivers and creeks associated with the Mobile-Tensaw River Delta (MTRD). All data gathered from surveys and submitted public sighting reports were consolidated and entered into the NHS Geographic Information System (GIS) observation database. Public sighting reports that did not include latitudinal and longitudinal coordinates were assigned a coordinate position based on written site descriptions. Reports that lacked written site descriptions were not included in the observation database. Data were then analyzed for status and distribution determination.

## RESULTS AND DISCUSSION

Swallow-tailed Kites were reported from 17 counties in Alabama between 1998 and 2003. During that time, a total of 249 independent sighting reports was entered in the observation database and accounted for 744 individuals observed (Figure 1). The highest concentrations of Swallow-tailed Kites were observed along the floodplain forests of the MTRD and the lower stretches of the Alabama and Tombigbee rivers (Figure 2). Aggregation sizes of Swallow-tailed Kites ranged from one to 56 and averaged  $3.0 \pm 0.4$  ( $n = 249$ ) kites per observation (Figure 3). The seven counties associated with high concentration areas (i.e., Baldwin, Choctaw, Clarke, Mobile, Monroe, Washington, and Wilcox) accounted for 232 (93%) of the 249 total observations and accounted for 671 (90%) of the 744 total individuals observed. Further, 60 (26%) of the 232 observations were made over public lands, particularly within the ADCNR managed lands of the MTRD. The remaining 17 (7%) sighting reports were isolated and generally distributed along the floodplain forests of the upper Tombigbee (Marengo and Pickens counties), upper Alabama (Autauga and Lowndes counties), Conecuh (Escambia County), Sepulga (Conecuh County),

Pea (Geneva County), and Choctawhatchee (Geneva County) Rivers as well as the Pigeon (Butler County) and Patsaliga (Covington County) Creeks (Figure 2). One extralimital observation was made in St. Clair County within the Ridge and Valley ecoregion in late July. Of these 17 observations, two (12%) were made over public lands.

One hundred sixty-five (66%) observations were reported during breeding months (March–June) and the remaining 84 (34%) observations were reported during post-breeding months (July–October). However, more individuals were observed during post-breeding months ( $n = 418$ ) than during breeding months ( $n = 326$ ). The earliest observation date reported was 14 March. The earliest on record for Alabama is 28 February (Jackson 1994). Surprisingly, the latest observation date was 8 October, which set a new late date record for Alabama (Kittle et al. 2003). There was a total of two observations reported in October and both were made at Fort Morgan State Historical Park, Baldwin County in 2002. Interestingly, no observations were made in September.

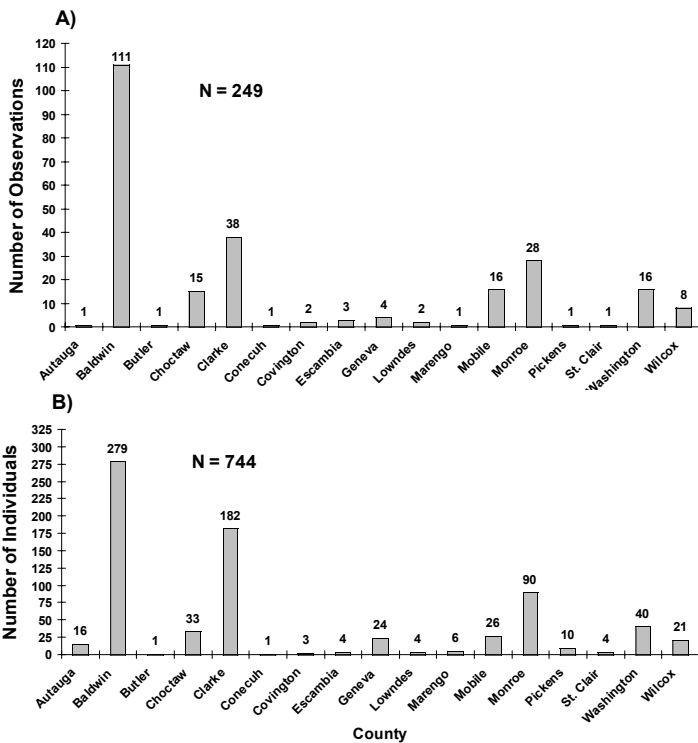


FIGURE 1. (A) Number of observations submitted by county, and (B) number of individuals seen per observation by county, 1998-2003.

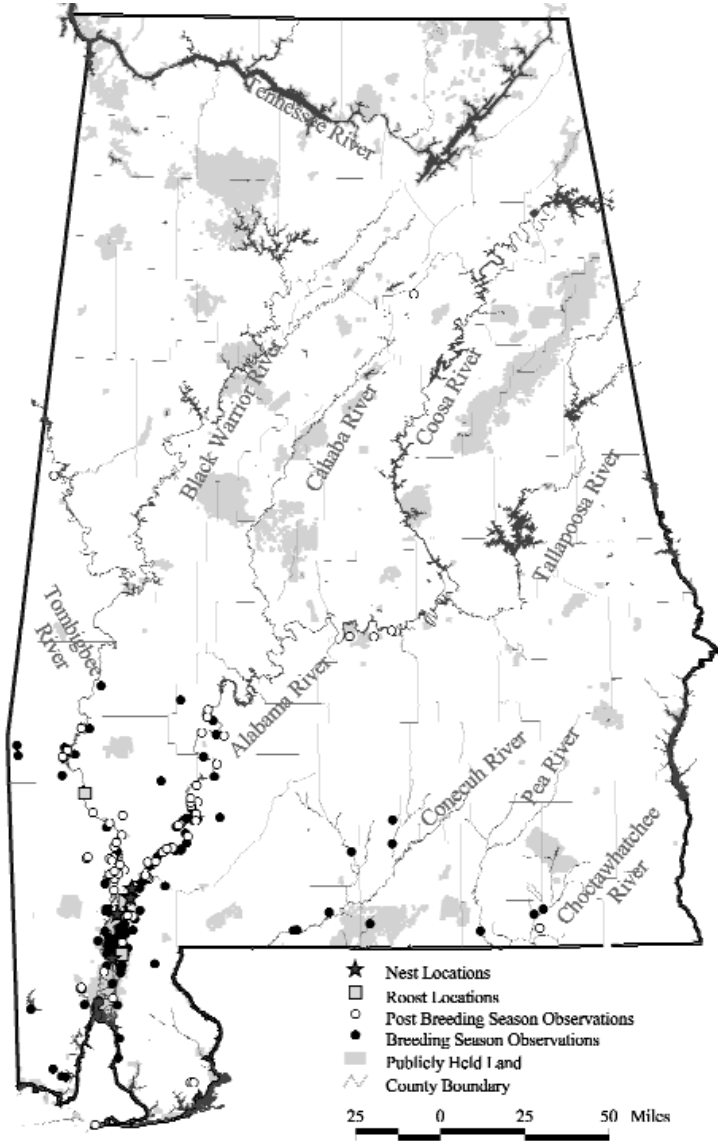


FIGURE 2. Current distribution of the Swallow-tailed Kite in Alabama based on 249 submitted observations (1998-2003). Shaded areas represent federal and state managed lands.

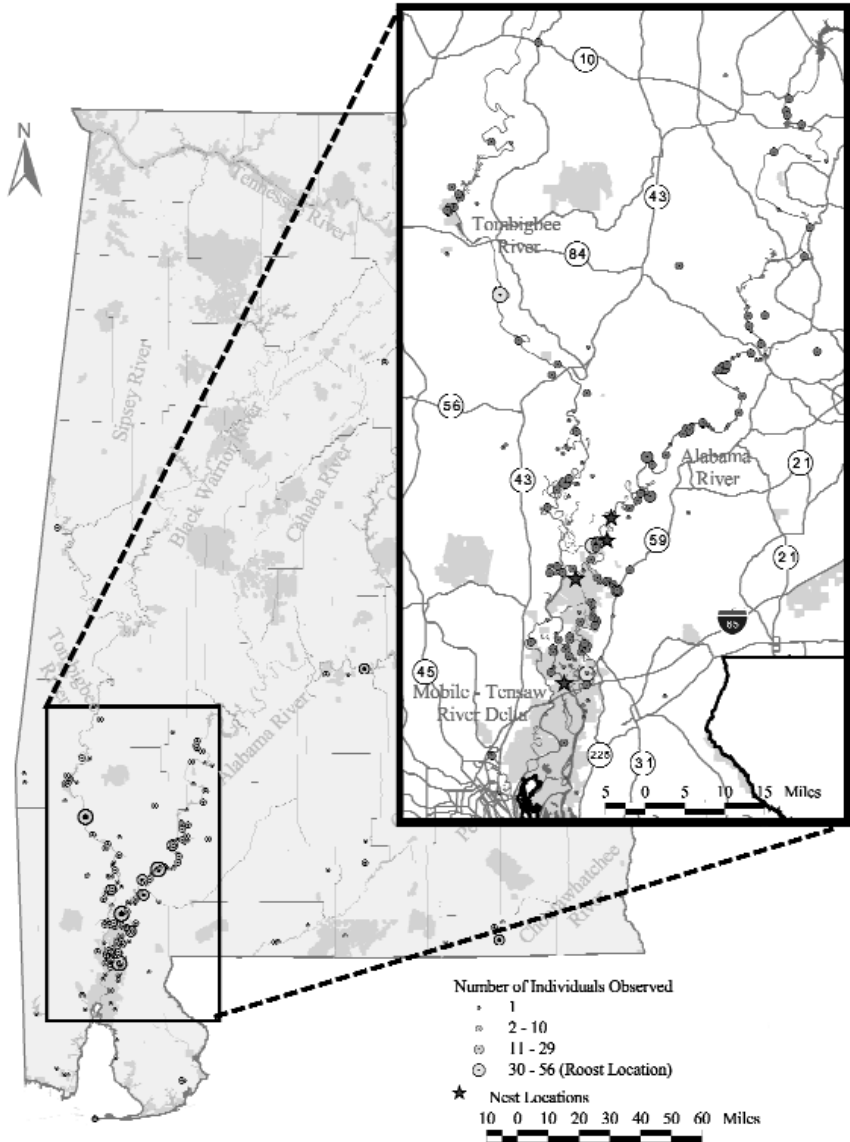


FIGURE 3. Aggregation size of Swallow-tailed Kite observations within the Mobile-Tensaw River Delta and lower stretches of the Alabama and Tombigbee rivers (1998-2003). Shaded areas represent federal and state managed lands.

*Nests.*— A total of five nests was found during this study period, four in Baldwin County and one in Mobile County (Table 1). The discovery of the first nest in 1999 confirmed breeding for this species in Alabama. Nests were found in the floodplain forests of the upper MTRD and along natural levees adjacent to the Alabama River. Two of the five nests were located on public lands. All five nests were built in hardwoods, which included cottonwood (*Populus deltoides*), water tupelo (*Nyssa aquatica*), water oak (*Quercus nigra*), and Nuttall's oak (*Quercus nuttallii*). Breeding ranged between 24 March (nest building; E. Soehren pers. observ.) and 6 July (young fledging; C. Parnell, pers. comm.). Four of the five nests successfully fledged at least one young. The unsuccessful nest was abandoned one week after its initial discovery.

TABLE 1. Nesting records for the Swallow-tailed Kite, 1998-2003.

Date	Location	Nest Tree	Outcome
3/24/1999	Baldwin Co., Alabama River Mile (RM) 19.1 on levee	<i>Populus deltoides</i>	successful
5/03/2000	Mobile Co., adjacent to clearcut on Middle River	<i>Nyssa aquatica</i>	unsuccessful
6/22/2000	Baldwin Co., Alabama RM 10 in floodplain woods	<i>Quercus nigra</i>	successful
4/20/2001	Baldwin Co., same tree as previous year	<i>Q. nigra</i>	successful
5/23/2002	Baldwin Co., Clearwater Tract in floodplain woods	<i>Q. nuttallii</i>	successful

*Pre-migratory Communal Roosts.* — A total of three pre-migratory communal roosts was found (Table 2). The first roost was located in 1999 just west of the Tensaw River in Baldwin County and contained approximately 30 individuals. The second and third roosts were found in Clarke County in 2002, one along the Tombigbee River with approximately 50 individuals and the other just north of the Alabama River Cutoff with approximately 56 individuals. All three roosts were adjacent to permanent water. Only one roost was located on public lands. It is currently unknown whether these roosts are being used on a year-to-year basis.

TABLE 2. Swallow-tailed Kite pre-migratory roosting sites, 1998-2003.

Date	Estimated Size	Location
7/14/1999	30	Baldwin Co., west side of Tensaw River
7/27/2002	56	Clarke Co., west side of Alabama River at RM 9.3
8/09/2002	50	Clarke Co., east side of Tombigbee River at RM 108

*Conservation and Further Research Needs in Alabama.* — The Swallow-tailed Kite International Work Group identified protection of nesting and pre-migratory communal roost sites as being the highest priority for the conservation of this species in North America. This is based, in part, on the species' strong philopatry to nesting and roost sites, sociality, and susceptibility to human disturbances and destruction. The latter is of particular concern since a considerable percentage of this species' population breeds and roosts on private lands (especially in Florida, Georgia, and South Carolina). In Alabama, however, a significant portion of this species' high concentration area (Figure 3) is being protected as a result of recent conservation actions taken within the MTRD. In 1999, the Alabama Forever Wild Public Land Acquisition Program and ADCNR Wildlife and Freshwater Fisheries Division purchased over 47,000 acres of wetland forests as part of the MTRD Wetland Conservation Project. More recently, the Forever Wild Program secured an additional 7,000 acres through matching grants awarded by the North American Wetlands Conservation Act (NAWCA), a program administered by the U.S. Fish and Wildlife Service. Also, additional monies were secured from other federal programs such as the Coastal Impact and Assistance Program and the Environmental Protection Agency's wetlands restoration programs, which support habitat restoration and enhancement projects. These recent acquisitions combined with the already existing Corps of Engineers and ADCNR Wildlife and Freshwater Fisheries Division lands in the lower MTRD account for approximately 100,000 acres of protected river delta. These lands are managed under the principle of multiple-use. Not only does securing these lands facilitate the interests of the hunting and recreational constituencies, they also benefit the native flora and fauna by being set aside and managed as nature preserves. Currently, acquisition efforts are now targeting adjacent upland tracts not only to serve as buffers for the MTRD, but also to maintain the diverse assemblage of distinct upland communities unique to this watershed.

Although the basic objectives of this project were accomplished, surveys must continue to better assess this species' status in Alabama. Future efforts should focus on nest and pre-migratory communal roost searches within the high concentration areas of the MTRD and lower stretches of the Alabama and Tombigbee rivers, particularly where nests and roosts have already been discovered (Figure 3). Consistently used nesting areas and established communal roost sites discovered on private lands should be protected and maintained. Incentives such as conservation easements or cooperative agreements should be offered to landowners to help protect sites if acquisition

is not possible. Once nest and roost locations have been identified, implementation of detailed studies on breeding biology, demographics, habitat usage, post-breeding dispersal, and migration should commence. Annual monitoring of established pre-migratory communal roost sites would allow for determination of general population size and identifying trends. Information obtained from these data then could be applied towards the development of specific, on-site management plans not only to help maintain viable populations, but also to promote expansion into their historic breeding areas in Alabama.

### ACKNOWLEDGMENTS

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