RESULTS OF TWO RECENT SURVEYS FOR AMERICAN SWALLOW-TAILED KITES (*ELANOIDES FORFICATUS FORFICATUS*) ALONG THE ALABAMA AND TOMBIGBEE RIVERS

Eric C. Soehren

The northern subspecies of the American Swallow-tailed Kite (*Elanoides forficatus forficatus*) is a neotropical raptor that breeds in parts of North America and winters in Central and South America (Meyer 1995). Prior to the 1900s, it bred along the major drainages of the Mississippi Valley as far north as Minnesota, the Gulf Coast from Texas east throughout Florida, and along the Atlantic coast of South Carolina, encompassing as many as 21 states.

Since the 1940s, the Swallow-tailed Kite's breeding range has declined significantly. Loss of habitat, indiscriminate shooting, and low reproductive rates are believed to be the primary reasons for the species decline. Today, its breeding range is restricted to parts of seven southeastern states (Meyer 1995), including south Alabama (Imhof 1976). Although there has been no systematic count of Swallow-tailed Kites in the United States, it is estimated that there are between 3,200-4,600 individuals remaining at the end of a given breeding season (including nonbreeding adults and fledged young) with 60-65% of the total population inhabiting Florida and 10-15% South Carolina (Meyer 1995; Meyer and Collopy 1996). In the remaining southeastern states, no more than 100 pairs are believed to occur in any one state.

In 1985, the United States Fish and Wildlife Service listed the Swallow-tailed Kite as a Category 2 species for threatened or endangered status (species being assessed for biological vulnerability and threat), but recent revisions in the classification structure have removed the species from this list (USFWS 1996). However, those species formerly listed as Category 2 are now informally listed as "species of concern" which currently includes the Swallow-tailed Kite (C. Hunter pers. comm. 1998).

To date, there has been little or no research done on Swallow-tailed Kites in Alabama (C. Hunter pers. comm. 1998). Information on distribution, demographics, post-breeding dispersion, pre-migratory communal roosts, and migration is needed to better understand this bird's status in Alabama and its overall status in the United States. At present the species is not protected under the Alabama Game and Fish Division's nongame species regulation 220-2-.92 (AGFD 1997-1998).

OBJECTIVES

The principal objective of the two surveys was to develop a locality database which, combined with historic records, might help to evaluate the Swallow-tailed Kite's current distribution along the Alabama and Tombigbee Rivers. Data collected were deposited into the State Lands Division's Natural Heritage Section's

Geographic Information System (G.I.S.). Information developed from these surveys will aid researchers in collecting breeding data and studying habitat usage, thereby setting a foundation for further research on Swallow-tailed Kites in Alabama.

METHODS

Two surveys, one by boat and one by plane, were conducted along the Alabama and Tombigbee Rivers during July 1998 (Figure 1). Surveys by boat and plane are methods that have been used during similar surveys in other states (M. Woodrey pers. comm. 1998). Each survey focused on southern reaches of both rivers where most records of Swallow-tailed Kites in Alabama have occurred (Imhof 1976).

Boat Survey

The first survey was conducted 16 July by boat (aluminum johnboat) on two stretches, or samples of the Alabama River ranging between statute river mile (hereafter referred to as RM) 86.5 (139.2 km) and 170.0 (273.5 km) covering a total of 72.8 river miles (113.9 km). The first stretch started at Miller's Ferry Marina [RM 134.3 (216.1 km)] and ran north to Molette Bend [RM 170.0 (273.5 km)], totaling 35.7 river miles (57.4 km). The second stretch started at the Beaver Creek confluence [RM 123.6 (198.9 km)] and ran south to Bailey Creek [RM 86.5 (139.2 km)], totaling 37.1 river miles (59.7 km). A stretch of 10.7 river miles (17.2 km) between Beaver Creek confluence and Miller's Ferry Marina was not sampled.

The survey of both stretches of river was conducted by two observers and began at 0900 and 1445 respectively. Each stretch was sampled for approximately 3.5 hours traveling at a constant speed and continually scanning the skyline in all directions. All kites observed were recorded by moving directly under the birds and determining their position using a portable Global Positioning System (G.P.S.). Although we were surveying for Swallow-tailed Kites, we also recorded positions for all Mississippi Kites (*Ictinia mississippiensis*) observed.

Plane Survey

The second survey was conducted 30 July by plane (Cessna 182) starting over the Alabama River [from Catoma Creek confluence at RM 270.7 (435.6 km) south to its confluence with the Tombigbee River at RM 0.0 (0.0 km)] and ending over the Tombigbee River [from Alabama River confluence at RM 45.0 (72.4 km) to Hayes Creek confluence at RM 230.7 (371.2 km)], covering a total of 456.4 river miles (734.3 km).

The aerial survey took approximately five hours, leaving Montgomery at 0730 and returning at 1400, with two breaks for fuel and rest totaling 1.5 hours. We consistently flew at altitudes between 500 ft (152.5 m) and 800 ft (244.0 m) at speeds ranging between 80 to 100 knots (148 to 185 km/hr). Three observers continually scanned the skies and treeline for kites. Any kite observed was recorded

by circling around the bird and determining its position by reading global positioning instruments on the plane. As in the boat survey, both Swallow-tailed and Mississippi Kites were recorded.

RESULTS AND DISCUSSION

A total of 43 Swallow-tailed Kites was observed on the two surveys. Seven (16%) were observed during the boat survey and 36 (84%) during the plane survey. Thirty-one (72%) of the 43 were recorded along the Alabama River (Table 1), and 12 (28%) along the Tombigbee (Table 2). No more than six individuals were observed at any one location along either the Alabama or Tombigbee Rivers.

Although Mississippi Kites were not the focus of this survey, 39 individuals were observed along the two rivers. Seventeen (44%) were seen along the Alabama River (Table 1), and 22 (56%) on the Tombigbee (Table 2). Unlike Swallow-tailed Kites, Mississippi Kites were seen more frequently along the Tombigbee than along the Alabama River with observations occurring at 16 of 20 locations. Observations along the Alabama River occurred at only six of 18 locations.

We did not observe any Swallow-tailed Kites outside of Imhof's (1976) distribution range. Swallow-taileds were seen more frequently along the lower reaches of both rivers while Mississippi kites were seen more frequently along the upper reaches. Swallow-tailed sightings did not extend upstream beyond Clifton Ferry Park (RM 124.2) on the Alabama River, nor upstream beyond Shultys Landing (RM 139.3) on the Tombigbee River (Figure 1). Surveys by boat and plane proved to be an effective way for observing kites. The boat allowed us excellent visibility to thoroughly examine the river's treeline, while the plane allowed us to survey long reaches of river quickly. Although we surveyed during a time of year when nesting was ending and post-breeding dispersal was beginning (K. Meyer pers. comm. 1998), we hope that some of our observations will lead to finding nests in future breeding seasons.

SUMMARY

A boat and a plane survey was conducted on the Alabama and Tombigbee Rivers in July 1998 to record sightings of Swallow-tailed and Mississippi Kites in an effort to evaluate their current distributions along these drainages. Precise locations of sightings were determined by using a Global Positioning System (G.P.S) and entered into a Geographic Information System database for documentation. A total of 43 Swallow-tailed Kites (31 on the Alabama River and 12 on the Tombigbee River) and 39 Mississippi Kites (17 on the Alabama River and 22 on the Tombigbee River) was recorded.

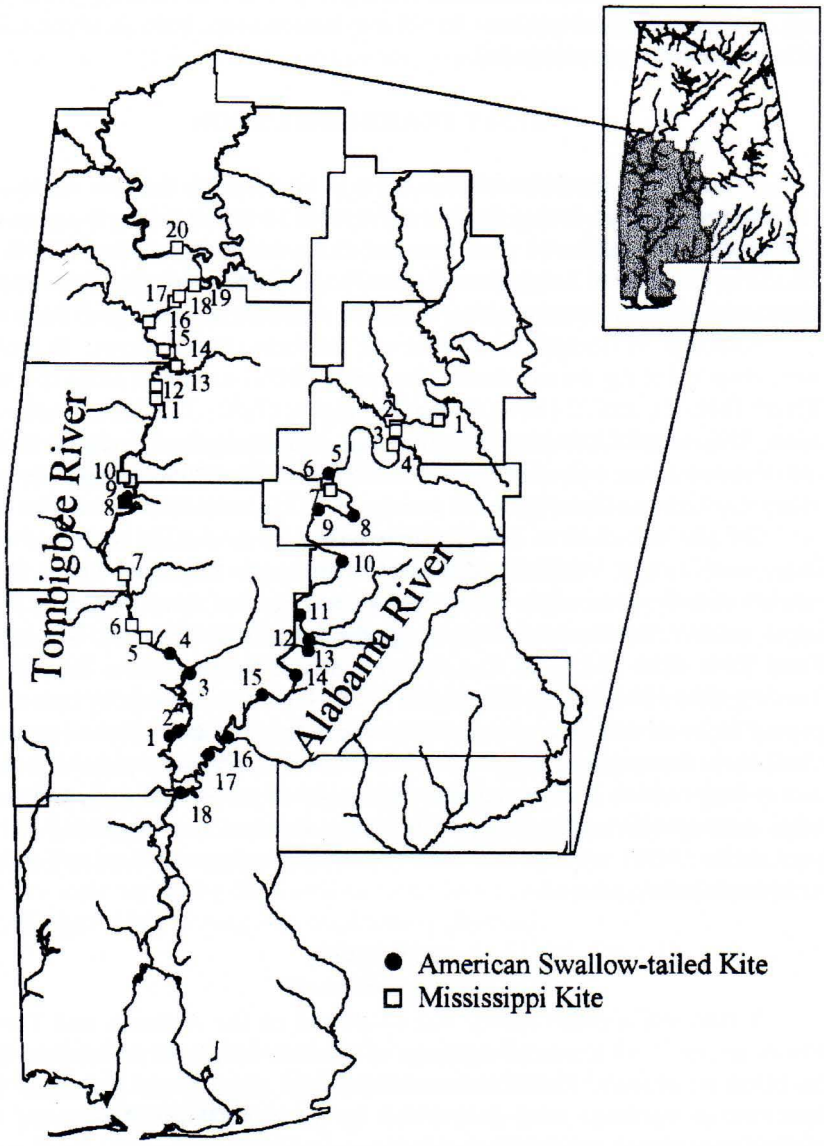

Figure 1. Locations of American Swallow-tailed Kite and Mississippi Kite sightings along the Alabama and Tombigbee Rivers.

TABLE 1. LOCATIONS OF SWALLOW-TAILED KITE AND MISSISSIPPI KITE SIGHTINGS ALONG THE ALABAMA RIVER

Date	Survey By	Site	Number Observed		Location[a]	County
			ASTK*	MIKI**		
16 July 1998	Boat	1		1	Molette Bend at RM 168.3	Dallas
16 July 1998	Boat	2		2	Chilatchee Creek Confluence at RM 158.6	Dallas
16 July 1998	Boat	3		1	Sprague Landing at RM 157.8	Dallas
16 July 1998	Boat	4		3	Hurricane Island at RM 154.6	Wilcox
30 July 1998	Plane	5	2		Clifton Ferry Park Boat Ramp at RM 124.8	Wilcox
16 July 1998	Boat	6	6	9	Downstream of Beaver Creek Confluence at RM 122.4	Wilcox
16 July 1998	Boat	7		1	Yellow Bluff Industrial Waste Ponds Drainage at RM 121.1	Wilcox
16 July 1998	Boat	8	1		Gulletts Bluff Park at RM 112.4	Wilcox
30 July 1998	Plane	9	6		Near Suck Creek Confluence at RM 104.3	Wilcox
30 July 1998	Plane	10	2		Near Morrisette Landing at RM 89.7	Monroe
30 July 1998	Plane	11	1		Upstream of Clairborne Lock & Dam at RM 74.2	Monroe
30 July 1998	Plane	12	4		Big Flat Creek Confluence at RM 68.5	Monroe
30 July 1998	Plane	13	1		Downstream of U.S. Hwy 84 Bridge at RM 66.3	Monroe
30 July 1998	Plane	14	2		Opposite Marshalls Creek Confluence at RM 54.2	Clarke
30 July 1998	Plane	15	1		Near Scott Lake at RM 44.4	Clarke
30 July 1998	Plane	16	1		Upstream of Monroe Point at RM 28.8	Monroe
30 July 1998	Plane	17	1		Near Dallas Landing at RM 19.8	Clarke
30 July 1998	Plane	18	3		Near intersection with Tombigbee River at RM 3.2	Baldwin
Total (N)		18	31	17		
Mean (± SD)			2.38±1.85	2.83±3.13		

[a] Locations determined from USACE 1984.
*ASTK – American Swallow-tailed Kite
**MIKI – Mississippi Kite

TABLE 2. LOCATIONS OF SWALLOW-TAILED KITE AND MISSISSIPPI KITE SIGHTINGS ALONG THE TOMBIGBEE RIVER

Date	Survey By	Site	Number Observed		Location[a]	County
			ASTK*	MIKI**		
30 July 1998	Plane	1	1		Slades Woodyard at RM 66.2	Clarke
30 July 1998	Plane	2	2		Near Bull Ridge Pond at RM 70.0	Clarke
30 July 1998	Plane	3	4		North of Jackson Municipal Airport at RM 89.0	Clarke
30 July 1998	Plane	4	3		Upstream of Stave Creek at RM 93.9	Clarke
30 July 1998	Plane	5		2	Old Lock No. 1 at RM 100.0	Clarke
30 July 1998	Plane	6		1	Peavey's Landing at RM 103.2	Clarke
30 July 1998	Plane	7		1	Seyouyah Creek Confluence at RM 113.8	Choctaw
30 July 1998	Plane	8	2	1	Schultys Landing at RM 139.3	Choctaw
30 July 1998	Plane	9		1	Near Slaters Landing at RM 150.4	Choctaw
30 July 1998	Plane	10		2	Opposite Democrat Landing at RM 152.0	Marengo
30 July 1998	Plane	11		1	Marathon Southern Waste Pond Discharge at RM 171.8	Choctaw
30 July 1998	Plane	12		3	Upstream of Kemps Landing at RM 174.4	Choctaw
30 July 1998	Plane	13		1	Four Mile Bar at RM 183.6	Marengo
30 July 1998	Plane	14		1	Opposite Double Creek Confluence at RM 192.5	Sumter
30 July 1998	Plane	15		1	Gilmores & Lone Brothers Bar at RM 193.5	Marengo
30 July 1998	Plane	16		2	Downstream of Rooster Bridge at RM 201.1	Marengo
30 July 1998	Plane	17		1	Opposite Cypress Slough at RM 207.6	Sumter
30 July 1998	Plane	18		2	Near Simmon Landing at RM 208.8	Marengo
30 July 1998	Plane	19		1	Near McDowell Ferry at RM 212.3	Marengo
30 July 1998	Plane	20		1	Downstream of Hayes Creek Confluence at RM 227.6	Sumter
Total (N)		20	12	22		
Mean (± SD)			2.40±1.14	1.37±0.62		

[a]Locations determined from USACE 1972.

*ASTK – American Swallow-tailed Kite

**MIKI – Mississippi Kite

ACKNOWLEDGMENTS

I thank Greg Lein and Garth Crow for assistance with observations in the field, Jo Lewis for technical assistance with the G.I.S., Ken Meyer, Mark Woodrey, and Chuck Hunter for providing helpful information on Swallow-tailed Kites, Bill Summerour for reviewing the manuscript, and Ray Stroud for flying the Cessna. Equipment and funding for this study was provided by the Alabama State Lands Division.

LITERATURE CITED

Alabama Game and Fish Division. 1997-1998. Alabama Regulations Relating to Game, Fish and Fur-Bearing Animals. Alabama Department of Conservation and Natural Resources, Montgomery, AL.

Hunter, C. 1998. United States Fish and Wildlife Service. Southeastern Regional Coordinator, Atlanta, GA. Pers. Comm.

Imhof, T. A. 1976. Alabama Birds. University of Alabama Press, University, AL.

Meyer, K. D. 1995. Swallow-tailed Kite (Elanoides forficatus forficatus). In The Birds of North America, No. 138 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D. C.

Meyer, K.D. 1998. Avian Research and Conservation Institute, Gainsville, FL. Pers. Comm.

Meyer, K. D. and M. W. Collopy. 1996. Threatened: American Swallow-tailed Kite (Elanoides forficatus). Pages 188-196 in Rare and Endangered Biota of Florida. Volume V. Birds (J. A. Rodgers, Jr., H. W. Kale II, and H. T. Smith, eds.). University of Florida Press, Gainsville, FL.

United States Army Corps of Engineers. 1972. Navigation Charts: Black Warrior-Tombigbee Rivers, Alabama. U. S. Army Engineer District, Mobile, AL.

United States Army Corps of Engineers. 1984. Navigation Charts: Alabama River, Alabama. U. S. Army Engineer District, Mobile, AL.

United States Fish and Wildlife Service. 1996. Endangered and Threatened Species, Plant and Animal Taxa; Proposed Rule. Federal Register 50 CFR, Part 17, 61:40, 7596—7613.

Woodrey, M. 1998. Mississippi Museum of Natural Science, Jackson, MS. Pers. Comm.

Eric C. Soehren, Department of Conservation and Natural Resources, State Lands Division, Natural Heritage Section, 64 North Union Street, Montgomery, AL 36130.