



Swallow-tailed Kite Forest Management Recommendations for Forest Owners in the Southeastern U.S.

Introduction

First and foremost, thank you for owning and managing a working forest. Forest landowners like you provide a home for numerous species of birds including Swallow-tailed Kites (STKIs).

The STKI is one of North America's most beautiful birds of prey. It is a large, black and white bird (similar in size to a large hawk), with long, narrow wings spanning 4 feet, and a distinctive, long forked tail. STKIs are also fun to observe: They can appear to hang motionless in the air, then dive, roll, or swoop with relative ease. Their diet consists mainly of large insects like dragonflies, grasshoppers, beetles and cicadas, but STKIs will also capture frogs, snakes, lizards, and nestling birds to feed their young.

STKIs are long-distance Neotropical migrants that spend their spring and summer months in the southeastern U.S. coastal plain, from South Carolina to Texas and throughout Florida. Come July and August, they migrate south to their wintering grounds in Brazil and Bolivia.

Sustainably managed southeastern forest landscapes can support STKIs throughout the nesting season, and the management recommendations below are designed to help you attract and provide for STKIs on your working forest. These recommendations are based on over 20 years of field data and insights from land managers gathered by the Avian Research and Conservation Institute in Florida, Georgia, and South Carolina.*

Things to consider: Your overall property Special Features

- Nest trees: STKI nests are generally found in relatively tall, emergent pine trees with fairly open crowns, so it is key to retain some larger (often older) pine trees on your property. Heights vary; tall and emergent are key aspects. STKIs will also nest in cypress and, to a lesser degree, some hardwood tree species. Retain any of these larger-sized trees wherever and whenever possible. Ideally, maintain clumps with at least five large, emergent pines adjacent to remaining hardwood stands.
- Attractive nesting areas usually have well-developed midstories and understories, Spanish moss present for nest material, and an assortment of snags or live trees with dead branches that can serve as day perching and night roosting sites.



- Isolated wetlands with a multi-species overstory of hardwoods, cypress, and pine provide excellent nesting and foraging opportunities for STKIs. Protect these areas when conducting any silvicultural activity/management. If possible, leave at least five pines standing per wetland pond and retain a pine-dominated stringer at least one tree wide around the outside of the pond.

Prescribed Fire

- Nesting STKIs typically avoid recently burned stands, perhaps because such sites are attractive to Great Horned Owls, the kite's primary breeding-season predator.
- Prescribed fire should be limited or avoided in stands repeatedly used by nesting STKIs.
- Prescribed fire should not be attempted within 100 meters of known active nests.

Things to consider: Planning timber sales

Final harvest

- Protecting active nest sites is the most critical STKI conservation measure you can employ on your property. STKIs are very social and return to the same sites year after year, often nesting very close to each other. Tracking kite activity for five consecutive years is the best way to confirm nest sites. Kites conspicuously carrying nesting material (sticks, moss) or prey (insects, snakes, frogs, birds) are the best evidence of nearby nesting, especially when you see them repeatedly and hear them calling.
- If you have a planned sale in an area with nesting kites and harvest will occur during the March-July nesting season, the best approach to ensure successful nesting is to delay the sale until after nesting season. At harvest, retaining an unharvested buffer around the nest tree with a radius of 60 yards (roughly 2.3 acres) may continue to provide a place for STKIs to nest in future years. If you must go ahead with a sale in an area with nesting kites from March-July, minimize disturbance by keeping harvest operations outside of a forested buffer with a radius of 150 yards (roughly 14.6 acres) around the nest tree. Return after nesting to complete the harvest, leaving the nest tree and 60-yard buffer as described above.
- After the harvest, STKIs will use the cut area for foraging and will nest and roost on the edges or in an adjacent older stand, if there are suitable large trees available (see above).



Nesting Swallow-tailed Kites by Mac Stone

- Average clear-cut size of 40-60 acres is best, but cuts of up to 120 acres could still provide for the foraging needs of nesting kites.
- One key to providing future nests sites for STKIs is leaving clumps of live, tall, emergent pine trees. It is best to leave at least five trees located adjacent to hardwood areas (e.g., SMZs, hardwood stands, swamps, etc.) and/or isolated wetlands.
- In sale areas requiring streamside management zones (SMZs), consider making these SMZs as wide as possible, especially when they include large, emergent pines. A good general rule for wildlife-friendly SMZ width: You should not be able to see through it.
- Remember to keep it messy: Leave snags, downed tops, small trees, and other living and dead vegetation. Nature is not tidy, and this structure will attract more species of wildlife, including STKI prey species.
- Within ephemeral streams and drains, leave as many overstory trees as possible with a preference for at least one large, emergent pine every 100 to 150 feet.

Thinning

- Any type of thinning (1st and 2nd) is a positive silvicultural practice for STKIs because the resulting canopy openings promote accelerated growth of the adjacent trees (kites want to nest in emergent trees), and will increase midstory and understory plant diversity. This new plant growth will promote greater diversity, abundance, and availability of prey such as insects, snakes, frogs, lizards and nestling birds. Heavier thinning is preferred to allow more sunlight to reach the forest floor. When thinning older stands, retain existing large, emergent trees for possible future nest sites.

*Meyer, K. D., and G. M. Kent. 2014. Enhanced best management practices for Swallow-tailed Kites in planted pine forests of the southeastern United States. Avian Research and Conservation Institute, Gainesville, Florida, USA. www.arcinst.org

Also see: Williams, E.J., and J. Poirier. 2019. *Bird Friendly Forests: Opportunities for Private Forest Owners in the Southeastern United States*. American Bird Conservancy and International Paper. www.abcbirds.org.