Second in a series of reports on School Project Awards.

Students make the connection between swallow-tailed kite conservation and habitat loss

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Nestled on the upland edge of the beautiful Gulf Hammock region, Yankeetown's oak hammocks and riverine forests comprise some of the familiar places first seen by returning swallow-tailed kites. What changes will the kites find when they complete another 5,000 mile passage from their winter range in southwestern Brazil and arrive this year to establish territories and build nests?

The soil and weather in Gulf Hammock make trees grow fast, so lumbering is lucrative. Where it's not (or where homeowners are willing to pay extra to be close to the water), RV and trailer parks, subdivisions, and all the supporting amenities proliferate. Granted, things move slowly here relative to the rampant growth transforming most of Florida. Given most people's idea of "long-term"—the life of an SUV's tires, a condo roof, a pair of golf shoes—the natural landscape might seem unthreatened. Viewed in relation to the evolution of a vulnerable species with low reproductive potential, however, the life-supporting web is rapidly unraveling.

Nurtured by a local economy that feeds on the land, even Genie Sturtevant's science students at Yankeetown Middle School in Levy County, Florida must feel the conflict between protecting a special place and benefiting from the things that threaten it. From Yankeetown's idyllic perch on the Withlacoochee River, they have a clear view of the aborted Cross-Florida Barge Canal and the Crystal River nuclear power plant, feeding energy to Tampa and Orlando. Still, there are native forests and clean wetlands, manatees and migrant songbirds, stunning waterways, swallow-tailed kites and children—unconcerned enough with property taxes, health insurance, and mortgage rates that they remain awed by nature.

The rapid evolution of wildlife telemetry, especially highly sophisticated satellite-tracking technology, represents some of the best of human inventiveness. Avian Research and Conservation Institute began affixing Microwave Telemetry's then smallest satellite transmitters to swallow-tailed kites in 1996. In a matter of weeks, we went from knowing virtually nothing about kite migration behavior to uncovering fine details of route, timing, and wintering destination.

Students at Yankeetown Middle School map the travels of swallow-tailed kites.

Nonetheless, these electronic achievements are overshadowed by the biotechnology of the migrating birds that carry these transmitters—feats of orientation, navigation, and physiological endurance, all in a one-pound, streamlined mass of flesh and feathers. None of this is lost on Genie's seventh and eighth graders. With a generous grant from Microwave Telemetry in 2001, we expanded our sample size and launched a cooperative program with Yankeetown Middle School. When we talk in the classroom about tracking methods, migration biology, the effects of weather and the dynamics of long-distance flight, these kids show a surprisingly clear understanding of technical details, a credit to their science teacher and their uncorrupted curiosity.

Making the connection between swallow-tailed kite conservation and habitat loss in their own neighborhood is an easy leap for these students, but the story doesn't end there. During the 40 percent of the year they spend migrating, swallow-tailed kites traverse Cuba, the Yucatan Peninsula, coastal Central America, the Colombian Andes, and the headwaters of the Amazon, encountering degraded or destroyed native habitats. Wintering habitats in Brazil are

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Photos courtesy of Genie Sturtevant

Students find connections between the project's biology lessons and related ones in math, geography, and social studies.

Southbound migration of 33 Swallow-tailed Kites tracked by satellite, 1996–2002

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