

**RED HILLS ECOLOGICAL STEWARDSHIP CONSORTIUM:
MANAGEMENT OF AN ENDANGERED SPECIES AND AN ENDANGERED
ECOSYSTEM ON PRIVATE LANDS**

Final Report for

*Bill Terrell Avian Conservation Grant
Georgia Ornithological Society*

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The *Red Hills Ecological Stewardship Consortium* promotes conservation and management of Red-cockaded Woodpeckers (*Picoides borealis*) on the biologically rich private lands found in the Red Hills physiographic region of southwest Georgia and north Florida. This physiographic region supports the largest woodpecker population ($n \approx 450$) remaining on private lands and some of the best examples of old-growth longleaf pine (*Pinus palustris*) forests found anywhere (Means 1996).

The *Consortium* consists of Tall Timbers Research Station and Land Conservancy and 3 governmental agencies (Georgia DNR, Florida Fish and Wildlife Conservation Commission, and U.S. Fish and Wildlife Service). Meetings are held annually to develop conservation goals for each year within the framework of long-term objectives that include:

- (1) Develop *Safe Harbor Agreements* for private lands in the Red Hills region;
- (2) Increase the regional Red-cockaded Woodpecker population through construction of artificial cavities and population augmentation;
- (3) Work directly with landowners to protect cavity trees and core cluster areas;
- (4) Monitor nests annually so juvenile woodpeckers can be translocated to bolster other populations or to help expand the Red Hills population;
- (5) Assist landowners in obtaining cost-share incentives provided by state and federal entities;
- (6) Update and maintain the Tall Timbers cavity tree database; and
- (7) Promote the ecological and economic values of the longleaf pine ecosystem.

The *Consortium* received generous support from the *Bill Terrell Avian Conservation Grant* and the *U.S. Fish and Wildlife Service* to support program operations from April 2008-December 2009. Specific activities and accomplishments are described below for individual objectives. Grant funding provided by the *Bill Terrell Conservation Grant* originally was intended to support a full-time woodpecker technician for approximately 6 months; however, the biologist occupying the position left in June 2008 to pursue more permanent employment opportunities with the federal government. Rather than hire a replacement for 6 months, funding provided by the *Bill Terrell Conservation Grant* was used to support contracted services provided by the following biologists:

Michael Keys: a biologist with the U.S. Fish and Wildlife service who also runs a biological consulting firm specializing in cavity excavation. Keys excavated all artificial cavities (except for 6 constructed by Cox on Tall Timbers).

Wilson Baker: independent biologist who has worked in the Red Hills region for 30 years. Baker performed all baseline surveys and worked up new *Safe Harbor Agreements* in 2008 and 2009

Aubrey Sirman: undergraduate biology student. Sirman was hired as an intern and assisted with fledge checks, nestling banding, and roosting and translocation efforts in 2009.

Objective 1: Recruit new landowners into *Safe Harbor Agreements*

We consummated new *Safe Harbor Agreements* on 7 properties during the period covered by this grant (Table 1). This surpassed the goal of 4 new properties proposed in our original grant application. The properties added 3 new active territories to the total number of territories ($n = 127$) now conserved by *Safe Harbor Agreements* in the region. Properties added in 2008 also represented one of the larger single-year gains in acreage (12,385 acres) ever achieved.

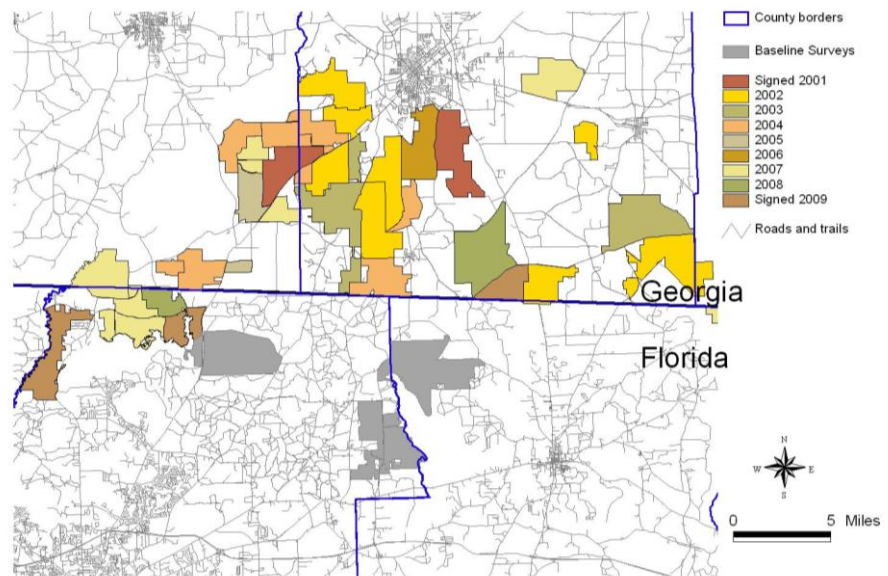


Figure 1. *Safe Harbor Agreements* in the Red Hills region.

We conducted additional baseline surveys on 4 properties and expect to have these properties signed up for *Safe Harbor* before the end of March 2010 (i.e., paperwork has been sent to landowners). The current status of *Safe Harbor* properties in the region is depicted in Fig. 1.

Objective 2: Construction of at least 40 artificial cavities in key areas.

Artificial cavities ($n = 62$) were excavated on the following properties in 2008 and 2009 (Fig. 2): Arcadia (12), Beechwood (7), Elsoma (10), Pebble Hill (8), Sinkola (7), Longleaf (6), and Tall Timbers (12). Most artificial cavities were inserts (Allen 1991), and cavities constructed on Arcadia, Beechwood, Longleaf, and Sinkola plantations were placed in active territories where cavity resources had declined. Artificial cavities excavated on other properties (Fig. 2) also were added to established territories, but 4 recruitment clusters with 4 cavities each also were constructed in hopes of establishing new territorial groups.

Objective 3: Work directly with landowners to protect cavity trees and core cluster areas.

We met with the landowners of Arcadia, Beechwood, Elsoma, Longleaf, Longpine, Milestone, New Hope, and Pebble Hill plantations to discuss timber operations planned for these properties in 2008 and 2009. We surveyed the areas to be harvested to locate and flag new cavity trees and also to ensure known cavities were properly marked. We noted 5 new cavity trees during these surveys, including one that served as the breeding cavity later that year. Harvests conducted on all properties retained sufficient timber to satisfy federal foraging guidelines for Red-cockaded Woodpeckers. We also provided guidance on the placement of loading decks and logging debris within the areas harvested to reduce threats to cavity trees.

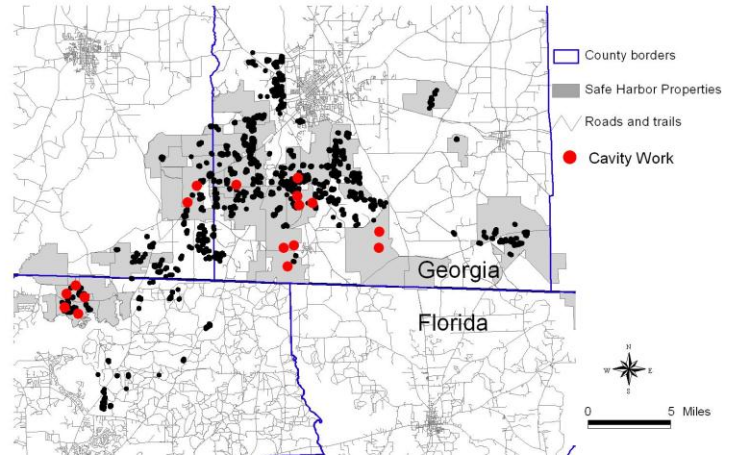


Figure 2. Sites where artificial cavities were constructed

We cleared fuels surrounding approximately 135 cavity trees on Arcadia, Elsoma, Pebble Hill, and Sinkola Plantations prior to burns conducted in 2008 and 2009. Low cavities with copious amounts of sap were the primary focus of these efforts. Additionally, we sent letters to 35 landowners in the Red Hills region in October 2009 to notify them of a new cost-share program to help improve habitat conditions for Red-cockaded Woodpeckers. As of January 2010, one-on-one meetings had been held with four landowners.

Objective 4: Monitor nest productivity so that juvenile woodpeckers can be translocated

We banded nearly 100 nestling woodpeckers on 7 properties in 2008 and an additional 67 nestlings on 6 properties in 2009. Staff with the Georgia Department of Natural Resources banded an additional 8 nestlings in 3 nests on a single property. The mean number of nestlings banded in 2008 (2.23 per nest) was modestly higher than the long-term regional average of 2.0 nestlings, while nestling productivity in 2009 was below average (1.89 per nest). At least 61 of the nestlings banded in 2008 fledged (2.01 per nesting attempt), and at least 39 of the nestlings banded in 2009 fledged. The sex ratio of fledglings (male:female) was 0.87:1.00 in 2008 and 1.00:0.77 in 2009.

Although productivity was above average in 2008, translocation efforts were complicated that year by an unanticipated storm event – Hurricane Fay. This storm moved slowly over southwest Georgia from 22-24 Aug and had a disastrous effect on our population. Fay’s arrival coincided with a time when many juvenile woodpeckers are not yet using cavities, and the young birds were exposed to heavy rains for several consecutive days. We normally expect about a

third of the nestlings banded in May to still be alive in fall, but the numbers we encountered in September and October suggested only 10% survived this storm. We made 25 evening trips to attempt to find juvenile woodpeckers eligible for translocation. We found only 5 individuals. Two juveniles were translocated to Beechwood Plantation in Georgia and 3 juveniles went to Tall Timbers Research Station. Similarly dismal translocation success was reported for many other regions.

The effects of Hurricane Fay also were evident the following breeding season. The lower number of nestlings banded in 2009 reflected (in part) a decline in active territories as well as increases in the number of territories held by single males. Nonetheless, we were able to locate 7 juveniles eligible for translocation in 2009. Four individuals went to Tall Timbers and 3 individuals went to Beechwood Plantation.

Objective 5: Conduct surveys for new cavity trees and mark cavity trees on all 27 properties with *Safe Harbor*

We conducted surveys on 18 of the 27 properties with Safe Harbor Agreements in 2008. Surveys of the remaining 15 properties were completed in 2009. We added 35 new natural cavities to our regional database in 2008 and 18 in 2009. Where appropriate, unobtrusive aluminum bands were placed around new active cavity trees as well as around new trees discovered toward the periphery of each cluster.

Conclusions

The generous support provided by *Bill Terrell Avian Conservation Grant* has enabled us to continue to expand the Red Hills population of Red-cockaded Woodpeckers. Once our population recovers from the effects of Hurricane Fay, we should approach a long-standing goal of having 200 active breeding territories in the Red Hills region. Continued expansion of the woodpecker populations on Tall Timbers Research Station in Florida and Beechwood Plantation in Georgia should help us reach this goal within the next 2 years.

We also hope to continue to increase woodpecker populations on properties with *Safe Harbor Agreements*. We estimate properties with *Safe Harbor Agreements* can support 5-10 additional territories if artificial cavities are provided. We have permission to excavate a new recruitment group this year on Warbick Farms and are trying to secure permission to excavate an additional group on Sinkola Plantation. Once the population goal of 200 active territories is reached and Tall Timbers Research Station and Beechwood Plantation support self-sustaining populations of approximately 5-10 breeding groups, we anticipate being able to provide juvenile woodpeckers to the *Southern Range Translocation Cooperative* at a rate of ≥ 4 individuals each year.

In summary, we have successfully expanded the woodpecker population in the Red Hills region and have a clear vision of our future needs and goals. Some of the goals are based on well

defined population objectives (e.g., Cox and Engstrom 2001), but we also adapt as new opportunities arise. Goals for the next few years will continue to focus on expanding woodpecker populations in the southern portion of the Red Hills (particularly Beechwood Plantation). These efforts, in turn, will benefit scores of rare species associated with southern pine ecosystems.

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Table 1. Year-to-year tabulation for the number and acreage of properties enrolled in the *Safe Harbor Program* in the Red Hills Region

Year	Properties	Hectares	Acres
2001	2	2927.2	7221.5
2002	7	9122.5	22505.2
2003	2	4544.5	11211.2
2004	9	6451.4	15915.6
2005	1	1057.2	2608.1
2006	1	1394.8	3440.9
2007	5	8580.3	21167.7
2008	3	5020.3	12385.2
2009	4	2323.3	5731.6
			102187.1