

SFI CONSERVATION GRANT EXPLAINER



MANAGED FORESTS FOR THE BIRDS



Project Lead	American Bird Conservancy
Awarded	2019-2021
Location	5 study sites across Southeastern United States (Florida, Texas, Louisiana, Alabama, North Carolina)
Partners	Avian Research and Conservation Institute (ARCI) National Council for Air and Stream Improvement (NCASI) SFI-Certified Organizations: C.A. Barge Timberlands Manulife Investment Management (formerly Hancock Timber Resource Group) International Paper McShan Lumber Molpus Woodlands Group Resource Management Service The Westervelt Company Weyerhaeuser

In 2019, American Bird Conservancy (ABC) led an SFI Conservation Grant project to evaluate bird abundance and diversity on sustainably managed forestlands in Southeastern US.



KEY POINTS

- Southeastern working forests are essential to both sustainable wood production and bird conservation, providing extensive habitat for declining migratory and resident bird species beyond protected conservation lands.
- SFI-certified managed forests supported high bird diversity and abundance: researchers completed 862 point counts on 29 survey routes, detected 15,939 individual birds, documented 107 species, and found all 11 focal species of conservation concern.
- Bird abundance and diversity metrics in sustainably managed forests were generally equal to or higher than those observed along nearby North American Breeding Bird Survey (BBS) routes, despite BBS routes sampling a wider variety of habitat types.

WHY IT MATTERS

The Southeastern United States forests are among the most important landscapes in North America for both sustainable wood production and bird conservation. Working forests support a wide range of bird species, including many that have experienced long-term population declines, while also providing significant economic, environmental, and social benefits. While conservation lands remain essential for protecting sensitive habitats and biodiversity, they alone cannot sustain bird populations across a landscape. Working forests therefore play a critical complementary role by providing extensive habitat across millions of acres that connect, buffer, and expand conservation outcomes beyond protected areas.

Historically, southeastern forests were shaped by natural disturbances such as fire, storms, and insect outbreaks, creating a continually changing mix of habitat conditions. Different bird species evolved to depend on this diversity, with some benefiting from young, regenerating forests and others relying on mature forest conditions. Sustainable forest management can maintain this mosaic of forest stages across the landscape while keeping forests as forests, providing habitat continuity and resilience over time. This stability is particularly important for migratory and at-risk species that must locate suitable breeding habitat quickly upon their return each spring.

As bird populations continue to decline across North America, understanding the conservation value of working forests has become increasingly important to evaluate how forests managed under third-party certification programs, like Sustainable Forestry Initiative (SFI), contribute to bird abundance and diversity, particularly for species of conservation concern. Combining scientific monitoring, community science participation, and practical forest management tools, together can strengthen understanding of how sustainably managed forests can support healthy bird populations while continuing to provide forest economic and ecological benefits across the southeastern landscape.

HOW IT RELATES TO THE SFI STANDARDS

This project supported two objectives in the SFI 2022 Forest Management Standard:

- **Objective 4: Conservation of Biological Diversity**
- **Objective 14: Community Involvement and Landowner Outreach**

This project demonstrates support for these objectives by contributing scientific information on bird species composition and abundance across diverse Eastern forests, and then translating bird conservation science into practical outreach, education, and implementation tools. Through communication pieces like Forestry for Birds workshops, distribution of the Bird Friendly Forests guide and contributions to abundance maps and data layers, the project broadened understanding of how sustainable forest management can support biodiversity, critical wildlife habitat elements, species of conservation concern, and landscape conservation objectives.

Avicaching surveys, a citizen science initiative where participants report bird observations to [ebird](#) at specific locations, also helped engage local birders and community scientists directly in managed forest landscapes, strengthening public involvement and awareness while expanding the SFI network. In this way, the project promoted the principles of sustainable forest management and provided actionable guidance that supports landowner outreach and community-based conservation outcomes.



ABOUT THE PROJECT

In 2019, SFI awarded a Conservation Grant to the ABC to evaluate how sustainably managed forests in the Southeastern United States support bird diversity and abundance, especially for species of conservation concern.

The project focused on quantifying the relative abundance of 11 focal species (Figure 1) and determining the most abundant bird species detected within five project areas. The 11 focal species were chosen as representatives of southeastern breeding species of special concern because of their range-wide population declines. Species representation included six neotropical migrants that leave their breeding grounds during the fall and return in the spring and five year-round residents of various species.

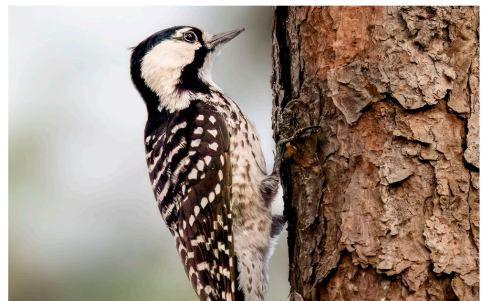
Table1. Eleven bird species of special concern in this study.



Northern Bobwhite



Swallow-tailed Kite



Red-cockaded Woodpecker



Brown-headed Nuthatch



Wood Thrush



Bachman's Sparrow



Kentucky Warbler



Prairie Warbler



Prothonotary Warbler



Swainson's Warbler



Worm-eating Warbler

To quantify the relative abundance of bird species on managed forestland and adjacent lands, researchers conducted avian point counts and avicaching surveys over a three-year period (2018-2020) to record audible and visual bird observations. Data collection focused on breeding season use (late May to early July) by focal bird species in addition to other non-focal birds within forested landscapes across five SFI-certified forest project sites (Cedar Key (CKA), Pensacola (PPA), New Bern (NBA), Aliceville (APA) and Toledo Bend (TBA), which spanned locations from Louisiana to North Carolina (Figure 1).

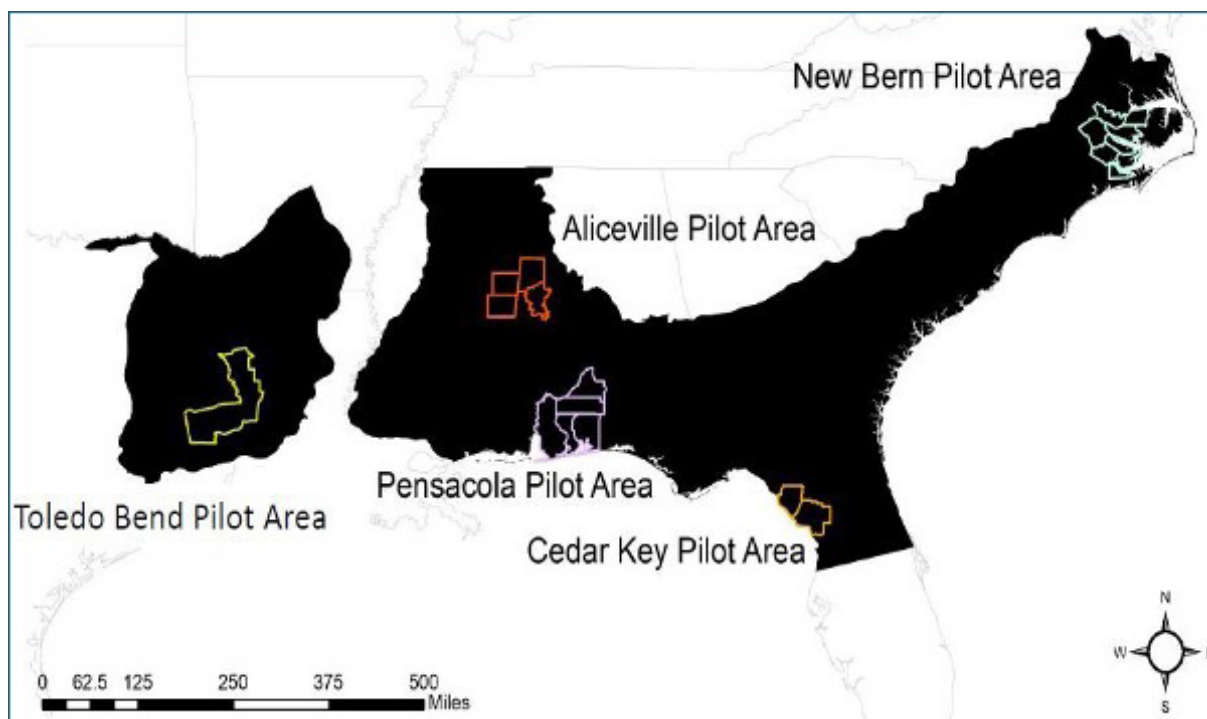


Figure 1. Location of five pilot Project Areas where avian point counts and avicaching were conducted on SFI-certified managed forest properties from 2018 to 2020.

Skilled volunteer observers used an avicaching protocol to collect data at locations pre-determined based on a criteria set by National Council for Air and Stream Improvement (NCASI) adjacent to forests managed by eight different SFI-certified organizations. These volunteers recorded and submitted observation data to the eBird community science platform maintained by Cornell Lab of Ornithology. Professional bird scientists from Aviation Research and Conservation Institute (ARCI), ABC, and Mississippi State University (MSU) used a modified version of [North American Breeding Bird Survey](#) (BBS) methodology, collecting bird population data along roadside survey routes, to conduct point counts at designated within SFI certified organization management.

To assess how bird communities on managed forests differed from those in the surrounding mixed-use landscape, the project team compared their point count and avicaching survey results with data collected from nearby BBS routes. The team analyzed the data to determine relative abundance estimates for focal and non-focal species and compared bird diversity between managed forests and nearby BBS routes using the Inverse Simpson Diversity Index (ISDI) to calculate diversity indices.



RESULTS AND OUTCOMES

Overall, the study provided strong baseline evidence that sustainably managed forestlands support diverse and productive bird communities, including species of conservation concern. While the project was not designed to assess population trends over time, the findings suggest current forestry practices are broadly compatible with bird conservation in this region.

Results from the surveys indicate that the sustainably managed forests supported high avian diversity and abundance, often equal to or exceeding the nearby North American BBS results from the surrounding mixed-use landscape. Across five SFI-certified project areas surveyed from 2018–2020, researchers documented 107 bird species, with 36 species present on all five sites, indicating strong overall bird use of sustainably managed forest lands. In total, they completed 862 point counts on 29 survey routes over three years in the five Project Areas, detecting 15,939 individual birds.

All 11 focal species of conservation concern were detected, suggesting that these managed timberlands provide habitat for the full target set of species the project was designed to assess. Among more common, non-focal species, many of the most abundant birds were also found in greater abundance on SFI-certified lands than on adjacent BBS routes. White-eyed Vireo was the only highly abundant species found on all five project areas, while Northern Cardinal was the most abundant species on all but one survey area.

In most comparisons, both point count and avicaching values for focal species fell within or above the range of adjacent areas represented by BBS data. The BBS routes include many habitat types beyond forests (i.e., fields, farmsteads, etc.). Researchers assumed that greater habitat diversity would result in greater observed bird diversity; however, bird counts from the forest-only sampling areas matched or were approaching counts from the adjacent areas. These results were unexpected and indicate that multi-successional landscapes created by sustainable forestry support highly diverse bird communities. Overall, project results suggest that SFI-certified lands provide bird habitat quality comparable to, or better than, the broader landscape around them.

ISDI analysis compared bird species diversity on SFI-certified forests with surrounding areas as calculated from BBS routes. Higher values of the ISDI indicate greater diversity. It was expected that the ISDI values from the BBS routes would be higher than those for the SFI certified site point counts because the BBS routes

sample a wider range of habitats than the SFI certified site surveys. The ISDI values of both point count and avicaching surveys fell within or well above the value range of the neighboring BBS routes. Overall, the project results documented high avian diversity and abundance on sustainably managed forests. It is significant that sustainably managed forestlands support populations of at risk and common bird species that are at least as diverse and productive as those supported by the general surrounding landscape.

Regarding finer-scale comparisons among the project areas for focal-species abundance, the most numerous focal species on the SFI certified lands was the Prairie Warbler (Figure 3), which had higher relative abundance compared to BBS routes (Figure 4). Abundance of other species varied across project areas, although Northern Bobwhite were found on all project areas. When comparing focal species relative abundance within the project areas to that determined from data collected on surrounding BBS routes, each species in each project area was within the first quartile and in most cases, above the corresponding values derived from the BBS data. This result runs counter to prevailing societal perceptions that forest management practices reduce bird abundance and diversity.



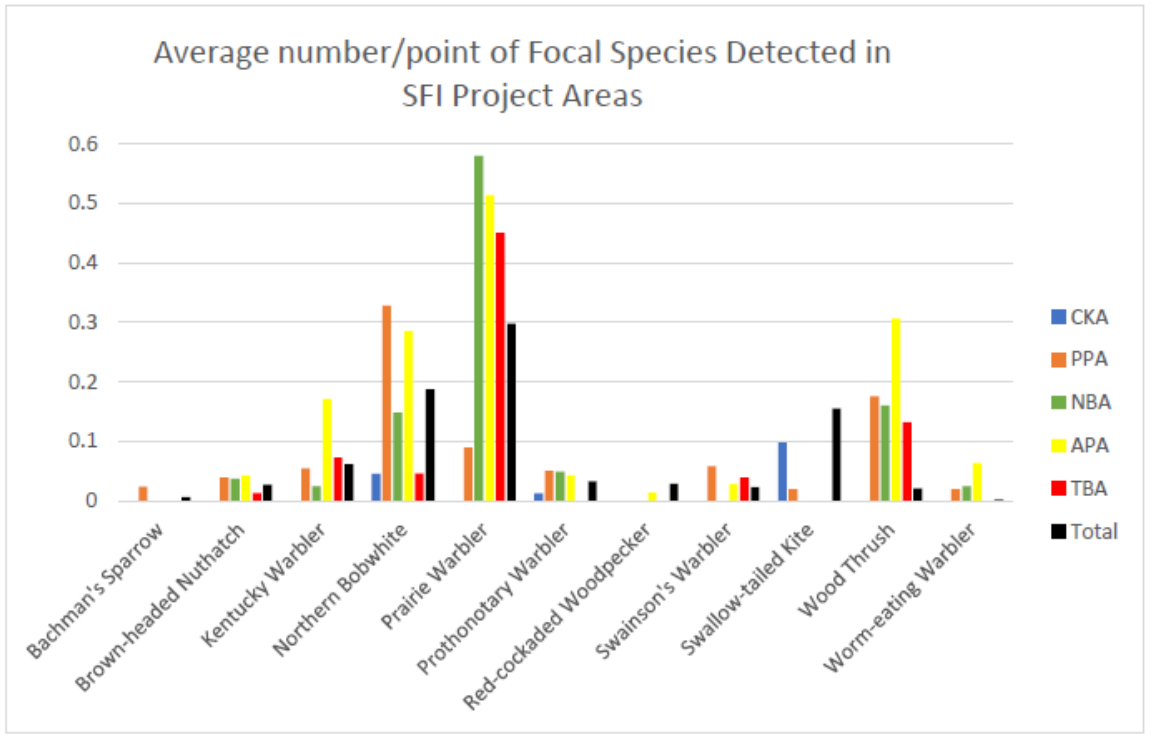


Figure 2. The average number of detections per point of focal species for each of the five Project Areas and for total detections. Numbers are adjusted to 150 minutes observation time to be comparable across all five Project Areas.

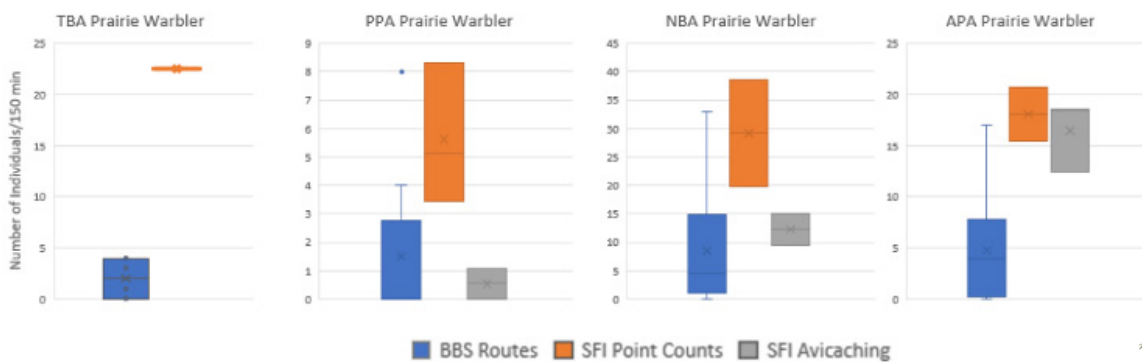
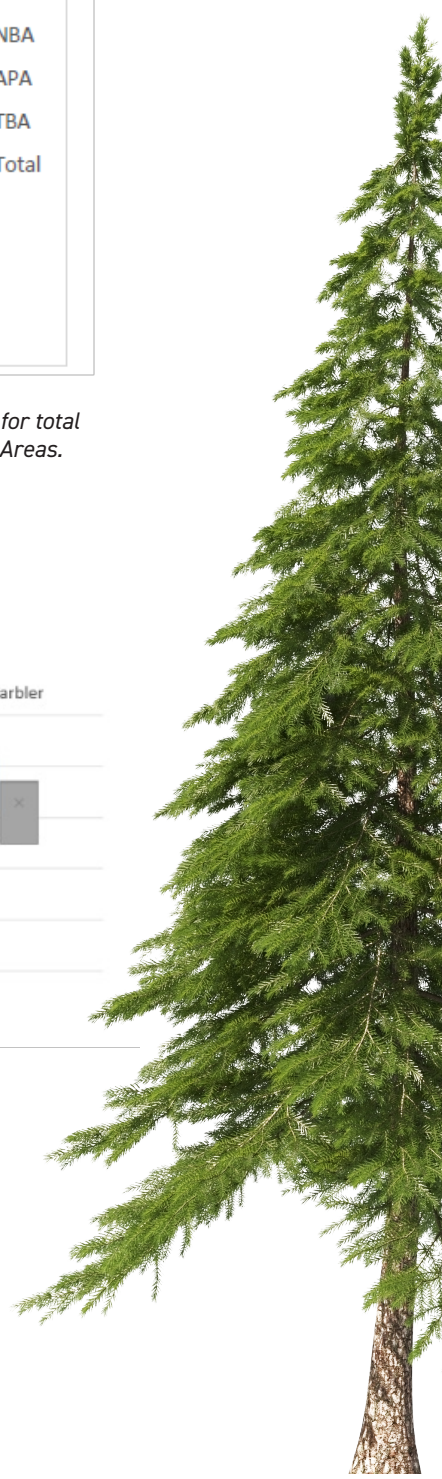


Figure 3. The number of Prairie Warblers detected in 2018-2020 during avian point count and avicaching surveys in each of five SFI partner project areas compared to data from 2018 and 2019 BBS survey routes in surrounding areas. Data were normalized to 150 minutes of survey time per year.



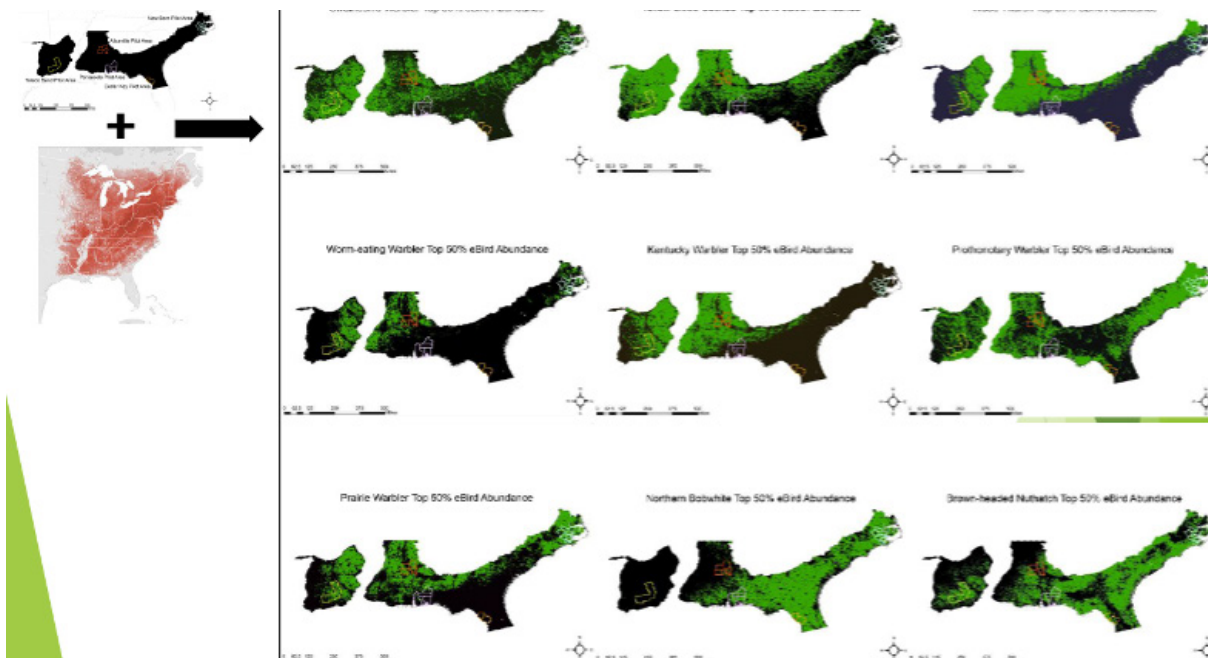


Figure 4. Distribution maps to highlight areas with the greatest 50% predictive relative abundance for 9 species in the pilot areas.



HOW THE PROJECT HELPS FOREST MANAGERS AND BIRD CONSERVATION EFFORTS

In addition to bird occurrence data collection and analysis, species abundance maps, and GIS data layers, the project also developed guidance for bird-friendly forest management. Through workshops, and a Bird Friendly Forest guide, these tools can help forest managers identify areas where management actions would most benefit focal bird species, individually or in combination, and broader bird conservation goals. Contributions to species abundance maps, available through [eBird](#), can assist forest managers in targeting those areas where these management decisions are most likely to benefit those focal species. Data layers produced from this project relate to management and/or enhancements for individual bird species, suites of species, and for all nine species. These data support managers to consider both stand and landscape level management decisions regarding conservation of at-risk species and overall bird populations.

The surveys and the combination of point counts and avicaching provided a robust estimate of species diversity and abundance on managed forests. Avicaching had the added value of immersing birders in managed forests

resulting in greater appreciation of the bird diversity found there. The project's collaborative survey effort demonstrated that relatively simple data, accurately and effectively collected, can identify and validate favorable practices already employed, suggest potential management actions favorable to bird conservation at little or no cost to timber production, and inform forest managers, natural resource agencies, conservation organizations, and the public.

The project supported a guidance document, *Bird Friendly Forests: Opportunities for Private Forest Owners in the Southeastern United States*, that highlights opportunities for private forest owners in the southeastern U.S. to enhance bird habitats through sustainable management practices. It covers topics including Forest Diversity, Final Harvest and Retention, Stand Establishment, and Thinning Practices.

Project results suggest that the multi-successional-stage landscape that results from sustainable management of forest lands in the Southeast supports a diverse avifauna relative to what is supported overall by the broader surrounding multiple-use landscape. Harvest, stand

establishment, and intermediate treatments provide for a shifting mosaic of habitat conditions within a mostly stable and resilient forested landscape. For highly migratory species like many of the focal species, landscape stability is critical. After returning from the wintering grounds, birds must quickly find suitable nesting conditions, in some cases including special features such as large pine trees for species like Swallow-tailed Kites. The birds must then display and attract a mate; lay, incubate and hatch eggs; and fledge young all within about a four-month period before returning south for the winter. Given the spatial considerations included in the SFI Standards, changes in stand stages or individual stand conditions within a largely forested area may change from one year to the next, but appropriate conditions are likely available nearby. Stability over space and time is critical. Thus, keeping forests as forests is more than a shared aspiration of sustainable forestry and wildlife conservation—it is a fundamental requirement for maintaining healthy bird populations and supporting long-term biodiversity across the southeastern landscape.

EXAMPLE: INFORMING WOOD THRUSH HABITAT CONSERVATION



Wood thrushes, one of the focal species of concern, was abundant on SFI project areas. Management conditions that ensure large blocks of forest, retain hardwood components, and favor broadleaf understory development in these managed forests can contribute to recovery of species such as Wood Thrush. The value of these forests can be increased and enhanced through purposeful, informed management decisions and species abundance maps can assist forest managers in targeting those areas where these management decisions are most likely to benefit Wood Thrush.

RESOURCES

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