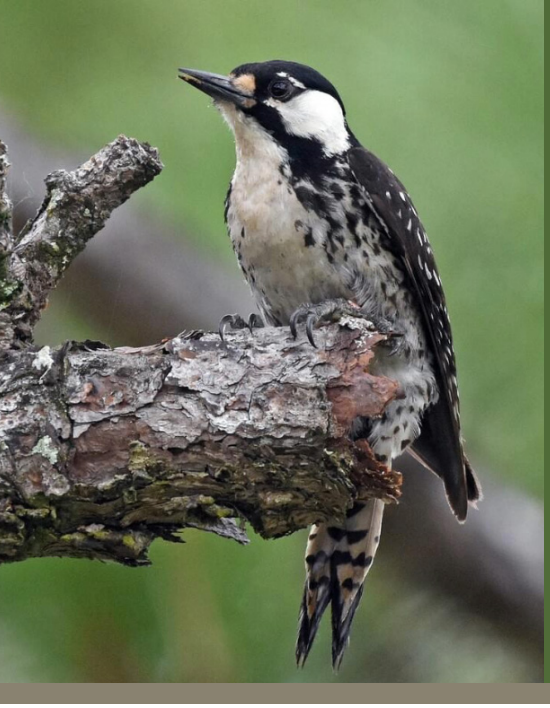


2025-2035

ALABAMA

State Wildlife Action Plan



CHAPTER 5

MONITORING



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ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES | DIVISION OF WILDLIFE AND FRESHWATER FISHERIES

CHAPTER 5
MONITORING

Monitoring Alabama's SGCN, their habitats, and the effectiveness of the conservation actions identified in this SWAP is important and necessary information for ADCNR WFF and its partners (**Element 5**). It provides the opportunity to determine the effectiveness of conservation actions and to mitigate threats facing the state's fish and wildlife resources. Monitoring also ensures the most efficient use of limited staff and funds. As conditions change (e.g., land use patterns, severe weather events, global or national population trends, new data and information), adaptive management and implementation of the conservation actions identified in Chapter 4 will allow WFF and partners to respond appropriately. This Chapter describes how WFF will use tools for information management and conservation planning to track the implementation and effectiveness of conservation actions.

Alabama's Monitoring Strategy

The SWAP conservation ranks and actions are used to guide the monitoring of SGCN, key habitats, and conservation action effectiveness (**Chapter 4, Element 4**). This section outlines how status monitoring of SGCN and habitats is currently conducted statewide. To evaluate the status of a species, it is necessary to monitor population size, population trends, area of occupancy, and extent of occurrence using various monitoring approaches.

Habitat monitoring is an additional part of Alabama's monitoring strategy that provides information on the status of the habitat in relation to the desired future condition, which can encourage persistence of certain fish and wildlife species (Rowland and Vojta, 2013). To evaluate the status of the habitats identified in this SWAP, vegetation structure, composition and condition trends over time will be monitored. Measuring the vegetation structure and composition of a habitat type statewide, however, is resource intensive. With GIS and other spatial tools, land use conversion can be monitored and new habitat classes delineated. Monitoring the status and condition of key habitats will be accomplished primarily through existing monitoring programs, including ALGAP, SHUs and SRRUs. Periodic updates of the land use and land cover in the state will allow the abundance and distribution of each habitat to be monitored as conservation actions and SWG projects are implemented.

Implementation of this SWAP involves monitoring at a variety of geographic scales, including local, state, regional, and national, according to their appropriateness and the recommendations of relevant partners' plans and programs. Standardized monitoring protocols, such as those of the Breeding Bird Survey, International Shorebird Survey, North American Bat Conservation Partnership Strategic Plan, and American Fisheries Society, will be utilized wherever appropriate so that Alabama's data will be compatible with regional and national conservation efforts.

Alabama's monitoring strategy also incorporates different time scales (short-term and long term) to monitor the implementation and effectiveness of conservation actions and the status and condition of key habitats. In the short-term, the monitoring strategy evaluates whether the conservation actions were successful in improving the status and/or condition of SGCN and key habitats. Long-term objectives track the abundance and distribution (both historic and current) of key habitats and the SGCN they support. Monitoring SGCN and key habitats is to be accomplished at various biological levels, including individual species, guilds, or natural communities.

A comprehensive list of the current programs and plans to monitor SGCN and their habitats is provided in Appendix 7. In addition, a summary of the past survey efforts since the 2015 SWAP and ongoing survey efforts is provided in Appendix 8.

Addressing Data Gaps

With the finite resources available to support monitoring programs, it is simply not possible to monitor many aspects of the natural or human environment relevant to fish and wildlife conservation efforts. However, it is possible to identify high priority target areas where additional data would be helpful for developing management strategies for fish and wildlife species and their habitats in Alabama such as the CPAs and corridors identified in Chapter 7. Chapter 3 and Chapter 4 identifies the high priority data gaps and needed conservation actions for SGCN. WFF plans to work with partners to develop monitoring programs to address these gaps including species, taxa, habitat, health and community level monitoring. This will be an important step towards providing wildlife managers in Alabama with the information they need.

Standards for Measuring Effectiveness of Conservation Actions

The purpose of tracking effectiveness measures is to obtain the information needed to adaptively manage fish and wildlife species and habitats in Alabama. The effectiveness of conservation actions described in this SWAP will be measured using a set of standardized effectiveness measures. AFWA led the effort to develop an approach for measuring the effectiveness of wildlife conservation activities funded under the USFWS's SWG program.

AFWA's Teaming with Wildlife Committee has the Effectiveness Measures Working Group which includes representatives from state fish and wildlife agencies as well as private, academic, and non-governmental conservation partners with expertise in wildlife conservation and performance management. The working group released a 2017 report that outlines a comprehensive approach to measure the effectiveness of activities funded under the SWG program. The report recommends a set of common indicators for measuring status, trends, and effectiveness of conservation actions that are commonly supported by SWG. Additionally, AFWA's *Best Practices for State Wildlife Action Plans: Voluntary Guidance to States for Revision and Implementation* outlines proposed results chains and performance indicators for conservation actions (AFWA, 2012).

Actual values for effectiveness measures will be entered into the Wildlife Tracking and Reporting Actions for the Conservation of Species (TRACS) database. TRACS is the tracking and reporting system used by the USFWS Office of Conservation Investment (OCI) program to capture conservation and related actions funded by its grant programs. TRACS provides real-time access to project information, including descriptions and accomplishments. Appendix 7 outlines the TRACS performance matrix with defined objectives and activities. Comparisons of effectiveness measure values over time will be used to establish the degree of efficacy for individual projects as well as broader conservation programs. Terms and standard definitions are derived from Margoluis and Salafsky (1998) and Salafsky et al. (2008).

In addition to TRACS, monitoring the status and trends of individual SGCN will be aided by the existing AL SLD-NHS database. The database includes 5 million species occurrence records for flora and fauna in Alabama, with information such as protection status (federal and state), rankings (SGCN), and Natural Heritage System (NHS) scores. The status and ranking of a species are updated on an as-needed basis. The database has a website used by researchers and scientists doing work in Alabama (https://heritage.dcnr.alabama.gov).

The state's scientific collection permitting system has also been linked to the database since 2009. For a researcher to renew their permit each year, they must submit the previous year's data into the database. From the website, users can also query the database for a particular species, species group, or geographic area of interest. The database includes information from protected and unprotected lands, public, and private lands. The database is a clearinghouse and contains data collected by ADCNR personnel, other state agency researchers, academic researchers, and the public. All data includes a citation, which allows the data user to ask additional questions to the collector and adequately cite the source.

In addition to the SLD-NHS database, WFF has a Black Bear Observation reporting system that is supported by submissions from researchers and the public (https://game.dcnr.alabama.gov/BlackBear). Black bear sightings are on the rise in Alabama and many reports are called in to WFF District offices. This reporting system adds valuable monitoring data to observe current distribution and mortalities.

Adaptive Management and Plan Revision

An important aspect of the implementation of this SWAP is the use of adaptive management as a mechanism that will allow for the continual improvement of conservation actions. The conceptual model previously described in the 2015 SWAP continues to guide adaptive management approaches for species and habitat conservation (ADCNR, 2015). The status of implementing the conservation actions will be reviewed periodically by WFF staff and experts to determine when the success criteria are not being met and adaptive management measures are needed. The WFF staff and other experts and partners will identify and implement appropriate revisions to the conservation actions. This will be completed as

often as necessary, as the effectiveness of the conservation measures will be measured on various time scales depending on their scope and duration.

Accomplishment measures for conservation actions may include tracking the miles or acres habitat protected or improved through various means (i.e., acquisition, conservation easements, restoration, or enhancement), biological assessments of SGCN, research to fill data gaps, monitoring programs, information management, funding of conservation projects, and outreach to partners and the public. The ability of the conservation actions to address the needs of the fish and wildlife resources of Alabama will be monitored qualitatively. An improvement in the coordination of similar monitoring projects conducted by disparate sources would be one such qualitative measure. Coordination of all the avian monitoring projects, for example, through regional resources such as the East Gulf Coastal Plain Joint Venture Plan, would enhance the efficiency of each project. This would lead to a qualitative improvement towards successfully implementing the SWAP goals and objectives for avifauna. Another qualitative measure of monitoring success may be the increased involvement of WFF in other statewide or regional conservation initiatives. By utilizing both quantitative and qualitative success criteria, the WFF will be responsive to the diverse nature, scope, and scale of the SWAP conservation actions.

Committing to such a significant effort indicates that WFF will continue to involve its many conservation partners and interested stakeholders in the SWAP development. Each ADCNR division and program has a set operational timeframe for program evaluation and reporting. For example, the existing OCI program requires annual reporting, input into the Wildlife TRACS database, and a 5-year review of work plans and evaluations. WFF, as well as most other ADCNR divisions, has annual reporting requirements from their grant funding source. The most efficient and effective outcome of this SWAP will result from the SGCN, key habitats, and priority conservation strategies being actively integrated into the revision processes of WFF and its many partners' plans and program.

Additionally, WFF proposes to complete a comprehensive revision of the SWAP in ten years, and to review, evaluate, and update sections annually through the existing program reporting system and grant administration. The USFWS requires establishment of procedures to review the SWAP at intervals not to exceed ten years. WFF will comprehensively revise this SWAP again by September 30, 2035. To adequately prepare for this 10-year revision, WFF will sponsor workshops and symposia as needed and utilize this extensive scientific review and update of SGCN, key habitats, and conservation actions as the foundation for the next SWAP.

This effort alone produces the ripple effect for conservation efforts across the state, providing a consistent and unified approach for conservation of Alabama's wildlife. An iterative, adaptive process will require the incorporation of research results, monitoring and surveys that provide for refinement of the priorities and actions of this plan. Each revision of this SWAP document and conservation partners' planning documents should reciprocally integrate the updates of partners' plans. This will ensure that each revision includes the most

current scientific and administrative information for the key conservation partners in the state and institutionalizes these important coordination and revision efforts.