

Executive Summary

In December 2002 the Wildlife Resources Division (WRD) of the Georgia Department of Natural Resources (DNR) began a process to develop a comprehensive wildlife conservation strategy. Through the Wildlife Conservation and Reinvestment Program, WRD made a commitment to develop and begin implementation of this comprehensive wildlife conservation strategy (CWCS) by October 1, 2005. Funding for this planning effort came from a federal grant to WRD through the State Wildlife Grant program; matching funds were provided through Georgia's Nongame Wildlife Conservation Fund. The goal of the strategy is to conserve Georgia's animals, plants, and natural habitats through proactive measures emphasizing voluntary and incentive-based programs on private lands, habitat restoration and management by public agencies and private conservation organizations, rare species survey and recovery efforts, and environmental education and public outreach activities.

The best available wildlife data were used to develop this CWCS. The strategy included an assessment of habitats required by these species, as well as problems affecting these habitats. Further, this strategy addressed research and survey needs, habitat restoration needs, and monitoring needs. It also included an evaluation of existing programs and policies for wildlife conservation in Georgia and recommendations for improvements in these areas. Coordination with other organizations that manage land or administer conservation programs in Georgia was a key component of this effort.

The planning process involved staff within DNR, representatives of private and public conservation organizations and land managers and owners in Georgia. A Steering Committee composed of representatives of various agencies, organizations, and land management groups provided project oversight. Technical teams addressed specific components of the conservation strategy; these teams included WRD staff and representatives of other agencies and organizations. Input from the Steering Committee, stakeholders, representatives of other conservation organizations, consulting biologists, academic researchers, and the public was used in the development of the conservation strategy. Educational materials were developed to inform the public about the project's goals and milestones; these materials were posted on a website developed specifically for this project and distributed at public meetings.

Components of this planning effort included: 1) development of databases on rare species and natural communities; 2) identification of high priority species and habitats; 3) identification of high priority research and biological inventory needs; 4) surveys for rare species on public and private lands; 5) development of databases of conservation lands and high priority watersheds and landscapes; 6) prioritization of conservation, education, and habitat protection needs; 7) collaboration with state and federal agencies on habitat protection/restoration plans; 8) technical assistance to private conservation organizations and local governments; 9) review of existing conservation laws, rules, and policies; and 10) public input and educational outreach.

Three technical teams focused on biodiversity database development and use, GIS/mapping support and land cover assessments, and environmental education, respectively. The GIS support team developed and distributed a survey to WRD staff to determine priority needs for geographically based dataset needs. Team members also reviewed the land cover database produced by the Georgia Gap Analysis Program, continued development of a statewide conservation lands database, and produced land cover and vegetation maps. The database support/enhancements team discussed uses of biological diversity data. This team developed specific recommendations for exchange and application of biodiversity information, including improved Web-based access to rare species/natural community information, region-specific rare species datasets for WRD law enforcement personnel, and watershed-based datasets. The environmental education team developed recommendations for improvements in wildlife-related education programs, and was assisted by the Environmental Education Alliance of Georgia.

Six technical teams focused on the following groups of species: birds, amphibians and reptiles, mammals, fishes and aquatic invertebrates, terrestrial invertebrates, and plants. Although conservation efforts for plants could not be addressed under this grant, a parallel conservation planning process was undertaken, funded in part through a federal grant to the Wildlife Resources Division, with matching funds provided from the Nongame Wildlife Conservation Fund. These technical teams consulted numerous data sources and used a variety of criteria to identify high priority species for Georgia; these included critically imperiled species, habitat indicator species known to be in decline, species endemic to Georgia, and rare or uncommon species in need of further research to determine conservation objectives.

Results of the various biological and ecological assessments undertaken in this planning effort are presented in this document. Many of the details of these analyses can be found in the appendices that follow the main report. Ranges of distribution, habitat associations, conservation needs, and research priorities for 296 species of high priority animals and 323 species of high priority plants are outlined in Section IV and in appendices A and B. Similarly, high priority habitats are defined for each ecoregion and management needs for these habitats are discussed in Section IV and Appendix C.

In this document, conservation goals are defined broadly, while discussions of strategies and partnerships more specifically address the objectives that must be met to achieve these goals. Conservation goals, strategies and partnerships are identified for each of the five ecological regions of the state in Section IV of this report. In addition, statewide wildlife conservation themes and strategies are addressed in Section V. Lists of specific high priority conservation actions were also developed. These conservation actions were first identified by the technical teams, Steering Committee, and other stakeholders and included specific programs for improvements in habitat protection, conservation of high priority habitats and species, research and surveys, and environmental education and public outreach. These identified conservation actions were then evaluated by the Steering Committee using a set of seven ranking criteria. The complete set of 78 prioritized conservation actions can be found in Appendix L of this report. Summaries of existing programs and resources for habitat protection and recommendations to increase

capacity for wildlife conservation in Georgia are provided in Section V of this document. The following goals represent important conservation themes in this document:

- Maintain known viable populations of all high-priority species and functional examples of all high priority habitats through voluntary land protection and incentive-based habitat management programs on private lands and habitat restoration and management on public lands.
- Increase public awareness of high priority species and habitats by developing educational messages and lesson plans for use in environmental education facilities, local schools, and other facilities.
- Facilitate restoration of important wildlife habitats through reintroduction of prescribed fire, hydrologic enhancements, and vegetation restoration.
- Conduct statewide assessments of rare natural communities and habitats that support species of conservation concern.
- Improve efforts to protect vulnerable and ecologically important habitats such as isolated wetlands, headwater streams, and caves.
- Combat the spread of invasive/noxious species in high priority natural habitats by identifying problem areas, providing technical and financial assistance, developing specific educational messages, and managing exotic species populations on public lands.
- Minimize impacts from development and other activities on high-priority species and habitats by improving environmental review procedures and facilitating training for and compliance with best management practices.
- Update the state protected species list and work with conservation partners to improve management of these species and their habitats.
- Conduct targeted field inventories of neglected taxonomic groups, including invertebrates and nonvascular plants.
- Continue efforts to recover federally listed species through implementation of recovery plans, and restore populations of other high priority species.
- Establish a consistent source of state funding for land protection to support wildlife conservation, and increase availability and use of federal funds for land acquisition and management.
- Continue efforts to monitor land use changes statewide and in each ecoregion, and use predictive models to assess impacts to high priority species and habitats.

Monitoring needs for species, habitats, and conservation programs are also addressed in Sections IV and V of this document. Monitoring programs are acknowledged as critical components of adaptive management efforts in wildlife conservation, and specific recommendations are provided to improve existing monitoring programs. In addition, partnerships with other organizations involved in monitoring efforts are recommended. Specific high priority monitoring projects are mentioned in the body of the report and in Appendix L. The approach taken in this planning effort was to identify the types of data to be collected and relevant performance indicators for every high priority conservation action as a first step to development of monitoring programs.

Several projects undertaken as components of this planning project represent efforts to develop new analytical tools and methods that can inform future conservation plans at various geographic scales. A pilot project to develop historic vegetation maps was completed by researchers at the University of Georgia. Using land lot survey data from the 1800s, researchers developed historic vegetation maps for three state-owned wildlife management areas. This pilot project produced analytical tools and data that will facilitate development of habitat management plans for public lands. A second pilot project utilized land cover data from the Georgia Gap Analysis Program and occurrence data for rare and declining species to identify regions of the state that may represent important areas for conservation work in the future. These two projects are described in appendices J and K, respectively.

Project staff began development of a new natural community classification system that will serve as a standard for habitat mapping on public lands. The new classification system is based on ecosystems and vegetation alliances described by NatureServe and the Natural Heritage Network. WRD staff also collaborated with a group of volunteers working on a detailed guide to Georgia's natural environments. This document will be based on the NatureServe ecosystem classification and written for a broad audience including teachers, science students, and practicing biologists. Development of this document will facilitate mapping and tracking of natural communities consistently across the state and increase public awareness of Georgia's ecosystems.

Public involvement in the development, review and revision of this document was facilitated by a series of fourteen public meetings undertaken over the project period. These included regional stakeholder meetings as well as traditional public meetings. In addition, public input was solicited through materials posted on the CWCS website, news releases, brochures, fact sheets, and presentations given to various groups and organizations around the state. These public outreach efforts will continue as we begin to implement the conservation strategy.

The CWCS reflects an assessment of wildlife conservation needs and programs to address those needs based on data available in 2003-2005. Our understanding of the conservation needs of Georgia's species and habitats is likely to change based on the result of additional surveys, results of monitoring efforts associated with management efforts, or new trends in land uses. In addition, the development of new analytical techniques, funding programs, or legislative mandates may result in a need to reassess some of the conservation priorities described in this document.

The intent of the Wildlife Resources Division is to begin a formal process of reviewing the current wildlife conservation strategy within the next five years and to adopt revisions to the strategy as deemed necessary based on this review. In order to do this, we propose to reconvene the technical teams and Steering Committee and hold public meetings to assess and address changing conservation needs for species and habitats in Georgia. The proposed procedure for this review is outlined in Section VI of this document.

The first piece of legislation to be approved by the 2005 session of Georgia General Assembly was the Georgia Land Conservation Act and on April 14, 2005, Governor Perdue signed into law this important piece of legislation. The bill enjoyed overwhelming public and legislative support and was generally lauded throughout the state. The intent of the Act is to provide funding options and a flexible administrative framework to conserve land resources, recognize the values of the State's natural and cultural resources, and promote land conservation partnerships.

The Wildlife Resources Division of the Georgia Department of Natural Resources views this new state land conservation program as an important and timely component of the Comprehensive Wildlife Conservation Strategy that will aid significantly in its implementation. This Act directs some \$100 million for land conservation efforts in the state of Georgia and makes available \$45 million in state and private funding that can and will be used to match and leverage various federal wildlife conservation grants consistent with the strategies and priorities included in this document.

The changes that are occurring in the Georgia landscape as a result of population growth and increasing development pressures present daunting challenges to those involved in wildlife conservation. The trend of increasing fragmentation and degradation of natural habitats is likely to continue in the coming decades, driven by local, national, and global economic and demographic factors. Many scientists believe that the next fifty years will be a critical period in the struggle to protect our remaining biological resources.

The following elements are critical for conservation of Georgia's natural heritage: (1) increased emphasis on field research focused on the identification and assessment of species, biotic communities, and ecosystems; (2) greater commitment of resources to identify and protect those habitats that contribute most significantly to biodiversity; (3) further development and funding of conservation programs that emphasize public-private partnerships for broad-scale conservation of "working landscapes"; (4) greater emphasis on land use planning to minimize impacts of future developments on natural habitats; and (5) increased collaboration between researchers and educators to heighten public awareness of the magnitude and significance of biodiversity decline in the state. The Department of Natural Resources will continue to work with a wide array of public agencies, private conservation organizations, research institutions, sportsmen's groups, educators, local governments, and landowners in the coming years to address these critical elements of wildlife conservation.