



# Alabama Ecological Services Field Office

## Strategic Five-Year Plan

U.S. Fish & Wildlife Service  
October 2008  
FY 2009-2013

## ***Ecological Services Guiding Principles***

*Ecological Services staff use the best available science and sound managerial techniques to further the Service's mission to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. In doing this, staff integrate their Federal authorities with social, political, and economic realities to ensure sound resource decisions while recognizing the importance of a partnership approach addressing the needs of stakeholders, since the vast majority of fish and wildlife habitat is in private ownership. In addition, education and information dissemination are integral parts of all of our activities.*

## **INTRODUCTION**

Numerous challenges face the U.S. Fish & Wildlife Service in carrying out its mandate to protect trust resources in Alabama. These trust resources include endangered and threatened species, migratory birds, migratory fish, and National Wildlife Refuge lands. We also recognize the innumerable opportunities and methods available to us to meet those challenges.

Acknowledging that we have limited resources, time, and authority to accomplish this mission, the following strategic plan is intended to guide and focus our activities to make the best use of our capabilities. This plan will also help articulate our capabilities and priorities to our partners, and help identify strategies to work together more effectively.

### **Background**

Alabama has an incredible wealth of biotic diversity. In fact, Alabama possesses greater plant and animal diversity than any other eastern state, and ranks fifth in the United States after California, Arizona, Texas, and New Mexico. Alabama ranks first in the nation in freshwater species diversity, with more than 750 species of freshwater fishes, mussels, aquatic snails, and crayfishes. Alabama also has the most diverse concentration of unionid mussels and one of the most diverse assemblages of aquatic snails in the world, with a high rate of endemism. Alabama is home to 60 percent of all North American mussel species, 43 percent of all gill breathing snails, 52 percent of all aquatic and semi-aquatic turtles, and 38 percent of all freshwater fishes.



Physiography explains some of this diversity: a list of the major physiographic provinces of Alabama includes the Interior Plateau, Cumberland Plateau, Ridge and Valley, Piedmont, and Eastern Gulf Coastal Plain provinces. Each has its own unique soil types, landforms and vegetation composition. The great plant and animal diversity of Alabama can be attributed to the combination of a warm, relatively stable climate and abundant rainfall acting on variegated landforms and soil types, all connected by over 77,000 miles of streams and rivers.

The plant and animal species composition associated with the fire-maintained longleaf pine ecosystem is also incredibly rich; anyone who has ever tried to identify all the plants found in a single square meter of pitcher plant bog has learned first-hand what the Alabama landscape can do with abundant rain, sunlight, and a long, warm growing season.

The karst areas of the state are also particularly rich in species diversity. Alabama can boast of more than 4,000 documented caves, some containing rare bats and cave endemics such as the Alabama cave fish and cave shrimp. The springs, seeps, glades and other karst features associated with limestone and dolomite provide habitat for many of the state's rare, at-risk plant and animal species.

## Challenges

The challenges we face in trying to protect this biodiversity are significant. The sheer number of species in Alabama requiring attention presents a formidable task. Consider that human alteration of Alabama's natural landscape has already contributed to the extinction or extirpation of more than 100 animal species. Alabama, with more than 1,400 river miles controlled by 16 lock and dam structures, has the dubious distinction of being the location of the largest extinction event in United States history when the building of 20<sup>th</sup> century dams impounded the riverine habitats of many native mussels and snails. Only Hawaii, California and Nevada have more imperiled species, and only Hawaii has lost more species to extinction.



The recently published Alabama Statewide Comprehensive Wildlife Conservation Strategy has categorized 314 animal species as Greatest Conservation Need (GCN), including 24 mammals, 26 reptiles, 14 amphibians, 28 birds, 57 fishes, 93 mussels, 34 aquatic snails, and 28 crayfish. Several dozen species of imperiled plants could also be added to this list.

Increased development, human population pressures, habitat modification, and the degradation of environmental quality in Alabama present significant challenges for people and agencies committed to helping these plants and animals remain in our landscape. But as the old saying goes, “Endangered Means There is Still Time!”

Restoring and protecting viable populations of imperiled species and their habitats will likely require decades of work. This document is intended to focus on and describe our work activities for the next 5 years.

## *Mission Statement*

*The mission of the U.S. Fish & Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.*

## Alabama Ecological Services Field Office Guiding Philosophy

In implementing the mission of the U.S. Fish and Wildlife Service, the Alabama Field Office (AFO) will be proactive in seeking out plans, activities, and projects with the potential to affect high priority species, habitats, and geographic areas.

*"It is not enough to be busy. So are the ants. The question is 'what are we busy about.'"*

Henry David  
Thoreau

We will avoid office procedures that force us to wait and react opportunistically to projects in high-priority areas, yet we will remain flexible enough to take advantage of opportunities when they arise. We will also seek to proactively resolve issues before they become crises. Taking a strategic, proactive approach is likely to be more effective than a largely opportunity-driven approach.

All personnel in the AFO are working, and will continue to work, for the protection, maintenance, and recovery of trust resources.

As an office we will work to refine and establish priority population and habitat objectives, and identify limiting factors. Our on-the-ground conservation work will largely be based on these population and habitat objectives. Monitoring and research will be used to evaluate our effectiveness, and over time we will adapt our approach to take advantage of what we have learned.

We recognize that many of our tasks may be based on judicial and/or statutory timelines. Nevertheless, to the greatest extent possible the AFO will retain the flexibility to quickly take advantage of opportunities to protect, maintain, and restore our priority species and habitats.

We recognize that developing and maintaining strong partnerships will be the key to success in protecting trust resources. All staff working in all program areas will be encouraged to develop relationships, partnerships, and projects to aid in recovery of species and their habitats.

We will promote and take advantage of opportunities to work with other agencies and partners in a way that minimizes project-by-project review. We will develop procedures that allow our partners and clients, to the extent possible, to know up-front what most of our issues and concerns are before project plans reach our office. Continuing an effort begun with the development of Alabama's Statewide Comprehensive Wildlife Conservation Strategy, we will promote and foster the development of a statewide working group with the goal of moving toward an Alabama landscape that can maintain, enhance, and restore populations of trust species and their habitats, including those species state-identified as Greatest Conservation Need (GCN).

*" It is through this tool (the Alabama Comprehensive Wildlife Conservation Strategy) that we have the opportunity to work with conservation partners and the greater public to best utilize available resources to ensure that declining species are restored and common species remain common."*

[OutdoorAlabama.com](http://OutdoorAlabama.com)

We will continue to work under various authorities including the Endangered Species Act, Clean Water Act, Sikes Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Migratory Bird Treaty Act, Marine Mammal Protection Act, and others, while focusing on priority species and habitats.

When possible, the AFO will avoid a single species, site-by-site protection approach. We will instead make a priority of working at the landscape level where multiple at-risk species and their habitats can be addressed.

We will begin developing the capability—with staffing, training, data, and partnerships—for a Strategic Habitat Conservation approach. The idea is to begin moving away from Ecological Service’s traditional reactive approach to conservation, and instead begin focusing on scientific strategies. We will begin moving away from project-by-project review to an approach that focuses on identifying species/habitat relationships and conducting landscape-level analyses. With our partners and stakeholders, we will work toward establishing an Alabama landscape that can continue to support trust species.

“Without a strategic approach, others may define our future for us”

From a recent Strategic Habitat Conservation memo

To a much larger extent, our conservation actions for federal trust resources will be based on a framework of Strategic Habitat Conservation that includes:

- 1) **Biological Planning** that establishes population objectives and identifies limiting factors;
- 2) **Conservation Design** that develops habitat objectives for desired landscape conditions;
- 3) **Conservation Delivery** that implements conservation actions on the ground; and
- 4) **Monitoring and Research** that includes monitoring, evaluation, and testing of assumptions.

We will likely focus most of our efforts in the next five years on conservation delivery, but will advocate and provide resources for biological planning, conservation design, and monitoring and research.

## Alabama Field Office Priorities - Species, Habitats and Geographic Regions

There is nothing quite like success to generate enthusiasm and support for your efforts; thus, prioritizing our recovery efforts may yield returns far beyond the effects of recovery of a single species. In the spring of 2006, AFO biologists identified priority species and habitats based, in part, on the likelihood of significant improvement in population status in the next several years, as well as degree of imperilment. The following animal species are also on Alabama's state list of Greatest Conservation Need, so these priorities also help meet our commitment to the State's Wildlife Action Plan. Note that Alabama wildlife laws do not incorporate protection of plant species. Also, it is implicit that when species are identified as priorities, we are also prioritizing their habitats.

### Priority Species

- ✧ **Red-bellied turtle** (Alabama State reptile); habitat in Alabama includes Mobile Delta and associated freshwater streams; nesting habitat is of particular concern. Jackson, MS Field Office (JFO-MS) is lead for the species.
- ✧ **Red Hills salamander** (Alabama State amphibian); an Alabama endemic found along the steep, wooded ravine slopes of the Red Hills area, south-central Alabama. AFO is lead for the species.
- ✧ **Gopher tortoise**; found throughout southern Alabama, federally listed in Mobile, Choctaw and Washington counties. Geographic extent generally matches former range of longleaf pine. JFO-MS is lead for the species.
- ✧ **Tulotoma snail**; found in the Coosa and Alabama rivers. JFO-MS is lead for the species.
- ✧ **Fine-lined pocketbook mussel**; wide-ranging Mobile basin endemic. JFO-MS is the lead for the species.
- ✧ **Alabama sturgeon**; very rare, endemic to Alabama and Tombigbee Rivers. AFO is lead for the species.



*The people who live in the Mobile River Basin have been blessed to live in a biological treasure trove. For example, forty percent of North America's aquatic turtles occur in the Basin; it ranks third in the nation in fish diversity (160 species); it is among the top ten river basins in the world in mussel diversity (75 species); and it also has the richest aquatic snail fauna in the world (120 species).*

Mobile River Basin Coalition



✧ **Red-cockaded woodpecker**; habitat is open, mature pine ecosystems; currently found in Talladega National Forest (Oakmulgee and Shoal Creek districts), Conecuh National Forest, private lands near Lake Mitchell, and other private lands in southeastern Alabama. JFO-MS is lead for the species.

✧ **Mohr's Barbara's buttons**; habitat is calcareous glades in Bibb, Walker, Calhoun, Etowah, and Cherokee Counties. JFO-MS is lead for the species.

### Priority Habitats/Regions

Likewise, the following geographic regions and habitat types are known to provide habitat for many imperiled species. Conservation efforts in these areas are more likely to yield landscape-scale benefits, making efficient use of both dollars and time.

- ✧ **Karst areas**, including caves, springs, glades, and fens

Federally-listed species include: gray bat, Indiana bat, Alabama cave shrimp, Alabama cave fish (and its critical habitat), pygmy sculpin, watercress darter, Mohr's Barbara's button, Tennessee yellow-eyed grass, fleshyfruit gladecress, and leafy prairie clover.

- ✧ **East-central Bibb County**, area near confluence of Cahaba and Little Cahaba Rivers; Cahaba NWR

Federally-listed species include: gray bat, wood stork, red-cockaded woodpecker, round rock-snail, cylindrical lioplax, flat pebblesnail, ovate clubshell, southern clubshell, triangular kidneyshell, fine-lined pocketbook, orange-nacre mucket, goldline darter, Cahaba shiner, Georgia rockcress, Tennessee yellow-eyed grass, Mohr's Barbara's button, Georgia aster; the area also includes critical habitat for southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, fine-lined pocketbook.



- ✧ **Paint Rock watershed**, northeast Alabama

Federally-listed species include: gray bat, Indiana bat, snail darter, palezone shiner, finereyed pigtoe, shiny pigtoe, slabside pearlymussel, pale lilliput, Alabama lampmussel, Price's potato-bean, white fringeless orchid, American hart's tongue fern, Morefields's leather-flower.

✧ **Coosa River Basin tailwater and tributary re-introduction sites**

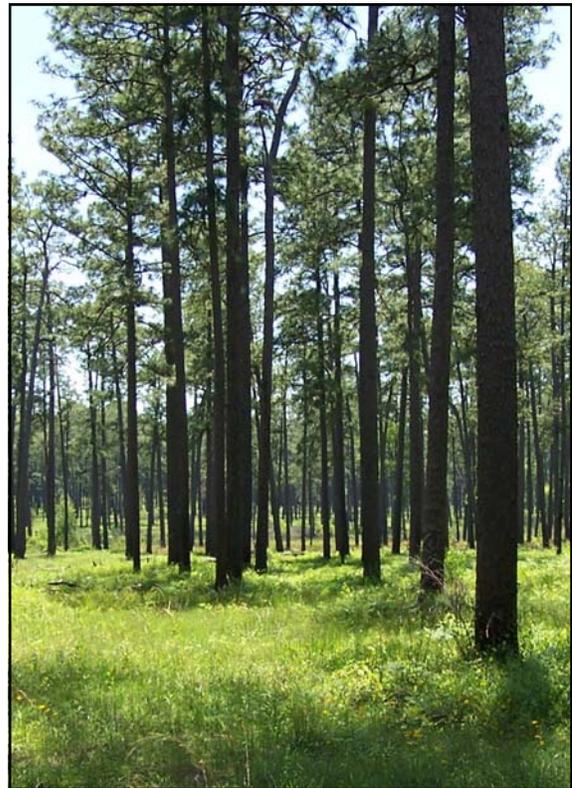
Federally-listed species include: painted rocksnail, tulotoma snail, interrupted rocksnail, rough hornshell, cylindrical lioplax, triangular kidneyshell, fine-lined pocketbook, southern clubshell, ovate clubshell; also includes critical habitat for southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, fine-lined pocketbook, Alabama moccasinshell.

✧ **Escambia/Conecuh watershed**

Federally-listed species include: Gulf sturgeon (and its critical habitat), red-cockaded woodpecker, wood stork, gray bat, Red Hills salamander, eastern indigo snake, flatwoods salamander, Alabama pearlshell, narrow pigtoe, southern kidneyshell, Louisiana quillwort, gopher tortoise.

✧ **Longleaf pine ecosystem**, in historical range of longleaf pine

Federally-listed species include: red-cockaded woodpecker, black pine snake, eastern indigo snake, flatwoods salamander, gentian pinkroot, gopher tortoise.



✧ **Coastal Alabama**

Federally-listed species include: Alabama beach mouse, Perdido Key beach mouse, West Indian manatee, piping plover, green sea turtle, Kemp's Ridley sea turtle, leatherback sea turtle, hawksbill sea turtle, Gulf sturgeon, Alabama sturgeon, Alabama red-bellied turtle, gopher tortoise.

✧ **Alabama River Basin**

Federally-listed species include: tulotoma snail, Alabama sturgeon, inflated heelsplitter, and Gulf sturgeon; also includes critical habitat for southern clubshell and orange-nacre mucket.

## Strategies and Tools

Listed below are many of the programs, partners and resources we commonly use to accomplish Service and AFO objectives. Listed under each heading are AFO strategies and tasks; the list is not all-inclusive but highlights areas that we intend to focus on. We value and encourage cross-program cooperation and recognize that many of our strategies may be successfully used in several categories.

### Outreach and Education

- ✧ Ensure that outreach efforts complement and support office mission and priorities.
- ✧ Develop outreach presentations for students and the public focusing on priority species and habitats.
- ✧ Facilitate development of a speakers' bureau to lead talks, discussions.
- ✧ Ensure our projects and issues are featured in E-Grits and other publications.
- ✧ Continue to develop and maintain working relationships with congressional staff.
- ✧ Continue to develop and maintain working relationships with local and state media.
- ✧ Develop and enhance web-based information packages explaining who we are, what we do, and why it's important.
- ✧ Engage and educate new constituents who rely on the Internet and the news media for information.
- ✧ Develop and disseminate scientific publications, professional presentations, and educational materials for environmental assessment and research conducted by AFO staff.

### Partners For Fish and Wildlife

- ✧ The complete Partners for Fish and Wildlife (PFW) Strategic Plan can be found in Appendix C. The PFW strategic plan was written prior to development of the AFO strategic plan, but also is a science-based, prioritized approach to conservation.
- ✧ Encourage cross-program coordination and technical support to ensure successful prioritization, implementation, and monitoring of PFW projects.
- ✧ Ensure the targeted restoration projects and techniques will support and sustain habitat restoration goals.



## Coastal Program

- ✧ Identify and develop an Alabama Coastal Program biologist, and work toward getting position funded through the U.S. Fish & Wildlife Service Coastal Program. Position will engage with regional and national Coastal programs and their funding sources.
- ✧ Focus coastal efforts on migratory birds, sea turtle lighting, Alabama red-bellied turtle habitat and habitat restoration, and where possible, restoration of Alabama and Perdido Key beach mouse habitat on private lands.
- ✧ Avoid, when possible, single species issues in Alabama coastal areas, but instead focus on ecosystem-level protection and enhancement.
- ✧ Characterize coastal pollution and habitat quality issues and promote local, regional, and national efforts to restore and protect coastal water quality and habitat integrity.

## Migratory Birds Program

- ✧ Highlight the presence and ecological function of migratory birds found in priority geographic areas and habitat types. There are 28 bird species categorized as Greatest Conservation Need (GCN) in Alabama's Comprehensive Wildlife Conservation Strategy, some of which will benefit directly from work in our priority areas.
- ✧ Continue partnership with Alabama Coastal Birding Trail team. Facilitate development of birding trails, particularly in priority geographic regions.
- ✧ Promote awareness and appreciation of lower Alabama and other priority geographic areas as major migration corridor/destination of migratory birds.
- ✧ Identify at least one biologist with collateral responsibility for migratory bird issues, coordinating with Joint Ventures and Migratory Bird programs, as well as keeping up with status and trends for Birds of Management Concern in Alabama.
- ✧ Where appropriate, ensure that migratory bird information is included with Technical Assistance and consultation comments.
- ✧ Work with response authorities to promote the protection and rehabilitation of migratory birds affected by oil spills and hazardous material releases.
- ✧ Identify, characterize, and seek remedial solutions for environmental contaminant issues that impact migratory birds and their habitats.
- ✧ Identify and implement appropriate migratory bird habitat restoration projects through the Natural Resource Damage Assessment and Restoration Program.



## Section 7 Endangered Species Program

- Develop working relationships and partnerships with key agencies and organizations so that we can be involved in the early planning stages of projects in priority areas or those affecting priority species. Examples: Alabama Department of Transportation, county agencies, regional planning authorities, etc. Annual work plans should include some measure of partnership development for priority species and geographic areas.

*"Consultation is designed to assist Federal agencies in meeting their responsibilities under the Endangered Species Act. The objective is to allow a proposed action to proceed while avoiding impacts to listed species by negotiation and project modification to incorporate protective measures."*

[www.fws.gov/daphne](http://www.fws.gov/daphne)

- Develop presentations and outreach materials describing the need for protection of priority habitats and species, including regulatory and consultation requirements, a description of limiting factors, and recovery strategies.

- Focus on consultations related to priority species or habitats to the extent possible. Make more frequent use of stamp replies (formatted stamps/stickers with generic responses to common requests or situations) where appropriate to free up time to work on priority issues.

- Use FWS internet resources to more efficiently provide technical assistance, location data, and habitat needs for listed species/critical habitat issues.

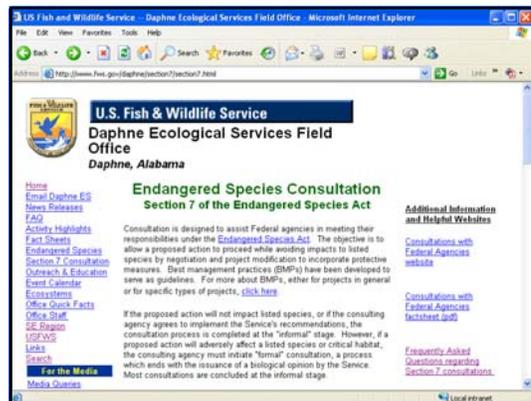
- Make efficient use of the TAILS logging system to organize work products, track status of activities, produce reports, and ensure progress toward meeting AFO WAGs and GPRA goals.

- Identify Section 7 office support person who can answer detailed questions, and develop and disseminate training materials for staff.

- Maintain and update office files and GIS datasets with location of federally listed species.

- Maintain, update, and provide data on office website indicating presence of species and critical habitat by county.

- Work to protect and restore the quality and integrity of listed species habitats while assisting Federal agencies to fulfill their statutory obligations under the Endangered Species Act.



## **Listing and Recovery**

- ✧ Develop, revise, and update recovery criteria for priority species as necessary. This includes developing recovery plans for those species that currently do not have a plan, revising existing recovery plans as new information becomes available, conducting status surveys, and ensuring that other listing and recovery related ESA requirements are being met (e.g. 5-year Reviews, critical habitat designation).
- ✧ Ensure that all staff are trained and made aware of recovery goals and recovery plans for priority listed species and habitats.
- ✧ Develop informational materials focusing on recovery efforts and successes, as well as what can be done to increase our chances for success.
- ✧ All office programs should coordinate to meet habitat/population goals of priority species and habitats. We need to be able to answer the questions: Where? How much? How many? (Idea: keep large graphics of accomplishments and goals, to date, available at office, e.g. acreage, population “thermometers”.)
- ✧ Develop flex fund and other grant proposals to monitor species and habitat, analyze status and trends, and develop adaptive management procedures to provide feedback on management actions for priority species and habitats.
- ✧ Explore potential benefits of transferring lead responsibility to AFO for all Alabama endemic species, as well as formerly more wide-spread species whose range is now limited to Alabama. Examples include Alabama red-bellied turtle, tulotoma snail, and Alabama cave fish.
- ✧ Continue to develop, maintain and update endangered species locations in GIS datasets.
- ✧ In cooperation with the AL Dept of Conservation & Natural Resources, JFO-MS, and Asheville, North Carolina Field Office, develop a comprehensive propagation/reintroduction plan for all listed aquatic species in Alabama.
- ✧ Continue identifying and evaluating species and their respective habitats for potential listing. Continue working with partners to develop protection strategies to preclude listing of Candidate and at-risk species identified by the state’s Comprehensive Wildlife Conservation Strategy.
- ✧ Continue working with partner agencies to address research questions.
- ✧ Assist in understanding and characterization of the effects of environmental quality on species declines and identify measures to mitigate adverse impacts.
- ✧ Ensure that environmental quality is fully considered during listing processes and the development and revision of recovery plans.

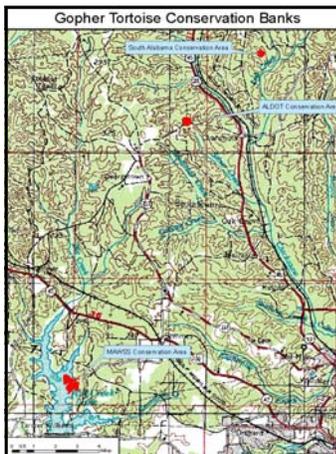
- ✧ Identify and implement activities identified in recovery plans and implement restoration projects to benefit listed species, as appropriate, under the Natural Resource Damage Assessment and Restoration Program.

## Project Planning/Federal Activities/Early Planning/Habitat Protection

- ✧ Develop working relationships and partnerships with key federal agencies and organizations so that we can be involved in early planning stages of projects in priority areas or those affecting priority species. Examples: U.S. Army Corps of Engineers, Federal Highway Administration, Alabama Department of Transportation, and Bureau of Land Management (oil, gas, coal).
- ✧ Continue working with Tennessee Valley Authority and the Corps to improve and enhance operations below hydropower projects not regulated under the Federal Energy Regulatory Commission (FERC).
- ✧ Coordinate with state and federal agencies to communicate goals and successes related to projects, species, and habitat concerns to the public.
- ✧ Whenever possible, focus on early planning, planning aid letters, and early coordination so project designs we review contain no surprises.
- ✧ Develop and maintain GIS dataset of mitigation bank locations. Also develop a GIS layer of mitigation sites associated with federal permits in Alabama to help track agreement terms and protect mitigation sites from future development.

The Daphne Field Office has worked closely with the responsible agencies to develop conservation plans addressing the needs of the gopher tortoise, insuring that the habitat would be restored and maintained, and guaranteeing the long-term survival of the site and the species.

Endangered Species Bulletin  
August 2005



- ✧ Ensure that federal permits we comment on are followed “cradle to grave,” and that we receive notification of final plans and decision documents. Report outcomes using TAILS.
- ✧ Make efficient use of the TAILS logging system to file, track, and document the status of project/permit reviews, and allow efficient Government Reporting and Results Act (GPRA) reporting.
- ✧ Keep track of —and document—acres and miles protected (once permits are issued, or decision documents signed). Relate to recovery goals for priority species and habitats.

- ✧ Increase efficiency in consultations. Ideas include providing listed species locations to Corps and other agencies, and providing technical assistance and mitigation requirements via the Internet where appropriate. Provide online a list of information requirements needed before our review can begin.
- ✧ Ensure wetland maps are up to date and available online. Prioritize the finalization and online availability of wetland maps in fast-growing areas - i.e. Mobile, Baldwin counties.
- ✧ Advocate and work toward requiring *in-kind* mitigation for stream impacts.
- ✧ Create office training aids that can be used to succinctly describe procedures, methods, authorities, responsibilities, and document templates to the numerous biologists cycling through various phases of the program.
- ✧ Use web-based tools and datasets, e.g. FWS's *The Wetlands Mapper*, to assist in our efforts.

## Environmental Contaminants

- ✧ Continue working with the State, federal, and local environmental agencies and the regulated community to adopt and implement protective water quality standards, develop protective discharge limitations, and identify and implement strategies to improve water quality.
- ✧ Continue to assist State and federal agencies and private parties responsible for contaminated site cleanups to ensure that remedial goals and activities are protective of natural resources and to better fulfill FWS obligations under Federal environmental statutes.
- ✧ Continue to be proactive in spill response planning and assist response agencies in Alabama (and other States, if requested) in efforts to avoid or minimize the impacts to trust resources during spill events and to promote the effective and timely recovery of impacted resources following such events.
- ✧ Assist in search and rescue and provide humanitarian relief during national emergencies, as directed by the President.
- ✧ Continue working with State and federal trustee partners to determine the nature and extent of the injuries, recover damages from those responsible, and restore natural resources and their habitats impacted by oil spills or hazardous chemical releases.
- ✧ Continue to conduct and/or coordinate contaminant investigations with partners to better understand the nature, severity, and significance of contaminant impacts to fish, wildlife, and habitat quality and to develop sound policies for man-



aging contamination on local, regional, and national levels.

- ✧ Continue to work with other FWS Programs; other federal, State, and local agencies and programs; industries; non-governmental organizations; and the general public to identify potential contaminant concerns and to identify measures to avoid or minimize potential impacts.
- ✧ Upon request, we will also continue to assist the Center for Disease Control in the investigation of human health issues (cancer cluster) and the Department of Justice in environmental crime cases.
- ✧ Due to the complex and controversial nature of environmental toxicology issue, continuing education will remain a priority for the Alabama EC Program.
- ✧ See Contaminants Program Strategic Plan in appendices.

### **FERC Re-licensing**

- ✧ Complete licensing responses for future issuance of licenses for Coosa and Warrior projects (total of 9 dams).
- ✧ Continue pre- and post-license monitoring of flow and water quality below dams and the tributaries affected by dam operations.
- ✧ Begin background preparations for the re-licensing of the Lake Martin Project.
- ✧ Continue baseline biota surveys within the boundaries of all FERC licensed hydropower projects.
- ✧ Evaluate and implement reintroductions of mussels, snails and fishes in tailwaters and tributaries (within the FERC project boundaries) where flow, water quality, and other habitat parameters are acceptable.
- ✧ Continue and enhance monitoring and land management for red-cockaded woodpecker populations on Alabama Power Company lands near Lakes Mitchell and Martin (within project boundary of FERC license).
- ✧ Continue annual dam management assessment meetings, implementing an adaptive management program at each dam.
- ✧ Continue coordinating and assisting the AL Dept of Conservation and Natural Resources with management and prioritization of funds established for aquatic enhancement by Alabama Power Company.
- ✧ Continue exploring FWS fish passage authority (Section 18-Federal Power Act) at Clai-borne and Millers Ferry Lock and dams and other appropriate projects.

- ✧ Coordinate with agencies and organizations involved to communicate to the public the key issues related to re-licensing.

### **Alabama Beach Mouse (ABM) Team**

- ✧ Continue to work toward developing a range-wide “umbrella” ABM Habitat Conservation Plan (HCP), and continue to monitor existing HCPs on the Fort Morgan peninsula.
- ✧ Continue to monitor ABM population/habitat dynamics including implementation of the ABM trapping protocol.
- ✧ Begin exploring options for developing an ABM habitat mitigation bank for commercial development on the Fort Morgan peninsula.
- ✧ Work with private and commercial landowners and the Bon Secour National Wildlife Refuge to restore and enhance ABM habitat.
- ✧ Continue working with communities on the Fort Morgan peninsula to inform and educate them about ABM and its habitat.



### **Working with the Public**

- ✧ First and foremost, the staff of the AFO are public servants. We will strive to assist the public in understanding and appreciating fish, wildlife, ecosystem quality, and complex environmental issues.

### **Working with Other FWS Offices and Programs**

- ✧ Ensure that other FWS offices and programs are aware of our priority species and habitats, and work closely with lead biologists in other offices and regions to refine and develop scientifically-derived recovery plans.
- ✧ Share “lessons learned” and successes with other FWS offices through timely submission to the Endangered Species Bulletin, E-Grits, and other Service communication outlets.
- ✧ We will assist other FWS offices and programs during emergency response situations or other times of crisis.

## Working with State Partners and Programs

- ✧ Encourage Section 6, State Wildlife grant and other federally derived funds to be used for status and trends of priority species.
- ✧ Encourage Section 6 funds be used to monitor effectiveness of management actions on priority/listed species.
- ✧ Encourage use of state resources (outdooralabama.com, Outdoor Alabama Magazine, Treasured Forest Magazine, and others) to highlight priority species and habitat needs, and successful programs to address those needs.
- ✧ Identify locations where concentrations of state Greatest Conservation Need (GCN) species and federally-listed species overlap and where protection measures can be enhanced through federal-state partnerships.
- ✧ Identify state GCN species found in priority habitats. Ensure they are considered in federal conservation planning efforts.
- ✧ We will continue to assist State environmental agencies in the development and implementation of environmental quality standards and remedial activities to promote the restoration and long-term protection of natural resources.
- ✧ We will continue to assist State emergency response agencies in the avoidance or minimization of impacts to natural resources during oil spills and hazardous material releases.
- ✧ Continue to work with Alabama natural resource trustee partners to assess injury to natural resources resulting from oil spills and hazardous material releases and to develop appropriate restoration projects that benefit collective resources.



## Working with Mobile River Basin Coalition

- ✧ Maintain and develop relationships and partnerships to aid in implementation of Mobile Basin Recovery Plan.
- ✧ Promote and facilitate the organization of a new board of directors for the Mobile River Basin Coalition to replace members who have retired or become inactive.
- ✧ Continue organizing semi-annual conferences on topics of interest developed by board of directors and membership.



## Working with NGOs and Watershed Groups

- ✧ Inform conservation partners of office priorities, and seek ways to develop working partnerships to further our conservation efforts in priority areas.
- ✧ AFO staff will be encouraged to actively participate in non-government organization (NGO) and stakeholder functions, upon request.

*“Scientifically-informed and technologically-based stewardship of our public lands, waters, wildlife and special places - if it is to succeed - must be done in collaboration and partnership with the Service, with other governmental entities and, most importantly, with the citizens who share and give form to our mission.”*

[www.fws.gov](http://www.fws.gov)

- ✧ Encourage an open-door policy with all stakeholder groups.
- ✧ We will continue to assist the NGOs in understanding and furthering efforts to restore and protect fish, wildlife, and habitat quality.

## Working with Universities and Other Researchers

- ✧ Ensure that researchers applying for funds are aware of office priorities, and begin encouraging them to develop proposals that aid in recovery, and monitoring of priority species and habitats. Examples: identifying and overcoming limiting factors; population viability analyses; species/habitat relationships; community ecology; species’ status, distribution and trends.
- ✧ Develop relationships with research programs that can provide expertise and data for landscape level analyses. Explore opportunities for mentoring and internships that can lead to development of future Service expertise.
- ✧ We will continue to assist the research agencies and entities to better characterize and identify solutions for complex environmental and ecological issues.

## Working with County and Regional Development Agencies

- ✧ Identify and encourage staff to attend planning meetings and review development plans. Develop working relationships with county and regional planners and staff in priority regions.

## Working with Industry and Development Interests

- ✧ We will continue to work directly with industry and development interests to identify measures to better protect and restore habitat quality while minimizing the financial burdens on affected industries and interests.

## Use of Technology

- ✧ Use technology to assist in the transition to a Strategic Habitat Conservation approach. This will require expertise in GIS, GPS, species/community/landscape ecology, etc. Core data-sets include vegetation composition and structure, topography, soils/geology, hydrology, species locations, county development/infrastructure/zoning, aerial photography, satellite imagery. Biologists, as well as GIS specialists, must work closely with USGS and state and county agencies, particularly in counties with priority species and habitats. FWS should lead the effort in Alabama, providing monetary support for a working group at state level.
- ✧ Use technology, where appropriate to streamline the consultation process, freeing up time and staff to work on priority issues.
- ✧ Ensure that staff are proficient with GIS, GPS, and communication tools including cell phones, SouthernLinc system, GPS units, digital cameras, other technical tools.

## Use of Programmatic HCPs, Other Landscape-Scale Agreements

- ✧ Begin exploring development of Programmatic HCPs, modeled on the Etowah HCP in Georgia, that can potentially reduce the number of site-by-site reviews, with a focus on priority areas where conservation benefits are most likely to be achieved.
- ✧ Encourage enrollment in the recently finalized Statewide Red-cockaded Woodpecker (RCW) Safe Harbor Agreement.



## Attracting, Developing, Retaining a Diverse Professional Staff

- ✧ The Alabama Field Office work environment will strive to be professional, positive, supportive; committed to service and the highest ethical standards; committed to professional development; appreciative of diverse talents, backgrounds and insights; and teamwork oriented.
- ✧ Employee appraisal plans and performance standards will be regularly reviewed so that assigned tasks and continual changes in Service and office procedures are reflected in the employee appraisal process.

✧ Professional Development:

- In-house training materials will be developed to capture office knowledge, and explain common procedures to new and existing staff. This will be augmented with formal coursework at NCTC and other locations as appropriate, including symposia, professional meetings, and workshops.
- Individual Development Plans (IDPs) for all staff will be reviewed annually to ensure that training meets the needs of the office, the Service and the employee.
- The National Ecological Assessment Team (NEAT) report suggests, under the heading of Strategic Habitat Conservation (SHC), that the Service begin to develop and/or attract conservation biologists and landscape planning specialists with GIS savvy. Ecological Services does not have a judicial, statutory or policy mandate or authority to focus primarily on landscape planning at this time, so professional development necessarily will continue to feature significant training and commitment of resources in core areas of responsibility including ESA, FWCA, CWA, NEPA, MBTA.
- That said, we can and should begin developing staff in the science and tools of conservation biology and landscape ecology.

*"Our people are our greatest asset"*

USFWS Vision Statement

## Strategic Habitat Conservation

- ✧ A Strategic Habitat Conservation approach to our Service mission has the potential to re-prioritize many of the activities that Ecological Services currently engages in. The transformation of the Service is perhaps just beginning and we have an opportunity to be involved in the first attempts at implementation. At the AFO, the first steps in working toward an SHC approach will:
- keep AFO staff aware of how SHC is being implemented nationally, regionally, and in other ES offices; let others know our implementation ideas;
  - continue development of staff competence in GIS;
  - make contacts with local and regional planning staff, especially technical staff with data and GIS resources;
  - incorporate SHC-related tasks in office Work Activity Guidance and employee appraisal plans;
  - with our partners, continue developing and defining habitat-related conservation goals for priority species and geographic areas, and incorporate these into annual work plans;
  - review recovery plans of AFO priority species to determine potential use for SHC-related habitat goals;
  - develop partnerships with USGS-BRD and Cooperative Research Study Unit at Auburn University, and other science programs that can aid in developing species-habitat relationships, identify limiting factors, and provide training and expertise.

## **IN CONCLUSION**

This strategic plan is yet another step in implementing the vision of the U.S. Fish and Wildlife Service. We have an opportunity to take the Alabama Ecological Services program in a new direction that maximizes our potential for protection of natural resources. We have been charged with developing a plan that can focus our passion and expertise in key areas, and will allow science to inform and refine our activities. Please direct questions and comments on how well this plan meets these objectives to: Dan Everson, Alabama Ecological Services Field Office, E-mail: [dan\\_everson@fws.gov](mailto:dan_everson@fws.gov), or Phone: (251) 441-5837.

## Appendix A – List of Acronyms

ABM .....	Alabama Beach Mouse
ADCNR.....	Alabama Department of Conservation and Natural Resources
AFO.....	Alabama Field Office
ALDOT .....	Alabama Department of Transportation
BLM.....	Bureau of Land Management
CWA .....	Clean Water Act
ESA .....	Endangered Species Act
FWS .....	Fish and Wildlife Service
FERC.....	Federal Energy Regulatory Commission
FWCA .....	Fish and Wildlife Coordination Act
GCN.....	Greatest Conservation Need
GIS .....	Geographic Information System
GPRA.....	Government Performance and Results Act
GPS .....	Global Positioning System
HCP.....	Habitat Conservation Plan
IDP .....	Individual Development Plan
JFO-MS.....	Jackson Field Office - Mississippi
MBTA .....	Migratory Bird Treaty Act
NEAT.....	National Ecological Assessment Team
NEPA .....	National Environmental Policy Act
NGO.....	Non-government Organization
NRDA .....	Natural Resource Damage Assessment
NWR .....	National Wildlife Refuge
PFW .....	Partners for Fish and Wildlife
RCW .....	Red-cockaded Woodpecker
SHC.....	Strategic Habitat Conservation
TAILS .....	Tracking and Integrated Logging System
TVA .....	Tennessee Valley Authority
USGS .....	United States Geological Survey
WAG .....	Work Activity Guidance

## **Appendix B**

### **ALABAMA FIELD OFFICE U.S. FISH AND WILDLIFE SERVICE**

#### **ENVIRONMENTAL CONTAMINANTS PROGRAM**

##### **STRATEGIC PLAN**

###### **1. PURPOSE**

Federal budget concerns have prompted the U.S. Fish & Wildlife Service (FWS) to review and reprioritize work loads to ensure that we are providing the American public the highest quality service with the funds available. As with other FWS Divisions, the mission, responsibilities, and objectives of the Environmental Contaminants (EC) Program far exceed the capabilities of existing budgets and staff. Therefore, the EC Program has undertaken a strategic planning process to ensure that limited resources are used to the best advantage to meet the FWS mission. The following is the strategic plan for the Alabama Field Office (AFO) EC Program. Specific objectives of the strategic plan include:

- 1) identify important EC issues in Alabama;
- 2) prioritize activities to ensure that the AFO EC Program is able to meet statutory mandates and provide the highest level of protection of Department of the Interior (DOI) trust resources in Alabama;
- 3) identify measures to increase the effectiveness of the EC Program in Alabama; and
- 4) identify opportunities to increase funding and staff to further enhance the effectiveness of the AFO EC Program.

The AFO EC Program Strategic Plan was drafted in conjunction with the National EC Strategic Plans. The priorities and objectives outlined in this plan are consistent with the mission and goals of the National EC Program, but are tailored to provide the greatest benefits to fish, wildlife, and habitat quality in Alabama.

## **2. FWS ENVIRONMENTAL CONTAMINANTS PROGRAM**

### **2.1 EC Program Overview**

FWS, through the EC Program, is the primary federal agency dedicated to protecting fish, wildlife, and their habitat from the harmful effects of pollution. EC Program personnel work with other FWS staff and programs as well as other Federal, State, and local agencies, the regulated community, and the public in matters pertaining to environmental pollution or contamination. EC personnel address a variety of issues aimed at preventing injury to fish and wildlife trust resources, their supporting habitats, and FWS lands.

### **2.2 EC Program Mission**

The mission of the U.S. Fish & Wildlife Service's Environmental Contaminants program is to protect, improve and restore the quality of fish, wildlife and habitat resources through the identification, prevention and working with others to resolve environmental contaminant problems for the benefit of the American public.

### **2.3 EC Program Goals (from the National EC Strategic Plan)**

- 1) Restore and recover trust resources and their supporting habitats injured by environmental contamination and other stressors.
- 2) Conserve trust resources and their supporting habitats through contaminant prevention.
- 3) Deliver high-quality and relevant scientific advice in a timely manner to support sound management decisions for our Trust resources.
- 4) Increase accountability, coordination, and visibility of the Environmental Contaminants Program to our internal and external partners and the public.
- 5) Maintain and support an adequately-sized workforce with state of the art training, equipment, and technologies.

### **2.4 EC Program Authorities**

In addition to the authorities under which the Division of Ecological Services operates, the EC Program also acts under authorities provided in the Clean Water Act (CWA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Oil Pollution Act (OPA); Resource Conservation and Recovery Act (RCRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

### 3. ALABAMA FIELD OFFICE ENVIRONMENTAL CONTAMINANTS PROGRAM

#### 3.1 Overview

Alabama is recognized both nationally and internationally for supporting an exceptionally rich assemblage of plants and animals. The State is particularly rich in aquatic biodiversity. The Mobile River Basin, alone, supports at least 175 endemic aquatic species. Unfortunately, Alabama is also a leader in the loss of biodiversity. The State ranks second in the nation in the number of recent extinctions with at least 90 species lost in recent years. The State also ranks third in the number of Federally listed threatened and endangered species (127) and second in the number of candidate species (23) for listing under the Endangered Species Act. The vast majority of extinct, listed, and candidate species in Alabama are aquatic, with habitat modification, water quality degradation, and/or pollution identified as leading factors causing or contributing to the population declines. Currently, water quality in about 5% of the streams and rivers, 19% of the lakes, and 84% of the coastal estuarine habitats do not fully meet water quality standards.

Alabama has a number of environmental contaminant concerns, including industrial discharges and emissions, agriculture, mining, municipal wastewater discharges, and stormwater runoff from urban and industrial facilities. In 2004, Alabama ranked 7<sup>th</sup> in the nation for the total amount of industrial waste produced, with 536 facilities generating 123 million pounds of toxic wastes. In that year, almost 10 million pounds of toxic material was discharged to surface waters and more than 50 million pounds was released to the atmosphere. Pollution releases from other sources are largely unquantified.

These figures indicate a pressing need for an active and effective EC Program in Alabama.

#### 3.2 AFO EC Program Objectives

The overall goal of the AFO EC Program is to provide the highest quality service to the public by better protecting those resources entrusted to the Department of the Interior. We will achieve better protection through focusing our efforts on the following objectives.

- a) Prevention: we will promote the avoidance of contaminant impacts to fish, wildlife, plants and their habitats.
- b) Response: we will assist other response agencies in avoiding or minimizing injury to fish, wildlife, and habitat quality resulting from the release of oil and hazardous substances.
- c) Remediation: we will promote effective remediation of habitats injured by pollutant releases.
- d) Restoration: we will facilitate the restoration of habitats to compensate for fish, wildlife, and their habitats injured by the release of pollutants.
- e) Investigation: we will investigate the impacts of pollutants on fish, wildlife, and habitat quality to promote a balanced protection of fish and wildlife and responsible economic growth.

f) Technical Assistance: we will assist other FWS programs, other agencies, the regulated community, and the public in achieving their objectives and priorities, where environmental contaminants are concerned.

g) Partnerships: we will seek to enhance our effectiveness through cultivating and sustaining partnerships with state, tribal, and local conservation entities to facilitate achievement of shared objectives and to provide a “value-added” role of the FWS.

h) Communicate Results, Accomplishment, and Capabilities: we will strive to better convey the benefits of our efforts within FWS and with our partners, other State and Federal agencies, the regulated community, non-governmental organizations, and the public.

### **3.3 Prioritization of Activities**

Like other FWS Program, the AFO EC Program is faced with responsibilities and workloads that greatly exceed the abilities of our current staff and budget. Therefore, we are compelled to prioritize our activities to ensure that we are meeting our statutory mandates, our obligations to other FWS Programs, and that we provide the greatest possible benefits to our trust resources. Accordingly, the decision to dedicate available resources to particular activities will be based on threshold criteria, prioritization criteria, Southeast Regional Priorities, and AFO EC priorities. Portions of the prioritizing criteria were adapted from the Region 3 EC Strategic Plan.

**a) *Threshold Criteria***: Potential EC Program actions should address one or more of the following threshold criteria. Potential actions that do not address any of these threshold criteria are not necessarily precluded but potential actions that address at least one threshold criterion will generally be given greater consideration than actions that do not.

1) Trust Resources: actions that have a direct and substantive connection to one or more DOI trust resources, including Service lands, threatened and endangered species, migratory birds, and /or interjurisdictional fisheries.

2) Statutory Mandate: actions that are supported or required by Federal statute, regulation, or policy.

3) Tribal Trust Responsibility: actions that facilitate the Department of the Interior’s fiduciary responsibility to assist tribal fish and wildlife resource management.

**b) *Prioritization Factors***: The priority of the action relative to other actions will be evaluated based on consideration of the following prioritization factors.

1) Prevention: the extent to which the action will contribute directly to prevention of future contaminant injuries and impacts.

2) Resource Management and Regulatory Decisions: the extent to which EC Program involvement can influence the final resource management or regulatory decision and the nature and extent to which trust resources and/or Service priorities would be substantively affected.

3) FWS Program Support: the extent to which the action will support a stated or formalized objective or priority of another Service program.

4) Conservation Partnership Support: the extent to which the action will support a stated or formalized objective or priority of a Service partner.

5) Value-Added: the extent to which the action is dependent upon an EC Program role.

6) Existing Commitments: the extent to which existing priorities, workloads, and commitments may affect implementation of the action.

7) Cost-effectiveness: the overall benefit to trust resources and/or Service priorities relative to the investment (e.g., funding, staff time, etc.) necessary to implement the action.

**c) *Southeast Regional Director's Priorities***: We will strive to achieve or assist in the attainment of the objectives and priorities put forth by the Southeast Regional Director of FWS.

**d) *AFO EC Program Priorities***: The ecological uniqueness and sensitivity combined with contaminant releases and environmental modifications have resulted in significant impacts to fish, wildlife, and habitat quality throughout Alabama. These factors create substantial challenges for the AFO EC Program. To attain our objective to better serve the public, the following AFO EC priorities have been identified.

1) Water Quality Restoration and Protection: The magnitude of aquatic species population declines and extinctions in Alabama demonstrate an urgent need to aggressively pursue water quality protection and enhancement activities. As such, AFO EC activities will dedicate substantial effort toward the protection and enhancement of water quality. Such efforts will include working with the Alabama Department of Environmental Management, the U.S. Environmental Protection Agency (EPA), and the regulated community to adopt and implement protective water quality standards, develop protective discharge limitations, identify and implement strategies to improve water quality, and pursue other appropriate protective measures. Whenever possible, we will incorporate water quality protection measures into other activities and actions, including those described below.

2) Hazardous Waste Site Assistance: EPA is conducting, or has conducted actions under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) at about 750 sites in Alabama. Cleanups have been completed or are underway at 63 of those sites. Currently, 17 of these sites have been added to the National Priorities List (e.g., "Superfund Site" list). As a natural resource trustee, FWS has a

responsibility to participate in assessment and remedial activities to ensure that cleanups at contaminated sites provide long-term protection of DOI trust resources. Participation in such activities is also a crucial first step in restoring injured resources and habitats. Accordingly, we will strive to meet our obligations under CERCLA, to provide beneficial assistance to agencies and responsible parties overseeing site cleanups, and to be an advocate for the effective cleanup of contaminated sites in Alabama.

3) Oil and Hazardous Materials Spill Planning and Response: The release of oil and hazardous substances represents a significant threat to natural resources and FWS lands throughout Alabama. In fiscal year 2006, 307 oil spills and 374 hazardous materials releases in Alabama were reported to the National Response Center. To meet our mission to “protect and enhance” fish and wildlife resources, we will be proactive in response planning and preparation. We will also assist response agencies in Alabama (and other States, if requested) in efforts to avoid or minimize the impacts to trust resources during spill events and to promote the effective and timely recovery and/or restoration of impacted resources and habitats following such events. Additionally, as demonstrated in the 2004-05 hurricane seasons, natural disasters may result in large-scale releases of hazardous materials and wide-spread impacts to water and habitat quality. We will also provide assistance in the response and cleanup of oil and hazardous materials released during such events. As a Federal Agency, we also recognize our responsibility to assist in search and rescue and provide humanitarian relief during national emergencies, as directed by the President.

4) NRDAR: Under the Oil Pollution Act (OPA) and the CERCLA, parties responsible for the release of oil or hazardous substances are responsible for compensating the public for injuries to natural resources resulting from those releases. Natural Resource Trustees are provided the authority to act on behalf of the public to seek compensation for those injuries. The process in which Trustees determine the nature and extent of the injuries, recover damages from those responsible, and restore natural resources and their habitats is known as Natural Resource Damage Assessment and Restoration (NRDAR). Natural resources have been injured from contaminants released at several sites throughout Alabama. The Alabama Natural Resource Trustee Council, consisting of the Alabama Department of Conservation and Natural Resources, the Geological Survey of Alabama, the National Oceanic and Atmospheric Administration (coastal sites only), and FWS are working cooperatively to address NRDAR issues in Alabama. AFO EC personnel serve as the Lead Administrative Trustees in Alabama NRDAR actions. AFO EC will remain involved in NRDAR cases in Alabama.

5) Environmental Assessments and Investigations: The persistence, mobility, toxicity, and ultimately the impacts of environmental contaminants on human health and the environment are controlled by a number of complex chemical, physical, and biological processes. Additionally, the toxic effects of many contaminants are subtle, but their broad ecosystem impacts may be profound. Understanding the nature, severity, and significance of contaminant impacts to fish, wildlife, and habitat quality are key to developing sound policies for managing contamination on local, regional, and national levels. The AFO EC Program will continue to conduct and/or coordinate contaminant investigations to develop information needed to effectively and appropriately address

the diverse environmental contaminant issues in Alabama. All data collection and interpretation activities will be consistent with and supported by sound scientific principles and practices.

6) Technical Assistance: EC Program personnel provide a unique knowledge of the effects of pollutants to fish, wildlife, and habitat quality. Often these effects are subtle and not readily apparent. However, their effects to ecosystems may be devastating. Through advanced consideration, impacts of the release of pollutants may be minimized or avoided altogether. As a public service agency, we have an obligation to promote the protection of fish, wildlife, and habitat quality. As such, AFO EC personnel will continue to work with other FWS Programs; other Federal, State, and local agencies and programs; industries; non-governmental organizations; and the general public to identify potential contaminant concerns and to identify measures to avoid or minimize potential impacts. Upon request, we will also continue to assist the Center for Disease Control (CDC) in the investigation of human health issues (cancer cluster) and the Department of Justice (DOJ) in environmental crime cases.

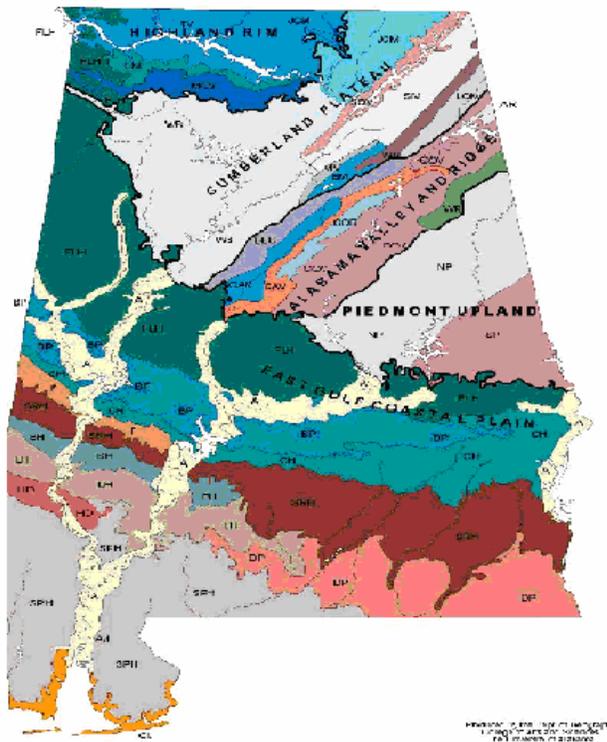
7) Training: The field of environmental toxicology is highly complex and controversial. FWS EC Program personnel are recognized as technical experts and leaders in this complex scientific field. Maintaining this research expertise is essential in the FWS endeavor to be recognized as problem solvers. Additionally, continued training is required as part of our certification to work on hazardous waste sites or to respond to spills and other chemical emergencies. As such, continuing education will remain a priority for the AFO EC Program.

**Appendix C**  
**ALABAMA FIELD OFFICE**  
**U.S. FISH AND WILDLIFE SERVICE**  
**PARTNERS FOR FISH AND WILDLIFE**  
**STRATEGIC PLAN**

**Introduction and Overview**

Alabama is one of the most ecologically diverse States in the nation. The geography, ranging from the Appalachian mountains in northeast Alabama to the lower coastal plain in the southern part of the State, encompasses a whole host of ecological communities including coastal marsh, maritime forest, pitcher plant bogs, coastal pine savannah, bottomland hardwoods, upland hardwoods, karst springs and sinkholes leading to underground caverns, and unique gravel/cobble and bedrock streams. The majority of the State is drained by the sixth largest river system in the United States – the Mobile River system. The Tennessee River flows through the Cumberland Plateau region of the northern portion of the State and the Chattahoochee, Pea, Choc-tawhatchee, and Conecuh rivers drain the southeastern portion of the State.

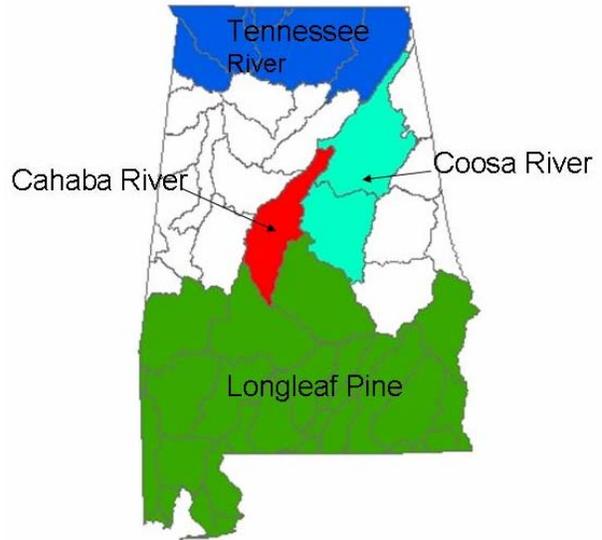
Ecological diversity in Alabama was created by significant differences in soils, elevations, abundant water resources, and rainfall. These physiographic and climatic differences created some very diverse and unique habitats which gave rise to tremendous floral and faunal diversity. Alabama ranks fifth in the nation in plant and animal diversity and first in the nation in freshwater species diversity (*Alabama Natural Heritage Program 2003 and Stein 2002*). This diversity coupled with the intervention of human influences such as the creation of lakes on free flowing river, conversion of longleaf pine habitats to other pine types, urban development and agricultural land has lead to the federal listing of over 117 species as threatened, endangered or candidate species, the third highest state total in the nation. Numerous other species have been identified by the Alabama Wildlife and Freshwater Fisheries as needing active conservation and management in their recent publication, *Conserving Alabama's Wildlife A Comprehensive Strategy (2005)*.



Physiography of Alabama

## Overview of Focus Areas/Priority Habitat Restoration/Species of Concern

Four geographic focus areas were established in Alabama to concentrate Partners for Fish and Wildlife funding on species with the greatest conservation need for restoration. These focus areas were also chosen because of ongoing efforts in these areas to restore habitat for federally listed species as well as species identified in the Alabama Comprehensive Strategy. The four focus areas are the Tennessee River, Coosa River, Cahaba River and Longleaf Pine – Gopher Tortoise focus areas.



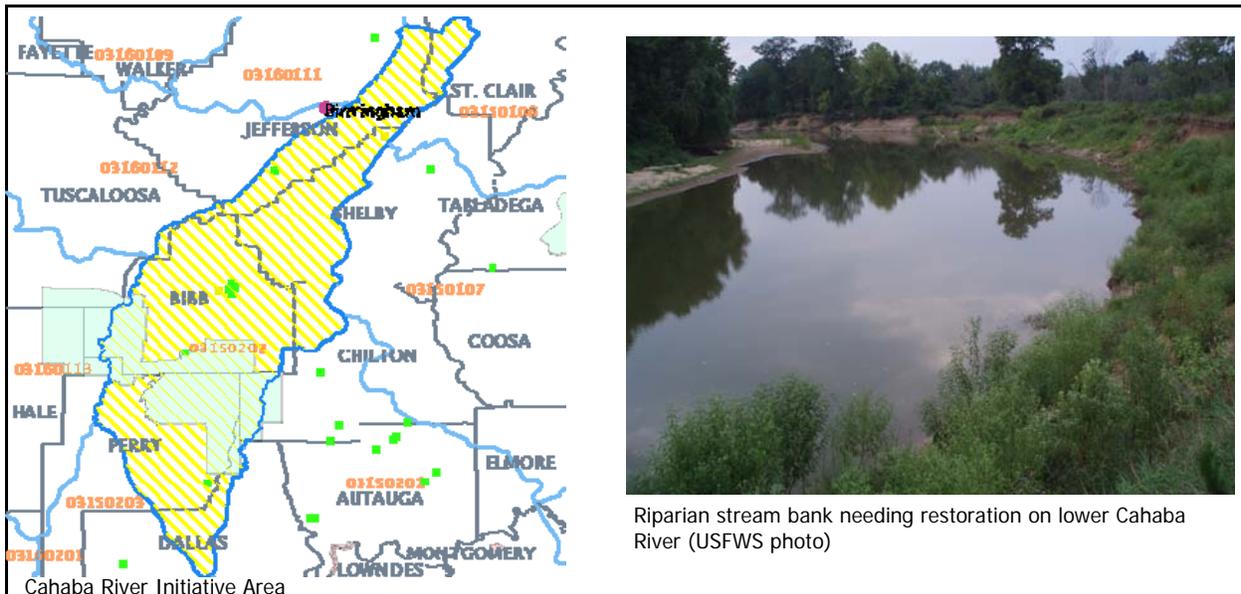
Focus Area Map

### Cahaba River Initiative

The Cahaba River is the longest free-flowing river in Alabama and runs through the Ridge and Valley and Southeastern Plains geographic provinces. The Cahaba basin covers 1,818 square miles and lies completely within Alabama.

Mayden and Kuhajda (1989) state the Cahaba River is the most ichthyologically diverse river for its size in North America. The Cahaba is known to harbor 131 species of fish (Pierson et al. 1989) and once harbored 43 mussel species (van der Schalie 1938). However, only 33 mussel species can be documented at present (Sheppard et al. 1994 and McGregor et al. 2000).

The problems affecting the species and their habitat include water quality degradation, particularly sedimentation and nutrient enrichment related to urbanization in the upper watershed as well as silvicultural and agricultural practices.



Riparian stream bank needing restoration on lower Cahaba River (USFWS photo)

Priority Habitat Type: One mile of riparian over the next five years

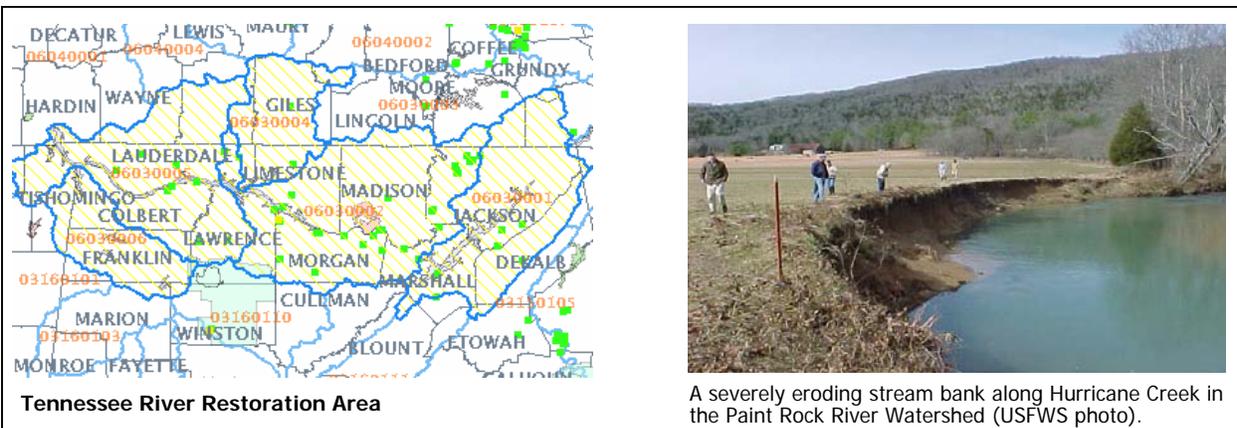
Focus Species: Fourteen imperiled mussel and snail species and six species of imperiled fish

Action Strategies: Determine degraded sites needing restoration by working with partners and work with landowners with Partners funding to repair stream banks, fence livestock out of the streams, provide alternative water sources, and re-vegetate riparian areas with native trees, shrubs and grasses. Landowners will be encouraged to utilize USDA programs such as Conservation Reserve Program, Environmental Quality Incentive Program, Conservation Security Program, and Wildlife Habitat Incentive Program where appropriate to reduce sedimentation in the watershed.

## Tennessee River Restoration Area

In Alabama, the Tennessee River Basin encompasses approximately 6,826 square miles in 15 northern counties. It is largely confined to the Southwest Appalachians and Interior Plateau. The Tennessee River is one of the most biologically diverse river basins in North America with 163 species of fish, 90 species of freshwater mussels, and 66 species of aquatic snails known to occur in the Alabama portion of the Tennessee River.

Impoundments on the Tennessee River, Elk River and in the Bear Creek watershed are responsible for the loss of most riverine habitat, fragmentation and isolation of streams and modification of the natural flow regime. Water quality degradation resulting from sedimentation and nutrient enrichment from agriculture, silviculture, and urbanization of the watershed is also a problem affecting aquatic species habitat.



Priority Habitat: Riparian 0.08 miles over next five years

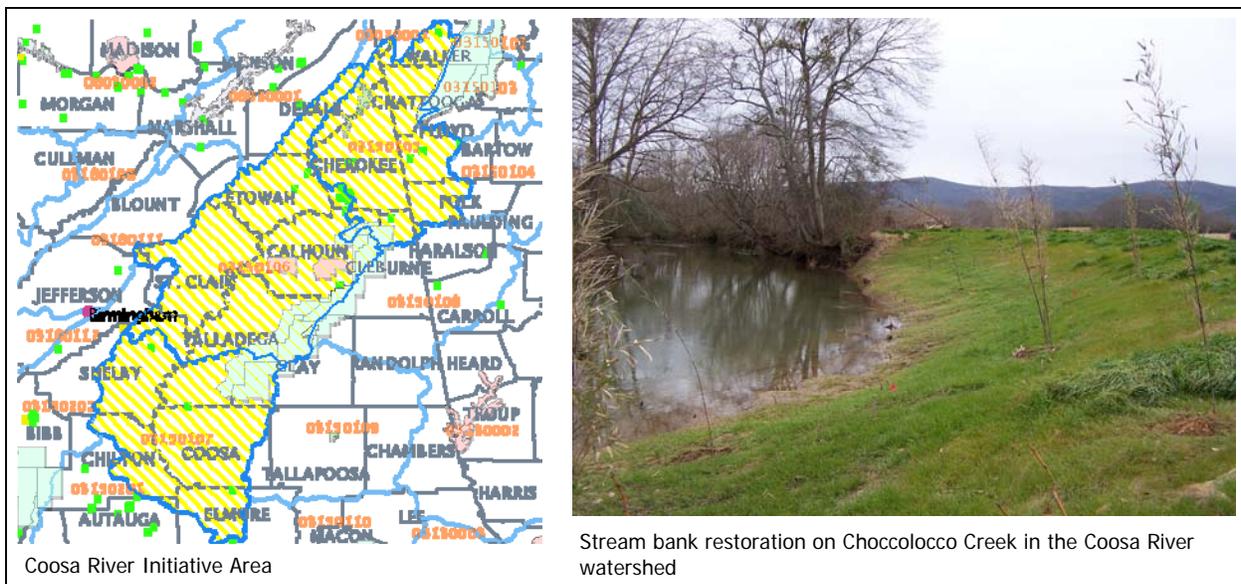
Focus Species: Seventeen imperiled mussels and snails and 4 federally listed species of fish

Action Strategies: The Partners program will determine degraded sites needing restoration by working with partners and work with landowners with Partners and Private Stewardship Grant funding to repair stream banks, fence livestock out of the steams, provide alternative water sources, re-vegetate riparian areas with native trees, shrubs and grasses and plant native grasses in fields contributing sediment to the Tennessee River and tributaries. Landowners will be encouraged to utilize USDA programs such as Conservation Reserve Program, Environmental Quality Incentive Program, Conservation Security Program, and Wildlife Habitat Incentive Program where appropriate to reduce sedimentation in the watershed.

## Coosa River Initiative

The Coosa Watershed is the largest and most biologically diverse watershed in the Mobile River Basin in terms of fish, mussels and snails. The Coosa is largely impounded with a total drainage area of 5,353 square miles in Alabama. There are six dams on the mainstem of the Coosa including Weiss, Neely Henry, Logan Martin, Lay, Mitchell, and Jordan. The watershed is approximately 70 percent forested, 19 percent agriculture and pasture and 5 percent urban.

The main problems affecting imperiled species and their habitat in the Coosa River are fragmentation of riverine habitat resulting from impoundment; water quality degradation (sedimentation and nutrient enrichment) resulting from gravel mining, agriculture, silviculture, and urbanization.



Priority Habitat: One mile of riparian over next 5 years

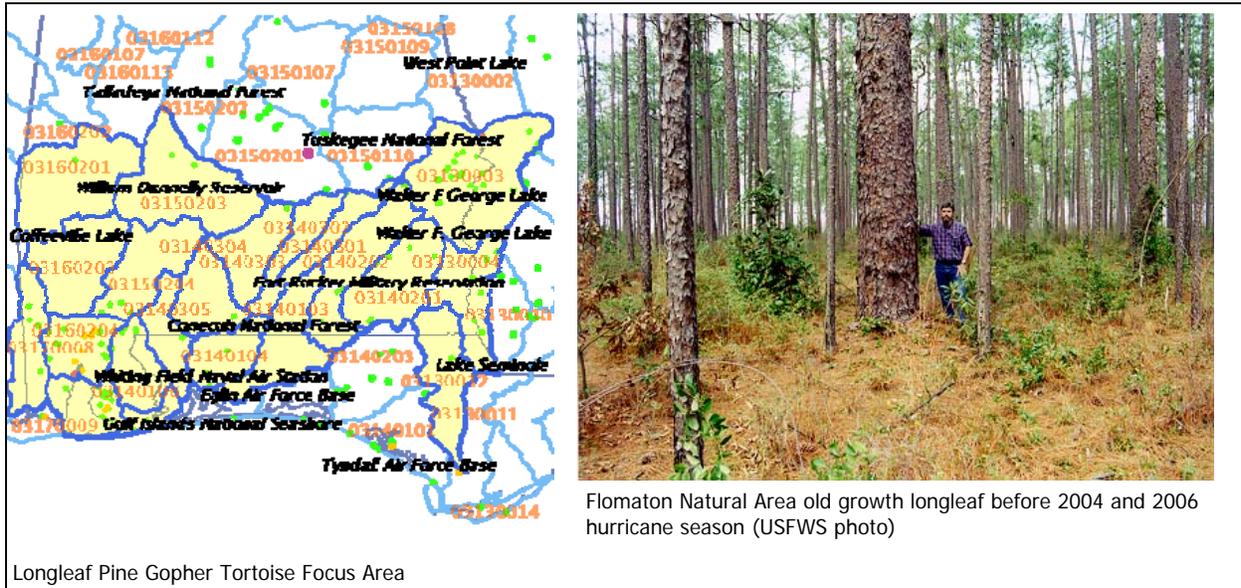
Focus Species: Nine imperiled fish species and 24 imperiled mussels and snails

Action Strategies: The Partners Program is working with the Alabama Soil and Water Conservation Committee, the Clean Water Partnership and private landowners to improve water quality in the Coosa. The primary implementation strategy for the Partners Program in the Coosa is installation of riparian buffers and repair and stabilization of stream banks with soft armoring techniques such as root wads, log vanes and native grasses, shrubs, and trees. Partners biologists will also work with private forest landowners and county governments to reduce sedimentation resulting from forest roads and dirt roads in the watershed. In addition, the Partners Program will encourage the USDA to utilize their programs like the Environmental Quality Incentive Program and Conservation Reserve Program to reduce sedimentation resulting from cropland, pasture and forest land that may be affecting listed candidate, threatened or endangered species.

## Longleaf Pine Gopher Tortoise Restoration Area

This focus area includes the range of the gopher tortoise and encompasses the longleaf pine-scrub oak-wiregrass-bluestem community, the pine flatwoods community, pine savanna community, and embedded pitcher plant bog community. The gopher tortoise is a keystone species in this focus area because management of the longleaf/grass-forb community that provides suitable habitat for the gopher tortoise also provides habitat for many other listed threatened or endangered species and non-listed imperiled species. Recovery of this habitat is important to the entire suite of federal trust resources listed above.

The once vast longleaf pine ecosystem in the southeast has been reduced to a mere fraction of what once covered over 90 million acres. Remaining longleaf habitat is often degraded due to the lack of prescribed fire, fragmentation and invasive exotic species. Service efforts will be geared toward restoring a functioning longleaf ecosystem suitable for occupation by the gopher tortoise, the keystone species. Stands of longleaf pine managed for the gopher tortoise will also provide suitable habitat for the other species of imperiled wildlife that occupy this habitat type.



Priority habitat: 2250 acres of Longleaf pine with native ground cover of grasses and forbs over the next 5 years.

Focus species: Gopher tortoise, Eastern indigo snake, Bachman’s sparrow, Henslow sparrow, black pine snake, flatwoods salamander, gopher frog, Northern bobwhite quail, Alabama canebrake pitcher plant, American chaffseed, panhandle lily and red-cockaded woodpecker

Action strategies: The implementation strategy for this focus area is a multi-year, multifaceted project involving numerous partners including The Longleaf Alliance, The Nature Conservancy, Alabama Soil and Water Conservation Committee, Natural Resources Conservation Service, Cooperative Extension Service, the Gopher Tortoise Council and various private landowners. The initiative is composed of: 1) landowner and agency agreements for habitat restoration-establishment, 2) demonstration projects for control of exotic vegetation, 3) understory restoration in longleaf and 4) outreach programs. Habitat restoration efforts will be coordinated with other Service activities including Habitat Conservation Plans, Safe Harbor,

State Wildlife Grants, and Landowner Incentive Programs. Coordinating Service funded programs with USDA's Wildlife Habitat Incentive Program, Conservation Reserve Program and the Environmental Quality Incentive Program will also be a component of the overall strategy. The GAP analysis data being developed by USGS will be useful in piecing together the fragments of the once extensive longleaf pine ecosystem.

The Longleaf Pine Gopher Tortoise focus area involves numerous federal, state and private partners working together to re-establish the longleaf pine ecosystem in the historic range of the gopher tortoise. The primary partners include the The Longleaf Alliance, Alabama Soil and Water Conservation Committee, Natural Resources Conservation Service, Alabama Wildlife and Freshwater Fisheries, The Nature Conservancy of Alabama, Alabama Forestry Commission, and numerous private landowners.

### **Stakeholders Involved**

The following is a list of stakeholders involved in the Partners for Fish and Wildlife program in Alabama. The Partners program in Alabama coordinated the Strategic Plan with numerous stakeholders early in the development of the plan. A meeting with our primary stakeholders was held before the details of the plan were developed. The primary stakeholders present at the meeting were the Natural Resources Conservation Service (the state biologist, an area conservationist and a district conservationist), biologists with the Alabama Wildlife and Freshwater Fisheries (two private lands biologists, the Landowner Incentive Program biologist, and the State Wildlife Grants Coordinator), The Nature Conservancy, and three Fish and Wildlife Service private lands biologists and the State Partners Coordinator. All of the representatives present were very familiar with delivery of habitat improvement projects on private land. Numerous stakeholders are involved in delivery and funding of private lands projects. The Service has worked with each of the stakeholders included below.

- Private landowners (approximately 70 over the last 5 years)
- Alabama Wildlife and Freshwater Fisheries Division of the Alabama Department of Conservation and Natural Resources
- State Lands Division of the Alabama Department of Conservation and Natural Resources
- The Nature Conservancy of Alabama
- USDA- Natural Resources Conservation Service
- USDA – Farm Services Agency
- Alabama Soil and Water Conservation Committee
- Alabama Forestry Commission
- The Longleaf Alliance
- Auburn University
- Baldwin County Soil and Water Conservation District
- Madison County Soil and Water Conservation District
- Limestone County Soil and Water Conservation District
- Birmingham Water Works Board
- Mobile Area Water and Sewer Board
- Alabama Rivers Alliance
- Kimberly Clark, Inc

- International Paper Co
- Choccolocco Creek Watershed Conservancy District
- City of Citronelle
- Daphne Middle School
- Mobile County Wildlife and Conservation Association
- Mobile Bay National Estuary Program
- Newton Middle School
- Weeks Bay Estuarine Research Reserve
- Weeks Bay Foundation
- Alabama Coastal Foundation
- Coastal Land Trust
- Cahaba River Society
- Alabama Department of Environmental Management
- U.S. Army Corps of Engineers
- Lauderdale Soil and Water Conservation District
- Tennessee Valley Authority
- Alabama Natural Heritage Program
- Alabama Water Watch
- Youth Conservation Corps
- Americorps
- Choctawhatchee Watershed Authority
- Alabama Forest Resources Center
- Volkert and Associates, Inc
- Alabama State Docks
- Baldwin County School District
- Mobile County Forestry Planning Committee
- Baldwin County Forestry Planning Committee
- Baldwin County Commission
- Winston County Commission
- Gulf Coast Resource Conservation and Development

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## Appendix D — Alabama's Federally Listed Species

### MAMMALS

E	Bat, gray ( <i>Myotis grisescens</i> )
E-CH	Bat, Indiana ( <i>Myotis sodalis</i> )
E	Manatee, Florida ( <i>Trichechus manatus</i> )
E-CH*	Mouse, Alabama beach ( <i>Peromyscus polionotus ammobates</i> )
E-CH*	Mouse, Perdido Key beach ( <i>Peromyscus polionotus trissyllepsis</i> )

### BIRDS

T-CH*	Plover, piping ( <i>Charadrius melodus</i> )
E	Stork, wood ( <i>Mycteria americana</i> )
E	Woodpecker, red-cockaded ( <i>Picoides borealis</i> )

### REPTILES

T	Sea turtle, green ( <i>Chelonia mydas</i> )
E	Sea turtle, hawksbill ( <i>Eretmochelys imbricata</i> )
E	Sea turtle, Kemp's (=Atlantic) ridley ( <i>Lepidochelys kempii</i> )
E	Sea turtle, leatherback ( <i>Dermochelys coriacea</i> )
T	Sea turtle, loggerhead ( <i>Caretta caretta</i> )
T	Snake, eastern indigo ( <i>Drymarchon corais couperi</i> )
C	Snake, black pine ( <i>Pituophis melanoleucus lodingi</i> )
T	Tortoise, gopher ( <i>Gopherus polyphemus</i> )
E	Turtle, Alabama redbelly ( <i>Pseudemys alabamensis</i> )
T	Turtle, flattened musk ( <i>Sternotherus depressus</i> )

### AMPHIBIANS

T	Salamander, Red Hills ( <i>Phaeognathus hubrichti</i> )
T	Salamander, Flatwoods ( <i>Ambystoma cingulatum</i> )
C	Waterdog, Black Warrior ( <i>Necturus alabamensis</i> )

### SNAILS

T	Elimia (snail), lacy ( <i>Elimia crenatella</i> )
E	Lioplax (snail), cylindrical ( <i>Lioplax cyclostomaformis</i> )
E	Pebblesnail, flat ( <i>Lepyrium showalteri</i> )
E	Riversnail, Anthony's ( <i>Athearnia anthonyi</i> )
T	Rocksnailed, painted ( <i>Leptoxis taeniata</i> )
E	Rocksnailed, plicate ( <i>Leptoxis plicata</i> )
T	Rocksnailed, round ( <i>Leptoxis ampla</i> )
E	Snail, tulotoma (=Alabama live-bearing) ( <i>Tulotoma magnifica</i> )
E	Armored snail (Marstonia (=Pyrgulopsis) <i>pachyta</i> )
E	Slender campeloma ( <i>Campeloma decampi</i> )
C	Rough Hornsnail ( <i>Pleurocera foremani</i> ) -
C	Black mudalia ( <i>Elimia melanoides</i> )

## MUSSELS

E-CH*	Acornshell, southern ( <i>Epioblasma othcaloogensis</i> )
C	Bean, Choctaw ( <i>Villosa choctawensis</i> )
E	Bean, Cumberland ( <i>Villosa trabalis</i> )
E	Blossom, tubercled ( <i>Epioblasma torulosa torulosa</i> )
E	Blossom, turgid (pearlymussel) ( <i>Epioblasma turgidula</i> )
E	Blossom, yellow (pearlymussel) ( <i>Epioblasma florentina florentina</i> )
E	Catspaw ( <i>Epioblasma obliquata obliquata</i> ) )
E	Clubshell ( <i>Pleurobema clava</i> )
E	Clubshell, black (=Curtus' mussel) ( <i>Pleurobema curtum</i> ) )
E-CH*	Clubshell, ovate ( <i>Pleurobema perovatum</i> )
E-CH*	Clubshell, southern ( <i>Pleurobema decisum</i> )
E-CH*	Combshell, Cumberlandian ( <i>Epioblasma brevidens</i> )
E	Combshell, southern (=penitent mussel) ( <i>Epioblasma penita</i> )
E-CH*	Combshell, upland ( <i>Epioblasma metastriata</i> ) )
C	Ebonyshell, round ( <i>Obovaria rotulata</i> ) in Escambia drainage
E	Fanshell ( <i>Cyprogenia stegaria</i> )
T	Heelsplitter, Alabama (=inflated) ( <i>Potamilus inflatus</i> )
E-CH*	Kidneyshell, triangular ( <i>Ptychobranhus greenii</i> )
C	Kidneyshell, Southern ( <i>Ptychobranhus jonesi</i> )
E	Lampmussel, Alabama ( <i>Lampsilis virescens</i> )
E	Lilliput, pale (pearlymussel) ( <i>Toxolasma cylindrellus</i> )
E	Mapleleaf, winged ( <i>Quadrula fragosa</i> )
T-CH*	Moccasinshell, Alabama ( <i>Medionidus acutissimus</i> )
E-CH*	Moccasinshell, Coosa ( <i>Medionidus parvulus</i> )
E	Moccasinshell, Gulf ( <i>Medionidus penicillatus</i> )
E	Monkeyface, Cumberland (pearlymussel) ( <i>Quadrula intermedia</i> )
T-CH*	Mucket, orange-nacre ( <i>Hamiota (Lampsilis) perovalis</i> )
E	Mucket, pink (pearlymussel) ( <i>Lampsilis abrupta</i> )
E-CH*	Oyster Mussel, ( <i>Epioblasma capsaeformis</i> )
C	Pearlshell, Alabama ( <i>Margaritifera marrianae</i> )
E	Pearlymussel, birdwing ( <i>Lemiox rimosus</i> aka <i>Conradilla caelata</i> )
E	Pearlymussel, cracking ( <i>Hemistena lata</i> )
E	Pearlymussel, dromedary ( <i>Dromus dromas</i> ) )
E	Pearlymussel, littlewing ( <i>Pegias fabula</i> ) )
C	Pearlymussel, slabside ( <i>Pleuronaia (Lexingtonia) dolabelloides</i> )
E-CH*	Pigtoe, dark ( <i>Pleurobema furvum</i> )
E	Pigtoe, fine-rayed ( <i>Fusconaia cuneolus</i> )
E	Pigtoe, flat (=Marshall's mussel) ( <i>Pleurobema marshalli</i> ) )
C	Pigtoe, fuzzy ( <i>Pleurobema strodeanum</i> )
C	Pigtoe, narrow ( <i>Fusconaia escambia</i> )
E	Pigtoe, oval ( <i>Pleurobema pyriforme</i> )
E	Pigtoe, heavy (=Judge Tait's mussel) ( <i>Pleurobema taitianum</i> )
E	Pigtoe, rough ( <i>Pleurobema plenum</i> )
E	Pigtoe, shiny ( <i>Fusconaia cor (=edgariana)</i> )
E-CH*	Pigtoe, southern ( <i>Pleurobema georgianum</i> )

C	Pigtoe, tapered ( <i>Quincuncina burkei</i> )
E	Pimpleback, orangefoot (pearlymussel) ( <i>Plethobasus cooperianus</i> )
E	Pink, ring (mussel) ( <i>Obovaria retusa</i> )
T-CH*	Pocketbook, finelined ( <i>Hamiota (=Lampsilis) altilis</i> )
E	Pocketbook, shinyrayed ( <i>Hamiota (Lampsilis) subangulata</i> )
T	Purple Bankclimber ( <i>Plectomerus (=Elliptoideus) sloatianus</i> )
C	Sandshell, southern ( <i>Lampsilis australis</i> )
C	Sheepnose ( <i>Plethobasus cyphus</i> )
T	Slabshell, Chipola ( <i>Elliptio chipolaensis</i> )
E	Stirrupshell ( <i>Quadrula stapes</i> )
E	Wartyback, white (pearlymussel) ( <i>Plethobasus cicatricosus</i> )

### CRUSTACEANS

E	Shrimp, Alabama cave ( <i>Palaemonias alabamae</i> )
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### FISHES

E-CH*	Cavefish, Alabama ( <i>Speoplatyrhinus poulsoni</i> )
T-CH	Chub, spotfin ( <i>Erimonax monachus</i> )
E	Darter, boulder (=Elk River) ( <i>Etheostoma wapiti</i> )
T	Darter, goldline ( <i>Percina aurolineata</i> )
C	Darter, Rush ( <i>Etheostoma phytophylum</i> )
E	Darter, Vermilion ( <i>Etheostoma chermocki</i> )
T-CH*	Darter, slackwater ( <i>Etheostoma boschungii</i> )
T	Darter, snail ( <i>Percina tanasi</i> )
E	Darter, watercress ( <i>Etheostoma nuchale</i> )
T	Sculpin, pygmy ( <i>Cottus pygmaeus</i> )
T	Shiner, blue ( <i>Cyprinella (=Notropis) caerulea</i> )
E	Shiner, Cahaba ( <i>Notropis cahabae</i> )
E	Shiner, Palezone ( <i>Notropis albizonatus</i> )
E	Sturgeon, Alabama ( <i>Scaphirhynchus suttkusi</i> )
T-CH*	Sturgeon, Gulf ( <i>Acipenser oxyrinchus desotoi</i> )

### PLANTS

T	Little amphianthus ( <i>Amphianthus pusillus</i> )
T	Price's potato-bean ( <i>Apios priceana</i> )
E	Morefield's leather-flower ( <i>Clematis morefieldii</i> )
E	Alabama leather-flower ( <i>Clematis socialis</i> )
E	Leafy prairie-clover ( <i>Dalea (=Petalostemum) foliosa</i> )
C	Whorled sunflower ( <i>Helianthus verticillatus</i> )
T	Lyrate bladderpod ( <i>Lesquerella lyrata</i> )
E	Pondberry ( <i>Lindera melissifolia</i> )
T	Mohr's Barbara's buttons ( <i>Marshallia mohrii</i> )
C	White fringeless orchid ( <i>Platanthera integrilabia</i> )
E	Harperella ( <i>Ptilimnium nodosum (=fluviatile)</i> )
T	Kral's water-plantain ( <i>Sagittaria secundifolia</i> )
E	Green pitcher-plant ( <i>Sarracenia oreophila</i> )

E	Alabama canebrake pitcher-plant ( <i>Sarracenia rubra</i> ssp. <i>alabamensis</i> )
E	American chaffseed ( <i>Schwalbea americana</i> )
E	Gentian pinkroot ( <i>Spigelia gentianoides</i> )
E	Relict trillium ( <i>Trillium reliquum</i> )
E	Tennessee yellow-eyed grass ( <i>Xyris tennesseensis</i> )
C	Georgia Rockcress ( <i>Arabis georgiana</i> )
C	Georgia aster ( <i>Symphyotrichum georgianum</i> ) aka <i>Aster georgiana</i>
C	Fleshyfruit gladecress ( <i>Leavenworthia crassa</i> )

### **FERNS and ALLIES**

T	American hart's-tongue fern ( <i>Asplenium scolopendrium</i> var. <i>americanum</i> )
E	Louisiana quillwort ( <i>Isoetes louisianensis</i> )
T	Alabama streak-sorus fern ( <i>Thelypteris pilosa</i> var. <i>alabamensis</i> )

### **INSECTS (I)**

E	Butterfly, Mitchell's Satyr ( <i>Neonympha mitchellii mitchellii</i> )
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### **LEGEND:**

<b>E</b>	Endangered
<b>T</b>	Threatened
<b>C</b>	Candidate Species
<b>CH</b>	Critical Habitat designated
<b>CH*</b>	Critical Habitat in Alabama

## Appendix E — Alabama’s Species of Greatest Conservation Need

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
Phylum Craniata (Vertebrata)				
Class Mammalia				
ORDER ARTIODACTYLA				
Family Bovidae				
<i>Bos bison</i>	American Bison	EX	--	G4 SX
Family Cervidae				
<i>Cervus elaphus</i>	Elk	EX	--	G5 SX
ORDER CARNIVORA				
Family Canidae				
<i>Canis rufus</i>	Red Wolf	EX	LE	G1 SX
Family Felidae				
<i>Puma concolor</i>	Mountain Lion	EX	LE	G5 SX
Family Mustelidae				
<i>Mustela frenata</i>	Long-Tailed Weasel	P2	--	G5 S3
Family Mephitidae				
<i>Spilogale putorius</i>	Eastern Spotted Skunk	P2	--	G5 S2S3
Family Ursidae				
<i>Ursus americanus</i>	Black Bear	P1	--	G5 S2
ORDER CHIROPTERA				
Family Vespertilionidae				
<i>Myotis austroriparius</i>	Southeastern Myotis	P2	--	G3G4 S2
<i>Myotis grisescens</i>	Gray Myotis	P1	LE	G3 S2
<i>Myotis lucifugus</i>	Little Brown Myotis	P2	--	G5 S3
<i>Myotis septentrionalis</i>	Northern Long-Eared Myotis	P2	--	G4 S2
<i>Myotis sodalis</i>	Indiana Myotis	P1	LE	G2 S2
<i>Corynorhinus rafinesquii</i>	Rafinesque’s Big-Eared Bat	P1	--	G3G4 S2
<i>Lasiurus intermedius</i>	Northern Yellow Bat	P2	--	G4G5 S1
Family Molossidae				
<i>Tadarida brasiliensis</i>	Brazilian Free--Tailed Bat	P2	--	G5 S3
ORDER INSECTIVORA				
Family Soricidae				
<i>Sorex hoyi</i>	Pygmy Shrew	P2	--	G5 SNR
ORDER LAGOMORPHA				
Family Leporidae				
<i>Sylvilagus palustris</i>	Marsh Rabbit	P2	--	G5 S3
<i>Sylvilagus obscurus</i>	Appalachian Cottontail	P2	--	G4 S1
ORDER RODENTIA				
Family Geomyidae				
<i>Geomys pinetis</i>	Southeastern Pocket Gopher	P2	--	G5 S3
Family Muridae				
<i>Peromyscus polionotus ammobates</i>	Alabama Beach Mouse	P1	LE	G5T1 S1
<i>Peromyscus polionotus trissylepsis</i>	Perdido Key Beach Mouse	P1	LE	G5T1 S1
<i>Neotoma magister</i>	Allegheny Woodrat	P2	--	G5G4 S3
Family Dipodidae				
<i>Zapus hudsonius</i>	Meadow Jumping Mouse	P2	--	G5 S3
ORDER SIRENIA				
Family Trichechidae				
<i>Trichechus manatus</i>	West Indian Manatee	P1	LE	G2 SA

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
Class Aves				
ORDER ANSERIFORMES				
Family Anatidae				
<i>Anas rubripes</i>	American Black Duck	P2	--	G5 S2B
ORDER CHARADRIIFORMES				
Family Charadriidae				
<i>Charadrius alexandrinus</i>	Snowy Plover	P1	--	G3 S1B
<i>Charadrius wilsonia</i>	Wilson's Plover	P1	--	G5 S1
<i>Charadrius melodus</i>	Piping Plover	P1	LT	G3 S1N
Family Haematopodidae				
<i>Haematopus palliatus</i>	American Oystercatcher	P2	--	G5 S1
Family Scolopacidae				
<i>Scolopax minor</i>	American Woodcock	P2	--	G5 S4B
ORDER CICONIIFORMES				
Family Ardeidae				
<i>Ixobrychus exilis</i>	Least Bittern	P2	--	G5 S4B
<i>Egretta rufescens</i>	Reddish Egret	P2	--	G4 S1B
Family Ciconiidae				
<i>Mycteria americana</i>	Wood Stork	P2	LE	G4 S2N
ORDER FALCONIFORMES				
Family Accipitridae				
<i>Elanoides forficatus</i>	Swallow-Tailed Kite	P2	--	G5 S2
<i>Circus cyaneus</i>	Northern Harrier	P2	--	G5 S2B
Family Falconidae				
<i>Falco sparverius</i>	American Kestrel	P2	--	G5 SNR
ORDER GRUIFORMES				
Family Rallidae				
<i>Coturnicops noveboracensis</i>	Yellow Rail	P2	--	G4 S2N
<i>Laterallus jamaicensis</i>	Black Rail	P2	--	G4 S2N
ORDER PASSERIFORMES				
Family Corvidae				
<i>Corvus corax</i>	Common Raven	EX	--	G5 SX
Family Emberizidae				
<i>Aimophila aestivalis</i>	Bachman's Sparrow	P2	--	G3 S3
<i>Ammodramus henslowii</i>	Henslow's Sparrow	P1	--	G4 S2N
<i>Ammodramus nelsoni</i>	Nelson's Sharp-Tailed Sparrow	P2	--	G5 S3N
<i>Ammodramus maritimus</i>	Seaside Sparrow	P2	--	G4 SNR
Family Parulidae				
<i>Dendroica cerulea</i>	Cerulean Warbler	P1	--	G4 S2B
<i>Helmitheros vermivorus</i>	Worm-Eating Warbler	P2	--	G4 S3B
<i>Limothlypis swainsonii</i>	Swainson's Warbler	P2	--	G4 S3B
<i>Oporornis formosus</i>	Kentucky Warbler	P2	--	G5 S5B
Family Turdidae				
<i>Hylocichla mustelina</i>	Wood Thrush	P2	--	G5 S5B
Family Troglodytidae				
<i>Thryomanes bewickii</i>	Bewick's Wren	P1	--	G5 S1
ORDER PICIFORMES				
Family Picidae				
<i>Campephilus principalis</i>	Ivory-Billed Woodpecker	EX	LE	GH SX
<i>Picoides borealis</i>	Red-Cockaded Woodpecker	P1	LE	G3 S2

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
ORDER STRIGIFORMES				
Family Strigidae				
<i>Asio flammeus</i>	Short-Eared Owl	P2	--	G5 SNA
Class Reptilia				
ORDER LACERTILIA				
Family Anguidae				
<i>Ophisaurus mimicus</i>	Mimic Glass Lizard	P2	--	G3 S2
Family Scincidae				
<i>Eumeces anthracinus</i> ssp.	Coal Skink	P2	--	G5 S3
<i>Eumeces inexpectatus</i>	Southeastern Five-Lined Skink	P2	--	G5 S5
ORDER SERPENTES				
Family Colubridae				
<i>Drymarchon couperi</i>	Eastern Indigo Snake	P1	LT	G3 S1
<i>Farancia erytrogramma</i>	Rainbow Snake	P2	--	G5 S3
<i>Heterodon simus</i>	Southern Hognose Snake	P1	--	G2 SH
<i>Lampropeltis calligaster calligaster</i>	Prairie Kingsnake	P2	--	G5 S1S2
<i>Lampropeltis getula getula</i>	Eastern Kingsnake	P2	--	G5 S5
<i>Lampropeltis getula holbrooki</i>	Speckled Kingsnake	P2	--	G5 S5
<i>Pituophis melanoleucus lodingi</i>	Black Pine Snake	P1	C	G4T3 S2
<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	P2	--	G4T4 S3
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	P2	--	G4T3? S2
<i>Seminatrix pygaea pygaea</i>	North Florida Swamp Snake	P2	--	G5 T2
Family Elapidae				
<i>Micrurus fulvius</i>	Eastern Coral Snake	P2	--	G5 S3
Family Viperidae				
<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	P2	--	G4 S3
ORDER TESTUDINES				
Family Cheloniidae				
<i>Caretta caretta</i>	Loggerhead Sea Turtle	P1	LT	G3 S1
<i>Chelonia mydas</i>	Green Sea Turtle	P1	LT	G3 S1
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	P1	LE	G1 SZN
Family Chelydridae				
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	P2	--	G3G4 S3
Family Dermochelyidae				
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	P1	LE	G3 SZN
Family Emydidae				
<i>Graptemys barbouri</i>	Barbour's Map Turtle	P2	--	G2 S2
<i>Malaclemys terrapin pileata</i>	Mississippi Diamondback Terrapin	P1	--	G4T3 S1S2
<i>Pseudemys alabamensis</i>	Alabama Red-Bellied Turtle	P1	LE	G1 S1
Family Kinosternidae				
<i>Sternotherus carinatus</i>	Razor-Backed Musk Turtle	P2	--	G5 S1
<i>Sternotherus depressus</i>	Flattened Musk Turtle	P2	LT	G2 S2
Family Testudinidae				
<i>Gopherus polyphemus</i>	Gopher Tortoise	P2	LT	G3 S2

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
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Class Amphibia

ORDER ANURA

Family Hylidae

<i>Hyla andersonii</i>	Pine Barrens Treefrog	P2	--	G4 S2
<i>Pseudacris ocularis</i>	Little Grass Frog	P2	--	G5 S1

Family Ranidae

<i>Rana capito</i>	Gopher Frog	P1	--	G3 S2
<i>Rana sevososa</i>	Mississippi Gopher Frog	P1	LE	G1 SH
<i>Rana heckscheri</i>	River Frog	P1	--	G5 S1

ORDER CAUDATA

Family Ambystomatidae

<i>Ambystoma cingulatum</i>	Flatwoods Salamander	P1	LT	G2G3 S1
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Family Amphiumidae

<i>Amphiuma pholeter</i>	One-Toed Amphiuma	P2	--	G3 S1
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Family Cryptobranchidae

<i>Cryptobranchus alleganiensis</i>	Eastern Hellbender	P1	--	G4 S2
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Family Plethodontidae

<i>Aneides aeneus</i>	Green Salamander	P2	--	G3G4 S3
<i>Desmognathus auriculatus</i>	Southern Dusky Salamander	P1	--	G5 SU
<i>Desmognathus aeneus</i>	Seepage Salamander	P2	--	G3G4 S2
<i>Gyrinophilus palleucus</i>	Tennessee Cave Salamander	P2	--	G2G3 S2
<i>Phaeognathus hubrichti</i>	Red Hills Salamander	P2	LT	G2 S2

Family Proteidae

<i>Necturus alabamensis</i>	Black Warrior Waterdog	P2	C	G2 S2
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Class Actinopterygii

ORDER ACIPENSERIFORMES

Family Acipenseridae

<i>Acipenser fulvescens</i>	Lake Sturgeon	EXCAU*	--	G3 SX
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	P2	LT	G3T2 S1
<i>Scaphirhynchus platorynchus</i>	Shovelnose Sturgeon	EX	--	G4 SX
<i>Scaphirhynchus suttkusi</i>	Alabama Sturgeon	P1	LE	G1 S1

ORDER LEPISOSTEIFORMES

Family Lepisosteidae

<i>Lepisosteus platostomus</i>	Shortnose Gar	EX	--	G5 SH
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ORDER HIODONTIFORMES

Family Hiodontidae

<i>Hiodon alosoides</i>	Goldeye	EX	--	G5 SX
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ORDER CLUPEIFORMES

Family Clupeidae

<i>Alosa alabamae</i>	Alabama Shad	P2	--	G3 S2
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ORDER CYPRINIFORMES

Family Cyprinidae

<i>Cyprinella caerulea</i>	Blue Shiner	P2	LT	G2 S1
<i>Erimonax monachus</i>	Spotfin Chub	EX	LT	G2 SX
<i>Erimystax dissimilis</i>	Streamline Chub	P2	--	G4 S1
<i>Macrhybopsis aestivalis hyostoma</i>	Shoal Chub	P2	--	G5 S3
<i>Notropis ariommus</i>	Popeye Shiner	EX	--	G3 SX
<i>Notropis albizonatus</i>	Palezone Shiner	P1	LE	G2 S1
<i>Notropis buechanani</i>	Ghost Shiner	P2	--	G5 S2
<i>Notropis cahabae</i>	Cahaba Shiner	P1	LE	G2 S2

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
<i>Notropis chalybaeus</i>	Ironcolor Shiner	P1	--	G4 S1
<i>Notropis cummingsae</i>	Dusky Shiner	P2	--	G5 S2
<i>Notropis melanostomus</i>	Blackmouth Shiner	P2*	--	G2 SNR
<i>Phenacobius mirabilis</i>	Suckermouth Minnow	P2	--	G5 S1
<i>Phenacobius uranops</i>	Stargazing Minnow	P2	--	G4 S1
<i>Pteronotropis euryzonus</i>	Broadstripe Shiner	P2	--	G3 S2
<i>Pteronotropis welaka</i>	Bluenose Shiner	P2	--	G3G4 S2
ORDER SILURIFORMES				
Family Ictaluridae				
<i>Noturus elegans</i>	Elegant Madtom	EX	--	G4 SH
<i>Noturus eleutherus</i>	Mountain Madtom	P2	--	G4 S1
<i>Noturus miurus</i>	Brindled Madtom	P2	--	G5 S1
<i>Noturus munitus</i>	Frecklebelly Madtom	P2	--	G3 S2
<i>Noturus</i> sp. cf. <i>flavus</i>	Highlands Stonecat	P2	--	5 S1
ORDER AMBLYOPSIFORMES				
Family Amblyopsidae				
<i>Speoplatyrhinus poulsoni</i>	Alabama Cavefish	P1	LE	G1 S1
ORDER SCORPAENIFORMES				
Family Cottidae				
<i>Cottus paulus</i>	Pygmy Sculpin	P1	LT	G1 S1
ORDER PERCIFORMES				
Family Elassomatidae				
<i>Elassoma alabamae</i>	Spring Pygmy Sunfish	P1	--	G1 S1
Family Centrarchidae				
<i>Micropterus cataractae</i>	Shoal Bass	P2	--	G3 S2
Family Percidae				
<i>Etheostoma boschungii</i>	Slackwater Darter	P1	LT	G1 S2
<i>Etheostoma brevirostrum</i>	Holiday Darter	P1	--	G2 S1
<i>Etheostoma camurum</i>	Bluebreast Darter	P2	--	G4 S1
<i>Etheostoma chermocki</i>	Vermillion Darter	P1	LE	G1 S1
<i>Etheostoma chuckwachatte</i>	Lipstick Darter	P2	--	G2G3 S2
<i>Etheostoma cinereum</i>	Ashy Darter	EX	--	G2G3 SX
<i>Etheostoma ditrema</i>	Coldwater Darter	P2	--	G1G2 S1
<i>Etheostoma lynceum</i>	Brighteye Darter	P1	--	G5 S1
<i>Etheostoma neopterum</i>	Lollipop Darter	P1	--	G3 S1
<i>Etheostoma nuchale</i>	Watercress Darter	P1	LE	G1 S1
<i>Etheostoma</i> sp. cf. <i>bellator</i>	Locust Fork Darter	P2	--	---
<i>Etheostoma</i> sp. cf. <i>bellator</i>	Sipseys Darter	P2	--	---
<i>Etheostoma</i> sp. cf. <i>zonistium</i>	Blueface Darter	P2	--	---
<i>Etheostoma trisella</i>	Trispot Darter	EX	--	G1 SX
<i>Etheostoma tuscumbia</i>	Tuscumbia Darter	P2	--	G2 S2
<i>Etheostoma wapiti</i>	Boulder Darter	P1	LE	G1 S1
<i>Etheostoma zonistium</i>	Bandfin Darter	P2	--	G4G5 S1
<i>Etheostoma phytophilum</i>	Rush Darter	P1	C	G1 S1
<i>Percina aurolineata</i>	Goldline Darter	P1	LT	G2 S1
<i>Percina breviceauda</i>	Coal Darter	P2	--	G2 S2
<i>Percina burtoni</i>	Blotchside Logperch	P1*	--	G2 S1
<i>Percina evides</i>	Gilt Darter	P2	--	G4 S2
<i>Percina phoxocephala</i>	Slenderhead Darter	P1	--	G5 S1
<i>Percina</i> sp.	Halloween Darter	P1	--	---
<i>Percina</i> sp. cf. <i>macrocephala</i>	Warrior Bridled Darter	P1	--	G1 S1
<i>Percina tanasi</i>	Snail Darter	P1	LT	G2G3 S1

Scientific Name English Name PriorityRank Federal Rank NatureServe Global State

Phylum Mollusca

Class Bivalvia

ORDER UNIONOIDA

Family Margaritiferidae

*Cumberlandia monodonta* Spectaclecase P1 -- G2G3 S1

*Margaritifera marrianae* Alabama Pearlshell P1 C G1 S1S2

Family Unionidae

*Actinonaias ligamentina* Mucket P1 -- G5 S2

*Actinonaias pectorosa* Pheasantshell EX -- G4 SH

*Alasmidonta marginata* Elktoe EX -- G4 SH

*Alasmidonta triangulata* Southern Elktoe P1\* -- G2Q S1

*Alasmidonta viridis* Slippershell Mussel P1 -- G4G5 S1

*Anodontoides radiatus* Rayed Creekshell P2 -- G3 S1S2

*Cyprogenia stegaria* Fanshell P1 LE G1 S1

*Dromus dromas* Dromedary Pearlymussel EXCAU LE-XP G1 S1

*Elliptio arca* Alabama Spike P1 -- G3 S2

*Elliptio arctata* Delicate Spike P1 -- G4Q S2

*Elliptio chipolaensis* Chipola Slabshell EX LT G2Q S1

*Elliptio dilatata* Spike P1 -- G5 S1

*Elliptio fraterna* Brother Spike EX -- G1G2Q S1

*Elliptio mcmichaeli* Fluted Elephantear P1 -- G3 S2

*Elliptio purpurella* Inflated Spike P1 -- G3 S1

*Epioblasma brevidens* Cumberland Combshell P1 LE G1 S1

*Epioblasma capsaeformis* Oyster Mussel EXCAU LE-XP G1 S1

*Epioblasma florentina* Yellow Blossom EX\* LE G1 S1?

*Epioblasma metastrata* Upland Combshell EX LE GH SH

*Epioblasma obliquata obliquata* Catspaw EX LE-XP 1T1 SX

*Epioblasma othcaloogensis* Southern Acornshell EX LE GHQ SH

*Epioblasma penita* Southern Combshell P1 LE GHQ SH

*Epioblasma triquetra* Snuffbox P1 -- G3 S1

*Fusconaia burkei* Tapered Pigtoe P2 -- G2 S1

*Fusconaia cor* Shiny Pigtoe P1 LE G1 S1

*Fusconaia cuneolus* Finerayed Pigtoe P1 LE G1 S1

*Fusconaia escambia* Narrow Pigtoe P1 -- G2 S2

*Fusconaia rotulata* Round Ebonyshell P1 -- G1 S1

*Fusconaia subrotunda* Longsolid P1 -- G3 S1

*Hamiota altilis* Finelined Pocketbook P2 LT G2 G2

*Hamiota australis* Southern Sandshell P1 -- G2 S1S2

*Hamiota perovalis* Orangenacre Mucket P2 LT G2 S1

*Hamiota subangulata* Shinyrayed Pocketbook P1 LE G2 S1

*Hemistena lata* Cracking Pearlymussel P1 LE G1 SX

*Lampsilis abrupta* Pink Mucket P1 LE G2 S1

*Lampsilis virescens* Alabama Lampmussel P1 LE G1 S1

*Lasmigona costata* Flutedshell P2 -- G5 S2

*Lasmigona holstonia* Tennessee Heelsplitter P2 -- G3 S1S2

*Lasmigona subviridis* Green Floater EX -- G3 SX

*Lemiox rimosus* Birdwing Pearlymussel EXCAU LE G1 SX

*Leptodea leptodon* Scaleshell EX LE G1 SX

*Ligumia recta* Black Sandshell P2 - G5 S2

*Medionidus acutissimus* Alabama Moccasinshell P2 LT G1 S1

*Medionidus conradicus* Cumberland Moccasinshell P1 -- G3G4 S1

*Medionidus parvulus* Coosa Moccasinshell X LE G1 S1S2

*Medionidus penicillatus* Gulf Moccasinshell P1 LE G2 S1S2

*Obovaria olivaria* Hickorynut EX -- G4 SH

*Obovaria retusa* Ring Pink P1 LE G1 S1

*Obovaria subrotunda* Round Hickorynut P1 -- G4 S2

*Obovaria unicolor* Alabama Hickorynut P2 -- G3 S2

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
<i>Pegias fabula</i>	Little-Wing Pearlymussel	EX	LE	G1 SX
<i>Plectomerus sloatianus</i>	Purple Bankclimber	P1	LT	G2 S1
<i>Plethobasus cicatricosus</i>	White Wartyback	P1	LE	G1 S1
<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	P1	LE	G1 S1
<i>Plethobasus cyphus</i>	Sheepnose	P1	--	G3 S1
<i>Pleurobema clava</i>	Clubshell	EX	LE-XP	G2 SX
<i>Pleurobema curtum</i>	Black Clubshell	EX	LE	G1 S1
<i>Pleurobema decisum</i>	Southern Clubshell	P2	LE	G1G2 S1S2
<i>Pleurobema georgianum</i>	Southern Pigtoe	P1	LE	G1 S1
<i>Pleurobema hanleyianum</i>	Georgia Pigtoe	EX*	--	
<i>Pleurobema marshalli</i>	Flat Pigtoe	EX	LE	GH SH
<i>Pleurobema oviforme</i>	Tennessee Clubshell	P1	--	G3 S1
<i>Pleurobema perovatatum</i>	Ovate Clubshell	P1	LE	G1 S1
<i>Pleurobema plenum</i>	Rough Pigtoe	P1	LE	G1 S1
<i>Pleurobema pyriforme</i>	Oval Pigtoe	P1	LE	G1 S1
<i>Pleurobema rubellum</i>	Warrior Pigtoe	P1*	--	
<i>Pleurobema rubrum</i>	Pyramid Pigtoe	P1	--	G2 S2
<i>Pleurobema sintoxia</i>	Round Pigtoe	P1	--	G4 S1
<i>Pleurobema strodeanum</i>	Fuzzy Pigtoe	P2	C	G2 S1S2
<i>Pleurobema taitianum</i>	Heavy Pigtoe	P1	LE	G1 S1
<i>Pleurobema barnesiana</i>	Tennessee Pigtoe	P2	--	G2G3 S1
<i>Pleurobema dolabelliformis</i>	Slabside Pearlymussel	P1	C	G2 S1
<i>Potamilus inflatus</i>	Alabama Heelsplitter	P2	LT	G1 S1
<i>Ptychobranhus fasciolaris</i>	Kidneyshell	P1	--	G4G5 S1
<i>Ptychobranhus foremanianus</i>	Rayed Kidneyshell	P1*	--	
<i>Ptychobranhus greenii</i>	Triangular Kidneyshell	P1	LE	G1 S1
<i>Ptychobranhus jonesi</i>	Southern Kidneyshell	P1	C	G1 S1
<i>Ptychobranhus subtentum</i>	Fluted Kidneyshell	X	C	G4 SX
<i>Quadrula infucata</i>	Sculptured Pigtoe	P1	--	G4 S2
<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	P1	--	G3T3 S1
<i>Quadrula intermedia</i>	Cumberland Monkeyface	EX	LE	G1 SH
<i>Strophitus connasaugaensis</i>	Alabama Creekmussel	P2	--	G3 S2
<i>Strophitus undulatus</i>	Creeper	P1	--	G5 S1
<i>Toxolasma corvunculus</i>	Southern Purple Lilliput	P1	--	GH S1
<i>Toxolasma cylindrellus</i>	Pale Lilliput	P1	LE	G1 S1
<i>Truncilla truncata</i>	Deertoe	P1	--	G5 S1
<i>Villosa choctawensis</i>	Choctaw Bean	P2	C	G2 S2
<i>Villosa fabalis</i>	Rayed Bean	EX*	C	G1G2 SX
<i>Villosa trabalis</i>	Cumberland Bean	EX	E-XP	G1 SX
<i>Villosa umbrans</i>	Coosa Creekshell	P2	--	G4T2 S2
<i>Villosa villosa</i>	Downy Rainbow	P2	-	G3 SNR

Class Gastropoda

ORDER ARCHITAENIOGLOSSA

Family Viviparidae

<i>Campeloma decampi</i>	Slender Campeloma	P1	LE	G1 S1
<i>Lioplax cyclostomaformis</i>	Cylindrical Lioplax	P1	LE	G1 S1
<i>Tulotoma magnifica</i>	Tulotoma	P1	LE	G1 S1

ORDER NEOTAENIOGLOSSA

Family Hydrobiidae

<i>Clappia cahabensis</i>	Cahaba Pebblesnail	P1	--	G1 S1
<i>Lepyrium showalteri</i>	Flat Pebblesnail	P1	LE	G1 S1
<i>Marstonia pachyta</i>	Armored Marstonia	P1	LE	G1 S1
<i>Marstonia scalariformis</i>	Moss Pyrg	P1	--	G1 S1

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
Family Pleuroceridae				
<i>Athearnia anthonyi</i>	Anthony's Riversnail	P1	LE	G1 S1
<i>Elimia ampla</i>	Ample Elimia	P2	--	G1 S1
<i>Elimia annettae</i>	Lilyshoals Elimia	P2	--	G1Q S1
<i>Elimia bellacrenata</i>	Princess Elimia	P1	--	G1 S1
<i>Elimia cochliaris</i>	Cockle Elimia	P1	--	G1 S1
<i>Elimia crenatella</i>	Lacy Elimia	P1	LT	G1 S1
<i>Elimia lachryma</i>	Teardrop Elimia	P1*	--	GH SX
<i>Elimia melanoides</i>	Black Mudalia	P2	--	G2 S1
<i>Elimia nassula</i>	Round-Rib Elimia	P1	-	G1 S1
<i>Elimia perstriata</i>	Engraved Elimia	P1	--	G1 S1
<i>Elimia vanuxemiana</i>	Cobble Elimia	P1*	--	GH SH
<i>Elimia varians</i>	Puzzle Elimia	P2	--	G1Q SH
<i>Elimia variata</i>	Squat Elimia	P2	--	G1Q S1
<i>Io fluvialis</i>	Spiny Riversnail	EXCAU	--	G2 SX
<i>Leptoxis ampla</i>	Round Rocksnail	P2	LT	G1G2 S1
<i>Leptoxis foremani</i>	Interrupted Rocksnail	EXCAU	C	G1 SNR
<i>Leptoxis picta</i>	Spotted Rocksnail	P2	--	G1 SH
<i>Leptoxis plicata</i>	Plicate Rocksnail	P1	LE	G1 S1
<i>Leptoxis taeniata</i>	Painted Rocksnail	P2	LT	G1 S1
<i>Leptoxis virgata</i>	Smooth Mudalia	EX	--	G2 SX
<i>Lithasia armigera</i>	Armored Rocksnail	P2	--	G3G4 S1
<i>Lithasia curta</i>	Knobby Rocksnail	EX	--	G1 S1
<i>Lithasia lima</i>	Warty Rocksnail	P2	--	G2 S1
<i>Lithasia salebrosa</i>	Muddy Rocksnail	P2	--	G3G4 S1
<i>Pleurocera alveare</i>	Rugged Hornsnail	P2	--	G3G4 SNR
<i>Pleurocera corpulenta</i>	Corpulent Hornsnail	P1	--	G1 S1
<i>Pleurocera foremani</i>	Rough Hornsnail	P1	--	G1Q S1
<i>Pleurocera pyrenella</i>	Skirted Hornsnail	P2	--	G2 S2

Phylum Arthropoda

Class Crustacea

ORDER DECAPODA

Family Cambaridae

<i>Cambarellus diminutus</i>	Least Crayfish	P2	--	3 S3
<i>Cambarellus lesliei</i>	unnamed crayfish	P2	--	G3 S3
<i>Cambarus cracens</i>	unnamed crayfish	P2	--	G1 S1
<i>Cambarus englishi</i>	unnamed crayfish	P2	-	G3 S3
<i>Cambarus halli</i>	unnamed crayfish	P2	--	G3G4 S3
<i>Cambarus hamulatus</i>	unnamed crayfish	P2	--	G3G4 S2
<i>Cambarus howardi</i>	unnamed crayfish	P2	--	G3 S3
<i>Cambarus jonesi</i>	Alabama Cave Crayfish	P2	--	G2 S2
<i>Cambarus millus</i>	Rusty Grave Digger	P2	-	G1 S1
<i>Cambarus scotti</i>	unnamed crayfish	P2	--	G3 SR
<i>Cambarus unestami</i>	unnamed crayfish	P2	--	G1 S2
<i>Cambarus veitchorum</i>	White Spring Cave Crayfish	P1	--	G1 S1
<i>Fallicambarus burrisi</i>	unnamed crayfish	P2	--	G1G2 S1
<i>Fallicambarus danielae</i>	unnamed crayfish	P2	--	G1 S1
<i>Fallicambarus oryctes</i>	unnamed crayfish	P2	--	G4 SNR
<i>Orconectes alabamensis</i>	unnamed crayfish	P2	--	G5 SNR
<i>Orconectes chickasawae</i>	unnamed crayfish	P2	-	G5 SNR
<i>Orconectes cooperi</i>	unnamed crayfish	P2	--	G1 S1
<i>Orconectes holti</i>	unnamed crayfish	P2	--	G3 S3
<i>Orconectes jonesi</i>	unnamed crayfish	P2	--	G1G1 SNR
<i>Orconectes mississippiensis</i>	unnamed crayfish	P2	--	G1G3 S2S3
<i>Orconectes sheltae</i>	unnamed crayfish	P1	--	G1 S1
<i>Procambarus capillatus</i>	unnamed crayfish	P2	--	G4 S3

Scientific Name	English Name	PriorityRank	Federal Rank	NatureServe Global State
<i>Procambarus escambiensis</i>	unnamed crayfish	P2	--	G1 S2
<i>Procambarus h. hagenianus</i>	Southeastern Prairie Crayfish	P2	--	G4G5 SNR
<i>Procambarus lagniappe</i>	Lagniappe Crayfish	P2	--	G1 S1
<i>Procambarus lewisi</i>	unnamed crayfish	P2	--	G4 S3
<i>Procambarus pecki</i>	Phantom Cave Crayfish	P1	--	G1G3 S1

- revised since 2002 Nongame Conference