FINAL DRAFT

Avian Conservation Implementation Plan

Natchez Trace Parkway

Tupelo National Battlefield and
Brices Cross Roads National Battlefield Site

National Park Service
Southeast Region

Compiled by J. Keith Watson
U.S. Fish and Wildlife Service
In cooperation with

NATR Resource Management Staff, National Park Service
And Bird Conservation Partners
January 2005

TABLE OF CONTENTS

Introduction

This Avian Conservation Implementation Plan (ACIP) is provided to the staff at Natchez Trace Parkway (NATR), Tupelo National Battlefield (TUPE), and Brices Cross Roads National Battlefield Site (BRCR) to help identify and prioritize bird conservation opportunities, and to provide information and guidance for the successful implementation of needed conservation activities. Due to the small size and lack of facilities of TUPE and BRCR, this plan will focus on NATR participation in bird conservation efforts. This plan may identify goals, strategies, partnerships, and perhaps specific projects allowing the park to participate in existing bird conservation planning and implementation efforts associated with the North American Bird Conservation Initiative (NABCI). Under the auspice of NABCI, appropriate bird and habitat conservation goals may be recommended as identified in the appropriate existing national or regional bird conservation efforts aligned with this initiative: Partners In Flight (PIF), North American Waterfowl Management Plan (NAWMP), US Shorebird Conservation Plan (USSCP), and Waterbird Conservation for the Americas (WCA). For example, parks in the East Gulf Coastal Plain, including NATR, will have few if any high priority waterbird conservation issues at a regional landscape or greater scale. As such, little information regarding waterbird conservation will be presented in the ACIP, unless there is an identified park need for this species group, or other mandates, such as federal laws. Similarly, because most of the parks in the East Gulf Coastal Plain are located in and are primarily upland forested landscapes, recommendations will be provided in the ACIP for landbird and habitat conservation and will be derived from the appropriate PIF bird conservation plans, PIF being largely a landbird conservation initiative. However, all high priority bird conservation issues for NATR will be discussed and integrated as appropriate.

Information and data presented in the ACIP have been obtained from several sources: 1) interviews with NATR staff 2) NATR bird conservation partners 3) the PIF East Gulf Coastal Plain Bird Conservation Plan, Version 1.0 (USFWS 2002), 4) NPS databases, and, 5) peer reviewed bird conservation and management literature, 6) personal communications with bird conservation specialists throughout North America, especially in the southeastern United States. This plan has been reviewed by NATR resource management staff and managers, Gulf Coast Network Inventory and Monitoring (GUCO I&M) staff, and bird conservation partners and approved by NATR management. Optimally, this plan will be incorporated into the park's Resource Management Plan (USDI NPS 1990) and updated annually to reflect completed projects, newly identified needs, and shifts in bird conservation priorities in the region.

NATR is not obligated to undertake any of the proposed actions in this plan. The plan is provided to offer guidance to NATR to voluntarily support important park, regional, and perhaps national and international bird conservation projects for which NATR is a primary participant in the proposed actions.

Background

During the past thirty years, monitoring programs across North America have documented declines of certain bird species populations and their habitats, often severe (Sauer et al. 2000). The decline has caused great concern among scientists, biologists, biodiversity proponents, ecologists, land managers, etc., and the bird conservation community in general. Birds are recognized as critical components of local and global genetic, species, and population diversity, providing important and often critical ecological, social, economic, and cultural values. Their overall decline has stimulated a worldwide focus on conservation efforts, and North American interest in bird conservation is rapidly becoming a focus of government, non-government, industry, and private interests and expenditures. Many state, federal, and non-governmental wildlife agencies and non-governmental organizations (NGO's) have recognized this alarming bird decline trend and have joined forces in several extensive partnerships to address the conservation needs of various bird groups and their habitats. The primary initiatives are:

- North American Waterfowl Management Plan
- Partners in Flight
- U.S. Shorebird Conservation Plan
- Waterbird Conservation for the Americas

The North American Bird Conservation Initiative: While efforts associated with these plans have generated some successes, it has been increasingly recognized that the overlapping conservation interests of these initiatives can be better served through more integrated planning and delivery of bird conservation. The *North American Bird Conservation Initiative (NABCI*; http://www.nabci-us.org/main2.html*)* arose out of this realization. The vision of NABCI is simply to see ***"populations and habitats of North America's birds protected, restored and enhanced through coordinated efforts at international, national, regional, state and local levels, guided by sound science and effective management."*** NABCI seeks to accomplish this vision through (1) broadening bird conservation partnerships, (2) working to increase the financial resources available for bird conservation in the U.S., and (3) enhancing the effectiveness of those resources and partnerships by facilitating integrated bird conservation (U.S. NABCI Committee 2000). The four bird conservation initiatives mentioned above, as well as several other local and regional partnerships, work collectively to pursue this vision.

NABCI is guided by a set of principles that establish an operational framework within which the Initiative and its partners may conduct integrated bird conservation in the U.S. These will articulate a common understanding of the relationship among NABCI, the individual bird conservation initiatives, and all partner entities to ensure recognition of existing federal legislative and international treaty obligations, state authorities, and respect for the identity and autonomy of each initiative. The fundamental components of the conservation approach to be used by NABCI are expressed within its goal:

To deliver the full spectrum of bird conservation through regionally-based, biologically-driven, landscape-oriented partnerships.

The Southeastern Bird Conservation Initiative: National Park Service: In 1999, the Southeast Region of the National Park Service (NPS) recognized the importance of coordinating existing bird conservation goals into planning and operations of national park units in the southeast, that is, integration of NABCI. In support of this recognition, the Southeast Regional Office NPS approved and allocated eighty-eight thousand dollars, cost sharing 1:1 with the US Fish and Wildlife Service (FWS) Region 4 (Southeast) to hire a biologist to conduct this two-year project (Interagency Agreement FS028 01 0368). This project is unique in the NPS, and perhaps the nation, and represents a potential model for better coordinating regional bird conservation programs and activities within and outside the NPS. It further represents a progressive action toward institutionalizing bird conservation as a programmatic priority in the Southeast Region of NPS and potentially the nation.

As envisioned, the integration of NABCI into the Southeastern NPS involves:

1) Development and delivery of Avian Conservation Implementation Plans,
2) Coordination with NPS Inventory and Monitoring Program,
3) Development of a web-based project site,
4) Establishment or enhancement of bird conservation partnerships,
5) Identification and exploration of potential funding opportunities, and
6) Technical guidance and assistance as needed or requested.

This ACIP fulfills one aspect of the plan outlined above and serves as a basis for future bird conservation actions in NATR and with adjacent partners or landowners.

Concurrently, the development of a Memorandum of Understanding (MOU) between the FWS and the NPS to implement Presidential Executive Order (EO) 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (US Government 2000), calls for integration of programs and recommendations of existing bird conservation efforts into park planning and operations. Complementing each other, the MOU and the Southeastern Bird Conservation Initiative will advance bird conservation in the Southeast Region of the NPS beyond current regional NPS efforts.

Role of NPS in Avian Conservation

The interagency agreement that facilitates this partnership supports both FWS and NPS management policies. Specifically for the NPS, the agreement supports and advances the Strategy for Collaboration, a visionary document developed and signed by the Southeast Natural Resource Leaders Advisory Group (SENRLAG 2000), a consortium of 13 land and resource management agencies in the Southeastern United States whose vision is to encourage and support cooperation in planning and managing the region's natural resources. Furthermore, the agreement is aligned with and implements

a variety of NPS Management Polices (2001) including, but not limited to, External Threats and Opportunities, Environmental Leadership, Cooperative Planning, Land Protection, and especially Natural Resource Management that details policy and management guidelines which apply to bird conservation. Important policies in the Natural Resource Management chapter include:

- Planning for Natural Resource Management
- Partnerships
- Restoration of Natural Systems
- Studies and Collection
- General Principles for Managing Biological Resources
- Plant and Animal Population Management Principles
- Management of Native Plants and Animals
- Management of Endangered Plants and Animals
- Management of Natural Landscapes
- Management of Exotic Species
- Pest Management
- Fire Management and
- Water Resource Management

The NPS is the fourth largest landowner in the United States, consisting of over 380 national park units covering 83 million acres of land and water with associated biotic resources (www.nps.gov). The 64 units in the Southeast Region of the NPS represent 16% of the total number of park units in the national park system and cover approximately 5% of the total land base in the entire system. Park units in the Southeast Region include national seashores (Canaveral National Seashore, Cape Hatteras National Seashore), national parks (Great Smoky Mountains National Park, Everglades National Park), national recreation areas (Big South Fork National River and Recreation Area), national preserves (Big Cypress National Preserve), national battlefields (Cowpens National Battlefield, Fort Donelson National Battlefield), national monuments (Fort Matanzas National Monument, Ocmulgee National Monument), and others such as the Blue Ridge Parkway, Obed Wild and Scenic River, and Timicuan Ecological and Historic Preserve.

Southeast NPS units provide habitat for over 400 species of migrating, breeding, and wintering birds and include a wide range of Federal and State listed threatened and endangered species. Likewise, these units also provide nest, migration, and winter habitat for most of the eastern species identified in the national bird conservation plans in need of conservation attention.

Additionally, the NPS attracts over 280 million visitors to the parks each year, 120 million of these in the Southeast Region, affording excellent recreational bird watching and opportunities to strengthen bird conservation interpretation, outreach, and education programs. These opportunities, the NPS mission, policies, and organization

all lead to the conclusion that the NPS is an extremely valuable partner and contributor to bird conservation in the region.

Nationally, the status of birds in national parks is largely unknown, although many parks have adequate knowledge regarding bird occurrence in the parks (http://www.npwrc.usgs.gov/resource/othrdata/chekbird/chekbird.htm). Parks often play a role in ongoing regional bird conservation efforts. Indeed many of these parks are often important to regional, national, or international bird conservation, and many have been designated as Important Bird Areas (IBA's) by the National Audubon Society. To date, there are approximately 64 NPS units that are designated IBA's, 35 of which are considered of global importance (http://abcbirds.org/iba/aboutiba.htm). In the Southeast Region, the NPS has 13 global IBA's.

The **NPS Inventory and Monitoring (I&M) Program** has been developed to provide management driven scientific information to national park managers so that resources can be adequately protected within national parks. One of the first phases of this program is to inventory vertebrates, including birds, within the 260 national park units in the program. Once completed, data from the inventories will provide an account of the occurrence and abundance of birds in all the national parks in the program. These records will be stored in the NPS I&M NPSpecies database http://www.nature.nps.gov/im/apps/npspp/). Coordination with I&M network staff is important to developing long-term bird monitoring programs that fulfill both park and NABCI objectives.

Park Flight is a NPS international partnership initiative that directs funding toward a variety of NPS programs that involve conservation of Neotropical migratory birds whose life history range covers a US national park and a Latin American protected area. A relatively new program, Park Flight offers parks the opportunity to partner with a Latin American national park or protected area to cooperate on developing bird conservation and education projects (USDI NPS 2002).

Recent increases in NPS base funded programs such as inventory and monitoring, exotic species management, habitat restoration, and fire management all indicate that national park managers recognize that park lands are increasingly subject to a variety of threats and conditions that must be improved to provide the quality of national park experience articulated in the NPS Organic Act (1916). Programmatic funding in these areas will increase the ability of national parks to provide quality habitat and conditions for increased wildlife conservation, including birds. Furthermore, private interests and non-profit conservation organizations have initiated programs, including grant programs, to provide much needed funding to national parks to meet backlogs of identified yet unfunded needs.

Park Description

The Natchez Trace Parkway (51,410 acres) generally follows the historic Indian trace between Nashville, TN, and Natchez, MS. Over the course of 450 miles, the Parkway

passes through four major river drainages and twelve distinct physiographic regions, resulting in a highly diverse assemblage of plant and animal life. Much of Natchez Trace is a manicured parkway of relatively narrow width, however these narrow corridors are often enhanced by significant landscape features, including wetlands, occasional tracts of relatively large and/or unique terrestrial communities (e.g. Chickasaw Village Prairie), and adjacent land that typically exhibits minimal development. When viewed in an ecosystem context, these features provide significant habitat for a diverse assemblage of species (USDI NPS 2000).

Because of the sheer distance covered by the Parkway, it presents enormous logistical barriers and challenges to effective resource management. There are seven ranger/maintenance districts (boundaries delineated by mileage) spread across three states. Although it commemorates a historic trail/corridor and functions primarily as a cultural site, twenty-one federally listed species have been identified within Parkway boundaries, with critical habitat having been identified for two of these species.

Brices Cross Roads National Battlefield Site (BRCR), a one-acre site located on MS Hwy 370 west of Baldwyn, MS, commemorates a battle which had one objective-- make impossible the threat of Confederate General Nathan Bedford Forrest to interfere with General William T. Sherman's railroad supply line from Nashville to Chattanooga during the Atlanta campaign. The site contains a brochure dispenser, two cannons, a monument to the battle, and an interpretive wayside.

At Tupelo National Battlefield (TUPE) on July 13-14, 1864, Lt. Gen. Nathan Bedford Forrest tried to cut the railroad supplying the Unions march on Atlanta. Established as a national battlefield site Feb. 21, 1929; transferred from War Dept. Aug. 10, 1933; changed to national battlefield and boundary changed Aug. 10, 1961. Tupelo National Battlefield was established as a national battlefield site on February 21, 1929 and is located on a 1.5 acre site in Tupelo, MS.

Avian Resources of East Gulf Coastal Plain

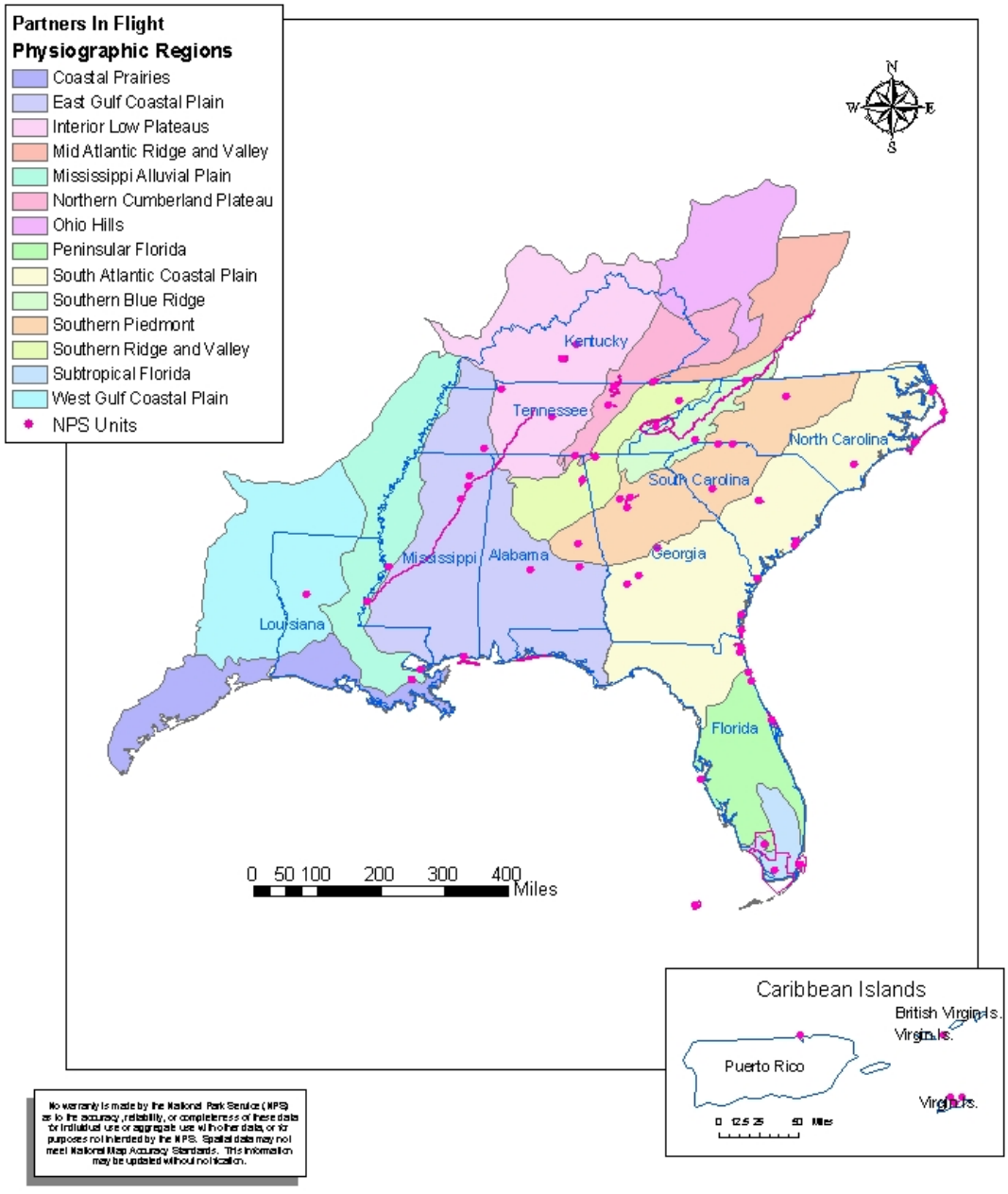
The East Gulf Coastal Plain is approximately 245,200 km2 and occupies portions of Florida, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, and Illinois (see PIF and NPS location maps below). Nearly 30% of the land use in the area is classified as loblolly-shortleaf pine or longleaf pine forests, and another 30% is classified as corn or soybeans. Oak-hickory and oak-pine forests occupy about 25% of the remaining land.

The East Gulf Coastal Plain is characterized by a diversity of bird habitats, including coastal dunes and marshes, pine flatwoods and savannas, and expansive upland and bottomland hardwood forests. The typical vegetation types can be characterized

Partners in Flight (PIF) Regions

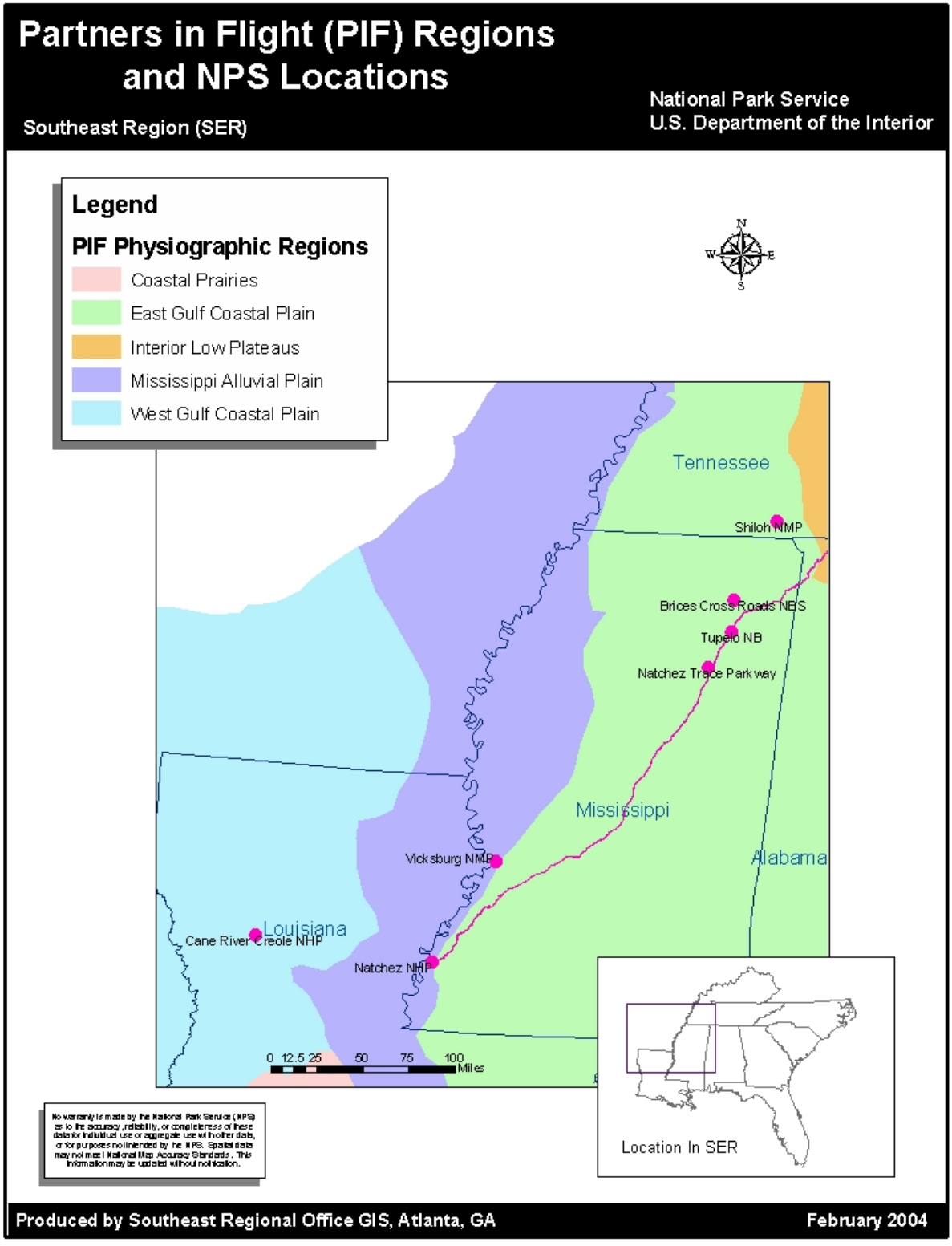
Southeast Region (SER)

National Park Service
U.S. Department of the Interior



Produced by Southeast Regional Office GIS, Atlanta, GA

November 2003


Partners in Flight (PIF) Regions
and NPS Locations
Southeast Region (SER)
National Park Service
U.S. Department of the Interior
Legend
PIF Physiographic Regions
Coastal Prairies
East Gulf Coastal Plain
Interior Low Plateaus
Mississippi Alluvial Plain
West Gulf Coastal Plain
N
W
E
S
Tennessee
Shiloh NMP
Brices Cross Roads NBS
Tupelo NB
Natchez Trace Parkway
Mississippi
Alabama
Vicksburg NMP
Louisiana
Cane River Creole NHP
Natchez NHP
0 12.5 25 50 75 100
Miles
Location In SER
No warranty is made by the National Park Service (NPS) as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by the NPS. Spatial data may not meet National Map Accuracy Standards. This information may be updated without notification.
Produced by Southeast Regional Office GIS, Atlanta, GA
February 2004

broadly as southern mixed forest, oak-hickory-pine, and southern yellow pine, mixed with intervening floodplain forests. Live oak forests and coastal dune habitats occur along the coast. Ecological forces include disturbances such as fire, ice storms, wind storms, tornados, and flooding. Elevation ranges from 0 to 650 feet above sea level. Annual precipitation ranges from 40 to 60 inches generally, and 52 to 64 inches on the Florida coast.

For ecological planning, the East Gulf Coastal Plain is divided into the lower, middle, and upper units; these units correspond roughly to the ecological units described by. The lower unit includes the barrier islands and coast to about 200 km inland and stretches from panhandle Florida to south Louisiana.

The middle unit is delineated by a line which runs roughly east-west from approximately 20 km south of Jackson, Mississippi to near Birmingham, Alabama and extends north to the Mississippi-Tennessee state line. The middle unit is characterized by moderately dissected, irregular plains. Quaternary geology and soils are typically Quaternary, Cenozoic sand, chert or clay deposits. Primary vegetation types include expanses of oak-hickory-pine in a variety of successional stages, the open grasslands of the Black Belt and Jackson Prairie, and floodplain forests. Major rivers include tributaries to the Mississippi River, such as the Pearl and Yazoo Rivers, and other rivers such as the Alabama and Tombigbee in Alabama. Oak-hickory-pine forest is the most prevalent forest type through the middle unit of the East Gulf Coastal Plain; most pine forests consist of loblolly-shortleaf. The upper unit roughly coincides with the Mississippi-Tennessee state and includes west Tennessee, west Kentucky, and parts of Illinois. The upper unit is characterized by flat to gently rolling uplands dissected by broad alluvial floodplains. Quaternary geology and soils are generally Wisconsin, Illinois loess and loessal alluvium. Primary vegetation was typically upland oak-hickory forests dissected by broad floodplain forests and patches of open grasslands. Major river systems are tributaries to the Mississippi River and include the Wolf, Hatchie, Forked Deer, and Obion Rivers. Oak-hickory forests dominate the forest cover in the upland areas of the upper unit of the East Gulf Coastal Plain.

Management of landscapes for bird conservation priorities may include three strategies:

1) manage and maintain existing habitats identified as being of value to bird populations
2) restore or consolidate important habitats and
3) provide a combination of these two strategies.

For the East Gulf Coastal Plain, a combination of strategies will be required to increase and sustain breeding bird populations.

Over 300 bird species occur annually in the East Gulf Coastal Plain as nesting species, post nesting dispersal species, transients, and/or wintering residents. Over 180 of these nest in the physiographic area. Representative nesting species include Eastern Meadowlark, Field Sparrow, Eastern Towhee, Prothonotary Warbler, Red-bellied

Woodpecker, Yellow-breasted Chat, Red-winged Blackbird, Indigo Bunting, and Great Crested Flycatcher. Breeding bird species richness varies across typical rural landscapes in the East Gulf Coastal Plain. In the upper unit of the East Gulf Coastal Plain, approximately 100 breeding bird species occur in a county. In the middle unit, approximately 100 breeding bird species occur in a county. In the lower unit along the coast, approximately 120 breeding bird species occur in a county.

Avian Resources of Interior Low Plateaus

The Interior Low Plateaus physiographic area occupies almost 18,000,000 ha (44,000,000 acres) across portions of Illinois, Indiana, Ohio, Kentucky, Tennessee, and Alabama (see PIF and NPS Locations Maps below). Subdivisions distinguish the Interior Low Plateaus and include the Western Highland Rim, Pennyroyal Plateau, Eastern Highland Rim, Tennessee Valley (or Southern Highland Rim), Central Basin, Shawnee Hills, Bluegrass, and Kentucky Knobs Topography is generally hilly and rolling, but also includes swampy alluvial valleys, deeply entrenched rivers and streams, and karst plains. The area's major waterways are the Ohio, Cumberland, Tennessee, Kentucky, Wabash, and Licking Rivers. Elevations range from 100 m to 320 m (325 feet to 1,050 feet) above sea level. Caves, glades and barrens are among the most biologically important natural characteristics of the physiographic area. The area's diverse landscape captures plant community diversity from both the mid-western and eastern United States; important bird habitats include upland hardwoods such as western mesophytic, oak-hickory, and beech-maple forests, forested wetlands, grasslands, tallgrass prairies, oak savannas, barrens and glades, and short-rotation pine. Oak-hickory forests occur on 31% of the physiographic area, while another 10% is occupied by other forest cover types. Corn, soybean, and other row crops occupy about 40% of the landscape, while pasture and mixed croplands occupy about 14% of the area. Other land uses include irrigated agriculture, prairies, water, and urban areas (Ford et al. 2000).

In the Interior Low Plateaus, the primary bird conservation goals are to stabilize or increase populations of high priority bird species and to provide adequate habitats for two extirpated species, greater prairie chicken and swallow-tailed kite. In order to reach these goals, habitat objectives proposed in this plan include the following items:

1. sustain the existing acreage of forest (about 7,300,00 ha), with about 80% (5,820,560 ha) in hardwood forest and about 20% (1,455,140 ha) in short rotation pine management,

2. of the hardwood forest, manage approximately 400,000 ha in long rotation, sawtimber forest patches of about 4,000 ha each,

3. consolidate and manage an additional 90,000 ha of forested wetlands,

4. restore an additional 40,000 ha of native warm season grass and oak savanna habitats, and

5. continue active participation of bird conservation planning in ongoing barrens and glades management and restoration projects.

Over 150 bird species nest regularly in the Interior Low Plateaus physiographic area. Breeding Bird Atlas results from Indiana, Ohio, Kentucky, Tennessee, and northern Alabama indicate that Indigo Bunting, Carolina Chickadee, American Robin, Northern Cardinal, and Mourning Dove are among the most common and widely distributed species across the Interior Low Plateaus. Approximately 39% of all species nest in early successional or semi-open lands habitats. Specifically, these habitats include grasslands, oak savanna, old fields, barrens, glades, early succession forest (natural or managed regeneration), and edge habitats. Typical species include Indigo Bunting, Yellow-breasted Chat, Field Sparrow, and Prairie Warbler.

Approximately 34% nest in mid to late succession forest habitats, which may range from small woodlots to extensive forested tracts. In small woodlots, typical species may include at least 4 woodpecker species, Eastern Wood-pewee, and Red-eyed Vireo. Larger forested tracts may include Acadian Flycatcher, Wood Thrush, Cerulean Warbler, and Kentucky Warbler. Approximately 19% of the species are dependent on water and wetland habitats. Typical species include Great Blue Heron, Wood Duck, and Belted Kingfisher. An additional 8% require forested wetlands. Species in these habitats include Swainson's warbler and Prothonotary Warbler.

Avian Conservation in NATR

Avian Biodiversity: NATR has completed an avian inventory that documents between 90-100% of birds that occur in the park (Accipiter Biological Consultants (ABC) 2001; USDI NPS 2000). A checklist of birds is not available for the public. Abundance and distribution data are desired to obtain information that will assist park managers in the development of appropriate bird conservation goals in the park. A total of 189 species have been documented in the park, primarily from breeding season and late fall surveys conducted by Accipiter Biological Consultants (ABC 2001). No specific surveys were conducted for nocturnal and wetland species and during migration and winter periods.

Verified records of birds in NATR have been entered into the NPS I&M program's database, NPSpecies, and may be viewed via the internet at http://www.nature.nps.gov/im/app/npspp with a user identification and password combination authorized by the NPS for NPS personnel and NPS cooperators. Many other avian observational data need to be verified and entered into the database.

Park Priorities: Park staff and consultants have not identified any particular species that is a park management concern or high priority for conservation. Rather, park staff is concerned about conserving all birds and their habitats in NATR. However, two species, the Red-winged Blackbird and European Starling do provide some management challenges for the park. The blackbird roosts in large flocks in Jackson,

MS and creates a nuisance to the public and European Starlings are displacing native species from their nest cavities.

However, several species that occur in NATR are high priority on the East Gulf Coastal Plain and Interior Low Plateaus and conservation efforts in the park could focus on these species or groups of species (Appendix A-D).

Inventory: A complete inventory has been recognized as important information for park managers and is considered complete within the framework of the I&M program. NATR is one of several parks in the NPS Gulf Coast I&M Network for which a plan to conduct high priority inventory projects has been prepared (USDI NPS 2000). The park does not plan to conduct additional inventory effort at this time.

Threatened and Endangered Species: No Federally listed threatened or endangered species are known to nest in NATR. The Federally threatened Bald Eagle is an occasional transient in the park. The Federally endangered Red-cockaded Woodpecker has been extirpated from NATR.

No **Watch-Listed in Tennessee** species occur in NATR but several **Tracked in Tennessee** species occur in the park (Appendix D), including Sharp-shinned Hawk, Cooper's Hawk, Bachman's Sparrow, Grasshopper Sparrow, Swainson's Warbler and Yellow-bellied Sapsucker. Conservation should be coordinated with appropriate state personnel (see Contacts).

In Alabama, the Cooper's Hawk is the only state protected species that occurs in NATR.

In Mississippi, only the Bewick's Wren is the only regularly occurring species in NATR that is protected by Mississippi.

Several high priority PIF species for the East Gulf Coastal Plain and Interior Low Plateaus occur in NATR (Appendixes A-D). Prominent among these species in the East Gulf Coastal Plain are: Swainson's Warbler, Bachman's Sparrow, Bewick's Wren, Brown-headed Nuthatch, Cerulean Warbler, Prothonotary Warbler, Chuck-wills-widow, Prairie Warbler, Worm-eating Warbler, Blue-winged Warbler, Kentucky Warbler, Orchard Oriole, Northern Bobwhite, Yellow-billed Cuckoo, Red-headed Woodpecker and American Woodcock.

In the Interior Low Plateaus, NATR has several high priority species including Bewick's Wren, Cerulean Warbler, Bachman's Sparrow, Blue-winged Warbler, Prairie Warbler, Worm-eating Warbler, Louisiana Waterthrush, Whip-poor-will, Wood Thrush, Prothonotary Warbler, Kentucky Warbler, Yellow-billed Cuckoo, Eastern Wood Pewee, Field Sparrow and Red-headed Woodpecker.

Monitoring: Currently, no avian monitoring projects are being conducted at NATR.

Research: Scientific research is permitted within the park, but no active avian research is ongoing.

Outreach: No educational and outreach programs specifically related to birds are undertaken in the park.

Park Identified Needs for Avian Conservation

NATR has identified at least three projects that would increase the avian knowledge of the park.

Outreach: The highest priority is to **make the bird checklist available to the public**. The second project is to educate visitors about the ecological importance of birds and their conservation.

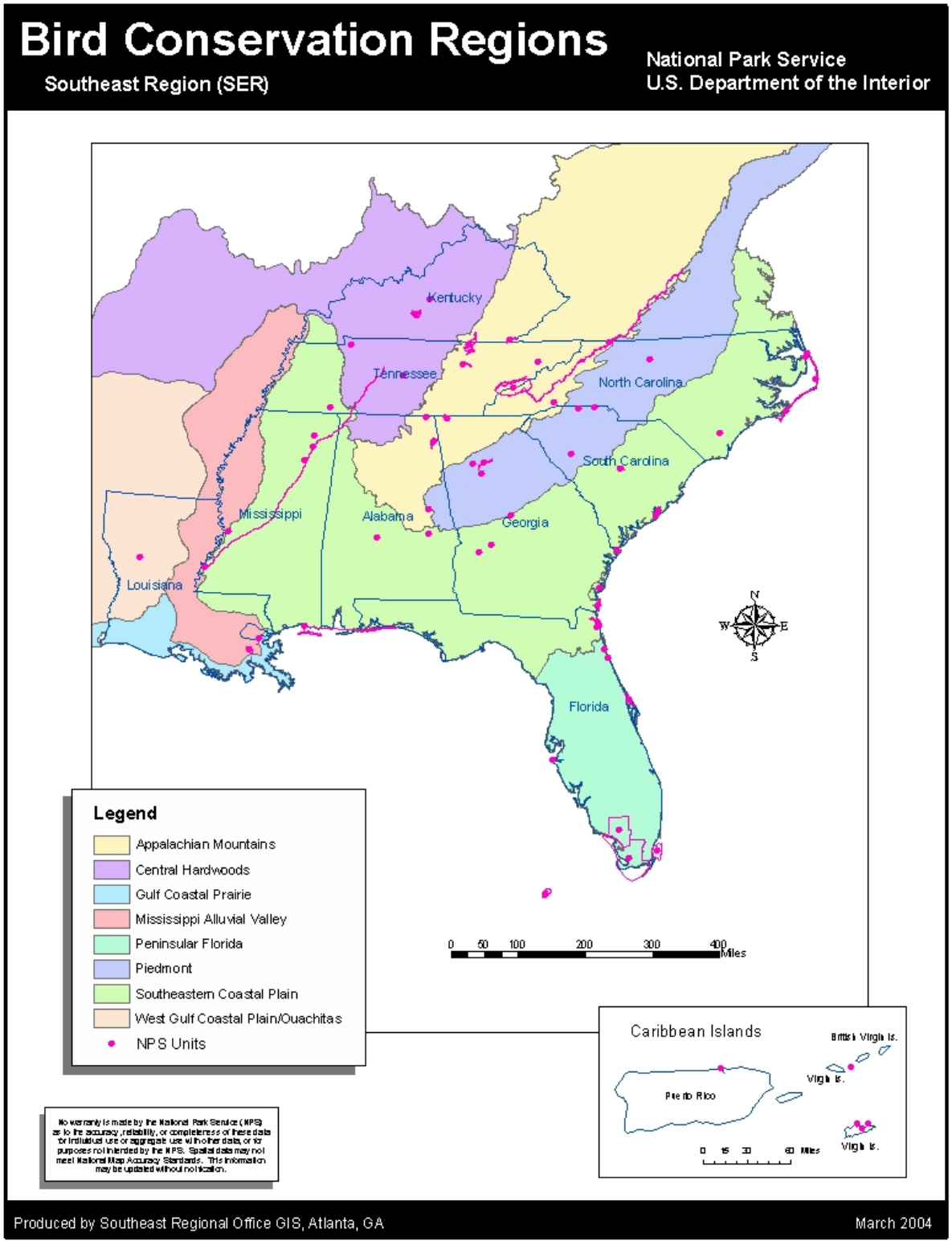
Data Management: The park desires to have more accessible database integration with other datasets and access to the Breeding Bird Survey data.

Coordination with Regional Conservation Initiatives

North American Bird Conservation Initiative: NABCI bird conservation planning units, referred to as Bird Conservation Regions (BCR), are often larger than other planning units associated with other plans, such as Partners In Flight. For example, NATR spans both the NABCI Southeastern Coastal Plain BCR and Central Hardwoods (see BCR map below) that extends from Virginia south to northern Florida and west Louisiana north to western Kentucky, following the Atlantic and Gulf coastal plains (see BCR map below) and includes a large portion of the lower Midwest. These two BCR's encompasses several PIF physiographic areas (the planning unit for PIF)(compare to PIF and NPS location maps).

Several NABCI BCR's have coordinators whose primary responsibility is to coordinate all bird conservation planning in the BCR, across all agencies and organizations. Currently, the East Gulf Coastal Plain of the Southeast Coastal Plain BCR does not have a designated coordinator; however, a bird conservation coordinator is expected to be hired in the near future from contributions made by bird conservation partners in the region. Eventually, this person can provide valuable assistance to NATR with implementation of aspects of this ACIP. The Central Hardwoods does have a designated coordinator engaged in active bird conservation planning and communications with this coordinator will be important to fully assess the park's role in regional and landscape scale bird conservation.

North American Waterfowl Management Plan (NAWMP) The NAWMP (http://northamerican.fws.gov/NAWMP/nawmphp.htm) is completed and has been revised several times, incorporating updated goals and strategies based on new information. This plan is one of the most successful bird conservation delivery


Bird Conservation Regions
Southeast Region (SER)
National Park Service
U.S. Department of the Interior
Kentucky
Tennessee
North Carolina
South Carolina
Mississippi
Alabama
Georgia
Louisiana
Florida
N
W
E
S
0 50 100 200 300 400 Miles
Legend
Appalachian Mountains
Central Hardwoods
Gulf Coastal Prairie
Mississippi Alluvial Valley
Peninsular Florida
Piedmont
Southeastern Coastal Plain
West Gulf Coastal Plain/Ouachitas
NPS Units
No warranty is made by the National Park Service (NPS) as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by the NPS. Spatial data may not meet National Map Accuracy Standards. This information may be updated without notification.
Caribbean Islands
British Virgin Is.
Virgin Is.
Puerto Rico
Virgin Is.
0 15 30 60 Miles
Produced by Southeast Regional Office GIS, Atlanta, GA
March 2004

programs in the United States, being monetarily supported by the North American Wetlands Conservation Act (NAWCA).

Partners In Flight: Goals and strategies for the East Gulf Coastal Plain and Interior Low Plateaus can be found in the draft bird conservation plans available for each area. The current plans identify priority bird and habitat conservation goals that must be implemented in order to achieve bird conservation success in this region. NATR being largely a landbird park will utilize this plan more than any other plan to participate in NABCI implementation.

Similar to NABCI BCR's, PIF physiographic areas often have designated coordinators. However, state level non-game agencies with investment in PIF will establish key personnel to develop partnerships among cooperators in the physiographic area. The State of Tennessee has a state ornithologist and Mississippi has a PIF coordinate who can be instrumental in assisting NATR to implement recommendations identified in this ACIP and projects important to bird conservation relative to Tennessee's role in implementation of the East Gulf Coastal Plain PIF plan. Alabama does not have a designated person dedicated full time to bird conservation; nevertheless, their assistance can be helpful with implementation of this plan in the Alabama section of the park.

United States Shorebird Conservation Plan (USSCP): The USSCP has been completed and is available on the World Wide Web (http://shorebirdplan.fws.gov/). A regional step down plan is in preparation by FWS personnel and should be available in 2004. Since NATR has little habitat of regional importance to shorebird conservation, recommendations for shorebird conservation are not presented.

Waterbird Conservation for the Americas (WCA): The WCA plan has been completed and is available on the World Wide Web or can be ordered from the US Fish and Wildlife Service National Conservation Training Center (http://www.waterbirdconservation.org/). Few waterbird conservation priorities exist on the East Gulf Coastal Plain and none are presented here for NATR.

Integration of NABCI Goals and Objectives into Park Planning and Operations

NABCI Implementation Recommendations

To successfully achieve park established goals and actively participate in NABCI, the park could implement a variety of projects in different NPS programs. Most of these projects would require some level of participation by many existing park programs and could either be achieved through NPS funding, or more likely, through establishing or improving partnerships with agencies and organizations that already have the necessary expertise to provide guidance, funding, and execution of these programs. Programmatic areas where bird conservation actions are likely to be focused are:

- Inventory
- Monitoring
- Habitat Restoration
- Threat Management (includes exotic species, air quality, water quality, etc.)
- Research
- Compliance
- Outreach
- Partnerships

To the extent appropriate, each of these program areas will be discussed separately and within each, specific opportunities identified that, when implemented, will enable the park to meet its mandates (current and expected), as well as integrate NABCI into its planning and operations. With emphasis added; the park is not expected to implement any of these recommendations or be obligated to pursue any opportunity other than those the park is required to do by law or NPS program or policy. In other words, participation in this effort is currently voluntary. However, implementation of EO 13186, **Responsibilities of Federal Agencies to Protect Migratory Birds** (US Government 2000), will require NPS to incorporate a wide range of bird conservation programs into planning and operations. The development of the MOU between the FWS and the NPS will establish a formal agreement to promote bird conservation within the agency by incorporating goals and strategies of existing bird conservation initiatives, plans, and goals into park planning and operations.

Bird conservation in NATR presents some unique challenges in the southeastern NPS. NATR spans nearly 450 miles across three states, two NABCI BCR's and two PIF physiographic areas. Implementation of bird conservation programs and projects will require close coordination among the varied bird conservation interests in these areas. Should the park decide to implement any of these projects, further consultation with bird conservation contacts is encouraged to obtain updated information on priority birds and their habitats in the region.

High priority projects are identified in **bold** print. Priorities that the park is encouraged to seek NPS funding for are marked with an asterisk (*****). These projects are those that are critical to the stabilization or improvement of a bird population in the planning region.

Inventory: The park has inventoried its bird fauna exceptionally well. Nonetheless, distribution and abundance data are needed to better understand the status of birds in the park so that conservation actions for birds can be implemented. Information regarding the status of high priority species (as identified in the East Gulf Coastal Plain and Interior Low Plateaus bird conservation plans, the Tennessee Rare Vertebrates List, Endangered Species of Mississippi, Alabama Protected Species and the USFWS Species of Conservation Concern [2002]) is needed to effectively structure park management for the continued preservation and enhancement of the park's avifauna.

Additional surveys are needed

- **for High Priority forest and shrub-scrub species that may not be adequately detected with point counts or BBS routes, especially in winter grasslands (Project Prairie Protocol) and wetlands***

- **along stream corridors and wetlands ***

- **at established forest point counts in winter***

- **for nocturnal species***

- **during migration period for Neotropical migrants***

Additionally, NATR is encouraged to:

- **partner with Homochito and Tombigbee National Forests staff to coordinate additional inventory efforts**

- **verify other avian observational data collected in the park and enter into the appropriate database (NPSpecies, Tennessee Wildlife Resources Agency (TWRA), Mississippi Heritage Program, eBird, National Point Count Database, etc.)**

- **standardize inventory and monitoring methodology to conform to NPS and/or FWS recommended standards (Fancy and Sauer 2000; Hunter 2000).**

Monitoring: Currently, the park does not conduct any avian monitoring. However, NATR has many species identified as high priority for conservation and efforts should be made to develop appropriate monitoring programs, striving to conform to established NPS or FWS survey protocols. Close coordination with adjacent BCR coordinators, the Tennessee state ornithologist, Mississippi PIF, and Alabama avian conservation coordinators is needed to identify and implement high priority projects on park lands and to ensure that park efforts contribute to park or regional bird conservation rather than undertake an action or actions that are not needed or are better conducted in other areas. The park is encouraged to consider establishing permanent monitoring stations in main habitat types to systematically collect data on the distribution and relative abundances of priority species. This information will be useful for documented potential changes in park avifauna resulting from habitat change or management activities. Links to literature detailing inventory and monitoring methodologies for various avian groups (e.g. songbirds, shorebirds, raptors, etc.) can be found at: http://biology.dbs.umt.edu/landbird/mbcp/groups.htm. Specific recommendations are to:

- **establish a point count monitoring program along ecologically distinct or vegetative/habitat types during all seasons, but especially for**

    - **High Priority species in forests, grasslands, and shrub scrub areas***
    - **Neotropical migrants during migration***

- **establish a breeding bird monitoring program, using different methodologies for different habitats on a 2-3 year cycle***

- **continue to conduct established BBS routes and consider expansion of this method***

- **establish Monitoring Avian Productivity and Survivorship (MAPS) stations along the parkway***

- **establish monitoring program to detect changes in avifauna following prescribed wildfires***

- **strive to obtain as much recreational birding information as possible, verify the data, and enter data into the appropriate database (NPSpecies, National Point Count Database, eBird)**

- **work with local Audubon Chapters to establish a Christmas Bird Count (CBC) circle that covers significant avian resource areas of the park**

- **standardize inventory and monitoring methodology to conform to NPS and/or FWS recommended standards (Fancy and Sauer 2000, Hunter 2000)**

- **partner with Homochito and Tombigbee National Forests staff to coordinate area monitoring efforts**

Habitat Restoration: Landscape conditions in the Southeastern US have changed dramatically since early European explorers began documenting the area, its habitats, and its inhabitants. Historic landscapes were influenced by Native American burning, wildfire, bison, beaver, and elk, as well as by insect outbreaks and weather events (Hunter et al. 2001, Williams 2002), thus resulting in a landscape mosaic that supported a rich and diverse bird fauna in the Southeast (Barden 1997; Brawn et al. 2001). The arrival of Europeans and the subsequent change in landscape has dramatically effected bird habitat and bird populations. Bird conservationists have long recognized that habitat restoration is critical to restoration of bird populations, stabilizing or reversing bird declines, and removing birds from both State and Federal Threatened and Endangered Species lists.

Recently, habitat restoration efforts have increased on NPS lands due to the increased restoration emphasis of the Management Policies (USDI NPS 2001). Parks may use a wide range of management tools to restore wetland, grassland, woodland, and other habitats. Restoration tools include, but are not limited to, forest management practices

(e.g. silviculture), prescribed fire, exotic species management, and public use and recreation management. In addition, parks can coordinate infrastructure development (e.g. roads and buildings) with restoration activities to mitigate potential adverse impacts.

Due to the protected nature of NATR lands, and generally those in the national park system, the condition of habitats for bird use may be of higher quality than other natural, developed, agricultural, or forest lands under other management regimes. However, national park lands can be greatly improved for wildlife, and particularly bird use, by restoring processes important for habitat formation, succession, and structural development. Largely, these processes have not been managed historically in the national park system, but current policy allows for active management of species, populations, and lands to provide for long-term conservation of park resources. Protection, restoration, and enhancement of habitats in VICK can greatly contribute to established habitat goals identified in the Interior Low Plateaus bird conservation plan.

The park is a diverse mix of habitats throughout its length. This presents some opportunities to cooperate with a variety of bird conservators in the area and implement diverse bird conservation programs, especially in conjunction with lands adjacent to the park. Specific recommendations are to:

- **work toward optimization of habitat structure for understory nesting species through prescribed fire where appropriate, and potentially other forest management practices***

- **restore and protect wetlands along the parkway by planting or encouraging native grasses to reduce erosion and nutrient inputs for riparian species (Louisiana Waterthrush and Prothonotary Warbler (ABC 2001)***

- **restore historical grassland/prairie habitats over as much an area as possible***

- **manage forests toward old growth conditions, implementing appropriate management techniques to develop desired understory structure for high priority birds***

- **work with USFWS Private lands biologists and National Resources Consevation Service (NRCS) to work with adjacent landowners for protection of adjacent lands through the many private landowner incentive programs***

- **introduce prescribed fire to achieve habitat restoration objectives for grassland, shrub scrub habitats and forest savannahs***

- **provide natural vegetative corridors between wetlands and upland habitats and avoid fragmentation of existing corridors***

- **restore and/or stabilize unused road beds and fire breaks/ditches to original grade where NPS values would not be compromised (ABC 2001)***

- **encourage establishment of native vegetation along parkway and plant only native vegetation where revegetation is necessary (ABC 2001)***

- **consider alternate roadside vegetation composition to reduce or eliminate mowing of grassland habitat valuable to birds***

- **avoid developments that fragment habitats***

- **implement stream bank stabilization projects***

- **allow beaver colonization to create wetland habitats where this does not conflict with other higher priority park goals**

- **protect existing snag trees, where not identified as a safety hazard, as important to cavity nesting bird**

- **enhance water quality to support aquatic biota necessary to support existing riparian corridor nesting birds and birds that use the riparian corridor for foraging**

- **document all major habitat management activities, including the location (e.g. UTM coordinates) and a description of methods and of pre- and post-management habitat conditions. This information, when coupled with bird distribution and abundance data, is useful for assessing and replicating conservation actions**

- assess historic landscape cover and determine feasibility of restoring landscape within the context of the park's enabling legislation.

Threat Management: Potentially the greatest impact to birds at NATR is habitat fragmentation and degradation of wetlands through many different uses along the parkway. Habitat fragmentation in the park and surrounding areas is a potential threat to birds in the park. The park is encouraged to:

- **work with the local community and other land conservation interests in the region to minimize habitat fragmentation and potentially restore habitats beneficial to wildlife and bird species of the region***

- **work with adjacent landowners undertaking forest harvest operations to incorporate best management practices and habitat restoration programs to provide ample and quality habitat for birds***

- **work with USFWS Private lands biologists and National Resources Conservation Service (NRCS) to work with adjacent landowners for protection of adjacent lands through the many private landowner incentive programs***

Impact of exotic species on birds at NATR is largely unquantified, yet several domestic and exotic mammals occur in the park and may damage birds directly through predation or habitat alteration. Feral hogs, domestic and feral dogs and cats occur in the park and efforts should be initiated to manage these animals. Park managers are encouraged to:

- **work with adjacent landowners and neighbors, the local community, and pubic officials to curb unregulated and free roaming feral and domestic dogs and cats in the park**

The US Department of Agriculture, Agricultural and Plant Health Inspection Services (APHIS) Wildlife Services unit (WS) is available to provide animal reduction capability (see contacts). Additionally, feral hog reduction advice is available through other NPS units that have experienced feral hog reduction programs, especially Great Smoky Mountains National Park.

Cape Hatteras National Seashore has recently completed a feral cat reduction campaign that could be used as a model in NATR (Altman 2002, Harrison 2002).

- **avoid use of chemical and non-degradable pesticides within 300 feet of any wetland (ABC 2001)**

- **develop an Integrated Pest Management Plan to guide use of pesticides in park habitats and implement alternative measure to pest control**

Significant population of several exotic plant species are negatively impacting habitat at NATR. It is important to establish and continue monitoring and managing exotic plant species. Currently, the Exotic Plant Management Team (EPMT) based in Big Thicket National Preserve is implementing controls programs for exotics at NATR. NATR is encouraged to:

- **avoid site preparation techniques and management actions that disturb the soil and encourage invasion of exotic species**

- **use prescribed fire as appropriate to achieve site preparation for habitat restoration activities**

- **encourage establishment of native vegetation along parkway and plant only native vegetation where revegetation is necessary (ABC 2001)**

- **restore and/or stabilize unused road beds and fire breaks/ditches to original grade where NPS values would not be compromised (ABC 2001)**

Additionally, NATR is encouraged to:

- **prohibit installation of new towers along the parkway corridor, in the viewshed of the parkway, and in adjacent sensitive or unique habitats that birds utilize**

Research

- **assess feasibility of reintroduction of extirpated species, especially the Red-cockaded Woodpecker***

- **assess feasibility of restoring habitats for high priority species (Longleaf Pine, grasslands, hydrological features)***

- **identify areas with unique species or species assemblages***

- **conduct assessments for compliance process***

- **list park needs and projects on Research Permit and Reporting System web site (RPRS)**

- develop contact with Southern Appalachian Mountains Cooperative Ecosystem Studies Unit (CESU) at the University of Tennessee, Knoxville, TN and Texas A&M in College Station, TX

Compliance: Park compliance with the Migratory Bird Treaty Act and the Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (US Government 2000)**,** is necessary to assure that park activities incorporate bird conservation into park planning and operations. Further, to ensure that migratory birds are considered in all phases of park planning processes, especially during the National Environmental Policy Act (NEPA) and the Director's Order #12 Compliance processes, the park should consider adding specific language in project evaluations that requires consideration and implications of park projects on migratory birds. The MOU being developed between the NPS and the FWS will likely contain specific language requiring a park to consider implications of park projects on migratory birds. Additional considerations are to encourage:

- **park staff to begin specific consideration of migratory birds during park planning processes***

- park staff to attend USFWS training on implementation of EO 13186 at the National Conservation Training Center (NCTC) (when available) or other training on migratory bird conservation in North America. NCTC has several courses and training related to conservation of migratory birds (http://training.fws.gov/courses.html).

The USFWS NCTC offers and reserves two tuition free slots for National Park Service employees wishing to attend NCTC courses on a first come, first served basis. Additionally, discount lodging is also available while attending a NCTC course.

Outreach

- **make the bird checklist available for the public***

- **participate in International Migratory Bird Day (IMBD) events with a local partner (http://birds.fws.gov/imbd.html) such as one of the state Ornithological Societies (Alabama Ornithological Society (www.bham.net/aos/), Tennessee Ornithological Society (http://www.tnbirds.org/), Jackson (MS) Audubon Society (http://dreamwater.org/jxnaudubon/index.html) and Homochito or Tombigbee National Forests**

- **nominate NATR as an Important Bird Area (http://www.abcbirds.org/iba/nominstr.htm)***

- **encourage development of outreach and educational materials and programs to enhance visibility of bird conservation issues, which may include organized bird walks, owl prowls, and raptor surveys with the public, and brochures or site bulletins***

- **encourage accurate documentation and of bird observations by visitors (see Cornell University's eBird monitoring program (Cornell Lab. Ornith. 2002) (http://www.ebird.org/about/index.jsp)***

- **support bird conservation by serving shade-grown coffees at meetings, events, and the office buildings in the park (http://www.americanbirding.org/programs/conssbcof3.htm)**

- work with adjacent landowners and neighbors, the local community, and pubic officials to curb unregulated and free roaming feral and domestic dogs and cats in the park

- park interpretation/education staff are encouraged to attend USFWS training on Migratory Bird Education at NCTC

- consider adding links to bird conservation information, data, etc., to the park's web site home page

- subscribe to **TN-Bird Net**, an electronic forum for listing bird sightings and publications in Tennessee

- subscribe to **MISSBIRD**, an electronic forum for bird sightings, discussion, and exchange of information in Mississippi (subscribe by sending message to majordomo@listserv.olemiss.edu with the message, subscribe missbird)

- subscribe to **ALBIRDS** (http://www.bham.net/aos/resources/albirds.htm) an electronic forum devoted to the discussion of wild birds and birdwatching in Alabama and surrounding states

- explore cultural affiliation of landscape to inhabitants, both historical and contemporary. Cultures are strongly tied to the landscape they inhabit and birds often play a role in a cultural tie to the landscape. When these connections are discovered and preserved, a greater appreciation for the landscape and its value to the culture can be achieved.

Partners and Partnerships: Partnerships for land conservation and protection will perhaps have the greatest positive influence on bird conservation above all other landscape scale planning. Specific recommendations are to:

- **keep abreast of local county and municipal initiatives that could impact park resources**

- **continue partnerships with Wild Turkey Federation, Quail Unlimited, and Ducks Unlimited to restore habitats for these species**

- **develop partnerships with Tennessee Wildlife Resources Commission, Alabama Division of Wildlife and Freshwater Fisheries, Mississippi Department of Wildlife, Fisheries, and Parks, Homochito and Tombigbee National Forests, state ornithological society staffs and other local partners to implement aspects of this plan**

- **work with USFWS Private lands biologists and National Resources Consevation Service (NRCS) to work with adjacent landowners for protection of adjacent lands through the many private landowner incentive programs***

- **develop relationship with Stephen and Barbara Stedman to coordinate and conduct park bird conservation projects (they have extensive experience with bird survey and monitoring, especially in the Tennessee section)**

- **cooperate with state non-game departments, federal agencies, and state organizations to share data and cooperate on mutually beneficial projects**

- **contact US Fish and Wildlife Service private lands and NRCR biologists to discuss and implement private landowner initiatives applicable to the area**

Several private landowner programs could be implemented that would serve to protect areas adjacent to NATR and potentially improve water and habitat quality in the vicinity

- **contact the nearest Joint Venture office (see Funding section for explanation of Joint Ventures) or BCR coordinator to develop partnerships and funding proposals tiered to priorities established by the park, this ACIP, and the East Gulf Coastal Plain and Interior Low Plateaus bird conservation plans**

- **work with states to manage or restore visual easements from parkway into suitable habitats for birds (grasslands, shrub scrub, forest, wetland, etc.)**

- contact and partner with the local chapters of the Tennessee Ornithological Society, Mississippi Audubon Society, and Alabama Ornithological Society. This group could be active partners in NATR's bird conservation program

- evaluate local or regional land use data and plan potential for habitat protection across organizational boundaries

- develop land use agreements with local landowners through state, FWS programs, and especially with Catoosa Wildlife Management Area to protect important habitats and landscapes**.**

Funding Opportunities: Internal NPS funding is often an effective source to obtain funding; however, the project will have to be a fairly high priority among the park's natural resource program to successfully compete for the limited funding available in the NPS. Therefore, partnerships and outside funding programs are often more productive for securing bird conservation funding. NATR is encouraged to enter all high priority projects into the NPS Performance Management Information System (PMIS) database. Funding for conservation projects for Neotropical migrants is also available through the Park Flight program. Suggestions include:

- **increased base funding to implement basic protection and management needs for birds and their habitats (habitat based management not only benefits the birds but other wildlife as well)**

With the exception of the North American Waterfowl Management Plan (NAWMP and its associated funding legislation, the North American Wetland Conservation Act),

funding opportunities for bird conservation programs, plans, and initiatives have been lacking. Only within the last decade have other appropriate and specific sources for bird conservation funding been created and used. The NAWMP has been supported for approximately 14 years by the North American Wetlands Conservation Act (NAWCA 1989). This program has provided $487 million in appropriated funds matched with $1.7 billion for wetland and bird conservation projects since its inception. In 2002 alone, over $70 million US dollars were awarded to US and Canadian agencies and organizations to enhance waterfowl populations by improving, restoring, or protecting wetland habitats. To adequately evaluate projects and distribute these funds, partnerships called Joint Ventures were established. Nationally, 14 (11 US, 3 Canada) Joint Ventures have been established, several which are funded and staffed. Internet links to Joint Ventures are:

(http://southwest.fws.gov/gulfcoastjv/ojvcontact.html) and
(http://northamerican.fws.gov/NAWMP/jv.htm).

Funding through NAWCA is highly underutilized by the NPS and any park unit that has wetland, water, or bird conservation needs associated with wetland are encouraged to investigate using this funding source. Naturally, there are certain requirements to be eligible for all grants and park managers are encouraged to consult with the nearest Joint Venture, BCR, or PIF Coordinator to learn how this program might be applicable to implementation of this plan, and other park wetland issues. NATR is not within a region which has an operational Joint Venture, but contact with the Central Hardwoods BCR Tennessee state ornithologist will provide opportunity to investigate use of this funding source and developing proposals.

Internal FWS funding programs may be used to support projects, but no effective method of project proposal delivery to these sources is currently in place for the NPS. Current funding in these programs may result from FWS familiarity with NPS needs, or NPS participation in one of the area FWS Ecosystem Teams, where a project has been identified and proposed to be funded through the Ecosystem Team. NATR is encouraged to contact:

- **the Lower Tennessee-Cumberland, Lower Mississippi River, and Central Gulf Ecosystem Teams and consider participation in their planning efforts**

The Lower Tennessee-Cumberland Ecosystem Team has developed a bird conservation plan that can assist NATR in the refinement and implementation of park and regional bird conservation projects to be undertaken by NATR (Cooley et al. 2001).

One largely unexplored yet potentially fruitful funding source for national parks is the myriad of grants through the FWS State Programs, where grants are awarded to private individuals engaged in habitat conservation projects. No funding is directly available to national parks, but identified projects with important or critical adjacent landowners can sometimes be funded through these sources. Similar programs are available if the adjacent landowner is a federally recognized American Indian tribe.

Specific congressional appropriations to protect migratory birds has recently been authorized under the Neotropical Migratory Bird Conservation Act (2000) (http://www.nfwf.org/programs/nmbcapp.htm). Appropriations through this Act are authorized up to $5 million per year. However, in 2000, appropriation was approximately $3.75 million and a majority of this funding was directed toward projects in Central and South America.

Many of the identified projects are eligible for funding under various grant programs of the National Fish and Wildlife Foundation (http://www.nfwf.org/programs/programs.htm.

Other prominent funding sources available to NPS managers for bird conservation are listed on this projects web site at: http://southeast.fws.gov/birds/NPSHighlits.htm.

Funding opportunities for migratory bird conservation are available yet most natural resource agencies are not fully aware of and/or understanding of how to use these sources. Perhaps a consolidated migratory bird funding source catalog will become available to managers in the future; this is needed.

Contacts

Primary contacts within the region can be obtained by viewing the web site for the Southeastern Bird Conservation Initiative, National Park Service at http://southeast.fws.gov/birds/npsbirds.htm. This web site will provide contact information of the appropriate bird conservation coordinator in the region for park personnel. Primary contacts for NATR are:

US Fish and Wildlife Service

Keith Watson
Asheville, NC 28801
828-350-8228
Keith_Watson@fws.gov

Dean Demarest
Atlanta, GA
404-679-7371
dean_demarest@fws.gov

Jennifer Wheeler
Waterbird Conservation Plan Coordinator
703-358-1714
Jennifer_A_Wheeler@fws.gov

Chuck Hunter
Regional Refuge Biologist
Atlanta, GA
404-679-7130
Chuck_Hunter@fws.gov

Dwight Cooley
Lower Tennessee-Cumberland Ecosystem Team
Decatur, AL
256-353-7243
Dwight_Cooley@fws.gov

George Chandler (Team Leader)
Lower Mississippi River Ecosystem
Farmerville, LA
318-726-4222
George_Chandler@fws.gov

Steve Gard
Central Gulf Ecosystem Team
Grenada, MS
662-226-8286 (x10)
Stephen_W_Gard@fws.gov

Pat Stinson
Private Lands Biologist
Jackson, MS
601-965-4903
Pat_Stinson@fws.gov

Brad Bingham
Partners for Fish and Wildlife Biologist
Tennessee Field Office
Cookeville, Tennessee
(931) 528-6481 ext. 205
bradley_bingham@fws.gov

Lori McNease
Alabama Field Office
251 441-5867
Lori_McNease@fws.gov

National Park Service

Paul Conzelmann
Gulf Coast Inventory & Monitoring Network
Coordinator
Lafayette, LA
337 482-0644
Paul_Conzelmann@nps.gov

Bill Whitworth
Natural Resource Management Specialist
Natchez Trace Parkway
Tupelo, MS
662-680-4015
Bill_Whitworth@nps.gov

Raymond Albright
Southern Appalachian Mountains CESU
Department of Forestry, Wildlife and Fisheries
Knoxville, TN
Phone: (865) 974-8443
Ray_Albright@nps.gov

John Yancy
Gulf Coast CESU
National Park Service
404-562-3279
John_Yancy@nps.gov

Eric Worsham
Exotic Plant Management Coordinator
Big Thicket National Preserve
409-839-2689 x 225
Eric_Worsham@nps.gov

Others

Mike Roedel
Tennessee State Ornithologist
615-781-6653
michael.roedel@state.tn.us

Jane Fitzgerald
Central Hardwoods BCR Coordinator
314-918-8505
jfitzgerald@abcbirds.org

Stephen J. Stedman
Tennessee Technological University
Cookeville, TN 38505
931-372-3763
sstedman@tntech.edu

Barbara Stedman
2675 Lakeland Dr.
Cookeville, TN 38506
(931) 528-3820

Jenny Thompson
Mississippi Partners In Flight
Coordinator
601-354-7303
jenny.thompson@mmns.state.ms.us

Dan Twedt
US Geological Survey
Biological Resources Division
Vicksburg, MS
601-629-6605
dan_twedt@usgs.gov

Natural Resources Conservation Service

Homer Wilkes
Mississippi State Conservationist
601-965-5196
homer.wilkes.ms@.usda.gov

James Ford
Tennessee State Conservationist
Nashville, TN
615-277-2531

Alabama State Conservationist
Auburn, AL
334-887-4500

Exotic Animal Management

Brett Dunlap
USDA APHIS Wildlife Services
Tennessee Director
Madison, TN
(615) 736-5506
brett.g.dunlap@aphis.usda.gov

Kris Godwin
USDA APHIS Wildlife Services
Mississippi Director
Mississippi State, MS
662-325-3014
kris.godwin@usda.aphis.gov

Frank Boyd
USDA APHIS Wildlife Service
Alabama
334-844-5670
fboyd@acesag.auburn.edu

Other

Bruce Reid
Mississippi Audubon
Vicksburg, MS
601-661-6189
breid@audubon.org

Donnette Sellers
Tennessee Ornithological Society
Buffalo River Chapter
http://www.tnbirds.org/chapters.htm#buffalo

Terri Jacobson Manzo
President
Jackson Audubon Society
jxnaudubon@aol.com

Tom Hays
Biologist
Accipiter Biological Consultants
Portal, AZ
520-558-1012

LITERATURE CITED

Accipiter Biological Consultants (ABC). 2001. Natchez Trace Parkway Avifauna Inventory Project: Final Report. Report to the National Park Service. May 2001. 152p.

Altman, J. 2002. Feral Cat Management Final Report for Cape Hatteras National Seashore, Wright Brothers National Memorial, and Fort Raleigh National Historic Site. April 15, 2002. 20p.

Barden, L.S. 1997. Historic Prairie in the Piedmont of North and South Carolina, USA. Natural Areas Journal 17:149-152.

Brawn, J.D., S.K. Robinson and F. R. Thomson III. 2001. The Role of Disturbance in the Ecology and Conservation of Birds. Annu. Rev. Ecol. Syst. 32:251-76.

Cooley, D., T. Merritt, R. Wheat, and D. Orr. 2001. Bird Conservation Plan: Lower Tennessee-Cumberland Ecosystem. US Fish and Wildlife Service. January 2001. 13p.

Cornell University and National Audubon Society. 2002. eBird Monitoring Program. Cornell University, Laboratory of Ornithology, Ithaca, NY.

Fancy, S. and J. Sauer. 2000. Recommended Methods for Inventorying and Monitoring Landbirds in National Parks. National Park Service, Ft. Collins. 13p.

Harrison, M. 2002. Outer Banks Feral Cat/Cats Indoors Outreach and Education Program. Draft Final Report to Cape Hatteras National Seashore in cooperation with The Nature Conservancy. June 17, 2002. 13p.

Hunter, C. 2000. Bird Population Survey, Inventory, and Monitoring Standards for National Wildlife Refuges and Partners in the Southeastern U.S. USFWS. January 2002. 49p.

Hunter C., D. Buehler, R. Canterbury, J. Confer, and P. Hamel. 2001. Conservation of disturbance-dependent birds in eastern North America. Wildlife Society Bulletin 29:440-455.

Neotropical Migratory Bird Conservation Act. 2000. 114 Stat. 593. 16 U.S.C. 6102 Public Law 106247, enacted July 20, 2000.

North American Wetlands Conservation Act. 1989. 103 Stat. 1968; 16 U.S.C. 4401-4412. Public Law 101-233, enacted December 13, 1989.

Sauer, J.R., J.E. Hines, I. Thomas, J. Fallon, and G. Gough. 2000. The North American Breeding Bird Survey, Results and Analysis 1966-1999. Version 98.1, U.S.G.S. Patuxent Wildlife Research Center, Laurel, MD.

Southeast Natural Resource Leaders Advisory Group (SENRLAG). 2000. A Strategy for Collaboration. Unpublished. 4p.

USDI, Fish and Wildlife Service. 2002 Draft Bird Conservation Plan for the East Gulf Coastal Plain. US Fish and Wildlife Service, Arlington, VA. 84p.

USDI, Geological Survey. 2001. National Point Count Database. Biological Research Division, Patuxent Wildlife Research Station, Patuxent, MD.

USDI, National Park Service. 1916. Organic Act. 39 Stat. 535 16 U.S.C. 1-4, enacted August 25, 1916.

USDI, National Park Service. 1999. Resource Management Plan, Natchez Trace Parkway.

USDI, National Park Service. 2000. A Study Plan to Inventory and Monitor Vascular Plants and Vertebrates: Gulf Coast Network, National park Service. December 2000. 24p.

USDI, National Park Service. 2001. National Park Service Management Policies. 2001. December 2000. 137p.

USDI, National Park Service. 2002. Park Flight and Migratory Bird Conservation. National Park Service, Natural Resource Program Center. 2p.

US Government. 2000. Presidential Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 2000.

US NABCI Committee. 2000. The North American Bird Conservation Initiative in the United States: A Vision of American Bird Conservation. U.S. NABCI Committee, September 2000. 29p.

Williams, G.W. 2002. Aboriginal Use of Fire: Are There Any “Natural” Plant Communities? USDA Forest Service, Washington D.C., June 2002. 18p.

APPENDIX A

HIGH PRIORITY SPECIES IN THE INTERIOR LOW PLATEAUS BIRD CONSERVATION REGION (from Table 2, USFWS 2000)

Priority breeding landbird species pool generated for the Interior Low Plateaus. Total scores and regional scores were developed from Partners in Flight criteria.

Category	Species	Total score	% of pop.		AI	PT Status[1]	Local
Ia	Highest overall priority						
	Bewick's wren	28	26.6		3	5	D
	Cerulean warbler	28	7.8		3	5	B
Ib	High overall priority						
	Henslow's sparrow	27	4.4		3	4	E
	Swainson's warbler	26	-		4	3	E
	Bachman's sparrow	25	-	2	3	E	
	Blue-winged warbler	24	7.8		3	5	B
	Prairie warbler	24	12.2		4	5	B
	Worm-eating warbler	24	7.9		3	3	B
	Louisiana waterthrush	23	9.1		4	3	B
	Whip-poor-will	23	12.9		4	5	B
	Bell's vireo	23	1.2		2	3	E
	Dickcissel	23	1.0		3	5	B
	Wood thrush	22	5.1		3	3	B
	Prothonotary warbler	22	2.4		3	3	B
	Kentucky warbler	22	12.6		4	2	B
	Yellow-billed cuckoo	22	7.8		5	5	B
	Chimney swift	22	10.1		5	5	B
	Eastern wood-pewee	22	9.4		5	5	B
	Field Sparrow	22	13.9		5	5	B
	Red-headed woodpecker	22	3.3		4	5	D
IIa	Physiographic area priority species						
	Northern bobwhite	21	6.1		4	5	R
	White-eyed vireo	21	6.5		3	5	B
	Yellow-breasted chat	21	11.2		5	5	B
	Loggerhead shrike	20	-		3	5	R
	Black-and-white warbler	20	-		3	5	B
	Grasshopper sparrow	20	-		3	5	B
	Ruby-throated hummingbird	19	6.9		5	3	B

Category	Species	Total score	% of pop.	AI	PT Status[1]	Local
	Eastern towhee	19	9.4	4	5	R
	Eastern meadowlark	19	7.7	5	5	R
IIb	Additional species: responsibilities for monitoring (> 10% BBS)					
	Acadian flycatcher	21	10.9	4	2	B
	Orchard oriole	19	10.4	4	2	B
	Eastern bluebird	16	11.9	5	2	R
III	Additional species: global priority					
	Chuck-will's-widow	21	3.1	3	4	B
	Bobolink	19	-	2	3	B
IV	Federally listed species					
	Bald eagle	17	-	2	3	D
V	Local, state, or regional interest species					
	Mississippi kite	20	-	2	3	B
	Chestnut-sided warbler	18	-	2	3	B
	Lark sparrow	17	-	2	4	E

1 – Local status refers to migratory status and is adapted from Texas Partners in Flight. In this category, B refers to birds that breed in the area and winter exclusively in the tropics, D refers to birds that breed and winter in the region but may involve different populations, E refers to species which are reaching distributional limits in the area, and R refers to resident, non-migratory birds.

APPENDIX B

HIGH PRIORITY HABITAT-SPECIES ASSEMBLAGES IN THE INTERIOR LOW PLATEAUS BIRD CONSERVATION REGION (from Table 2, Ford et al. 2000)

Table 3. Priority habitat-species suites generated for the Interior Low Plateaus, with habitat scores and action level.

Habitat Species	Habitat score[1]	TB	AI	PT	Action level[2]
Western mesophytic, oak-hickory, beech-maple forests					
Yellow-billed cuckoo	13	3	5	5	III
Eastern wood-pewee	13	3	5	5	VI
Whip-poor-will	12	3	4	5	III
Downy woodpecker	12	2	5	5	VI
Northern flicker	12	3	5	4	VI
Cerulean warbler	12	4	3	5	II
Black-and-white warbler	11	3	3	5	IV
Louisiana waterthrush	11	4	4	3	III
Ruby-throated hummingbird	10	2	5	3	IV
Wood thrush	10	2	5	3	IV
Worm-eating warbler	10	4	3	3	III
Kentucky warbler	10	4	4	2	III
Forested wetlands					
Yellow-billed cuckoo	13	3	5	5	III
Eastern wood-pewee	13	3	5	5	IV
Downy woodpecker	12	2	5	5	VI
Northern flicker	12	3	5	4	VI
Cerulean warbler	12	4	3	5	III
Black-and-white warbler	11	3	3	5	III
Louisiana waterthrush	11	4	4	3	III
Ruby-throated hummingbird	10	2	5	3	III
Wood thrush	10	4	3	3	III
Prothonotary warbler	10	4	3	3	III
Kentucky warbler	10	4	4	2	III
Acadian flycatcher	9	3	4	2	III
Swainson's warbler	9	4	2	3	II
Bald eagle	8	3	2	3	VI

Habitat Species	Habitat score[1]	TB	AI	PT	Action level[2]
Riparian					
Yellow-billed cuckoo	13	3	5	5	III
Eastern wood-pewee	13	3	5	5	VI
Downy woodpecker	12	2	5	5	VI
Northern flicker	12	3	5	4	VI
White-eyed vireo	12	4	3	5	III
Cerulean warbler	12	4	3	5	II
Eastern towhee	12	3	4	5	III
Black-and-white warbler	11	3	3	5	III
Louisiana waterthrush	11	4	4	3	III
Indigo bunting	11	1	5	5	VI
Ruby-throated hummingbird	10	2	5	3	IV
Wood thrush	10	2	5	3	IV
Prothonotary warbler	10	4	3	3	III
Kentucky warbler	10	4	4	2	III
Acadian flycatcher	9	3	4	2	III
Swainson's warbler	9	4	2	3	III
Grassland					
Eastern meadowlark	13	3	5	5	VI
Field sparrow	13	3	5	5	VI
Northern bobwhite	12	3	4	5	III
Loggerhead shrike	12	4	3	5	II
Eastern towhee	12	3	4	5	VI
Grasshopper sparrow	12	4	3	5	III
Dickcissel	12	4	3	5	III
Henslow's sparrow	10	4	3	3	II
Bobolink	9	4	2	3	VI
Oak Savanna					
Bewick's wren	13	4	4	5	I
Prairie warbler	13	4	4	5	IV
Eastern wood-pewee	13	3	5	5	VI
Downy woodpecker	12	2	5	5	VI
Northern flicker	12	3	5	4	VI
Orchard oriole	10	3	5	2	VI
Eastern bluebird	9	2	5	2	VI
Bachman's sparrow	9	4	2	3	VI
Red-headed woodpecker	7	3	3	1	VI

Habitat Species	Habitat score[1]	TB	AI	PT	Action level[2]
Barrens/Glades/Old Fields					
Bewick's wren	13	4	4	5	I
Prairie warbler	13	4	4	5	IV
Yellow-breasted chat	13	3	5	5	IV
Field sparrow	13	3	5	5	IV
Eastern meadowlark	13	3	5	5	VI
Northern bobwhite	12	3	4	5	III
Whip-poor-will	12	3	4	5	III
Loggerhead shrike	12	4	3	5	II
White-eyed vireo	12	4	3	5	IV
Blue-winged warbler	12	4	3	5	IV
Eastern towhee	12	3	4	5	VI
Indigo bunting	11	1	5	5	VI
Eastern bluebird	9	2	5	2	VI
Bachman's sparrow	9	4	2	3	VI
Lark sparrow	9	3	2	4	IV
Short Rotation Pine					
Bewick's wren	13	4	4	5	I
Prairie warbler	13	4	4	5	IV
Yellow-breasted chat	13	3	5	5	IV
Field sparrow	13	3	5	5	IV
Northern bobwhite	12	3	4	5	III
Northern flicker	12	3	5	4	VI
Blue-winged warbler	12	4	3	5	IV
Eastern towhee	12	3	4	5	IV
Black-and-white warbler	11	3	5	3	IV
Indigo bunting	11	1	5	5	VI
Wood thrush	10	4	3	3	IV
Eastern bluebird	9	2	5	2	VI
Bachman's sparrow	9	4	2	3	IV
Chestnut-sided warbler	7	2	2	3	VI

1 – Habitat scores are derived from TB (threats breeding), AI (area importance), and PT (population trend) scores, which are determined from CBO prioritization database.
2 - Action level refer to I – crisis recovery needed, II – immediate management or policy needed rangewide, III – management to reverse or stabilize populations, IV – long term planning is needed, V – investigations are needed to better define threats, VI – monitor population changes only.

APPENDIX C

High Priority Species in the East Gulf Coastal Plain Bird Conservation Region (from Table 1, USFWS 2000?)

Priority bird species listed by total Partners in Flight concern score, and segregated by entry criteria. Other measures include area of importance and population trends scores, percent of BBS population, and local migratory status.

Priority Entry Criteria & species	Total PIF score	Concern scores AI	PT	Percent BBS	Local migratory status
Ia. Highest overall priority					
Mississippi Sandhill Crane	35	5	5	-	RP
Red-cockaded Woodpecker	31	4	4	11.0	RP
Bachman's Sparrow	30	5	5	28.1	D
Nelson's Sharp-tailed Sparrow	29	5	3	-	C
Golden-winged Warbler	29	4	5	-	A
Henslow's Sparrow	29	4	5	-	F
Black Rail	28	4	4	-	D
Swallow-tailed Kite	28	4	3	-	E
Bewick's Wren	28	3	5	8.0	E
Piping Plover	28	4	4	-	C
Salt Marsh Sharp-tailed Sparrow	28	3	3	-	C
Swainson's Warbler	29	5	3	13.3	B
Ib. High overall priority					
American Kestrel	27	4	4	-	E
Snowy Plover	27	4	5	-	E
Brown-headed Nuthatch	26	5	4	16.6	R
Cerulean Warbler	26	3	3	11.7	E
Seaside Sparrow	26	5	3	-	E
Yellow Rail	26	4	3	-	C
Bicknell's Thrush	25	4	3	-	A
Prothonotary Warbler	25	4	5	9.5	B
Chuck-will's-widow	24	5	5	11.8	B
Prairie Warbler	24	4	5	7.4	B
Reddish Egret	24	2	3	-	E
Wilson's Plover	24	5	4	-	E
Worm-eating Warbler	24	3	3	1.6	E
Blue-winged Warbler	24	5	3	-	A
Bay-breasted Warbler	24	5	3	-	A
Bobolink	24	5	5	-	A
Red Knot	24	3	4	-	A
Stilt Sandpiper	24	3	3	-	A
Buff-breasted Sandpiper	24	3	3	-	A
Black-throated Blue Warbler	23	3	3	-	A
Bell's Vireo	23	2	3	-	B
American Black Duck	23	4	5	-	D

Priority Entry Criteria & species	Total PIF score	Concern scores AI	PT	Percent BBS	Local migratory status
Redhead	23	5	4	-	C
Marbled Godwit	23	3	4	-	C
Short-billed Dowitcher	22	3	4	-	C
Black Tern	22	5	5	-	A
Kentucky Warbler	22	4	2	9.8	B
Orchard Oriole	22	5	5	9.3	B
Brown Pelican	22	4	1	80.2	RP
Clapper Rail	22	5	3	27.7	RP
American Oystercatcher	22	5	3	-	RP
Willet	22	4	5	-	RP
Northern Bobwhite	22	5	5	-	R
Yellow-billed Cuckoo	22	5	5	7.1	B
Red-headed Woodpecker	22	4	5	3.3	D
American Woodcock	22	4	4	-	D
Sedge Wren	22	5	5	-	C
Veery	22	5	5	-	A
Palm Warbler	22	5	5	-	A
Canada Warbler	22	4	3	-	A
II. Physiographic area priority species					
Chimney Swift	21	4	5	-	B
Eastern Wood-Pewee	21	4	5	-	B
Loggerhead Shrike	21	4	5	-	D
American Bittern	21	4	5	-	D
King Rail	21	5	3	-	D
Black Skimmer	21	4	5	71.7	E
Canvasback	21	4	4	-	C
Semipalmated Sandpiper	21	4	5	-	A
Black-billed Cuckoo	21	5	3	-	A
Least Flycatcher	21	5	5	-	A
Chestnut-sided Warbler	21	5	3	-	A
Black-throated Green Warbler	21	5	3	-	A
Blackpoll Warbler	21	5	3	-	A
Rusty Blackbird	21	5	5	-	C
Northern Harrier	20	4	4	-	C
Sanderling	20	3	5	-	A
Common Ground-Dove	20	4	4	9.1	R
Purple Martin	20	5	5	11.2	B
Carolina Chicakdee	20	4	5	6.7	R
Field Sparrow	20	3	5	-	R
Gull-billed Tern	20	5	3	23.6	E
Sandwich Tern	20	5	3	-	E
Dunlin	20	4	5	-	E
Royal Tern	19	5	3	32.1	E
Least Tern	19	4	4	63.8	E
Eastern Kingbird	19	4	5	-	B
Common Loon	19	5	3	-	C

Priority Entry Criteria & species	Total PIF score	Concern scores AI	PT	Percent BBS	Local migratory status
III. Additional species: global priority					
Wood Thrush	21	4	2	5.7	B
Louisiana Waterthrush	21	3	2	3.7	B
IV. Additional species: abundant and declining in the physiographic area					
Downy Woodpecker	18	5	5	-	R
Eastern Meadowlark	18	4	5	-	D
Blue Jay	17	5	5	-	D
Common Grackle	15	4	5	-	D
Mourning Dove	14	4	5	-	D
V. Additional species: responsibility for monitoring (>10% BBS)					
White-eyed Vireo	20	5	2	13.3	B
Hooded Warbler	20	4	1	13.9	B
Summer Tanager	19	5	2	10.9	B
Fish Crow	18	4	3	21.2	D
Red-bellied Woodpecker	18	5	2	10.0	R
Pine Warbler	18	5	1	11.8	D
Yellow-breasted Chat	17	5	1	13.5	B
Eastern Towhee	17	5	2	12.3	D
VI. Federal listed species					
Bald Eagle	18	3	3	-	D
VII. Local, state, or regional interest species					
Painted Bunting	21	3	4	-	D
Ovenbird	17	2	3	-	B
Shiny Cowbird	10	1	3	-	D
Brown Creeper		????			D
Wood Stork		????			?

Migration status key:

A = transient species, breeds and winters outside of physiographic area.

B = breeds in temperate or tropical areas including the physiographic area, but winters exclusively outside the region.

C = Breeds outside of the physiographic area, but winters in physiographic area.

D = Breeds and winters in the physiographic area, but two different populations may be involved.

E = Species reaching distributional limits in the physiographic area as breeding populations, but above peripheral status.

F = As E above, but for wintering species.

R = Resident, generally non-migratory species.

RP = Resident, generally non-migratory species reaching distributional limits in the physiographic area, but above peripheral status.

APPENDIX D

High Priority Habitat-Species Assemblages in the East Gulf Coastal Plain Bird Conservation Region (from Table 2 USFWS 2000?)

Bird species assemblages designated for broad habitat type within the physiographic area, and listed by total Partners in Flight score. The sum of Area Importance, Population Trend, and Threats to Breeding are included as the Habitat Score, and provides as an indication of the importance of the habitat in the area. The overall score indicates management criteria, see below.

Habitat	Species	Total PIF score	Habitat score	Overall score [1]
Grasslands	Mississippi Sandhill Crane	35	15	I, V
	Bachman's Sparrow	30	14	II, V
	Henslow's Sparrow	25	9	II, V
	Bobolink	24	-	III
	Northern Bobwhite	22	13	III
	Sedge Wren	22	-	VI
	Loggerhead Shrike	21	13	II, V
	Field Sparrow	20	11	IV
	Northern Harrier	20	-	IV
	Eastern Kingbird	19	12	IV
	Eastern Meadowlark	18	12	VI
Early succession, Scrub-shrub Old field	Bewick's Wren	28	12	II, V
	American Kestrel	27	12	II, V
	Prairie Warbler	25	13	III
	Bell's Vireo	23	9	III
	LeConte's Sparrow	23	-	III
	American Woodcock	22	11	III
	Loggerhead Shrike	21	13	II, V
	Rusty Blackbird	21	-	VI
	Painted Bunting	21	9	VI
	White-eyed Vireo	20	10	VI
	Field Sparrow	20	11	VI
	Northern Harrier	20	-	IV
	Yellow-breasted Chat	17	9	VI
	Eastern Towhee	17	10	IV
	Mourning Dove	14	10	IV
	Shiny Cowbird	10	5	VI
Forested wetlands	Swainson's Warbler	29	12	III, V
	Swallow-tailed Kite	27	12	II,V
	Cerulean Warbler	26	10	I, V
	Prothonotary Warbler	25	12	III
	Kentucky Warbler	23	10	III
	Yellow-billed Cuckoo	22	13	III
	Eastern Wood-Pewee	21	12	VI
	Carolina Chickadee	20	11	VI

Habitat	Species	Total PIF score	Habitat score	Overall score [1]
	Summer Tanager	19	10	VI
	Red-bellied Woodpecker	18	9	VI
	Bald Eagle	18	9	III
	Fish Crow	18	9	VI
	Downy Woodpecker	18	12	VI
	Mourning Dove	14	10	IV
	Blue Jay	17	11	VI
	Common Grackle	15	10	VI
	Brown Creeper		??	VI
	Wood Stork		??	VI
Oak-hickory Loess Bluffs TN Plateau Mixed Pine	Swallow-tailed Kite	27	12	II, V
	Cerulean Warbler	26	10	I, V
	Chuck-will's widow	24	13	II, V
	Worm-eating Warbler	24	9	III
	Kentucky Warbler	23	10	III
	Orchard Oriole	23	14	IV
	Yellow-billed Cuckoo	22	13	III
	Eastern Wood-Pewee	21	12	VI
	Carolina Chickadee	20	11	VI
	Hooded Warbler	20	10	III
	Summer Tanager	19	10	IV
	Downy Woodpecker	18	12	VI
	Red-bellied Woodpecker	18	9	VI
	Blue Jay	17	11	VI
	Ovenbird	17	7	VI
	Common Grackle	15	10	VI
Loblolly-Shortleaf	Red-cockaded Woodpecker	31	13	I, V
	Bachman's Sparrow	30	14	II, V
	American Kestrel	27	12	II, V
	Brown-headed Nuthatch	27	13	III
	Chuck-will's widow	24	13	II, V
	Orchard Oriole	23	14	IV
	Yellow-billed Cuckoo	22	13	III
	Northern Bobwhite	22	13	III
	Eastern Wood-Pewee	21	12	VI
	Carolina Chickadee	20	11	VI
	Eastern Kingbird	19	12	VI
	Summer Tanager	19	10	VI
	Downy Woodpecker	18	12	VI
	Red-bellied Woodpecker	18	9	VI
	Blue Jay	17	11	VI
	Eastern Towhee	17	10	IV
	Mourning Dove	14	10	III

Habitat	Species	Total PIF score	Habitat score	Overall score [1]
Longleaf - Flatwoods	Mississippi Sandhill Crane	35	15	I, V
	Red-cockaded Woodpecker	31	13	I, V
Sandhills Slash Savanna	Bachman's Sparrow	30	14	II, V
	Brown-headed Nuthatch	27	13	III
	Prairie Warbler	25	13	III
	Henslow's Sparrow	25	9	II, V
	Orchard Oriole	23	14	IV
	Northern Bobwhite	22	13	III
	Eastern Wood-Pewee	21	12	VI
	Carolina Chickadee	20	11	VI
	Eastern Kingbird	19	12	IV
	Summer Tanager	19	10	VI
	Downy Woodpecker	18	11	VI
	Red-bellied Woodpecker	18	9	VI
	Blue Jay	17	11	VI
Short-rotation Pine	Bachman's Sparrow	30	14	III, V
	Bewick's Wren	28	12	II, V
	Prairie Warbler	25	13	III
	Northern Bobwhite	22	13	III
	Field Sparrow	20	11	IV
	White-eyed Vireo	20	10	IV
	Downy Woodpecker	18	12	VI
	Red-bellied Woodpecker	18	9	VI
	Blue Jay	17	11	VI
	Yellow-breasted Chat	17	10	VI
	Eastern Towhee	17	10	IV
	Mourning Dove	14	10	III
Maritime forest	Prairie Warbler	25	13	III
	Bicknell's Thrush	25	-	III
	Chuck-will's-widow	24	13	II
	Blue-winged Warbler	24	-	III
	Bay-breasted Warbler	24	-	III
	Orchard Oriole	23	14	III
	Black-throated Blue Warbler	23	-	III
	Northern Bobwhite	22	12	III
	Yellow-billed Cuckoo	22	13	III
	Veery	22	-	III
	Palm Warbler	22	-	VI
	Canada Warbler	22	-	VI
	Eastern Wood-Pewee	21	12	VI
	Black-billed Cuckoo	21	-	III
	Least Flycatcher	21	-	III
	Chestnut-sided Warbler	21	-	III
	Black-throated Green Warbler	21	-	III

Habitat	Species	Total PIF score	Habitat score	Overall score [1]
Blackpoll Warbler		21	-	III
	Common Ground-Dove	20	12	IV
	Carolina Chickadee	20	11	VI
	Summer Tanager	19	10	VI
	Downy Woodpecker	18	12	VI
	Red-bellied Woodpecker	18	9	VI
	Fish Crow	18	9	VI
	Blue Jay	17	11	VI
	Yellow-breasted Chat	17	10	VI
	Eastern Towhee	17	10	IV
Emergent Wetlands	Nelson's Sharp-tailed Sparrow	29	-	II, V
	Salt Marsh Sharp-tailed Sparrow	28	-	II, V
	Swallow-tailed Kite	27	12	II, V
	Yellow Rail	26	-	III, V
	Seaside Sparrow	26	11	III, V
	Reddish Egret	25	10	III
	LeConte's Sparrow	23	-	III
	American Black Duck	23	-	III
	Redhead	23	-	III
	Sedge Wren	22	-	VI
	Clapper Rail	21	10	IV
	American Bittern	21	12	IV
	King Rail	21	10	IV
	Canvasback	21	-	III
Beaches and Dunes	Piping Plover	28	-	II
	Snowy Plover	27	13	II
	Red Knot	24	-	III
	Stilt Sandpiper	24	-	VI
	Buff-breasted Sandpiper	24	-	III
	Wilson's Plover	24	13	II
	Marbled Godwit	23	-	III
	American Oystercatcher	22	11	IV
	Willet	22	13	IV
	Brown Pelican	22	9	VI
	Short-billed Dowitcher	22	-	III
	Black Tern	22	-	VI
	Semipalmated Sandpiper	21	-	IV
	Least Tern	20	13	II
	Sandwich Tern	20	11	IV
	Black Skimmer	20	11	IV
	Brown Pelican	20	10	IV
	Royal Tern	20	10	IV

Habitat	Species	Total PIF score	Habitat score	Overall score [1]
	Sanderling	20	-	VI
	Dunlin	20	-	VI
	Gull-billed Tern	18	9	IV

1 = Overall scores refer to the following:
I = Crisis recovery necessary
II = Immediate management and/or policy action necessary range-wide
III = Active, integrated management is needed to reverse, stabilize, or increase populations
IV = Long-term planning and habitat responsibility are needed, in association with monitoring
V = Research is necessary to further clarify population status or level of threat to species or habitat
VI = Monitor population trends and develop habitat management only as population levels dictate.

APPENDIX E

Tennessee Natural Heritage Program
Rare Vertebrates List
January 2001

Watch-Listed in Tennessee

Scientific Name	Common Name	Physiographic Province	Federal Status	State Status	State Rank	Global Rank	State Endemic?
BIRDS							
AMMODRAMUS LECONTEII	LE CONTE'S SPARROW				S1N	G4	
CALIDRIS ALPINA	DUNLIN				S3N	G5	
CAMPEPHILUS PRINCIPALIS	IVORY-BILLED WOODPECKER		LE		SX	GH	
CIRCUS CYANEUS	NORTHERN HARRIER			D	S4N	G5	
CISTOTHORUS PLATENSIS	SHORT-BILLED MARSH WREN				S3NSPB	G5	
DENDROICA PINUS	PINE WARBLER				S5	G5	
DOLICHONYX ORYZIVORUS	BOBOLINK				SHBS4N	G5	
ELANOIDES FORFICATUS	SWALLOW-TAILED KITE				SAN	G5	
LIMNODROMUS SCOLOPACEUS	LONG-BILLED DOWITCHER				S2N	G5	
MYCTERIA AMERICANA	WOOD STORK		(PS:LE)		S3N	G4	
PELECANUS ERYTHRORHYNCHOS	WHITE PELICAN				S3N	G3	
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	CU CM BR WU CP	LE		SX	G3	
SCOLOPAX MINOR	AMERICAN WOODCOCK				S4B	G5	
VERMIVORA BACHMANII	BACHMAN'S WARBLER		LE		SX	GH	
VERMIVORA PINUS	BLUE-WINGED WARBLER				S4	G5	

Tracked in Tennessee

Scientific Name	Common Name	Physiographic Province	Federal Status	State Status	State Rank	Global Rank	State Endemic?
BIRDS							
ACCIPITER GENTILIS	GOSHAWK				SPBS2N	G5	
ACCIPITER STRIATUS	SHARP-SHINNED HAWK	CU CM WR BR RV ER CP	(PS)	D	S3B	G5	
ACTITIS MACULARIA	SPOTTED SANDPIPER	CB			S2B	G5	
AEGOLIUS ACADICUS	NORTHERN SAW-WHET OWL	RV BR	MC	T	S1	G5	
Scientific Name	**Common Name**	**Physiographic Province**	**Federal Status**	**State Status**	**State Rank**	**Global Rank**	**State Endemic?**
AIMOPHILA AESTIVALIS	BACHMAN'S SPARROW	WR CU WU ER RV CP CB WF	MC	E	S2	G3	
AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW	ER WR	MC	D	S1B	G4	
ANAS DISCORS	BLUE-WINGED TEAL				S2B	G5	
ANHINGA ANHINGA	ANHINGA	MF WR WU		D	S1B	G5	
AQUILA CHRYSAETOS	GOLDEN EAGLE	WR CB CU BR		T	S1	G5	
ARDEA ALBA	GREAT EGRET	WR MF RV BR CP		D	S2BS3N	G5	
BOTAURUS LENTIGINOSUS	AMERICAN BITTERN	ER WR			S1	G4	

Scientific Name	Common Name	Physiographic Province	Federal Status	State Status	State Rank	Global Rank	State Endemic?
BUBULCUS IBIS	CATTLE EGRET				S2BS3N	G5	
BUTEO LINEATUS	RED-SHOULDERED HAWK	MF CP WR WU RV CU ER CB			S4B	G5	
CAPRIMULGUS CAROLINENSIS	CHUCK-WILL'S WIDOW				S3S4	G5	
CAPRIMULGUS VOCIFERUS	WHIP-POOR-WILL				S3S4	G5	
CERTHIA AMERICANA	BROWN CREEPER				S2BS4N	G5	
CHONDESTES GRAMMACUS	LARK SPARROW	CP WR WU CB MF		T	S1B	G5	
COCCYZUS ERYTHROPTHALMUS	BLACK-BILLED CUCKOO				S2B	G5	
CONTOPUS COOPERI	OLIVE-SIDED FLYCATCHER	BR		D	S1	G5	
CORVUS CORAX	COMMON RAVEN	BR RV		T	S2	G5	
CORVUS OSSIFRAGUS	FISH CROW	MF			S3	G5	
DENDROICA CERULEA	CERULEAN WARBLER	RV BR WR WU CM		D	S3B	G4	
DENDROICA FUSCA	BLACKBURNIAN WARBLER				S3BS4N	G5	
DENDROICA MAGNOLIA	MAGNOLIA WARBLER				S1BS4N	G5	
EGRETTA CAERULEA	LITTLE BLUE HERON	CP WR MF WU		D	S2BS3N	G5	
EGRETTA THULA	SNOWY EGRET			D	S2BS3N	G5	
EGRETTA TRICOLOR	LOUISIANA HERON				SPB	G5	
EMPIDONAX ALNORUM	ALDER FLYCATCHER	BR			S1	G5	
EMPIDONAX MINIMUS	LEAST FLYCATCHER				S3	G5	
EMPIDONAX TRAILLII	WILLOW FLYCATCHER		(PS)		S2S3	G5	
EREMOPHILA ALPESTRIS	HORNED LARK				S4	G5	
FALCO PEREGRINUS	PEREGRINE FALCON	BR CU RV CB MF		E	S1N	G4	
FULICA AMERICANA	AMERICAN COOT				S2B	G5	
GALLINULA CHLOROPUS	COMMON MOORHEN	RV MF	(PS)	D	S1B	G5	
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	WR MF CP ER RV CB WU CU	T	D	S3	G4	
ICTINIA MISSISSIPPIENSIS	MISSISSIPPI KITE	MF CP		D	S2S3	G5	
IXOBRYCHUS EXILIS	LEAST BITTERN	RV MF ER CP CU CB		D	S2B	G5	
LANIUS LUDOVICIANUS	LOGGERHEAD SHRIKE		MC	D	S3	G5	
LATERALLUS JAMAICENSIS	BLACK RAIL	RV			S1	G4	
LIMNOTHLYPIS SWAINSONII	SWAINSON'S WARBLER	CP BR WR MF RV CU CM WU	MC	D	S3	G4	
LOXIA CURVIROSTRA	RED CROSSBILL				S1BS2N	G5	
NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON	RV CP MF CB			S3	G5	
NYCTICORAX NYCTICORAX	BLACK-CROWNED NIGHT-HERON	CB RV MF CP			S2S3B	G5	
PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW	RV WR			S1BS4N	G5	
PASSERINA CIRIS	PAINTED BUNTING				S2	G5	
PODILYMBUS PODICEPS	PIED-BILLED GREBE	WR			S2	G5	
POECILE ATRICAPILLUS	BLACK-CAPPED CHICKADEE		MC	D	S2B	G5	
POOECETES GRAMINEUS	VESPER SPARROW	BR WR		D	S1BS4N	G5	
PORPHYRULA MARTINICA	PURPLE GALLINULE	ER MF			S1B	G5	
RALLUS ELEGANS	KING RAIL	ER RV WR		D	S2	G4G5	
RALLUS LIMICOLA	VIRGINIA RAIL	RV			S1BS3N	G5	
REGULUS SATRAPA	GOLDEN-CROWNED KINGLET	BR			S3BS4N	G5	
RIPARIA RIPARIA	BANK SWALLOW	MF RV CB			S3	G5	

Scientific Name	Common Name	Physiographic Province	Federal Status	State Status	State Rank	Global Rank	State Endemic?
SITTA CANADENSIS	RED-BREASTED NUTHATCH				S2BS4N	G5	
SITTA PUSILLA	BROWN-HEADED NUTHATCH				S2B	G5	
SPHYRAPICUS VARIUS	YELLOW-BELLIED SAPSUCKER	BR CP	MC	D	S1BS4N	G5	
STERNA ANTILLARUM ATHALASSOS	INTERIOR LEAST TERN	MF	LE	E	S2S3B	G4T2Q	
THRYOMANES BEWICKII	BEWICK'S WREN	WR CP BR CB CM CU WU ER MF	MC	E	S1	G5	
TROGLODYTES TROGLODYTES	WINTER WREN				S3BS4N	G5	
TYRANNUS FORFICATUS	SCISSOR-TAILED FLYCATCHER				S1BSAN	G5	
TYTO ALBA	COMMON BARN-OWL	CP MF RV CB BR WR ER		D	S3	G5	
VERMIVORA CHRYSOPTERA	GOLDEN-WINGED WARBLER		MC	D	S3B	G4	
VIREO BELLII	BELL'S VIREO	CP	(PS)		SPB	G5	

Physiographic Provinces

Physiographic province information provides a broad concept of a species' distribution in Tennessee and can be indicative of a particular geologic development or age in Tennessee.

BR Blue Ridge
CB Central Basin
CM Cumberland Mountains
CP Coastal Plain
CU Cumberland Plateau
ER Eastern Highland Rim
MF Mississippi Floodplain
RV Ridge and Valley
SV Sequatchie Valley
WR Western Highland Rim
WU Western Uplands

Federal Status

Federally listed animals are protected by the Endangered Species Act of 1973 (as amended), and the list is maintained by the U.S. Fish and Wildlife Service. In Tennessee, listing and recovery responsibilities are divided between two USFWS offices, in Cookeville, TN, and Asheville, NC. Please visit http://southeast.fws.gov/ for additional information about USFWS activities in Tennessee.

The USFWS simplified the assignment of various "candidate species" designations in 1997, and those changes are reflected here. Applicable federal statuses are defined as follows, based on nomenclature adopted by The Nature Conservancy and the Tennessee Wildlife Resources Agency:

LE	Listed Endangered	Taxon is threatened by extinction throughout all or

		a significant portion of its range
E/SA	Endangered by Similarity of Appearance	Taxon is treated as an endangered species because it may not be easily distinguished from a listed species
LT	Listed Threatened	Taxon is likely to become an endangered species in the foreseeable future
T/SA	Threatened by Similarity of Appearance	Taxon is treated as a threatened species because it may not be easily distinguished from a listed species
PE	Proposed Endangered	Taxon proposed for listing as endangered
PT	Proposed Threatened	Taxon proposed for listing as threatened
C	Candidate species***	Taxon for which the USFWS has sufficient information to support proposals to list the species as threatened or endangered, and for which the Service anticipates a listing proposal
MC	Management Concern	Unofficial federal status for potential future candidate species
(PS)	Partial Status (based on taxonomy)	Taxon which is listed in part of its range, but for which Tennessee subspecies are NOT included in the Federal designation
(PS:*status*)	Partial Status (based on political boundaries)	Taxon which is listed in part of its range, but for which Tennessee populations are NOT included in the Federal designation e.g. (PS:LE)
(*status,* XN)	Non-essential experimental population in portion of range	Taxon which has been introduced or re-introduced in an area from which it has been extirpated, and for which certain provisions of the Act may not apply

(Modified from Federal Register, 50 CFR Part 17.11 {31 December 1999})

*** Taxa listed as candidate species may be added to the list of Endangered and Threatened species, and as such, consideration should be given to them in environmental planning. Taxa listed as LE, LT, PE, and PT must be given consideration in environmental planning involving federal funds, lands, or permits, and should be given consideration in all non-federal activities. For further

information, please contact the Tennessee Field Office of the USFWS, 446 Neal Street, Cookeville, TN 38501; (931) 528-6481.

State Status

In Tennessee, vertebrates, mollusks and crustaceans may be formally listed by the TWRA as Endangered, Threatened, or "Deemed in Need of Management" (T.C.A. 70-8-104, 70-8-105, 70-8-107). No insects or arachnids can be listed by the TWRA, but may be listed by the USFWS.

E	Endangered	Any species or subspecies of wildlife whose prospects of survival or recruitment within the state is in jeopardy or is likely to become so within the foreseeable future.
T	Threatened	Any species or subspecies of wildlife that is likely to become an endangered species within the foreseeable future.
D	"Deemed in Need of Management"	Any species or subspecies of nongame wildlife which the executive director of the TWRA believes should be investigated in order to develop information relating to populations, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully. This category is analogous to "Special Concern".
PE	Proposed Endangered	Proposed as Endangered by the TWRA for consideration by the Tennessee Wildlife Resources Commission
PT	Proposed Threatened	Proposed as Threatened by the TWRA for consideration by the Tennessee Wildlife Resources Commission
PD	Proposed "Deemed"	Proposed as Deemed in Need of Management by the TWRA for consideration by the Tennessee Wildlife Resources Commission

Note: Many species presented in this list may have neither a state nor federal designation, however are considered rare by the DNH and should be evaluated during the environmental review process. Information is collected on these species in order to minimize the necessity of listing these taxa as Endangered or Threatened.

GRANK and SRANK

As a guide in setting conservation priorities, TNC developed a ranking system for estimating the abundance of plants and animals tracked by Heritage programs. The Global Rank (GRANK) is assigned by TNC Central Zoology staff based on the best range wide (global) abundance information for each taxon. A five-tier system (G1-G5) is used to describe rarity, from G1 (extremely rare) to G5 (widespread). The same system is applied by DNH to assign the State Rank (SRANK), which describes the species' abundance within our state borders.

SRANK and GRANK are based primarily upon the number of occurrences of the element (species) within the state and range wide, respectively. For obscure or under-studied species, ranks are

based on the best available information, and consideration may be given to other factors influencing the rarity of each taxon.

SRANKs used in this list are defined below. GRANKs are similarly defined, except that ranking criteria apply range wide (e.g. an S1 species is "extremely rare" in the state, and a G1 species is "extremely rare" range wide).

S1	Extremely rare and critically imperiled in the state with five or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extinction.
S2	Very rare and imperiled within the state, six to twenty occurrences, or few remaining individuals, or because of some factor(s) making it vulnerable to extinction.
S3	Rare and uncommon in the state, from 21-100 occurrences.
S4	Widespread, abundant, and apparently secure within the state, but with cause for long-term concern.
S5	Demonstrably widespread and secure in the state
SH	Of historical occurrence in Tennessee, e.g. formally part of the established biota, with the expectation that it may be rediscovered.
SU	Cannot be ranked using available information.
SX	Believed to be extirpated from the state.
S#S#	Denotes a "range rank" because the rarity of the species is uncertain (e.g. S1S3).
S?	Unranked at this time
SE	Exotic species established in the state
SE#	Exotic numeric (e.g. European starling would be SE5)
SP	Potentially occurring in Tennessee, but not yet documented by DNH
_N	Occurs in Tennessee in a non-breeding status (several birds)
_B	Breeds in Tennessee
SA	Accidental or casual in the state (several birds)
SR	Reported from the state, but insufficient data to assign rank

SRF	Reported falsely from the state
HYB	Hybrid within its range in Tennessee
SSYN	Synonym for another species
_Q	Questionable taxonomy (GRANKS only)
_T#	Subspecific taxon rank (GRANKS only)
Numerous bird species are ranked for breeding and non-breeding status in Tennessee, e.g. RED-BREASTED NUTHATCH (S2BS4N), *is more common as a wintering or migratory species than as a breeding species*.	

Note: Those species having an SRANK of S1 to S3, state endemics, and species with limited distribution in Tennessee should be given special consideration in environmental planning. For further information contact DNH at (615) 532-9695.

State Endemic

If a species is endemic to Tennessee (occurs nowhere else), it may be categorized as follows:

Y, Yes	Endemic to Tennessee
P, Probable	Probably endemic to Tennessee
B, Breeding	Endemic to the state as a breeder only

APPENDIX F

ENDANGERED SPECIES OF MISSISSIPPI

MISSISSIPPI NATURAL HERITAGE PROGRAM

- 2003 -

SPECIES NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS
AVES				
CAMPEPHILUS PRINCIPALIS	IVORY-BILLED WOODPECKER	GH	SX	LE
CHARADRIUS ALEXANDRINUS TENUIROSTRIS	SOUTHEASTERN SNOWY PLOVER	G4T3Q	S2B,SZN	
CHARADRIUS MELODUS	PIPING PLOVER	G3	SZN	(LE,LT)
FALCO PEREGRINUS	PEREGRINE FALCON	G4	SZN	(PS:LE)
GRUS CANADENSIS PULLA	MISSISSIPPI SANDHILL CRANE	G5T1	S1	LE
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S1B,S2N	(PS:LT,PDL)
MYCTERIA AMERICANA	WOOD STORK	G4	S1N	(PS:LE)
PELECANUS OCCIDENTALIS	BROWN PELICAN	G4	S1N	(PS:LE)
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	G3	S1	LE
STERNA ANTILLARUM ATHALASSOS	INTERIOR LEAST TERN	G4T2Q	S3?B	(PS:LE)
THRYOMANES BEWICKII	BEWICK'S WREN	G5	S2S3B,SZN	
VERMIVORA BACHMANII	BACHMAN'S WARBLER	GH	SXB	LE

APPENDIX G

ALABAMA PROTECTED SPECIES

Common Name	Scientific Name
Crane, Mississippi Sandhill	*Grus canadensis pulla*
Dove, Common Ground	*Columbina passerina*
Eagle, Bald	*Haliaeetus leucocephalus*
Eagle, Golden	*Aguila chrysaetos*
Egret, Reddish	*Egretta rufescens*
Falcon, Peregrine	*Falco peregrinus*
Hawk, Cooper's	*Accipiter cooperi*
Merlin	*Falco columbarius*
Osprey	*Pandion haliaetus*
Oystercatcher, American	*Haematopus palliatus*
Pelican, American White	*Pelecanus erthrorhynchos*
Plover, Piping	*Charadrius melodus*
Plover, Snowy	*Charadrius alexandrinus*
Plover, Wilson’s	*Charadrius wilsonia*
Stork, Wood	*Mycteria americana*
Tern, Gull-billed	*Sterna nilotica*
Warbler, Bachman's	*Vermivora bachmani*
Woodpecker, Red-cockaded	*Picoides borealis*
Wren, Bewick's	*Thryomanes bewickii*

State Protected (SP) - Species with a state protected status are protected by the Nongame Species Regulation (Section 220-2-.92, page 74-76) and the Invertebrate Species Regulation (Section 220-2-.98, pages 77-79) of the *Alabama Regulations for 2002-2003 on Game, Fish, and Fur Bearing Animals*.

APPENDIX H

USFWS SPECIES OF CONSERVATION CONCERN (2002) in the SOUTHEAST COASTAL PLAIN (BCR 27)

Black-capped Petrel
Audubon's Shearwater
Little Blue Heron
Reddish Egret
Swallow-tailed Kite
Short-tailed Hawk
American Kestrel (resident *paulus* ssp. only)
Peregrine Falcon
Yellow Rail
Black Rail
Limpkin
Snowy Plover
Wilson's Plover
American Oystercatcher
Whimbrel
Marbled Godwit
Red Knot
Semipalmated Sandpiper
Stilt Sandpiper
Buff-breasted Sandpiper
Short-billed Dowitcher
Gull-billed Tern
Common Tern
Least Tern (except where Endangered)
Black Tern
Black Skimmer
Common Ground-Dove
Burrowing Owl
Chuck-will's-widow
Brown-headed Nuthatch
Bewick's Wren
Wood Thrush
Northern Parula
Black-throated Green Warbler
Prairie Warbler
Cerulean Warbler
Swainson's Warbler
Bachman's Sparrow
Henslow's Sparrow
Le Conte's Sparrow
Nelson's Sharp-tailed Sparrow
Saltmarsh Sharp-tailed Sparrow
Seaside Sparrow
Painted Bunting
Orchard Oriole

APPENDIX I

USFWS SPECIES OF CONSERVATION CONCERN (2002) in the CENTRAL HARDWOODS (BCR 24)

Peregrine Falcon
Stilt Sandpiper
Buff-breasted Sandpiper
Short-eared Owl
Whip-poor-will
Red-headed Woodpecker
Bell's Vireo
Bewick's Wren
Wood Thrush
Blue-winged Warbler
Prairie Warbler
Cerulean Warbler
Worm-eating Warbler
Swainson's Warbler
Louisiana Waterthrush
Bachman's Sparrow
Henslow's Sparrow
Le Conte's Sparrow
Smith's Longspur
Rusty Blackbird