FINAL DRAFT

Avian Conservation Implementation Plan
Jean Lafitte National Historical Park and Preserve

National Park Service
Southeast Region

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In cooperation with

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

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Introduction

This Avian Conservation Implementation Plan (ACIP) is provided to the staff at Jean Lafitte National Historical Park and Preserve (JELA) to help identify and prioritize bird conservation opportunities, and to provide information and guidance for the successful implementation of needed conservation activities. This plan may identify goals, strategies, partnerships, and perhaps specific projects for 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 Appalachians and the Cumberland Plateau 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 JELA has a mixture of upland and water habitats, conservation recommendations will be provided in the ACIP for landbird and waterbirds and their habitats will be derived from the appropriate Mississippi Alluvial Plain (MAV) and the Southeast Waterbird Conservation plans. However, all high priority bird conservation issues for JELA will be discussed and integrated as appropriate.

Information and data presented in the ACIP have been obtained from several sources: 1) interviews with JELA staff, 2) JELA bird conservation partners, 3) the PIF MAV Bird Conservation Plan, Version 1.0 (Twedt et al. 1999), 4) Southeast Waterbird Conservation Plan (Hunter et al. 2003), 5) peer reviewed bird conservation and management literature, 6) NPS databases, and 7) personal communications with bird conservation specialists throughout North America, especially in the southeastern United States. This plan has been reviewed by JELA resource management staff and managers, Gulf Coast Inventory and Monitoring Network (CUCO I&M) staff, and bird conservation partners and approved by JELA management. Optimally, this plan will be incorporated into the park's Resource Management Plan (USDI NPS 1997) and updated annually to reflect completed projects, newly identified needs, and shifts in bird conservation priorities in the region.

JELA is not obligated to undertake any of the proposed actions in this plan. The plan is provided to offer guidance to JELA to voluntarily support important park, regional, and perhaps national and international bird conservation projects for which JELA 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-government 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). Together, 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 between 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 JELA 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, Jean Lafitte National Historical Park and Preserve), national recreation areas (Jean Lafitte National Historical Park and Preserve), national preserves (Jean Lafitte National Historical Park and 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

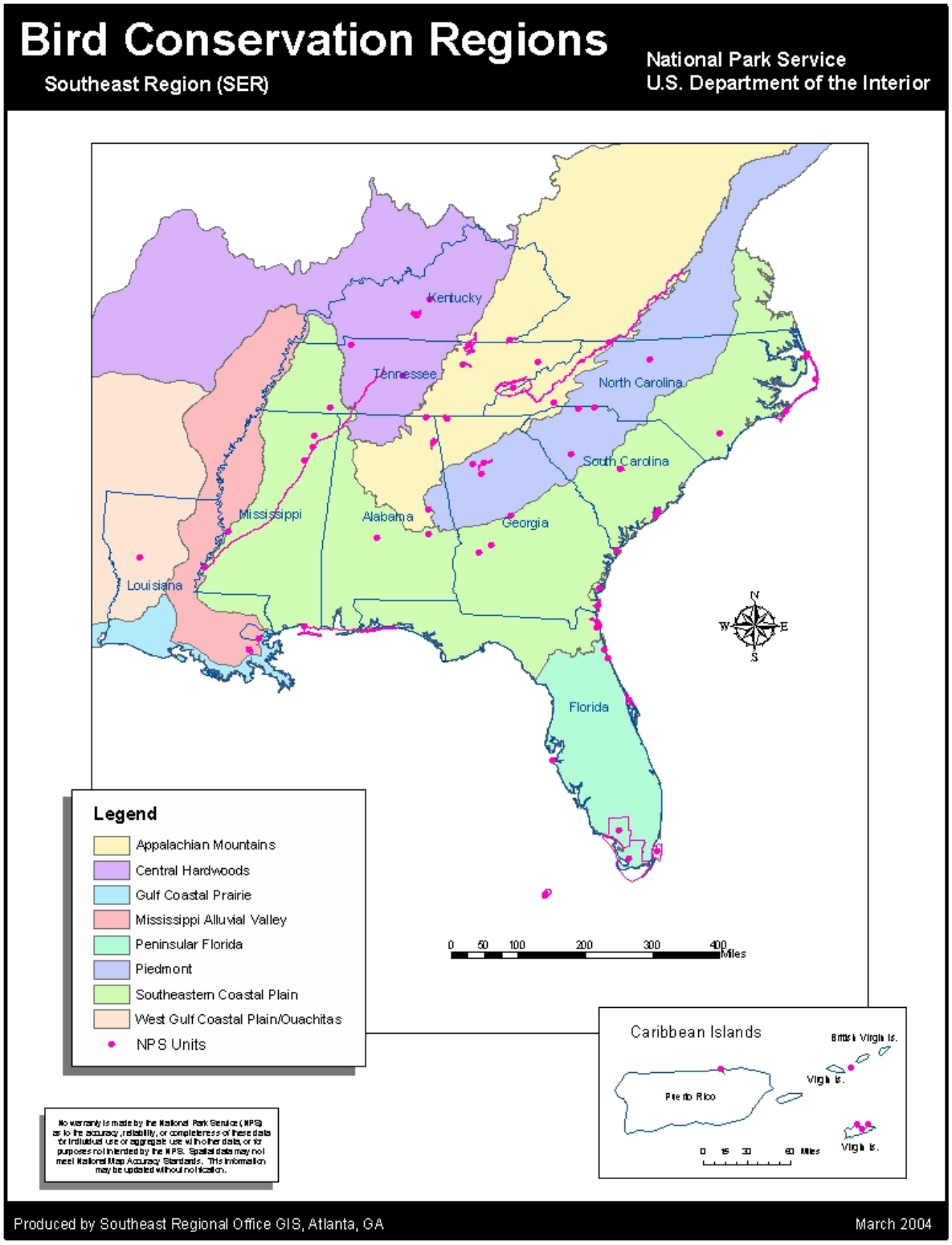
Jean Lafitte NHPP (85 ha; 20,979 acres) consists of three administrative units, each of which has land areas containing natural resources. The Barataria Preserve, which is managed primarily as a natural area, includes uplands, swamps, and marshlands characteristic of the region. The Chalmette Battlefield, site of the 1815 Battle of New Orleans, is managed as a historical and cultural landscape, with natural features contributing to the maintenance of the landscape. The Acadian unit has two areas with minimal natural landscape elements: Lafayette, and Thibodaux. These sites interpret the Acadian culture of the area (USDI NPS 2000).

While the other units are primarily cultural resources serving as small natural refuges, the Barataria Preserve is part of one of the largest, most productive, and most imperiled estuaries in the country. Anthropogenic changes to the functioning of the deltaic system and the natural process of subsidence have contributed to the loss of significant wetland habitat, including the unique floatant marshes supported by layers of peat that rise and fall with the tides. Pressures associated with the unit's close proximity to New Orleans include urban runoff and water quality, while exotics such as nutria and Chinese tallow threaten from within. The park must also contend with hunting and oil/gas/mineral rights issues, each of which are specifically allowed in the enabling legislation. Oil exploration, in particular, has once again become a prominent issue with the development of 3-d seismic exploration techniques. In the face of these issues, the Preserve is planning a 3000-acre expansion of the Barataria Unit and is proposing to undertake extensive restoration of short dead-end canals created to reach former drilling sites (USDI NPS 2000).

Avian Resources of Mississippi Alluvial Valley

The MAV is an 11 million ha (24 million acres), relatively flat, weakly dissected alluvial plain, comprised of natural levees, basins and flats, point bar formations, terraces, tributary floodplains, and depressional wetlands (see PIF and NPS location maps below). Differences in topography and hydrology result in 14 physiographic provinces spanning 7 states. Elevation ranges from 0 to 200 m (0-660 feet) with local relief generally less than 30 m but reaching up to 100 m along ridges and bluffs bordering the mainstem Mississippi River. Because elevation differences are slight, hydrologic regimes can dramatically influence vegetation. In addition to 21 internal hydrologic units, the MAV receives drainage from many eastern and central U.S. watersheds, including the Ohio, Arkansas, and Red Rivers. Average annual precipitation is 114 to 165 cm (45-65 in) (Twedt et al. 1999).

Potential natural vegetation for most of the physiographic area is southern floodplain forest with oak-hickory forest on higher ground (*e.g.*, Crowley's Ridge, loess bluffs) and isolated native prairies (e.g., Grand Prairie). Floodplain forests are primarily oak-gum-cypress cover type with co-dominant species being overcup, willow, Nuttall, water, swamp chestnut, and cherrybark oaks, as well as sweetgum, water tupelo, water hickory, willow, cottonwood, sycamore, hackberry, sugarberry, red maple, boxelder,


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
Legend
Appalachian Mountains
Central Hardwoods
Gulf Coastal Prairie
Mississippi Alluvial Valley
Peninsular Florida
Piedmont
Southeastern Coastal Plain
West Gulf Coastal Plain/Ouachitas
NPS Units
0 50 100 200 300 400 Miles
Caribbean Islands
British Virgin Is.
Virgin Is.
Puerto Rico
Virgin Is.
0 15 30 60 Miles
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.
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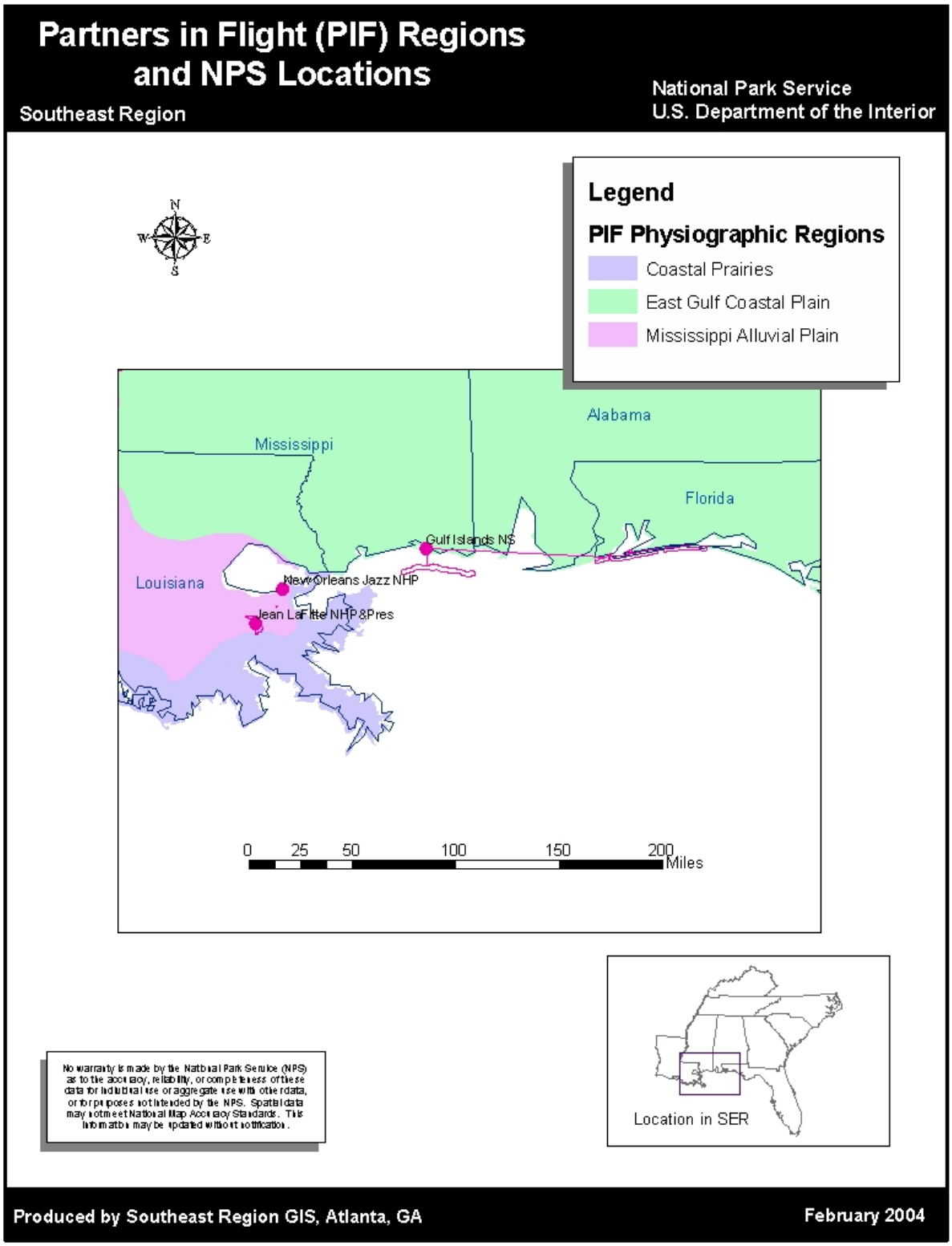
March 2004


Partners in Flight (PIF) Regions
and NPS Locations
Southeast Region
National Park Service
U.S. Department of the Interior
Legend
PIF Physiographic Regions
Coastal Prairies
East Gulf Coastal Plain
Mississippi Alluvial Plain
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Florida
Louisiana
Gulf Islands NS
New Orleans Jazz NHP
Jean LaFitte NHP&Pres
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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.
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February 2004

baldcypress, and green ash. Oak-hickory forests include as co-dominants post, southern red, black, and white oaks, and shellbark, shagbark, and mockernut hickories.

Remnant prairies have bluestem and switchgrass as the dominant grasses under natural conditions. Natural vegetation has been cleared from 80% of this physiographic area primarily for conversion to agriculture. Pasture and haylands are common on higher ground and along levees. Cotton, soybean, and rice are the most widespread crops but winter wheat, corn, sorghum, and sugar cane can be locally abundant. Although cleared of natural vegetation, flooded agricultural fields can provide important wildlife habitat (Twedt et al. 1999).

Flood regimes that have historically dictated vegetative communities within the MAV have been altered by an extensive system of levees, dikes, and dams. High water events have been reduced in many areas whereas the rate and extent of flooding has been increased in other areas. The altered hydrology of the MAV has in turn influenced the composition and structure of forested wetlands as well as the amount of open water-shoreline habitat. Local perturbations include ice-storms, tornadoes, hurricanes, beaver ponds, and fire. The northern portion of the MAV overlays the New Madrid fault line with the potential for earthquakes (Twedt et al. 1999).

The MAV is among the most heavily modified physiographic areas in the southeastern U.S. but still supports the largest forested floodplain in North America. In addition to providing forested habitat for breeding birds, the area serves as a major waterfowl wintering area, supplying food and cover from both forested and agricultural habitats. Resident and migrant long-legged wading birds as well as transient shorebirds exploit natural floodwater, flooded farm fields, and aquaculture ponds (Twedt et al. 1999).

Forestry in the southeastern U.S. has a long history, with the present forested acreage referred to as the "South's Fourth Forest". Virtually no virgin timber remains and, even with increasing region-wide forest acreage, there have been dramatic changes in forest types dominating the landscape. Indeed, a number of "old-growth" forest species are now extinct, endangered, or vulnerable. Some avian species dependent upon forested habitats are extinct (*e.g.*, passenger pigeon, Carolina parakeet) and other species are endangered and likely extinct (e.g., Ivory-billed Woodpecker, Bachman's Warbler). Non-avian species, such as the red wolf and the Louisiana black bear have also suffered from loss of forested wetland habitat (Twedt et al. 1999).

The MAV has the dubious distinction of being the most deforested of all southeastern physiographic areas. Forest fragmentation usually refers to a landscape where a still large percentage of forest remains but is fragmented into small blocks surrounded by non-forested habitat (usually agriculture or suburban/urban development). The MAV, however, is now largely non-forested with greater than 80% of the land in agricultural production. Remaining forest patches are generally surrounded by vast expanses of farmland. Continuing debates on the decline of forest birds in other parts of eastern North America, where the percent of the landscape in forest remains high, have been resolved in the MAV. Forests, and the birds dependent upon them, have greatly

declined throughout this century, with losses continuing since the 1950's (about 360,000 ha [900,000 acres] lost between the mid-1970's and mid-1980's). Nevertheless, the remaining forests, of all types, provide valuable wildlife habitat. Flood regimes that have historically dictated vegetative communities within the MAV have been altered by an extensive system of dikes, levees, and dams. High water events have been reduced in many areas whereas the rate and extent of flooding have been increased in other areas. The altered hydrology of the MAV has in turn influenced the composition and structure of forested wetlands as well as the amount of open water-shoreline habitat. Local perturbations include ice-storms, tornadoes, hurricanes, beaver ponds, and fire. The northern portion of the MAV overlays the New Madrid fault line with the potential for earthquakes (Twedt et al. 1999).

At least 107 bird species nest regularly in the MAV, excluding wading birds and colonial nesting waterbirds (Appendix A-B). Most of these species occur in more than one broad habitat type as defined within this plan. Forest breeding species remain the most important component of the avifauna, despite the loss of nearly 80% of the forested wetlands in this region. At least 70 species occur in bottomland hardwoods as a primary habitat. Greater than 20% of the breeding populations of Swainson's Warbler, Prothonotary Warbler, and Swallow-tailed Kite are found within the MAV. Typical species of bottomland hardwood forests include Northern Parula Warbler, Swainson's Warbler, Prothonotary Warbler, Red-shouldered Hawk, and Red-headed Woodpecker (Twedt et al. 1999).

At least 62 species occur in upland oak-hickory forests, although many of these species occur in bottomland hardwoods as well. Typical species include Yellow-billed Cuckoo, Worm-eating Warbler, Black-and-white Warbler, and Broad-winged Hawk. At least 25 species occur in scrub-shrub habitats in the MAV. Typical species include Painted Bunting, Orchard Oriole, White-eyed Vireo, Common Yellowthroat, and Indigo Bunting (Twedt et al. 1999).

At least 18 species occur in MAV grassland habitats. Typical species include Dickcissel, Loggerhead Shrike, Field Sparrow, Northern Bobwhite, and Grasshopper Sparrow. Seven species are dependent on water and wetlands habitat, including Hooded Merganser, Wood Duck, Belted Kingfisher, and Marsh Wren. Another 19 species occur in a variety of other habitats, such as open water or river banks. These species include Purple Martin, Tree Swallow, and Barn Owl (Twedt et al. 1999).

At least 29 species of colonial and wading waterbirds occur in MAV habitats. Typical species include Black Rail, King Rail, Yellow Rail, Black Skimmer, Least Tern (Interior), Gull-billed Tern, Black Tern, American White Pelican, Common Tern, Purple Gallinule, American Coot, Pied-billed Grebe, White Ibis, Wood Stork, Least Bittern, Green Heron, Little Blue Heron, Tricolored Heron, Black-crowned Night Heron and Yellow-crowned Night Heron,

Avian Conservation in JELA

Avian Biodiversity: JELA has an avian inventory and a checklist of birds that is available for the public. Managers are in the process of updating the inventory and checklist. The park has documented over 230 species and 59 of these are known to breed in the JELA. Most of the species breed in other habitats near the park, migrate through the park, or winter in the park.

Verified records of birds in JELA 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 JELA. However, several species that occur in JELA are high priority in the MAV and conservation efforts in the park could focus on these species or groups of species.

Inventory: JELA's inventory is considered complete according to the standard established by the NPS I&M program. However, additional abundance and distribution data are desired so that management actions can be identified that will conserve the birds and their habitats in JELA.

Threatened and Endangered Species: No Federally listed threatened or endangered species are known to nest in JELA. The Federally threatened Bald Eagle and endangered Least Tern (Interior) and Brown Pelican do forage in the park.

Several Louisiana Rare, Threatened, and Endangered species occur in JELA and include Peregrine Falcon, Cooper's Hawk, American White Pelican, Reddish Egret, Osprey, American Swallow-tailed Kite, Broad-winged Hawk, Caspian Tern, Gull-billed Tern, Warbling Vireo, Yellow Warbler, Worm-eating Warbler, and Louisiana Waterthrush.

The Louisiana Natural Heritage Program has identified additional species of conservation concern in Louisiana. Relevant to JELA are Glossy Ibis, American Woodcock, Cerulean Warbler, American Kestrel, Loggerhead Shrike, Black Rail and several Neotropical migrants.

Several high priority PIF and Waterbird species for the MAV occur in JELA (see below and Appendixes B and C). Prominent among these species are: Swainson's Warbler, Prothonotary Warbler, Painted Bunting, Northern Parula, Orchard Oriole, Yellow-billed Cuckoo, White-eyed Vireo, Carolina Chickadee, Loggerhead Shrike, Mississippi Kite, Black Rail, King Rail, White Ibis, Least Bittern, Little Blue Heron, Pied-billed Grebe, Yellow-crowned Night Heron, Black-crowned Night Heron, and Tricolored Heron.

Monitoring: Currently no monitoring effort is conducted in JELA. It is unknown whether or not a Christmas Bird Count (CBC) covers any portion of the park. Recreational birding is the most common birding activity in the park.

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

Outreach: Several educational and outreach programs related to birds are undertaken in the JELA. They are:

- Participation and lead agency in the Wings Over Wetlands birding festival
- Spring and Fall migration bird walks along boardwalks and trails, during peak migration
- Education program series on birds
- Sponsor of Birdwatching Workshop (Barataria)

Park Identified Needs for Avian Conservation

JELA has identified two monitoring projects that would increase the avian knowledge of the park.

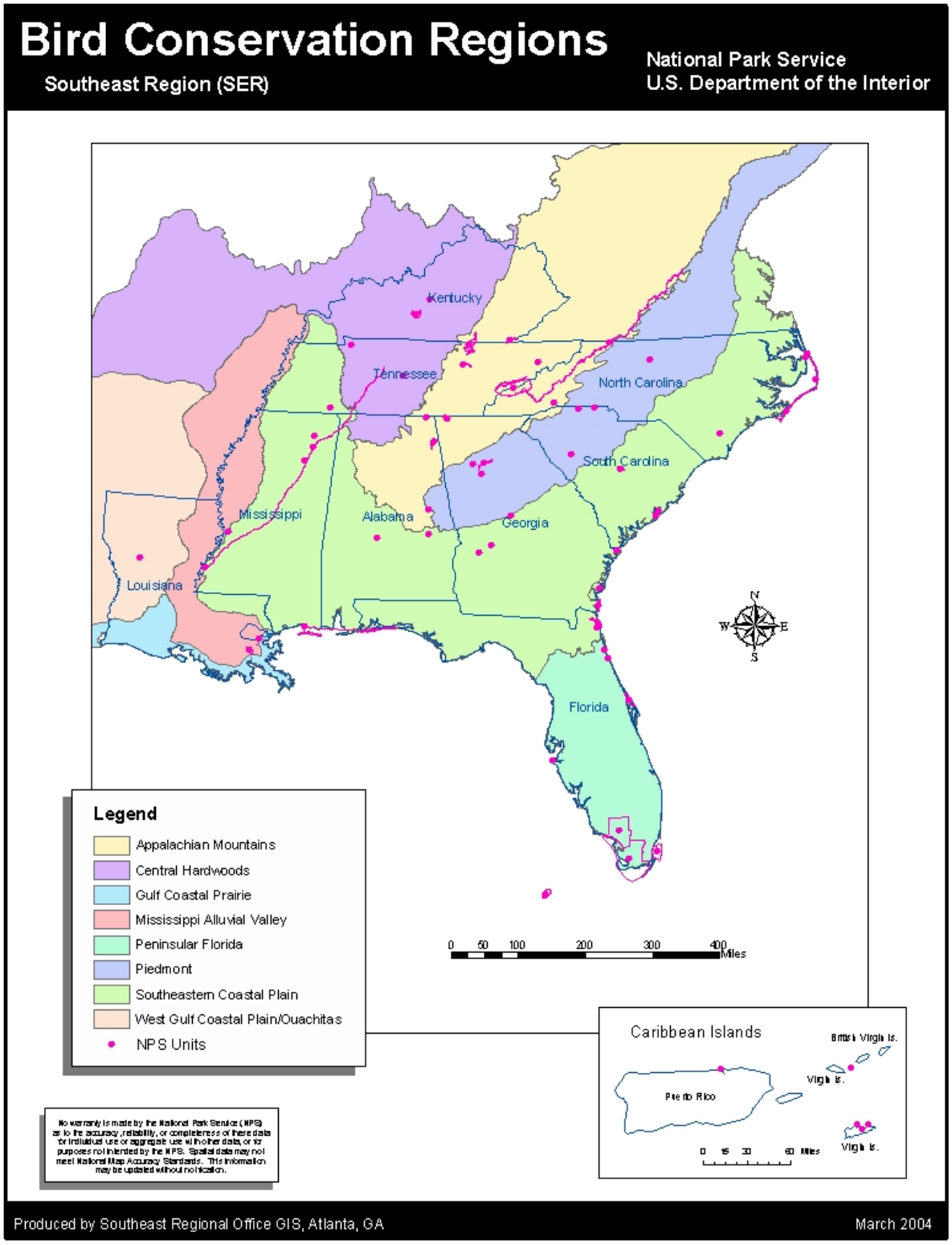
Monitoring:

- Monitor breeding Neotropical migrant bird populations and habitat utilization through point counts
- Monitor migrant populations of passerines during migration periods

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, JELA is within the NABCI MAV BCR that extends from Southern Illinois along the Mississippi River Valley to the Mississippi River delta (see NABCI BCR map below) and essentially covers the same area as the PIF MAV physiographic area (the planning area for PIF) (compare to PIF map).

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 MAV does have a designated coordinator. Additionally, the MAV Coordinator functions as the Lower Mississippi Valley Joint Venture (see explanation of Joint Ventures in Funding Opportunities below) coordinator and can provide valuable assistance to JELA with implementation of aspects of this ACIP.


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
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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
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

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

Partners In Flight: Goals and strategies for the MAV can be found in the draft bird conservation plan, previously submitted to the park. The current plan identifies priority bird and habitat conservation goals for landbirds that must be implemented in the MAV to achieve bird conservation success in this region.

Similar to NABCI BCR's, PIF physiographic areas often do not 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 Louisiana does have a PIF coordinator and can be instrumental in assisting JELA to implement recommendations identified in this ACIP and projects important to bird conservation relative to Louisiana's role in implementation of the MAV PIF plan.

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 JELA 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/). Substantial waterbird conservation priorities exist on the MAV and JELA will have an important role to conduct with regional waterbird conservation. This national plan has been stepped down to the regional level and is available for JELA. Waterbird conservation priorities for the MAV in the Southeast Region are presented in Appendixes C-D.

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.

Should the park decide to implement any of these projects, further consultation with bird conservation contacts is encouraged to obtain updated information on the relevance of these opportunities in regional bird conservation.

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. Although the avifauna of JELA is well documented, distribution and abundance data are desired to fully 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 MAV bird conservation plan, the Rare, Threatened and Endangered Species of Louisiana, the Louisiana Natural Heritage Program list of Rare Birds, the Southeast Waterbird Conservation Plan, and the USFWS Species of Conservation Concern) is needed to effectively structure park management for the continued preservation and enhancement of the park's avifauna.

Additional abundance and distribution data are needed

- **In the extensive marshes and wetlands for high priority waterbirds, including rails, egrets and herons (breeding and winter)***
- **for high priority upland and wetland forest species (Swainson's Warbler, Prothonotary Warbler, Painted Bunting, Yellow-billed Cuckoo, etc.)***
- **at established forest point counts in winter and during migration**
- **at Chalmette Battlefield in all seasons**

Additionally, JELA is encouraged to

- **verify other avian observational data collected in the park and enter into the appropriate database (NPSpecies, National Point Count Database, eBird; http://www.ebird.org/about/index.jsp, etc.)***
- **standardize inventory and monitoring methodology to conform to NPS and/or FWS recommended standards (Fancy and Sauer 2000, Hunter 2000)**

Monitoring: The park does not have an active bird monitoring program but efforts should be made to develop appropriate monitoring programs based on regional conservation priorities and park needs, striving to conform to established NPS or FWS protocols. Close coordination with the MAV coordinator and Louisiana PIF personnel 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 Neotropical and resident bird monitoring program during migration and breeding seasons using point count methodology***
- **establish a colonial waterbird and wading bird monitoring program***
- **establish a wetland and marsh/grassland monitoring program for birds in these habitats during breeding season and winter***

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

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 JELA 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 JELA can greatly contribute to established habitat goals identified in the MAV and Southeast Waterbird Conservation plans.

The park is largely a freshwater marsh and forested wetland system. Much of this habitat provides suitable area and vegetative cover for nesting landbirds, but could be improved through use of hydrological restoration, prescribed fire, and exotic plant and animal management. Specific recommendations are to:

- **restore hydrology of wetland system by removing drainage channels and canals, plugging canals and ditches***

- **restore hydrology of forested wetlands***

- **introduce prescribed fire to historic frequency where appropriate to restore condition of marsh/grassland and forests***

- **manage forests toward old growth conditions, implementing appropriate management techniques to develop desired understory structure for high priority birds such as Swainson's Warbler***

- **acquire as much land within the authorized boundary as possible***

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

- **enhance water quality to support aquatic biota necessary to support existing marsh and wetland foraging birds**

- **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

- consider reintroduction of Wild Turkey to upland habitats

Threat Management: The park is subject to a wide range of threats and activities that could negatively impact quantity and quality of habitat for birds and other wildlife. Among these are oil and gas extraction, waterfowl poaching, exotic plants and animals and urban development.

Exploration for and extraction of oil and gas within JELA are perhaps the greatest threats to habitats, and thus birds in the park. JELA owns only the surface rights in the park and subsurface mineral extraction remains a potential viable activity in the park. The exploration and extraction of these minerals could negatively impact large areas of the park. Additionally, transport of these minerals from offshore occurs through the park and the potential for a spill that could impact park habitats is possible. The park is encouraged to:

- **maintain the ongoing program to monitor and manage mineral resources in the park***

- **work with mineral lease holders to avoid or minimize mineral development and extraction within the park***

Significant exotic plants species are negatively impacting habitat at JELA. It is important to establish and continue inventory and monitoring for exotic plant species and continue exotic plant management programs. JELA should coordinate with the Big Thicket Exotic Plant Management Team to remove exotic plant species. The park is encouraged to:

- **implement an aggressive exotic plant eradication program***

Impact of exotic animals on birds at JELA 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 and cats, and Nutria occur in the park and are in need of management. Park managers are encouraged to:

- **eradicate feral hogs where they occur in the park (10 acres)***

- **continue to issue Nutria trapping permits and consider increasing effort to reduce Nutria***

- **manage feral cats where they occur through partnership with local humane society***

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

The US Department of Agriculture, Agricultural and Plant Health Inspection Services (APHIS) Wildlife Services unit (WS) is available to provide reduction capability for exotic animals (see contacts). Cape Hatteras National Seashore has recently completed a feral cat reduction campaign that could be used as a model in JELA (Altman 2002, Harrison 2002).

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***

- **acquire as much land within the authorized boundary as possible***

Additionally, the park is encouraged to:

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

- **hire additional rangers to monitor waterfowl hunting in the park***

- **evaluate waterfowl hunting program to determine impact on wintering waterfowl populations**

Research:

- **determine the value of park's islands to area biogeography***

- **assess feasibility of reintroduction of Wild Turkey***

- **determine park's role in migration ecology of Neotropical migrants***

- **determine role of birds in dispersal of Chinese Tallow***

- **determine impact of waterfowl hunting on wintering waterfowl***

Additionally, the park is encouraged to:

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

- develop contact with Gulf Coast Cooperative Ecosystem Studies Unit (CESU) at the Texas A&M University 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 (US Government 2000) 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

- **participate in International Migratory Bird Day (IMBD) events with a local partner (http://birds.fws.gov/imbd.html) such as the Orleans Audubon Society, Crescent Bird Club, Terrebonne Bird Club, Jean Lafitte Tourist Commission, Barataria-Terrebonne National Estuary Program, etc.***

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

- **continue to play active role in the Wetlands for Waterbirds festival***

- **continue with ongoing outreach and educational programs to enhance visibility of bird conservation issues, which may include organized bird walks, owl prowls, and raptor surveys with the public***

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

- **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***

- **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)**

- contact and partner with the Orleans Audubon Society, Crescent Bird Club, and Terrebonne Bird Club; these groups could be active partners in JELA's bird conservation program

- 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 LABIRD-L, an electronic forum for discussion of birds in Louisiana: subscription: listserv@listserv.lsu.edu; Message subscribe labird-l Your Name

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 Jefferson Parish and local initiatives that could impact park resources***

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

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

- **develop partnership with Louisiana Department of Fish and Wildlife staffs to implement aspects of this plan***

- **contact the Lower Mississippi Valley Joint Venture office (see Funding section for explanation of Joint Ventures) to develop partnerships and funding proposals tiered to priorities established by the park, this ACIP, and the MAV and Waterbird bird conservation plans***

- **contact the Gulf Coast Bird Observatory to establish opportunities to implement portion of this plan (http://www.gcbo.org/)***

- contact and partner with the Orleans Audubon Society, Crescent Bird Club, and Terrebonne Bird Clubs to implement portions of this plan

- 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

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. JELA 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 available through the Park Flight program. Suggestions for JELA 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. JELA is within the operational Lower Mississippi Valley Joint Venture. Contact needs to be made with the coordinator of this Joint Venture to explore 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. The park is encouraged to:

- **the Lower Mississippi River Ecosystem Team and consider participation in their planning efforts**

One 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 have 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 2004, appropriation was approximately $4 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 JELA are:

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APPENDIX A

HIGH PRIORITY SPECIES IN THE MISSISSIPPI ALLUVIAL VALLEY (from Table 3 Twedt et al. 1999)

Priority bird species listed by total PIF concern score, and segregated by entry criteria. Other measures include are of importance and population trends scores, percent of BBS populations, and local migratory status. [Refer to Appendix 2 for scientific names]

Priority Entry Criteria & species	Total PIF score	Concern Scores AI	Concern Scores PT	Percent BBS	Local migratory status[1]
Ia. ***Highest overall priority***					
Swainson's Warbler	29	5	3	20.8	B
Swallow-tailed Kite	28	4	3	25.1	E
Cerulean Warbler	28	3	4	–	E
Ib. ***High overall priority***					
Prothonotary Warbler	24	5	2	34.8	B
Painted Bunting	24	3	5	4.4	B
Red-headed Woodpecker	23	5	5	3.0	D
Bell's Vireo	23	2	3	1.0	B
Northern Parula	23	5	5	6.9	B
Worm-eating Warbler	23	2	3	–	B
Kentucky Warbler	22	3	3	4.7	B
Orchard Oriole	22	5	5	7.4	B
Yellow-billed Cuckoo	22	5	5	6.0	B
Wood Thrush	22	3	3	1.3	B

Priority Entry Criteria & species	Total PIF score	Concern Scores AI	PT	Percent BBS	Local migratory status[1]
White-eyed Vireo	22	4	5	8.4	B
II. ***Physiographic area priority species***					
Yellow-breasted Chat	21	5	5	6.2	B
Northern Bobwhite	20	3	5	–	R
Eastern Wood-Pewee	20	3	5	–	B
Carolina Chickadee	20	4	5	–	R
Loggerhead Shrike	20	4	4	–	R
Field Sparrow	20	3	5	–	D
Baltimore Oriole	20	3	5	–	B
Ruby-throated Hummingbird	19	5	3	7.3	B
Blue-gray Gnatcatcher	19	4	5	–	B
III. ***Additional species: global priority***					
Scissor-tailed Flycatcher	21	3	3	–	B
Dickcissel	21	4	2	5.1	B
Chuck-will's-widow	21	4	3	3.1	B
Prairie Warbler	20	2	3	–	B
IV. ***Additional species: abundant and declining in physiograpic area***					
Indigo Bunting	17	4	5	–	B
Common Grackle	16	5	5	–	D

Priority Entry Criteria & species	Total PIF score	Concern Scores AI	PT	Percent BBS	Local migratory status[1]
Mourning Dove	14	4	5	–	D
Northern Mockingbird	14	4	5	–	D
V. ***Additional species: responsibility for monitoring (>5% BBS)***					
Mississippi Kite	21	4	2	13.4	B
Acadian Flycatcher	20	3	2	5.6	B
Carolina Wren	18	5	3	6.5	R
Red-bellied Woodpecker	18	5	2	6.1	R
Red-shouldered Hawk	17	4	2	9.8	D
Purple Martin	17	5	2	7.8	B
Barred Owl	16	5	2	15.6	R
Northern Cardinal	16	5	2	5.7	R
Black Vulture	12	3	3	8.3	D
VI. ***Federal listed species***					
Bald Eagle	18	3	3	–	D
VII. ***Local, state, or regional interest species***					
Hooded Warbler	21	3	3	–	B
Yellow-throated Warbler	20	3	2	–	B
American Redstart	20	3	3	–	B
Yellow-throated Vireo	20	3	2	–	B

Priority Entry Criteria & species	Total PIF score	Concern Scores AI	PT	Percent BBS	Local migratory status[1]
Summer Tanager	18	2	3	–	B
Pileated Woodpecker	16	4	2	–	R

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 area 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

MISSISSIPPI ALLUVIAL VALLEY
BIRD ASSEMBLAGES AND HABITAT CONSERVATION PRIORITIES
(from Table 5, Twedt et al. 1999)

Priority habitat-species suites generated for the Mississippi Alluvial Valley, with total Partners in Flight score, area of importance score, population trend score, and action level. This table does not include shorebirds, winter birds, or transient birds.

Habitat Species	Total PIF score	AI	PT	Action level[1]
Forested wetlands				
Swainson's Warbler	29	5	3	II
Swallow-tailed Kite	28	4	3	II
Cerulean Warbler	28	3	4	II
Prothonotary Warbler	24	5	2	III
Red-headed Woodpecker	23	5	5	IV
Northern Parula	23	5	5	IV
Kentucky Warbler	22	3	3	IV
Yellow-billed Cuckoo	22	5	5	IV
Wood Thrush	22	3	3	IV
White-eyed Vireo	22	4	5	IV
Mississippi Kite	21	4	2	VI
Acadian Flycatcher	21	3	2	IV
Hooded Warbler	21	3	3	VI
Eastern Wood-Pewee	20	3	5	VI
Carolina Chickadee	20	4	5	VI
Yellow-throated Warbler	20	3	2	VI
American Redstart	20	3	3	V
Yellow-throated Vireo	20	3	2	VI
Baltimore Oriole	20	3	5	VI
Ruby-throated Hummingbird	19	5	3	VI
Blue-gray Gnatcatcher	19	4	5	VI
Bald Eagle	18	3	3	VI
Red-shouldered Hawk	18	4	2	VI
Red-bellied Woodpecker	18	5	2	VI
Carolina Wren	18	5	3	VI
Summer Tanager	18	2	3	VI
Barred Owl	16	5	2	VI
Pileated Woodpecker	16	4	2	VI
Northern Cardinal	16	5	2	VI
Common Grackle	16	5	5	VI

Habitat Species	Total PIF score	AI	PT	Action level[1]
Forest openings, edges, early successional scrub-shrub				
Painted Bunting	24	3	5	III, V
Bell's Vireo	23	2	3	III, V
Orchard Oriole	22	5	5	IV
White-eyed Vireo	22	4	5	IV
Hooded Warbler	21	3	3	IV
Yellow-breasted Chat	21	5	5	IV
Northern Bobwhite	20	3	5	III
Prairie Warbler	20	2	3	IV
Indigo Bunting	17	4	5	VI
Northern Cardinal	16	5	2	VI
Black Vulture	12	3	3	VI
Upland oak-hickory				
Swainson's Warbler	29	5	3	II
Cerulean Warbler	28	3	4	II
Red-headed Woodpecker	23	5	5	III
Worm-eating Warbler	23	2	3	III
Kentucky Warbler	22	3	3	III
Yellow-billed Cuckoo	22	5	5	III
Wood Thrush	22	3	3	III
White-eyed Vireo	22	4	5	IV
Chuck-will's-widow	21	4	3	IV, V
Hooded Warbler	21	3	3	VI
Eastern Wood-Pewee	20	3	5	VI
Carolina Chickadee	20	4	5	VI
Yellow-throated Warbler	20	3	2	VI
American Redstart	20	3	3	VI
Yellow-throated Vireo	20	3	2	VI
Ruby-throated Hummingbird	19	5	3	VI
Blue-gray Gnatcatcher	19	4	5	VI
Red-bellied Woodpecker	18	5	2	VI
Carolina Wren	18	5	3	VI
Summer Tanager	18	2	3	VI
Barred Owl	16	5	2	VI
Pileated Woodpecker	16	4	2	VI
Northern Cardinal	16	5	2	VI
Black Vulture	12	3	3	VI
Grassland/savanna, pastures, and associated wetlands				
Painted Bunting	24	3	5	III, V
Bell's Vireo	23	2	3	III, V

Habitat Species	Total PIF score	AI	PT	Action level[1]
Scissor-tailed Flycatcher	21	3	3	IV
Dickcissel	21	4	2	III
Northern Bobwhite	20	3	5	III
Loggerhead Shrike	20	4	4	II
Prairie Warbler	20	2	3	III
Field Sparrow	20	3	5	III
Urban, suburban, and rural woodlots				
Prothonotary Warbler	24	5	2	III
Red-headed Woodpecker	23	5	5	III
Northern Parula	23	5	5	III
Wood Thrush	22	3	3	III
Mississippi Kite	21	4	2	III
Eastern Wood-Pewee	20	3	5	VI
Carolina Chickadee	20	4	5	VI
Ruby-throated Hummingbird	19	5	3	VI
Blue-gray Gnatcatcher	19	4	5	VI
Red-bellied Woodpecker	18	5	2	VI
Carolina Wren	18	5	3	VI
Purple Martin	17	5	2	VI
Northern Cardinal	16	5	2	VI
Common Grackle	16	5	5	VI
Mourning Dove	14	4	5	VI
Northern Mockingbird	14	4	5	VI

1 – Action levels refer to I – crisis recovery needed, II – immediate management or policy needed rangewide, III- management to reverse or stabilize populations, IV – long term planning needed, V – investigations needed to better define threats, VI – monitor population changes only.

APPENDIX C

Mississippi Alluvial Valley Waterbird Conservation Plan Species Priorities based on Action Level

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
IM						
30	Black Rail	BR/I a	MO2	>75/>90	SECP, GCP, PENFL (Also, Low Responsibility: APPS, PIED)	Vulnerable to losses of high marsh to development and rising seawater and to losses of freshwater marshes across range and perhaps rice in coastal prairies; very little understood about this secretive species.
			MO2	>90/>90	(Also, Low Responsibility: OP, EGCP, MAV)	Northerly breeding populations all presumably winter in southeast U.S.
28	King Rail	BR/I a		>90/>90	GCP, PENFL, SECP, MAV, WGCP, OP	Vulnerable to losses of freshwater marshes and changes from tall to short varieties in farming rice; undergoing steep declines and range retraction.
28	Yellow Rail	NB/I a	MO2	100/100	GCP, SECP, PENFL (Also, Low Responsibility: OP, WGCP, MAV)	Little known, but primary wintering habitats consist of savannas, coastal prairies, ricefields, Carolina Bays and artificial but shallow wetlands, all subject to loss or alteration.
MA						

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
26	Black Skimmer	BR/I b	MO2	~20/~35	GCP (68), SECP (25) (Also High Responsibility: PENFL, Low Responsibility: MAV)	Fairly common along both Atlantic and Gulf coasts. Depends on beaches and spoil islands for nesting, vulnerable to high levels of disturbances. Rooftop nesting not likely a panacea for this species. Regionally about 11,500 pairs.
25	Least Tern (interior subspecies)	BR/I b	MO2	25/>60	interior MAV (60), WGCP (17), OP (11)	Interior subsp. Fed listed, TS= 26 (15% of entire species globally and >90% of subspecies; MAV, WGCP, OP, SECP [KY, TN]). Dependent upon islands and beaches along major rivers and isolated salt flats which fluctuate in availability from year-to-year. Regionally about 5,000 pairs.
24	White Ibis	BR/II b	MO2	~50/100	SECP (44), GCP (26), MAV (17) (Also, II a: PENFL; II c: OP, WGCP)	Populations across coastal plain from NC to FL and westward to TX. Estimates of regional breeding population appears to be constant at about 100,000 pairs during the last 20 years, but shifts in geographical distribution has occurred. Collapse of breeding populations in STFL has occurred since the 1930's , with corresponding increases underway in the Carolinas and more recently Louisiana. subject to economic conflicts
24	Gull-billed Tern	BR/I b	MO2	6/>90	GCP (81), SECP (17) (Also, Low Responsibility: MAV, PENFL)	Locally distributed across both Atlantic and Gulf coasts. Depends on beaches and spoil islands for nesting, vulnerable to high levels of disturbances especially on beaches, but does respond positively to artificial spoil islands. Regionally about 3,000 pairs. subject to economic conflicts
23	Wood Stork (Mexican Breeding populations)	NB/II a	MO2	>33/>80	Non-breeding GCP, MAV, WGCP, SECP [EGCP; II b] (Also, II b: TAMB)	Mexican breeding populations regularly occur during post-breeding dispersal streaming northward, and SE US breeding populations also disperse northward and may mix with Mexican populations in e MS. subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
22 (non-breed pops.)	American White Pelican	NB/II b	MO2	>67/>67	GCP (II c), MAV, PENFL (II c), SECP [EGCP; II c]	Major wintering populations (~100,000 individuals) along Gulf Coast from TX and Tam. to FL, with populations also on Atlantic Coast of PENFL (rare further north). Generally considered secure, but increasing conflict with aquacultural interests is leading towards higher numbers of depredation permits, especially in Mississippi Alluvial Plain. Major die-offs from botulism (Salton Sea, CA) and chemical poisoning (Lake Apopka, FL) in recent years also causes for concern.
18 (breed pops.)		BR/IV	MO1	<1/<1	GCP (100; IV)	Breeding colonies in Central Texas (~400 pairs) and in Tamaulipas (?). subject to economic conflicts
22	Least Bittern	BR/II a	MO2	>25/>50	GCP (II c), PENFL (Also, I b: MAV, SECP)	Breeding populations through most of the region outside Appalachians, but overall status unclear outside of GCP and PENFL. Populations north of FL withdraw to the tropics during winter. Potentially vulnerable to losses of freshwater emergent wetlands.
22	Little Blue Heron	BR/I b		~25/>90	MAV (30), GCP (22), WGCP (18), SECP (12), OP (11)	Only widespread long-legged wader to be undergoing nearly rangewide declines in the region for reasons that are not presently understood. Possible negative interaction with Cattle Egrets that nest about the same time and often are reported to replace this species at many colony sites. subject to economic conflicts
22	Purple Gallinule	BR/II a	MO2	<25/100	GCP, PENFL (II b) (Also, II a: SECP; II b: OP, WGCP, MAV)	Breeding mostly along coastal plain from SC to TX and Tam., most populations outside of Florida withdrawing into the tropics. Vulnerable to losses of freshwater wetlands regionwide, changes from tall to short varieties in farming rice may have led to steep declines in LA coastal prairies. subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
21	Green Heron	BR/II a	MO2	>10/>33	PENFL, GCP (IV) (Also, II a: SECP; IV all inland BCR's)	Occurs commonly regionwide, many withdraw from north to south during winter. Nests in loose colonies or singly, vulnerable to loss of riparian woodlands. subject to economic conflicts
21 (trans. pops.)	Common Tern	NB/II a	MO2	>33/>66	SECP, PENFL, GCP (Also, II a: MAV)	Transient populations breeding to the north of region. Major migration stop-over sites should be identified and protected from excessive disturbance.
20 (breed pops.) 17 (non-breed.)	American Coot	BR/ II a		<10/<25 (Breeding) <25/<33 (Non-breeding)	GCP (IV), PENFL (Breeding) (Also, II b: SECP) GCP, PENFL, SECP, MAV, WGCP (Non-breeding)	Scattered breeding populations across the region, but most in FL and TX where apparent declines are most evident. Vulnerable to freshwater wetland losses. Major influxes during winter of northern breeding birds, stable overall. Wintering coot populations represent an important connection in the spread of AVM, a disease that is still poorly understood resulting in high mortality of the coots themselves (and waterfowl) as well as Bald Eagles that feed on dead coots, especially in Arkansas, but also Georgia, South Carolina, and North Carolina. subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
19 (breed pops.) 17 (non-breed)	Pied-billed Grebe	BR/II b	MO2	<10/<25 (Breeding) <25/<33 (Non-breeding)	GCP, PENFL (II a), TAMB (Also, II b: MAV, SECP) (Breeding) GCP, PENFL, SECP, MAV (Non-breeding)	Breeding populations locally distributed in region, all vulnerable to losses of freshwater wetlands. Major influxes during winter of northern breeding birds, stable overall. subject to economic conflicts
19	Black-crowned Night-Heron	BR/II a	MO2	>10/>25	GCP (IV) (Also, II a: SECP, STFL; IV: MAV, PENFL)	Populations scattered across region, no clear concentration areas, many withdraw from north to south during winter. Nesting colonies vulnerable to loss of riparian woodlands. subject to economic conflicts
22	Black Tern	NB/II a	MO2	>50/>50	GCP, PENFL, SECP (Also, II a: MAV; II c: EP, OP, WGCP, TAMB)	Transient populations breeding to the north of region. Major migration stop-over sites should be identified and protected from excessive disturbance.
21	Yellow-crowned Night-Heron	BR/II a	MO1	>25/80	GCP (II a), MAV (II a), PENFL [STFL; II a]) (Also, II b: WGCP, PENFL; IV: SECP)	Populations scattered across region, no clear concentration areas, outside of LA, TX, and FL. Many withdraw from north to south during winter. Nesting colonies vulnerable to loss of riparian woodlands. Foraging specialist on crustaceans. Stable or possibly increasing in LA, but possibly declining in FL and TX subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
20	Tricolored Heron	BR/II c	MO2	~33/>90	GCP (59; IV), SECP (18; II a), MAV (18)	Populations mostly concentrated along Gulf and Atlantic Coasts Regionally about 35,000 pairs. subject to economic conflicts
17	Anhinga	BR/IV	MO2	5/100	SECP (44), PENFL (37), MAV (10) (Also, II a: PENFL [STFL])	Fairly common in summer generally along coastal plain from NC to FL and then west to TX and Tam. Most populations north of FL withdraw to the tropics during winter. About 10,500 pairs. Vulnerable to colony disturbances and occasionally depredation control at aquaculture, especially where cormorants co-occur. Generally populations appear stable. subject to economic conflicts
17	Roseate Spoonbill	BR/IV	MO2	2/100	GCP (87), PENFL (10 [II a: STFL]) (Also, IV: MAV)	This species historically has been restricted in the SE US to FL, LA, and TX. Was severely depleted during millinery trade through market hunting and has since recovered in most areas formerly occupied by this species. Regionally about 5,000 pairs. Apparently stable or increasing over most of US range, major exception is potential collapse of breeding populations in STFL, but species appears to have increased in PENFL like many other long-legged waders. subject to economic conflicts
16	Common Moorhen	BR/IV	MO2	<10/>50	GCP, PENFL (Also, IV: OP, WGCP, MAV, SECP, TAMB)	Common along coastal plain from NC to FL and then west to TX and Tam. Then north through TX into OK. Northern populations withdraw southward during winter. Stable or increasing , with exception of SACP. subject to economic conflicts
16	Great Egret	BR/IV		>20/>90	SECP (24), GCP (22), MAV (21), PENFL (14; II a), WGCP (12)	Vulnerable to colony disturbance and among the most commonly requested species for depredation permits related to fish hatcheries and aquaculture. subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
16	Snowy Egret	BR/IV		>10/>50	GCP (37), MAV (24), SECP (15) (Also, IV: WGCP, PENFL)	Vulnerable to colony disturbance and among the most commonly requested species for depredation permits related to fish hatcheries and aquaculture. subject to economic conflicts
15	White-faced Ibis	BR/IV		4/40	GCP [99; LA] (Also, II a: GCP [cTX])	Breeding/resident populations mostly along TX and LA coasts. TX numbers augmented during winter from populations breeding in Great Plains and possibly Great Basin. Regionally about 18,000 pairs. subject to economic conflicts
14	Great Blue Heron	BR/IV		>20/>25	SECP (39), MAV (20), WGCP (15) (Also, II a: PENFL)	Common throughout region, less so along coasts during summer. Vulnerable to colony disturbance and among the most commonly requested species for depredation permits related to fish hatcheries and aquaculture. subject to economic conflicts
14	Glossy Ibis	BR/IV		<1/>50	SECP (44), PENFL (29; II a), MAV (26)	Generally increasing across most of range, but in FL peaked in 1970's and is undergoing declines since, with major declines in STFL. Also possibly declining SACP. subject to economic conflicts
PC						
14 (breed) 18 (non-breed)	Double-crested Cormorant			1/1 (breeding) >50/>50 (non-breeding)	PENFL (75), SECP (20) (breeding) MAV, SECP, GCP, WGCP, PENFL (non-breeding)	Breeding principally in FL and north along Atlantic coastlines. Species was largely absent as a breeder inland during most of 1900's, due to both shooting and contaminants, but recent establishment of small inland nesting colonies in MS, LA, and AR are generally in historically known breeding areas; similar recent breeding in Piedmont may be new to region in historical times. Regionally about 10,000 pairs. Since 1970's, hundreds of thousands now winter in SE US. In MAV and other inland areas the subject of major controversies involving depredation of both sport and aquaculturally raised fish. subject to economic conflicts

AL/Tot. Score SE US	Species	Res./ Cons. Tier	MO	Perc. of Glob./US-Can. Pop.	BCR's with High Resp. And Interest SE US	Conservation Notes
13	Cattle Egret	BR/IV		>10/>80	OP (22), WGCP (22), GCP (18), SECP (17), MAV (10) (Also, IV: PENFL)	Expansion from eastern Hemisphere to western Hemisphere during early 1900's. From South America through West Indies to FL during mid-1900's. Abundant by 1960's and has spread across region and beyond to becoming the most abundant long-legged "wader" in North America. This species feeds primarily on insects and terrestrial vertebrates rather than fish and crustaceans. Regionally, over 300,000 pairs. subject to health and safety conflicts

***Definitions:**

WL=WatchList score used for Continental Scoring (PIF Approach); species with WL scores of 14 or more, or with 13 with PT=5 are identified. using formula: Total Continental Score = PT + PS + maximum of (BD or ND) + maximum of (TB or TN). Reflects conservation status of species relative to the entirety of North America.

Tier=

I. Continental Conservation Interest (Continental WatchList): (a) Species with multiple causes for concern across their entire range; (b) Moderately abundant or widespread species with declines or high threats, and (c) Species with restricted distributions or low population size.

II. Regional Conservation Interest (non-WatchList; TOT$\geq$19): (a) high regional concern (AI+PT$\geq$8); (b) high regional threats (TB+TN$\geq$7, or TB or TN=5), (d) taxa (subspecies and populations) of regional conservation interest not otherwise included in categories above; (c) high regional responsibility (as measured by percent of global, continental, or regional populations).

III Additional Stewardship Interest: (a) Federally listed and (b) State listed, with AI$\geq$2.

IV Local concern or interest, with AI $\geq$2.

Regional Total Score of all seven factors used for identifying Tiers for which species best fits for conservation planning at Planning Region/Bird Conservation Region/Physiographic Area: PT=Regional Population Trend; PS=Global Population Size, BD and ND=Global Breeding and Non-breeding Distribution, respectively; TB and TN=Regional Breeding and Non-breeding Threats, respectively; AI=Area Importance ("relative" relative abundance for the species for each area within range scaled against its maximum relative abundance; i.e., the BCR or physiographic area supporting the highest relative abundance). Total Score possible is 35.

Percent of global/U.S.-Canada population supported in Planning Region, that is percent of populations within planning region with respect to global population estimates (Delany and Scott 2002, Kushlan et al.2002) and temperate North America (U.S.-Canada) and within bird conservation region and physiographic area with respect to planning region estimates (based on collective estimates among State waterbird conservation coordinators).

Action Level at present based on expert opinion, but ultimately rules based on scores would be preferable, as with landbirds (PIF).

IM=Immediate management needed to reverse or stabilize significant, long-term population declines in species with small populations, or to protect species with the smallest populations for which trends are poorly known. Lack of action may lead to extirpations or extinction.

MA=Management or other on-the-ground conservation actions needed to reverse or stabilize significant, long-term population declines in species that are still relatively abundant.

PR=Long-term Planning and Responsibility needed for species to ensure that sustainable populations are maintained for species for which a region has high responsibility for that species.

PC=Population Control/Suppression needed for species that are otherwise secure and increasing that may come ino conflict with other species of higher conservation concern or other resources of interest.

Monitoring Needs Categories

No Trend Data (MO1) - These species are found on fewer than 14 BBS routes continentally (or 6 routes regionally) and do not have other identified range-wide trends. Thus, they have inadequate trend data.

Poor Trend Data (MO2) - These are species for which (1) we do have BBS trends but those trends have high variance (large 95% confidence intervals) and therefore a relatively poor ability to detect a 50% decline over 30 years, or (2) we assigned a PT score based on Christmas Bird Count trend graphs or other available local information.

Inadequate Geographic Coverage (MO3) - These species have BBS trend data but less than 2/3 of their North American (Canada + U.S.) range is covered by the BBS. Thus, significant regional population declines might go undetected.

Bird Conservation Regions

EP (BCR 20): Edwards Plateau (TX)
OP (BCR 21): Oaks and Prairies (TX, OK)
WGCP (BCR 25): West Gulf Coastal Plain-Ouachita Mountains (OK, AR, TX, LA)
MAV (BCR 26): Mississippi Alluvial Valley (IL, MO, KY, TN, MS, AR, LA)
SECP (BCR 27): Southeastern Coastal Plain (KY, TN, LA, MS, AL, FL, GA, SC, NC, VA)
SACP: South Atlantic Coastal Plain (VA, NC, SC, GA, FL east of Apalachicola watershed)
EGCP: East Gulf Coastal Plain (KY, TN, LA, MS, AL, FL west of Apalachicola watershed)
APPS (BCR 28): Appalachians (AL, TN, KY, WV, OH, GA, SC, NC, VA, MD, PA, NY, NJ); many distinct physiographic areas with emphasis here on the Southern Appalachians including Southern Blue Ridge, Southern Ridge and Valley and Southern Cumberland Plateau, Northern Cumberland Plateau, (less emphasis on Mid Atlantic Ridge and Valley and Allegheny Mountains, and Ohio Hills). With the exception of Great Blue Heron and Green Heron found throughout this BCR, almost all species treated here when recorded in the Appalachians are mostly restricted to the Southern Ridge and Valley especially along the Tennessee River Valley (AL, TN, GA)
PIED (BCR 29): Piedmont (AL, GA, SC, NC, VA, MD, PA, NJ) with emphasis here on Southern Piedmont (AL, GA, SC, NC)
PENFL (BCR 31); Peninsular Florida (FL)
PENFL: Peninsular Florida, essentially north of Lake Okeechobee (Fort Myers and northward on Gulf side, Fort Lauderdale on Atlantic side) on to northern extent of black mangrove on both coasts and Florida scrub.
STFL: Subtropical Florida, essentially south from Lake Okeechobee (Fort Myers and Fort Lauderdale) to include Florida Keys, Dry Tortugas
TAMB (BCR 36): Tamaulipan Brushlands (TX, Tam.)
GCP (BCR 37): Gulf Coastal Prairies (LA, TX)
LA: Louisiana including both Deltaic and Chenier Plains
UTX: Upper Texas Coast from Sabine River to East Matagorda Bay

CTX: Central Texas Coast from east Matagorda Bay to Baffin Bay
STX/Tam.:South Texas Coast from Baffin Bay (Tamaulipan Prairies, Laguna Madre, Padre Island) south into Tamaulipas, Mexico.

BCR's considered to have high responsibility for species conservation were determined for breeding species by having input from all state cooperators on estimated population sizes (numbers of pairs) for each BCR in their state, then totaled across states, and then taking a percentage of all pairs estimated for the region. All BCR's supporting at least 10% of all breeding pairs with in the region are identified above in decreasing order. For breeding species where there are not breeding population size estimates and for species principally occurring only as non-breeding populations, estimates are best guesses based on range maps within the Southeast.

APPENDIX D

Southeast U.S. Waterbird Conservation Plan species priorities and habitat suites (b=breeding, r=resident, w=winter, r=resident).*

Tier	Tier Title	Action Level	Herons and allies, Pelicans and allies typically brush and tree nesting colonial waterbirds	Larids typically beach (ground)-nesting colonial waterbirds (terns, gulls, skimmers)	Marshes/ Savannas/ Grasslands	Open water (with mud and sand flats also foraging habitat for most colonial species)	Pelagic (all non-breeding populations)
I.	**Continental Conservation Interest**						
a.	**Multiple concerns**	*Immediate management*	"Great White" Heron		Black Rail (b/r)		Bermuda Petrel
					King Rail (b/r)		Black-capped Petrel
					Yellow Rail (w)		
					Whooping Crane (w-TX, r-FL)		
b.	**High threats and/or declining**	*Immediate management*		Roseate Tern		Horned Grebe (w)	Audubon's Shearwater
		Management attention	Little Blue Heron	Gull-billed Tern			Greater Shearwater
				Least Tern			Band-rumped Storm-Petrel
				Black Skimmer			Bridled Tern
		Planning and responsibility	Masked Booby				Brown Booby
							Razorbill
c.	**Local and/or rare**	*Immediate Management*	Magnificent Frigatebird				
			Reddish Egret				
		Management attention					Cory's Shearwater
							Manx Shearwater
		Planning and responsibility		Bridled Tern			

Tier	Tier Title	Action Level	Herons and allies, Pelicans and allies typically brush and tree nesting colonial waterbirds	Larids typically beach (ground)-nesting colonial waterbirds (terns, gulls, skimmers)	Marshes/ Savannas/ Grasslands	Open water (with mud and sand flats also foraging habitat for most colonial species)	Pelagic (all non-breeding populations)
II.	**Regional Conservation Interest**						
a.	**High Concern**	Immediate Management	Wood Stork (b/r, FL, GA, SC, AL))		Least Bittern (b/r)	Red-throated Loon (w)	Sooty Shearwater
		Management attention	Green Heron		Purple Gallinule (b/r)	Common Tern (transient populations)	
			Black-crowned Night-Heron		American Coot (breeding populations only)	Black Tern (transient populations)	
			Wood Stork (nb, MS, LA, TX, AR, elsewhere)		Limpkin (r)		
					American Bittern (w)		
		Planning and responsibility	Yellow-crowned Night-Heron	Royal Tern			
				Sandwich Tern			
b.	**High Threats**	*Immediate management*			Sandhill Crane (Mississippi subspecies)		
		Management attention	White Ibis	Common Tern (Atlantic and Gulf coast breeding populations only)	Pied-billed Grebe (breeding populations only)	Greater Flamingo (formerly bred)	Northern Gannet
						Common Loon (w)	
						American White Pelican (w)	

Tier	Tier Title	Action Level	Herons and allies, Pelicans and allies typically brush and tree nesting colonial waterbirds	Larids typically beach (ground)-nesting colonial waterbirds (terns, gulls, skimmers)	Marshes/ Savannas/ Grasslands	Open water (with mud and sand flats also foraging habitat for most colonial species)	Pelagic (all non-breeding populations)
II.							
c.	**High Responsibility**	*Planning and responsibility*	Brown Pelican	Forster's Tern (actually nests in marshes)	Clapper Rail (r)	Franklin's Gull (transient populations)	Sooty Tern
			Tricolored Heron	Sooty Tern (Florida breeding population only; nests under cover)	Sandhill Crane (Florida subspecies)	Bonaparte's Gull (w)	Brown Noddy
				Brown Noddy (Florida breeding population only; elevated nests in shrubs, trees)	Sandhill Crane (Greater, Lesser, and Canadian subspecies)		
III.	**Additional Federal and State Listed Species**						
IV.	**Additional local or regional interest**	*Planning and responsibility*	Anhinga	Caspian Tern	Least Grebe (r)	Eared Grebe (w)	
Tier	**Tier Title**	**Action Level**	**Herons and allies, Pelicans and allies typically brush and tree nesting colonial waterbirds**	**Larids typically beach (ground)-nesting colonial waterbirds (terns, gulls, skimmers)**	**Marshes/ Savannas/ Grasslands**	**Open water (with mud and sand flats also foraging habitat for most colonial species)**	**Pelagic (all non-breeding populations)**
			Great Blue Heron		Common Moorhen (b/r)		
			Great Egret		Virginia Rail (w)		
			Snowy Egret		Sora (w)		
			Glossy Ibis				
			White-faced Ibis				
			Roseate Spoonbill				
IV.		*Population Control*	Neotropical Cormorant	Laughing Gull			
			Double-crested Cormorant	Herring Gull			
			Cattle Egret	Great Black-backed Gull			

Tier	Tier Title	Action Level	Herons and allies, Pelicans and allies typically brush and tree nesting colonial waterbirds	Larids typically beach (ground)-nesting colonial waterbirds (terns, gulls, skimmers)	Marshes/ Savannas/ Grasslands	Open water (with mud and sand flats also foraging habitat for most colonial species)	Pelagic (all non-breeding populations)
	Other species covered in this plan					Pied-billed Grebe (non-breeding populations)	Wilson's Storm-Petrel
						American Coot (non-breeding populations)	Leach's Storm-Petrel
						Ring-billed Gull	Pomarine Jaeger
						Lesser Black-backed Gull	Parasitic Jaeger
							Black-legged Kittiwake
							Dovekie

*See Appendices I-III.

Tier=

I. Continental Conservation Interest (Continental WatchList): (a) Species with multiple causes for concern across their entire range; (b) Moderately abundant or widespread species with declines or high threats, and (c) Species with restricted distributions or low population size.

Species with multiple causes for concern across their entire range: These species are considered by many to be of highest continental concern and of highest priority for conservation actions at national and international scales.

Moderately abundant or widespread species with declines or high threats: These species are on the Watch List primarily because they are declining and/or threatened throughout their range, though still fairly widespread or with moderately large populations.

Species with restricted distributions or low population size: These species are on the Watch List because they are restricted to a small range or have small global populations (often both). Many of these species are not known to be declining or seriously threatened at present, but many others. We recognize that these species with small populations and restricted range are particularly vulnerable to relatively minor changes from current conditions, whether or not their populations are currently in decline.

II. Regional Conservation Interest (non-WatchList; TOT$\geq$19): (a) high regional concern (AI+PT$\geq$8); (b) high regional threats (TB+TN$\geq$7, or TB or TN=5) and includes taxa (subspecies and populations) of regional conservation interest not otherwise included in categories above; (c) high regional responsibility (as measured by percent of global, continental, or regional populations).

III Additional Federally and/or State listed.

IV Local or regional concern or interest.

Act. Level=Action Level at present based on expert opinion, but ultimately rules based on scores would be preferable.

IM=Immediate management needed to reverse or stabilize significant, long-term population declines in species with small populations, or to protect species with the smallest populations for which trends are poorly known. Lack of action may lead to extirpations or extinction.

MA=Management or other on-the-ground conservation actions needed to reverse or stabilize significant, long-term population declines in species that are still relatively abundant.

PR=Long-term Planning and Responsibility needed for species to ensure that sustainable populations are maintained for species for which a region has high responsibility for that species.

PC=Population Control/Suppression needed for species that are otherwise secure and increasing that may come into conflict with other species of higher conservation concern or other resources of interest.

APPENDIX E

RARE, THREATENED AND ENDANGERED BIRDS OF LOUISIANA (JULY 9, 1996)

Scientific Name	Common Name	State Rank	Global Rank	FWS
ACCIPITER COOPERII	COOPER'S HAWK	S2B	G4	
AIMOPHILA AESTIVALIS	BACHMAN'S SPARROW	S3	G3	C2
AJAIA AJAJA	ROSEATE SPOONBILL	S2	G5	
AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW	S3N	G4	C2
AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW	S3	G5	
AQUILA CHRYSAETOS	GOLDEN EAGLE	S1N	G4	
ASIO FLAMMEUS	SHORT-EARED OWL	S2S3?N	G5	
CAMPEPHILUS PRINCIPALIS	IVORY-BILLED WOODPECKER	SH	G1	LE
CARACARA PLANCUS	CRESTED CARACARA	S1	G5	LTNL
CHARADRIUS ALEXANDRINUS	SNOWY PLOVER	S1B,S2N	G4	
CHARADRIUS MELODUS	PIPING PLOVER	S2N	G3	LELT
CHARADRIUS WILSONIA	WILSON'S PLOVER	S3B	G5	
CHONDESTES GRAMMACUS	LARK SPARROW	S2S3B	G5	
COLUMBINA PASSERINA	COMMON GROUND-DOVE	S1	G5	
DENDROICA CERULEA	CERULEAN WARBLER	S1B	G4	C2
DENDROICA PETECHIA	YELLOW WARBLER	SAB	G5	
EGRETTA RUFESCENS	REDDISH EGRET	S2	G4	C2
ELANOIDES FORFICATUS	AMERICAN SWALLOW-TAILED KITE	S1S2B	G5	
FALCO PEREGRINUS	PEREGRINE FALCON	S2N	G4	E(S/A)
GRUS AMERICANA	WHOOPING CRANE	SH	G1	LE
GRUS CANADENSIS	SANDHILL CRANE	S1N	G5	
HAEMATOPUS PALLIATUS	AMERICAN OYSTERCATCHER	S1B	G5	
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	S3B	G4	LTNL
HELMITHEROS VERMIVORUS	WORM-EATING WARBLER	S3S4B	G5	
LATERALLUS JAMAICENSIS	BLACK RAIL	S2?N	G4?	C2
LOPHODYTES CUCULLATUS	HOODED MERGANSER	S2B	G5	
NUMENIUS BOREALIS	ESKIMO CURLEW	SH	G1	LE
PANDION HALIAETUS	OSPREY	S2B	G5	
PELECANUS ERYTHRORHYNCHOS	AMERICAN WHITE PELICAN	S3N	G3	
PELECANUS OCCIDENTALIS	BROWN PELICAN	S2	G4	LENL
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	S2	G2	LE
PLEGADIS FALCINELLUS	GLOSSY IBIS	S2	G5	
SCOLOPAX MINOR	AMERICAN WOODCOCK	S1B	G5	

Scientific Name	Common Name	State Rank	Global Rank	FWS
SEIURUS MOTACILLA	LOUISIANA WATERTHRUSH	S3B	G5	
SETOPHAGA RUTICILLA	AMERICAN REDSTART	S3B	G5	
SITTA CAROLINENSIS	WHITE-BREASTED NUTHATCH	S2	G5	
SPEOTYTO CUNICULARIA	BURROWING OWL	S1S2?N	G4	
STERNA ANTILLARUM ATHALASSOS	INTERIOR LEAST TERN	S1B	G4T2Q	LENL
STERNA CASPIA	CASPIAN TERN	S1S2B	G5	
STERNA FUSCATA	SOOTY TERN	S1B	G5	
STERNA NILOTICA	GULL-BILLED TERN	S2B	G5	
VERMIVORA BACHMANII	BACHMAN'S WARBLER	SH	G1	LE
VIREO BELLII	BELL'S VIREO	SHB	G5	
VIREO GILVUS	WARBLING VIREO	S1B	G5	

Federal Status

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.

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 Louisiana, e.g. formally part of the established biota, with the expectation that it may be rediscovered.
SU	Can not 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 Louisiana, but not yet documented by DNH
_N	Occurs in Louisiana in a non-breeding status (several birds)
_B	Breeds in Louisiana
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 Louisiana
SSYN	Synonym for another species
_Q	Questionable taxonomy (GRANKS only)
_T#	Subspecific taxon rank (GRANKS only)

APPENDIX F

USFWS SPECIES OF CONSERVATION CONCERN (2002) in the MISSISSIPPI ALLUVIAL VALLEY (BCR 26)

American White Pelican
Little Blue Heron
Swallow-tailed Kite
Mississippi Kite
Peregrine Falcon
Yellow Rail
Hudsonian Godwit
Marbled Godwit
Stilt Sandpiper
Buff-breasted Sandpiper
Short-eared Owl
Red-headed Woodpecker
Bell's Vireo
Sedge Wren
Wood Thrush
Northern Parula
Cerulean Warbler
Prothonotary Warbler
Swainson's Warbler
Henslow's Sparrow
Le Conte's Sparrow
Smith's Longspur
Painted Bunting
Rusty Blackbird
Orchard Oriole