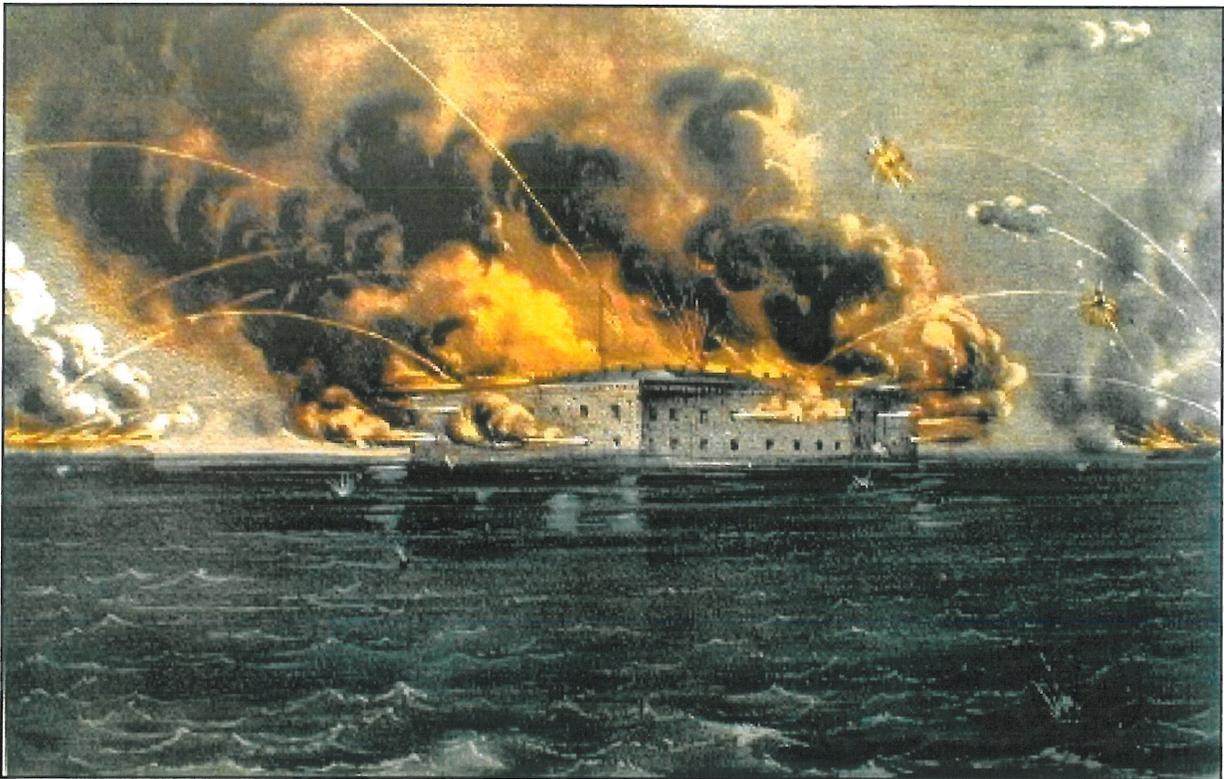


DRAFT

Avian Conservation Implementation Plan
Fort Sumter National Monument and
Fort Moultrie National Monument
Charles Pinckney National Historic Site

National Park Service
Southeast Region



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

FOSU Resource Management Staff, National Park Service
And Bird Conservation Partners
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Introduction

This Avian Conservation Implementation Plan (ACIP) is provided to the staff at Fort Sumter National Monument (FOSU), Fort Moultrie National Monument (FOMO), and Charles Pinckney National Historic Site (CHPI) to serve as guidance to identify, document, and undertake bird conservation activities in the parks and with neighboring communities, organizations, and adjacent landowners. Because management of each of the parks is centralized under FOSU, hereafter, these parks will be referred to as FOSU. This plan may identify goals, strategies, partnerships, and perhaps specific projects allowing the park to participate in existing bird conservation planning and implementation efforts associated with the North American Bird Conservation Initiative (NABCI). Under the auspice of NABCI, appropriate bird and habitat conservation goals may be recommended as identified in the appropriate existing national or regional bird conservation efforts aligned with this initiative: Partners In Flight (PIF), North American Waterfowl Management Plan (NAWMP), US Shorebird Conservation Plan (USSCP), and Waterbird Conservation for the Americas (WCA). Because FOSU is largely an historical park with minimal natural habitats, the content of this plan will focus more on outreach activities and internal management rather than habitat restoration, protection, and management and habitat based bird conservation activities. However, all high priority bird conservation issues for FOSU will be discussed and integrated as appropriate.

Information and data presented in the ACIP have been obtained from several sources: interviews with FOSU staff and the PIF South Atlantic Coastal Plain Bird Conservation Plan, Version 1.0 (Anderson et al. 2000). This plan has been reviewed by FOSU resource management staff and managers, Southeast Coast Inventory and Monitoring Network (SEC I&M) staff, and bird conservation partners and approved by FOSU management. Optimally, this plan will be incorporated into the park's planning and management documents updated annually to reflect completed projects, newly identified needs, and shifts in bird conservation priorities in the region.

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

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

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

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

The Southeastern Bird Conservation Initiative: National Park Service: In 1999, the Southeast Region of the National Park Service (NPS) recognized the importance of coordinating existing bird conservation goals into planning and operations of national park units in the southeast, that is, integration of NABCI. In support of this recognition, the Southeast Regional Office NPS approved and allocated eighty-eight thousand

dollars, cost sharing 1:1 with the US Fish and Wildlife Service (FWS) Region 4 (Southeast) to hire a biologist to conduct this two-year project (Interagency Agreement FS028 01 0368). This project is unique in the NPS, and perhaps the nation, and represents a potential model for better coordinating regional bird conservation programs and activities within and outside the NPS. It further represents a progressive action toward institutionalizing bird conservation as a programmatic priority in the Southeast Region of NPS and potentially the nation.

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

- 1) Development and delivery of Avian Conservation Implementation Plans (ACIP),
- 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 FOSU and with adjacent partners or landowners.

Concurrently, the development of a Memorandum of Understanding (MOU) between the FWS and the NPS (Appendix A) to implement Presidential Executive Order (EO) 13186, **Responsibilities of Federal Agencies to Protect Migratory Birds**, 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** (March 2000), a visionary document developed and signed by the Southeast Natural Resource Leaders Advisory Group (SENRLAG), 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 Policies (2001) including but not limited to External Threats and Opportunities (Chapter 1.5), Environmental Leadership (Chapter 1.6), Cooperative Planning (Chapter 2.3.1.9), Land Protection (Chapter 3), and especially Natural Resource Management (Chapter 4) that details policy and management guidelines which apply to bird conservation. Important policies in this chapter include:

- Planning for Natural Resource Management (4.1.1)
- Partnerships (4.1.4)
- Restoration of Natural Systems (4.1.5)
- Studies and Collection (4.2)
- General Principles for Managing Biological Resources (4.4.1)
- Plant and Animal Population Management Principles (4.4.1.1)
- Management of Native Plants and Animals (4.4.2)
- Management of Endangered Plants and Animals (4.4.2.3)
- Management of Natural Landscapes (4.4.2.4)
- Management of Exotic Species (4.4.4)
- Pest Management (4.4.5)
- Fire Management (4.5) and
- Water Resource Management (4.6)

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, Fort Sumter National Monument), national parks (Great Smoky Mountains National Park, Everglades National Park), national recreation areas (Big South Fork National River and Recreation Area), national preserves (Big Cypress National Preserve), national battlefields (Cowpens National Battlefield, Fort Donelson National Battlefield), national monuments (Fort Matanzas National Monument, Ocmulgee National Monument), and others such as the Blue Ridge Parkway, Obed Wild and Scenic River, and Timicuan Ecological and Historic Preserve.

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

Additionally, the NPS attracts over 280 million visitors to the parks each year, 120 million of these in the Southeast Region, affording excellent recreational bird watching and opportunities to strengthen bird conservation interpretation, outreach, and education programs. These opportunities, the NPS mission, policies, and organization all lead to the conclusion that the NPS is an extremely valuable partner and contributor to bird conservation in the region.

Nationally, the status of birds in national parks is largely unknown, although many parks have adequate knowledge regarding bird occurrence in the parks (<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/chekbird.htm>). Parks often play a role in ongoing regional bird conservation efforts. Indeed many of these parks

are often important to regional, national, or international bird conservation, and many have been designated as Important Bird Areas (IBA's) by the National Audubon Society. To date, there are approximately 64 NPS units that are designated IBA's, 35 of which are considered of global importance (<http://abcbirds.org/iba/aboutiba.htm>). In the Southeast Region, the NPS has 13 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 (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

Fort Sumter National Monument consists of 30 ha (122 acres) of land and 50 ha (77 acres) of submerged area located at the mouth of Charleston harbor and on nearby Sullivan's Island, South Carolina. The park's two major features are Fort Sumter, site of the Civil War's first engagement, and the somewhat older Fort Moultrie. Historic Fort Sumter is influenced dramatically by the surrounding natural elements. The remaining acreage is located on Sullivan's Island and in Charleston. Adjacent to the park, but outside its boundaries, are shoals, islands, and marshes important to the Fort Sumter

scene. Two endangered species, the manatee and the loggerhead turtle, migrate through the waters adjacent to the park, but do not live or nest within the park itself.

A Servicewide issue potentially threatening Fort Sumter is sea level rise. At present, sea level rise is approximately 1.3 millimeters per year, but many experts believe this rate may accelerate in coming decades. An annual increase in sea level, no matter how small, over a long period of time would upset coastal dynamics in the Charleston area and could eventually pose a direct threat to Fort Sumter and Fort Moultrie.

Harbor dredging is another major concern. Dredging is necessary in order to maintain Charleston as a viable seaport; however, it negatively impacts Fort Sumter's marine ecosystems as well as disturbing the historic viewshed by creating spoil banks on nearby barrier islands. The park staff continues to monitor dredging activities within the harbor, working with the Army Corps of Engineers and local authorities to mitigate the impact of dredging on the historic scene whenever possible.

The 11 ha (28 acres) Charles Pinckney National Historic Site (CHPI) was established under Public Law 100-421 and is a relatively new addition to the National Park Service. It is a rural vernacular landscape in use from 1695 until the 1980's, and was actually a working farm until the 1960's when nearly 700 acres were sold for development. The grounds include three acres of wetlands, eight acres in mixed hardwoods and pines, and ten acres of open pasture. The site, which fronts Long Point Road, a scenic highway, is surrounded by suburban housing developments.

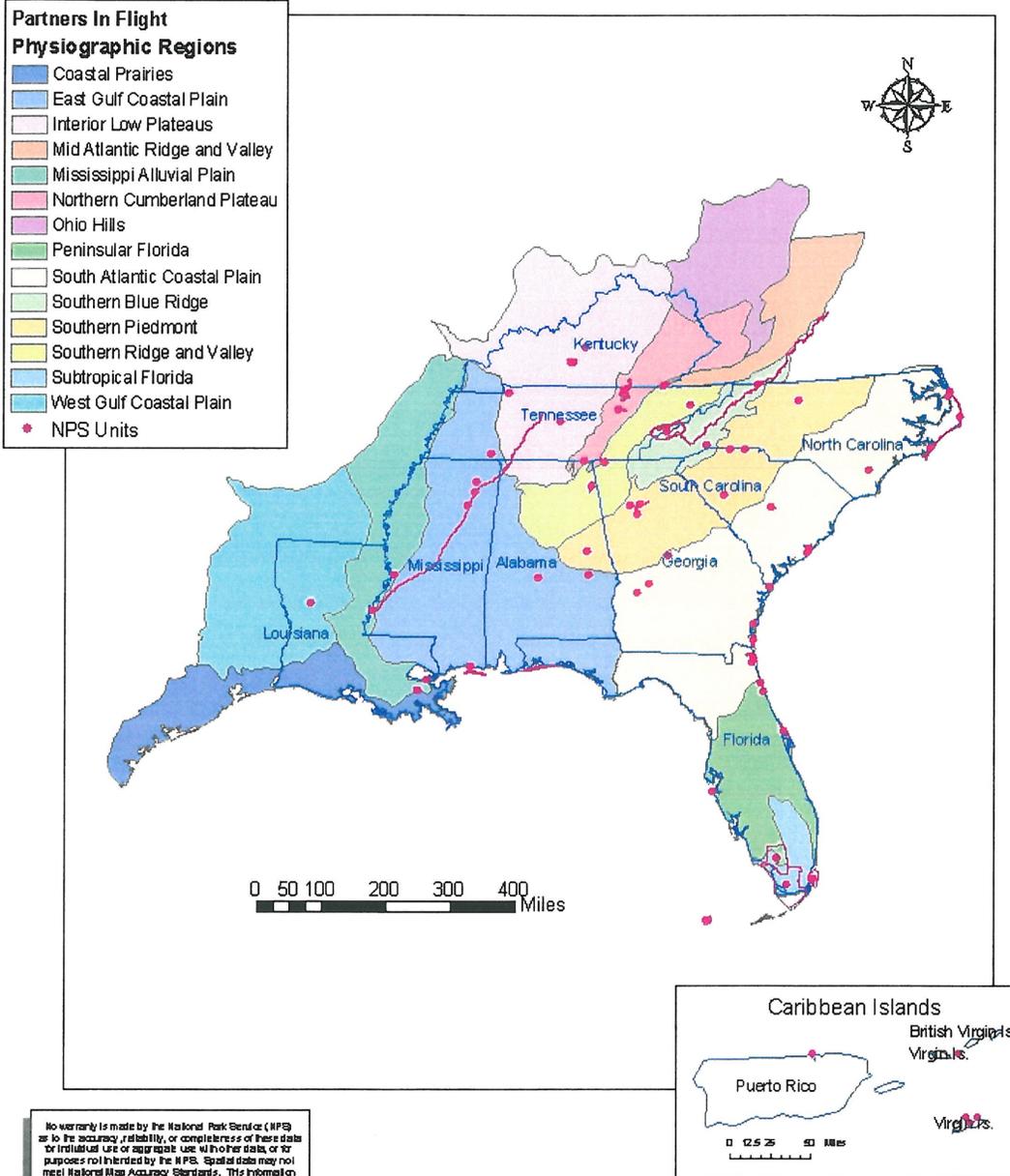
Avian Resources of South Atlantic Coastal Plain

The South Atlantic Coastal Plain, consisting of about 25 million acres, includes parts of Virginia, North Carolina, South Carolina, Georgia, Alabama and Florida. This physiographic area is one of four coastal plain divisions recognized by Partners in Flight. Although these coastal plain areas share many conservation issues, differences in key species and habitats exist. For instance, the South Atlantic Coastal Plain includes (1) the largest forested floodplains outside of the Mississippi Alluvial Plain, (2) unique non-alluvial wetlands (Dismal Swamp, pocosins, Carolina Bays, Okefenokee Swamp), (3) the largest remnants of the former longleaf pine dominated ecosystems (especially flatwoods and sandhills, and to a lesser extent savannas), (4) the best remaining examples of "natural" barrier and sea islands and maritime forests in the Southeast, and (5) biologically rich Apalachicola Bluff forests. Also present within this physiographic area are extensive tidal wetlands and commercial forests. Physical characteristics include a predominantly flat, weakly dissected alluvial plain with active fluvial deposition and shore zone processes along coastlines. Elevation ranges from 0 feet increasing towards the fall line to 600 feet.

Partners in Flight (PIF) Regions

Southeast Region (SER)

National Park Service
U.S. Department of the Interior



Conservation issues within the South Atlantic Coastal Plain include:

(1) management and conservation of forested floodplains and related wintering waterfowl and migratory landbird needs;

(2) monitoring and protection of colonially nesting terns and skimmers, as well as vulnerable shorebirds, especially in areas with increased human disturbance and habitat loss;

(3) research and protection of Wood Storks and White Ibises;

(4) conservation of nongame waterbird habitats (under the purview of other bird conservation groups such as the Western Hemispheric Shorebird Reserve Network, Waterbird Society, North American Waterfowl Management Plan, and the International Association of Fish and Wildlife Agencies' Migratory Shore and Upland Gamebird Subcommittees);

(5) best management practices for forested wetlands, maritime communities, southern pine forests, and upland hardwood (including riparian) forests; and

(6) conservation and protection of vulnerable nearctic-neotropical migratory landbirds.

Over 300 bird species occur annually in the South Atlantic Coastal plain as nesting, post nesting dispersers, transients, and /or wintering residents. Among these species, the South Atlantic Coastal Plain supports critically important populations for a number of extremely high priority bird species. Species in need of the greatest conservation attention include Henslow's Sparrow, Wood Stork, Bachman's Sparrow, Swallow-tailed Kite, Swainson's Warbler, Eastern Painted Bunting, Black-capped and Bermuda Petrels, Red-cockaded Woodpecker, Southeastern American Kestrel, Wayne's Black-throated Green Warbler, Saltmarsh Sharp-tailed Sparrow, Red Knot, Piping Plover, and Snowy Plover (Gulf Coast). Other priority species also of conservation interest include Florida Sandhill Crane, White Ibis, Loggerhead Shrike, Cerulean Warbler, Prothonotary Warbler, Seaside Sparrow, Brown-headed Nuthatch, American Woodcock, Northern Bobwhite, Common Ground-Dove, Yellow-throated Warbler, Rusty Blackbird, Black Skimmer, Least Tern, Black Rail, Peregrine Falcon, Bald Eagle, American Oystercatcher, Red-throated Loon, and most migrating and wintering shorebirds and rails, Brant, American Black Duck, Lesser and Greater Scaup, Tundra Swan, and Wood Duck.

Conservation objectives for the South Atlantic Coastal Plain revolve mostly around (1) stabilizing or increasing populations of high priority breeding bird species, (2) wintering species, (3) and increasing the quality and availability of stopover habitat for

transient species. Although waterbirds are treated here, these species groups are mostly the subjects of other planning efforts. For landbird species, the primary habitat objectives proposed in this plan include the following:

Avian Conservation in FOSU

Avian Biodiversity: FOSU does not have an avian inventory and a checklist of birds that is available for the public. This need has been identified in the NPS Southeast Coast Inventory and Monitoring Network plan (USDI NPS 2000) and when conducted will cover all three parks.

Verified records of birds in FOSU 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. Inventory data are needed before specific priorities can be identified in the historical landscapes.

Inventory: A complete inventory has been recognized as important information for park managers and is being conducted within the framework of the NPS I&M Program. FOSU is one of several parks in the NPS Southeast Coast I&M Network for which a plan to conduct high priority inventory projects has been prepared (USDI NPS 2000). Inventory for FOSU has not begun at this time (March 2004).

Although FOSU will not have major contributions to the implementation of NABCI, park staff has identified the need to at least have an inventory of birds at the park and a checklist that is available to the public.

It is possible that FOSU may have high priority PIF species for the South Atlantic Coastal Plain occur, in some of the marsh and maritime forest habitats, but this is uncertain.

Monitoring: Currently, no monitoring is being conducted at FOSU.

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

Threatened and Endangered Species: No Federally listed threatened or endangered avian species are known to nest in FOSU.

It is unknown if any South Carolina rare, threatened, or endangered species occur in FOSU.

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

Park Identified Needs for Avian Conservation

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

Inventory: The highest priority is to **complete the breeding bird inventory as identified in the I&M plan**

Outreach: **Prepare a checklist for public availability**

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, FOSU is within the NABCI Southeast Coastal Plain BCR that extends from Virginia southward to Florida and north to western Kentucky (see BCR Map below) and encompasses several PIF physiographic areas (the planning unit for PIF)(compare to PIF and NPS Locations Maps)

Several NABCI BCR's have coordinators whose primary responsibility is to coordinate all bird conservation planning in the BCR, across all agencies and organizations. Currently, the Southeast Coastal Plain BCR does not have a designated coordinator; however, a bird conservation coordinator for the southern portion of the Atlantic Coast Joint Venture has been established (see contacts below) and can provide valuable assistance to FOSU with implementation of aspects of this ACIP.

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 South Atlantic Coastal Plain can be found in the draft bird conservation plan. A revised version of this plan should be available in the near future and may be substantially different from the current format; however, bird and habitat

conservation priorities are not likely to be significantly changed. The park will receive updates of the plan as they are completed. The current plan identifies priority bird and habitat conservation goals that must be implemented in order to achieve bird conservation success in this region. FOSU being largely a landbird park will utilize this plan more than any other plan to participate in NABCI implementation.

Similar to NABCI BCR's, PIF physiographic areas often 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 South Carolina has a PIF coordinator and can be instrumental in assisting FOSU to implement recommendations identified in this ACIP and projects important to bird conservation relative to South Carolina's role in implementation of the South Atlantic Coastal Plain 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 2003. Since FOSU has little habitat of regional importance to shorebird conservation, recommendations for shorebird conservation are not presented.

Waterbird Conservation for the Americas (WCA)

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

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, participation in these efforts at some level could become mandatory with the completion of an MOU with the FWS regarding EO 13186, **Responsibilities of Federal Agencies to Protect Migratory Birds**. The MOU will establish a formal agreement between the FWS and the NPS 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 desires to conduct a presence/absence inventory in all habitats, but especially in salt marshes, wetlands, and maritime forest. This inventory's primary purpose is to provide the park with additional natural history information that would be incorporated into park planning and management.

In addition to obtaining inventory, FOSU is encouraged to:

- **verify other avian observational data collected in the park and enter into the appropriate database (NPSpecies, eBird)**
- **standardize inventory and monitoring methodology to conform to NPS and/or FWS recommended standards (Fancy and Sauer 2000; Hunter 2000).**

Monitoring

No monitoring is being conducted in the park and none is planned until the completion of the inventory. However, FOSU is encouraged to:

- **obtain data from recreational birders, verify, and enter into appropriate databases**

Habitat Restoration

Due to the protected nature of FOSU 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 FOSU can greatly contribute to established habitat goals identified in the South Atlantic Coastal Plain bird conservation plan.

The park is an urban historical park without landscape scale habitat. However, existing habitat provides suitable area and vegetative cover for nesting landbirds. In the absence of avian inventory, general recommendations for FOSU are to:

- **protect existing snag trees, where not identified as a safety hazard, as important to cavity nesting birds**
- **protect salt marshes and wetlands from water borne pollutants**
- **enhance water quality to support aquatic biota necessary to support existing nesting birds and birds that use the wetlands and marshes for foraging**
- **protect maritime forests for nesting residents and Neotropical migrants**

Threat Management

Threats to birds at FOSU are unquantified, but several actions could be taken that would reduce threats to birds and improve avian conservation in the park. These are:

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

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

Although no significant exotic plants species are negatively impacting habitat at FOSU, it is important to establish and continue inventory and monitoring for exotic plant species. If necessary, consult with regional Exotic Plant Management Team (EPMT) to remove exotic plant species. Currently, no EPMT provides service the FOSU area. Until an EPMT is established that can provide assistance to FOSU, staff is directed to consult with the regional pest management specialist (see contacts). Additionally, FOSU is encouraged to:

- **monitor and manage exotic plant species**
- **prohibit construction of new cell or communications towers**

Research

No research needs have been identified for the park at this time.

Compliance

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

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

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

Outreach

- **update the bird checklist for public availability***
- **participate in International Migratory Bird Day (IMBD) events with a local partner (<http://birds.fws.gov/imbd.html>)***
- **encourage accurate documentation and reporting by recreational birders (see Cornell University's eBird monitoring program (Cornell Lab. Ornith. 2002 (<http://www.ebird.org/about/index.jsp>))**
- **make available a South Carolina bird finding and identification guide in the visitor center, or another suitable guide to birds found in the parks**
- work with adjacent landowners and neighbors, the local community, and public officials to curb unregulated and free roaming feral and domestic dogs and cats in the park
- park interpretation/education staff are encouraged to attend USFWS training on Migratory Bird Education at NCTC
- consider adding links to bird conservation information, data, etc., to the park's web site home page
- support bird conservation by serving shade-grown coffees at meetings, events, and the office buildings in the park (<http://www.americanbirding.org/programs/consbcof3.htm>)
- subscribe to Carolinabirds, an electronic forum for discussing bird issues in North and South Carolina (see <http://www.duke.edu/~cwcook/cbirds.html>)

Partners and Partnerships

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

- **keep abreast of local county initiatives that may affect management of the park and its resources**
- **develop partnership with South Carolina Department of Natural Resources to coordinate inventory and bird conservation projects**

- **contact the nearest Joint Venture office (see Funding section for explanation of Joint Ventures) or BCR coordinator to develop partnerships and funding proposals tiered to priorities established by the park, this ACIP, and the South Atlantic Coastal Plain bird conservation plan**
- **develop relationship with the Charleston Natural History Society, the local Audubon chapter (<http://www.homestead.com/cnhsaudubon/>)**

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. Within this ACIP, identified priority projects that are considered to be high park priorities as well as NABCI priorities are marked with an asterisk (*). FOSU is encouraged to enter all high priority projects into the NPS Performance Management Information System (PMIS) database.

Funding for conservation projects for Neotropical migrants is also available through the Park Flight program.

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, PIF Coordinator, to learn how this program might be applicable to implementation of this plan, and other park wetland issues. FOSU is not within a region which has an operational Joint Venture, but contact with the Atlantic Coast Joint

Venture, Central Hardwoods BCR, and Tennessee PIF coordinators will provide opportunity to investigate use of this funding source and developing proposals.

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

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

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

Other prominent funding sources available to NPS managers for bird conservation are listed on this projects web site at:

<http://southeast.fws.gov/birds/NPSHighlits.htm>.

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

Contacts

Primary contacts within the region can be obtained by viewing the web site for the Southeastern Bird Conservation Initiative, National Park Service at <http://southeast.fws.gov/birds/npsbirds.htm>. This web site will provide contact

information of the appropriate bird conservation coordinator in the region for park personnel. Park staff is encouraged to view the web site and obtain contact information. Primary contacts for FOSU are:

US Fish and Wildlife Service

Mr. Craig Watson
US Fish and Wildlife Service
Atlantic Coast Joint Venture
Charleston, SC
843-727-4707 ext. 16
Craig_Watson@fws.gov

Chris Furqueron
Exotic Plant Management Coordinator
National Park Service
404-562-3113 ext 540
Chris_Furqueron@nps.gov

Mr. Keith Watson
US Fish and Wildlife Service
160 Zillicoa Street, Suite D
Asheville, NC 28801
828-350-8228
Southern Appalachian Bird
Conservation
Keith_Watson@fws.gov

South Carolina

John Cely
Wildlife Biologist
Columbia, SC
jcely@CLEMSON.EDU
803-419-9645

Mr. Dean Demarest
US Fish and Wildlife Service
1875 Century Blvd.
Atlanta, GA
404-679-7371
dean_demarest@fws.gov

Anna Huckabee
Wildlife Biologist
SC Dept. of Natural Resources
Columbia, SC 29202
803-734-5534
annah@scdnr.state.sc.us

National Park Service

Richard Dorrance
Fort Sumter National Monument
Charleston, SC
843 727-4739 x15
Rick_Dorrance@nps.gov

Exotic Animal Management

Robert Hudson
South Carolina Wildlife Services State
Director
Columbia, SC 29203
803-786-9455
robert.l.hudson@aphis.usda.gov

Joe DeVivo
Southeast Coast
Inventory & Monitoring Network
Coordinator
404 562-3113 x739
Joe_DeVivo@nps.gov

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APPENDIX A

HIGH PRIORITY SPECIES IN THE SOUTH ATLANTIC COASTAL PLAIN BIRD CONSERVATION REGION (from Table 2, Anderson et al. 2000)

Table 2. Priority bird species listed by total PIF concern score, and segregated by entry criteria. Other measures include area of importance and population trends scores, percent of BBS population, and local migratory status. This table includes non-breeding landbirds only in highest overall priority entry criteria.

Priority Entry Criteria & species	Total PIF score	Concern scores		Percent BBS	Local migratory status ¹
		AI	PT		
Ia. Highest overall priority					
Bewick's Wren	35	5	5	12.1	B
Red-cockaded Woodpecker	31	3	5	-	RP
Cerulean Warbler	30	5	5	25.3	B
Golden-winged Warbler	29	5	4	5.1	B
Swainson's Warbler	28	5	2	7.6	B
Ib. High overall priority					
Louisiana Waterthrush	26	5	5	10.4	B
Worm-eating Warbler	25	5	2	8.7	B
Henslow's Sparrow	26	3	3	-	E
Acadian Flycatcher	25	5	5	9.6	B
Wood Thrush	25	5	5	6.9	B
Prairie Warbler	25	5	5	5.7	B
Kentucky Warbler	24	5	3	11.9	B
Bachman's Sparrow	25	2	3	-	B
Yellow-throated Vireo	22	5	5	9.2	B
Summer Tanager	22	5	5	-	B
Eastern Wood-Pewee	22	5	5	-	B
Black-throated Blue Warbler	22	2	3	-	B
Hooded Warbler	22	5	2	8.8	B
IIa. Physiographic area priority species					
Red-headed Woodpecker	21	3	5	-	D
Yellow-breasted Chat	21	5	5	4.7	B
Field Sparrow	21	4	5	-	D
Northern Bobwhite	20	3	5	-	R
Gray Catbird	20	5	5	-	B
Black-and-white Warbler	20	5	3	-	B
Ruby-throated Hummingbird	19	4	5	-	B
American Redstart	19	4	5	-	B
Eastern Towhee	19	4	5	-	D
IIb Additional species: responsibility for monitoring (>10% BBS)					
Yellow-throated Warbler	21	5	2	18.1	B

III. Additional species: global priority

Prothonotary Warbler	21	2	3	-	B
Chuck-will's-widow	19	2	3	-	D

IV. Federal listed species

None additional to the above.

V. Local, state, or regional interest species

Common Raven	(no score, reintroduction bird)				
Whip-poor-will	20	3	6	-	B
Chestnut-sided Warbler	20	3	3	-	B
Blackburnian Warbler	19	2	3	-	B
Grasshopper Sparrow	17	2	3	-	B
Northern Harrier	(awaiting score)				

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

BIRD ASSEMBLAGES AND HABITAT CONSERVATION PRIORITIES In the SOUTH ATLANTIC COASTAL PLAIN (from Table 3, Anderson et al. 2000)

Table 3. Bird species assemblages designated for broad habitat type within the physiographic area, and listed by total Partners in Flight score. The sum of Area Importance, Population Trend, and Threats to Breeding are included as the Habitat Score, and provides as an indication of the importance of the habitat in the area. The overall score indicates management criteria, see below. Habitat suitability is derived from Hamel (1992).

Habitat	Species	Total PIF score	Habitat score	Overall score ¹
Open lands				
Grasslands	Henslow's Sparrow	26	11	I
	Field Sparrow	21	10	IV
	Northern Bobwhite	20	9	III
	Grasshopper Sparrow	17	8	III
	Northern Harrier	-	-	V
Shrub-scrub, reclaimed mines				
	Bewick's Wren	35	15	I, V
	Golden-winged Warbler	29	13	I, V
	Prairie Warbler	25	10	IV
	Yellow-breasted Chat	21	10	IV
	Field Sparrow	21	10	IV
	Northern Bobwhite	20	9	III
	Gray Catbird	20	9	III
	Eastern Towhee	19	9	III
Chestnut-sided Warbler	20	8	IV	
Hardwoods, mixed hardwood-pine, mixed hardwood-pine Northern				
Hardwoods	Worm-eating Warbler	25	12	III
	Wood Thrush	25	12	III
	Kentucky Warbler	24	11	III
	Yellow-throated Vireo	22	11	IV
	Summer Tanager	22	10	VI
	Eastern Wood-Pewee	22	11	VI
	Black-throated Blue Warbler	22	7	IV
	Hooded Warbler	22	11	IV
	Black-and-White Warbler	20	10	V
	Ruby-throated Hummingbird	19	9	IV
	Whip-poor-will	20	9	V
	American Redstart	19	8	V

Appalachian Oak

Mixed

hardwood- pine	Louisiana Waterthrush	26	12	III
	Worm-eating Warbler	25	12	III
	Acadian Flycatcher	25	11	III
	Wood Thrush	25	12	III
	Kentucky Warbler	24	11	III
	Yellow-throated Vireo	22	11	IV
	Summer Tanager	22	10	IV
	Eastern Wood-Pewee	22	11	IV
	Hooded Warbler	22	11	V
	Red-headed Woodpecker	21	8	VI
	Chuck-will's-widow	19	8	V
	Whip-poor-will	20	9	V
	American Redstart	19	8	V
	Blackburnian warbler	19	8	VI
	Common Raven	-	-	V

Riparian

Woodlands	Swainson's Warbler	28	13	I, V
	Louisiana Waterthrush	26	12	III
	Acadian Flycatcher	25	11	III
	Wood Thrush	25	12	III
	Kentucky Warbler	24	11	IV
	Summer Tanager	22	10	VI
	Eastern Wood-Pewee	22	11	VI
	Hooded Warbler	22	11	IV
	Yellow-throated Warbler	21	10	IV
	Prothonotary Warbler	21	8	VI
	Ruby-throated Hummingbird	19	9	VI
	American Redstart	19	9	III, V
	Eastern Towhee	19	9	III, V

Coniferous forests

Hemlock-

White Pine	Cerulean Warbler	30	13	I
	Worm-eating Warbler	25	12	II
	Acadian Flycatcher	25	11	II
	Wood Thrush	25	12	III
	Kentucky Warbler	24	11	III
	Eastern Wood-Pewee	22	11	IV
	Black-throated Blue Warbler	22	10	IV
	Hooded Warbler	22	11	IV
	Yellow-throated Warbler	21	10	III
	Blue-headed Vireo	17	9	IV

Mountain

Yellow Pine	Red-cockaded Woodpecker	31	13	II
	Bachman's Sparrow	25	10	II
	Yellow-throated Vireo	22	11	IV
	Eastern Wood-Pewee	22	11	IV
	Yellow-throated Warbler	21	10	IV
	Red-headed Woodpecker	21	8	III
	Eastern Towhee	19	9	III
	Blue-headed Vireo	17	9	IV

Short-rotation

Pine	Bewick's Wren	35	15	I, V
	Golden-winged Warbler	29	13	I, V
	Prairie Warbler	25	10	IV
	Bachman's Sparrow	25	10	I, V
	Eastern Wood-Pewee	22	11	VI
	Yellow-breasted Chat	21	10	VI
	Field Sparrow	21	10	VI
	Yellow-throated Warbler	21	10	VI
	Red-headed Woodpecker	21	8	VI
	Northern Bobwhite	20	9	II
	Gray Catbird	20	9	II
	Eastern Towhee	19	9	III

1 – Overall scores refer to the following:

I – Crisis recovery necessary

II – Immediate management and/or policy action necessary range-wide

III – Active management to reverse, stabilize, or increase populations are needed

IV – Long-term planning and habitat responsibility are needed, immediate action may not be necessary

V – Investigations and research are necessary to further clarify population status or level of threat to the species or population

VI – Monitor population trends, develop habitat management only as needed.

APPENDIX C

**South Carolina Rare, Threatened & Endangered Bird
Inventory (June 9th, 2003)**

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	LEGAL STATUS
ACCIPITER COOPERII	COOPER'S HAWK	G5	S?	SC
AIMOPHILA AESTIVALIS	BACHMAN'S SPARROW	G3	S3	SC
CHARADRIUS WILSONIA	WILSON'S PLOVER	G5	S3?	ST
EGRETTA CAERULEA	LITTLE BLUE HERON	G5	S?	SC
ELANOIDES FORFICATUS	AMERICAN SWALLOW-TAILED KITE	G5	S2	SE
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	G4T3	S?	DM/SE
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S2	FT/SE
ICTINIA MISSISSIPPIENSIS	MISSISSIPPI KITE	G5	S4	SC
LANIUS LUDOVICIANUS	LOGGERHEAD SHRIKE	G4	S3	SC
LIMNOTHLYPIS SWAINSONII	SWAINSON'S WARBLER	G4	S4	SC
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER	G5	S?	SC
MYCTERIA AMERICANA	WOOD STORK	G4	S1S2	FE/SE
PELECANUS OCCIDENTALIS	BROWN PELICAN	G4	S1S2	SC
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	G3	S2	FE/SE
PLEGADIS FALCINELLUS	GLOSSY IBIS	G5	S?	SC
STERNA ANTILLARUM	LEAST TERN	G4	S3	ST
THRYOMANES BEWICKII	BEWICK'S WREN	G5	S1?	SE
TYTO ALBA	BARN-OWL	G5	S4	SC

GRANK - the Nature Conservancy rating of degree of endangerment world-wide:

G1 - Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction

G2 - Imperiled globally because of rarity or factor(s) making it vulnerable

G3 - Either very rare throughout its range or found locally in a restricted range, or having factors making it vulnerable

G4 - Apparently secure globally, though it may be rare in parts of its range

G5 - Demonstrably secure globally, though it may be rare in parts of its range

GH -Of historical occurrence throughout its range, with possibility of rediscovery

GX -Extinct throughout its range

G? -Status unknown

SRANK - the Nature Conservancy rating of degree of endangerment in South Carolina:

S1 - Critically imperiled state-wide because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation

S2 - Imperiled state-wide because of rarity or factor(s) making it vulnerable

S3 - Rare or uncommon in state

S4 - Apparently secure in state

S5 - Demonstrably secure in state

SA - Accidental in state (usually birds or butterflies that are far outside normal range)

SE - Exotic established in state

SH - Of historical occurrence in state, with possibility of rediscovery

SN - Regularly occurring in state, but in a migratory, non-breeding form

SR - Reported in state, but without good documentation

SX - Extirpated from state

S? - Status unknown

LEGAL STATUS – Federal

FE - Federal Endangered

FT - Federal Threatened

PE - Proposed for Federal listing as Endangered

PT - Proposed for Federal listing as Threatened

C - Candidate for Federal listing

NC - Of Concern, National (unofficial - plants only)

RC - Of Concern, Regional (unofficial - plants only)

SE - State Endangered (official state list - animals only)

ST - State Threatened (official state list - animals only)

SC - Of Concern, State

SX - State Extirpated

APPENDIX D

US FISH AND WILDLIFE SERVICE, SPECIES OF CONSERVATION CONCERN in the SOUTHEAST COASTAL PLAIN (BCR 27)

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