Southeast United States
Regional Waterbird Conservation Plan

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EXECUTIVE SUMMARY

The Southeastern Region of the United States encompasses a wide range of habitat types from lowland coastal wetlands to high elevation forests. Many of these habitats are critically important to waterbirds during some portion of their annual cycle. From the expansive coastal wetlands of Texas on the Gulf of Mexico to the Atlantic salt marshes and the barrier islands of Florida, Georgia and the Carolinas; from freshwater wetlands in peninsular Florida to the pocosins and great swamps of the central Atlantic States; from the pelagic areas in the Atlantic to the semi-arid prairies of Texas, this Region's habitats are nothing if not diverse. Waterbird conservation has a unique history in the Southeastern Region, dating back to the early 1900s when plume hunting nearly destroyed the massive multi-species waterbird colonies. Great strides have been taken in this region to protect and manage habitat to support the return of large assemblages of waterbirds. From the Everglades Restoration project to the development of multiple Joint Ventures, the Southeast Region is moving forward to meet the goals outlined in national plans, bird conservation initiatives, and joint venture implementation plans. This plan, the Southeastern Regional Waterbird Conservation Plan, seeks to elaborate on the goals and objectives established in the North American Waterbird Conservation Plan (Kushlan et. al 2002). Within the context of the national plan, stepped down goals and objectives are described for the regional landscape. In the regional plan, priority species are identified, major threats to waterbirds are described, and conservation actions are outlined. The vision for the plan is to provide regional guidance and perspective to partners, landowners, and land managers for accomplishing waterbird conservation objectives. This plan provides a link between the national plan and local conservation initiatives. It outlines a framework through which partners can identify and develop projects that build upon existing information to move waterbird conservation forward at both the regional and continental scale.

Overarching conservation goals for the region include:

- ***Recovery of declining and otherwise vulnerable high priority species and subspecies (especially listed taxa) to healthy population levels region-wide.***
- ***Maintenance of healthy populations of other species.***
- ***Restoration and protection of habitats essential for conservation.***
- ***Develop and implement science-based approaches to resolving issues related to human interactions with waterbirds, including depredation, fishing gear entanglement, and collision with structures.***

Scope

The Southeastern Region extends from eastern Texas and Oklahoma, through the Florida peninsula, and northward into eastern North Carolina and Virginia. It extends into the Gulf of Mexico and pelagic areas off both the Atlantic and Gulf coasts. Included in this region are 10 Bird Conservation Regions (BCRs), 2 pelagic BCRs, 3 long-established Joint Ventures, 3 Joint Ventures under development, a large number of National Wildlife Refuges, National Parks, State Wildlife Management Areas and State Parks, among other protected sites, in all or part of 21 states. The plan includes all wetland dependent bird species not covered in the United States

Shorebird Conservation Plan (Brown et. al 2001) or the North American Waterfowl Conservation Plan (USFWS 2004).

Seven species have been identified as regional priority species in need of **Critical Recovery** and another seven species for **Immediate Management**. Four and five species, respectively, are of continental concern. Thirty-two species were identified as regional priorities needing **Management Attention**, of these, eleven are of continental concern. Other species that are of local or regional interest were also identified and discussed. Major threats requiring region-wide attention are mortality of waterbirds associated with various fisheries and aquaculture, loss and deterioration of habitat, disturbance of nesting areas (especially beaches), and effects from contaminants.

Major Threats

Habitat loss and degradation represents the largest threat to waterbird conservation in the Southeast Region. Wetland loss in the southeastern United States represented 89% of the wetlands lost in the entire country through the mid-1980s (Hefner et al. 1994). A large portion of the human population in the region resides within 50 miles of the coast, impacting coastal wetlands and nesting beaches through development, disturbance, and degradation of habitat. For all waterbird groups, habitat conservation plays a key role in maintaining and increasing populations. Enhancing or restoring lost habitat and protecting existing habitat from human disturbances or predators are the highest priorities for waterbird conservation in the southeastern United States. While the major threats to some groups of waterbirds are well known, others are not. The lack of information regarding the impact of commercial fishing activities on pelagic seabirds is a very good example. Areas where threats are not known are identified as priority research needs.

Recommended Conservation Priorities

Recommended conservation priorities for waterbirds in the Southeast Region of the United States are laid out in this regional plan. A list of the major actions is provided for each category of activities in the Plan. Action items are related to habitat conservation, specific species actions, research and monitoring, and education and outreach. Related sections of the plan text outline in detail concerns and conservation priorities, more specific actions, and justification for their priority status. These action items are intended to guide activities of conservation partners in the Region with regard to protecting and enhancing waterbird populations. The actions are to be implemented by the coordination and cooperation among the partners to achieve specific population objectives for waterbird species in the Region.

The following is a list of the highest priority waterbird conservation actions for the Region. This list is neither completely comprehensive nor in order of significance. Instead, this list outlines some of the main issues that should be addressed in Regional conservation planning. These activities are critical to increasing populations of waterbird species to meet the population objectives for the Region. Species-specific population objectives and priority activities are further outlined in the main text of the Plan.

A. Protect populations and habitats in areas essential for conservation of high priority brush and tree nesting species (i.e. the Everglades, Florida Bay,

Texas and Louisiana coastal marshes).

- **Contribute to meeting population goals for waterbirds, with emphasis regionally on Great White Heron, Wood Stork, and Reddish Egret, as well as locally for Roseate Spoonbill (Florida Bay and Everglades), Brown Pelican (Florida Bay and Florida Keys), and White Ibis (Everglades).**
- **Resolve taxonomic status of Great White Heron.**
- **Relocate or otherwise determine fate of over 10,000 Brown Pelican pairs no longer breeding at Breton National Wildlife Refuge, Louisiana, in BCR 37.**
- **Increase research and monitoring attention for priority species.**

B. Protect and restore nesting beaches for beach nesting waterbirds.

- **Contribute to meeting population goals for Least Tern, Roseate Tern, Gull-billed Tern, Black Skimmer, and Common Tern.**
- **Relocate or otherwise determine fate of over 35,000 Sandwich Tern pairs no longer breeding at Breton National Wildlife Refuge, Louisiana, in BCR 37.**
- **Increase availability of high quality artificial nesting habitat such as spoil islands, barges, and other protected structures.**

C. Protect and manage marsh, wet prairie, savanna, and grassland habitat for marshbirds.

- **Contribute to meeting population goals for Whooping Crane, Mississippi Sandhill Crane, King Rail, Black Rail, Yellow Rail, Limpkin, Purple Gallinule, Least Bittern, and breeding populations of Pied-billed Grebe and American Coot.**
- **Restore Okefenokee Swamp habitat for Florida Sandhill Cranes.**
- **Significantly increase acreage of emergent wetlands in the region (preliminary recommendations for 100,000 acres from Mississippi Valley westward and for another 100,000 acres east of the Mississippi Alluvial Valley).**

D. Resolve factors that may be causing high mortality for open water and pelagic species.

- **Determine the role of bird bycatch with fishing gear and oceanic pollution in prohibiting achievement of population goals for species including Red-throated Loon, Common Loon, Northern Gannet, Horned Grebe, Black-capped Petrel, Bermuda Petrel, and Audubon's Shearwater.**
- **Establish that foraging Black-capped Petrels foraging off Cape Hatteras are from the Haitian breeding population and determine relative importance of likely mortality from human exploitation in Hispaniola compared to exploitation of resources along the Outer Continental Shelf off the Atlantic Coast in the Southeast U.S.**
- **Continue research to understand the link between non-breeding**

American Coot mortality and water quality in certain reservoirs.

E. Increase populations for additional regionally important species such as Little Blue Heron, Magnificent Frigatebird, and Interior Least Tern.

F. Evaluate effects of depredation control on maintaining stable breeding populations of Little Blue Herons, wintering populations of American White Pelican, and breeding Double-crested Cormorants in the West Gulf Coastal Plain and Mississippi Alluvial Plain, as well as the East Gulf Coastal Plain region of Southeastern Coastal Plain.

G. Develop and implement standardized region wide monitoring protocols for all waterbird groups and integrate into a centralized database.

H. Increase outreach and education opportunities region wide.

PART I

Introduction

Scenes of Brown Pelicans flying in formation just over the waves, or of egrets standing alone in an estuary, or of an anhinga perched, wings spread, on a piling are quintessential images of the Southeast U.S. Less often seen, but similarly representative of the region's importance to waterbirds, are the secretive rails stalking the coastal marshes and the shearwaters skimming the open ocean miles offshore. Stretching from eastern Texas and Oklahoma, capturing the Florida peninsula, and extending northward into eastern North Carolina and Virginia, the Southeast U.S. region encompasses marshes, forested wetlands, barrier and sea island complexes that have historically supported large and well-dispersed waterbird populations. Moreover, the adjacent waters of the Gulf of Mexico and Atlantic Ocean are also important habitat for waterbirds feeding on fish and other marine organisms.

Conservation and management activities undertaken in the Southeast U.S. not only determine the survival of several waterbird populations that breed almost exclusively in the region, but affect the population health of numerous other species wintering there, stopping over on migration, or visiting on feeding forays. One of the earliest known efforts to actively manage waterbirds in the region occurred in 1892 when E. A. McIlhenny introduced 8 Snowy Egret fledglings to a small pond on Avery Island, Louisiana. Two pairs nested the following year. By 1922, the colony grew to 22,000 nests and has remained active through the present (McIlhenny 1934 *in* Parnell et al. 1988). Ironically, McIlhenny's efforts to encourage and increase the number of nesting wading birds occurred at a time when plumed wading birds, like Snowy Egrets and Great Egrets, were being killed by the thousands for their feathers. Likewise, otherwise waterbirds, such as Least Terns and Common Terns, were highly sought for their skins and wings. Much of the killing occurred at waterbird colonies where, as one market gunner put it: "*They don't much like to leave their young…At such places I have often shot strikers [terns] so fast I had to put my gun overboard to cool the barrels*" (Pearson et al. 1919). The plight of waterbirds a century ago at the hands of market hunters and the resulting conservation initiatives to protect waterbirds and other nongame birds is well known.

Waterbird protection and management in the region during the early 1900s focused primarily on protecting nesting birds from the guns of market hunters. This was a job largely entrusted to Audubon Wardens, who were employed by State Audubon Societies, the predecessors to many

state wildlife agencies. Out of this early effort came an increased awareness of waterbirds and an improved understanding of their value to society. There also came important legislation for the protection of birds, such as the Lacey Act of 1900 and Migratory Bird Treaty Act of 1918. Equally important was the establishment of the first National Wildlife Refuge by President Theodore Roosevelt in 1903 at Pelican Island in Florida.

Waterbird populations began to rebound with this added protection from hunting and many species have experienced stable or increasing population trends in the Southeast U.S. during the past 30 years. However, present total numbers of all long-legged waders (excluding Cattle Egret) for example, still pale in comparison to what probably occurred in the Southeast U.S. prior to 1870. Robertson and Kushlan (1974) roughly estimated that for south Florida (from Lake Okeechobee south), some 2.5 million long-legged wading birds occurred before impacts from plume hunters. The plume-hunters and sponge fisherman (who also harvested eggs and young) effectively reduced the south Florida population by 1910 to 20 percent of the number estimated in 1870, with some species nearly extirpated. With the birds protected through effective law enforcement, surveys initiated by R. P. Allen (National Audubon Society) documented rebounding wading bird populations by 1935. Although there is little doubt that long-legged wading birds were "superabundant" in south Florida in 1935 compared with post-plume hunting populations, actual numbers are not really known. While Allen estimated breeding birds to number near 1.2 million (50% of what was estimated in 1870), other estimates place the number of the five most common species around 300,000 (Ogden 1994). Regardless of the actual numbers, it is clear that long-legged wading bird populations were recovering during 1931-1946 towards pre-1870 populations.

These encouraging trends halted after the 1950s, when surveys documented a steady decline that may have been partly due to the widespread use of organochloride pesticides like DDT, which affected fish-eating birds throughout the eastern U.S. Because of environmental contamination related to pesticides, some waterbird populations plummeted once again in the 1960s. This time, policies directed towards habitat quality and the banning or regulation of chemical contaminants resulted in general upward population trends that have continued since the 1970s. However, declines in south Florida continued well after the banning of organochloride pesticides even while populations elsewhere in the Southeast U.S. showed mostly

stable or increasing trends. Continued declines in peninsular Florida are likely due to habitat loss associated with the hydrologic disruption of the Everglades system (Ogden 1994).

Underlying the fluctuations in waterbird populations associated with direct and indirect mortality factors are the patterns connected with the region's long history of human land use and landscape alterations. The history of change and human impact in the region dates to the first European settlements. Much of the forested landscape was originally cleared for timber harvest and agriculture, but until recent decades saw considerable second growth forest cover and return of some associated wetlands. However, with human populations increasing rapidly and cities developing inland and along the coasts, natural cover is once again decreasing.

Tremendous losses in non-forested wetlands – from salt marshes, to mangroves, to bogs – occurred in the 1900s (upwards of 50%) and though this rate of loss has slowed in recent years, it has rarely reversed. Losses of freshwater emergent wetlands continue today at elevated rates, affecting marshbirds in particular. Increasing human populations, development and alteration of natural flood regimes and hydrologic cycles all present major challenges to wetland recovery. A notable development in recent years is the proliferation of aquaculture ponds managed for catfish, bait fish, or crawfish, apparently allowing increased survival of wintering waterbird populations but with significant drawbacks. Finally, increasing human populations have resulted in increased development and recreational use of the coastline. Even open water habitats have been impacted by commercial fishing, oil and gas development, and now wind energy projects. In general, these uses all have potential detrimental effects on waterbird populations.

Purpose and Objectives

This document, the Southeast U.S. Region Waterbird Conservation Plan (hereafter known as the Plan), was developed to focus on regional waterbird populations and habitats and associated conservation issues, and represents the next steps in waterbird conservation called for in the North American Waterbird Conservation Plan (NAWCP). NAWCP is a product of the Waterbird Conservation for the Americas Initiative – an independent partnership of individuals and institutions having interest and responsibility for conservation of waterbirds and their habitats in the Americas (Kushlan et al. 2002).

The NAWCP provides a continental perspective on conservation needs for waterbirds and complements plans developed by the other bird conservation initiatives linked through the North

American Bird Conservation Initiative (U.S. NABCI Committee 2000). NAWCP is being implemented through a series of regional plans such as this one. NABCI has divided North America into a number of geographic regions with similar habitat conditions known as Bird Conservation Regions and regional plans such as this one cover one or more of these BCRs.

The purpose of this plan is to provide an outline or blueprint for guiding waterbird conservation in the Southeastern U.S. planning region to support the overarching goals presented in the continental plan. The Plan provides specific information about species and habitats in the region, describes major threats to waterbirds, and provides recommendations for explicit conservation actions that can be taken which contribute to meeting regional goals and objectives. Specific recommendations are given at the end of each section summarizing the most critical information from the section. Included in the Plan are species accounts for all species covered by the plan and appendices which provide detailed information about particular subjects such as contaminants and the use of dredged material for creating nesting habitat. The Plan is intended to provide basic information with links or access to more in-depth discussions of subjects related to waterbird conservation in the region.

Finally, this Plan provides a link between the planning frameworks at larger scales (e.g., national, continental) and smaller scales (e.g., BCRs, States, Everglades, coastal Louisiana and other areas). It provides the basis for regional, integrated waterbird conservation action – informing, drawing from and tying together planning underway by regional and local entities, such as Joint Venture implementation plans and state Comprehensive Wildlife Conservation Strategies. It is intended to complement, not supplant or replace species-specific plans that exist for birds occurring in the region (e.g., Wood Stork and other Endangered Species Recovery Plans). The agencies and organizations in the region provide a substantial cadre of responsible parties to implement waterbird conservation on a region wide basis. This Plan is intended to assist them to act in a concerted manner and address differences in positions that are sometimes in conflict with each other (e.g., best habitat management). The Plan is designed to be a 'living document' and is expected to change and grow with the acquisition of new information about waterbird ecology, biology, and physiology and its relevance to conservation issues. The Plan will be updated every five years to incorporate newly acquired information about population status and conservation activities.

The conservation goals of this Plan are to:

- ***Recover declining and otherwise vulnerable high priority species and subspecies (especially listed taxa) to healthy population levels region wide. This involves identifying population objectives and associated habitat objectives and assumes aggressive conservation actions are already necessary.***

- ***Maintain healthy populations of other species, again by identifying population and habitat objectives (both minimum that may trigger more aggressive conservation action or maximum where some concerns of overabundance may arise).***

- ***Manage depredation issues, including, the establishment of maximum acceptable population reduction objectives if justified.***

Geographic Scope

The Southeastern Region extends from eastern Texas and Oklahoma, through the Florida peninsula to the Keys and the Dry Tortugas, and northward into eastern North Carolina and Virginia. It extends into the Gulf of Mexico and pelagic areas off both the Atlantic and Gulf coasts. Included in this region are 10 Bird Conservation Regions (BCRs), 2 pelagic BCRs, 3 long-established Joint Ventures (Gulf Coast, Lower Mississippi Valley, and Atlantic Coast), 3 Joint Ventures under development (East Gulf Coastal Plain, and in Texas the Rio Grande Valley and Oaks and Prairies-Edwards Plateau), a large number of National Wildlife Refuges, National Parks, State Wildlife Management Areas and State Parks, among other protected sites, in all or part of 21 states The Southeast U.S. Region is the largest and most diverse of all the planning regions in the country, and its conservation issues are equally large and diverse. Many of the issues are shared by other regions, while some are unique to the Southeast U.S. All of them are in some way relevant to waterbird conservation at the continental and global scale.

Although the Southeast U.S. region overlaps all or part of 21 States, based on the distribution of important waterbird habitat, some states have a more significant role in waterbird conservation in the region. Thus, this Plan focuses on the following 13 states: Texas, Oklahoma, Arkansas, Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, and Virginia. The Plan does not extend into Mexico, where bird conservation planning will be done on a national basis. Nor are the Commonwealth of Puerto Rico and U.S. Virgin Islands included in the Plan, as these islands will be addressed in a West Indies Region Plan for all aquatic birds (waterfowl, shorebirds, and waterbirds) across the islands.

The Plan includes all wetland dependent bird species not covered by either the United States Shorebird Conservation Plan (Brown et. al 2001) or the North American Waterfowl Conservation Plan (USFWS 2004). Eighty-two species of waterbirds representing eighteen families occur in the Southeast U.S. Region. Scientific and common names for all species included in the Plan are listed by family at the end of the document (pg. 129). Seven species have been identified as regional priority species in need of **Critical Recovery** and another seven species for **Immediate Management**. Four and five species in each category, respectively, are of continental concern. Thirty-two species were identified as regional priorities needing **Management Attention**, of these, eleven are of continental concern. This region has **Planning and Management** responsibility for twenty-one additional species of waterbirds, six of which are of continental concern. Major threats requiring region-wide attention include mortality of waterbirds associated with various fisheries and aquaculture, loss and deterioration of habitat, disturbance of nesting areas (especially beaches), predation at nesting colonies, and effects from contaminants, among others.

BCR Importance for Waterbirds

BCR 20 - Edwards Plateau (Overlaps TX)

Waterbird use of this BCR is limited and the habitat is typically dry. A few permanent rivers and a series of reservoirs support small numbers of nesting colonial waterbirds. Reservoirs in this BCR additionally may support non-breeding populations of American Coot, Pied-billed Grebe, and Common Loon.

BCR 21 - Oaks and Prairies (Overlaps OK, TX),

This BCR's former prairies and savannas have extensive wetlands within river floodplains. Many floodplains have been converted to reservoirs which also provide habitat for waterbirds. Historically this BCR had relatively high waterbird use, surveys show over 190,000 pairs during the 80s, including 15,000 pairs of Little Blue Herons. In addition, this BCR supports large numbers of interior Least Terns.

BCR 25 - West Gulf Coastal Plain-Ouachitas (Overlaps LA, AR, OK, TX)
Although primarily dominated by pine and pine-hardwood forests, this BCR is dissected by numerous river systems with bottomlands composed of hardwood-dominated wetlands and swamps. These bottomland forests provide nesting habitat for large numbers of herons and egrets. Sandbars on the major river courses support nesting interior Least Terns and the interior grasslands provide habitat for rails and cranes.

BCR 26 - Mississippi Alluvial Valley (Overlaps LA, AR, MS, and small parts of TN, KY, IL, MO) This BCR extends along the lower Mississippi River and comprises 24 million acres of alluvial plain including all but the coastal fringe of the Mississippi Delta. It is heavily farmed but contains significant acreage of bottomland hardwood forest as well as marshes, streams and rivers, farm ponds, seasonally flooded farm fields, and rice fields, which are all used by waterbirds. In addition, aquaculture ponds provide ample foraging sites for a number of species, especially during winter. Sandbars on the Mississippi River provide habitat for nesting interior Least Terns.

BCR 27 - Southeastern Coastal Plain (Overlaps VA, NC, SC, GA, FL, AL, MS, and small parts of LA, TN, KY) Waterbird populations use a diversity of coastal and coastal plain habitats in this BCR. Coastal wetlands, beaches, and islands are among the most important habitats for colonial birds, especially herons, ibises, pelicans, cormorants, skimmers, terns and gulls, and non-colonial birds such as rails. Barrier islands line much of the coast, their beaches and dunes providing nesting sites for ground-nesting species. Along the inshore side of the barrier islands, extensive marshes and islands provide sites for nesting and foraging. On the coastal plain itself, river edges, isolated marshes, and swamps provide aquatic habitat for herons, ibises, and storks, and rails. Some of these water bodies are very large (e.g., Great Dismal Swamp, Okefenokee Swamp, and Lake Okeechobee); others are smaller and isolated (e.g., pocosins, Carolina Bays, farm ponds). Coastal marsh systems increase in coverage further south, including the Sea Island Marshes of Georgia, and gulf coastal marshes in Mississippi and Alabama. These estuarine wetlands provide habitat for waterbirds in all seasons, including migratory stopover spots and the wintering destination for many northern breeding species. NOTE: For the purposes of SE U.S. waterbird planning, the northernmost boundary of BCR 27 in Virginia was modified by

conservation partners to reflect bird conservation priorities. Watersheds draining into Chesapeake Bay were included in BCR 30 (Mid-Atlantic Coastal Plain), and therefore are not covered by this Plan.

BCR 28 - Appalachian Mountains (Overlaps AL, GA, NC, TN, KY, VA, and a small part of SC; extends northward into OH, WV, MD, PA, NJ, NY). This BCR is primarily forested and therefore of somewhat lesser habitat value for waterbirds than others in the planning region. However, it does contain the headwaters of several major eastern river systems, including large reservoirs and associated wetlands along the Upper Tennessee River, and some large wetland complexes (e.g., Canaan Valley in WV) which provide some waterbird habitat.

BCR 29 - Piedmont (Overlaps GA, SC, NC, VA, and a small part of AL; extends northward into MD, PA, NJ). The Piedmont is the transitional area between the Appalachians and the Southeastern Coastal Plain. Consisting of a patchwork of various hardwood, grassland, and urban settings this BCR provides limited waterbird habitat. Waterbirds primarily use the interior wetlands associated with ponds, lakes, reservoirs and river courses.

BCR 31 - Peninsular Florida (Overlaps FL)

The large and diverse interior and coastal wetlands of Peninsular Florida provide especially extensive waterbird habitat, historically serving as the population center in North America for herons, ibises and storks. North Florida waterbird habitat includes extensive marshes, swamps, and large river systems. Along both the Atlantic and Gulf of Mexico coasts of Florida, coastal waterways, barrier islands, smaller islands, and extensive manmade and natural coastal lagoons (Mosquito Lagoon, Biscayne Bay, Florida Bay, Tampa Bay), provide habitat for many waterbird species. In extreme south Florida, the climate becomes more tropical, with swamps and marshes dominating the interior, merging with and in many ways indistinguishable from coastal environments. Historically these marshes covered much of the southern half of the state, where the entire peninsula was seasonally flooded and nearly tropical in its ecology. Along the entire southern coast, numerous islands provide potential nesting sites for waterbirds. Food availability in Florida's subtropical wetlands peaks during the winter and early spring, providing foraging habitat for wintering birds and nesting wading birds. However, the Florida peninsula has one of

the most rapidly growing human populations on the continent. Although vast acreage of wetlands remains, most of it under state, federal or NGO management, they have been subjected to significant alteration, particularly to their hydrologic cycles.

BCR 36 - Tamaulipan Brushlands (TX; also extends into Tamaulipas, Mexico). This is the most xeric of the BCRs covered in this Plan. However, the Rio Grande Valley itself and a widely distributed system of stock tanks scattered throughout the brush habitat provides habitat for a variety of marsh and wading birds. Additionally, two large reservoirs in Texas support significant numbers of waterbirds. Choke Canyon Reservoir has about 6000 pairs of nesting waterbirds, half being Neotropic Cormorants, the bulk of the rest being Great Egrets with a sizeable contingent of Anhingas. Falcon Reservoir supports nesting Interior Least Terns.

BCR 37 - Gulf Coastal Prairie (Overlaps LA and TX)

This BCR consists of the coast of the Gulf of Mexico extending from the Mississippi Delta west into northern Mexico and features one of the greatest concentrations of waterbirds in the world. Habitats are characterized by flat grassland, coastal marsh, tidal mud flats, extensive rice fields of southeast Texas and southwest Louisiana as well as the mouth of the Rio Grande and the Mississippi delta. The Mississippi River delta is expansive and in a constant state of recession and accretion. Its associated bottomland swamps and wetlands support a large variety of waterbirds. The Gulf Coast lagoons and bays provide important wintering habitat for more northern nesting populations and support the entire wild migrating population of Whooping Cranes (nesting in Canada) during winter. These same lagoons are a breeding area for Reddish Egret, Brown Pelican, Roseate Spoonbill and many more priority waterbird species. In addition to natural areas, farm and aquaculture lands provide important waterbird habitats in this region. Managed rice fields are particularly critical, providing summer and spring foraging habitat for long-legged waders and marshbirds.

BCRs 77 and 74 - Waters of the Atlantic and Gulf of Mexico

This Plan addresses the coastal offshore waters of the Atlantic Ocean that extend to and beyond the Gulf Stream where high priority oceanic birds occur and similarly offshore waters in the Gulf of Mexico. In the North American Waterbird Conservation Plan, these waters occur in the areas

referred to as Pelagic BCRs (PBCR) 77 and 74, respectively. Along the Atlantic Coast, this PBCR is particularly important because it is the only known feeding grounds for globally-threatened Black-capped Petrels. All present evidence indicates that waters in or adjacent to the Gulf Stream between north Florida and southern Virginia, but principally off of North Carolina, provide both the primary non-breeding range and an important foraging area for individuals breeding in the West Indies. In addition, many other species of wholly or partially pelagic birds use the Gulf Stream in large numbers as transients or non-breeding residents, such as foraging and/or migrating Bermuda Petrels (Federally endangered), Greater, Cory's, and Audubon's Shearwaters, Band-rumped Storm Petrels, and possibly transient Roseate Terns (Federally Threatened). Near-coastal waters off of North Carolina also are particularly important because they host the largest wintering population of Red-throated Loons on the Atlantic Coast. The Gulf Stream originates in the Gulf of Mexico, flows through the Straits of Florida and northward along the Atlantic coast of the Southeastern United States, until just north of Cape Hatteras, NC. There a narrow southern extension of the cold Labrador Current causes the Gulf Stream to flow northeast into the Atlantic Ocean where it may be 50 miles (80 km) wide.

The importance of the offshore waters in the Gulf of Mexico to seabirds is not as clear, but an increasing number of pelagic trips indicate at least periodically high use by several species of shearwater, booby, and particularly Band-rumped Storm-Petrels. Both PCBR's are important for near-coastal species including Common Loon, Horned Grebe, Northern Gannet, and Brown Pelican. The importance of the Gulf of Mexico and Southeast U.S. Continental Shelf to waterbirds requires consideration not only of the health of the prey base, but also the presence of threats associated with human activities (e.g., fishing bycatch, collisions with lighted ships, platforms, and wind power generating turbines). Whether or not global climate change may be affecting average ocean temperatures and therefore affecting the prey base for waterbirds, remains unclear.

Waterbird Species

Assessment of the population status for each waterbird species occurring in the Southeast U.S. region is a complex and difficult task. This planning region, more than any other, has mixing of year round, migrating, wintering, and breeding populations of a large number of species. It is a complicated task to determine the status of waterbirds in the region while taking

into account their contribution to overall global populations and their specific needs while in the Southeastern U.S. Some species nest colonially, making surveys somewhat easier. Many of the large colonies or breeding areas have been surveyed for numerous consecutive years, providing a good long term data set to determine population trends. Other species nest in smaller, more dispersed colonies, increasing the difficulty of thorough population surveys. Species that nest singly or in small groups are very difficult to count, as are wintering or migrating birds. All of these factors contribute to the complexity of waterbird conservation in the Southeast U.S. region. Using the best data available and professional judgment, status assessments and population objectives were determined for priority waterbirds for developing this Plan.

Status Assessments

Conservation status of each species was determined continentally by evaluating factors globally that reflect vulnerability and then following a set of rules for regional scoring and combining these scores to reflect the conservation importance of a given geographic area to the global population. For purposes of this regional conservation plan, the Partners in Flight approach was adopted to score and combine these factors continentally, as applied to all birds in American Bird Conservancy's "Greenlist," (Chipley et al. 2003, Rich et al. 2004). For identifying priority species and populations for each BCR, subregion, and the region as a whole, we applied the approach described by Panjabi et al. (2005; http://www.rmbo.org/pubs/downloads/Handbook2005.pdf). The six globally scored factors are Population Trend (PT), Population Size (PS), size of Breeding Distribution (BD), size of Non-breeding Distribution (ND), Population Trend (PT), Threats during the Breeding season (TB) and Threats during the Non-breeding season (TN). As information warranted, global scores were revised to reflect regional status for PT, TB, and TN scores and a seventh score was added reflecting the importance of a given geographic area to the global population (Area Importance=AI).

After scores were developed and combined, species were assigned to Conservation Tiers: (I) Species of Conservation Concern, (II) Additional Stewardship Species, (III) Additional Federal Listed Species, (IV) Additional Local and Regional Interest Species. Tables reflecting scores for waterbirds by habitat (Table 1), BCR (Table 2), and as organized by action level (Critical Recovery, Important Management, Management Attention, Planning and Responsibility,

Population Control; Table 3) are included in the Tables section at the end of the document. Population size and population objectives for waterbirds and marshbirds are provided in Tables 4a, 5a, 4b, and 5b respectively. Details of scoring and Tier assignments are included in the Key to Tables provided at the bottom of Table 4b. Appendix 2 contains tables that outline scores for each species by BCR and "subBCR" (latter when deemed important to make geographic distinctions within BCRs), species are separated into colonial breeding, non-colonial breeding, and nonbreeding categories.

The Partners in Flight/American Bird Conservancy (PIF/ABC) approach (also adopted in principle by the National Audubon Society with their "WatchList") was chosen as it allows for direct comparison among priority species identified in Southeast U.S. landbird plans and similarly for shorebirds occurring within the Southeast U.S. The Plan use of the PIF/ABC approach does differ substantially from the North American Waterbird Conservation Plan (Kushlan et al. 2003) in its scoring and ranking approach. However, we felt our reasons for deviating were valid. The compilers felt that the PIF/ABC method was more comprehensive, more accurately scored relative threats among species (as well as distribution and population sizes), and was more holistic in considering global status related to regional and BCR status. Specifically, the PIF/ABC approach as applied here is more likely to identify species for conservation attention that have either limited distributions or are relatively uncommon regardless of population trend. In addition much higher priority is assigned to species in these two categories that are also declining and/or suspected to have high levels of threat. For these two reasons alone, the PIF/ABC scoring approach is more applicable to waterbird species at the regional level.

Regional Priority Species and Issues

At the Southeast U.S. regional scale (Table 1), both Continental and Regional Concern species whose rank placed them in the top three action levels (**Critical Recovery, Immediate Management, or Management Attention**) highlight the priority needs for waterbird conservation within broadly defined habitat suites. Species at the fourth action level (**Planning and Responsibility**) require some level of planning to maintain sustainable populations in the region and these species, except those identified as of Continental and Regional Concern, are included in the lower Conservation Tiers of Stewardship Species and Local or Region Interest.

Finally, species that are increasing in population size to the point of causing some conflict with economic ventures or populations of other species were placed into the fifth action level (**Population Control**). These species are of Local or Regional Interest only. For each of the broad habitat suites, status assessments including primary threats are described for each species grouped by Conservation Tier and action level. For more detailed information on a particular species, refer to the species accounts found in PART II of the Plan.

TREE AND BRUSH NESTING WATERBIRDS (PELECANIFORMES, CICONIIFORMES)

Among herons, pelicans, and their allies which mostly nest colonially in trees and brush, several high priority themes emerge. These species collectively are often used to broadly monitor the ecological health of ecosystems (Crozier and Gawlik 2003). However, it is important to consider spatial scale in interpretation of population trends. At spatial scale of Bird Conservation Regions, a consistent decline among colonially nesting tree and shrub nesting species definitely should be great cause for concern. In reviewing the status and trends of most of these species in all BCR's covered in this Plan, the general conclusion (with some very notable exceptions, described below) is that colonially nesting tree and shrub waterbirds are overall increasing or stable throughout the Southeast, with a number of species shifting their distribution from one place to another.

Nevertheless, population declines found locally among one or more species may warrant closer attention to determine if local hydrological processes have been disrupted, foraging habitat is becoming depleted, contaminants are on the rise, disturbance or predation at nest sites is excessive, or whether colonies are shifting locally away from those regularly monitored sites for perfectly normal reasons (to avoid high nest parasite buildup, etc.). Together, these issues emerge at various scales from areas as large (referred to here as "subBCRs) as all of Subtropical (South) Florida in BCR 31, or Coastal Louisiana and Central Texas Coast in BCR 37. More locally, abandonment of the Okefenokee National Wildlife Refuge in southeast Georgia, and apparent declines along the Georgia coast, both in BCR 27, of long-legged wading birds has caused concern in otherwise well-protected areas. Both scales represent situations where any or all of the above reasons may be operating.

Four species qualified for the highest action level, **Critical Recovery** and two are of both Continental and Regional Concern. These species are Great White Heron and breeding

populations of Magnificent Frigatebird. Great White Heron, for conservation purposes treated here as a separate species from Great Blue Heron, occurs in the United States only in Florida and has a population stronghold primarily in Florida Bay. Of Regional Concern only at the **Critical** Recovery action level are resident Wood Stork populations in South Atlantic Coastal Plain and Peninsular Florida, and breeding Greater Flamingo. In the United States, these species occur exclusively within the boundary of the Southeastern U.S. planning region. The status and particular issues impacting these four species are described below.

Great White Heron and Magnificent Frigatebird are found primarily in Florida and the Florida Keys (including the Dry Tortugas) which have undergone well documented declines in habitat quality due to increased freshwater inflows resulting from water management practices upstream (Florida Bay) and over-development and disturbance (Florida Keys). Degradation of their primary habitat may have devastating impacts on these two species even if local declines are not currently being documented. In addition, other issues such as disturbance at nesting colonies, potential expansion of nest predators to otherwise isolated colony sites, and potential increases in disturbance at nearshore foraging sites all are in need of investigation.

Although found off the southwest coast of Cuba, Yucatan, and at least one island off the Venezuelan coast, the largest breeding populations of Great White Heron are restricted to the Florida Bay and the Florida Keys. At a maximum of 1,300 pairs, the population covered by the Plan is highly vulnerable. Presently, the 1,000 or so pairs in and around Florida Bay (most within the confines of Everglades National Park) are showing overall poor reproductive success, while the 300 (now apparently fewer than 150 since Hurricane Georges) or so pairs in the Lower Keys (most within the confines of Great White Heron and to a lesser extent Key West National Wildlife Refuge) appear to be reproducing normally. Taxonomic issues need to be resolved between Great White Herons and Great Blue Herons (see Appendix I for greater detail) including the possibility that the few dark birds interbreeding with white birds actually are a dark morph of the Great White Heron. However, the occurrence and frequency of mixed pairs are well below what would be expected if the two taxa were simply different color morphs of the same species.

The only breeding colony of Magnificent Frigatebirds in the U.S is found in the Florida Keys. Although this population (about 70 pairs) makes up a very small proportion of the global population for this Continental and Regional Concern species, it is considered highly vulnerable and in need of **Critical Recovery** action. To ensure its persistence, the colony site should be

protected from disturbance and predators, as well as ensure that conflicts with fishing gear are kept to a minimum. Presently the breeding population is restricted to Long Key in Dry Tortugas National Park. Prior to 1990, this population was located on Marquesas Keys within Key West National Wildlife Refuge where it is hypothesized that disturbances from low-lying tourist planes over the colony led to abandonment.

Wood Storks qualify as a Regional Concern only species and the breeding population is considered to be in need of **Critical Recovery** actions. This species is Federally listed as Endangered in four states where it is known or suspected of breeding (FL, GA, SC, AL). Breeding populations of Wood Storks have increased in north Florida, Georgia, and South Carolina since the 1970s yet numbers are still well below (approximately half) that documented prior to the 1940s in South Florida (Crozier and Gawlik 2003). Continued northward shifts of breeding birds have resulted in documented nesting during 2005 in North Carolina, where the species is not protected under the Endangered Species Act.

In the late 1800s, Wood Storks bred in moderate to large numbers along the Texas Coastal Prairies, with a few also in Louisiana. However, Wood Stork nesting in the western portion of the region has not been documented for about 100 years. In recent years birds attempted nesting in Mississippi (with no reported success) and in the last five years others were observed carrying nesting material in northern Louisiana. The vast majority of birds occurring in areas west of Alabama each year are post-breeding dispersals from colony sites in Mexico. Whether larger numbers of Wood Storks occurring in the western part of the southeast region represent highly successful reproduction or more regular nest failures in Mexico requires investigation. In addition, information from satellite telemetry studies and marked populations indicate overlap between dispersing post-breeding U.S. birds (from federally protected populations) and Mexican breeding populations, especially in Mississippi. This issue requires attention especially if complaints about Wood Stork depredation on aquaculture resources begin to arise.

Although not nesting in trees or brush, we group the Greater Flamingo here with other long-legged wading birds because it utilizes much of the same habitat resources for foraging especially during the breeding season. This species is of Regional Concern in need of **Critical Recovery** attention. Whether or not Greater Flamingo formerly bred regularly or at all in Florida Bay and the Florida Keys continues to be debated in the literature, with most authors favoring the view that it once did. If this species did breed it was mostly prior to the early 1900s and was

apparently never common. There is at least one account that cannot be easily dismissed of "40-50" birds sitting on "whitish stumps" that were likely mud nests near Sugarloaf Key during early April, 1901. In addition, of two references to flamingo eggs attributed to Florida in the late 1880s, one from the Florida Keys with a date of 18 April, 1886 may be credible.

There is no doubt that Florida Bay served as an important post-breeding dispersal site for flamingoes that presumably nested (until 1904) at Andros, Bahamas, with up to several thousand birds appearing almost annually during June or July and spending the winter. The last such report of a flock of 1,000 birds was near Cape Sable in 1902. Reports of birds after the first decade of the 20th Century, especially after 1930, have been attributed primarily to escaped birds from Hialeah near Miami or wild birds moving between breeding colonies in Cuba and the Bahamas. Up to 40 birds including both adults and immatures, can be found regularly in northern Florida Bay (e.g., Snake Bight, Everglades National Park), with at least one bird confirmed in the fall of 2002 to be of wild origin as it had been banded as a hatchling in Yucatan, Mexico in August of 2000. Whether or not Greater Flamingo will be found to nest in subtropical Florida in the future is unclear, but again apparent deterioration of Florida Bay may preclude such attempts, so threats remain high regardless of past breeding status.

Two species are at the **Immediate Management** action level, both are of Continental and Regional Concern. Reddish Egret is a highly specialized species, being almost totally restricted to coastal zone environments. This combined with its slow recovery from the millenary trade and market hunting of the late 1800s and early 1900s contribute to its status as the most vulnerable species of long-legged wading bird other than Great White Heron. The Reddish Egret's slow recovery is not surprising considering the large percentage of coastal habitats lost during the 1900s which likely disproportionately hindered the spread of this species both in total numbers and in distribution. Little is known about populations outside the U.S. occurring locally in Cuba, the Caribbean, the Pacific slope of Mexico and Central America, and the coasts of Colombia and Venezuela. Although there are many known or suspected breeding areas that are poorly surveyed range wide for this species, nearly 50% of all known breeding pairs for this species are dependent upon remaining habitat within the Southeast U.S. region (Green 2006).

The greatest concentration of breeding Reddish Egrets in the United States (perhaps globally) occurs along the Texas Gulf coast (over 900 pairs; Green 2006) where long-term colony surveys (Texas Colonial Waterbird Survey) suggest most of the largest colonies there have declined in

recent years. In Florida, breeding Reddish Egrets are presumed to be concentrated in the Florida Bay region of Everglades National Park (100-125 pairs, though there has been no recent comprehensive ground survey) and may be suffering from long-term depressed breeding success based on the collapse of the ecosystem's productivity. This species also occurs in further north in Florida to Tampa Bay on the Gulf side and to Merritt Island on the Atlantic side for a total of 250-300 pairs. Small numbers of breeding pairs have been recorded in southeastern Louisiana (less than <60 pairs), and Alabama (about 5 pairs). In South Carolina, Reddish Egrets are being seen with increasing frequency and the first nesting record occurred in 2004 (but not repeated in either 2005 or 2006).

Due to its nearly complete dependence upon coastal shoreline and exposed flats, this species may be more susceptible to increasing coastal development activities than other species of waterbirds. Difficulty in detecting Reddish Egrets during regular breeding wading bird surveys highlights the need for better methods to assess this species' population status in the U.S. portion of its range. More information is also needed on foraging behavior and disturbance to see if these issues are playing a role in hampering the recovery of Reddish Egret populations in the Southeast Region. A conservation action plan is expected to be developed for this species in the near future.

Although Little Blue Heron is still common and widespread, it qualifies as a Continental and Regional Concern species requiring **Immediate Action** because of demonstrable declines over most of its range in the U.S. The reasons behind these declines are not well understood, but may be related to population centers being generally associated with inland areas, especially forested wetlands along major southern rivers, more so than other long-legged waders. Loss of mature forested wetland habitat (through logging, reservoir development) during the last 40 years is likely a long-term cause of decline, but it is unclear whether something else is happening in these systems that disproportionately affects Little Blue Herons more than other co-occurring species. One possible (but unproven) connection is that Cattle Egrets have been noted by many observers to eventually replace Little Blue Herons at many interior colony sites, with these two species both initiating nesting relatively late in the breeding season compared to other colonially nesting waders (e.g., Dusi 1968, Werschkul 1977, Burger 1978, Telfair 2006). Interestingly, support for the hypothesis that a high rate of Little Blue Heron colony abandonment may be caused by the aggressiveness of Cattle Egrets occurring in the same colonies comes from an investigation of

the potential replacement of nesting Little Egrets (*Egretta garzetta*) by this same species in southern France (Dami et al. 2006).

For the **Management Attention** action level, there were no breeding species of both Continental and Regional Concern. However, four species of Regional Concern only including Green Heron, Black-crowned Night-heron, Yellow-crowned Night-heron and White Ibis ranked into this category. White Ibis are treated separately from the other three species due to greater availability of information about population status and trends. Information on estimated populations from direct counts are lacking for Green Herons and Night-herons, primarily because they have relatively secretive nesting habits, which itself may be a reason for high concern. However, population estimates for Green Herons may be derived from BBS survey data, similar to how populations for many marshbirds were estimated (see under marshbirds). Green Herons usually nest singly, or in very loose colonies, often not associated with other herons and therefore nesting populations are not easily surveyed. More difficult though is estimating population sizes for night-herons because of their nocturnal habits and colony placement which is often not co-located with diurnal species. Regardless, BBS survey data represent the best available information to derive population estimates for these species.

Green Heron is widespread and common in the Southeast but population trend data (mostly from Breeding Bird Surveys) demonstrates consistent and sometimes steep declines. These declines suggest potentially widespread problems associated with river or riparian breeding areas or problems in wintering areas that are affecting breeding populations across the eastern United States. Both night-heron species are also widespread and at least locally common but local population trends are generally unknown. Suspicion exists that at least the Black-crowned is undergoing overall steep declines in the Southeast. Yellow-crowned Night-heron specializes on crustaceans, especially crawfish and crabs, and may become a concern where thought to be in conflict with crawfish aquaculture. In addition, recent some field biologists have observed excessive Fish Crow disturbance and nest depredation among Yellow-crowned Night-heron nesting colonies to the point that local populations are being lost in southern Louisiana (P. Siragusa, personal communication).

White Ibis is the highest ranking Regional Concern species requiring **Management Attention**. White Ibis (like Yellow-crowned Night-heron) forages primarily on crustaceans, especially freshwater crawfish during the nesting season. Despite declines that have occurred in

Florida and along the Atlantic Coast, the overall regional population trend appears to be stable or slightly increasing based on region wide BBS data which closely parallel local observations involving massive movements across the Southeast U.S. (Frederick et al. 1996). White Ibis have undergone huge declines as a breeding species in South Florida since 1930s, with corresponding increases underway in Georgia and South Carolina until the late 1980s, then declines there (in part due to effects from Hurricane Hugo), and now with increases underway in North Carolina and Louisiana. The latter is apparently associated with increase in crawfish aquaculture (Fleury and Sherry 1995). Nevertheless, future threats for this species are considered high given large-scale population shifts that have occurred during the last 20+ years. Related to this, a large percentage of this species in the Southeast is presently associated with crawfish and catfish aquaculture operations, creating a potentially dangerous situation if this artificial food availability suddenly changes for economic reasons (e.g., rice culture collapses and land is then shifted to growing sugarcane). Although not a widespread concern yet, future threats may also arise if and when this species is perceived to be causing unacceptable economic damage to aquaculture ventures.

Three Regional Stewardship species, not otherwise also species of conservation concern, requiring **Planning and Responsibility** in the Southeast U.S. region are Brown Pelican, Tricolored Heron, and Great Egret. All of these species are undergoing overall population increases and identifying these as Stewardship species encourages managers to work towards further population increases regionally. Nevertheless, each of these three species are undergoing troubling population decreases within some BCRs and more locally in subBCRs, which may be cause for elevated regional conservation concern in the future, but not at this time.

While Brown Pelican is Federally listed elsewhere in the Western Hemisphere, populations have increased dramatically overall along both Gulf and Atlantic Coasts in the United States since they were delisted east of Mississippi in 1985. In fact, breeding populations have expanded along the Atlantic coast northward to Maryland today where never reported breeding before. Despite these overall positive trends, there are areas that may warrant closer conservation attention. Most troubling, populations breeding in Louisiana and Texas are being considered for delisting in the near future, but delisting may be premature as it is unknown what the long-term effects of repeated hurricane damage, especially Katrina in 2005, will have on the Louisiana breeding populations. The largest colony for the Federally listed population segment

occurs within the boundaries of Breton National Wildlife Refuge, Louisiana, including the Chandeleurs and associated islands. This colony has largely declined to the point of almost disappearing since 1998, with no obvious dispersal of adults to other colonies in Texas and Mexico to the west, nor to the east in Alabama and Florida (J. Harris pers. comm.). During the last two years, remnant breeding attempts at Breton National Wildlife Refuge have been foiled by oil spills in 2005 and repeated overwashing of breeding habitat in 2006 (the entire reproductive cohort of ~900 chicks were lost, prior to Hurricane Katrina). Concern is increasing that there has been a massive adult die-off since 1998 and with virtually no recruitment in recent years the entire western Gulf population may collapse in the near future (J. Harris, Southeast Louisiana Refuge Complex, pers. comm.).

In addition to Louisiana, recently there have been noted potential declines of Brown Pelican in South Carolina which has led to statewide concern. However, corresponding increases in Georgia may be due to birds shifting southward associated with analogous changes in available nesting habitat in these two states. In addition, the status of Brown Pelicans in Florida Bay and the Lower Keys may be impacted by changes in hydrology resulting from water management activities upstream, which affects many fish-eating species in that ecosystem. In addition, the Florida population likely represents closer allegiance to the vulnerable status of the still Federally Endangered West Indies subspecies than it does to the largely recovered “Carolina” subspecies in the rest of the Southeast U.S. (Kushlan and Frohring 1985).

Where there are notable increases in Brown Pelican populations, there are often corresponding increases in conflicts with fishing interests. Specifically, birds become tangled up with hooks and monofilament often near fishing piers and there are increasing complaints involving this species' affect on aquaculture activities. Regarding the former, conflicts with fishing gear are exacerbated when local residents and tourists feed pelicans near or on fishing piers. Local and state ordinances are under development to ban this practice and associated outreach efforts are now underway by local wildlife rehabilitators to educate the public about the issue. Overall, the Brown Pelican is doing very well compared to 30 plus years ago across the Southeast United States (Shields 2002), but is still a species receiving monitoring attention by all States with breeding populations and there is still a need for some management attention in localized areas.

Tricolored Heron is similar to the Reddish Egret in that its distribution is largely restricted to the Southeast U.S. Region, especially Florida and marshes along the Gulf coast. Very few sizeable colonies (outside the Mississippi Alluvial Valley) are found more than 100 miles from coastlines. Despite increases, local population declines along the South Atlantic Coast and Florida are suspected and research is needed to determine the causal factors in these declines. Regardless of overall stable or increasing trends, this species should receive monitoring attention to ensure continued population stability.

Great Egrets are widely distributed and use a variety of habitats worldwide, with the Southeast U.S. supporting a proportionally large percentage of the global population, warranting the **Planning and Responsibility** action level. Regionally, the species is increasing overall, but there are some recent declines in portions of the region, specifically in the Mississippi River Valley and Florida. This species is a habitat generalist, utilizing uplands as well as wetlands, so it is not clear whether declines particularly in Florida are directly attributed to the well documented loss of wetland habitat that has occurred in that state.

Several species are of Local or Regional Interest due to the fact that >50% of the Continental U.S. population is estimated to occur in the Southeast U.S. planning region. Snowy Egret, Glossy Ibis, Roseate Spoonbill, Anhinga, Neotropic Cormorant, and breeding Masked Booby all are at the **Planning and Responsibility** action level. Snowy Egret was once widespread and common throughout its range. During the plume hunting era of the early 1900s this species was decimated even more than other wading bird species due to high demand for its delicate breeding plumes. Although populations have recovered substantially in portions of the region there are still concerns for the species locally. Recent stresses include habitat loss and degradation, as well as competition for nest space with Cattle Egrets (Burger 1978).

The decline of Roseate Spoonbills in Florida Bay has received much media coverage and research attention with the potential for linking the fate of this species with the ongoing collapse of the Everglades ecosystem. However, Roseate Spoonbill is not the highest ranking long-legged wader found in Subtropical Florida and its connection with the deterioration of the Everglades is not as direct as with the higher ranked Great White Heron and Reddish Egret. The populations of these latter two species are much smaller and concentrated in an area of highest threat from deterioration of the Everglades (i.e., Florida Bay and the Keys). Roseate Spoonbills, on the other hand, have expanded along the Gulf and Atlantic Coasts of Florida and appear to be

doing well overall in Florida, Texas, and Louisiana. However, some researchers are concerned that apparent expansions may be the result of some previously unmonitored coastal colonies breaking into smaller colonies, giving the appearance of increasing trends when the species may actually be undergoing declines. More comprehensive monitoring of both population movements and local patterns in nesting success are needed to resolve this issue.

Glossy Ibis likely arrived from the Eastern Hemisphere during the early 1800s. Soon after this species reached Florida (perhaps by the late 1800s), it expanded and increased rapidly during the 1930s and 1940s. Glossy Ibis now breed as far north as Maine with population centers outside of Florida in the Mid Atlantic Coastal Plain. Westward movement along the Gulf Coast was not as rapid, but this species has now reached at least the Central Texas Coast and Central Oklahoma, where it co-occurs as a breeding species with White-faced Ibis populations. Surprisingly, documentation of hybridization is generally lacking between these two ibis species even where they have been found nesting in close proximity in coastal Alabama and in Texas. However, individual birds described as hybrids have been found recently where White-faced Ibis nest in small numbers and breeding-season records of Glossy Ibis have increased in central Oklahoma. The extent of hybridization where these two closely related species overlap most in Louisiana remains unclear.

Neotropic Cormorant appears to be expanding from Texas and Louisiana northward as at best a rare local breeding species in Oklahoma and Arkansas. Although Neotropic Cormorants are not nearly as common in economic conflicts as is its larger cousin the Double-crested Cormorant, this species is widespread and abundant throughout the Neotropics and keeping populations stable as opposed to encouraging increases seems the best course of action. Anhinga is another species of national conservation interest at this action level. Although their status is likely stable, little information is known about the migration, movements, or demography of this species. Additional monitoring is needed to understand the status, trends and threats for this species in the Southeast U.S. region.

Masked Booby is a fairly common and local breeder on many tropical islands throughout the world. In the continental United States, the only breeding records are from the Dry Tortugas, near the Florida Keys. All species of birds nesting on the Dry Tortugas are at risk for catastrophic habitat destruction resulting from hurricanes, as well as disturbance from boats, low-flying aircraft, and humans. Although this breeding colony accounts for a very small percentage

of the global population, it accounts for 100% of the U.S. breeding population and is therefore considered a high national responsibility species requiring **Planning and Responsibility**.

Other species of Local or Regional Interest wherever they occur are Great Blue Heron, White-faced Ibis, and breeding White Pelican all of which warrant **Planning and Responsibility** action level. Locally, especially in the Lower Mississippi Valley, Great Blue Heron and White Pelican may be subject to population control activities to alleviate economic conflicts associated with aquaculture. In general, these two species' populations in the Southeast U.S. region are stable or increasing. Increased monitoring and habitat conservation is needed to ensure continued viability of these populations in the region.

Most White-faced Ibis are found in the Southeast U.S. in Louisiana, where they have likely been present since before European settlement. The most recent dramatic increase for this species (as well as for many long-legged waders) in Louisiana is attributed to increased crawfish aquaculture since the 1980s. Elsewhere, both White-faced and Glossy Ibis have undergone declines locally, but overall they are both continuing to expand their distribution in all directions. Glossy Ibis are regularly found west of the Southeast U.S. and spread of White-faced Ibis has been underway as well with breeding documented as far east as Alabama in recent decades, as mentioned above.

At the **Population Control** action level are three species where future increasing population trends may be of questionable conservation value: Double-crested Cormorants (especially breeding) and Cattle Egret. Double-crested Cormorants have undergone dramatic increases in the last 20 years coming into major economic conflicts with aquaculture and possibly other resources, mostly during the winter months. This is especially an issue at aquaculture facilities in Alabama and Arkansas, where it has been suggested that populations be reduced to 1980s levels. However, most Southeast U.S. breeding colonies are in locations and numbers of pairs that do not yet exceed our best understanding of pre-1900 populations (except potentially in the Mississippi Alluvial Valley). Perhaps existing breeding population levels should be maintained, even if efforts are to be undertaken to reduce overall wintering populations in the Southeast U.S. (especially in the Lower Mississippi Flyway States; discussed under Depredation Control section of Appendix 1). In Mississippi, Double-crested Cormorants have been increasing to the point that populations at some colonies are likely greater than the pre-1900 levels. Since they compete

with other waterbirds for food and may impact aquaculture facilities, localized control measures may be necessary in areas where the breeding population has increased to such an extent.

Cattle Egrets arrived in the Western Hemisphere during modern times, similar to Glossy Ibis. First reports were from the northern coast of South America in the late 1800s, spreading northward to Florida by the mid-1900s and then almost country-wide in the United States by end of the 20th Century. Today, Cattle Egret is the most numerous of the long-legged waders in the Southeast U.S., likely because of its broader use of terrestrial habitat relative to other waterbirds. Concerns have been expressed by some observers that the spread and increase of Cattle Egrets may be disproportionately affecting Little Blue Herons and Snowy Egret as these two species use similar nesting habitat and tend to reach peak nesting activity relatively late (Burger 1978, Telfair 1994). There are strong suspicions that many Little Blue Heron colonies away from coastal areas are repeatedly overwhelmed by Cattle Egrets (see Little Blue Heron treatment above). Whether this is coincidence or a cause-effect relationship needs additional research however strong independent support for this hypothesis exists (Dami et al. 2006). In addition, Cattle Egrets seem to be the species most likely to establish colonies in human residential areas and near airports, therefore the species is the subject of health and safety concerns which often require depredation control.

Collectively, all long-legged waders and pelican allies are of conservation interest in the Southeast U.S. for all the reasons given in the introduction of this plan. So even species that are today widespread, common, and overall increasing are worthy of at least local if not regional monitoring attention. So in addition to the species above identified as Continental and Regional Species of Concern, or Regional Stewardship, there is also interest in keeping track of Anhinga, Great Blue Heron, Snowy Egret, both Glossy and White-faced Ibis, Roseate Spoonbill, and American White Pelican. All long-legged wading species often are used as sentinel species to assess local environmental conditions and habitat quality. Many of these species are undergoing local declines (e.g., Subtropical Florida, Central Texas Coast), but overall all these species (with the notable exceptions of species like Great White Heron, Reddish Egret, and Wood Stork) are doing very well in the Southeast U.S. and as far as we know across most of their hemispheric-wide distributions.

Recommendations for tree/brush nesting waterbirds:

1. ***Protect and manage nesting and foraging habitat throughout the region, especially for species in the top two conservation tiers (especially Great White Heron, Reddish Egret, Wood Stork, and Little Blue Heron)***
2. ***Obtain better population estimates for nocturnal or non-colonial nesting species within the next ten years, along with means to evaluate changes in population numbers, trends, and habitat use***
3. ***Assess the economic impact of wintering and migrating waterbirds on aquacultural facilities and sportfishing resources and develop strategies to minimize these interactions***
4. ***Minimize conflicts with commercial fishing gear for all species (especially for Brown Pelican and Magnificent Frigatebird)***
5. ***Increase monitoring of all priority species to determine regional population trends and continue specific attention to all species in Subtropical Florida***
6. ***Assess the impact of Cattle Egrets on Little Blue Heron nesting***
7. ***Control mammalian predation at colonies and eliminate predator access to nest sites***
8. ***Control fire ants at nesting colonies***
9. ***Increase monitoring attention on Greater Flamingos occurring annually in Everglades National Park, focus on documenting origins and determining local habitat use and detecting any signs of breeding behavior***
10. ***Resolve taxonomic status of Great White Heron***

BEACH-NESTING WATERBIRDS (LARIDAE)

In contrast to most long-legged waders, pelicans and their allies undergoing mostly increasing trends in the Southeast U.S., many beach or otherwise ground nesting waterbirds are declining or suspected to be declining. Collectively, terns and skimmers are today among the most vulnerable bird species in the Southeast U.S. due to their dependence on beaches, riverine sand bars, and unvegetated islands, mostly in coastal or near coastal environments. These habitats in many areas are under pressure from development, recreation, and management activities influencing heightened erosion problems. However, many of these species are long-lived, are reasonably tolerant of occasional (not constant) disturbances, and are somewhat flexible in use of artificial nesting areas, such as gravel roofs and dredge spoil islands (see Appendix 1).

There are no beach-nesting waterbird species in the **Critical Recovery** action level. The species requiring the most **Immediate Management** attention is the Common Tern, a Regional Concern species persisting mainly in the Carolinas, with very few pairs along the Gulf Coast. This species is definitely undergoing declines in the Carolinas and is essentially extirpated from

Texas, where it may formerly have bred until the early 1900s, however the accuracy of these unverified records has been questioned (Lockwood and Freeman 2004). The Chandeleur Islands in Louisiana have supported small numbers of nesting pairs in the past, but others may have been overlooked in multi-species colonies. Alabama may now have the largest nesting population along the Gulf Coast, consisting of about 75 pairs, where it was not known to have occurred previously. Common Tern is globally widespread and abundant so it does not qualify as a Continental Concern species. However, its conservation status in the region ranks it as the most vulnerable beach-nesting species in the Southeast U.S.

Four species are of both Regional and Continental Concern in the **Management Attention** action level: Roseate Tern, Gull-Billed Tern, Least Tern, and Black Skimmer. Continued declining population trends and movement of nesting birds away from even those areas with natural resource protection mandates strongly suggests not enough is being done to fully conserve these species and the need to elevate action level may occur in the near future. In addition to beach recreational use being, or becoming, a chronic problem on publicly managed lands, other issues such as elevated predator numbers (mammals, gulls, fire ants) also need to be addressed.

Roseate Tern is Federally listed as Threatened in Subtropical Florida, where about 300 pairs represent the only breeding population in the Southeast U.S. This population is aligned with the West Indies nesting population and not with those birds nesting in northeast U.S. and the Maritime Provinces (where the species is listed as Federally Endangered). The northern population migrates to their Caribbean wintering grounds well off the Atlantic Coast and are only rarely observed during pelagic trips or in coastal areas in the region. For this reason, the Plan focuses on the small breeding population in Subtropical Florida. Breeding sites for the 300 or so pairs left in the Lower Florida Keys are variable from year-to-year. Formerly nesting primarily in the Dry Tortugas, this species is now restricted to the Lower Florida Keys where recent nesting sites often consist of either gravel roof tops or artificial spoil islands (most recently Pelican Shoal) or otherwise where appropriate nesting substrates of sand and rubble islands exist. Predator-free sites with appropriate nesting substrate are increasingly difficult to find in the Florida Keys, so roof-tops may constitute the only safe nesting areas for this species. Roseate Terns are extremely sensitive to disturbance at nest sites, so all possible measures should be taken to eliminate or minimize disturbance at potential nest sites. In addition to problems on

the breeding grounds, this and other tern species may be killed in large numbers annually by market hunters on their wintering grounds along the northern coast of South America.

Gull-billed Tern, Least Tern, and Black Skimmer all nest in loosely formed colonies along coastlines. As with all beach-nesting species, protection of these colonies from human disturbance and predation are the ultimate conservation goal. Where possible, restoration of natural habitat or creation of high quality artificial nesting sites should be pursued. Nest sites created using deposited dredged material resulting from navigational channel maintenance have shown positive beneficial results for many beach nesting waterbird species (examples from Texas and South Atlantic Coast along with a detailed description of appropriate deposition techniques and island characteristics is provided in Appendix 1). Common Tern, Roseate Tern, Gull-Billed Tern, Least Tern and Black Skimmer join beach-nesting species of shorebirds such as Piping Plover, Snowy Plover, and American Oystercatcher to form a high priority group of vulnerable species which will continue to decline without conservation measures to protect nesting habitat however possible.

In addition to coastal beaches, the Federally Endangered Interior Least Tern also nests on sandbars along the Mississippi River and its major tributaries (Red, Arkansas, and Ohio rivers), as well as in the Rio Grande watershed. Although the distinctiveness of the interior subspecies is in dispute (Whittier et al. 2006), the listing is for the "distinct interior population segment" which is geographically described. Nevertheless, it seems ironic that the Federally listed Interior subspecies of Least Tern today may be much more secure and stable than the coastal unlisted subspecies/populations based on recent surveys and protection efforts (Lott 2006). Along the Mississippi Gulf Coast, Least Terns have declined from 12,500 adults in 1983 to less than 3,000 in 2005. Poor breeding success in many areas has been documented for the coastal populations of Least Tern and there has been a shifting from beach nest sites to gravel roof-top or spoil island nesting areas (Zambrano et. al 1997). Similarly, Gull-billed Terns and Black Skimmers also are being found using gravel roof tops, paved parking lots, and less suitable habitat instead of historical beach nesting sites.

In the Florida Keys, Roseate Terns have been nesting on a roof in Marathon since 1996 and is as successful (or more) as ground colonies on a per nest basis (Zambrano 2001). However, other roof tops are not ideal habitat and the number of buildings with roof tops covered in tar and gravel is reported to be in decline across the Southeast due to escalating maintenance costs

(DeVries and Forys 2004). This decline may spell further doom to already highly vulnerable species. There may be alternatives to replacing tar and gravel roofs. One such alternative is using rubber covered by styrofoam (to prevent sun degradation and provide insulation) and then pea gravel to hold down the styrofoam. Any present and future use of artificial nesting substrates should be considered important only as stop-gap measures. Protecting natural nesting areas on beaches from development, human disturbance, and predation (including fire ants) is the top conservation priority for these and all beach nesting species. Another conservation action is to use decoys or recorded calls to attempt to attract the Roseate Terns back to natural or restored habitat. This is being tried by Florida Fish and Wildlife Conservation Commission staff in the Dry Tortugas (R. Zambrano, personal communication).

Species that are restricted to nesting on small islands, well removed from predators, are generally more stable and secure than beach-nesting species. However, Sandwich Tern is one exception as this species is now considered of Regional Concern and warranting inclusion at the **Management Attention** action level. This is primarily due to the dramatic and recent loss of purportedly the world's largest colony located within the Breton National Wildlife Refuge (Chandeleur and associated islands), Louisiana prior to 1998 (see Brown Pelican above, J. Harris, pers. comm., based on annual survey results). To date, there has not been any indication of large scale compensatory increases at other known colonies in Texas nor in Florida (latter principally at Egmont Key in Tampa Bay, where there is also some concern over accelerated erosion rates).

Erosion problems on islands used by Sandwich Terns also affect Royal Tern, a Stewardship Species at the **Planning and Responsibility** action level, at these same locations. However, the Royal Tern is much more widespread and overall appears to be more stable in the Southeast U.S. Colonies are known to shift location from time to time, therefore decreasing trends in some colonies (which may include the movement of the entire colony), are often countered by increasing trends at other sites. These movements may occur among states, requiring independently organized monitoring efforts to be better coordinated. To rectify this situation, efforts are underway by Atlantic Coast states (VA, NC, SC, GA, and FL) to better coordinate monitoring efforts for Royal Tern through the activities of the Royal Tern Working Group. Relevant data will be shared and compared between adjacent states on a regular basis to assess the status of this species. Monitoring of local and regional populations for Sandwich and Royal

terns regionally is necessary to ensure healthy populations are maintained. Few specific management activities may be necessary other than to stabilize highly erodible nesting islands. An important exception is to ensure appropriate restriction of boat access during the breeding season to some of the most important nesting islands.

Besides the Royal Tern, four other Regional Stewardship species in the **Planning and Responsibility** action level are breeding Sooty Tern, Brown Noddy, Forster's Tern, and Laughing Gull. Although representing less than 1% of global populations, we included Sooty Tern and Brown Noddy as Regional Stewardship Species due to the fact that thousands of pairs occur in a very restricted area on the Dry Tortugas in Subtropical Florida. These two species are present annually and have been included in long-term monitoring projects sponsored by the National Park Service and the Florida Fish and Wildlife Conservation Commission. The colonies at Dry Tortugas represent all Brown Noddy nesting pairs for the Continental U.S. and almost all Sooty Terns as well (with a few widely scattered pairs found every year along both Atlantic and Gulf coasts). Although this area is well protected from development, other threats to the colony exist. Predation by rats and gulls on eggs and taking of adults by Peregrine Falcons are of concern (R. Zambrano, personal communication). Hurricanes are also reducing available nesting habitat for beach nesting species on the island.

Forster's Tern is the third tern species, with populations concentrated along the Atlantic Coast from the Carolinas northward and the Gulf Coast of Texas and Louisiana. Of the Larids, the Forster's Tern is the most restricted to marshes for nesting and foraging in the Southeast U.S., and overall the population appears to be stable in this region. However, there has been some concern for declines in the Gulf Coast populations, likely due to habitat loss. Recent hurricanes may have heavily impacted nesting populations of this species in Louisiana.

Laughing Gull presents a dilemma for conservation in the Southeastern U.S. planning region. One third of the global population occurs in the region, qualifying this species for **Planning and Responsibility**. However, in localized areas, Laughing Gull populations have increased dramatically and may be impacting other nesting high priority species. Conservation and management activities in the region should be addressed on a local scale for Laughing Gulls. In some cases, population control measures may become necessary where predation on nesting terns and plovers is considered serious. These issues should be evaluated and addressed on a case by case basis.

Additional species of Local and Regional Interest warranting **Planning and Responsibility** action level include small populations of Caspian and Bridled terns. Caspian Tern is of some local conservation interest in the Southeast U. S. with around 2,000 pairs scattered throughout the region. Because it is widely distributed globally, no specific conservation recommendations are offered in this plan for Caspian Tern independent of recommendations for other co-occurring nesting Larids. Breeding Bridled Terns also have a wide global distribution, but the very small breeding population in the Florida Keys warrants conservation attention in this region. Conservation recommendations for Roseate Terns apply directly to Bridled Terns also.

Two species of breeding gulls, other than Laughing Gull, have increased dramatically in the Southeast U.S. and are considered to be important predators on other coastal nesting waterbirds (especially terns and plovers). Herring and Great Black-backed Gulls have both expanded their range south into North Carolina where they have increased as breeding species in recent decades (about 1,000 and 200 pairs respectively). Where Herring and Great Black-backed Gulls are considered to be serious predators of other beach-nesting species, population control measures such as egg-addling and other disruptions of nesting may be necessary.

A very interesting situation has occurred during the last 15 years in Louisiana along the Chandeleur Islands (within Breton National Wildlife Refuge) where normally non-breeding "summering" Herring Gulls have hybridized with several Kelp Gulls that became resident in this area around 1989. The result was that up to 30 nesting pairs of large gulls existed by the mid-1990s, composed primarily of hybrid pairs forming what has been dubbed the "Chandeleur" Gull (Dittman and Cardiff 2005). These gulls essentially represent a hybrid swarm with no longer any pure Kelp Gulls, and a steady reduction in what few pure Herring Gull pairs remain to breed there. This hybrid swarm developed in isolation from major breeding areas for both species, with the closest Kelp Gull colonies in the Southern Hemisphere and Herring Gull nesting colonies in North Carolina. The interest in "Chandeleur" Gulls, for now is primarily an academic one, with respect to studying a unique situation which may shed light on how closely related large gulls may mix and potentially form "new" species. There has been no sign that these gulls cause depredation problems with other nesting species, but the future is uncertain for given the dramatic loss of potential nesting sites in this area since 1998 which is forcing remaining birds to nest in closer proximity to remaining pairs of other species (described above for Brown Pelican and Sandwich Tern above). With the dramatic reduction of nesting area, it is

possible that individuals and pairs have dispersed elsewhere, but there is as no documentation yet of successful breeding outside the Chandeleurs. It should also be noted that difficulty in distinguishing Chandeleur Gull from Lesser Black-backed Gull may result in under-reporting non-breeding individuals that have dispersed elsewhere in the Southeastern U.S.

Recommendations for beach nesting birds

1. ***Eliminate or at least reduce recreational use of publicly managed beaches where especially Least, Roseate, Gull-billed, and Common terns, and Black Skimmer nest***
2. ***Manage predators (including fire ants) at nesting beaches***
3. ***Protect and restore beach habitat where possible***
4. ***Encourage the use of alternative roofing materials beneficial to nesting birds (e.g. rubber covered by Styrofoam and pea gravel)***
5. ***Educate owners of buildings where seabirds nest about how to protect the birds or return fallen chicks to the roof***
6. ***Coordinate monitoring efforts and share relevant management information between states***
7. ***Control gull populations where impacting nesting waterbirds***
8. ***Increase creation and maintenance of artificial nest sites using dredged material***
9. ***Creation or use of incentive programs for private landowners, municipalities, and businesses to encourage protection, enhancement, or creation of critical habitat***

MARSHBIRDS

There is little doubt that species associated with marshes, savannas, and grasslands are among the highest priority Southeast U.S. waterbird species. Extensive habitat loss for breeding marshbirds has occurred throughout the Southeast U.S. planning region (see Appendix 1) in both fresh and salt water ecosystems. Additionally, similar habitat loss has occurred on northern breeding grounds, doubling the impact to those species that breed in the northern states and winter in the Southeast.

The Federally Endangered Whooping Crane, a species of Continental and Regional Concern is clearly still in need of **Critical Recovery** attention. This species requires little additional coverage in this plan as to its plight, present status, and future outlook. Of the 475 individuals accounted for during the fall of 2005, 217 are now wintering in and around Aransas National Wildlife Refuge in Texas, the resident wild flock in central Florida has 59 individuals, 64 make up the migratory flock originating in Wisconsin and wintering in Florida, and the remaining 135 birds are in captive flocks.

Since all wild Whooping Cranes winter in the Southeast U.S. and the only individuals breeding in the U.S. today are in Florida, this region obviously plays a crucial role in the ultimate conservation and recovery of this species. At Wood Buffalo Park in Canada, 58 nests were located in 2005, down from the record high of 61 in 2003. News from the experimental non-essential resident flock in central Florida is mixed, with a record high of 8 nests and 3 chicks fledged in 2003, and no chicks fledged in 2005. However, five cohorts of the experimental eastern migratory flock have successfully arrived at Chassahowitzka National Wildlife Refuge by December each year. Free-flying birds are arriving and wintering mostly in Florida, with small groups wintering in Alabama, Tennessee, North and South Carolina the last two years. Breeding pairs have been forming for the last several years in Wisconsin, with news that at least two chicks have been hatched in the wild as of this writing in 2006. Whether these or other chicks successfully fledge and survive the migration to Florida is still to be determined.

Despite the good news there are still many challenges to be overcome before Whooping Cranes are considered secure. Collisions with powerlines, birds being shot, and mortality by predators (especially bobcats) are constant threats, claiming a number of birds every year. Several other issues requiring careful management include: (1) lack of enough protected habitat for the expanding wild flock wintering in Texas, (2) water quality and quantity issues upstream from the Texas coast, (3) restoring additional suitable foraging habitat in and around Aransas National Wildlife Refuge through prescribed fire, (4) concern that habitat conditions at Chassahowitzka National Wildlife Refuge are not holding previous cohorts of migrant cranes and these birds now dispersing throughout Florida (prescribed fire may be needed here too), and (5) an increasing need for disease management where migrant birds are potentially mixing with resident birds in Florida.

A Regional Concern species of marshbird that requires **Critical Recovery** attention in the Southeast U.S. is the Mississippi subspecies of Sandhill Crane, which is Federally listed as Endangered. The Mississippi Sandhill Crane is now restricted to coastal southeast Mississippi (Jackson County), where approximately 120 wild birds reside in and around the 19,000-acre Mississippi Sandhill Crane National Wildlife Refuge. In addition, the U.S. Fish and Wildlife Service hopes the new Grand Bay National Wildlife Refuge in Alabama may soon support a second wild crane population with the restoration of appropriate habitat conditions.

Historically, resident Sandhill Crane populations outside of Peninsular Florida occurred from the Texas Coast to the western panhandle of Florida, but the Mississippi subspecies quickly narrowed to its present distribution with the loss of Texas breeding populations during the 19th Century, extirpation from Louisiana by 1910 and from Alabama by the1960s. The only other persisting resident population outside of Florida (and Cuba, where there is also an endangered subspecies) is now restricted to the Okefenokee Swamp National Wildlife Refuge in Georgia (treated below as part of the Florida subspecies).

Intensive habitat and population management for the Mississippi Sandhill Crane have been underway for nearly three decades with recent breakthroughs in increasing successful wild reproduction. Previously the population was supported almost entirely by captive breeding efforts. Habitat management for this species includes restoring pine savanna by filling ditches, harvesting dense patches of slash pine, and an aggressive prescribed burning program. Until recently, most prescribed burning was conducted during the dormant season to avoid conflicts with nesting cranes. However, more growing season burns have been conducted in savanna ecosystems during the last 10 years, noticeably increasing habitat quality. This may represent one important contributing factor associated with better reproductive success as more dense cover protects chicks from mammalian predators; although predation by Red-tailed Hawks remains a problem. Growing season burns are consistent with restoring historic ecosystem processes, as they mimic the peak lightning strike season, supporting optimal conditions for savanna plants and associated wildlife (e.g., wintering Henslow's sparrows). However, growing season burning requires greater levels of caution with respect to smoke management near major highways and an increasingly urbanized surrounding landscape.

Two marshbird species of both Continental and Regional Concern in the **Immediate Management** action level are King Rail and Black Rail. King Rail has definitely declined during the last 50 years, having undergone large scale range reductions and virtually disappearing from the upper Midwest and Northeast United States and Southeastern Canada. The King Rail is also in significant conservation trouble within the Southeast U.S. where the vast majority of the estimated population of breeding-aged adults (< 63,000 according to BBS surveys) persists in the United States today. Loss of habitat continues to occur at remaining strongholds within the region, primarily the Coastal Prairies and Marshes, Mississippi Alluvial Valley, Southeastern Coastal Plain, and Peninsular Florida (See Appendix 1-Wetland Loss).

Although long known to be declining in a number of Midwestern and Northeastern States, the range wide status of the King Rail has only recently come to the attention of conservationists throughout the species distribution. In some parts of the Midwest and Northeast U.S., suitable habitat conditions for this species remain, suggesting the population declines may be related to problems on the wintering grounds in the Southeast U.S. However, many Midwestern and Northeastern States do report a clear reduction in the type of wetland habitat considered most important to nesting King Rails usually coinciding with an associated increase in more deeply flooded habitats or conversion along the fringes of marshes to agriculture or development.

Because this species is considered a game bird and has a hunting season, the conservation and associated population management of King Rail has historically fallen under the auspices of the Central, Mississippi, and Atlantic Flyway Councils. Based on a combination of both Harvest Information Program (HIP) data since 1999 and Wing Survey data since 1997, the harvest estimate for King Rail in the U.S. averages about 640 birds, with maximum estimates of 1,100 birds per year during high harvest years (e.g., 1999 and 2001), and half that during low harvest years (e.g. 2000, 2002; Paul Padding in lit.). We do not know for sure the population size of King Rail, but overall this is a very small rate of harvest even for an uncommon game bird. Therefore, hunting does not explain the dramatic reduction in both distribution and abundance, unless harvest for some reason disproportionately comes from the remaining small migratory Midwestern and Northeastern populations. The more likely cause for severe population declines in King Rails is widespread loss of freshwater emergent wetlands to agriculture, development, and saltwater intrusion.

Outside of the remnant populations of Ontario, the Midwest and Northeast U.S., Cuba, and a small isolated population in central Mexico, the Southeast U.S. region has almost complete responsibility for the conservation of the King Rail. In the Southeast U.S. states, breeding King Rail populations today have collapsed outside of coastal habitat. The deltaic and Chenier plains of Louisiana and Texas still support the largest populations throughout the year. Observers in Texas, Louisiana, Florida, and South Carolina have noted that declines have occurred in recent decades even in these stronghold areas, which is supported by Breeding Bird Survey data.

Although the past and continuing losses of freshwater emergent wetlands is the greatest concern for this and a number of other Rallids in the Southeast U.S. (Eddleman et al. 1988; also see the Wetland Loss section in Appendix I), Meanley (1953) documented heavy use by King

Rail of rice fields in the 1950s provided some hope for this species. Since the 1960s this hope has evaporated as research (Reid et al. 1994) suggests changes in agricultural practices associated with farming rice fields since Meanley's surveys, has potentially made this habitat less available for King Rails. Practices such as second cropping, precision land leveling (reducing micro-topography necessary for nesting in flooded fields), increasing herbicidal use to reduce residual herbaceous cover (including moist soil plants), cattle grazing, and increasing use of pesticides that poison birds and/or reduce invertebrate prey all affect the value of rice fields as King Rail habitat. More recently, the suggestion has been made by several researchers (e.g., S. King, USGS, Baton Rouge, Louisiana) that despite these changes in managing rice fields, the biggest change leading to the collapse of King Rail populations in Arkansas (and perhaps elsewhere) is clearing emergent vegetation from ditches adjacent to rice fields. Although King Rails clearly use rice fields, more recent surveys indicate nesting attempts are primarily along field edges where tall emergent vegetation remains. These ditches are likely subject to high levels of nest depredation and deep flooding, but they may represent the only real nesting habitat remaining in agricultural areas. Mowing and herbicide application are now common practices on ditches in Arkansas, and essentially eliminate nesting habitat where they are used. In addition, especially in Louisiana and Texas, economics are driving some rice-growing areas to convert to other crops (like sugarcane) or other land uses which are incompatible with King Rail use.

Inland at National Wildlife Refuges and other conservation lands across the Southeast U.S., elimination or reduction of tall emergent vegetation in favor of submergent vegetation and open water for waterfowl have likely played a role in the decline of this species. In many such areas, mixed open water-emergent vegetation wetlands are lost to the dense overgrowth of tall emergent plants that do not provide habitat for King Rails. Management activities that maintain a ratio of approximately 50% open water to 50% short emergent vegetation and control overgrowth of tall emergent plants increases habitat use by waterfowl and many other waterbird species. Although the priority for managing wetlands on many public conservation lands is often to restore and conserve waterfowl populations, there is usually flexibility to support the needs of other waterbird species. There is a need to develop habitat management guidelines to help managers understand what they can be doing to provide habitat for marshbirds in addition to waterfowl, with the key for King Rails being the maintenance of very shallow flooded areas

within a managed wetland to minimize mammalian predator access while not being too deep to flood out a ground nest.

Black Rails in the Western Hemisphere are widely distributed but very locally occurring and highly isolated within this wide range. Worldwide population size for this species is not known, but is likely less than 50,000 breeding-aged adults. Black Rails are definitely undergoing range reductions and probable population declines (Hands et al. 1989, Davidson 1992, Eddleman et al. 1994). The Southeast U.S. supports most remaining eastern breeding populations (about 80 percent of no more than an estimate of 5,000 pairs) and almost all wintering populations today east of the Lower Colorado River. In the Southeast U.S. as with other inland locations, habitat loss and population decreases have occurred primarily away from coastal areas. For example, this species formerly occurred at least into the early 1900s in the Piedmont and Southern Blue Ridge associated with active and old beaver meadows. With the return of beaver in the Piedmont during the last 20 years, at least a few small Black Rail populations (e.g., mid 1990s near Athens, Georgia) have also rebounded.

Despite some small resurgence of Black Rails inland, the vast majority of birds remain near or along the Atlantic and Gulf coastlines in high elevation marshes which are rarely deeply flooded (less than 20 cm) and support mostly very dense and fine textured emergent marsh plants (grasses, sedges, rushes). These habitats are among the most vulnerable of coastal wetlands today from development pressure, altered hydrological patterns, *Phragmites* invasion, sea-level rise, invasion by fire ants, and improper management practices. Promoting deeper water conditions that would reduce the persistence of emergent marsh vegetation for the purpose of supporting waterfowl or mosquito control is detrimental to this species. New impoundments are not likely to be promoted in the future, so further decreases in habitat for Black Rails due to that activity are doubtful.

There are additional issues that may make existing habitat unsuitable or cause excessive direct mortality to Black Rails. Prescribed fires are often used to set back succession in existing marshes, primarily for the purposes of maintaining open water for waterfowl and long-legged wading birds. This practice may also produce and maintain good rail habitat but can lead to high direct mortality of Black Rails. This is a species that is notably reluctant to fly or flush except under extreme circumstances. Mortality of large numbers of Black Rail and other marsh species has occurred in Florida due to certain firing practices which resulted in the birds either being

suffocated by smoke or caught between several simultaneously lit ignition points and burned to death (Legare et al. 1998). The key to prescribed burning that overall benefits marshbirds, including Black Rail is in appropriate timing (emphasis more on late summer, early fall burning) and firing type (described under Habitat Management).

A Continental and Regional Concern marshbird species at the **Management Attention** action level is Yellow Rail. Like the Black Rail, this species is extremely secretive and little is known of its status, distribution, or ecology. In the Southeast U.S. Region, this species has a very limited distribution and occurs in habitats that are naturally localized and highly susceptible to loss or incompatible management activities. Although we have no real idea what the population trends are for Yellow Rails (Bookhout 1995), it is very likely to be declining due to habitat loss both on breeding and non-breeding areas.

Outside of very small isolated populations in central Mexico and the Pacific Coast of the United States, all the world's Yellow Rails (estimated to be less than 25,000 breeding-aged adults) winter in the Southeast U.S. Most Yellow Rails winter in the coastal prairies and marshes (also rice fields) of Texas and Louisiana, the wet pine savannas of the Southeastern Coastal Plain and Peninsular Florida, and similar habitat conditions in managed wetlands and isolated wetlands (e.g., Carolina bays) where emergent vegetation and shallow water persist through the winter months. All of these habitats are subject to alteration either through development pressure (drainage) or other hydrological disruptions, as well as fire suppression which allows trees to invade emergent wetlands.

Eight species of Regional Concern and in need of **Management Attention** are associated with marshes in the Southeast U.S. Of these, breeding Least Bitterns, Purple Gallinules, Pied-Billed Grebe, and American Coots in particular are associated with habitats roughly similar to King Rail, including mosaics of open water and tall emergent vegetation. These species likely have declined due to the outright loss of these emergent habitats throughout their ranges (see Wetland Losses in Appendix I). However, none of these species are as dependent as King or Black Rails on shallowly flooded habitat within mixed emergent wetlands, especially during nesting. For instance, Least Bittern is more tolerant of deeper water because it elevates its nest in the emergent vegetation to avoid flooding (Gibbs et. al 1992). It is still identified as a species of conservation concern, however, due to observed population declines often associated with wetland losses. All of these species to varying degrees also use rice fields for nesting (Purple

Gallinules especially as described below) and it is possible that with changes in how rice is cultivated as described above for King Rail, these species have declined as well, but perhaps to a lesser degree.

Purple Gallinules are widespread through the tropics, reaching the northern boundaries of their distribution in the Southeastern U.S. In emergent wetlands, they build elaborate rampways and nests, often on floating vegetation close to open water. Foraging occurs where plants such as lily pads enable Purple Gallinules to forage directly over water while walking on floating leaves. Due to their nest construction habits, a Depredation Order involving Purple Gallinules exists in the Code of Federal Regulations. The order allows the take and removal of nests from Louisiana rice fields as nest "structures" can cause significant damage by jamming equipment used in the harvesting of rice. Ironically, the U.S. Fish and Wildlife Service presently consider any species with a Depredation Order "overabundant" with goals to encourage population reductions. However, with the changes to how rice is grown, especially with more frequent harvesting, use of rice fields by Purple Gallinules has declined and the reason for the Depredation Order no longer exists. Whether this change itself has likely contributed to the recent steep declines of Purple Gallinule populations in the coastal prairies and marshes of Louisiana and Texas is suspected but not confirmed. This Depredation Order needs to be de-authorized and removed form the Code of Federal Regulations by U.S. Fish and Wildlife Service so that conservation of this species in the Southeast U.S. will be unambiguous.

In addition, Purple Gallinule is a game bird. Just as King Rail regulations are linked with Clapper Rail, Purple Gallinule regulations are linked with Common Moorhen as "gallinules," with a 70 day season and the bag limit of 15 for one or in aggregate of both species. All Southeast States have an open season on "gallinules," except Florida where the Purple Gallinule remains a fairly common and widespread resident. Outside of Florida, most Purple Gallinules have migrated outside the U.S. by the time the gallinule season is open and probably are rarely harvested by hunters.

Breeding (not wintering) Pied-billed Grebe and American Coot are generally not considered as high in priority as either Least Bittern or Purple Gallinule. Nevertheless, breeding Pied-billed Grebe is considered to be threatened or endangered by a number of states in the region. Conservation actions for breeding Pied-billed Grebe and American Coot populations would similar to those taken for King Rail, Least Bittern, and Purple Gallinule where management

activities support a 50-70 percent emergent vegetation cover with 30-50 percent open water and submergent vegetation.

Another Regional Concern species in the **Management Attention** action level is the American Bittern. Although not a regular breeding species in the Southeastern U.S., it is fairly common during winter, with the Southeast U.S. supporting perhaps a third of all North American breeding birds in the nonbreeding season. Since this species is typically very secretive, especially during winter, little is actually known about its migration and wintering habits. Throughout its range, American Bittern has been declining steadily for the last 30 years (Gibbs et al. 1992), likely due to habitat loss. It is presumed that conservation activities targeting rails and their allies during the breeding season would also benefit wintering American Bitterns. Several American Bitterns have been fitted with satellite telemetry units in the Upper Midwest (near Agassiz and Big Stone National Wildlife Refuges in Minnesota) and have been tracked to their wintering habitats along the Texas and Louisiana coasts, and South Florida (Margaret Anderson pers. comm.), lending some support to these assumptions.

Limpkin is also a species of Regional Concern in need of **Management Attention**. This species is widespread in tropical America; primarily occurring in the continental U.S. only in Florida (formerly, occasional nesting was suspected in South Georgia). Prior to 1900, Limpkin was considered locally common and relatively widespread in Florida, primarily associated with tall emergent wetlands, but also forested wetlands, where apple snails were in abundance. Shooting and habitat loss led to greatly reduced populations that had rebounded somewhat by the mid 1900s. Today, this species may number no more than 6,000 pairs in Florida, has definitely declined in the Florida Panhandle (Southeastern Coastal Plain) and is probably declining in Peninsular Florida.

Of particular concern is outright loss of apple snails, which may be due to altered hydrology, contaminants, replacement of native forage plants with exotic submergent and emergent plants, and perhaps competition from but exotic species of apple snails. The recent loss of Limpkin populations in the Florida panhandle, especially Wakulla Springs, is directly related to the complete loss of apple snails there, but why the snails disappeared is unclear. In south-central Florida, Federally Endangered Everglade Snail Kites join Limpkins in being dependent on healthy apple snail populations and a study of contaminant loads in snail populations (especially copper) has been initiated recently.

Clapper Rail is a species of Continental Concern at the **Planning and Responsibility** action level. The population of this species in the Southeast U.S. planning region appears to be largely unknown but may be declining in some areas where there have been substantial losses of estuarine emergent wetlands (e.g., Louisiana) and mangroves (Florida). However, acreage and condition of the estuarine (salt and brackish) low marsh habitats has been relatively stable overall since the 1970s from New England to Texas (see Wetland Loss in Appendix I for Southeast U.S. BCRs). As mentioned above in the King Rail account, this is a game bird with an open season from September 1 to January 20. A small but enthusiastic number of small game bird hunters specifically hunt this species in every state in the Southeast U.S. region. Hunting seemingly has exerted little impact on populations and hunting in turn may be a key reason for landowners in some areas to maintain marshes where economic pressures might otherwise lead to less compatible land uses. In addition to marshes, this species also inhabits mangrove forests in Peninsular Florida where there has been some conservation concern in the past associated with the loss of mangroves to development pressure. For this reason, Clapper Rail warrants higher level Management Attention in some BCRs.

Additional Stewardship species at the **Planning and Responsibility** action level includes the migratory Sandhill Crane populations (or subspecies: Greater, Lesser and/or Canadian). These populations are generally considered stable or increasing overall, with relatively low threats, and with the Southeast U.S. supporting large proportions of each of these populations at least seasonally. Monitoring attention is needed to ensure continued stability of these populations in the region.

Along the coast of Texas, the wintering population that includes two or more breeding populations of Sandhill Cranes, collectively referred to here as the “eastern” Mid Continental group, has been hunted since 1961. Several subspecies with various breeding regions across the northern U.S. and Canada comprise the “eastern” population that winters on the Texas coast south into Tamaulipas, Mexico, joining the prairie Greaters for a total of about 40,000 to 45,000 Sandhill Cranes each winter. Effects of hunting on the different populations wintering in the same area are not well understood, but under investigation across Texas. The relatively small populations of eastern Canadian and prairie Greater populations wintering mostly in east Texas are presently stable and increasing. However, there may be cause for concern as bag limits and hunting pressure are based on the status of the more abundant Lesser and western Canadian

populations, that mostly winter outside the region from west Texas to California. These more liberal bag limits may have disproportionately greater detrimental effects on the eastern Canadian and prairie Greater populations in the long-term.

Besides Sandhill Crane, other Additional Stewardship species at the **Planning and Responsibility** action level include nonbreeding populations Virginia Rail, Sora, and Franklin's Gull. Wintering Soras and Virginia Rails are widespread and common throughout the Southeast U.S. and are included here because of their status as game birds with an open hunting season. There is no information that would suggest these two species are in any conservation trouble in the Southeast U.S. Franklin's Gull is a locally common transient in the western part of the region, especially abundant during both northbound and southbound migrations in the Texas portions of the Coastal Prairies and in adjacent BCRs. Only moderate threats have been identified reflecting potential disturbance and habitat loss in concentration areas for the species.

Least Grebe is also a species of Local and Regional Interest as the Southeast U.S. harbors the only regularly occurring populations in the U.S., therefore warranting the **Planning and Responsibility** action level. This is the only species in the Southeast U.S. Region that is primarily restricted to the Tamaulipan Brushlands BCR, with populations also in the Tamaulipan Prairies portion of the Coastal Prairies and Marshes BCR. This is a widespread species in the tropics reaching its northernmost outposts in southern Texas. Although total population size and trend are unknown, there has been no indication of severe declines where it occurs in southern Texas.

Common Moorhen and the Florida subspecies of Sandhill Crane are Local or Regional Interest species also requiring **Planning and Responsibility** action. The resident Florida subspecies of Sandhill Crane has been undergoing an overall steep increasing population trend in Peninsular Florida, but has declined as a breeding species in Subtropical Florida, and an isolated Georgia population may be in serious trouble. Whereas most Florida prairie associated bird species are in some conservation trouble (Federally Threatened Florida population of Audubon's Caracara, Federally Endangered Florida Grasshopper Sparrow, Florida Burrowing Owl, Bachman's Sparrow, Henslow's Sparrow, and others), Florida Sandhill Crane has adapted very well to the increasing amount of prairie that has been converted to improved pasture. In contrast, the isolated Georgia breeding population, which along with the endangered Mississippi

subspecies, are the only breeding populations left in the Southeastern Coastal Plain BCR, is small and apparently declining.

Serious concern may be justified for the resident population of Sandhill Cranes found at Okefenokee NWR. This population is now functionally isolated from all other populations of breeding cranes. It is unclear how to treat the Okefenokee Swamp population as it is considered part of the Florida subspecies, but its isolation and genetic differences (which may be due to genetic drift) from both Mississippi and Florida populations may warrant distinct population segment status for considering possible Federal listing. Locally, more recent concerns over the health of the prairie habitat this population depends on require high priority attention. Ultimately the health of the Okefenokee crane population is tied directly to the health of the Okefenokee ecosystem and may represent one of the most important indicator species for the refuge staff to focus management attention on.

Past studies by Bennett (1989a, 1989b), and Bennett and Bennett (1990) demonstrate dependence of cranes on prairie habitats and the apparent reduction in this habitat type due to declining water levels. Cranes also may be subject to bioaccumulation if there are contaminant problems in aquatic habitats as has been suggested in studies of both aquatic and terrestrial fauna at Okefenokee. Collecting and testing feathers may be instructive here. Finally, the late October crane counts conducted annually since 1979 likely captured resident birds in most years, since migrants typically do not arrive until mid-November. Assuming these one day counts are in fact standardized surveys for resident cranes, they indicate substantial declines from 403 birds in 1989 (Bennett 1989a) to recent estimates of 15 (15 was the minimum from 1979-1990, usually 20-50). Bennett (1989a) discusses a connection between fire suppression attempts (or generally a reduction in fire events within the swamp) and the Suwannee Sill that has possibly led to extensive loss of prairie through conversion to shrub-scrub or swamp forest habitats. Nesting productivity also is reported as lower than other crane populations (Bennett 1990). This population appears to be in sharp decline and should be more closely monitored.

Common Moorhen, is of Local and Regional Interest, and is a fairly common breeding species on both the Gulf and Atlantic coasts. This species nests in a variety of wetland habitats, however, due to its secretive nature, realistic population estimates are difficult to obtain (though BBS survey is used here to attempt such estimates). Unlike other marsh nesting birds in the Southeast U.S., this species appears to be doing well across its broad range and certainly makes

substantial and successful use of heavily altered wetlands including farm ponds, canals, and even ditches. As mentioned under Purple gallinule, Common Moorhen is a game bird. Since populations appear to be stable overall, there is no indication of over harvest. Population assessment and monitoring are needed to determine if status and trends of breeding birds in the region.

Recommendations for marshbirds

WHOOPING CRANES:

1. ***Address water quality and quantity issues upstream from the Texas coast***
2. ***Restore foraging habitat through prescribed fire at Aransas and Chassahowitzika NWRs***
3. ***Increase disease management between resident and migratory flocks in Florida***

RAILS AND ALLIES:

1. ***Maintain 30-50 percent in open water (with favored submergent waterfowl food plants) and 50-70 percent in emergent wetland in areas managed for waterfowl production***
2. ***Build or maintain wetlands with "hummocky" topography and natural swales are where water depths do not exceed 25 cm***
3. ***Conduct surveys to obtain better population estimates for all species***
4. ***De-authorize the depredation order for Purple Gallinules***

REGIONAL STEWARDSHIP SPECIES

1. ***Increase monitoring attention to ensure continued stability of Regional Stewardship species***
2. ***Monitor status of the Okefenokee NWR Sandhill Crane population and use as indicator of overall ecosystem health***
3. ***Look at contaminants in Sandhill Cranes at Okefenokee NWR***
4. ***Continue to monitor the effect of hunting on wintering cranes in Texas***

OPEN WATER SPECIES

Among the highest priority issues effecting open water species are related to human activities and result in direct mortality, such as conflicts with fishing gear, releases of contaminants (especially oil spills), and collisions with structures. Highest impact contaminant releases are point source catastrophes that have immediate local impacts on any waterbirds in the vicinity. Other contaminant issues are perhaps less obvious and may include mercury accumulations in food or diving birds picking up lead sinkers as they are foraging. Collisions with buildings, transmission lines and communication towers are on the increase near shorelines and may

become even more serious if near shore wind turbines become an issue in the Southeast U.S. as they are now in the Northeast U.S.

No open water species were found to score high enough to be placed in the first action level of **Critical Recovery**. However, of specific interest for this plan are the ongoing documented problems associated with fishing gear and the resulting high mortality associated with several species of diving waterbirds that are of Regional Concern. Among these, the wintering Red-throated Loons may be the most heavily impacted by gillnets and is the highest priority among Regional Concern species in need of **Immediate Management**. Christmas Bird Count data indicate a possible decreasing trend along the Atlantic Coast for Red-throated Loons. Although Red-throated Loon is relatively local within the Southeast U.S., occurring regularly as far south as north Florida, it is only found in high concentrations along the North Carolina coast. In fact, where this species occurs in North Carolina it exhibits the highest wintering concentration along the entire Atlantic Coast.

Approximately 70,000 Red-throated Loons winter south of Cape May, New Jersey each year and mortality estimates from North Carolina to New Jersey associated with gillnet drowning equate to between 1 to 2.5 percent of that population per year (Forsell 1999). In North Carolina specifically, Red-throated Loons are found almost exclusively on the ocean and the more expansive saltwater estuaries, especially the Pamlico and Core sounds and the lower Pamlico and Neuse rivers. Specifically, concentrations are largest along the Outer Banks from Nags Head to Cape Hatteras, off any of the barrier islands from Topsail Island south to Fort Fisher, and from Pamlico Sound ferries. Among Southeast States, North Carolina is the only one that still has major fisheries where recreational and commercial gillnets are the principal legal gear in use. Red-throated Loons are typically more concentrated in deeper waters than co-occurring Common Loons, and existing data suggests the deep-setting of these nets may disproportionately impact the former species (65% versus 18% of birds found dead on beaches adjacent to areas actively fished using gillnets; Forsell 1999).

Horned Grebe and nonbreeding Magnificent Frigatebird are two open water species considered to be of Continental and Regional Concern at the **Management Attention** action level. Horned Grebe winters primarily within sight of the Atlantic and Gulf coastlines and is increasingly found as a transient during winter at the increasing number of reservoirs in the region. Reasons for declines in the breeding populations in western Canada are unclear, but

effects from the above sources of mortality may be contributing factors, although hard data are lacking. Nonbreeding populations of Magnificent Frigatebirds are common visitors off the coast of states in the Southeast region. They are subject to the same potential impacts as Horned Grebes and are similarly lacking in data.

At the **Management Attention** action level are several species of Regional Concern. Common Loons occur across the Southeast U.S. Atlantic and Gulf coastlines during winter as well as on almost all major lakes and reservoirs inland in at least some numbers. About 70% of all Common Loons (490,000-525,000, including both adults and immatures) are estimated to winter along the Atlantic and Gulf Coasts of the United States (Evers in prep.). In addition, to impacts from gillnets from North Carolina northward, this species is regularly among the most numerous species found dead and dying along beaches after oil spills during winter. In addition, national concern has been expressed regarding mercury and lead contamination. Mercury primarily affects loons through bioaccumulation, but there is high incidence of documented lead toxicosis in Common Loons with ingested lead sinkers or jigs. Despite these concerns, Common Loons appear to be increasing in North America. Nevertheless, management attention for wintering birds is warranted in the region.

Nonbreeding Common Terns, from populations breeding north of the Southeast U.S. Region, and Black Terns are both species that are primarily transient through the region. Both of these terns are considered Regional Concern species in need of **Management Attention** because they often concentrate in the same coastal areas supporting high concentrations of transient shorebirds, often sites identified as WSHRN sites and often under potential threat of conversions and human disturbances.

American White Pelican appears to be undergoing population increases, and is certainly expanding eastward during both breeding and wintering seasons. Breeding range now include the eastern Great Plains and Upper Midwest U.S. During winter, American White Pelicans now occur frequently in sizeable numbers along the Atlantic Coast northward to Georgia and South Carolina, where they were formerly very rare until 15 years ago. Recent surveys suggest the highest wintering populations now are likely along the Louisiana Gulf Coast, which may suggest a shift eastward from the Texas coast, possibly associated with extensive and continuing loss of coastal marshland and increasing open water in recent decades (King 2002). In line with this suggestion, large numbers of American White Pelican within the last 20 years also now spend

prolonged periods during migration (both fall and spring) in the Mississippi Alluvial Valley in close association with catfish aquaculture and many of these birds are among the wintering populations that eventually reach the Louisiana coast for at least month. In Kentucky, increasing numbers of White Pelicans (>1000) are associated with large reservoirs and rivers, representing a potential conflict with commercial sport fishing. Nonbreeding White Pelicans in the Southeast U.S. region are a species of Regional Concern at the **Management Attention** action level.

Although Double-crested Cormorants are the most common fish-eating birds to pose problems at aquaculture facilities, American White Pelicans are now also raising concern among the catfish growers of the Mississippi Alluvial Valley. Presently, the U.S. Fish and Wildlife Service issues depredation permits to take up to 3,000 American White Pelicans per year (principally in Arkansas, but also in Mississippi and Louisiana), with over a 1,000 reported taken in recent years. With a total population estimated to be less than 200,000 individuals (including young of the year), this take in the Mississippi Alluvial Valley constitutes 0.5 percent of the total population each year. This annual take combined with sometimes large-scale die-offs due to chemical contamination (e.g., several years ago at Lake Apopka, Florida, where hundreds died), regular mortality events associated with botulism, and relatively low global population size are all reasons why American White Pelican is considered to have High Threat levels in the Southeast U.S. planning region.

Although the majority of American White Pelicans occurring in the Southeast U.S. are non-breeders, there is a small, non-migratory population (400 pairs) on the Texas coast that was included at this action level as a species of local or regional interest at the **Planning and Responsibility** action level. Overall, the continental populations of this species have been increasing steadily for the past 20 years (Knopf 2004). This species winters throughout the coastal portion of the Southeast U.S. region. Major threats to this species are human disturbance at breeding sites and habitat loss, therefore planning and conservation actions are necessary to ensure population stability in the region.

Very large numbers of American Coot winter in open water throughout the region. Threats to this species generally are similar to other species wintering in the open water of lakes and impoundments, but overall threats are higher with regular massive die-offs associated with a disease referred to as AVM (apparently a toxin associated with cyanobacteria found on submergent vegetation that coots preferentially feed upon) in Southeastern U.S. reservoirs. In

addition to having high threats in the Southeast due to this disease, dead and dying American Coots also serve to pass the disease unto scavenging Bald Eagles (*Haliaeetus leucocephalus*) causing large die-offs for this species as well.

The nonbreeding population of Greater Flamingo, of wild origin, appears to be increasing in subtropical Florida and would seem to benefit from conservation activities directed at restoring habitat in Florida Bay as recommended for other priority species. However, the present deterioration of Florida Bay may nevertheless result in reductions of food resources necessary to support the increasing number of flamingoes found in Florida Bay, in line with high threats presumed for other species dependent upon Florida Bay (especially Great White Heron and Reddish Egret). For both non-breeding coots and flamingoes, research is needed to better understand water quality that may explain levels of real (disease for coots) and potential (reduction in food resources for flamingoes) ongoing and future threats.

Three Regional Stewardship species use open water habitats in the Southeast U.S. and require **Planning and Responsibility** attention: non-breeding populations of Double-crested Cormorant, Bonaparte's Gull, and Forster's Tern. Non-breeding Double-crested Cormorant populations were mentioned above and are subject in aquacultural areas to intensive population control measures to alleviate real and perceived depredation conflicts with aquaculture and certain reservoir fisheries (treated in more detail under Depredation Issues in Appendix I). Bonaparte's Gull is a wintering species principally along the Atlantic and Gulf coastline, but as with Horned Grebe and Common Loon, increasing numbers of this species are found during winter at inland reservoirs. Forster's Tern winters on coastal beaches, salt- and freshwater marshes, lakes, and rivers throughout the region and also is being found with increasing regularity at inland reservoirs. For both Bonaparte's Gull and Forster's Tern, threats are assumed to be low compared to the higher priority species listed above, but monitoring is suggested to track these species and provide for early detection of potential problems.

Other species of local or regional interest for this planning region include nonbreeding populations of Eared Grebe and Pied-Billed Grebe. These two species would benefit from any conservation actions directed at higher priority open water waterbird species. Therefore, no specific management recommendations have been provided for them.

Recommendations for open water species:

1. ***Evaluate direct mortality related to interaction with fishing gear***
2. ***Implement measures to minimize collision with offshore structures***
3. ***Protect breeding and foraging habitat from human disturbance***
4. ***Develop monitoring programs to track population status and trends***
5. ***Continue research to understand the link between American Coot mortality and water quality in certain reservoirs***
6. ***Better understand the status of non-breeding, wild origin, Greater Flamingoes and their preferred food in Florida Bay relative to continued deteriorating water quality there***
7. ***Participate in SeaNet program administered through Tufts University for reporting seabird mortality events (http://www.tufts.edu/vet/seanet/)***

PELAGIC WATERBIRDS

Waters in or near the Gulf Stream where it follows the South Atlantic Coastal Plain constitute a major feeding ground for a number of seabirds, especially off the coast of North Carolina (usually directly east of Cape Hatteras). The importance of the Gulf of Mexico for pelagic species is less well understood. Recent surveys conducted by researchers at Louisiana State University demonstrate that a number of high priority species are at least regular in occurrence. Imminent threats at this time appear to be primarily mortality as a result of commercial fisheries activities or caused by oils spills. Existing oil extraction in the Gulf of Mexico and the periodic resurgence of interest in exploration for oil deposits within the outer continental shelf, especially off the North Carolina coast, continues to be cause for concern. In addition to problems related to oil spills, lighting on ships and platforms may attract seabirds and result in collisions, causing injury or death, especially during inclement weather. A recently emerging threat to pelagic waterbirds is the installation of wind power generating turbines offshore, creating additional collision potential. Population estimates, regional distribution, and seasonal distribution and abundance of seabirds are not well understood anywhere within the region.

One species is of Continental and Regional Concern requiring **Critical Recovery** attention: Bermuda Petrel is found almost regularly now each year off the coast of North Carolina. Audubon's Shearwater is not as vulnerable, but is represented in the Southeast U.S. by the increasingly vulnerable West Indian breeding subspecies, with potentially the entire population concentrating at one time or another in pelagic waters off the Atlantic (principally) and Gulf

coasts of the Southeast U.S. Region. Therefore it has been placed as a species of Continental and Regional Concern in the **Immediate Management** action level.

Bermuda Petrel (also known as Cahow) is Federally Endangered and is, of the species covered in this Plan, the most vulnerable continentally to extinction in the forseeable future. However, there has been some recent good news for Bermuda Petrel (along with Whooping Crane, perhaps the next most vulnerable to becoming extinct) in recent population increases directly due to intensive and focused population management. As this population increases, the Gulf Stream waters covered in The Plan may serve as a more important foraging area for the Bermuda Petrel than previously realized. This species was thought to be extinct for 300 years before its rediscovery in 1935. No more than 70 Bermuda Petrel pairs are known today, but this is a significant improvement over a few decades ago. Increasing observations and documentation (photographs) provide evidence that Bermuda Petrels regular forage in the Gulf Stream waters off North Carolina (Wingate, pers. comm., Lee 1984; Lee 1987). As such, any potential mineral exploration on the Outer Continental Shelf, oil spills, and conflicts with longline fishing gear that come under Federal regulation now require consultation under the Endangered Species Act.

The Black-capped Petrel is considered to be among the species at highest risk continentally to becoming extinct (along with Bermuda Petrel and Whooping Crane, but unlike these species it is not Federally listed). However, most documented severe threats are on breeding grounds. Nevertheless, in waters off of the Southeastern U.S., Black-capped Petrel is presently considered to have moderate threats and is therefore in need of **Management Attention** in waters off of the Southeastern United States. The reason Bermuda Petrel is considered to have severe threats in the same area is due to much lower numbers of birds involved globally when compared with Black-capped Petrel and the loss of even a few birds could be catastrophic under the same threats analysis.

Black-capped Petrel, like Bermuda Petrel, was thought to be extinct throughout much of the twentieth century. However, the species was rediscovered in the 1960s numbers today may be as low as 2,000 and no more than 20,000 pairs (Wingate 1964), due to known declines since Wingate's study (Lee and Vina 1993). Breeding Black-capped Petrels are thought to be restricted to steep sea and inland cliffs along the La Selle Ridge in Hispaniola (mostly in Haiti). This species is almost certainly extirpated from all other previously known nesting areas (Lee

and Vina 1993, Wingate 1964, Haney 1987, Lee 1979, Lee 1984), but displaying birds in southeastern Cuba still suggest potential nesting there (K. Rosenberg, Cornell Lab of Ornithology). Regardless, the vast majority of breeding is suspected to be in Haiti and because of the Haitian social-economic instability, as well as possible use of petrel adults and young for food, it is not unreasonable to assume further declines to the global populations and thus greater vulnerability of the species to extinction. All evidence at present indicates that waters in or adjacent to the Gulf Stream between north Florida and southern Virginia comprise the primary non-breeding range of Black-capped Petrels. Concentrations of birds can be found along the Gulf Stream in U.S. waters throughout the year, but particularly in May, August, and late December through early January. The main foraging area appears to be along the Gulf Stream directly east of Cape Hatteras National Seashore, North Carolina. However, some birds are found with regularity off the coasts of South Carolina and Georgia. Concentrations occurring during winter, when peak breeding activity is underway, suggest that breeding birds forage along the Gulf Stream moving to and from breeding colonies (Lee 1987).

Potential threats to both Black-capped and Bermuda Petrels include human encroachment at breeding sites and offshore oil and gas exploration at Gulf Stream foraging sites pose several serious threats to both petrel species. Lighted ships and platforms that attract birds at night lead to deadly collisions with wires or other structures. Documented presence of Bermuda Petrels, especially, requires consideration for corrective lighting where conflicts are likely to occur. Increased mercury levels associated with oil spills are also of concern. The Black-capped Petrel seems to be rather exceptional in its high levels of accumulated mercury (Whaling and Lee 1982). The source of mercury appears natural (through food, primarily squid), but effects from an additional exposure to mercury caused by shipping spills or future oil exploration requires investigation.

Besides the Black-capped Petrel, three other species are of Continental and Regional Concern requiring **Management Attention**, all three are non-breeding species. Masked and Brown boobies regularly occur as pelagic species off both Atlantic and Gulf coasts, while Razorbill is restricted to the Atlantic Coast only rarely straying south of North Carolina. Both species of booby are subject to exposure from oil spills, and interaction with fishing gear. The Razorbill is the only regularly occurring Alcid wintering in the Southeast U.S., and while not

much is known about this species, it is presumed that it could be subject to some of the same threats identified about for Red-throated and Common loons and Horned Grebe.

Regional Concern species requiring **Management Attention** are Sooty Shearwater and Northern Gannet. Sooty Shearwater appears to be undergoing declines for as of yet unclear reasons. Northern Gannet appears to be increasing overall, but periodically large numbers are found dead and dying off the Atlantic Coast. Thousands died during the winter of 2002-2003, with over 1500 turned in to wildlife rehabilitators for unknown reasons. Necropsies were most consistent with "Emaciation Syndrome," which may involve dramatic change in mean water temperatures that affect food fish availability leading to physiological stresses and starvation. Other hypotheses for this large die-off include drowning in deep-set gill nets or disease.

Other Continental Concern Species requiring **Planning and Responsibility** are Greater and Cory's shearwaters (both with high concentrations off of Cape Hatteras), Band-rumped Storm-Petrel (possibly more regular in larger numbers in the Gulf of Mexico than in the Atlantic), Bridled Tern (regular off of both Gulf and Atlantic coasts), and Manx Shearwater (regular in the Atlantic at least south to North Carolina). Two other species of for which the region supports more than 50% of the U.S. population are nonbreeding Sooty Tern and Brown Noddy. These two species also require **Planning and Responsibility** and where possible, conservation actions should be taken to preserve their populations in the Southeast U.S. Region.

The major issues facing pelagic seabirds within the Southeast U.S. Region are (1) conflicts with fisheries, (2) exposure to oil and hazardous materials/operations, (3) debris ingestion and entanglement (see **Major Threats** section for more detail), and (4) habitat loss. Seabirds congregate throughout the year, both at breeding sites and nonbreeding roosts and loafing areas. These sites require protection and management to maintain their value to seabirds. The general approach to conservation for all the above species, regardless of conservation category or habitat suite, is to promote population increases (even for increasing species), minimize conflicts with humans (fishing, oil and gas, at breeding sites) and increase monitoring attention.

Recommendations for pelagic waterbirds:

1. ***Establish that foraging Black-capped Petrels foraging off Cape Hatteras are from the Haitian breeding population and determine relative importance of likely mortality from human exploitation in Hispaniola compared to exploitation of resources along the Outer Continental Shelf off the Atlantic Coast in the Southeast U.S.***
2. ***Evaluate interactions of all seabirds with commercial fishing operations***

3. ***Determine extent of seabird use of foraging area off Cape Hatteras, NC***
4. ***Implement measures to minimize collisions with lighted offshore structures***
5. ***Encourage expansion of beached seabird surveys to include all South Atlantic and Gulf coastal states to determine trends and causes of mortality***
6. ***Implement management recommendations in the National Plan of Action—Seabirds (http://www.fakr.noaa.gov/protectedresources/seabirds/national.htm)***
7. ***Report all dead or moribund seabirds to the SeaNet program administered through Tufts University (http://www.tufts.edu/vet/seanet/)***

Population Objectives

Establishing population objectives for waterbirds is a difficult undertaking since for most species existing population sizes are conjectural at best, making calculation of local and range wide trends a challenge. Whereas waterfowl, shorebird, and now landbird conservation plans covering the United States have made much progress on establishing existing population sizes for most species, either well established datasets are used or the species involved lend themselves to more reliable counting and large scale monitoring than many species of waterbirds. Nevertheless, progress is being made for establishing global, continental, regional, and more local population sizes especially for colonially nesting species and a few species or populations that have long been the focus of intensive management, such as for cranes.

Information is weakest for breeding secretive marshbirds at all scales because of their elusiveness and difficulty in sampling. Regional estimates for all non-breeding species are equally limited. The issues involving non-breeding species are many and complex, ranging from pelagic species to a number of openwater species (loons and grebes) where there simply have not been any attempts to develop comprehensive surveys for establishing population status. Even as we gain a better handle on nesting populations of colonial species, the status of those species breeding primarily north of the Southeast Region are poorly understood as they migrate through or winter in this region. Several colonially nesting species with well-established regional population status in the breeding season are joined during winter by breeding birds from other areas, which may replace local breeding populations or add to resident populations. Establishing population objectives under these complex conditions is very difficult. Below we describe the process we used to establish existing population status and where possible population objectives for colonial waterbirds, marshbirds, open water birds, and for those pelagic species it was possible to do so for.

Population Estimates

Estimates for breeding populations of most colonial waterbirds in the Southeast U.S. Region were obtained by asking state wildlife agency and other knowledgeable biologists to make their best guess as to the existing number of pairs for each species and within each state or BCR. All states provided information, but cooperators were generally uncomfortable with the level of accuracy they could provide. Using the principle that even though figures may not be exact, small estimates correspond with small actual populations and large estimates represent large actual populations, we established size categories for estimated populations for colonial waterbirds (Table 4a) and marshbirds (Table 5a). These general population estimates were used to calculate percent of the regional population represented by each BCR, as well comparing the region to total U.S. and Canada combined and global populations. The latter two estimates are based primarily on Delany and Scott (2002) and Kushlan et al. (2002). There is overlap among categories in recognition of the uncertainty associated with estimates provided, but the estimates themselves were used to place a species in the middle of a category. Some categories were split into three parts with the basic size representing the range and the high end ("a"), or at the low end ("b") represented separately (see box below).

Box 1: Size categories for population estimates based on breeding pairs of colonially nesting waterbirds.		
(1) <10 pairs	(5a) 900<2,000 pairs	(8a) 40,000<60,000 pairs
	(5) 500-1,000 pairs	(8) 10,000-50,000 pairs
(2a) 40<60 pairs	(5b) 400>600 pairs	(8b) 9,000>20,000 pairs
(2) 10-50 pairs		
(2b) 1>20 pairs	(6a) 4,000<6,000 pairs	(9a) 90,000<200,000 pairs
	(6) 1,000-5,000 pairs	(9) 50,000-100,000 pairs
(3a) 90<200 pairs	(6b) 900>2,000 pairs	(9b) 40,000>60,000 pairs
(3) 50-100 pairs		
(3b) 40>60 pairs	(7a) 9,000<20,000 pairs	(10a) 400,000<600,000 pairs
	(7) 5,000-10,000 pairs	(10) 100,000-500,000 pairs
(4a) 400<600 pairs	(7b) 4,000>6,000 pairs	(10b) 90,000>200,000 pairs
(4) 100-500 pairs		
(4b) 90>200 pairs		

Population objectives for nesting populations of colonially-nesting species were essentially of 3 types using the population categories:

(1) Maintain status quo within a specified population category.

(2) Promote population size to move into the next highest category.

(3) Promote population reduction to move into the next lower category.

In the remainder of this section, we primarily discuss objectives to maintain or increase colonial-nesting waterbird populations for priority species (the first two types listed above). Current population estimates and objectives for all breeding waterbirds in the region are outlined in Tables 4a and 4b. The same was done for marshbirds in Tables 5a and 5b (but estimates for most of these species, as well as Green Heron, Black-crowned Night-Heron, and Yellow-crowned Night-Heron, were based on a PIF based approach using BBS data to estimate total populations and then stepped down to the region and each BCR, following protocol in Rich et al. 2004) . Population reduction objectives (the third type listed above) are given for some Larid species that are serious predators on higher priority beach nesting species such as plovers, oystercatchers, and terns. However, population reductions are also necessitated in the case where significant conflicts with human interests occur. A detailed discussion on impacts of Depredation Orders and associated activities in the Southeast Region is presented in Appendix 1.

TREE AND BRUSH NESTING WATERBIRDS

This group, including the long-legged wading bird species as well as pelicans and cormorants has undergone several large scale population fluctuations over the past 100 years. As discussed previously in this document, regional wading bird populations dropped tremendously as a result hunting pressure due to the millinery trade in the early 1900s. No sooner were populations on the upswing than pesticides such as DDT that were heavily used in the mid part of the twentieth century severely impacted these same species, and to an even larger extent, the Brown Pelican. Although regional populations of these species have rebounded with habitat protection and legal protection, in this relatively small but critically important area for long-legged wading bird populations, the number of pairs estimated collectively today (minus Cattle Egret) comes to less than 500,000. This number multiplied by three (male, female, plus on average one surviving chick) comes to only 1.5 million birds, well below even the most conservative estimated population prior to the major declines after 1870. Clearly we will unlikely ever again see long-legged wading bird numbers approach historic populations in the Southeast U.S. Region (tens of millions), but we also should not be satisfied with targeting a very small percentage of that historic baseline either.

For this reason, this Plan encourages setting population objectives to continue increasing populations for most of these species in most Bird Conservation Regions and for the Southeast

Region overall. This was conceptually accomplished for the entire Region by placing existing population estimates (Table 4a) into categories (ranges of estimates) and proposing future objectives (Table 4b) to be at least one step higher for the life of this plan. Work still needs to be done in stepping down these objectives to BCR's and then each State in each BCR, but a percentage of the total population to be targeted by BCR is a first step. Specific objectives for the highest priority species are listed below. In some cases, the population estimates are for only one BCR or subBCR in the Region because either this is the only place the species occurs, or it is the only portion of the Region where there are significant issues for the species.

The general objective for all stable populations is to increase up to the next size category, see Tables 4a, and 4b for current estimated populations and population categories. Populations of these species would generally be expected to increase or remain stable. However, included in this category are all other long-legged waders (with the exception of Cattle Egret), breeding American White Pelican, breeding Double-crested Cormorant, Neotropic Cormorant, and Anhinga which are species for which population reductions may be recommended in some or all of the region because they are causing either ecologic (Cattle Egret) or economic (all others) impacts.

(1) Great White Heron – presently less than 1,400 pairs based on most recent data, but for now it remains in the 900>2,000 pairs category, increase to 1,000-5,000 pairs category.

BCR Objectives: Support a long-term average of ~2,500 pairs of Great White Herons for Florida Bay and Upper Florida Keys (< 1000 today) **and Lower Florida Keys** (<300 today)

(2) Reddish Egret – increase from 900>2,000 pairs category to 1,000-5,000 pairs category.

BCR Objectives: Support a long-term average of 2,500 pairs (~1,100 pairs today) **distributed as follows:**

(a) ~500 pairs Subtropical Florida

(<100-125 pairs today Florida Bay, <50 pairs Lower Keys)

(b) ~275 pairs for Peninsular Florida

(~50 pairs today Tampa Bay, ~50 pairs Merritt Island)

(c) ~1650 pairs for Texas Coastal Prairies (~850 pairs today)

(d) ~75 pairs for Louisiana Coastal Prairies (~40 pairs today)

(3) Little Blue Heron -- increase from 40,000>60,000 pairs category to 50,000-100,000 pairs category.

BCR Objectives: Support a long-term average of ~75,000 pairs total (~57,000 pairs today) distributed as follows:

(a) ~22,500 pairs in the Mississippi Alluvial Valley

(~13,800 pairs today in Louisiana, 2,000 in Arkansas, 1,000 in Mississippi)

(b) ~16,500 pairs in the Gulf Coastal Prairies

(~7,000 pairs today in Louisiana and ~5,000 in Texas)

(c) ~13,500 pairs in the West Gulf Coastal Plain

(~4,000 pairs today in Arkansas, ~4,000 in Oklahoma, ~2,000 in Louisiana, and ~650 in Texas)

(d) ~9,000 pairs in the Southeastern Coastal Plain

(SACP: ~1,350 pairs today in North Carolina, ~2,000 in South Carolina, ~1,000 in Georgia, ~1,000 in Florida; EGCP: ~1,500 in Alabama, ~600 in Mississippi

(e) ~8,000 in Oaks and Prairies

(~3,000 pairs today each in Oklahoma and Texas)

(f) ~5,000 in Peninsular Florida (<4,000 pairs today)

(4) Magnificent Frigatebird -- increase from 50-100 pairs category to 100-500 pairs category

BCR Objectives: Support a long-term average of ~150 pairs of Magnificent Frigatebird with existing 70-100 pairs at Long Key (Dry Tortugas) and re-establish colony at Marquesas Keys of 50-80 pairs.

(5) Breeding Wood Stork -- increase from 9,000<20,000 pairs category to 10,000 50,000 pairs category

BCR Objectives: Support a long-term average of ~25,000 pairs of Wood Stork

as follows (~10,000 pairs today):

(a) ~10,000 pairs in Subtropical Florida (~2,300 pairs today)

(b) ~10,000 pairs in Peninsular Florida (~4,000 pairs today)

(c) ~2,000 pairs in Florida's portion of the Southeastern Coastal Plain (1,500 pairs today)

(d) ~2,000 pairs in the Southeastern Coastal Plain of Georgia (<1,500 pairs today)

(e) ~1,000 pairs in the Southeastern Coastal Plain of South Carolina (<1,300 pairs today)

(6) White Ibis – maintain existing regional breeding populations, proportionally increasing breeding populations within Subtropical and Peninsular Florida.

BCR Objectives: Support a long-term average of ~200,000 pairs of White Ibis as follows (~150,000 pairs today):

(a) 15,000 pairs in Subtropical Florida (<5,000 pairs today)

(b) 40,000 pairs in Peninsular Florida (~35,000 pairs today)

(c) 75,000 pairs in Southeastern Coastal Plain (~17,000 pairs today in NC, ~16,000 pairs in SC, ~10,000 pairs in GA, ~10,000 pairs in FL, ~1,000 pairs in AL)

(d) 40,000 pairs in Coastal Prairies (~15,000 pairs today in LA, ~12,000 pairs in TX)

(e) 25,000 pairs in Mississippi Alluvial Valley (~18,000 pairs today in LA, ~500 in MS, ~100 in AR)

(7) Brown Pelicans nesting within Breton National Wildlife Refuge, Louisiana, BCR 37, have declined from over 15,000 pairs prior to 1998, to less than several thousand, with no indication as to where all the missing adults have gone.

BCR Objective: Determine fate of over 20,000 missing adult Brown Pelicans formerly breeding at Breton National Wildlife Refuge.

(8) Brown Pelican and Roseate Spoonbill populations as additional indicators for the health of Florida Bay and the Florida Keys.

BCR Objectives: Brown Pelican – increase to ~800 pairs (<500 pairs today):

(a) ~500 pairs in Florida Bay and Upper Keys (<300 pairs today)

(b) ~300 pairs on Lower Keys (<200 pairs today on Cottrell and Marquesas keys)

BCR Objectives: Roseate Spoonbill -- ~1,000 pairs in Florida Bay and Upper Keys (<600 pairs today, all in Florida Bay and Upper Keys)

(9) Tri-colored Heron – support long-term average in South Atlantic Coastal Plain (BCR 27) as follows:

(a) 1,500 pairs in North Carolina (~1,000 pairs today)

(b) 3,000 pairs in South Carolina (~2,000 pairs today)

(c) 2,000 pairs in Georgia (500-1,000 pairs today)

(d) 1,000 pairs in Florida (<1,000 pairs today)

(10) Greater Flamingo - may have formerly bred in Florida Bay and the Florida Keys and Bahamian nesting individuals definitely used this area post-breeding. **Objective: Increase monitoring attention for individuals occurring in Florida Bay, focus on documenting origins, determining local habitat use, and detecting any breeding behavior.**

(11) Green Heron, Black-crowned Night-Heron, and Yellow-crowned Night-Heron are all relatively common and widespread, but due to habitat use, as well as nocturnal habits of the latter two species, population estimates are based on estimates from BBS data, considered moderately reliable for Green Heron and very poor for both night-herons. Population estimates and population objectives for these species require independent confirmation.

Objective: Determine means to test use of BBS data or establish alternative approach to estimate regional populations within ten years. Develop means to

evaluate changes in population numbers, trends, and habitat use.

(12) Great Blue Heron, Great Egret, Little Blue Heron, Tricolored Heron, Green Heron, Yellow-crowned Night-heron, and Glossy Ibis have experiencing nesting declines in Peninsular Florida. Hydrological disruptions, increasing development pressures, contaminants, and potentially increased disturbance to nesting sites are some of the factors responsible. Other factors may also be working and continued investigation needs to be done.

BCR Objective: Determine causes of the trend and reverse for all colonially nesting wading birds in Peninsular Florida.

(13) Great Blue Heron, Great Egret, Black-crowned Night-heron, Yellow-crowned Night-heron, and White-faced Ibis are apparently declining along the Central Texas Coast potentially due to increasing disturbance of colonies, contaminants, or other factors.

BCR Objective: Determine causes for decline and reverse for nesting long-legged wading birds in the Central Texas Coastal Prairies and Marshes from east Matagorda Bay to Baffin Bay.

(14) Cattle Egret, breeding American White Pelican, breeding Double-crested Cormorant, Neotropic Cormorant, and Anhinga are all species that may impact either native species or economic interests in portions of the Southeast U.S. Region and for which no increase and potentially population decreases may be recommended.

Regional Objective: Maintain 400-600 pairs of American White Pelicans along the Central Texas Coastal Prairies and Marshes

Regional Objective: Maintain 5,000-10,000 pairs of Neotropic Cormorant primarily in the Coastal Prairies and Marshes (64%) and Oaks and Prairies (21%)

BCR Objectives: Maintain no more than 15,000 pairs (10,000 today) of Double-crested Cormorants in the Southeast U.S. Region as follows:

- **(a) no more than 10,000 pairs in Peninsular Florida** (7,000-8,000 pairs today)
- **(b) no more than 4,000 pairs in the South Atlantic Coastal Plain** (2,050 today distributed as follows: FL = 400; GA = 50; SC = 900; NC = 500; VA = 200)
- **(c) no more than 1,000 pairs in the West Gulf Coastal Plain and Mississippi Alluvial Plain** (~650 pairs today distributed as follows: LA = 200, AR = 200, MS = 250)

BCR Objectives: Maintain 10,000 – 50,000 pairs of Anhinga (10,000 pairs today) **with the following distribution:**

- **(a) 4,400 – 22,000 (44%) in South Atlantic Coastal Plain** (~4,500 pairs today as follows: AL = ~100, FL = 1,000, GA = 1,000, SC = 2,000, NC = 400)
- **(b) 3,700 – 18,500 (37%) in Peninsular Florida** (~4,000 pairs today)
- **(c) 1,000 – 5,000 (10%) in Mississippi Alluvial Valley** (~1,100 pairs today)
- **(d) 500 – 2,500 (5%) in the West Gulf Coastal Plain** (~500 pairs today)

BCR Objectives: Reduce Cattle Egret populations to < 200,000 pairs (~350,000 pairs in the region today) **distributed as follows:**

- **(a) 40,000 pairs in the Oaks and Prairies** (~70,000 pairs today)
- **(b) 40,000 pairs in the West Gulf Coastal Plain** (~70,000 pairs today)
- **(c) 30,000 pairs in the Gulf Coastal Prairies** (~60,000 pairs today)
- **(d) 30,000 pairs in the Southeastern Coastal Plain** (~60,000 pairs today)
- **(e) 20,000 pairs in the Mississippi Alluvial Plain** (~35,000 pairs today)
- **(f) 15,000 pairs in Peninsular Florida** (~30,000 pairs today)

BEACH-NESTING WATERBIRDS

Unlike the long-legged wading birds discussed above, many of the larids are showing decreasing trends and are highly vulnerable. Habitat loss, predation, and disturbance at nest sites are responsible for the majority of declines in this waterbird group (see **Status Assessment** section). The population objectives are generally to reverse these declining population trends and increase populations to the next higher category. However, several species of larids have experienced population increases to the point they are considered nuisance animals. In those cases, populations should be decreased to avoid impacts to more sensitive species and minimize negative interactions with humans.

(1) Roseate Tern – increase from 200 pairs to 500 pairs of Roseate Terns in the Lower Florida Keys **(Subtropical Florida)** by providing additional nesting habitat, mostly artificial dredge spoil islands or other artificial structures that are reasonably protected from disturbance and predators.

(2) Gull-billed Tern - increase from 1,000-5,000 pairs category to 4,000-6,000 pairs category.

BCR Objectives: Reverse declining trends and support a long-term average of ~5,000 pairs of Gull-billed Terns as follows (~3,000 pairs today):

(a) ~4,000 pairs in Coastal Prairies and Marshes

(~2,000 pairs today in TX, ~400 pairs in LA)

(b) ~850 pairs in Southeastern Coastal Plain

(~250 pairs today in NC, ~300 pairs in SC, ~50 pairs in GA, <50 pairs in FL, ~75 pairs in AL)

(3) Interior Least Tern - increase from 4,000-6,000 to 5,000-10,000 pairs category.

BCR Objectives: support a long-term average of ~6,000 pairs of Interior Least Terns as follows (~7,500 pairs today):

(a) ~3,500 pairs in the Mississippi Alluvial Valley

(~2,000 pairs today in MS, ~600 pairs in AR, ~300 pairs in TN, ~100 pairs in LA, and ~50 pairs in KY)

(b) ~1,000 pairs in the West Gulf Coastal Plain

(~350 pairs today in AR, ~100 pairs in LA, ~400 pairs shared between OK-TX)

(c) ~650 pairs in Oaks and Prairies (~550 pairs today shared between OK-TX)

(d) ~550 pairs in the East Gulf Coastal Plain of TN and KY

(450 pairs today in KY)

(4) Coastal Least Tern - increase from 9,000-20,000 pairs category to 10,000-50,000 pairs category (Present population estimates are probably lower than actual populations, but with few large colonies being transformed into many smaller colonies, many of these on rooftops where threats of habitat loss is now high, suggests being conservative on the population estimates but liberal on the population objectives).

(a) ~15,000 pairs in the Southeastern Coastal Plain

(~1,700 pairs today in NC, ~1,200 pairs in SC, ~750 pairs in GA, ~4,000 pairs in FL, ~500 pairs in AL, and ~2,000 pairs in MS)

(b) ~5,000 pairs in the Gulf Coastal Prairies and Marshes

(~3,000 pairs today in LA and ~750 pairs in TX)

(c)~5,000 pairs in Peninsular Florida (~4,000 pairs today)

(5) Black Skimmer - increase from 9,000-20,000 pairs category to 10,000-50,000 pairs category.

BCR Objectives: support a long-term average of 25,000 pairs of Black Skimmers as follows (~12,000 pairs today):

(a) 7,700 pairs in the Southeastern Coastal Plain

(~600 pairs today in NC, ~800 pairs in SC, ~300 pairs in GA, ~800 pairs in FL, ~250 pairs in AL, and ~300 pairs in MS)

(b) 15,000 pairs in the Gulf Coastal Prairies and Marshes

(~3,000 pairs today in LA and ~5,000 pairs in TX)

(c) 2,500 pairs in Peninsular Florida (~1,000 pairs today)

(6) Common Tern - increase from 900-2,000 pairs category to 1,000-5,000 pairs category.

BCR Objectives: support a long-term average of 2,500 pairs of Common Terns as follows (~1,250 pairs today):

(a) 2,000 pairs in the South Atlantic Coastal Plain

(~1,000 pairs today in NC, ~10 pairs in SC)

(b) 250 pairs in Gulf Coastal Prairies and Marshes

(~50 pairs today split between TX and LA)**,**

(c) 250 pairs in East Gulf Coastal Plain

(~75 pairs today in AL and <10 pairs in MS)

(7) Sandwich Tern – need to recalculate total regional population in light of dramatic declines at Breton National Wildlife Refuge, Louisiana, in BCR 37 from ~40,000 pairs to only a few thousand since 1998.

BCR Objectives:

BCR 37

(a) Determine fate of more than 35,000 pairs in the Gulf Coastal Prairies and Marshes that have left Breton National Wildlife Refuge since 1998

(~40,000 pairs today in LA and ~6,000 pairs in TX)

Outside of BCR 37, increase from ~6,000 pairs to 11,000 pairs as follows:

(b) 10,000 pairs in the Southeastern Coastal Plain

(~2,500 pairs today in NC, ~1,500 pairs in SC, ~700 pairs in GA, ~150 pairs in AL, and ~1,000 pairs in MS)

(c) 1,000 pairs in Peninsular Florida (~500 pairs today)

Populations of the following species are relatively stable. Objectives for these waterbirds are to maintain existing populations and/or increase to the next size category.

(1) Forster's Tern – increase from 6,000 pairs to 10,000 pairs

BCR Objectives:

(a) 2,000 pairs in the South Atlantic Coastal Plain (~1,000 pairs today in NC)

(b) 8,000 pairs in the Gulf Coastal Prairies and Marshes (~3,000 pairs each in TX and LA today)

(2) Sooty Tern – increase from 30,000 pairs to 45,000 pairs **(Subtropical Florida)**

(3) Brown Noddy – increase from ~2,000 pairs to 4,500 pairs **(Subtropical Florida)**

(4) Royal Tern – increase from 70,000 to 100,000 pairs as follows:

BCR Objectives:

(a) 40,000 pairs in the Southeastern Coastal Plain

(~11,000 pairs today in NC, ~5,500 pairs in SC, ~8,000 pairs in GA, ~2,500 pairs in FL, ~2,500 pairs in AL, and ~100 pairs in MS)

(b) 55,000 pairs in the Gulf Coastal Prairies and Marshes

(~21,000 pairs today in LA and ~17,000 pairs in TX)

(c) 5,000 pairs in Peninsular Florida (~2,500 pairs today)

Three species are recommended for population reductions as they are serious predators on higher priority beach nesting species such as plovers, oystercatchers, and terns.

(1) Reduce Laughing Gull numbers from 170,000 pairs to 100,000 pairs as follows:

BCR Objectives:

(a) 25,000 pairs in the Southeastern Coastal Plain

(~32,000 pairs today in NC, ~7,500 pairs in SC, ~800 in GA, ~1,000 in FL, and ~5,000 pairs in AL)

(b) 50,000 pairs in the Gulf Coastal Prairies and Marshes

(~35,000 pairs today in LA and ~65,000 pairs in TX)

(2) Reduce Herring Gulls populations in North Carolina from ~1,000 pairs to 750 pairs

(3) Reduce Great Black-backed Gull numbers in North Carolina from 100 pairs to 75 pairs

MARSHBIRDS

An attempt to develop population estimates for breeding marshbirds (grebes, bitterns, rails, gallinules, moorhens, coots, limpkins, and cranes) was made using data from Breeding Bird Survey (BBS) routes using the Partners in Flight approach (Rich et al. 2004, Rosenberg and Blancher 2005). Although there remain many unresolved issues with this approach in general (Thogmartin et al. 2006), BBS represents the best available information for producing preliminary population estimates for many North American birds where direct counts are impossible. Exceptions include population estimates for Limpkins which were based on extrapolations from information provided in Cox et al. (1994) and Bryan (1996), and direct count data available for Whooping Cranes (see website maintained the Whooping Crane Conservation Association: http://www.whoopingcrane.com/FLOCKSTATUS.HTM), Mississippi Sandhill Cranes (Mississippi Sandhill Crane NWR), and Okefenokee Swamp population of Florida Sandhill Cranes (Okefenokee NWR, data from mid-1980s), respectively.

A comparison between results from local and state based population estimates for long-legged waders (treated elsewhere in the Plan) and a BBS based treatment was conducted to test the applicability of this method. Estimates of percent of hemispheric population found within each BCR and for the region as a whole using the two approaches were amazingly close for most species (Hunter in preparation, data available upon request). This suggests BBS data may in fact be able to provide "ball-park" estimates for many marshbirds, at least in the Southeast. With no actual population estimates for most marshbirds, using a BBS approach was determined to be the best approach for providing at least preliminary population estimates for this plan.

For BBS data, we repeat (and where appropriate elaborate upon specifically for marshbirds) the methodology used as described in Rich et al. (2004) and Thogmartin et al. (2006; as part of their review of the procedure). Counts from acceptable routes in the 1990s were used for each species recorded on a route. Numbers of birds by species were averaged for every route in geopolitical regions formed by the intersection of state-province-territory and BCR boundaries. Averages from neighboring geopolitical regions were assigned if a geopolitical region was not sampled by BBS (such areas were usually very small, but most important for this exercise were those areas that extend south of the U.S.-Mexico International Boundary).

Averages from each geopolitical region were divided by the theoretical area covered by a BBS route (25.1 km^2) and multiplied by the area of the geopolitical region. BCR indices were

calculated by summing over all geopolitical regions within each BCR (which leads to an index to a population estimate for each species in each BCR). These BCR indices were in turn converted to population estimates after multiplying them by three adjustment factors accounting for pairs, detection area, and time-of-day. A single value for each of the three adjustments was assigned for each species consistently across its distribution.

For this exercise we assume that each marshbird detection represents at least one additional breeding adult that went undetected (thus multiplying indices by 2). We also assume that the effective detection distance is 200 meters for most marshbird species (an exception was Least Bittern where effective detection distance used was 125 meters). Finally, we assume the time-of day adjustments, recognizing peak detections with respect to the total time taken to run an average BBS route, would result in multiplying indices by numbers ranging from 1 for those species most visually obvious throughout an average survey (American Coot by 1.08, Common Moorhen by 1.13, Sandhill Crane by 1.25) to over 2 for those species where there were obvious average peaks of detection during the first half of an average survey (Purple Gallinule by 1.55, Pied-billed Grebe by 1.63, King Rail by 1.74, Least Bittern by 1.84, and Clapper Rail by 2.21). All of these assumptions are subject of course to future efforts to refine them.

BCR-wide population estimates indices were then added together to provide "BBS" area population estimates (essentially covering all of the sub-Arctic portions of the U.S. and Canada). For those species that also occur into the Artic where there are no BBS data, other data sources were used, but this applies in this exercise to only Sandhill Crane (see Rich et al. 2004 for details). In contrast, most of the breeding species treated here do have extensive distributions south of the U.S.-Mexico International Boundary (only King Rail and both cranes do not). To calculate population estimates for these species throughout the Western Hemisphere (i.e., global distribution for all species except Common Moorhen and Sandhill Crane), the BBS area population size was multiplied by the ratio of the total breeding range (based on NatureServe version 1 maps) to that in the BBS area, and thus assumes that population density is roughly the same inside and outside of the area of BBS coverage. Finally, for population estimates specifically for each BCR, the percent of hemispheric population within each BCR was derived by dividing the BCR estimate by the hemispheric estimate and these percentages served as the baseline for estimating BCR and planning region populations sizes (Table 5a) and for

determining future BCR-based objectives (subject to some modification as described in Table 5b).

As with estimates generated by local and state input for colonial waterbirds, marshbird estimates were placed into population size categories. Again, this is done recognizing some presently unknown level of uncertainty likely is involved in any of these population estimates (including almost all species where direct counts are used). In our judgment the differences are not likely to be orders of magnitude as described in the introduction to this section. All estimates for all waterbird species and percent of populations within each BCR covered in the U.S. and Canada are available upon request.

Population estimates are provided in Table 5a and population objectives in Table 5b. The population estimates and objectives presented here should be viewed as preliminary and subject to revision based on better information. As has been stated elsewhere with respect to using a BBS approach for landbirds, these estimates must be used with caution and represent a start, and not an endpoint, of what will hopefully be productive discussions within the Southeast Waterbird Planning Region, as well as within each Joint Venture and State, to better understand the status and distribution of marshbirds. One of the most daunting challenges we face specifically for future work with marshbirds is the need to develop effective means for evaluating our efforts, involving both experimental and theoretical work, to better integrate population objectives with habitat objectives therefore driving future conservation and management priorities for these species.

The following represents a summary of population objectives with emphasis on breeding and resident populations (but with some non-breeding population objectives for Whooping Crane, Yellow Rail, and American Bittern), with focus on species of regional and/or continental conservation concern (order follows their presentation in Table 3).

(1) Whooping Crane (experimental resident population) – increase from 1-20 pairs to a minimum of 25 productive pairs and 100 individuals by the year 2010 in Florida as described in the Draft Revised International Recovery Plan (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2005).

Whooping Crane (remnant natural migrant populations) - support in Texas existing ~200 adult and on average ~25 young from the Wood Buffalo National Park, Canada, and prepare for 1,000 individuals by the year 2035.

Whooping Crane (experimental migrant population) - Support throughout the Southeast U.S. (primarily Florida) existing ~40 adult and ~20 young from Wisconsin and surrounding States and prepare for at least 100 individuals (with at least 25 productive pairs) by the year 2010.

BCR Objectives: Support long term average of 315 pairs (91 pairs today)

a) **Support long term average of at least 25 productive pairs in BCR 31** (14 pairs today)
b) **Support at least 225 non-breeding individuals and prepare for up to 1,000 non-breeding individuals in BCR 37, central Texas Coast (i.e., Aransas NWR and surrounding coastal habitats), and during migration also BCR 21 (Oaks and Prairies)**.
c) **Support at least 65 non-breeding individuals and prepare for at least 100 non-breeding individuals, primarily in BCR 31, Peninsular Florida, but also BCR 27 (Southeastern Coastal Plain), and during migration also BCR 28 (Appalachians) and BCR 29 (Piedmont).**

(2) Sandhill Crane – increase from 1,000-5,000 pairs to the 4,000 to 6,000 pairs category, but the priority here is on the Mississippi Sandhill Crane where a minimum of 30 productive pairs and between 130 to 170 breeding aged cranes is needed to ensure short-term viablility for the subspecies (U.S. Fish and Wildlife Service 1991).

BCR Objectives: Support long term average of 4,500 pairs (2,900 pairs today)

a) **455 pairs in the Southeastern Coastal Plain** (180 pairs today)
   Minimum 30 pairs in the East Gulf Coastal Plain subBCR (coastal Mississippi and Alabama) (20 pairs today)
   425 pairs in the South Atlantic subBCR (Okefenokee Swamp in GA) (160 pairs based on mid-1980s estimates)
b) **4,000 pairs in Peninsular Florida** (2,720 pairs today)

(3) Black Rail – increase from 9,000 to 20,000 pairs to 10,000 to 50,000 pairs category.

BCR Objectives: Support long term average of 25,000 pairs (~12,000 pairs estimated today)

a) **15,000 pairs in the Southeastern Coastal Plain** (~7,000 pairs today)
b) **8,750 pairs in Peninsular Florida** (~4,000 pairs today)
c) **1,250 pairs in the Gulf Coastal Prairies** (~650 pairs today)

(4) King Rail – increase from 10,000 to 50,000 pairs to 40,000 to 60,000 pairs category.

BCR Objectives: Support long term average of 50,000 pairs (~34,500 pairs today)

a) **4,000 pairs in the Oaks and Prairies** (2,500 pairs today)
b) **1,000 pairs in the West Gulf Coastal Plain** (12 pairs today)
c) **1,000 pairs in the Mississippi Alluvial Valley** (~800 pairs today)
d) **6,000 pairs in the Southeastern Coastal Plain** (~830 pairs today)
e) **5,500 pairs in Peninsular Florida** (600 pairs today)
f) **32,000 pairs in the Gulf Coastal Prairies** (~30,000 pairs today; also this BCR likely supports populations arriving from breeding grounds outside this BCR during non-breeding months, but presently these populations are very small and add little to existing breeding population)

(5) Yellow Rail (non-breeding populations) – support high survival of almost all individuals remaining for this species, with global population estimate based on BBS of about 215,000 individuals, occurring each year in the Southeast U.S.

BCR Objectives: Support (regardless of actual population sizes) the following percentages of non-breeding individuals:

a) **5 percent in a combination of West Gulf Coastal Plain and Mississippi Alluvial Plain (and larger percentages during migration)**
b) **20 percent in the Southeastern Coastal Plain**
c) **20 percent in Peninsular Florida**
d) **55 percent in Gulf Coastal Prairies**

(6) American Bittern (non-breeding populations) – support high survival of about a third of all individuals, with global population estimate based on BBS of about 830,000 individuals, either migrating through or otherwise occurring each year in the Southeast U.S.

BCR Objectives: Support (regardless of actual population sizes) the following percentages of non-breeding individuals:

- **a) 5 percent in a combination of West Gulf Coastal Plain and Mississippi Alluvial Valley (and larger percentage during migration)**
- **b) 30 percent Southeastern Coastal Plain**
- **c) 5 percent in a combination of Appalachians and Piedmont (and larger percentages during migration)**
- **d) 20 percent in Peninsular Florida**
- **e) 40 percent in Gulf Coastal Prairies**

(7) Least Bittern – increase from 50,000 to 100,000 pairs to 90,000 to 200,000 pairs category.

BCR Objectives: Support long term average of 150,000 pairs (~70,000 pairs today)

- **a) 3,000 pairs in the Oaks and Prairies** (~300 pairs today)
- **b) 3,000 pairs in the West Gulf Coastal Plain** (~50 pairs today)
- **c) 6,000 pairs in the Mississippi Alluvial Valley** (~50 pairs today)
- **d) 6,000 pairs in the Southeastern Coastal Plain** (~1,500 pairs today)
- **e) 63,000 pairs in Peninsular Florida** (~30,000 pairs today)
- **f) 69,000 pairs in the Gulf Coastal Prairies** (35,000 pairs today)

(8) Purple Gallinule – increase from 5,000 to 10,000 pairs to 9,000 to 20,000 pairs category.

BCR Objectives: Support long term average of 15,000 pairs (~8,000 pairs today)

- **a) 300 pairs in the Oaks and Prairies** (~50 pairs today)
- **b) 300 pairs in the West Gulf Coastal Plain** (~50 pairs today)
- **c) 300 pairs each in the Mississippi Alluvial Valley** (~50 pairs today)
- **d) 1,500 pairs in the Southeastern Coastal Plain** (~850 pairs today)
- **e) 1,800 pairs in Peninsular Florida** (~1,000 pairs today)

f) **10,800 pairs in the Gulf Coastal Prairies** (~6,000 pairs today)

(9) Limpkin – increase from 4,000 to 6,000 pairs to 9,000 to 20,000 pairs category.

BCR Objectives: Support long term average of 15,000 pairs (a minimum of 5,000 pairs today)

a) **3,000 pairs in the Southeastern Coastal Plain** (1,000 pairs today)
b) **12,000 pairs in Peninsular Florida** (minimum of 4,000 pairs today)

(10) American Coot – increase from 9,000 to 20,000 pairs to 10,000 to 50,000 pairs category (these numbers may need to be revised downward when co-occurring non-breeding populations can be surveyed separate from breeding populations).

BCR Objectives: Support long term average of 25,000 pairs (~10,000 pairs today)

a) **2,500 pairs in the West Gulf Coastal Plain and Mississippi Alluvial Valley combined** (~1,200 pairs today)
b) **2,500 pairs in the Southeastern Coastal Plain** (~850 pairs today)
c) **3,750 pairs in the Appalachians and Piedmont combined** (~300 pairs today)
d) **7,500 pairs in Peninsular Florida** (3,000 pairs today)
e) **8,750 pairs in the Oaks and Prarires, Tamaulipan Prairies, and Gulf Coastal Prairies combined** (4,000 pairs today)

(11) Pied-billed Grebe – increase from 10,000 to 50,000 pairs to 40,000 to 60,000 pairs category (these numbers may need to be revised downward when co-occurring non-breeding populations can be surveyed separate from breeding populations).

BCR Objectives: Support long term average of 50,000 pairs (~23,000 today)

a) **7,500 pairs in the West Gulf Coastal Plain and Mississippi Alluvial Valley combined** (~1,750 pairs today)
b) **10,000 pairs in the Southeastern Coastal Plain, Appalachians, and Piedmont combined** (~2,300 pairs today)
c) **10,000 pairs in Peninsular Florida** (~4,000 pairs today)
d) **22,500 pairs in the Oaks and Prairies, Tamaulipan Brushlands, and Gulf Coastal Prairies combined** (~15,000 pairs today)

(12) Clapper Rail – increase from 10,000 to 50,000 pairs to 40,000 to 60,000 pairs category.

BCR Objectives: Support long term average of 50,000 pairs (~37,000 pairs today)

a) **25,000 pairs in the Southeastern Coastal Plain** (~18,000 pairs today)
b) **5,000 pairs in Peninsular Florida** (~3,000 pairs today)
c) **20,000 pairs in the Gulf Coastal Prairies** (~16,000 pairs today)

(13) Resident Least Grebe (the most locally occurring species treated here, only found in southern Texas) and Common Moorhen (the most secure species treated here) are not species of regional or continental conservation concern, and should remain at least stable, but would benefit from conservation efforts targeting those species of concern where they co-occur.

(14) Non-breeding Sora, Virginia Rail, and migratory Sandhill Crane populations also are not species of regional or continental concern, but are species of management interest (especially where hunted). Interested parties should refer to their respective Flyway Council for any population management plans and objectives that have been developed for these species. These species would also benefit from conservation efforts targeting other marshbirds.

OPEN WATER AND PELAGIC WATERBIRDS

No current population estimates exist in the region for open water and pelagic waterbird populations. Therefore, the main population objectives for open water winter birds and pelagic species are reducing mortality due to contaminants, by-catch and other conflicts with fishing gear, etc. Several of these species are highly imperiled, and require attention for survey and monitoring efforts. Obtaining better population data is critical to evaluating the current status of these waterbirds and effectively establishing population objectives for the region.

Habitat Management

Active management of waterbird nesting sites has become a necessity throughout much of the southeastern United States. With the growing human population primarily confined to a

region within 50 miles of the coastline, the need for active management, protection and restoration of waterbird habitats is not likely to change. Therefore, a key goal of waterbird management in the southeastern United States is to maintain high quality habitats for waterbirds throughout their annual cycle of breeding, migration, and winter. This is essential to ensuring stable waterbird populations and reversing declining population trends.

Identifying high quality sites that regularly support significant numbers of waterbirds, or have the potential to support waterbirds with appropriate management or restoration, across a broad spatial scale is paramount. The Important Bird Areas (IBA) program, a global initiative implemented in the United States by the National Audubon Society, provides a useful framework for identifying sites that are important for waterbirds. Sites are identified as IBAs based on the number of individuals and the proportion of the state, regional/continental, and global population that regularly occur at the site. State IBA programs are currently underway in nearly every state in the southeastern United States. Additional information about IBAs can be found at www.audubon.org/iba.

Erwin (2002) points out that knowledge of waterbird habitats, especially wetlands, beyond the number of birds at a particular site is important to assess the relative value of a site. Furthermore, simply relying on the number of birds at a site may present a false sense of importance (Van Horn 1988). Managers could benefit greatly from additional information that could lead to the determination of a population as a 'source' or 'sink' for a particular species. While this is beyond the scope of the IBA program, sites that regularly support significant concentrations of a single species or large, multi-species aggregations of waterbirds are worthy of further study.

Active and legal protection for important waterbird habitat is warranted throughout the region. Both state and federal laws protect non-game waterbirds from being killed, harassed, molested, or otherwise harmed; and laws govern the limited take of species that are hunted, such as coots and some species of rails. Existing laws are largely inadequate to protect waterbirds from harmful disturbances, or protect critical waterbird habitats from being degraded or destroyed.

Many states have programs that actively protect waterbird nesting sites on state or federal agency lands, or non-governmental organization lands. The United States Fish and Wildlife Service and National Park Service have active waterbird protection programs at National

Wildlife Refuges, Seashores, and Parks. Additional waterbird areas are protected by non-governmental conservation organizations, such as Ducks Unlimited, The Nature Conservancy, the National Audubon Society and others. The National Audubon Society, for example, has waterbird sanctuary systems in North Carolina, Florida, and Texas where waterbird habitats, primarily nesting sites, are actively protected and managed. Protected sites are usually, but not always, posted, monitored, often patrolled regularly by uniformed personnel, and access can be legally restricted if necessary. This level of protection is an important component in the overall management of waterbird habitat, especially nesting sites. Waterbirds could benefit greatly from establishing or expanding waterbird sanctuary programs throughout the southeastern United States.

Fortunately, waterbirds respond well to and benefit from passive and active habitat management, and habitat protection. Protecting, managing and restoring nesting sites and appropriate habitats at these sites are important for sustainable waterbird conservation. Legal protection and active management of habitats and minimizing human disturbances should be combined with education at local, state, and regional levels throughout the region, especially at nesting sites (see **Education and Outreach** section).

Protection of waterbird habitats requires action beyond any existing regulatory constraints currently in place at the state and federal level. Fee title acquisition and conservations easements are important tools to secure permanent protection for wetlands. Long-term leases and cooperative agreements are slightly less secure, but still can be effective for the term of the lease or agreement. Financial incentives are yet another way to encourage private landowners to protect wetlands. Some states in the southeastern U.S. already offer financial incentives in the form of tax deductions and credits for landowners willing to sell, donate, bargain sale, or place permanent restrictions on use of their land.

Recommendations

1. ***Important Waterbird Areas should be priority areas for waterbird conservation, protection, and management actions.***
2. ***Identify opportunities to improve, restore, or protect potential waterbird nesting sites, and other potential important waterbird areas.***
3. ***Representative nesting sites in each state should be targeted for intensive monitoring, which should include (but not be limited to) nesting success, food and foraging, and habitat studies***.

WETLANDS (GENERAL)

Wetlands are, of course, vital for species whose life cycles are closely tied to aquatic habitats. They provide habitats for waterbirds throughout the year. Most require little active management, but they are in great need of long-term, sustainable protection. Wetland loss in the southeastern United States represented 89% of the wetlands lost in the United States in the mid-1980s (Hefner et al. 1994). Much of this loss resulted from conversion of wetlands to non-wetland uses (Hefner et al. 1994, Dahl 2000). Protection of the form and function of wetland ecosystems, including natural water flow and seasonal patterns, water chemistry, biotic communities, and geologic features are important to waterbird conservation. Throughout the southeast region, we should strive for no net loss of wetlands/type and reduce or eliminate the conversion of wetlands to other wetland or non-wetland forms.

Restoration can be beneficial to waterbirds. Projects such as the restoration of the Florida Everglades, the largest wetland restoration project in the United States, will hopefully restore vast areas of wetland habitats that once supported the largest concentrations of waterbirds in the United States. Other projects, such the restoration of the Kissimmee River in Florida; bottomland forests along the Mississippi River; along with restoration of natural water flow patterns in other river systems, freshwater marshes, and tidal wetlands; beneficial uses of dredged material (see Appendix 1); and numerous estuarine and freshwater emergent wetland restoration projects throughout the Southeastern United States will all likely reap benefits for waterbirds. Opportunities for restoration of habitats important for waterbirds should be identified throughout the region.

Dredged material has been used to create and restore waterbird nesting sites for decades, but only in the past decade have large-scale projects been initiated to restore estuarine marsh. Efforts to restore marsh using dredged material are underway in several states, including Louisiana and Texas, where large areas of estuarine wetlands have been lost in recent decades. Studies documenting bird use of such created salt marshes have shown mixed results (Melvin and Webb 1998, Darnell and Smith 2004) which are generally related to availability of different habitat types created by geomorphic landscape features. Much has been learned in the past decade, but much more knowledge about the long-term effectiveness of large-scale marsh creation with dredged material is needed.

Managed or impounded wetlands exist throughout the Southeastern U.S. Most are managed by state and federal agencies, conservation organizations, individuals, or hunting clubs. Historically, most of these wetlands have been managed primarily for the benefit of waterfowl. The past decade has seen a more broad and integrated approach to wetland management for the benefit of all bird species, game and non-game alike, especially on federal lands. Developing waterbird-specific habitat management guidelines for federal, state, NGO, and private land managers would be very useful (see section on recommended **Conservation Actions**). In many cases, slight alterations of seasonal water management, open water to emergent vegetation ratio, and vegetation management could provide great benefits to waterbirds.

Integrated wetland management requires flexibility, cooperation, careful planning, partnerships, education, and good science (Parsons et al. 2002). Erwin (2002) discussed five elements of integrated wetland management for waterbirds: taxonomic, spatial, temporal, population and habitat, and multiple use management. The ultimate benefit from broad and integrated management of man-made or man-modified wetlands, such as impoundments, can be increased high quality habitats for waterbirds year round, as well as high quality habitats for other birds such as shorebirds and waterfowl.

Recommendations:

1. ***An inventory of managed wetlands on state, federal, and non-governmental conservation lands, an assessment of existing conditions at these wetlands, and opportunities for broad, coordinated and integrated management should be explored.***
2. ***Opportunities for restoration of wetlands important for waterbirds should be identified throughout the region, with an emphasis on restoring wetlands types that have experienced the most declines in the region (freshwater marshes, estuarine marshes).***
3. ***Resource and regulatory mangers should strive for no net loss of wetlands throughout the southeastern United States.***

EMERGENT WETLANDS

Emergent wetlands support nearly all species of waterbirds in the Southeastern U.S. at some stage of their annual cycle. These highly productive habitats are critical to rails (breeding and non-breeding) as well as other marsh bird throughout the year, provide nesting habitat for some species of wading birds and Forster's Terns, foraging habitat for nearly all waterbird species in the region, and serve as vital nurseries for most prey species consumed by waterbirds, among other values.

Despite their many values, estuarine and freshwater emergent wetlands continue to be lost in the Region. From 1986 to 1997, an estimated 5,850 ha (14,040 acres) and 496,400 ha (1,190,400 acres) of estuarine emergent wetlands and freshwater emergent wetlands, respectively, were lost in the conterminous U.S. with much of the loss occurring in the Southeastern Region (Dahl 2000). Southeastern Coastal Plain (BCR 27), Peninsular Florida (BCR 31), Gulf Coastal Prairies and Marshes (BCR 37), and Mississippi Alluvial Valley (BCR 26) had the greatest losses in the Southeastern US. Conversion to agricultural development, upland, and shrub/forested wetlands, along with conversion to subtidal habitats accounted for most of the loss. See Appendix 1 for a summary of wetland losses by BCR and habitat type.

Specifically, for freshwater emergent wetlands, there is a serious need to halt further losses and start reversing the trends underway. Beyond halting the declines, in order to start reversing the likely decline of many marshbirds closely associate with freshwater emergent wetlands, it is necessary to establish at least broad habitat acreage objectives and begin implementing restoration immediately. As discussed in Appendix 2 under the section entitled "Emergent Wetlands," on average about 100,000 acres of freshwater emergent wetland was lost each year in the decade from 1986 to 1997 and there is no reason to think the trend has slowed. As an initial attempt at setting habitat objectives, We wish to emphasize the need to ensure that such restoration allows for high percentages of "tall" emergent marsh plants (bulrushes, maidencane, cattail, etc.) to be mixed in with open water and other emergent species (such as lily pads, pickerel weed, etc.). Tall emergent plant presence indicates a shallow water component that corresponds usually with enough topographic relief to support at least some higher ground ("ridges") within the wetland necessary to support nesting Black and King rails, as well as providing excellent cover for Least Bitterns, grebes, gallinules, and coots that are not as dependent on higher ground for nesting within emergent wetlands.

The objectives listed below were based simply on the premise that many thousands of acres of freshwater emergent wetlands have been lost in the last 30 years from all BCRs in the Southeast U.S., and that any net increase is movement in the right direction. We propose the following for consideration, assuming it is possible to actually restore 200,000 acres of emergent wetlands in the next 10 years. For BCRs east of the Mississippi Alluvial Valley, we suggest as a starting point 50% of the regional objective, 100,000 acres, and divide this first by BCR, then by sub-BCR for Peninsular Florida and by sub-BCR and then by State for the Southeastern Coastal

Plain. Similarly, 100,000 acres are assigned for consideration to the Mississippi Alluvial Valley and BCRs to the west and south (West Gulf Coastal Plain, Oaks and Prairies, Gulf Coastal Prairies and Marshes, and Tamaulipan Brushlands) and within each BCR suggested objectives were divided by State. We encourage existing Joint Ventures and States to start determining whether these objectives are reasonable starts or whether opportunities exist to do even more, and if so start developing implementation plans to target specific locations and work with local land managers to initiate restoration activities, while seeking funding opportunities to accomplish these objectives (if not already underway).

BCR Habitat Objectives for Emergent Wetlands:

(1) 50,000 acres restored to Peninsular Florida (BCR 31):

(a) 40,000 acres in central Florida

(b) 10,000 acres in subtropical Florida

(2) 50,000 acres restored to Southeastern Coastal Plain (BCR 27)

(a) 30,000 acres in South Atlantic Coastal Plain as follows:

10,000 acres in North Carolina

10,000 acres in South Carolina

5,000 acres in Georgia

5,000 acres in Florida

(b) 20,000 acres in East Gulf Coastal Plain as follows:

5,000 acres in Alabama

5,000 acres in Mississippi

2,500 acres in Florida

2,500 acres in Louisiana

2,500 acres in Tennessee

2,500 acres in Kentucky

(3) 25,000 acres to Mississippi Alluvial Plain (BCR 26)

7,500 acres in Louisiana

7,500 acres in Arkansas

7,500 acres in Mississippi

1,000 acres in Tennessee

500 acres in Kentucky

500 acres in Missouri

500 acres in Illinois

(3) 25,000 acres to West Gulf Coastal Plain (BCR 25)

7,500 acres in Arkansas

7,500 acres in Louisiana

7,500 acres in Texas

2,500 acres in Oklahoma

(4) 25,000 acres to Gulf Coastal Prairies and Marshes (BCR 37, but not including Tamaulipan Prairies)

17,500 acres in Louisiana

7,500 acres in Texas

(5) 12,500 acres to Oaks and Prairies,

6,500 acres in Oklahoma

6,000 acres in Texas

(6) 12,500 acres to Tamaulipan Brushlands (BCR 36 and portion of BCR 37 including Tamaulipan Prairies)

10,000 acres in Texas in BCR 37

2,500 acres in Texas in BCR 36

<u>Recommendations:</u>

1. ***Identify emergent wetlands that are most important for waterbirds and work to provide permanent protection, ensuring form and function.***
2. ***Reduce anthropogenic stressors that degrade or destroy marshes.***
3. ***Identify the best candidate sites for restoration and restore emergent wetlands that have been degraded, altered, or converted to non-wetland uses.***
4. ***Control exotic and invasive species, such as Phragmites.***
5. ***Carefully plan and use management tools, such as controlled water regulation and burning. (Controlled burning can be an important management tool, but careful consideration must be given to timing (avoiding breeding season and other important use periods), extent of the tract to be burned, species present, and desired result.)***

BEACH, DUNE, INLET, AND SHOAL

Beach and dune habitats, and the associated inlet and emergent shoals, provide important habitats for waterbirds throughout the year. These habitats are important for nesting waterbirds, such as Least Tern, Common Tern, Gull-billed Tern, and Black Skimmer, and they provide important resting and roosting sites for migrating and wintering waterbirds. Beach and dune habitats are among the most highly imperiled habitats for waterbirds in the Southeastern U.S. region.

In the past century, many beach and dune habitats once suitable for nesting waterbirds have been lost, some irrevocably lost, to human intrusion. Development, recreation activity, artificial dune construction and stabilization, disruptions of natural processes (erosion, accretion, overwash, longshore transport, etc.), and introduced predators have all contributed to the loss. More recently, the popularity of Southeastern U.S. beaches as recreation areas has placed additional pressures on these dynamic habitats and the waterbirds that use them. Furthermore, efforts to 'repair' overwash areas on beaches, construct artificial dunes, and plant sea oats (*Uniola paniculata*) or other stabilizing vegetation can reduce habitat or potential habitat available for nesting waterbirds. Beach renourishment and stabilization projects can be detrimental to nesting or migrating waterbirds if they are not timed properly or destroy habitat. More coordination between resource agencies and the Army Corps of Engineers is needed to minimize impacts of these projects on waterbirds.

The majority of beach and dune habitats suitable for nesting waterbirds exist on state and federally-owned lands, and to a lesser extent, non-governmental conservation lands. State and federally-owned lands are often viewed as 'protected,' but frequently these areas face numerous conflicts associated with human use. Other beach habitats, especially beach sites associated with inlets, are in private or local municipality ownership and are most often afforded little protection or appropriate management. A conservation action that needs to be pursued is to create and implement incentive programs for private landowners to restore, protect, or create nesting habitat. Waterbird nesting sites on beaches require active protection and management regardless of ownership, protection status, or location. Human disturbances in and around nesting areas should be strictly controlled (see **Human Disturbances**) and introduced or super-abundant predators should be closely monitored. The effect of human disturbances on migrating and wintering waterbirds is poorly understood, but may contribute to poor condition on arrival at

breeding grounds. Foraging areas along beaches are also important to protect, especially during peak migration periods.

Recommendations:

1. ***Identify the important beach nesting sites and secure permanent protection for those sites.***
2. ***Identify the best candidate sites for restoration and initiate restoration activities.***
3. ***All beach nesting sites, regardless of ownership, should be protected from human disturbances.***
4. ***Local education and outreach programs, as well as volunteer 'wardens' help to reduce human disturbances and should be initiated at all important beach nesting sites.***

FOREST AND SHRUB HABITATS

Forest and shrub habitats important for waterbirds in the southeast region can be divided into two general categories, wetlands and islands. Both provide significant habitats for waterbirds. Wading birds, pelicans, and their allies depend on these habitats for nesting, foraging (excluding pelicans and allies), and roosting sites. A few species, such as Green Heron, Great Blue Heron, and Yellow-crowned Night-heron, will nest on upland forest-shrub habitats.

From the mid-1970s to the mid-1980s, more than 3.1 million acres of forested wetlands were lost in the Southeastern United States (excluding Texas) with much of the loss occurring in the coastal plain of North Carolina and lower Mississippi Alluvial Plain (Hefner et al. 1994). Forested wetland loss in the region continued through the mid-1990s (Dahl 2000). Much of the loss was the result of conversion to other wetland types, along with losses to agriculture, silvaculture, logging, and other uses (Hefner et al. 1994, Dahl 2000). Additional threats to waterbirds in forested and shrub habitats include fire, alteration of hydrology (ditch and drain, channelization, diversion, inter-basin transfer, and extraction, among others), deposition of dredged material, point and non-point source pollution, siltation, alterations of water quality and chemistry, and invasive species, among others.

Forested and shrub habitats generally require little active management. The most important requirement is protection of community structure, protection from invasive species, maintenance of natural hydrologic conditions, and protection of water quality and chemistry. Forest/shrub islands that serve as nesting sites or roosts require protection from human disturbances during periods when birds are present and they need protection from activities that might threaten the

existing habitats when birds may be absent, such as campfires, tree cutting, etc. Dredged-material islands with active waterbird nesting and those with a history of use by nesting waterbirds should not be candidates to receive dredged material. There may be instances, however, where it would be desirable to deposit spoil onto islands vegetated in shrub-scrub, even if those sites had a history of use by nesting colonial wading birds, in order to set back succession and provide habitat for other waterbird species of higher conservation concern, such as Gull-billed Tern and Black Skimmer, or to counteract erosion.

Recommendations:

1. ***Protect natural hydrologic conditions, water quality, and water chemistry.***
2. ***Carefully regulate tree cutting, campfires, or threats that jeopardize forest-shrub community structure.***
3. ***Control exotic and invasive species***
4. ***Protect nesting sites from human disturbances and other threats year round.***

NEARSHORE OCEAN, SOUNDS, BAYS, AND COASTAL RIVERS

The inshore ocean region of the Atlantic Coast and the Gulf of Mexico along with other open water coastal habitats provide critical habitat for many waterbird species. The zone, including an area from the beach out to about 20 km from shore, sounds, bays, and coastal rivers are key foraging areas for breeding terns, gulls, skimmers, and pelicans; a migration corridor and winter habitat for terns, gulls, skimmers, pelicans, loons, cormorants, and gannets; and supports non-breeding and transient pelagic seabirds (near shore ocean and Gulf waters). Oil and gas extraction, interactions with fishing gear and discarded line, discarded plastics and other debris, point and non-point source pollutants, degradation of water quality, and alteration of water chemistry and hydrology all may impact waterbirds in these open water habitats. Other potential threats include competition for fisheries resources and the establishment of open water, energy producing wind turbines.

Conservation strategies for waterbirds species in near shore waters of the Atlantic Ocean and Gulf of Mexico and other open water habitats should consist primarily of preventative measures to reduce or eliminate pollutants, protect water quality and chemistry, and prevent interactions with fishing gear and line, oil and fuel spills or discharge, and discarded plastics. Additional

information is needed on the impact of commercial harvest of prey species, and bycatch of waterbirds in commercial fishing operations.

Recommendations:

1. ***Reduce, with the ultimate goal to eliminate, inputs that degrade or otherwise alter water quality, chemistry, and submerged aquatic vegetation***
2. ***Include protection of waterbird habitats in all rapid response plans for oil spills.***
3. ***Review all proposals and assess impacts of locating wind energy turbines and new oil/natural gas extraction structures on waterbirds in waters of the southeastern U.S.***
4. ***Assess impact of waterbird bycatch in commercial fishing operations, especially the gill net fishery, and commercial harvest and bycatch of important prey species.***
5. ***Develop angler education campaigns to reduce discarded fishing line and demonstrate proper handling of hooked birds.***
6. ***Establish a network of volunteers and professionals to identify and respond to waterbird and seabird die-offs, and develop a reporting/data collection mechanism to record and track such die offs.***

PELAGIC HABITAT

The pelagic regions off the Atlantic Coast (Pelagic BCR 77) and the Gulf of Mexico (Pelagic BCR 74) of the southeastern United States provide critical habitat for many waterbird species. These offshore waters support non-breeding and transient pelagic seabirds, loons, gannets, and several tern species.

Seabirds are widely distributed throughout the offshore waters of the Southeastern United States and Gulf of Mexico with few areas where significant concentrations occur. The most significant congregating site is located approximately 70-75 km ENE of Cape Hatteras, NC, in a region from 50 to 500 fathoms on the outer Continental Shelf (Lee and Socci 1989, Lee 1995). The area, locally known as "The Point," is where the Labrador Current and Gulf Stream meet forming a rich and productive foraging area that has the greatest diversity of pelagic seabirds in the western North Atlantic (Lee 1986). The area supports significant numbers or is one of the few known non-breeding congregating sites for Black-capped Petrel, Bermuda Petrel, Audubon's Shearwater, Greater Shearwater, Sooty Shearwater, White-tailed Tropicbird, Red-billed Tropicbird, Masked Booby, and Bridled Tern (Lee and Socci 1989, Lee 1995).

Pelagic seabirds tend to congregate in great numbers off the North Carolina coast, but this should not be interpreted to mean that this is the only pelagic region important for seabirds. These birds are generally widely scattered throughout the offshore waters, but tend to congregate in areas with large *Sargassum* mats (Haney 1985). The entire South Atlantic Bight and offshore

Gulf of Mexico should be considered important for conservation planning purposes as seabirds are exposed to similar threats throughout the region. Threats to waterbirds in offshore waters include oil spill and discharge, collisions with lighted structures, interactions with fishing gear and discarded line, discarded plastics or other debris, *Sargassum* harvest, and any other factors that threaten *Sargassum*. Potential threats include competition for fisheries resources and exposure to mercury levels in prey.

Conservation strategies for pelagic seabirds and other waterbird species in offshore ocean and Gulf waters should consist primarily of preventative measures to reduce or eliminate the likelihood of interactions with fishing gear and line, oil spills or discharge, oil and natural gas extraction structures, and discarded plastics, along with the protection of *Sargassum* 'reefs.' Additional information is needed on the impact of commercial harvest of prey species; *Sargassum* harvest, and bycatch of seabirds in commercial fishing operations.

Recommendations:

1. ***Assess impact of seabird bycatch in commercial fishing operations and commercial harvest and bycatch of important prey species.***
2. ***Protect Sargassum from harvest or other threats.***
3. ***Review all proposals and assess impacts locating new oil/natural gas extraction structures on seabirds in offshore waters of the southeastern U.S.***
4. ***Include protection of waterbird habitats in all rapid response plans for oil spills.***
5. ***Establish a network of volunteers and professionals to identify and respond to seabird die-offs, and develop a reporting/data collection mechanism to record and track such die offs.***

NESTING SITES

Much is known about waterbird nesting sites in the Southeastern U.S. region, especially with regard to colonial waterbirds. The first multi-state coordinated colonial waterbird surveys occurred in the mid-1970s, initiated by the United States Fish and Wildlife Service (Custer and Osborn 1977). Many states initiated regular or semi-regular colonial waterbird survey programs following the mid-1970s surveys and have maintained waterbird surveys ever since. Thus, colonial waterbird nesting sites and the number of birds nesting at these sites is fairly well known. Far less is known about non-colonial species.

Nesting sites are critical and the availability of high quality nesting habitats can be a key factor limiting populations. Critical features of waterbird nesting sites include isolation from mammalian or other predators, isolation from human disturbances, elevation sufficient to prevent chronic flooding, and suitable habitats for nesting.

Nesting habitats vary by species. Black Skimmers and most species of terns, for example, typically nest on bare or sparsely vegetated sand or sand and shell habitat, usually on islands or beaches. Wading birds typically prefer islands with shrub thickets or forest (occasionally marsh), or swamps. Marsh birds, such as rails, typically prefer emergent wetlands in fresh, brackish or salt water habitats depending on species.

Identifying, protecting and managing existing nesting sites and maintaining high quality habitats at these sites is important for waterbird conservation throughout the region. But protecting existing waterbird nesting sites alone will not achieve long-term sustainability of habitats and waterbird populations. Nesting habitats change over time, especially those on beaches or island nesting sites. Islands or beaches with habitats suitable for nesting terns and skimmers can become overgrown with vegetation or may erode away entirely. Shrub thickets or forest can degrade from continuous use by nesting wading birds or pelicans, or they can be damaged by a single or series of storms, such as hurricanes or northeasters. Nesting habitats can degrade or become unsuitable for other reasons, including development, human disturbances, logging, changes in hydrology, or introduced predators. Because the quality of nesting habitat at any given area may change over time, it is important to identify alternate sites that have the potential to provide suitable nesting habitat. This is best accomplished at the state level where resource managers are most familiar local conditions.

Waterbirds respond well to habitat manipulations that result in appropriate nesting habitat and foraging habitat. Terns and skimmers, for example, will often nest on newly restored open, bare sand or sand-shell habitats on islands or beaches. Predator removal and predator removal combined with the use of decoys and taped vocalizations were successful in restoring several species of terns to islands off the coast of Maine (Kress 1983). Similarly, decoys and taped vocalizations were successful in attracting terns and skimmers to a protected dredged-material island in North Carolina (S. Cameron, pers. com.). These same methods could be used to restore nesting habitats in other areas.

Constructed nesting habitat can be very successful. Several projects have been undertaken to create nesting habitat from old bridges (Florida Keys), barges (Keys), and constructed islands (South Carolina). Beach nesting birds tend to respond quickly to newly available habitat if the siting and construction are appropriate. One example from South Carolina is Tomkins Island, a 7 acre island built as part of a mitigation project in 2004. The first year the island was available nearly 2000 birds including Royal Terns, Sandwich Terns, and Black Skimmers nested there. See Appendix 1 for a detailed discussion of constructed nesting habitats, particularly the use of dredged materials.

Controlling human disturbances (i.e. managing people rather than birds or habitats) is essential to maintaining nesting sites, but it can also be successful at restoring nesting sites. This is especially true for beach or island nesting sites where recreation activities may be high and at such a level to prevent waterbirds from utilizing habitats that would otherwise be suitable. **See Human Disturbances**.

High quality nesting habitats alone are not sufficient to ensure successful nesting or maintain populations. Foraging habitats are equally important. Productive foraging areas with prey sufficient to meet the energetic needs of both adults and nestlings, and prey that are accessible during critical periods of nesting are important for successful nesting. Waterbirds, by definition, are closely tied to aquatic habitats, especially for foraging, therefore an abundance of high quality wetlands are important for waterbrids. Foraging habitats for waterbirds vary greatly, but most species have specific habitat needs. Both habitat and food requirements of nesting waterbirds must be taken into consideration in conservation planning. Overall, a better understanding of foraging sites used by nesting waterbirds at a local and regional scale is warranted for nearly all waterbird species.

Recommendations:

1. ***The habitat condition, management needs, threats and potential threats, and long-term needs of waterbird nesting sites in each state should be assessed every two to three years. Sites that support 1% or more of the regional population of a waterbird species (with an emphasis on state listed, federally listed, and regional high priority species) should be assessed annually.***
2. ***Sites that support 1% or more of the regional population of a waterbird species should be candidates for permanent protection.***
3. ***Appropriate management and protection actions should be taken where necessary to ensure the long-term suitability of nesting sites.***

4. ***Habitats that support key nesting sites, such as foraging areas, should be identified and assessed for threats and protection status.***

Major Threats

Predation

Predation is a natural event that is essential to maintaining a natural balance in ecosystems. Even so, it can be one of the most significant factors limiting nesting success and the use of sites that otherwise offer suitable habitats for waterbirds (Parnell et al. 1988). Predation becomes a management issue when it involves introduced predators, predators that exist at un-naturally high populations due to human influences, predation on species experiencing significant population declines, or restoration of waterbird breeding sites.

Many predators are known to take waterbirds. They include a variety of birds and mammals, a few snake species, fire ants (*Solenopsis* spp.), and ghost crabs (*Ocypode quadrata*). Birds and mammals are the most well known and can have a significant impact on waterbirds. Mammalian predators such as red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), mink (*Mustela vison*), opossum (*Didelphis virginiana*), Norway rat (*Rattus norvegicus*), and free ranging domestic cats (*Felis catus*) and dogs (*Canis familiaris*) are widespread throughout the region. All have been implicated in chick and egg mortality, nest abandonment, colony abandonment, and/or displacement of nesting waterbirds from otherwise suitable habitat. Disturbance caused by nutria (*Myocaster coypus*) was suspected in the abandonment of a Laughing Gull colony in North Carolina (Parnell et al. 1988). Similarly, feral horses were suspected in the abandonment of a tern-skimmer colony on the North Carolina coast (W. Golder pers. obs.). Marsh Rice Rats (*Oryzomys paulstris*) were suspected egg predators at Forster's Tern colonies in North Carolina (J. Brunjes 1992, Dennis 1996).

Introduced predatory mammals, such as rats and cats, can present significant problems for nesting waterbirds. Waterbirds species, especially island nesting seabirds, have not evolved with these predators and consequently have few predator avoidance behaviors or nesting strategies (see Burger and Gochfeld 1994). Therefore, rats or cats finding their way to a waterbird colony often results in total abandonment of the site. Unleashed domestic dogs cause significant disturbance that can result in increased predation by gulls or crows, increased mortality from temperature stress, and they will occasionally kill tern or skimmer chicks (W. Golder, pers. obs.).

The most significant avian predators include Great Black-backed Gull, Herring Gull, Laughing Gull, Fish Crow, American Crow, Great-horned Owl, Peregrine Falcon, Black-crowned Night-heron, and Bald Eagle. Additional avian predators that occasionally take waterbirds include Turkey Vulture, Black Vulture, Northern Harrier, and Ruddy Turnstone (see Parnell et al. 1988).

Black-crowned Night-herons frequently prey on White Ibis chicks (Shields and Parnell 1986) and possibly other wading bird chicks, as well as tern chicks (Kress 1983). Gull-billed Terns will prey on small chicks of other tern species, such as Least Tern and Common Tern (Bent 1926, W. Golder, pers. obs.). Fish Crows are known to take eggs and small chicks of many waterbird species (Shields and Parnell 1986). Bald Eagles have been observed preying on Brown Pelican and Royal Tern chicks (Parnell et al. 1988, W. Golder, pers. obs.). Key predators of adult waterbirds include Great-horned Owl and Peregrine Falcon.

Garter, king, and rat snake species are known to take waterbird eggs and chicks (Parnell et al. 1988, A. Paul pers. comm.). Ghost crabs will take eggs and chicks of beach-nesting waterbirds in coastal colonies (D. Allen and S. Cameron, pers. comm.). Their impact on hatching and fledging success is suspected to be significant in some areas and worthy of further investigation. Evidence of predation on Brown Pelican nestlings by an American Alligator (*Alligator mississippiensis*) was observed in a southern North Carolina pelican colony (M. Browne, pers. comm. & photos).

Predator Management

While some level of predation is a natural occurrence, predator management may be warranted in cases where inflated predator numbers or introduced predators are impacting productivity. Colonial species are particularly vulnerable to predation because they typically nest on sites that were historically inaccessible to predators. They prefer remote islands, swamp forests, remote beaches, or other nesting sites where the likelihood of a predator getting to the colony is low. But predators *do* find their way to colonies and, once there, they can cause significant problems that can result in total abandonment of the site. This is especially true of mammalian predators such as raccoons invading island nesting sites, where devastation is often total. Waterbirds may continue to nest on sites for several years after the arrival of predators, but the eventual result at sites with significant predation is often abandonment. This is of greatest

concern at sites with species already experiencing significant population declines, species of high conservation concern, and at potential nesting sites where restoration efforts are underway.

Implementation of a predator management program should proceed only after careful consideration of all options and only at sites where the impact of predation on the local population is fully understood. Predator control is generally not appropriate at sites where predation is a natural occurrence, where predation is not likely to jeopardize the sustainability of the local population, and where predation is "demonstrably unaffected by human actions" (Kushlan et al 2000). However, in some cases, predation is the single biggest impact to nesting waterbirds and should be dealt with immediately. In some parts of the region, fire ants are a significant issue for nesting waterbirds, attacking hatchlings as they emerge from the eggs or killing nestlings and flightless juveniles.

Non-lethal predator management techniques should be employed whenever possible. At the same time, managers must recognize that lethal control of abundant predators, especially those that exist at un-naturally high populations due to human influences, might be warranted. Lethal control should target only offending individuals and should be implemented only after non-lethal techniques have been attempted and failed (Kushlan et al. 2000). In most states, permits are required to trap or otherwise handle native mammals and some states have specific post-trapping protocols that must be followed. Both state and federal permits are required for avian predator control. Therefore, the appropriate agencies should be contacted prior to initiating any predator removal project.

Mammalian predators are the greatest threat to nesting waterbirds in the southeastern U.S. A single animal can cause significant problems. Raccoons, foxes, coyotes, and others that find their way to small islands used by nesting colonial waterbirds should be removed as soon as they are discovered. On large islands or barrier islands, local predator control might be warranted if mammalian predation is documented and there are concerns that the local populations of nesting waterbirds are in jeopardy. Often it is one or a few individuals that have developed a search image for nests, eggs or chicks and it should be these offending animals targeted for control measures. Introduced predators, such as rats, feral cats, and fire ants should be immediately removed from all nesting sites.

Various methods of non-lethal predator control have been used at waterbirds nesting sites. Probably the most widely used is trap and relocation where the offending animals are trapped

and relocated to suitable habitat far away from the nesting site. The impact of introducing predators to a relocation site should be considered prior to the initiation of any relocation program. [note: Some states do not allow the relocation of raccoons; therefore the appropriate state agency should be contacted for trapping and handling protocols.] Predator exclusion fencing has been used with varying degrees of success. Some mammalian predators, such as foxes and raccoons, will climb over or dig under wire fence. Fencing alone is only moderately successful. Electrified fence or two levels of electrified wire (approx. 10cm and 30cm above ground) used 20cm in front of 2"x4" welded wire fence four feet in height increases the effectiveness of fencing. Fencing requires that the entire nesting site with sufficient buffers be encircled by fence. If gaps are left in fencing, then the predators will likely find these gaps and enter the nesting area.

Great Black-backed Gulls and Herring Gulls reach the southern limit of their Atlantic coast nesting range in North Carolina. These two species have been documented as significant predators at tern colonies in the northeastern United States. Efforts to control these two species of gulls have been successful in restoring tern nesting sites and increasing productivity at active tern nesting sites in the northeastern US (see Kress 1983). The impact of nesting Herring and Great Black-backed gulls on terns and skimmers nesting in North Carolina is largely unknown, but thought to be a problem on several small islands with Common and Gull-billed Terns. Herring and Great Black-backed gull interactions with nesting terns and skimmers in North Carolina deserves further study. Laughing Gulls are much more numerous throughout the region. While they will take eggs or chicks opportunistically, they are not considered a problem at most sites.

Predation by crows and raptors is rarely sufficient to warrant control measures. There may be regional exceptions, for example Fish Crow predation on Yellow-crowned Night-heron nests in Louisiana and Sandwich Tern nests at Egmont Key National Wildlife Refuge in Florida. Eliminating convenient perches, such as sign posts, can help to reduce predation by these avian predators, especially at beach sites. This can be accomplished by attaching small cones or flexible wires to the tops of sign posts. Management of other avian predators is generally not necessary.

Recommendations:

1. ***The presence and impact of predators on nesting waterbirds should be assessed at all key waterbird sites.***
2. ***Predator management should be considered at sites with introduced predators, predators that exist at un-naturally high populations due to human influences, species experiencing significant population declines, and at potential nesting sites where restoration efforts are underway.***
3. ***Predator management should be specific to an individual nesting sites and should target only offending animals.***

Human Disturbances

Nisbet (2000) proposed the following definition for human disturbance: "Human disturbance is any activity that changes the contemporaneous behavior or physiology of one or more individuals within a breeding colony of waterbirds." This same definition could be applied to resting, foraging, or roosting waterbirds. There are many studies suggesting adverse effects of disturbances on breeding waterbirds (see Carney and Sydeman 1999, Parnell et al. 1988). These papers and the studies cited therein, among others, present strong and compelling evidence that untimely human disturbances can increase egg loss, chick mortality, nest abandonment, and nesting site abandonment; cause premature fledging or nest evacuation, slower growth or reduced body mass of nestlings, and alter behavior; and can result in overall lowered reproductive success. The effect of disturbances on foraging or resting waterbirds is poorly understood.

Human disturbance encompasses a wide range of activities including passive and active recreational pursuits, research/monitoring/banding activities, wildlife viewing/photography, walking, running, boating, driving, sunbathing, and deliberate attempts to harm or discourage birds from occupying a site, such as vandalism, shooting, egging, and pyrotechnics, among others. These activities can have a negative impact on waterbirds during breeding, foraging and resting. Residential/commercial/industrial development, logging, alteration of hydrology, pollution/contamination, and other human-induced changes to the landscape and/or prey base are all considered to be human disturbances but will be dealt with separately.

The response of waterbirds to disturbances varies between species and sites. Some species tolerate disturbances and will habituate to limited human activity, even at nesting sites, while others will flee from even passive activity (Klein et al. 1995). Herons will sometimes nest near residential developments, in roadway medians, along boardwalks, and at sites with frequent boat

traffic. They may also sometimes rest or forage in areas with relatively high, but contained, levels of human activity, such as National Wildlife Refuges. Rails and other marsh birds will sometimes nest or forage along boardwalks, roadways, and wildlife observation areas. Terns and skimmers can nest successfully on beaches with relatively heavy off-road vehicle traffic or on islands with heavy boat traffic nearby if the nesting areas are given sufficient protection and buffer zones. But the same species that may tolerate relatively heavy and chronic human activity in one location, such as Ding Darling National Wildlife Refuge or the popular wildlife viewing areas of Everglades National Park, may not tolerate the same level of human activity in other areas, such as more remote areas of North Carolina.

Most of the emphasis of management and protection activities focuses on reducing disturbances during breeding. This is a time when waterbirds are probably most susceptible to adverse effects of disturbances. Colonial waterbirds are especially vulnerable. They are generally larger, more visible, and attract more attention than their generally smaller and solitary counterparts. The impact of a single disturbance event at a colony site is often much greater than the same event in an area with solitary nesters. For this reason, colony sites deserve the utmost attention from managers.

The response of most waterbirds to disturbances is typically flight. When an intruder approaches a resting or foraging waterbird, the bird often moves to a more 'safe' location and resumes its activity. A waterbird incubating or tending chicks may move a short distance away until the intruder leaves, hover overhead, attack the intruder, or feign injury. When an adult moves away from a nest or chicks, the eggs and/or chicks are vulnerable to avian predators, such as gulls or crows, and temperature stress. Prolonged disturbances, frequent disturbances, or disturbances during adverse weather conditions can result in increased predation, reduced hatching or fledging success, nest abandonment, or in extreme cases, colony abandonment. Safina and Burger (1983) found that early nesting season disturbances of Black Skimmer colonies resulted in increased nest abandonment and reduced hatching success. The effect of 'stress' resulting from disturbance on the overall health and productivity of nesting, foraging, or resting/roosting waterbirds is poorly understood.

Human population throughout the southeastern United States has increased significantly in the past few decades and it will likely continue to increase. With more people than ever in and around habitats that support waterbirds, the potential for adverse impacts resulting from

disturbances is greater than ever. Beach nesting sites and island nesting sites that support waterbird colonies are most vulnerable to disturbances as these sites are often easily accessible and attractive for recreational pursuits. For this reason, they deserve special attention from managers. In many areas of the southeast, active protection of waterbird nesting sites and control of human activity around nesting sites is essential to reduce disturbances and the potential for adverse impacts resulting from disturbances.

The most effective means of managing disturbances at a publicly accessible site is to close the site during the period when waterbirds occupy the site. This may not be a viable alternative in some areas, especially where managers must balance public access and activity with protection of nesting, foraging, or resting habitats for waterbirds. This can be accomplished with signs or confinement of vehicles and/or pedestrians to walkways, driving corridors, dikes, observation areas, or other similar paths.

Erwin (1989) measured the response of breeding terns, skimmers, and wading birds in North Carolina and Virginia to the approach of walking human intruders, and recommended the following setback distances for established colonies: 100m for Least Terns and Royal Terns; 100m for wading birds; 200m for Common Terns and Black Skimmers. Early in the nesting cycle (i.e. first arrival at colony sites, courtship, and nest building), colonial waterbirds can be very sensitive to disturbances. Erwin recommends an additional 100m setback during this period: 200m for Least Terns and Royal Terns; 200m for wading birds; 300m for Common Terns and Black Skimmers. Rodgers and Smith (1995) conducted a similar study in Florida and recommended the following setback distances: 100m for mixed-species wading bird colonies and 180 m for mixed-species tern-skimmer colonies.

The presence of dogs around nesting sites and the associated disturbance caused by dogs has received little, if any, attention in the literature. Nevertheless, it is an important consideration. Limited observations of dogs around beach and island nesting sites suggest that nesting colonial waterbirds probably flush from their nests at greater distances when a pedestrian is accompanied by a dog and that the dog + pedestrian flush distance increases if the dog is unleashed and running (W. Golder pers. obs.). Furthermore, some unleashed dogs will chase birds and may catch (and kill) chicks (W. Golder pers. obs.). For this reason, it is recommended that dogs should be not be permitted on island nesting sites and that an additional 100m should be added to

the setback distances recommended by Erwin (1989) and Rodgers and Smith (1995) on beaches where dogs are permitted.

Delineating buffer zones between birds and potential human disturbances is important and an effective means of reducing disturbances at nesting, resting and foraging areas. Visible, readable, and clearly worded boundary signs are keys to successfully reducing disturbances. Boundary signs stating "Entry Prohibited," "Area Closed," or "No Trespassing, No Landing" are appropriate. Boundary signs with suggestive or vague language, such as "Please do not disturb the birds" or "Bird Nesting Area" are much less effective. Signs should be placed at locations and distances so that all visitors encounter a sign regardless of their approach. Erwin (1989) recommends that signs be erected 3 weeks prior to the arrival of nesting birds and that signs be spaced 50m apart around the entire nesting area. Closer spacing (10-15m) is required for high traffic areas, such as near beach access points or walkways. Signs should be on posts so that the signs are approximately 1.75m above ground level.

Sites that are easily accessible to the public, such as public beaches, barrier islands, or estuarine islands, including those with off-road vehicles or heavy pedestrian traffic, require the addition of clearly marked rope or string between signs and posts. Short (8-10 cm) pieces of brightly colored flagging tied to the string or rope every 4-5m greatly increases the visibility of the string or rope. This creates a psychological barrier, usually referred to as called "symbolic fencing," that can be very effective at reducing disturbances.

Careful consideration should be given to the use of rope or string. In April 2005, an ATV driver was killed after striking a rope used to delineate a Piping Plover nesting site while traveling at an estimated 40 mph. In another incident, a jet-skier was knocked off his jet ski when driving between closed signs during an extremely high tide at Crab Bank, Charleston Harbor, North Carolina. While these are isolated and rare incidents, managers should consider the use of string and flagging in areas where the operation of ATVs is permitted in the vicinity of nesting sites. Roping between signs in an intertidal area is strongly advised against due to liability issues. Another consideration of roping between signs is that young birds can become tangled in sagging rope or string. It may be preferred to remove the ropes once the young birds become mobile.

Timing of erecting symbolic fencing at nesting sites is an important consideration. For sites with a regular history of use by nesting waterbirds, symbolic fencing should be established at

least three weeks prior to the arrival of nesting birds or the initiation of nesting activities (courtship, pair formation, nest site selection, etc.). Suitable habitats in areas with the potential for heavy human disturbances (such as beaches) should also be posted prior to the initiation of nesting activities. Sites with suitable habitats, no potential human disturbances, and limited or no history of use by nesting waterbirds, should be monitored for the presence of nesting waterbirds and posted at the earliest possible evidence of nesting activity.

Signs and rope/string alone are not sufficient without enforcement. The temporary or permanent closure of a site for the protection of waterbirds requires enforcement of the closure. Regular patrols by uniformed wardens, rangers, or law enforcement officers can most effectively reduce disturbances. State and federal law enforcement officers should receive specific training to identify waterbirds and waterbird nesting sites (especially colonial waterbirds), understand anthropogenic threats, and recognize the potential for violations of state and federal laws resulting from human disturbances. Often, law enforcement officers are a key point of contact with boaters and other recreationalists.

Education and raising public awareness, combined with the management measures mentioned so far, is the last important component of a management plan for human disturbances. Assistance from trained volunteers working closely with a management agency or organization, and working locally at a specific site or within a community, can be a very effective means of preventing disturbances and raising awareness of waterbirds, especially at public beaches. All too often, visitors are unaware of the harm to eggs or chicks that can result from untimely disturbances. And sometimes, especially on beaches, visitors simply do not believe that birds actually nest on sand. Local informational and educational displays, signs, brochures, tours, talks, and similar outreach tools can be used successfully to reduce human disturbances.

Recommendations:

1. ***All waterbird nesting sites at risk or thought to be at risk of human disturbances should be posted as described above with the appropriate setback distances, patrolled, and protected by a state, federal or non-governmental resource agency/organization with demonstrated experience in such activities.***
2. ***Nesting sites with high risks of human disturbances, such as publicly accessible beaches, should be visited every 1-2 days to maintain signs, posts, string/rope, and to maintain a visible presence around the nesting area to discourage disturbances.***
3. ***Law enforcement officers working near or in a region that includes waterbird nesting sites should be trained in waterbird identification, recognition of nesting sites, threats***

from human disturbances, and the potential for violations resulting from human disturbances.

4. ***A public awareness outreach and education program should be implemented in areas with a high risk of human disturbances at nesting sites, especially colonial waterbird nesting sites.***

Environmental Contaminants *Prepared by Tom Augspurger, USFWS*

The late 1980s review of pollutant effects on waterbirds continent-wide (Parnell et al. 1988, pages 135 to 137) is still pertinent and serves as a model for an update focused on waterbirds in the Southeast U.S. The conclusion that contaminants were unlikely to be a major *species level* limiting factor for waterbirds, remains true for the region in 2005. This is an important message for managers required to prioritize and address the many factors potentially limiting waterbird diversity and abundance.

However, a second important message is that mortality and reproductive impairment at a magnitude that could influence local waterbird populations have been attributed to pollutants. Waterbirds rely upon a variety of highly managed habitats with potential contaminant issues, such as agricultural fields, borrow pits, and dredged material disposal sites. Natural habitats for waterbirds may be affected by direct (e.g. mosquito management in marshes) and indirect (e.g. accumulation of industrial releases in estuarine waters) contaminant inputs. Of most importance to waterbirds in the southeastern U.S. are *organophosphorus and carbamate pesticides, organochlorine compounds, petroleum compounds, mercury* and *lead*. These contaminants are discussed in more detail in Appendix 1 with an emphasis on why they are important and what can be done at the local level to understand and lessen impacts.

A third message to waterbird managers is that further information should be obtained on the local level for specific important bird areas. In 1988, the American Chemical Society estimated that there were more than 63,000 chemicals in use (Ramade 1988). Accordingly, a pollutant relatively rare on the scale of the Southeast U.S. may be very important to a particular colony or rookery. A strategy for developing a site-specific inventory of contaminants of concern and identify resources for evaluating the significance of those contaminants to waterbirds is conveyed in Appendix 1. This approach can serve as the foundation for an ecological risk assessment, which should be employed to address the significance of local contaminant concerns (Rattner 2000).

In waterbirds, as with any animal, toxic impacts are a function of the contaminants, the organism's *exposure* to contaminants and that organism's *sensitivity* to those contaminants. We know much about waterbird exposure to contaminants; their presence in aquatic food webs, often as top predators, makes them frequent subjects of pollutant investigations and monitoring. In the Southeast U.S., Clapper Rails (Kannan et al. 1998), Brown Pelicans (Blus et al. 1977, Blus et al. 1979, Blus 1982, King et al. 1985, Wickliffe and Bickham 1998), Double-Crested Cormorants (Sepulveda et al. 1998), Least Terns (Blus and Prouty 1979), Royal Terns (King et al. 1983, Maness and Emslie 2001), Black Skimmers and Gull-Billed Terns (Blus and Stafford 1980), Common Terns (Custer et al. 1983b), Great Blue Herons (Halbrook et al. 1999), Little Blue Herons (Spahn and Sherry 1999), Green Herons (Wainwright et al. 2001), White Ibis and Anhingas (Rumbold et al. 1996, Rumbold and Mihalik 2002), Great White Herons (Spalding et al. 1994) and Black-Crowned Night Herons (Custer et al. 1983a, 1983c) have all been utilized in environmental contaminant assessments.

While contaminant exposure is known in these species, it is important for managers to understand that the sensitivity of individual waterbird species to pollutants is not well known. Species that are easier to test in laboratory settings, such as Mallards, quail, Pheasants, and blackbirds, are typically used as surrogate species in risk assessments for waterbirds because data are available for them. In the following sections, modifying terms preceding the word *toxic* refer to a standardized rating scheme of increasing chemical potency: *extremely* toxic > *highly* toxic > *moderately* toxic > *slightly* toxic > *relatively non*toxic. Appendix 1 includes an illustration of this ranking scheme for many of the contaminants discussed here with data for mallards as a surrogate for waterbirds. It is also important for managers to understand that the sensitivity of these surrogate species is known primarily from acute (brief) exposures, to a single chemical, in controlled (lacking other environmental stressors) environments. Wild birds will encounter other stressors (cold, prey availability, disease, etc.), and they will typically have chronic (over an extended timeframe) exposures to multiple chemicals. With these caveats on the state of our knowledge, contaminants Appendix 1 provides detailed information about contaminants important for waterbirds.

Fisheries Bycatch, Competition, and Fishing Gear Interactions

Incidental mortality of waterbirds, often called bycatch, from commercial and to a lesser degree, recreational, fishing activities has been an issue of increasing concern. The issues of greatest concern are longlining, gill nets, entanglement in monofilament fishing line, commercial harvest of important prey species, and destruction of fisheries habitat. Overall, the impact of commercial bycatch, competition and fishing gear interactions are poorly understood in the southeastern United States.

Longline fishing in the Pacific Ocean is known to kill significant numbers of seabirds. The longline fishery has the potential to impact pelagic seabirds off the mid and southern Atlantic coast of the US. Of greatest concern is the impact species such as Bermuda Petrel and Black-capped Petrel. Studies off the Pacific Coast show that the addition of "streamer lines" reduces bycatch 71 to 91% for single streamer lines and 88% to 100% for double streamer lines (Melvin 2000). Seabird bycatch from Atlantic and Gulf longline fishery is worthy of investigation.

Nearshore, the one of the greatest threats to waterbirds could be gill nets. One study in the mid-Atlantic suggests that waterbird mortality could be significant in the nearshore, mid-Atlantic coast (Forsell 1999). This study estimated a minimum of 2,387 diving birds were killed by the mid-Atlantic gill net fishery during a three month period (Feb-April) in 1998. Common and Red-throated loons comprised 89 % of the birds observed in gill nets. Mortality of pelicans, terns, loons, cormorants and gannets is known from nearshore gill net fisheries in NC and VA, and likely occurs in other southeastern states that allow the use of gill nets for commercial and recreational fishing.

Commercial fishing operations target species that are known to be important prey for waterbirds, such as Atlantic Menhaden (*Brevoortia tyrannus*), mullets (*Mugil* spp.), various shrimp species (*Penaeus* spp.), and others. Harvest of these species may reduce the prey available for fish-eating birds.

One of the most widely documented interactions between fisheries and waterbirds is the entanglement in discarded monofilament fishing line. Many species of waterbirds are or have the potential to be impacted by fishing line entanglement. The most frequently documented species include pelicans, loons, gannets, cormorants, terns and gulls. For some species, such as Brown Pelicans, entanglement in fishing line is a significant cause of mortality (Schreiber and Mock 1988). Examination of Brown Pelicans found dead on islands in the lower Cape Fear

River region of North Carolina indicate that monofilament fishing line was responsible for 40% of the pelican mortality from 1990-present (W. Golder, pers. obs.). The estimates are much higher for Brown Pelicans in Florida where 80% of the birds examined in a 1970s study showed signed of fishing line or fishing gear entanglement (Shcreiber 1975). Buckley and Buckley (1974) found that 22% of the band recoveries for Royal Terns up to 1970 were the result of fishing line or fishing gear entanglement.

At the same time, waterbirds may also benefit from interactions with commercial fishing operations. Terns, pelicans, and gulls frequently forage on discarded bycatch from trawlers although the benefit, if any, of these species foraging on discarded bycatch is not well studied.

Recommendations:

1. ***An assessment of the impact of gill nets and longlines on pelagic seabirds and other waterbrids should be conducted. The addition of streamer lines to longlines can substantially reduce seabird bycatch.***
2. ***Fisheries managers should implement policies and strategies to eliminate incidental mortality of pelagic seabirds and other waterbirds, and ensure long-term sustainability of prey species.***
3. ***Education and public awareness campaigns focused on the hazards of discarded fishing line, removing hooks from birds caught while fishing, and proper disposal of fishing line should be conducted in all coastal states.***

Disease and Parasites

Waterbirds are susceptible to a variety of diseases and parasites, some of which can cause substantial mortality in some species. Avian botulism and cholera, along with nematodes, trematodes, cestodes, Mallophaga, and other helminth parasites, as well as soft ticks (*Ornithodoros* spp.) are among the more widespread diseases and parasites known to affect waterbirds (see Spalding et al. 1993, Weise et al. 1977, Shields 2002, Nisbet 2002, Norcorss and Bolen 2002, Rodgers and Smith 1995, Frederick 1997, Shealer 1999).

Soft ticks are present in many waterbird colonies in the Region, especially colonies of Brown Pelicans. These ectoparasites can reduce reproductive success, cause nest desertion, and in cases of severe infestations, cause colony abandonment (King et al. 1977a, King et al. 1977b, Keirans et al. 1992, Wilkinson et al. 1994). Treatment of nests with pesticide reduced the impact of ticks on Brown Pelicans nesting in southern North Carolina, but failed to prevent nest abandonment in nests with severe infestations (Norcross and Bolen 2002).

Of recent concern is the increasing effect of avian vacuolar myelinopathy (AVM) on American Coots wintering in the Southeast Region. Relatively little attention has been given to the disease in coots, other than their transmission of the disease to Bald Eagles. Very little information is available regarding the population level effects of this disease for the coots themselves. Local declines are evident at areas such as the U.S. DOE Savannah River Site, where reservoirs used to regularly support 3,000-5,000 coots every winter, but now have only a few hundred and sometimes none at all (Lehr Brisbin, pers. com.). Research is needed to determine sources of the disease and potential management actions for controlling it in concentrated wintering areas for American Coots. Similarly, the impact of other avian maladies such as West Nile Virus and Newcastle's disease on waterbirds in the southeast region is also poorly understood and requires additional investigation.

Infectious Bursal Disease (IBD) is a viral disease that may be impacting the resident flock of Whooping Cranes in Florida, where high mortality in first-year birds occurred during 2001-2002. One juvenile bird destined for the migrant flock from Patuxent Wildlife Research Center was removed as it was found to have IBD. Since juvenile birds in 2001-2002 also originated from Patuxent, suspicion that high mortality among first-year birds may have been from IBD, with the source possibly being this captive breeding facility. A direct link has not been established but needs to be investigated, as well as potential sources of the disease from domestic poultry in Florida. Archived issue samples from Florida's resident flock collected during previous years indicates that IBD was present when mortality of first-year birds was high. However, there is much that isn't known about IBD, including how the disease is transmitted, whether it is present in wild Florida Sandhill Cranes, and whether a vaccine would be effective in controlling the spread of this virus.

Collisions With Structures

Wading birds, gulls, terns, cormorants, and occasionally pelicans that forage adjacent to roads, have colonies adjacent to roads, or rest on bridge railings are occasionally hit by passing vehicles (Rodgers and Smith 1995, Shields 2002, Nisbet 2002, W. Golder, pers. obs.). Small flags fastened to flexible fiberglass rods were erected on a bridge in Florida to discourage Royal Terns from landing on bridge railings was apparently successful at reducing the number of Royal Terns hit by passing vehicles (Bard et al. 2001).

Rails occasionally strike transmission towers, power lines, and other stationary objects during migration, and are occasionally struck by vehicles on roads adjacent to suitable habitat (Carter and Parnell 1978, Eddleman and Conway 1998, Eddleman et al. 1994, Poole et al. 2005, Bookhout 1995). Soras "commonly" strike towers and were recorded every month except June, July and August at a tower in Florida (Stoddard and Norris 1967, Melvin and Gibbs 1996). Yellow Rails "frequently" strike towers and utility lines (Conway 1995).

The effect of power-generating wind turbines on waterbrids is unknown as this is a relatively new development in the southeastern US. Mortality from collisions with towers, power lines, or other structures, vehicles, and objects has been documented for most waterbird species. Overall, mortality is relatively low and probably not significant.

Conservation Actions

The cornerstone for waterbird conservation in the southeastern United States is the conservation and management of adequate habitat throughout the region for all lifecycle needs. Critical to maintaining habitat is first to identify important areas and enumerate existing populations of waterbirds using those habitats. Therefore, our ability to obtain reliable and comparable population information for all species occurring in the region is integral for developing conservation objectives. Accurate population data are necessary to assess population trends, appraise habitat conditions, evaluate success of management efforts, and determine where future resources should be focused. Waterbird population responses have been identified for determining the success of habitat restoration and conservation activities across the region. Numerous individual projects are currently in place that survey local populations of waterbirds, some have been ongoing for decades and include long term datasets. However, standardized methods for surveying and data collection have not been utilized, making comparisons among projects difficult. Standardized methods are necessary if the data are to be used to determine population status and trends of waterbirds over time for the entire region. Existing datasets are often maintained by individual researchers or agencies and may not be readily available or accessible for other needs.

Coordination of efforts across the region will result in a much greater gain for waterbirds. Resources available for conservation are limited, therefore, the most efficient use of these

resources is desirable. To increase efficiency, researchers must communicate effectively and regularly with each other and with management organizations. This coordination will also help focus research where there are immediate needs for information. Once conservation objectives are developed or proposed based on available knowledge, this information must be compiled and packaged in a useful format for the land manager to apply. Also imperative is to identify threats to habitats or populations that are not well studied. In many cases, the threats to waterbird populations are well known, however, several groups have very little information. The final building block is communicating information effectively to those who need it. Increasing awareness of the issues and the proposals for addressing them is critical to getting buy in from funding agencies, researchers, and the public.

Recommendations:

1. ***Establish standardized protocols for monitoring waterbirds throughout the region***
2. ***Develop methods for centralizing storage of monitoring data***
3. ***Improve coordination among research and monitoring projects regionwide***
4. ***Develop habitat management guidelines for land managers***
5. ***Guide research to focus on data needs for meeting conservation priorities***
6. ***Identify threats to regional waterbird populations***
7. ***Create and enhance opportunities for outreach***

Population Monitoring Protocols

Monitoring efforts are often directed at nesting birds due to the fact that waterbirds are easier to count while congregated for breeding at colonies (beach birds, wading birds) or actively calling during breeding (marshbirds). However, it is also critical to track population trends during migration and at winter stopover sites. Both types of surveys should be incorporated into any monitoring and assessment strategy. In addition to detailing recommended survey methods, this plan identifies research needs for these waterbird groups throughout the region.

While the goals of individual efforts vary widely, they can generally be placed into one of the following categories: 1) detect regional population trends; 2) identify habitat use or distributional patterns; or 3) evaluate local or regional reproductive success. Data collected to meet individual research goals can also be applied to the evaluation of conservation or habitat management

objectives at the regional scale. Standardization and coordination across projects and initiatives is critical to the success of regional waterbird conservation.

Regional experts have developed preferred protocols for monitoring most priority waterbird groups in the southeastern United States. It is our recommendation that these standard monitoring protocols be applied to every project in the region so that data and results will be comparable among studies. For those groups where standardized methods do not exist, we recommend developing strategies for monitoring these populations.

Tree and Brush Nesting Waterbirds

Waterbirds nesting in trees and brush often do so in large multi-species colonies that are highly visible from the air. Seemingly, this group would present the easiest situation for large-scale population monitoring. There are, however, many obstacles to developing and easy monitoring protocol that works for all these species in every habitat where they nest in the Southeast U.S. region. Habitats vary greatly from Texas and Louisiana to the coasts of Georgia and the Carolinas. Interiorly, these birds may nest in isolated wetlands that are not easily discovered. Some species nest in loose colonies or very small groups, even individually. Visibility bias between dark and light plumaged birds presents additional challenges for obtaining accurate counts. Similarity of appearance between species again complicates the issue.

Although it is agreed that some means of standardization is necessary so that survey data can be combined regionwide, the method for accomplishing this remains to be discussed. Many people from a variety of organizations perform some version of surveys for tree and brush nesting waterbirds. Timing, methods, and frequency vary greatly among projects and are often determined by the specific objectives of the collector. Therefore, no real standards have been set for region monitoring. A very thorough discussion of monitoring breeding populations of long-legged waterbirds is presented in Appendix 1 and will be the starting point for attempting to standardize surveys across the region.

Beach-Nesting Waterbirds

For colonially beach-nesting birds (including most terns, gulls, and boobies), a number of protocols exist to cover a multitude of objectives. Colonial Bird Atlases are used for detecting and periodically monitoring active colonies within a state. Coordination among efforts is needed

to make the surveys more meaningful from a regional conservation perspective. Many states and local land management units also conduct local annual surveys of colonial nesting species at selected sites but these surveys are rarely coordinated and generally do not employ standardized methods.

The main issues for surveys are the need for developing standardized methods for monitoring and setting clear objectives at both local and regional levels. Objectives for surveying local colonies are tied to measures of overall habitat quality, most often for aquatic resources.

However, a local decrease in nesting colonial waterbirds may not be due necessarily to local declines in overall habitat quality as the colony may have simply moved to another location away from the local land management unit and overall regional populations are stable or even increasing. The opposite may also be true with local increases, but with overall regional declines underway. Population objectives should include providing optimal habitat to maintain and increase priority species in the Southeast region. Additional objectives need to be developed and coordinated for appropriate species along Mid Atlantic coastlines, the Coastal Prairies of Louisiana and Texas, as well as for the Playa Lakes region of Texas, Oklahoma, and New Mexico.

MARSHBIRDS

Included in this category are primarily rails, bitterns and their allies, but the entire list of species for the southeastern United States is presented in the box below. Secretive marshbird surveys generally focus on breeding season, but the method may also be used during winter. A combination taped playback followed by listening for calls is recommended for these hard to detect species. A recent effort was undertaken to incorporate secretive marshbird surveys into Refuge wildlife monitoring programs. Twenty-eight Refuges in the Southeast Region (Region 4) of the U.S. Fish and Wildlife Service have participated in these standardized surveys and a centralized database has been developed for storing and compiling data from surveys using these standardized methods. Specific recommendations for monitoring secretive marshbirds are provided in Ribic et al. (1999). Coordination and standardization of marshbird surveys is being undertaken by Dr. Courtney Conway at the University of Arizona (cconway@ag.arizona.edu).

Box 2. Marshbird species of the southeastern United States for which call-response survey methods may be suitable.		
Common Name	**Scientific Name**	**Season**
Pied-billed Grebe	*Podilymbus podiceps*	B, NB
Least Grebe	*Tachybaptus dominicus*	B
Horned Grebe	*Podiceps auritus*	NB
Red-necked Grebe	*Podiceps grisegena*	NB
Eared Grebe	*Podiceps nigricollis*	NB
American Bittern	*Botaurus lentiginosus*	NB
Least Bittern	*Ixobrychus exilis*	B,NB
Black Rail	*Laterallus jamaicensis*	B,NB
Yellow Rail	*Coturnicops noveboracensis*	NB
Virginia Rail	*Rallus limicola*	NB
King Rail	*Rallus elegans*	B, NB
Clapper Rail	*Rallus longirostris*	B, NB
Sora	*Porzana carolina*	NB
Limpkin	*Aramus guarana*	B, NB
American Coot	*Fulica americana*	B, NB
Common Moorhen	*Gallinula chloropus*	B, NB
Purple Gallinule	*Porphyrula martinica*	B, NB

Surveying non-breeding marshbirds may be as important as monitoring breeding populations, but it is unclear whether the same techniques can be employed. For now the same protocol is recommended with use of tape playback for at least rails which are known to respond throughout the year. During the non-breeding season use of playback for Virginia Rails and Soras should be considered and may replace bitterns and Pied-billed Grebes which are mostly silent outside of the breeding season. Seasonal movements are likely to be dynamic during the non-breeding season and revisiting sample points once every 10 days is recommended to best determine peak periods of occurrence (and theoretically peak dependence on optimal habitat conditions being provided). An alternate approach for surveying non-breeding marshbirds would be to include all detections made for these and open water birds (which include grebes, gallinules, moorhens, and coots) detected along International Shorebird Surveys.

Open Water and Pelagic Waterbirds

At this time there are no standardized methods for surveying open water or pelagic waterbirds. Their distribution across the landscape makes surveying nonbreeding birds nearly impossible. Only a few species breed in the southeast United States, primarily on the Dry Tortugas off the Florida Keys. Data is currently being collected regarding these seabird colonies,

however, centralized data storage is needed. There has recently been an effort to coordinate region-wide data collection for beached seabirds. Coordination among states in the region, as well as with other regions is necessary to track seabird die-offs and attempt to make inferences to the causes. This issue is central to conservation of pelagic seabirds using the oceanic BCRs in the southeast region. Seabird interaction with fisheries activities is another area that requires attention. Little is known about the affects of commercial fishing on pelagic seabirds off the south Atlantic coast.

Recommendations:

1. ***Adopt existing standardized monitoring methods where available***
2. ***Develop standardized methods for pelagic birds, open water species, and beach-nesting waterbirds***
3. ***Identify specific monitoring objectives***
4. ***Identify gaps in survey coverage within the region***
5. ***Develop strategies for filling data gaps***
6. ***Identify mechanisms for distributing protocols for regional standard surveys***

Centralized Data Storage

In many cases, waterbird populations are currently being monitored or studied to meet the objectives of individual research projects. Others are underway to evaluate the effects of management or conservation actions on local waterbird populations. There is an overarching need to regionally standardize the types of data being collected and the methods used, as well as to develop a mechanism for centralized data storage. A national data repository has been developed by the National Bird Population Data Center which allows users to submit and retrieve colonial waterbird data over the internet (www.mp2.pwrc.usgs.gov/cwb/). Regional databases need to be developed and linked to this national data storage system. A centralized database also exists for national marshbird monitoring and is maintained by the University of Arizona (see *Marshbirds*).

The next step is to encourage use of a centralized database by all individuals collecting data from various waterbird populations in the region. Centralizing data storage will result in data from multiple studies within the region being available to a larger audience. Pooling data from across the region will enhance our ability to make inferences about population trends, habitat quality, and reproductive success. Often, waterbird populations appear to decrease in one part of the region, only to increase in another. When data from across the region can be considered

simultaneously, these patterns more readily emerge. Such patterns of distribution are important for addressing questions regarding habitat loss, restoration, or changes in the quality of habitat available to migrating and nesting waterbirds.

Recommendations:

1. ***Expand the use of existing centralized databases***
2. ***Develop regional databases linking to the national site***

Coordination Among Projects

Coordination among projects is essential for waterbird conservation for several reasons. Pooling limited resources to accomplish a common goal is one result of coordinating research projects. Another benefit is limiting disturbance to colonies or populations where multiple projects may be ongoing. A very good example of coordination among projects is the South Florida Wading Bird Report, developed by scientists at the South Florida Water Management District (SFWMD). The document is available online (http://www.sfwmd.gov/org/wrp/wrp_evg/projects/wading01/) and compiles annual nesting survey results from scientists throughout the Everglades watershed. Although the various surveys summarized in the document use different methods, it still provides an overview of nesting trends within the South Florida system, especially with regard to localized hydrologic conditions. The SFWMD uses this document to assess their water management activities and conditions for nesting waterbirds. Similar coordination efforts among projects could be used to identify data gaps which can be addressed by future research. It can also provide insight into what is occurring across the landscape with regard to waterbird conservation efforts.

Recommendations:

1. ***Expand opportunities for compiling and coordinating data throughout the region***
2. ***Develop a workgroup of key researchers to facilitate project coordination***
3. ***Use the regional conservation plan to facilitate discussion of research needs***

Habitat Management Guidelines

Cooperation and communication between researchers and land managers is a critical element for successful waterbird conservation. For conservation to be implemented, the link must be made between science and management. Inherent in this process is developing and setting

management guidelines to preserve and improve habitat for each waterbird group. In the southeast region, waterbird habitat conservation is less about increasing acreage and more about protecting existing habitat from degradation, disturbance, and development. Guidelines need to be developed for protecting, managing and restoring nesting sites and appropriate habitats for waterbirds based on existing research and information. In many cases, it is a matter of compiling results from many sources to produce applicable guidelines for land managers to utilize.

Increasing partnerships between conservation organizations and private landowners is essential. Although much of the habitat for waterbirds in the Southeast U.S. region is currently owned by federal, state, or non-governmental conservation agencies, important areas under private ownership or open to public use must be protected from disturbance or development. Measures such as temporarily closing a stretch of beach during the nesting season are much more successful with buy-in from the public and other stakeholders. Communication of management objectives can be critical to the success of waterbird conservation efforts. The National Wildlife Refuge System includes a significant amount of acreage in the form of impoundments within the southeast Region. Most managers would welcome regional guidance for managing refuge impoundments to produce the greatest benefit to wildlife. Development of some basic guidelines for managing habitat would be very useful to the 'on the ground' manager. Having established guidelines provides more credibility for specific projects when presenting them to a funding agency.

Recommendations:

1. ***Organize working groups to address management guidelines for each habitat type***
2. ***Identify partners for cooperative management projects***
3. ***Develop guidelines and make them readily available to land managers and private landowners***

Focused Research

Once conservation priorities are set, these can be used to focus research projects and direct the investment of resources to where the information needs are the greatest. Within the context of existing national or international plans, these stepped down priorities would address issues at the regional level. Coordinated and focused research projects are necessary to provide critical information for making management decisions.

Research and monitoring efforts leading to better information on regional population dynamics, migration and winter habitats, food and foraging ecology, and biology and habitats of lesser-known species is needed.

Several waterbirds species identified in this plan as priorities for conservation have large data gaps associated with population size, status, ecological requirements, and other life history characteristics. The highest priority for research in the region should be to fill in knowledge gaps for these priority waterbirds. Another general area of research is the effects of management activities on waterbird populations. In many cases, management activities are undertaken on public lands without adequate evaluation of the response of target species to the actions.

Many of the threats to waterbird populations in the Southeast U.S. region are well known and understood: habitat loss, disturbance at nest sites, predation, reduced food resources (see *Habitat Management* section). However, some groups are not well studied, especially those pelagic seabirds that use the waters off the southeastern United States during the non-breeding season. Threats to such populations must be identified and quantified so that appropriate conservation measures may be pursued.

Recommendations:

1. ***Organize a waterbird working groups to evaluate current knowledge and identify gaps for each group of waterbirds***
2. ***Develop a list of research needs and distribute to researchers***
3. ***Develop grant proposals to obtain funding for focus projects***
4. ***Examine fishing-related mortality to seabirds***
5. ***Identify threats to marsh-nesting birds***
6. ***Develop strategies for protecting beach nesting waterbirds***

Education and Outreach

Educating the general public about the value of waterbirds and concerns for their conservation are two critical pieces of the foundation for this plan's success. Unless there is acceptance and buy-in from all stakeholders, conservation can not succeed. One way to increase pubic awareness is through the organization of festivals at key sites focusing on priority species. Several successful birding festivals are held in various locations throughout the region. Cooperation between state agencies, local conservation organizations (especially local Audubon chapters), schools, community groups and federal agencies to develop events that highlight important waterbird locations can be very productive. When the public and other stakeholders

are engaged from the beginning of a conservation project, it is much more likely to gain support and be successful. People often feel much more ownership over the birds or the habitat when they are actively involved in conservation efforts. Potential partners for waterbird conservation in the Southeast U.S. Region are listed in Appendix 2.

A region wide outreach strategy needs to be developed collectively for all the Southeast U.S. states. An outreach committee should be established composed of representatives from all the major stakeholders to outline the strategy and coordinate outreach programs throughout the region. The committee should also create educational materials for distribution to school teachers that can be incorporated into curricula with suggestions for field trips and a list of key messages to impart could be included in these packets. Working with local Sierra Club chapters to incorporate waterbird issues into their Inner City education program would be very valuable. Engaging local conservation chapters in the development of education materials is an excellent way to involve partners, as well as a potential way to get the word out to the public. Many of these organizations have websites where teacher information packets could be advertised, or available in a downloadable format.

Recommendations

1. ***Form a Regional outreach committee***
2. ***Identify partners with expertise in outreach/education***
3. ***Develop education packets for educators***
4. ***Identify successful festivals/events and expand where possible***

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List of Common and Scientific Names By Family

Family Gaviidae
Common Loon, *Gavia immer*
Red-throated Loon, *Gavia stellata*

Family Podicipedidae
Horned Grebe, *Podiceps auritus*
Eared Grebe, *Podiceps nigricollis*
Pied-billed Grebe, *Podilymbus podiceps*
Least Grebe, *Tachybaptus dominicus*

Family Procellariidae
Sooty Shearwater, *Puffinus griseus*
Cory's Shearwater, *Calonectris diomedea*
Greater Shearwater, *Puffinus gravis*
Manx Shearwater, *Puffinus puffinus*
Audubon's Shearwater, *Puffinus lherminieri*
Black-capped Petrel, *Pterodroma hasitata*
Bermuda Petrel, *Pterodroma cahow*

Family Hydrobatidae
Band-rumped Storm Petrel, *Oceanodroma castro*
Wilson's Storm Petrel, *Oceanites oceanicus*
Leach's Storm Petrel, *Oceanodroma leucorhoa*

Family Fregatidae
Magnificent Frigatebird, *Fregata magnificens*

Family Pelecanidae
American White Pelican, *Pelecanus erythrorhynchos*
Brown Pelican, *Pelecanus occidentalis*

Family Sulidae
Northern Gannet, *Morus bassanus*
Brown Booby, *Sula leucogaster*
Masked Booby, *Sula dactylatra*

Family Anhingidae
Anhinga, *Anhinga anhinga*

Family Phalacrocoracidae
Neotropical Cormorant, *Phalacrocorax olivaceus*
Double-crested Cormorant, *Phalacrocorax auritus*

Family Ardeidae

Least Bittern, *Ixobrychus exilis*
American Bittern, *Botaurus lentiginosus*
Black-crowned Night Heron, *Nycticorax nycticorax*
Yellow-crowned Night Heron, *Nyctanassa violacea*
Green Heron, *Butorides striatus*
Tricolored Heron, *Egretta tricolor*
Little Blue Heron, *Egretta caerulea*
Reddish Egret, *Egretta rufescens*
Cattle Egret, *Bubulcus ibis*
Snowy Egret, *Egretta thula*
Great Egret, *Ardea alba*
Great Blue Heron, *Ardea herodias*
Great White Heron, *Ardea herodias occidentalis*

Family Ciconiidae
Wood Stork, *Mycteria americana*

Family Phoenicopteridae
Greater Flamingo, *Phoenicopterus ruber*

Family Threskiornithidae
Glossy Ibis, *Plegadis falcinellus*
White-faced Ibis, *Plegadis chihi*
White Ibis, *Eudocimus albus*
Roseate Spoonbill, *Ajaia ajaja*

Family Gruiidae
Sandhill Crane, *Grus canadensis*
Whooping Crane, *Grus americana*

Family Aramidae
Limpkin, *Aramus guarauna*

Family Rallidae
King Rail, *Rallus elegans*
Clapper Rail, *Rallus longirostris*
Virginia Rail, *Rallus limicola*
Sora, *Porzana carolina*
Yellow Rail, *Coturnicops noveboracensis*
Black Rail, *Laterallus jamaicensis*
Purple Gallinule, *Porphyrula martinica*
Common Moorhen, *Gallinula chloropus*
American Coot, *Fulica americana*

Family Laridae
Pomarine Jaeger, *Stercorarius pomarinus*

Parasitic Jaeger, *Stercorarius parasiticus*
Long-tailed Jaeger, *Stercorarius longicaudus*
Franklin's Gull, *Larus pipixcan*
Laughing Gull, *Larus atricilla*
Bonaparte's Gull, *Larus philadelphia*
Ring-billed Gull, *Larus delawarensis*
Herring Gull, *Larus argentatus*
Lesser Black-backed Gull, *Larus fuscus*
Great Black-backed Gull, *Larus marinus*
Black-legged Kittiwake, *Rissa tridactyla*
Common Tern, *Sterna hirundo*
Roseate Tern, *Sterna dougallii*
Forster's Tern, *Sterna forsteri*
Gull-billed Tern, *Sterna nilotica*
Least Tern, *Sterna antillarum*
Black Tern, *Chilidonias niger*
Sandwich Tern, *Sterna sandvicensis*
Royal Tern, *Sterna maxima*
Caspian Tern, *Sterna caspia*
Bridled Tern, *Sterna anaethetus*
Sooty Tern, *Sterna fuscata*
Brown Noddy, *Anous stolidus*
Black Skimmer, *Rynchops niger*

Family Alcidae
Razorbill, *Alca torda*
Dovekie, *Alle alle*

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Table 1. Species Priorities by Habitat Suites for the Southeast U.S. Waterbird Conservation Region (revised 7/06)

	HABITAT SUITES				
TIER AND ACTION LEVEL	**TYPICALLY BRUSH and TREE NESTING (Herons and allies, Pelicans and allies)**	**TYPICALLY BEACH or GROUND NESTING (Larids: 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)**
Tier I. Continental and Regional Concern (percent of global population in parentheses when 20 % or more)					
Critical Recovery (CR; TB/N=5)					
Continental and Regional Concern	Magnificent Frigatebird (b) "Great White" Heron (90%)		Whooping Crane (b=32%, nb= 100%; FE)		Bermuda Petrel (nb)
Regional Concern only	Wood Stork (b=20%) (FE - FL, GA, SC, AL) Greater Flamingo (b, formerly bred[?] Florida Bay)		Sandhill Crane (MS subsp; FE - MS)		
Immediate Management (IM; TB/N=4 + PT=5)					
Continental and Regional Concern	Little Blue Heron (20%) Reddish Egret (25%)		Black Rail (b=40%; nb=90%) King Rail (b=87%; nb=95%)		Audubon's Shearwater (nb=20%)
Regional Concern only		Common Tern (b Atlantic and Gulf coast populations only)		Red-throated Loon (nb)	
Management Attention (MA; TB/N + PT<5 and TB/N=3 and PT>3)					
Continental and Regional Concern		Gull-billed Tern (b) Roseate Tern (b; FT - FL) Least Tern (b=40%) (FE - Interior subsp.) Black Skimmer (b=20%)	Yellow Rail (nb=100%)	Horned Grebe (nb=**?????????**) Magnificent Frigatebird (nb)	Black-capped Petrel (nb=100%) Masked Booby (nb) Brown Booby (nb) Razorbill (nb)
Regional Concern only	Green Heron (b=40%) Black-crowned Night-Heron Yellow-crowned Night-Heron (b=40**%**) White Ibis (50%)	Sandwich Tern (40%)	Pied-billed Grebe (b only) American Bittern (nb=33%) Least Bittern (b=50%) Wood Stork (nb= 33%) Purple Gallinule American Coot (b only) Limpkin	Common Loon (nb=25%) American White Pelican (nb=67%) Greater Flamingo (nb) American Coot (nb=25%) Common Tern (t=20%) Black Tern (t=50%)	Sooty Shearwater (nb) Northern Gannet (nb=33%)

	HABITAT SUITES				
TIER AND ACTION LEVEL	**TYPICALLY BRUSH and TREE NESTING (Herons and allies, Pelicans and allies)**	**TYPICALLY BEACH or GROUND NESTING (Larids: 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)**
Planning and Responsibility					
Continental Concern only			Clapper Rail (22%)		Cory's Shearwater (nb=50%) Greater Shearwater (nb=50%) Manx Shearwater (nb) Band-rumped Storm-Petrel (nb) Bridled Tern (nb)
Tier II. Additional Stewardship Species (percent of global population in parentheses when 20% or more)					
Planning and responsibility	Brown Pelican (45%; FE MS, LA, TX) Great Egret (20%) Tricolored Heron (33%)	Laughing Gull (34%) Royal Tern (50%) Forster's Tern (b=20%; actually nests in marshes) Sooty Tern (b<1%*) (FL breeding population only; nests under cover) Brown Noddy (b<1%*) (FL breeding population only; elevated nests in shrubs, trees) *Sooty Tern and Brown Noddy are included here as these are major colonies and the only ones in the continental U.S.	Double-crested Cormorant (nb=50%) Virginia Rail (nb=33%) Sora (nb=33%) Sandhill Crane (nb=33%; Greater, Lesser, and Canadian subsp.) Franklin's Gull (t=50%)	Bonaparte's Gull (nb=33%) Forster's Tern (nb=66%)	
Tier III. Additional Federally Listed Species					
(none)					
Tier IV. Additional local or regional interest					
(none)					

	HABITAT SUITES				
TIER AND ACTION LEVEL	**TYPICALLY BRUSH and TREE NESTING (Herons and allies, Pelicans and allies)**	**TYPICALLY BEACH or GROUND NESTING (Larids: 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)**
Additional High National Responsibility (>50 percent of U.S. population estimated to occur in Southeast U.S.)					
Planning and responsibility	Masked Booby (b) Neotropical Cormorant Anhinga Snowy Egret Glossy Ibis Roseate Spoonbill	Bridled Tern (b)	Least Grebe		Sooty Tern (nb) Brown Noddy (nb)
Other Local or Regional interest species occurring in the Southeast U.S.					
Planning and responsibility	American White Pelican (b) Great Blue Heron White-faced Ibis	Caspian Tern (b)	Common Moorhen (b) Sandhill Crane (FL subsp.)	Eared Grebe (nb) Pied-billed Grebe (nb)	
Population Control	Double-crested Cormorant (b) Cattle Egret	Herring Gull (b) Great Black-backed Gull (b)		Double-crested Cormorant (nb)	
Other regularly occurring species covered in this plan (No tier)					
				Herring Gull (nb) Great Black-backed Gull (nb) Ring-billed Gull (nb) Lesser Black-backed Gull (nb)	Wilson's Storm-Petrel (nb) Leach's Storm-Petrel (nb) Pomarine Jaeger (nb) Parasitic Jaeger (nb) Long-tailed Jaeger (nb) Black-legged Kittiwake (nb) Dovekie (nb)

See Appendix 2 for details of assessment. Residency shown in parentheses: b=breeding, nb=non-breeding, t=transient

Table 2. Species Priorities (Tiers and Action Codes) by Bird Conservation Regions (BCRs) in the Southeast U.S. Waterbird Conservation Region (revised 3/06)

	BCRs in the Southeast U.S. Waterbird Conservation Region									
Species	**Edwards Plateau**	**Oaks and Prairies**	**West Gulf Coastal Plain**	**Mississippi Alluvial Valley**	**Southeastern Coastal Plain**	**Appalachian Mountains**	**Piedmont**	**Peninsular Florida**	**Tamaulipan Brushland**	**Gulf Coastal Prairies**
Red-throated Loon					I IM (nb)			I MA (nb)		
Common Loon	Present (nb)	Present (nb)	Present (nb)	Present (nb)	I MA (nb)	Present (nb)	Present (nb)	IV PR (nb)	Present (nb)	IV PR (nb)
Least Grebe		IV PR							IV PR	IV PR
Pied-billed Grebe	Present	Present	Present	I MA (b) Present (nb)	I MA (b) (s) Present (nb)	Present (b)	Present (b)	I IM (b) Present (nb)	IV PR (b) Present (nb)	I MA (b) (s) Present (nb)
Horned Grebe	Present (nb)	Present (nb)	I MA (nb)	I MA (nb)	I MA (nb)	Present (nb)	I MA (nb)	I MA (nb)		I MA (nb)
Red-necked Grebe					Present (nb)					
Eared Grebe	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)
Bermuda Petrel					I CR (nb)					
Black-capped Petrel					I MA (nb) (S)			I MA (nb)		
Cory's Shearwater					I PR (nb) (S)			I PR (nb)		Present (nb)
Greater Shearwater					I PR (nb) (S)			I PR (nb) (S)		Present (nb)
Sooty Shearwater					I MA (nb)			I MA (nb)		
Manx Shearwater					I PR (nb)					
Audubon's Shearwater					I IM (nb) (S)			I IM (nb)		I IM (nb)
Wilson's Storm-Petrel					Present (nb)			Present (nb)		Present (nb)
Leach's Storm-Petrel					Present (nb)					
Band-rumped Storm-Petrel					I PR (nb)			I PR (nb)		I PR (nb)
White-tailed Tropicbird					Present (nb)			Present (nb)		
Red-billed Tropicbird					Present (nb)			Present (nb)		Present (nb)
Masked Booby					Present (nb)			IV PR (b) I MA (nb)		I MA (nb)
Brown Booby					Present (nb)			I MA (nb)		Present (nb)

	BCRs in the Southeast U.S. Waterbird Conservation Region									
Species	**Edwards Plateau**	**Oaks and Prairies**	**West Gulf Coastal Plain**	**Mississippi Alluvial Valley**	**Southeastern Coastal Plain**	**Appalachian Mountains**	**Piedmont**	**Peninsular Florida**	**Tamaulipan Brushland**	**Gulf Coastal Prairies**
Red-footed Booby								Present (nb)		
Northern Gannet					I MA (nb)			I MA (nb)		I MA (nb)
American White Pelican	IV PR (nb)	IV PR (nb)	IV PR (nb)	I MA/PCL (nb) (S)	I MA (nb) (mostly egcp)	Present (nb)	Present (nb)	II PR (nb)(S)	Present (nb)	IV PR (b, ctx) II PR (nb) (S)
Brown Pelican					III a (FE-MS) PR			I MA (S)		II PR (FE-LA,TX) (S)
Neotropic Cormorant	Present (nb)	Present	Present (b)	Present (b)					Present	IV PR
Double-crested Cormorant	IV PC (nb)	Present (b) IV PC (nb)	IV PR (b) IV PC (nb)	III b PR (b) II PC (nb) (S)	III b PR (b) IV PC (nb)	Present (nb)	Present (b) Present (nb)	II PR (b) (S) IV PC (nb)	Present (nb)	Present (b) IV PC (nb)
Great Cormorant					Present (nb)					
Anhinga		Present (b)	IV PR (b)	IV PR (b)	III b PR		IV PR (b)	I MA (s)		I MA
Magnificent Frigatebird					I MA (nb)			I CR (b) (s) I MA (nb)		I MA (nb)
Least Bittern	Present (b)	Present (b)	I MA (b)	I MA (b)	I MA (b)	Present (b)	IV PR (b)	I MA (S)	Present (b)	I MA (b) (S)
American Bittern	I MA (nb)	I MA (nb)	I MA (nb)	I MA (nb) (S)	I MA (nb)	I MA (nb)	I MA (nb)	I MA (nb) (S)	I MA (nb)	I MA (nb) (S)
Great Blue Heron	IV PR	IV PR	IV PCL	III b PCL	III b PR	III b PR	IV PR	I MA	Present	IV PR (ctx- I MA)
Great White Heron								I CR (S) (stfl)		
Great Egret		IV PR	IV PCL (b)	III b PCL (b)	III b PR	IV PR (b)	IV PR (b)	I MA	Present	I MA
Snowy Egret		IV PR	IV PCL (b)	III b PCL (b)	I MA			III b PR	Present	IV PR
Little Blue Heron		I IM (b)	I IM/PCL (b)	I MA/PCL (b)	I MA	IV PR (b)	IV PR (b)	I MA	IV PR	I PR (S)
Tricolored Heron		Present	Present	IV PR	I MA			I MA	Present	II PR (S)
Reddish Egret					IV PR (nb; SC recent nesting)			I IM (S)		I IM (S)
Cattle Egret	IV PC (nb)	IV PC (b)	IV PC (b)	IV PC (b)	IV PC	Present (b)	Present (b)	IV PC	IV PC	IV PC
Green Heron	IV PR (b)	IV PR (b)	IV PR (b)	IV PR (b)	I MA	IV PR (b)	IV PR (b)	I MA (S)	IV PR	IV PR
Black-crowned Night-Heron		Present	IV PR (b)	III b PR (b)	I MA	III b PR (b)	IV PR (b)	IV PR	Present	IV PR (I MA ctx)

	BCRs in the Southeast U.S. Waterbird Conservation Region									
Species	**Edwards Plateau**	**Oaks and Prairies**	**West Gulf Coastal Plain**	**Mississippi Alluvial Valley**	**Southeastern Coastal Plain**	**Appalachian Mountains**	**Piedmont**	**Peninsular Florida**	**Tamaulipan Brushland**	**Gulf Coastal Prairies**
Yellow-crowned Night-Heron	Present (nb)	Present (b)	I MA (b)	I MA (b) (S)	I MA	Present (b)	Present (b)	I MA	Present	I MA (S)
White Ibis		IV PR	IV PR	I MA	I MA	IV PR (b)	IV PR (b)	I MA (b)	Present (nb)	I MA (S)
Glossy Ibis				IV PR	I MA (s)			I MA (s)		IV PR
White-faced Ibis		Present	Present	IV PR					Present	II PR (I IM ctx) (s)
Roseate Spoonbill				IV/PR				I IM (I CR stfl)		II PR (s)
Wood Stork	I MA (nb)	I MA (nb)	I MA (nb)	I MA (nb)	I CR (FE-sacp) I MA (nb) (egcp)			I CR (FE) (S)	I MA (nb)	I MA (nb)
Greater Flamingo								I CR (b) I MA (nb) (stfl)		
Yellow Rail	Present (nb)	I MA (nb)	I MA (nb)	I MA (nb)	I MA (nb)	Present (nb)	Present (nb)	I MA (nb)		I MA (nb) (S)
Black Rail	Present (nb)	I IM (nb)	I IM (nb)	I IM (nb)	I IM (S)	Extirpated (b) IV PR (nb)	I IM (b) IV PR (nb)	I IM (S)		I IM
Clapper Rail					I PR (S)			I MA		I PR (S)
King Rail		I MA	I IM	I IM	I MA	I MA (b)	I IM (b)	I MA	Present	I IM (S)
Virginia Rail	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	II PR (nb) (S)	IV PR (nb)	II PR (nb) (S)
Sora	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	II PR (nb) (S)	IV PR (nb)	II PR (nb) (S)
Purple Gallinule		I MA (b)	I MA (b)	I MA (b)	I IM (b)			I MA	Present	I IM (b) (s)
Common Moorhen		IV PR (b)	IV PR (b)	IV PR (b)	I MA	Present (b)	IV PR (b)	IV PR	IV PR	IV PR
American Coot	Present (b) I MA (nb)	Present (b) I MA (nb)	Present (b) I MA (nb)	Present (b) I MA (nb)	I IM (b) I MA (nb)	Present (b) I MA (nb)	Present (b) I MA (nb)	I IM (b) I MA (nb)(S)	Present I MA (nb)	IV MA I MA (nb)(S)
Limpkin					I IM (b)			I MA (b) (s)		
Sandhill Crane	Present (nb)	IV PR (nb)	IV PR (nb)	IV PR (nb)	I CR (FE-MS) I CR (GA) II PR (nb) (S)	II PR (nb) (S)	II PR (nb) (S)	III b PR II PR (nb) (S)	IV PR (nb)	II PR (nb) (S) I CR (b) (ext.)

	BCRs in the Southeast U.S. Waterbird Conservation Region									
Species	**Edwards Plateau**	**Oaks and Prairies**	**West Gulf Coastal Plain**	**Mississippi Alluvial Valley**	**Southeastern Coastal Plain**	**Appalachian Mountains**	**Piedmont**	**Peninsular Florida**	**Tamaulipan Brushland**	**Gulf Coastal Prairies**
Whooping Crane								I CR (b) (S) introduced resident flock I CR (nb) (S) reintroduced migratory flock from Wisconsin		I CR (nb) (S) I CR (b) (ext.)
Great Skua					Present (nb)					
South Polar Skua					Present (nb)			Present (nb)		
Pomarine Jaeger					Present (nb)			Present (nb)		Present (nb)
Parasitic Jaeger					Present (nb)			Present (nb)		Present (nb)
Long-tailed Jaeger					Present (nb)					
Laughing Gull					IV PC			I MA		II PR/ PC (S)
Franklin's Gull	Present (nb)	II PR (nb) (S)	Present (nb)	Present (nb)					Present (nb)	II PR (nb) S
Little Gull					Present (nb)			Present (nb)		
Black-headed Gull					Present (nb)			Present (nb)		
Bonaparte's Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	II PR (nb) (S)	Present (nb)	Present (nb)	II PR (nb) (S)	Present (nb)	II PR (nb) (S)
Ring-billed Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)
Herring Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	IV PC (b) Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (b; hybrids with Kelp Gull) Present (nb)
Iceland Gull					Present (nb)					
Lesser Black-backed Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)
Glaucous Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)
Great Black-backed Gull	Present (nb)	Present (nb)	Present (nb)	Present (nb)	IV PC (b) Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)	Present (nb)
Black-legged Kittiwake					Present (nb)			Present (nb)		

	BCRs in the Southeast U.S. Waterbird Conservation Region									
Species	**Edwards Plateau**	**Oaks and Prairies**	**West Gulf Coastal Plain**	**Mississippi Alluvial Valley**	**Southeastern Coastal Plain**	**Appalachian Mountains**	**Piedmont**	**Peninsular Florida**	**Tamaulipan Brushland**	**Gulf Coastal Prairies**
Gull-billed Tern				IV PR (b)	I MA (b)			I MA (b)		I MA (b) (S)
Caspian Tern	Present (nb)	Present (nb)	Present (nb)	Present (nb)	IV PR (b) Present (nb)	Present (nb)	Present (nb)	IV PR (b) Present (nb)	Present (nb)	I MA (b) (s) Present (nb)
Royal Tern					II PR (S)			IV PR		II PR (S)
Sandwich Tern					I MA (b)			I MA (b)		I IM (b) (S)
Roseate Tern								I MA (b) (FT-stfl)		
Common Tern	Present (t)	I MA (t)	I MA (t)	I MA (t)	I IM (b) I MA (t) (S)	I MA (t)	I MA (t)	I MA (t) (S)	I MA (t)	I CR (b) I MA (t) (S)
Forster's Tern	Present (t)	Present (t)	Present (t)	Present (t)	IV PR (b) II PR (nb) (S)	Present (t)	Present (t)	II PR (nb) (S)	Present (t)	I MA (b) (S) II PR (nb) (S)
Least Tern (Interior FE)		I MA (b)	I MA (b)	I MA (b) (S)	I MA (b)				I MA (b)	
Least Tern (Coastal)					I MA (b) (S)			I MA (b) (S)		I IM (b) (S)
Bridled Tern					I PR (nb)			IV PR (b) I PR (nb)		I PR (nb)
Sooty Tern					Present (b) Present (nb)			II PR (b) (s) Present (nb)		Present (b) Present (nb)
Black Tern	Present (t)	Present (t)	I MA (t)	I MA (t)	I MA (t)	I MA (t)	I MA (t)	I MA (t)	I MA (t)	I MA (t) (S)
Brown Noddy					Present (nb)			II PR (b) (s) Present (nb)		
Black Noddy								Present (nb)		
Black Skimmer				I MA	I MA (b) (S)			I MA		I MA (S)
Dovekie					Present (nb)					
Razorbill					I MA (nb)					

See Appendices for definitions on Conservation Tiers and Action Levels
Residency indicated in parentheses: b=breeding, nb=non-breeding, t=transient;
Stewardship: S=stewardship species from continental perspective, s=stewardship species from regional perspective;
Geographic subareas identified are: sacp=South Atlantic Coastal Plain, egcp=East Gulf Coastal Plain, stfl=Subtropical Florida, ctx=Central Texas Coast

Table 3. Species Priorities by Action Level and Total Score for the Southeast U.S. Waterbird Conservation Region (revised 7/06).

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
Action Level = Critical Recovery						
25	Great White Heron	BR/I	MO1	>90/100	PENFL [STFL]	Restricted to STFL (Florida Keys, Florida Bay, Everglades; also local in Cuba, Yucatan Peninsula, Venezuela) during breeding season, some post-breeding dispersal northward. About 1,300 pairs. Highly vulnerable to human disturbance in nesting areas and potentially vulnerable in changes to health of Florida Bay ecosystem. Variously treated as a species separate from Great Blue Heron, a subspecies of Great Blue Heron that overlaps in s FL and Cuba the more broadly distributed "Ward's" subspecies, or as a white morph of the Ward's subspecies. Where ranges overlap there is nearly complete (but not absolute) segregation. Great White Heron is treated here as a full species representing a unique ecosystem distinct from that typically used by Great Blue Herons in the SE US.
25 (nb) 22 (b)	Whooping Crane	NB/I BR/I	MO1	100/100	GCP (Also, High Concern: OP during migration)	Federally listed with <200 breeding in Canada and wintering in TX; an experimental resident population of about 90 individuals in PENFL; also an experimental migratory flock being established between Upper Midwest U.S. and PENFL Threats are numerous to the small numbers composing the main flock wintering at Aransas NWR in TX as well as the birds resident or wintering in FL including collisions with structures, accidental (and sometimes intentional) shooting, reduction of preferred habitat from fire suppression.
22	Bermuda Petrel	NB/I	MO2	~1/100	SECP [SACP]	PELAGIC: Appears to regularly occur in very low numbers in same areas off NC coast where high concentrations of Black-capped Petrel occurs. Breeding only known presently on Nonsuch and other small islands off of Bermuda east of SE US coast. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads. With only 100 breeding birds, loss of any one individual unnecessarily should be avoided at all costs.
20 (b) 18 (nb)	Magnificent Frigatebird	BR/I NB/I	MO2 MO2	<1/100 >10/>90	PENFL [STFL] PENFL (Also, Low Responsibility: SECP, GCP)	Breeding birds today greatly reduced from historical times and only place species breeds within the continental US today is at Long Key, Dry Tortugas (about 70 pairs). Widespread along Gulf Coast, post-breeding. Post-breeding birds (thousands) from tropics stream into Southeast region each year, mostly along or near coastlines. Vulnerable to conflicts with fishing gear, especially monofilament.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
20	Wood Stork (SE US Breeding populations)	BR/I	MO2	20/100	PENFL (60), SECP (40)	SE US breeding population (maximum 8-10,000 pairs; FL, AL, GA, SC) Federally listed, when scored independently CS=24 Prior to 1940, 15-25,000 pairs, almost all in s. FL. Reduction in total numbers of pairs and spread northward started in 1960's, with nesting in GA by 1976 and SC by 1981. Nesting in s. FL is intermittent and less productive then rest of U.S. range. Nesting in n. and c. FL similar to GA and SC. Collapse of s. FL populations due to disrupted hydroperiod by the mid-1900's continuing to the present day. Dropping water tables in n FL, GA, and SC growing concern. subject to economic conflicts
18 (b) 16 (nb)	Greater Flamingo	BR/I NB/I	MO2	<1/100	PENFL [STFL]	Strong suggestion of breeding during early 1900's, status complicated by escapees from zoos, etc. Small flocks are regular in Florida Bay. Now regular non-breeding flocks in Florida Bay, with at least some wild born individuals from Yucatan colonies.
16	Sandhill Crane (MS subsp.)	BR/I	MO2	<1/100	SECP [EGCP]	Mississippi subspecies Federally listed when scored independently CS=25. About 100 individuals. Formerly breeding populations of resident Sandhill Cranes occurred from FL to TX, but are now restricted to MS, GA, and most in FL Highly vulnerable to habitat loss and collisions with wires, depredation of young by bobcats especially and pressure to curtail burning in as a habitat management tool near major highways and expanding development.
Action Level = Immediate Management						

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
23 (b, nb)	Black Rail	BR/I	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.
22	Audubon's Shearwater	NB/I	MO2	<20/100	SECP, PENFL, GCP	PELAGIC: West Indies breeding subsp. scored independently CS=23; apparently all occur at one time or another in waters within 200 miles of SE US coastline, especially off of eastern NC. Considered highly susceptible to losses on West Indian nesting grounds to predators; may also be vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
22	Reddish Egret	BR/I	MO2	>25/100	GCP (69), PENFL (31) (Also SECP post-breeding dispersal, very local breeding [AL, SC])	Nesting colonies mostly restricted to FL, TX, and LA (with a few pairs in AL, recent nesting of 2 pairs in SC). Unlike other long-legged waders, this species has never recovered fully from millinery market hunting during early 1900's; highly specific in foraging habitat requirements perhaps more vulnerable to disturbance and loss of coastal fringe habitats than other species. Regionally about 1,300 pairs.
20	King Rail	BR/I		>90/>90	GCP, PENFL, SECP, MAV, WGCP, OP (Also, Low Responsibility: APPS, PIED)	Vulnerable to losses of freshwater marshes and changes from tall to short varieties in farming rice; undergoing steep declines and range retraction.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
19	Red-throated Loon	NB/I	MO2	<10?/<33	SECP [SACP]	Largest wintering concentrations along Atlantic coast are in waters off-shore of NC; fairly common northward, increasingly uncommon to rare to north FL. Highly vulnerable to entanglement with gillnets, this species being number one among coastal divers found to be killed by gillnets, which are still allowed in NC waters, and in states to the north.
18	Little Blue Heron	BR/I		~25/>90	MAV (30), GCP (22), WGCP (18), SECP (12), OP (11) (Also, Low Responsibility: EP, APPS, PIED, TAMB)	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
15 (b)	Common Tern (Atl-Gulf pops.)	BR/I	MO2	<1/1	SECP [SACP] (98) (Also, Higb Concern: GCP)	Atlantic-Gulf breeding populations when scored independently CS=20. NC and SC breeding populations (now about 1,000 pairs) have declined in last decade. On Gulf Coast, nesting (now ~100 pairs) is virtually non-existent in TX (formerly common pre-1900) and LA, but with moderate numbers in AL and MS. 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.
Action Level = Management Attention						
23	Yellow Rail	NB/I	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.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
21	Black-capped Petrel	NB/I	MO2	100?/100	SECP [SACP], PENFL	PELAGIC: Regularly occurs in highest numbers off NC coast and lesser numbers elsewhere along Gulf Stream, apparently commuting back and forth from breeding grounds in West Indies (Hispaniola). Perhaps down to only 2,000 pairs, most of which nest in Haiti where they are highly vulnerable to habitat loss and disturbance. Also, vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
20	Gull-billed Tern	BR/I	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
20	Least Tern (Atlantic-Gulf Coast subspecies)	BR/I			coastal SECP (65), GCP (25), PENFL (10)	Coastal subsp. CS=20, same as species as a whole). Depends on beaches and spoil islands for nesting on both Atlantic and Gulf coasts, vulnerable to high levels of disturbances. Rooftop nesting not likely a panacea for this species, especially as these are soon to be phased out, though close to 50% of all pairs now nest on rooftops. Regionally about 18,000 pairs. subject to economic conflicts
20	Black Skimmer	BR/I	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.
19	Sandwich Tern	BR/I	MO1	>40/>90	GCP (88 [76 in LA]), SECP (11) (Also, High Concern in: PENFL)	Similar in habitat use, vulnerability, and distribution to Royal Tern except more signs of regional declines and more locally distributed and does not breed south of Tampa Bay and St. Augustine in FL. Regionally, about 50,000 pairs.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
18	Horned Grebe	NB/I	MO2	>10?/>33?	SECP, PENFL, GCP (Also, Low Responsibility: in all inland BCR's)	Most wintering near coastlines, some recently inland reservoirs; threats considered moderate overall, vulnerable to fishing gear, contaminants.
18	American Bittern	NB/I	MO2	>33/>33	PENFL, GCP, SECP	During migration can be found anywhere in the region. Winter populations are concentrated along the coastal plain from NC to FL and westward to TX and Tam. Vulnerable to loss of freshwater emergent wetlands.
18	White Ibis	BR/I	MO2	~50/100	SECP (44), GCP (26), MAV (17) (Also, High Concern: PENFL; and potentially increasing responsibility: 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 150,000 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 then Louisiana, and more recently in Arkansas, Texas, and Oklahoma. The regional population though appearing stable has demonstrated large-scale responses by abandoning deteriorating ecosystems such as in STFL (with altered hydrology) and taking advantage of expanding food resources in relatively distant areas, such as LA GCP (perhaps associated with crawfish aquaculture expansion). subject to economic conflicts
18	Wood Stork (Mexican Breeding populations)	NB/I	MO2	>33/>80	Non-breeding GCP, MAV, WGCP, SECP [EGCP; II b]	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
18	Least Tern (interior subspecies)	BR/I	MO2	25/>60	interior MAV (60), WGCP (17), OP (11)	Interior subsp. Fed listed, CS= 20 (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.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
18	Black Tern	NB/I	MO2	>50/>50	GCP, PENFL, SECP (Also, High Concern: MAV, 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.
17 (nb)	American White Pelican	NB/I	MO2	>67/>67	GCP, MAV, PENFL, SECP [EGCP]	Major wintering populations (~100,000 individuals) along Gulf Coast from TX and Tam. to FL, with populations also on Atlantic Coast of PENFL (rare but apparently increasing further north to SC). 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.
NS (b)		BR/IV	MO1	<1/<1	GCP (100)	Breeding colonies in Central Texas (~400 pairs) and in Tamaulipas (?). subject to economic conflicts
17	Least Bittern	BR/I	MO2	>25/>50	GCP, PENFL (Also, High Concern: 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.
17	Yellow-crowned Night-Heron	BR/I	MO1	>25/80	GCP, MAV, PENFL (STFL) (Also, High Concern: WGCP, PENFL, 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; depredation pressure fromlarge flocks of Fish Crows. Foraging specialist on crustaceans. Stable or possibly increasing in LA, but possibly declining in FL and TX subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
17	Purple Gallinule	BR/I	MO2	<25/100	GCP, PENFL (II b) (Also, High Concern: SECP, 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 region wide, changes from tall to short varieties in farming rice may have led to steep declines in LA coastal prairies. subject to economic conflicts
17	Limpkin (FL pop.)	BR/ I	MO2	1/100	PENFL (75), SECP (25)	FL population (maximum 8-10,000 individuals today) when scored independently CS=23; apparently isolated from tropical populations and most now in PENFL (formerly thought to have bred rarely in s GA). Prior to 1900, considered locally common and widespread in forested and freshwater emergent wetlands. Shooting and habitat loss led to greatly reduced populations that had somewhat rebounded by mid-1900's Vulnerable to outright freshwater wetland loss, but also to local losses to apple snail populations, which may be due to altered hydrology, contaminants, and replacement of native forage plants such as eelgrass with exotic plants. More recently SACP Limpkin populations in n FL (most notably Wakulla Springs) have declined dramatically following losses to apple snail populations. Status in PENFL and STFL appears more secure, especially where restoration efforts are underway in Kissimmee River, but local declines are apparent elsewhere. The Federally Endangered Everglade Snail Kite is also highly dependent upon apple snails and co-occurs with Limpkins in south-central Florida.
17	Roseate Tern	BR/I	MO2	1/7	PENFL [STFL]	North American populations Federally listed, when scored independently CS= 19. Florida Keys breeding birds (~300 pairs) part of West Indian populations (4000-6000 pairs), and are highly variable in location from Marathon to Key West, formerly Dry Tortugas. This species has never recovered fully from millinery market hunting during early 1900's; highly specific in nesting habitat requirements and perhaps even more vulnerable to depredation and disturbance than most other vulnerable tern species. Has nested on artificial dredge spoil islands as well as rooftops, but no where consistently. Possibly market hunting in South America also impacting this species during non-breeding . Populations breeding NY to NS migrate well off-shore, with very few individuals recorded adjacent to South Atlantic coast, joining West Indian populations wintering along the coast of northern South America.
17(tr)	Common Tern	NB/I	MO2	>33/>66	SECP, PENFL, GCP (Also, High Concern: MAV)	Transient populations breeding to the north of region. Major migration stop-over sites should be identified and protected from excessive disturbance.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
16	Northern Gannet	NB/I	MO2	>33/>50	SECP, PENFL, GCP	PELAGIC: Common during winter along Atlantic coast, less common along Gulf coast; from breeding populations in Maritime Provinces. Generally considered secure, but recent major die-offs along Atlantic Coast cause for concern. Vulnerable to conflicts with off-shore fishing gear.
16	Green Heron	BR/I	MO2	>10/>33	PENFL, GCP (Also, High Concern: SECP)	Occurs commonly region wide, many withdraw from north to south during winter. Nests in loose colonies or singly, vulnerable to loss of riparian woodlands. subject to economic conflicts
16	Black-crowned Night-Heron	BR/I	MO2	>10/>25	GCP (Also, High Concern: SECP, STFL)	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
16 (b) 16 (nb)	American Coot	BR/ I NB/I		<10/<25 (b) <25/<33 (nb)	GCP (IV), PENFL (Breeding) (Also, High Concern: 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, may be declining overall, perhaps due to disease. 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
16	Razorbill	NB/I	MO2	<5/<10	SECP [SACP]	PELAGIC: Occasional during winter off of NC, sometimes in moderate numbers. Vulnerable to conflicts with fishing gear, contaminants.

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
15	Common Loon	NB/I	MO2	>25/>33	SECP, PENFL, GCP (IV)	Winters throughout region, principally along Atlantic and Gulf coasts, increasingly inland reservoirs. Vulnerable to fishing gear and contaminants.
15	Sooty Shearwater	NB/I	MO2	<10/<33	SECP, PENFL	PELAGIC: Regularly occurs in high numbers along Atlantic; from breeding grounds in Southern Hemisphere. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
15 (b) 13 (nb)	Pied-billed Grebe	BR/I NB/IV	MO2	<10/<25 (b) <25/<33 (nb)	GCP, PENFL, TAMB (Also, High Concern: 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
NS (b) 15 (nb)	Masked Booby	BR/IV NB/I	MO2 MO1	<1/100 <5/100	PENFL [STFL] PENFL, GCP	A few pairs appears to be either the same or higher as historical status at Dry Tortugas. PELAGIC: Post-breeding dispersal from West Indies principally northward in FL and westward to TX and Tam. Potentially vulnerable to entanglement with monofilament
14	Brown Booby	NB/I	MO2	<1/100	PENFL (STFL)	PELAGIC: Regularly occurs offshore around FL, especially at Dry Tortugas. Potentially vulnerable to entanglement with monofilament
Action Level = Long-term Planning and Responsibility						
19	Clapper Rail	BR/I	MO2	>50/>75	SECP, GCP PENFL	Resident through most brackish and salt marshes along both Atlantic and Gulf coasts, and mangroves in PENFL. Trends are unknown, with some concern especially for populations in STFL, where mangroves have been converted to other uses, and perhaps in general where coastal marshes are undergoing rapid loss (e.g., Louisiana).

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
18	Royal Tern	BR/II	MO1	>50/>75	GCP (54), SECP (43); major colonies also in PENFL	Breeds in large colonies on isolated (therefore more protected from predators) and mostly sandy natural (unvegetated) small coastal and artificial dredge spoil islands. These island colonies are along coastlines from NC to most of FL, westward to TX and Tam. Overall apparently more secure than species that breed along mostly unprotected beaches subject to constant high levels of disturbance. Regionally, about 70,000 pairs. Still subject to vulnerability if colonies become accessible by boats, so known colonies should be protected to the degree possible from recreational access by boats. Some vulnerability to entanglement with fishing gear (monofilament) and ingestion of contaminants. subject to economic conflicts
17	Tricolored Heron	BR/II	MO2	~33/>90	GCP (59), SECP (18), MAV (18) (Also High Concern: PENFL)	Populations mostly concentrated along Gulf and Atlantic Coasts Regionally about 35,000 pairs. Generally stable or increasing in region, except SECP and PENFL. Not clear why declines may be underway along south Atlantic coast, but in FL following the same pattern of decline in STFL as other long-legged waders. subject to economic conflicts
16	Cory's Shearwater	NB/I	MO1	>50?/>75	SECP [SACP], PENFL (Also, Low Responsibility: GCP)	PELAGIC: Regularly occurs in high numbers along Atlantic and lesser numbers in Gulf from breeding grounds in and around the Mediterranean. Occasionally, large numbers of Greater and Cory's Shearwaters die and washup along the South Atlantic coast (e.g., summer of 2005; apparently also occurred 40 or so years ago), cause as yet unknown but necropsies indicate many birds are emaciated. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
16	Greater Shearwater	NB/I	MO1	>50?/>75	SECP [SACP], PENFL (Also, Low Responsibility: GCP)	PELAGIC: Regularly occurs in high numbers along Atlantic and lesser numbers in Gulf; from breeding grounds in Southern Hemisphere. Occasionally, large numbers of Greater and Cory's Shearwaters die and washup along the South Atlantic coast (e.g., summer of 2005; apparently also occurred 40 or so years ago), cause as yet unknown but necropsies indicate many birds are emaciated. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.

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16	Band-rumped Storm-Petrel	NB/I	MO2	<10/>90	SECP [SACP], GCP (Also, Low Responsibility: PENFL)	PELAGIC: Regularly occurs in moderate numbers along Gulf Stream, especially NC, rare in Gulf. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
16	Brown Pelican	BR/II	MO2	45/>90	GCP (43), SECP (34), PENFL (22)	Populations nesting in MS, LA, TX are Federally listed. Steady population increases during the 1990s, especially in Louisiana, were leading to suggestions that delisting was warranted, but see below. Listed and non-listed populations are not treated separately here. Breeding populations have largely recovered from the early 1900's and have expanded northward into Chesapeake Bay. Regionally about 45,000 pairs. Some local declines may be underway along the Gulf Coast of Florida (and possibly elsewhere) where high levels of human interaction may be leading to many birds becoming entangled in fishing gear, especially monofilament. Along the Chandeleur Islands in Louisiana, recent losses of traditional nesting sites from repeated storm related erosion and oil spills impacting about 900 chicks (2005) at colonies on Breton NWR have not yet resulted definitively in declines in nesting pairs, but large numbers of adult pelicans have not been found elsewhere and status may require revision if it is shown major declines are underway. subject to economic conflicts
16	Bonaparte's Gull	NB/II	MO2	>33/>33	SECP, PENFL, GCP	Most populations winter near coastlines, but migrants and increasingly some wintering birds concentrate inland at reservoirs. subject to economic conflicts
16 (b) 17 (nb)	Forster's Tern	BR/I NB/IV	MO2	~20/~20 (b) >66/>66 (nb)	GCP (84), SECP (16) GCP, SECP, PENFL	Two major nesting concentrations for this marsh-nesting species. Mid-Atlantic populations have at best unknown trends (about 1,000 pairs in Carolinas), while Gulf Coastal populations (about 5,500 pairs) may be declining. Large influx of northerly breeding birds during winter, mostly along coasts but more recently inland on reservoirs. subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
NS (b.) 16 (nb)	Bridled Tern	BR/I	MO2	<1/100 (b) <10/100 (nb)	PENFL [STFL] PENFL, SECP (High Responsibility), GCP (Low Responsibilty)	A few (~18) pairs appears to be either the same or higher as historical status off of Florida Keys. PELAGIC: Post-breeding dispersal from West Indies northward to NC and westward to TX and Tam.
15	Virginia Rail	NB/II		>33/>33	GCP, SECP, PENFL	Major populations during migration and winter throughout region associated with emergent wetlands and rice fields.
15	Sora	NB/II		>33/>33	GCP, SECP, PENFL	Major populations during migration and winter throughout region associated with emergent wetlands and rice fields.
15	Sandhill Crane (Greater, Canadian, Lesser subspecies)	NB/II		>33/>33	GCP, OP, APPS, PENFL, SECP [SACP], PIED	Greater, Canadian, Lesser subspp when scored collectively represent the same CS as for species as a whole Major migration stopover and wintering sites for eastern flock include Hiawassee WMA, TN, and generally along route paralleling I-75 to Payne's Prairie State Preserve, FL. Mid-Continental (Central Flyway) populations move through eastern OK and TX wintering along GCP. Increasingly found in winter in LA, MAV, various river corridors including Tennessee, Chattahoochee, and Savannah. Vulnerable to collision with structures. subject to economic conflicts, increasing number of complaints associated with crop depredation near concentration sites.
15	Franklin's Gull	NB/I	MO2	>50/>50	GCP, OP	Transient populations breeding to the north of region. Northbound migrants heavily concentrate along Upper Gulf Coast of TX, but individuals and small flocks can be found anywhere in Southeast. Major migration stop-over sites should be identified and protected from excessive disturbance.
15 (b) 12 (nb.)	Caspian Tern	BR/IV	MO2	2/5	GCP (77), SECP (13), PENFL (10)	Uncommon breeding species in SE US and usually associated with Royal and Sandwich Tern colonies. More common in region during migration inland and along coasts during winter. Regionally about 2,000 pairs. subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
15 (b) 13 (nb)	Sooty Tern	BR/II NB/IV	MO2	<1/100 (b) <10/100 (nb)	PENFL [STFL] PENFL, SECP, GCP	An average of about 30,000 pairs breed in SE US with almost all at Bush Key, Dry Tortugas, FL. Scattered pairs are found in most other coastal states each year. Declines since 1960's attributed mostly to island erosion and reduction of shrub nesting cover. Highly vulnerable to rats and other mammalian predators. PELAGIC: Occurs off of both Atlantic and Gulf coasts. Potentially exposed to contaminants, especially oil.
15 (b) 13 (nb)	Brown Noddy	BR/II NB/IV	MO2	<1/100 (b) <10/100 (nb)	PENFL [STFL] PENFL	About 2,000 pairs breed in SE US with all at, Dry Tortugas, FL. Apparently stable, nesting on shrubs. PELAGIC: Occurs principally adjacent to PENFL, very rarely elsewhere. Potentially exposed to contaminants, especially oil.
14	Manx Shearwater	NB/I	MO1	<1/<25	SECP [SACP]	PELAGIC: Regularly occurs in moderate numbers only off e NC, casual elsewhere. Vulnerable to conflicts with off-shore fishing gear, colliding with lights on boats and structures during inclement weather, possibly high mercury loads.
14	Great Egret	BR/II		>20/>90	SECP (24), GCP (22), MAV (21), PENFL (14), WGCP (12)	Resident across most of region outside of Appalachians, numbers augmented during winter from more northern breeding populations. Most indications suggest this species after severe declines from millinery trade is stable and increasing across most of region, exceptions in PENFL and central Gulf coast of TX. Regionally about 120,000 pairs. Like most colonial long-legged waders, declines evident in STFL, but unlike many species declines also in PENFL are evident. 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	Laughing Gull	BR/II		>50/~67	GCP (61), SECP (28), PENFL (10)	Common along coastlines along both Atlantic and Gulf. Apparently stable and increasing across most of range. Regionally over 170,000 pairs. Considered to be a potential predator on other beach-nesting species, but usually in association with other disturbances, with some calls for population control where nesting near Federally and state listed species (terns and plovers) subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
13	Least Grebe	BR/IV	MO1	<1/>95	TAMB, GCP	Status unclear, but characteristic of open ponds and emergent wetlands in extreme s TX.
13	Anhinga	BR/IV	MO2	5/100	SECP (44), PENFL (37), MAV (10) (Also, High Concern: 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
13	Snowy Egret	BR/IV		>10/>50	GCP (37), MAV (24), SECP (15)	Common generally along coastal plain from NC to FL and then west to TX and Tam., occurring inland along Mississippi River westward into AR and OK. Northern populations withdraw to the southern areas during winter. Species stable and increasing most of region after severe declines from millinery trade into early 1900's. Regionally about 50,000 pairs. Vulnerable to colony disturbance and among the most commonly requested species for depredation permits related to fish hatcheries and aquaculture. subject to economic conflicts
13	Roseate Spoonbill	BR/IV	MO2	2/100	GCP (87), PENFL (10 [STFL])	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 5,500 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
12	Eared Grebe	NB/IV	MO2	<1/10-25	GCP, OP, EP, TAMB	Larger wintering concentrations in areas west of Mississippi River, scattered individuals found east of Mississippi River almost all in freshwater habitats. Occasionally breeds in TX. Subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
12	Common Moorhen	BR/IV	MO2	<10/>50	GCP, PENFL	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. Open water and emergent wetlands, where status for this species seems to be an exception when compared to more vulnerable marsh associated species. Perhaps more successful use of canals and drainage ditches. subject to economic conflicts
11	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. Northern populations withdraw to southern areas during winter. Stable and increasing, exceptions central and south Gulf coast of TX and PENFL. Regionally about 70,000 pairs. Vulnerable to colony disturbance and among the most commonly requested species for depredation permits related to fish hatcheries and aquaculture. subject to economic conflicts
11	Glossy Ibis	BR/IV		<1/>50	SECP (44), PENFL (29), MAV (26)	Apparently spread from the eastern Hemisphere to the western Hemisphere during the mid-1800's becoming established first in the West Indies. Virtually unknown in FL prior to the 1930's, but from the 1940's to 1970's exploded in numbers and range along Atlantic coast north to Maine. More recently expansion west to LA and TX coastlines, overlapping White-faced Ibis populations that are expanding eastward. Regionally about 3,500 pairs. 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
11	White-faced Ibis	BR/IV		4/40	GCP [99; LA] (Also, High Concern: 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. Apparent population declines along central TX coast, but this has been compensated by an explosion in numbers in LA coastal prairies, possibly associated with expansion of crawfish aquaculture. subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
11	Sandhill Crane (FL subsp.)	BR/IV		<1/100	PENFL (93), SECP [SACP] (7)	Florida subspecies when scored independently CS=19. Overall stable and increasing in both dry and wet Florida prairies as well as converted pasturelands in PENFL, but rare and declining in STFL. About 2,000 pairs. Isolated GA-Okefenokee population is of very high concern (SACP, CS=17 with respect to the species as a whole; CS=23 with respect to FL subspecies), possibly associated with dropping water table, succession of prairie to shrub-scrub and potential exposure to mercury. About 160 pairs in late 1980's. Subject to economic conflicts
10	Neotropical Cormorant	BR/IV	MO2	<1/95	GCP, OP	A widespread tropical species occurring commonly along TX and LA coastal prairies. Apparently increasing and possibly spreading inland north to AR and OK in very small numbers. Regionally about 8,000 pairs. Depredation issues involving Double-crested species probably include this species too, but unclear what impacts are to species. subject to economic conflicts
Action Level = Population Control						
10 (b) 14 (nb)	Double-crested Cormorant	BR/IV NB/II		1/1 (b) >50/>50 (nb)	PENFL (75), SECP (20) (breeding) MAV, SECP, GCP, WGCP, PENFL (nb)	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 10,500 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
13 (b) 14 (nb)	Great Black-backed Gull	BR/IV	MO2	<1/<1 (b) <10/<25 (nb)	SECP (breeding) SECP, PENFL (non-breeding)	Relatively recently established as a breeding species in North America, with even more recent breeding as far south as NC. Regionally about 200 pairs. Influx of numbers of wintering birds as far south as FL, with occasional occurrence westward. Considered to be a major predator on other beach-nesting species, with some calls for population control where nesting near Federally and state listed species (terns and plovers) subject to economic conflicts

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
11	Cattle Egret	BR/IV		>10/>80	OP (22), WGCP (22), GCP (18), SECP (17), MAV (10)	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. Species forms huge colonies, often in urban-suburban areas and is subject to public complaints, resulting in depredation concerns. In addition, some suggestion that this species may disrupt nesting of Little Blue Herons, often replacing this species over time at many colony sites, but this has not been proven (except that Little Blue Heron is the only long-legged wader to appear to be declining over most of range in SE US). subject to health and safety conflicts
10 (b) 14 (nb)	Herring Gull		MO2	<1/<1 (b) <33/>33 (nb)	SECP (breeding) SECP, PENFL, GCP (non-breeding)	Increasing as a breeding species in NC. Also a small group hybridized with several Kelp Gulls in the Chandeleur Islands, in Gulf off of east LA. Regionally over 900 pairs. Major numbers move into SE US during winter, mostly along coastlines. Considered to be a major predator on other beach-nesting species, with some calls for population control where nesting near Federally and state listed species (terns and plovers) subject to economic conflicts
Other Species						
	Wilson's Storm-Petrel					PELAGIC
	Leach's Storm-Petrel					PELAGIC
	Pomarine Jaeger					PELAGIC
	Parasitic Jaeger					PELAGIC
	Long-tailed Jaeger					PELAGIC

Combined Score for Region	Species	Residency Status/ Conservation Tier	Monitoring Needs	Percent of Population: Global/ U.S.-Canada	BCR's with High Responsibility and Interest	Conservation Notes
	Ring-billed Gull					subject to economic conflicts
	Lesser Black-backed Gull					
	Black-legged Kittiwake					PELAGIC
	Dovekie					PELAGIC

See Legend and Appendices I, II, and III

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.

Table 4a. Estimated Number of Breeding Pairs (and Population Size Categories) for Colonial Waterbird Species by Bird Conservation Region and for the Entire Southeast U.S. Waterbird Conservation Region (revised 3/06).

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Estimate
Masked Booby								18 (1>20)			18 (1>20)
American White Pelican										420 400<600	420 (400<600)
Brown Pelican					14,600 (9,000>20,000)			9,527 (9,000<20,000)		18,424 (9,000>20,000)	42,551 (40,000<60,000)
Neotropical Cormorant	10 (1>20)	1,600 (900>2,000)	650 (500-1,000)	28 (10-50)					490 (400<600)	4,972 (4,000<6,000)	7,750 (5,000-10,000)
Double-crested Cormorant		25 (10-50)	400 (400<600)	250 (100-500)	2,060 (1,000-5,000)	100 (90<200)	50 (40<60)	7,595 (5,000-10,000)		125 (90>200)	10,600 (9,000>20,000)
Anhinga		150 (90>200)	470 (400<600)	1,080 (900>2,000)	4,600 (4,000<6,000)	20 (1>20)		3,865 (1,000-5,000)	20 (1>20)	466 (400<600)	10,524 (9,000>20,000)
Magnificent Frigatebird								70 (50-100)			70 (50-100)
Great Blue Heron	135 (90>200)	4,300 (4,000<6,000)	10,421 (9,000>20,000)	14,000 (9,000>20,000)	26,700 (10,000-50,000)	3,200 (1,000-5,000)	2,300 (1,000-5,000)	3,318 (1,000-5,000)	100 (90<200)	4,857 (4,000<6,000)	69,331 (50,000-100,000)
Great “White” Heron								1,322 (900>2,000)			1,332 (900>2,000)
Great Egret	2 (<10)	8,000 (5,000-10,000)	14,000 (9,000>20,000)	25,000 (10,000-50,000)	28,244 (10,000-50,000)	850 (500-1,000)	400 (400<600)	16,513 (9,000>20,000)	162 (90>200)	26,095 (10,000-50,000)	119,266 (90,000>200,000)
Snowy Egret	153 (90>200)	3,850 (1,000-5,000)	3,000 (1,000-5,000)	10,630 (9,000>20,000)	6,800 (5,000-10,000)		100 (90<200)	3,768 (1,000-5,000)		16,655 (9,000>20,000)	44,956 (40,000<60,000)
Little Blue Heron	208 (100-500)	6,000 (4,000>6,000)	10,220 (9,000>20,000)	16,850 (9,000>20,000)	7,650 (5,000-10,000)	200 (90>200)	200 (90>200)	3,658 (1,000-5,000)		12,200 (9,000>20,000)	57,186 (40,000>60,000)
Tricolored Heron		54 (40>60)	160 (90>200)	6,800 (5,000-10,000)	6,422 (5,000-10,000)			1,900 (900>2,000)		21,660 (10,000-50,000)	36,996 (10,000-50,000)
Reddish Egret					5 (<10)			350 (100-500)		900 (900<2,000)	1,255 (900>2,000)
Cattle Egret		79,260 (50,000-100,000)	72,300 (50,000-100,000)	32,700 (10,000-50,000)	56,826 (40,000>60,000)	700 (500-1,000)	1,050 (900>2,000)	29,783 (10,000-50,000)	1,000 (900<2,000)	60,769 (50,000-100,000)	334,388 (100,000-500,000)

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Estimate
Green Heron*	15,333 (9,000>20,000)	29,133 (10,000-50,000)	39,867 (10,000-50,000)	29,133 (10,000-50,000)	75,900 (50,000-100,000)	25,300 (10,000-50,000)	18,400 (9,000>20,000)	37,567 (10,000-50,000)	13,033 (9,000>20,000)	48,300 (40,000<60,000)	318,167 (100,000-500,000)
Black-crowned Night-Heron*		333 (100-500)	667 (500-1,000)	1,000 (900<2,000)	1,333 (900<2,000)	333 (100-500)	333 (100-500)	1,000 (900<2,000)	667 (500-1,000)	1,667 (900>2,000)	7,333 (5,000-10,000)
Yellow-crowned Night Heron*		750 (500-1,000)	1,100 (900<2,000)	12,050 (9,000>20,000)	1,200 (900<2,000)	700 (500-1,000)	??	850 (500-1,000)	350 (100-500)	4,200 (4,000<6,000)	21,300 (10,000-50,000)
White Ibis		4,780 (4,000<6,000)	1,400 (900>2,000)	18,350 (9,000>20,000)	54,370 (40,000>60,000)	50 (40<60)	200 (90>200)	40,000 (40,000-60,000)		27,643 (10,000-50,000)	146,000 (90,000>200,000)
Glossy Ibis				900 (900<2,000)	1,500 (900>2,000)			1,000 (900<2,000)		32 (10-50)	3,432 (1,000-5,000)
White-faced Ibis	7 (<10)		16 (1>20)		??					18,055 (9k>20,000)	18,078 (9,000>20,000)
Roseate Spoonbill				247 (100-500)				800 (500-1,000)		4,481 (4,000<6,000)	5,536 (4,000>6,000)
Wood Stork					3,679 (1,000-5,000)			5,500 (4,000>6,000)			9,177 (9,000<20,000)
Laughing Gull					46,116 (40,000<60,000)			24,000 (10,000-50,000)		99,800 (90,000<200,000)	170,000 (90,000>200,000)
Herring Gull					910 (900<2,000)					20 (X Kelp?) (1>20)	930 (900<2,000)
Great Black-backed Gull					181 (90>200)						181 (90>200)
Gull-billed Tern				20 (1>20)	525 (400>600)			10-30 (10-50)		2,475 (1,000-5,000)	3,050 (1,000-5,000)
Caspian Tern					272 (100-500)			199 (90>200)		1,575 (900>2000)	2,046 (1,000-5,000)
Royal Tern					29,141 (10,000-50,000)			3,500 (1,000-5,000)		36,682 (10,000-50,000)	79,223 (50,000-100,000)
Sandwich Tern					5,676 (4,000>6,000)			1,000 (900>2,000)		46,123 (40,000<60,000)	52,799 (40,000>60,000)
Roseate Tern								300 (100-500)			300 (100-500)
Common Tern					1,226 (900>2,000)					30 (10-50)	1,256 (900>2,000)

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Estimate
Forster's Tern					1,091 (900>2,000)					5,500 (4,000>6,000)	6,591 (5,000-10,000)
Least Tern (coastal)					10,150 (9,000>20,000)			4,000 (4,000<6,000)		2,250 (1,000-5,000)	16,400 (9,000>20,000)
Least Tern (interior)		550 (400>600)	860 (500-1,000)	5,500 (4,000>10,000)	450 (400<600)				182 (90>200)		7,542 (5,000-10,000)
Bridled Tern								5 (<10)			5 (<10)
Sooty Tern					4 (<10)			31,000 (10,000-50,000)		30 (10-50)	31,034 (10,000-50,000)
Brown Noddy								2,200 (1,000-5,000)			2,200 (1,000-5,000)
Black Skimmer				58 (40>60)	2,869 (1,000-5,000)			1,500 (900>2,000)		7,777 (5,000-10,000)	12,204 (10,000-50,000)

* Estimates were generated in part by using Breeding Bird Survey, considered most reliable for Green Heron with high sample sizes, least reliable for the two night-herons.

Table 4b. Population Objectives for Breeding Colonial Waterbirds by Bird Conservation Region and for the Entire Southeast U.S. Waterbird Conservation Region[1] (revised 3/06).

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Population Objective
Masked Booby								100			1>20
American White Pelican										100	400>600
Brown Pelican					34			22		43	40,000>60,000
Neotropical Cormorant	?	21	8	<1					6	64	5,000-10,000
Double-crested Cormorant		<1	4	<1	20		<1	75		1	9,000>20,000
Anhinga		1	5	10	44	<1		37	<1	3	10,000-50,000
Magnificent Frigatebird								100			100-500
Great Blue Heron	<1	6	15	20	39	5	3	5	<1	7	50,000-100,000
Great “White” Heron								100			1,000-5,000
Great Egret		7	12	21	24	<1	<1	14	<1	22	100,000-500,000
Snowy Egret	<1	9	7	24	15		<1	8	<1	37	40,000>60,000
Little Blue Heron	<1	11	18	30	12	<1	<1	7	<1	22	50,000-100,000
Tricolored Heron		<1	<1	18	18			5	<1	59	40,000<60,000
Reddish Egret					<1			31		69	1,000-5,000
Cattle Egret		24	22	10	17	<1	<1	9	<1	18	90,000>200,000
Green Heron*	<1	9	13	9	24	8	6	12	4	15	400,000<600,000
Black-crowned Night-Heron*		4	9	14	18	4	4	14	9	23	9,000<20,000
Yellow-crowned Night Heron*		3	5	57	6	3	<1	4	2	20	40,000<60,000
White Ibis		3	1	13	37	<1	<1	27	<1	19	100,000-500,000
Glossy Ibis				26	44			29		1	4,000<6,000
White-faced Ibis		<1	<1						<1	99	10,000-50,000
Roseate Spoonbill				4				15		81	5,000-10,000
Wood Stork					20			80			10,000-50,000

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Population Objective
Laughing Gull					27			14		59	90,000<200,000
Herring Gull					98					2	500-1,000
Great Black-backed Gull					100						50-100
Gull-billed Tern				1	17			1		81	4,000<6,000
Caspian Tern					13			10		77	1,000-5,000
Royal Tern					43			3		54	90,000<200,000
Sandwich Tern					11			1		88	50,000-100,000
Roseate Tern								100			400<600
Common Tern					90					10	1,000-5,000
Forster's Tern					16					84	9,000<20,000
Least Tern (coastal)					57			22		21	10,000-50,000
Least Tern (interior)		7	12	73	6				2		5,000-10,000
Bridled Tern								100			10-50
Sooty Tern					<1			99		<1	40,000<60,000
Brown Noddy								100			4,000<6,000
Black Skimmer				<1	24			12		64	10,000-50,000

* Percentages were generated in part by using Breeding Bird Survey, considered most reliable for Green Heron with high sample sizes, least reliable for the two night-herons.

[1] Objectives were derived based on a percent change in baseline population sizes (see Table 4a). Objectives are shown in terms of a population size category with regional responsibility divided among Bird Conservation Regions for any future projected population based on the percentage of existing estimated populations (again see table 4a).

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).

BCRs of High Responsibility and Interest

BCRs 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 BCRs 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.

Table 5a. Estimated Numbers of Breeding Pairs (and Population Size Categories) for Non-colonial Waterbird Species by Bird Conservation Region and for the Entire Southeast U.S. Waterbird Conservation Planning Region (revised 9/06)

Species (population estimate; i.e. pairs in western hemisphere)	Edwards Plateau**	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Estimate
Least Grebe (non-BBS estimate >250,000)	??	75 (50-100)							2,750 ^ (1,000-5,000)	250 # (100-500)	3,075 (1,000-5,000)
Pied-billed Grebe (BBS estimate 1,333,325)	??	400 (100-500)	400 (100-500)	1,333 (900<2,000)	1,333 (900<2,000)	400 (100-500)	400 (100-500)	4,000 (1,000-5,000)	8,000 ^ (5,000-10,000)	6,667 ^ (5,000-10,000)	22,934 ^ (10,000-50,000)
Least Bittern (BBS estimate 146,982)	??	294 (100-500)	44 # (40<60)	3,333 (1,000-5,000)	3,333 (1,000-5,000)	294 ^ (100-500)	1,470 ^ (900<2,000)	31,160 (10,000-50,000)	2,058 ^ (1,000-5,000)	33,365 (10,000-50,000)	70,199 (50,000-100,000)
Black Rail (non-BBS estimate >30,000)					7,230 (5,000-10,000)	??	60 (50-100)	4,020 (1000-5,000)		660 (500-1,000)	11,970 (9,000<20,000)
Clapper Rail (BBS estimate 167,050)					17,707 (9,000>20,000)			3,174 (1,000-5,000)		16,204 (9,000>20,000)	37,085 # (10,000-50,000)
King Rail (BBS estimate 39,563)		2,571 (1,000-5,000)	12 # (1>20)	791 (500-1,000)	831 # (500-1,000)	12 (1>20)	79 (50-100)	593 # (500-1,000)	277 (100-500)	29,274 (10,000-20,000)	34,440 (10,000-50,000)
Purple Gallinule (BBS estimate 168,169)		50 (40>60)	50 (40>60)	50 (40>60)	841 (500-1,000)			1,009 (900<2,000)	50 (40>60)	6,054 (5,000-10,000)	8,104 (5,000-10,000)
Common Moorhen (6BBS estimate 91,698)	??	692 (500-1,000)	692 (500-1,000)	208 # (100-500)	2,767 # (1,000-5,000)	208 (100-500)	69 (50-100)	86,462 (50,000-100,000)	5,534 (4,000>6,000)	96,838 (90,000<200,000)	193,470 (90,000>200,000)
American Coot (BBS estimate 2,993,387)	??	898 ^ (500-1,000)	898 ^ (500-1,000)	300 (100-500)	898 (500-1,000)	898 (500-1,000)	300 (100-500)	3,000 ^ (1,000-5,000)	30,000 ^^ (10,000-50,000)	38,914 ^^ (10,000-50,000)	76,106 ^^ (50,000-100,000)
American Coot with revised estimates for Tamaulipan. Brushlands and Coastal Prairies	??	898 ^ (500-1,000)	898 ^ (500-1,000)	300 (100-500)	898 (500-1,000)	898 (500-1,000)	300 (100-500)	3,000 ^ (1,000-5,000)	500 (400>600)	2,500 (1,000-5,000)	10,200 (900<2,000)
Limpkin (non-BBS estimate 500,000)***					1,000 (900<2,000)			4,000 (1,000-5,000)			5,000 (4,000<6,000)
Sandhill Crane (BBS estimate 163,000, does not include Siberian populations.)****					180 (90>200)			2,720 (1,000-5,000)			2,900 (1,000-5,000)
Whooping Crane (direct count of 91 pairs in 2006)*****								14 (1>20)			14 (1>20)

*Estimates were generated by using Breeding Bird Survey data (see text, data for each species available upon request from senior author), with the exception of Limpkin and Whooping Crane (see below). Based on reviewers' comments, many of these estimates may be low, but not substantially so except for Clapper Rail. In contrast to most species here, estimates for Pied-billed Grebe and American Coot are considered substantially high by several reviewers and may be explained due to substantial overlap between local breeding and non-breeding populations , both contributing to Breeding Bird Survey data in the Southeast U.S.. Feedback from cooperators in Texas and

Louisiana specifically suggest a major revision is needed for American Coot in particular, which affects estimates for the species in the entire region and are therefore included here in a separate row. In addition, there are estimates for other species in specific BCRs that seem either high or low given our understanding of their occurrence and relative abundance compared adjacent bird conservation regions (maybe indicating some issues related to routes that cross BCR boundaries). Such estimates are flagged by "^" for higher than expected or "#" for lower than expected.

**Along the eastern and southern boundaries of the Edwards Plateau (as defined in the Plan) there may be breeding populations for several of these species, but these generally are not considered to breed specifically within this BCR.

***Population estimates for Limpkin are extrapolated from information in Cox et al. (1994) and Bryan (1996) for Florida. Cox et al. (1994) in particular estimated habitat on conservation lands existing in the mid-1990s was extensive enough to support between 3,000 to 6,000 Limpkin territories, with about 80 percent of available habitat on these conservation lands. This estimate suggests a population potentially up to 7,500 pairs, making the estimate used here of 5,000 pairs a conservative one. In contrast, apparent recent population extirpations from some Florida panhandle rivers suggest the estimate may be liberal at least for Southeastern Coastal Plain estimate of 1,000 pairs.

****The Peninsular Florida pair estimate is based on Breeding Bird Survey data and corresponds closely with other estimates of around 4,000 individuals (Nesbitt 1996). Estimates for two separate populations within the Southeastern Coastal Plain are based on local information (Mississippi Sandhill Crane National Wildlife Refuge, about 20 pairs as of 2006, Okefenokee National Wildlife Refuge, about 160 pairs as of the mid-1980s).

*****Population estimates for Whooping Crane from direct counts taken as recently as spring 2006 related to recovery effort for this species (Whooping Crane Conservation Association 2006 http://www.whoopingcrane.com/FLOCKSTATUS.HTM).

Table 5b. Population Objectives for Breeding Non-colonial Waterbirds by Bird Conservation Region and for the Entire Southeast U.S. Waterbird Conservation Planning Region[1] (revised 9/06)

Species	Edwards Plateau	Oaks and Prairies	West Gulf Coastal Plain	Mississippi Alluvial Valley	Southeastern Coastal Plain	Appalachian Mountains	Piedmont	Peninsular Florida	Tamaulipan Brushlands	Gulf Coastal Prairies	Total Regional Population Objective
Least Grebe		10							45	45	1,000-5,000
Pied-billed Grebe		<1	<1	15	20	<1	<1	20	5	40	40,000<60,000
Least Bittern		2	3	4	4	<1	<1	42	<1	46	90,000<200,000
Black Rail					60	<1	<1	35		5	10,000-50,000
Clapper Rail					50			10		40	40,000<60,000
King Rail		8	2	2	12	<1	<1	11	1	64	40,000>60,000
Purple Gallinule		1	2	2	10			12	1	72	9,000>20,000
Common Moorhen		1	1	6	12	1	1	36	1	42	100,000-500,000
American Coot*		5	5	5	10	10	5	30	5	25	40,000>60,000
Limpkin					20			80			9,000>20,000
Sandhill Crane					10			90			4,000<6,000
Whooping Crane								100			>25 (productive pairs as defined in recovery plan)

* Objective and percentages for American Coot were generated in part by using Breeding Bird Survey and in part by recommendations from reviewers, particularly with respect to Tamaulipan Brushlands and Gulf Coastal Prairies.

[1] Objectives were derived regionally on taking the baseline population sizes (see Table 5a) and identifying the next highest population size category. Then for each BCR, a percentage of the total regional population size (regardless of actual estimate) was identified based on the baseline percentages (as identified by BBS data in Table 5a) with some adjustments based on the senior author's judgment on likely potential for each BCR to support each species relative to each other BCR in the planning region.

II. Appendix 2 – Scoring Tables

Scores and Status for the Southeast U.S. Waterbird Conservation Region
Breeding Colonial Waterbirds (rev. 4/20/06)

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Masked Booby	**4**	**4**	**4**	**3**	**3**	**2**	**20**			**15 CC c**					
Southeast U.S. Region	**2**		**4**	**3**				**1**			**IV**	**PR**	**100us-can (<1 gl)**	**2**	**2**
PENFL (BCR 31)	**2**		**4**	**3**				**1**			**IV**	**PR**	**100 reg.**	**2**	**2**
STFL	*2*		*4*	*3*				*1*			*IV*	*PR*	*(100)*		
American White Pelican	**2**	**4**	**3**	**3**	3	**2**	**17**								
Southeast U.S. Region	**2**		**3**	**3**				**1**			**IV**	**PR**	**<1us-can (<1 gl)**	**4a**	**5b**
GCP (BCR 37)	**2**		**3**	**3**				**1**			**IV**	**PR**	**100 reg.**	**4a**	
CTX	*2*		*3*	*3*				1			*IV*	*PR*	*100 (TX)*		
Tam.	*3*		*3*	*3*				*1*			*IV*	*PR*	*(100 Mex)*		
Brown Pelican	**1**	**4**	**3**	**2**	**3**	**3**	**16**								
Southeast U.S. Region	**1**		**3**	**2**				**5**	**21**	**16 S**	**II**	**PR**	**>90us-can (44 gl)**	**8a**	**9b**
SECP (BCR 27)	**1**		**3**	**2**				**5**	**21**	**16 S**	**III a**	**PR**	**34 reg. (15 gl)**	**8b**	
SACP	*1*		*3*	*2*				*5*	*21*	*16 S*	*II*	*PR*	*(23) (10 gl)*		
EGCP	*2*		*3*	*2*				*3*	*20*		*III a*		*(11) (5 gl)*		
PENFL (BCR 31)	**4**		**4**	**2**				**5**	**25**	**20 RC, S**	**I**	**MA**	**22 reg. (10 gl)**	**7a**	
CENFL	*4*		*4*	*2*				*5*	*25*	*20 RC, S*	*I*	*MA*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
STFL	*4*		*4*	*2*				*5*	*20*	*20 RC, S*	*I*	*MA*			
GCP (BCR 37)	**1**		**3**	**2**				**5**	**21**	**16 S**	**II**	**PR**	**43 reg. (19 gl)**	**8b**	
LA	*1*		*3*	*2*				*5*	21	*16 S*	*II*	*PR*	*(35 LA) (15 gl)*		
UTX	*1*		*3*	*2*				*3*	*19*		*III a*	*PR*	*(8 TX) (4 gl)*		
CTX	*1*		*3*	*2*				*3*	*19*		*III a*	*PR*			
Neotropic Cormorant	**2**	**2**	**3**	**2**	**1**	**1**	**11**								
Southeast U.S. Region	**1**		**3**	**3**				**3**	**14**		**IV**	**PR**	**>95us-can (<2 gl)**	**7**	**7**
EP (BCR 20)	**2**		**3**	**2**				**1**					?		
OP (BCR 21)	**2**		**3**	**2**				**2**	**13**				**21 reg.**	**6b**	
WGCP (BCR 25)	**2**		**3**	**2**				**1**					**8 reg.**	**5**	
MAV (BCR 26)	**2**		**3**	**2**				**1**					**<1 reg.**	**2**	
TAMB (BCR 36)	**2**		**3**	**2**				**2**	**13**				**6 reg.**	**4a**	
GCP (BCR 37)	**1**		**3**	**3**				**5**	**17**		**IV**	**PR**	**64 reg. (1 gl)**	**6**	
LA	*1*		*3*	*3*				*5*	*17*		*IV*	*PR*	*(36 LA)*		
UTX	*1*		*3*	*3*				*3*	*15*				*(28 TX)*		
CTX	*1*		*3*	*2*				*3*	*14*						
STX/Tam.	*2*		*2*	*1*				*3*	*10*						
Double-crested Cormorant	**1**	**3**	**2**	**2**	**2**	**2**	**12**								
Southeast U.S. Region	**1**		**2**	**2**				**2**	**14**		**IV**	**PR**	**6 us-can (6 gl)**	**8b**	**8b**
OP (BCR 21)	**1**		**2**	**2**				**1**					**<1 reg.**	**2**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**1**		**3**	**2**				**1**			**IV**	**PR**	**4 reg.**	**4a**	
MAV (BCR 26)	**1**		**3**	**2**				**1**			**III b**	**PR**	**<1 reg.**	**3**	
SECP (BCR 27)	**2**		**2**	**2**				**2**	**15**		**III b**	**PR**	**20 reg.**	**6**	
SACP	*2*		*2*	*2*				*2*	*15*				*(19)*		
EGCP	*3*		*2*	*2*				*2*	*16*		*III b*	*PR*	*(1)*		
PIED (BCR 29)	**1**		**2**	**2**				**1**					**<1 reg.**	**2a**	
PENFL (BCR 31)	**3**		**3**	**2**				**5**	**20**	**16 S**	**II**	**PR**	**75 reg. (5 gl)**	**7**	
CENFL	*3*		*3*	*2*				*5*	*20*	*I6 S*	*II*	*PR*			
STFL	*4*		*3*	*2*				*5*	*21*	*17 RC*	*I*	*MA*			
GCP (BCR 37)	**3**		**2**	**2**				**2**	**16**				**1 reg.**	**4**	
LA	*2*		*2*	*2*				*2*	*15*						
UTX	*3*		*2*	*2*				*2*	*16*						
CTX	*3*		*2*	*2*				*2*	*16*						
Anhinga	**3**	**3**	**3**	**3**	**1**	**1**	**14**								
Southeast U.S. Region	**2**		**3**	**3**				**4**	**17**		**IV**	**PR**	**100 us-can (5 gl)**	**8b**	**8**
OP (BCR 21)	**3**		**3**	**3**				**2**	**16**				**1 reg.**	**4b**	
WGCP (BCR 25)	**4**		**3**	**3**				**2**	**17**		**IV**	**PR**	**5 reg.**	**4a**	
MAV (BCR 26)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**10 reg. (1 gl)**	**6b**	
SECP (BCR 27)	**3**		**3**	**3**				**3**	**17**		**III b**	**PR**	**44 reg. (2 gl)**	**6a**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SACP	*2*		*3*	*3*				*3*	*16*		*IV*	*PR*	*(41)*		
EGCP	*3*		*3*	*3*				*3*	*17*		***III b***	PR	*(3)*		
APPS (BCR 28)	**3**		**3**	**3**				**1**					**<1 reg.**	**2b**	
PIED (BCR 29)	**3**		**3**	**3**				**1**			**IV**	**PR**			
PENFL (BCR 31)	**4**		**3**	**3**				**5**	**20**	**16 RC, s**	**I**	**MA**	**37 reg. (2 gl)**	**6**	
CENFL	*1*		*3*	*3*				*5*	*17*						
STFL	*4*		*4*	*3*				*5*	*21*	*17 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**3**				**1**					**<1 reg.**	**2a**	
GCP (BCR 37)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**	**3 reg. (<1 gl)**	**4a**	
LA	*2*		*3*	*3*				*3*	*15*		*IV*	*PR*	*(1 LA)*		
UTX	*4*		*3*	*3*				*3*	*18*	*14 RC*	*I*	*MA*	*(2 TX)*		
CTX	*4*		*3*	*3*				*3*	*18*	*14 RC*	*IV*	*MA*			
STX/Tam.	*4*		*4*	*4*				*3*	*15*		*IV*	*PR*			
Magnificent Frigatebird	**4**	**4**	**4**	**3**	**4**	**3**	**22**			**16 CC c**					
Southeast U.S. Region	**5**		**5**	**3**				**2**	**26**	**20 RC**	**I**	**IM (CR)**	**100 us-can (<1 gl)**	**3**	**4**
PENFL (BCR 31)	**5**		**5**	**3**				**2**	**26**	**20 RC, s**	**I**	**IM (CR)**	**100 reg. (<1 gl)**	**3**	
STFL	*5*		*5*	*3*				*2*	*26*	*20 RC*	*I*	*IM (CR)*	*(100)*		
Great Blue Heron	**1**	**3**	**2**	**2**	**1**	**1**	**10**								
Southeast U.S. Region	**1**		**2**	**2**				**4**	**14**		**IV**	**PR**	**25 us-can (20 gl)**	**9**	**9**
EP (BCR 20)	**2**		**2**	**2**				**1**			**IV**	**PR**	**<1 reg.**	**4b**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
OP (BCR 21)	**1**		**2**	**2**				**4**	**14**		**IV**	**PR**	**6 reg. (1 gl)**	**6a**	
WGCP (BCR 25)	**1**		**2**	**3**				**4**	**15**		**IV**	**PCL**	**15 reg. (3 gl)**	**8b**	
MAV (BCR 26)	**1**		**2**	**3**				**5**	**16**		**III b**	**PCL**	**20 reg. (4 gl)**	**8b**	
SECP (BCR 27)	**1**		**2**	**2**				**4**	**14**		**III b**	**PR**	**39 reg. (8 gl)**	**8**	
SACP	*2*		*2*	*2*				*4*	*15*		*IV*	*PR*	*(26) (5 gl)*		
EGCP	*1*		*2*	*2*				*4*	*14*		*III b*	*PR*	*(13) (3 gl)*		
APPS (BCR 28)	**1**		**3**	**2**				**3**	**14**		**III b**	**PR**	**5 reg. (1 gl)**	**6**	
PIED (BCR 29)	**1**		**3**	**2**				**3**	**14**		**IV**	**PR**	**3 reg. (1 gl)**	**6**	
PENFL (BCR 31)	**4**		**3**	**2**				**5**	**19**	**16 RC**	**I**	**MA**	**5 reg. (1 gl)**	**6**	
CENFL	*4*		*3*	*2*				*5*	*19*	*16 RC*	*I*	*MA*			
STFL	*3*		*3*	*2*				*5*	*18*		*IV*	*PR*			
TAMB (BCR 36)	**3**		**2**	**2**				**2**	**14**				**<1 reg.**	**3a**	
GCP (BCR 37)	**3**		**3**	**2**				**5**	**18**		**IV**	**PR**	**7 reg. (1 gl)**	**6a**	
LA	*2*		*2*	*2*				*5*	*16*		*IV*	*PR*	*(4 LA)*		
UTX	*2*		*2*	*2*				*4*	*15*		*IV*	*PR*	*(3 TX)*		
CTX	*4*		*4*	*2*				*4*	*19*	*16 RC*	*I*	*MA*			
STX/Tam.	*4*		*3*	*2*				*3*	*17*		*IV*	*PR*			
Great White Heron (treated as a biological species here)	**5**	**5**	**5**	**4**	**5**	**5**	**29**			**20 CC a**			**>90 global**		
Southeast U.S. Region	**5**	**5**	**5**	**4**	**5**	**5**		**5**	**34**	**25 RC, S**	**I**	**CR**	**100 us-can (90 gl)**	**6b**	**6**

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**5**		**5**	**4**				**5**	**34**	**25 RC, S**	**I**	**CR**	**100 reg. (90 gl)**	**6b**	
STFL	*5*		*5*	*4*				*5*	*34*	*25 RC, S*	*I*	*CR*	*(100) (90 gl)*		
Great Egret	**1**	**3**	**2**	**2**	**1**	**1**	**10**								
Southeast U.S. Region	**3**		**2**	**2**				**5**	**16**	**14 S**	**IV**	**PR**	**>90 us-can (20 gl)**	**10b**	**10**
OP (BCR 21)	**3**		**2**	**2**				**2**	**14**		**IV**	**PR**	**7 reg. (1 gl)**	**7**	
WGCP (BCR 25)	**2**		**2**	**2**				**3**	**14**		**IV**	**PCL**	**12 reg. (2 gl)**	**8b**	
MAV (BCR 26)	**2**		**2**	**3**				**5**	**17**		**III b**	**PCL**	**21 reg. (4 gl)**	**8**	
SECP (BCR 27)	**2**		**2**	**2**				**3**	**14**		**III b**	**PR**	**24 reg. (5 gl)**	**8**	
SACP	*3*		*2*	*2*				*3*	*15*		*IV*	*PR*	*(19) (4 gl)*		
EGCP	*1*		*2*	*2*				*3*	*13*		*IV*	*PR*	*(5) (1 gl)*		
APPS (BCR 28)	**2**		**3**	**2**				**1**			**IV**	**PR**	**<1 reg.**	**5**	
PIED (BCR 29)	**3**		**3**	**2**				**1**			**IV**	**PR**	**<1 reg.**	**4**	
PENFL (BCR 31)	**4**		**3**	**2**				**4**	**18**	**15 RC**	**I**	**MA**	**14 reg. (3 gl)**	**8b**	
CENFL	*4*		*3*	*2*				*4*	*18*	*15 RC*	*I*	*MA*			
STFL	*5*		*3*	*2*				*5*	*20*	*17 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**2**	**2**				*2*	**14**				**<1 reg.**	**4b**	
GCP (BCR 37)	**4**		**3**	**2**				**5**	**19**	**16 RC**	**I**	**MA**	**22 reg. (4 gl)**	**8**	
LA	*1*		*2*	*2*				*5*	*15*		*IV*	*PR*	*(16 LA) (3 gl)*		
UTX	*4*		*3*	*2*				*4*	*18*	*15 RC*	*I*	*MA*	*(6 TX) (1 gl)*		
CTX	*4*		*3*	*2*				*4*	*18*	*15 RC*	*I*	*MA*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
STX/Tam.	*5*		*4*	*4*				*3*	*21*	*16 RC*	*I*	*MA*			
Snowy Egret	**1**	**3**	**3**	**2**	**1**	**1**	**11**								
Southeast U.S. Region	**1**		**3**	**2**				**5**	**16**		**IV**	**PR**	**>50 us-can (12 gl)**	**8a**	**9b**
OP (BCR 21)	**2**		**3**	**2**				**2**	**14**		**IV**	**PR**	**9 reg. (1 gl)**	**6**	
WGCP (BCR 25)	**3**		**3**	**2**				**2**	**15**		**IV**	**PCL**	**7 reg. (1 gl)**	**6**	
MAV (BCR 26)	**1**		**3**	**3**				**3**	**15**		**III b**	**PCL**	**24 reg. (2 gl)**	**8b**	
SECP (BCR 27)	**4**		**3**	**2**				**3**	**17**	**14 RC**	**I**	**MA**	**15 reg. (2 gl)**	**7b**	
SACP	*4*		*3*	*2*				*3*	*17*	*14 RC*	*I*	*MA*	*(13) (2 gl)*		
EGCP	*3*		*3*	*2*				*3*	*16*		*IV*	*PR*	*(2)*		
PIED (BCR 29)	**3**		**3**	**2**				**1**			**IV**	**PR**	**<1 reg.**	**3a**	
PENFL (BCR 31)	**2**		**3**	**2**				**5**	**17**		**III b**	**PR**	**8 reg. (1 gl)**	**6**	
CENFL	*2*		*3*	*2*				*5*	*17*		*III b*	*PR*			
STFL	*3*		*4*	*2*				*5*	*19*	*16 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**2**				**2**	**15**				**<1 reg.**	**2**	
GCP (BCR 37)	**1**		**3**	**2**				**5**	**16**		**IV**	**PR**	**37 reg. (4 gl)**	**8b**	
LA	*1*		*3*	*2*				*5*	*16*		*IV*	*PR*	*(20 LA) (2 gl)*		
UTX	*1*		*3*	*2*				*3*	*14*		*IV*	*PR*	*(17 TX) (2 gl)*		
CTX	*1*		*3*	*2*				*4*	*15*		*IV*	*PR*			
STX/Tam.	*4*		*4*	*3*				*5*	*21*	*16 RC*	*I*	*MA*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Little Blue Heron	**5**	**3**	**4**	**3**	**1**	**1**	**17**			**13/5 CC b**					
Southeast U.S. Region	**5**		**4**	**3**				**5**	**22**	**18 RC, S**	**I**	**IM**	**>90 us-can (20 gl)**	**9b**	**9**
OP (BCR 21)	**5**		**4**	**3**				**3**	**20**	**16 RC**	**I**	**IM**	**11 reg. (2 gl)**	**7**	
WGCP (BCR 25)	**5**		**4**	**3**				**3**	**20**	**16 RC**	**I**	**IM/PCL**	**18 reg. (4 gl)**	**8b**	
MAV (BCR 26)	**4**		**4**	**3**				**4**	**20**	**16 RC**	**I**	**MA/PCL**	**30 reg. (6 gl)**	**8b**	
SECP (BCR 27)	**4**		**4**	**3**				**3**	**19**	**15 RC**	**I**	**MA**	**12 reg. (2 gl)**	**7**	
SACP	*3*		*4*	*3*				*3*	*18*	**14 RC**	*I*	*MA*	*(8) (2 gl)*		
EGCP	*5*		*4*	*3*				*3*	*20*	**16 RC**	*I*	*MA*	*(4) (<1gl)*		
APPS (BCR 28)	**3**		**4**	**3**				**1**			**IV**	**PR**	**<1 reg.**	**4**	
PIED (BCR 29)	**3**		**4**	**3**				**1**			**IV**	**PR**	**<1 reg.**	**4**	
PENFL (BCR 31)	**4**		**4**	**3**				**3**	**19**	**15 RC**	**I**	**MA**	**7 reg. (1 gl)**	**6**	
CENFL	*3*		*4*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
STFL	*5*		*4*	*3*				*3*	*20*	*16 RC*	*I*	*IM*			
TAMB (BCR 36)	**3**		**4**	**3**				**2**	**17**		**IV**	**PR**	**<1 reg.**	**2**	
GCP (BCR 37)	**2**		**3**	**3**				**5**	**18**	**14 S**	**I**	**PR**	**22 reg. (5 gl)**	**8b**	
LA	*2*		*3*	*3*				*5*	*18*	*14*	*I*	*PR*	*(13 LA) (3 gl)*		
UTX	*2*		*3*	*3*				*5*	*18*	*14*	*I*	*PR*	*(9 TX) (2 gl)*		
CTX	*2*		*3*	*3*				*5*	*18*	*14*	*I*	*PR*			
STX/Tam.	*4*		*4*	*3*				*5*	*21*	*17 RC*	*I*	*MA*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Tricolored Heron	**2**	**4**	**3**	**2**	**3**	**2**	**16**								
Southeast U.S. Region	**2**		**3**	**2**				**5**	**21**	**17 S**	**II**	**PR**	**>90 us-can (33 gl)**	**8**	**8a**
OP (BCR 21)	**3**		**3**	**2**				**1**					**<1 reg.**	**2**	
WGCP (BCR 25)	**3**		**3**	**2**				**1**					**<1 reg.**	**4b**	
MAV (BCR 26)	**3**		**3**	**2**				**3**	**20**	**16**	**IV**	**PR**	**18 reg. (6 gl)**	**7**	
SECP (BCR 27)	**4**		**4**	**2**				**3**	**22**	**18 RC**	**I**	**MA**	**18 reg. (6 gl)**	**7**	
SACP	*4*		*4*	*2*				*4*	*23*	***19 RC***	*I*	*MA*	*(14) (5 gl)*		
EGCP	*4*		*4*	*2*				*3*	*22*	*18 RC*	*I*	*MA*	*(4) (1 gl)*		
PENFL (BCR 31)	**4**		**4**	**2**				**5**	24	**20 RC**	I	MA	**5 reg. (2 gl)**	**6b**	
CENFL	*4*		*4*	*2*				*5*	*24*	*20 RC*	*I*	*MA*			
STFL	*3*		*4*	*2*				*5*	*23*	*19 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**2**				**2**	19				**<1 reg.**	**2**	
GCP (BCR 37)	**1**		**2**	**2**				**5**	**19**	**15 S**	**II**	**PR**	**59 reg. (19 gl)**	**8**	
LA	*1*		*2*	*2*				*5*	*19*	*15 S*	*II*	*PR*	*(44 LA) (14 gl)*		
UTX	*2*		*2*	*2*				*4*	*19*	*15 S*	*II*	*PR*	*(15 TX) (5 gl)*		
CTX	*2*		*2*	*2*				*4*	*19*	*15 S*	*II*	*PR*			
STX/Tam.	*4*		*4*	*3*				*5*	*25*	*20 RC*	*II*	*PR*			
Reddish Egret	**5**	**5**	**4**	**3**	**4**	**4**	**25**			**18 CC c**					
Southeast U.S. Region	**5**		**4**	**3**				**4**	**28**	**22 RC, S**	**I**	**IM**	**100 us-can (25 gl)**	**6b**	**6a**

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**3**		**5**	**3**				**1**			**IV**	**PR**	**<1**	**1**	
EGCP	*3*		*5*	*3*				*1*			*IV*	*PR*	*(<1)*		
PENFL (BCR 31)	**5**		**4**	**3**				**5**	**30**	**23 RC, S**	**I**	**IM**	**31 reg. (8 gl)**	**4**	
CENFL	*5*		*4*	*3*				*3*	*28*	*21 RC*	*I*	*IM*			
STFL	*5*		*5*	*3*				*5*	*31*	*24 RC*	*I*	*CR*			
GCP (BCR 37)	**5**		**4**	**3**				**5**	**30**	**23 RC, S**	**I**	**IM**	**69 reg. (17 gl)**	**5a**	
LA	*4*		*4*	*3*				*3*	*27*	*20 RC*	*I*	*MA*	*(3 LA) (1 gl)*		
UTX	*5*		*4*	*3*				*4*	*29*	*22 RC, S*	*I*	*IM*	*(66 TX) (16 gl)*		
CTX	*5*		*4*	*3*				*5*	*30*	*23 RC, S*	*I*	*IM*			
STX/Tam.	*5*		*4*	*4*				*5*	*31*	*23 RC, S*	*I*	*IM*			
Cattle Egret	**2**	**2**	**1**	**1**	**1**	**1**	**8**								
Southeast U.S. Region	**2**		**1**	**1**				**5**	**13**		**IV**	**PC**	**>80 us-can (10 gl)**	**10**	**10b**
OP (BCR 21)	**3**		**1**	**1**				**4**	**13**		**IV**	**PC**	**24 reg. (2 gl)**	**9**	
WGCP (BCR 25)	**1**		**1**	**1**				**3**	**10**		**IV**	**PC**	**22 reg. (2 gl)**	**9**	
MAV (BCR 26)	**2**		**1**	**1**				**3**	**11**		**IV**	**PC**	**10 reg. (1 gl)**	**8**	
SECP (BCR 27)	**3**		**1**	**1**				**3**	**12**		**IV**	**PC**	**17 reg. (2 gl)**	**9b**	
SACP	*3*		*1*	*1*				*3*	*12*		*IV*	*PC*	*(13) (1 gl)*		
EGCP	*1*		*1*	*1*				*3*	*10*		*IV*	*PC*	*(4)*		
APPS (BCR 28)	**1**		**1**	**1**				**1**					**<1 reg.**	**5**	
PIED (BCR 29)	**3**		**1**	**1**				**1**					**<1 reg.**	**6b**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**4**		**1**	**1**				**5**	**15**		**IV**	**PC**	**9 reg. (1 gl)**	**8**	
CENFL	*4*		*1*	*1*				*5*	*15*		*IV*	*PC*			
STFL	*5*		*1*	*1*				*5*	*16*		*IV*	*PC*			
TAMB (BCR 36)	**1**		**1**	**1**				**2**	**9**		**IV**	**PC**	**1 reg.**	**6b**	
GCP (BCR 37)	**3**		**1**	**1**				**5**	**14**		**IV**	**PC**	**18 reg. (2 gl)**	**9**	
LA	*1*		*1*	*1*				*5*	*12*		*IV*	*PC*	*(4 LA)*		
UTX	*2*		*1*	*1*				*5*	*13*		*IV*	*PC*	*(14 TX) (1 gl)*		
CTX	*4*		*1*	*1*				*5*	*15*		*IV*	*PC*			
STX/Tam.	*1*		*1*	*1*				*5*	*12*						
Green Heron	**4**	**3**	**3**	**3**	**1**	**1**	**15**								
Southeast U.S. Region	**4**		**3**	**3**				**5**	**20**	**16 RC, S**	**I**	**MA**	**>60 us-can (40 gl)**		
EP (BCR 20)	**2**		**3**	**3**				**2**	**15**		**IV**	**PR**			
OP (BCR 21)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**9 reg. (4 gl)**		
WGCP (BCR 25)	**3**		**3**	**3**				**4**	**18**		**IV**	**PR**	**13 reg. (5 gl)**		
MAV (BCR 26)	**2**		**3**	**3**				**4**	**17**		**IV**	**PR**	**9 reg. (4 gl)**		
SECP (BCR 27)	**4**		**3**	**3**				**3**	**19**	**14 RC**	**I**	**MA**	**24 reg. (10 gl)**		
SACP	*4*		*3*	*3*				*4*	*19*	*15 RC*	*I*	*MA*			
EGCP	*4*		*3*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
APPS (BCR 28)	**4**		**3**	**3**				**2**	**17**		**IV**	**PR**	**8 reg. (3 gl)**		

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PIED (BCR 29)	**2**		**3**	**3**				**3**	**16**		**IV**	**PR**	**6 reg. (2 gl)**		
PENFL (BCR 31)	**4**		**3**	**3**				**5**	**20**	**16 RC, S**	**I**	**MA**	**12 reg. (5 gl)**		
CENFL	*4*		*3*	*3*				*5*	*20*	*16 RC*	*I*	*MA*			
STFL	*5*		*3*	*3*				*5*	*21*	*17 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**4 reg. (2 gl)**		
GCP (BCR 37)	**1**		**3**	**3**				**5**	**17**		**IV**	**PR**	**15 reg. (6 gl)**		
LA	*1*		*3*	*3*				*5*	*17*		*IV*	*PR*			
UTX	*1*		*3*	*3*				*5*	*17*		*IV*	*PR*			
CTX	*3*		*3*	*3*				*4*	*18*		*IV*	*PR*			
STX/Tam.	*4*		*3*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
Black-crowned Night-Heron	**3**	**3**	**3**	**2**	**1**	**1**	**13**								
Southeast U.S. Region	**5**		**3**	**2**				**4**	**19**	**16 RC**	**I**	**MA**	**<15 us-can (1 gl)**		
OP (BCR 21)	**3**		**3**	**2**				**2**	**15**				**4 reg.**		
WGCP (BCR 25)	**3**		**3**	**2**				**2**	**15**		**IV**	**PR**	**9 reg.**		
MAV (BCR 26)	**2**		**3**	**3**				**4**	**17**		**III b**	**PR**	**14 reg.**		
SECP (BCR 27)	**5**		**3**	**2**				**3**	**18**	**15 RC**	**I**	**MA**	**18 reg.**		
SACP	*5*		*3*	*2*				*3*	*18*	*15 RC*	*I*	*MA*			
EGCP	*5*		*3*	*2*				*3*	*18*	*15 RC*	*I*	*MA*			
APPS (BCR 28)	**2**		**3**	**2**				**2**	**14**		**III b**	**PR**	**4 reg.**		
PIED (BCR 29)	**3**		**3**	**2**				**2**	**15**		**IV**	**PR**	**4 reg.**		

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**2**		**3**	**2**				**3**	**15**		**IV**	**PR**	**14 reg.**		
CENFL	*2*		*3*	*2*				*3*	*15*		*IV*	*PR*			
STFL	*4*		*4*	*2*				*4*	*19*	16 RC	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**2**				**2**	**15**				**9 reg.**		
GCP (BCR 37)	**2**		**3**	**2**				**5**	**17**		**IV**	**PR**	**23 reg.**		
LA	*1*		*3*	*2*				*5*	*16*		*IV*	*PR*			
UTX	*1*		*3*	*2*				*5*	*16*		*IV*	*PR*			
CTX	*4*		*3*	*2*				*3*	*17*	*14 RC*	*I*	*MA*			
STX/Tam.	*3*		*3*	*2*				*2*	*15*		*IV*	*PR*			
Yellow-crowned Night-Heron	**3**	**4**	**3**	**3**	**1**	**2**	**16**								
Southeast U.S. Region	**3**		**4**	**3**				**5**	**22**	**17 RC, S**	**I**	**MA**	**>80 us-can (40 gl)**		
EP (BCR 20)	**3**		**3**	**3**				**1**							
OP (BCR 21)	**3**		**3**	**3**				**2**	**18**				**3 reg. (1 gl)**		
WGCP (BCR 25)	**4**		**4**	**4**				**2**	**21**	**15 RC**	**I**	**MA**	**5 reg. (2 gl)**		
MAV (BCR 26)	**3**		**4**	**4**				**5**	**23**	**17 RC, S**	**I**	**MA**	**57 reg. (23 gl)**		
SECP (BCR 27)	**3**		**4**	**3**				**3**	**20**	**15 RC**	**I**	**MA**	**6 reg. (2 gl)**		
SACP	*3*		*4*	*3*				*3*	*20*	*15 RC*	*I*	*MA*			
EGCP	*3*		*4*	*3*				*3*	*20*	*15 RC*	*I*	*MA*			
APPS (BCR 28)	**3**		**3**	**3**				**2**	**18**		**IV**		**3 reg. (1 gl)**		

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PIED (BCR 29)	**3**		**3**	**3**				**1**			**IV**		**<1 reg.**		
PENFL (BCR 31)	**4**		**4**	**3**				**3**	**21**	**16 RC**	**I**	**MA**	**4 reg. (2 gl)**		
CENFL	*4*		*4*	*3*				*3*	*21*	*16 RC*	*I*	*MA*			
STFL	*4*		*4*	*3*				*4*	*22*	*16 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**3**	**3**				**1**					**2 reg.**		
GCP (BCR 37)	**3**		**4**	**3**				**5**	**22**	**17 RC, S**	**I**	**MA**	**20 reg. (8 gl)**		
LA	*2*		*4*	*4*				*5*	*21*	*16 RC*	*I*	*MA*			
UTX	*4*		*4*	*3*				*4*	*23*	*17 RC*	*I*	*MA*			
CTX	*4*		*4*	*3*				*3*	*21*	*16 RC*	*I*	*MA*			
STX/Tam.	*3*		*3*	*3*				*2*	*18*		*IV*	*PR*			
White Ibis	**2**	**4**	**3**	**3**	**3**	**3**	**18**								
Southeast U.S. Region	**2**		**4**	**4**				**5**	**25**	**18 RC, S**	**I**	**MA**	**100 us-can (31 gl)**	**10b**	**10**
OP (BCR 21)	**3**		**3**	**3**				**3**	**22**		**IV**	**PR**	**3 reg. (1 gl)**	**6a**	
WGCP (BCR 25)	**2**		**3**	**3**				**2**	**20**		**IV**	**PR**	**1 reg. (<1 gl)**	**6b**	
MAV (BCR 26)	**2**		**3**	**4**				**3**	**22**	**16 RC(n)**	**I**	**MA**	**13 reg. (4 gl)**	**8b**	
SECP (BCR 27)	**2**		**4**	**3**				**3**	**22**	**16 RC**	**I**	**MA**	**37 reg. (11 gl)**	**8a**	
SACP	*2*		*4*	*3*				*3*	*22*	*16 RC*	*I*	*MA*	*(36) (10 gl)*		
EGCP	*3*		*4*	*3*				*2*	*22*	*16 RC*	*I*	*MA*	*(1) (1 gl)*		
APPS (BCR 28)	**3**		**3**	**3**				**1**			**IV**	**PR**	**<1 reg.**	**2a**	
PIED (BCR 29)	**3**		**3**	**3**				**1**			**IV**	**PR**	**<1 reg.**	**4**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**3**		**4**	**3**				**4**	**24**	**18 RC**	**I**	**MA**	**27 reg. (8 gl)**	**8**	
CENFL	*3*		*4*	*3*				*4*	*24*	**18 RC**	*I*	*MA*			
STFL	*5*		*4*	*3*				*4*	*26*	**20 RC**	*I*	*IM*			
GCP (BCR 37)	**1**		**3**	**4**				**5**	**23**	**17 RC(n), S**	**I**	**MA**	**19 (6 gl)**	**8**	
LA	*1*		*3*	*4*				*5*	*23*	*17 RC(n), S*	*I*	*MA*	*(11 LA) (4 gl)*		
UTX	*2*		*3*	*3*				*5*	*23*	*17*	*IV*	*PR*	*(8 TX) (2 gl)*		
CTX	*2*		*3*	*3*				*4*	*22*		*IV*	*PR*			
STX/Tam.	*3*		*3*	*3*				*2*	*21*		*IV*	*PR*			
Glossy Ibis	**1**	**3**	**2**	**2**	**1**	**1**	**10**								
Southeast U.S. Region	**2**		**2**	**2**				**3**	**14**		**IV**	**PR**	**>50 us-can (1 gl)**	**6**	**6a**
MAV (BCR 26)	**3**		**2**	**2**				**2**	**14**		**IV**	**PR**	**26 reg.**	**5a**	
SECP (BCR 27)	**4**		**3**	**2**				**3**	**15**	**14 RC, s**	**I**	**MA**	**44 reg.**	**6b**	
SACP	*4*		*3*	*2*				*3*	*17*	*14 RC, s*	*I*	*MA*	*(43)*		
EGCP	*3*		*2*	*2*				*2*	*14*		*IV*	*PR*	*(1)*		
PENFL (BCR 31)	**5**		**3**	**2**				**5**	**20**	**17 RC, s**	**I**	**MA**	**29 reg.**	**5a**	
CENFL	*1*		*2*	*2*				*4*	*14*		*IV*	*PR*			
STFL	*5*		*3*	*2*				*5*	*20*	*17 RC*	*I*	*MA*			
GCP (BCR 37)	1		2	2				**3**	**13**		**IV**	**PR**	**1 reg.**	**2b**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*1*		*2*	*2*				*3*	*13*		*IV*	*PR*	*(0.7 LA)*		
UTX	*1*		*2*	*2*				*2*	*12*		*IV*	*PR*	*(0.3 TX)*		
White-faced Ibis	**1**	**3**	**3**	**3**	**1**	**1**	**12**								
Southeast U.S. Region	**1**		**3**	**3**				**3**	**15**		**IV**	**PR**	**40 us-can (4 gl)**	**8**	**8a**
OP (BCR 21)	**3**		**3**	**3**				**2**	**16**				**<1**	**1**	
WGCP (BCR 25)	**3**		**3**	**3**									**<1**	**2b**	
MAV (BCR 26)	**3**		**3**	**3**				**1**			**IV**	**PR**			
TAMB (BCR 36)	**3**		**3**	**3**				**2**	**16**				**<1**	**1**	
GCP (BCR 37)	**3**		**3**	**3**				**5**	**19**	**15 s**	**II**	**PR**	**99 (4 gl)**	**8**	
LA	*1*		*3*	*3*				*5*	*17*		*IV*	*PR*	*(97 LA)*		
UTX	*2*		*3*	*3*				*3*	*16*		*IV*	*PR*	*(2 TX)*		
CTX	*5*		*4*	*3*				*3*	*20*	*16 RC*	*I*	*IM*			
STX/Tam.	*3*		*3*	*3*				*1*							
Roseate Spoonbill	**1**	**4**	**3**	**3**	**1**	**1**	**13**								
Southeast U.S. Region	**2**		**3**	**3**				**3**	**17**		**IV**	**PR**	**100 us-can (2 gl)**	**6a**	**7**
MAV (BCR 26)	**3**		**3**	**3**				**2**	**17**		**IV**	**PR**	**4 reg.**	**4**	
PENFL (BCR 31)	**5**		**4**	**3**				**3**	**21**	**17 RC**	**I**	**IM**	**15 reg.**	**5**	
CENFL	*1*		*3*	*3*				*3*	*16*		*IV*	*PR*			
STFL	*5*		*5*	*3*				*4*	*23*	*19 RC*	*I*	*CR*			
GCP (BCR 37)	**1**		**3**	**3**				**5**	**18**	**14 s**	**II**	**PR**	**81 reg. (2 gl)**	**6a**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*1*		*3*	*3*				*5*	*18*	*14 s*	*II*	*PR*	*(30 LA)*		
UTX	*2*		*3*	*3*				*4*	*18*	*14 s*	*II*	*PR*	*(51 TX)*		
CTX	*2*		*3*	*3*				*4*	*18*	*14 s*	*II*	*PR*			
STX/Tam.	*4*		*4*	*3*				*4*	*21*	17 RC	*I*	*MA*			
Wood Stork	**4**	**4**	**4**	**3**	**1**	**1**	**17**								
(SE US breeding pop.)	**5**	**5**	**5**	**5**	**4**	**4**									
Southeast U.S. Region	**5**		**5**	**5**				**5**	**33/26**	**24/20 RC, S**	**I**	**CR**	**100 us-can (20 gl)**	**7a**	**8**
SECP (BCR 27)	**3**		**5**	**5**				**3**	**29/22**	**20/16 RC**	**I**	**CR**	**40 reg. (8 gl)**	**6**	
SACP	*3*		*5*	*5*				*3*	*29/22*	*20/16 RC*	*I*	*CR*	*(40) (8 gl)*		
PENFL (BCR 31)	**4**		**5**	**5**				**5**	**32/25**	**23/19 RC, S**	**I**	**CR**	**60 reg. (12 gl)**	**7b**	
CENFL	*4*		*5*	*5*				*5*	*32/25*	*23/19 RC, S*	*I*	*CR*			
STFL	*5*		*5*	*5*				*5*	*33/26*	*24/20 RC, S*	*I*	*CR*			
Greater Flamingo	**2**	**3**	**4**	**3**	**3**	**3**	**18**								
Southeast U.S. Region	**5**		**5**	**3**				**2**	**24**	**18 RC**	**I**	**CR**	**0 global (at present)**		
PENFL (BCR 31)	**5**		**5**	**3**				**2**	**24**	**18 RC**	**I**	**CR**			
STFL	*5*		*5*	3				*2*	*24*	*18 RC*	*I*	*CR*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Laughing Gull	**1**	**3**	**2**	**1**	**3**	**2**	**12**								
Southeast U.S. Region	**1**		**2**	**1**				**5**	**17**	**14 S**	**II**	**PC**	**~67 us-can (50 gl)**	**10 b**	**9 a**
SECP (BCR 27)	**1**		**2**	**1**				**4**	**16**		**IV**	**PC**	**27 reg. (14 gl)**	**8a**	
SACP	*1*		*2*	*1*				*4*	*16*		*IV*	*PC*	*(24) (12 gl)*		
EGCP	*3*		*2*	*1*				*4*	*18*		*IV*	*PC*	*(3) (2 gl)*		
PENFL (BCR 31)	**4**		**3**	**1**				**3**	**19**	**16 RC**	**I**	**MA**	**14 reg. (7 gl)**	**8b**	
CENFL	*4*		*3*	*2*				*3*	*20*	*16 RC*	*I*	*MA*			
STFL	*2*		*2*	*1*				*4*	*17*		*IV*	*PC*			
GCP (BCR 37)	**2**		**2**	**1**				**5**	**18**	**15 S**	**II**	**PR/PC**	**59 reg. (29 gl)**	**9a**	
LA	*1*		*2*	*1*				*4*	*16*		*IV*	*PC*	*(20 LA)*		
UTX	*2*		*2*	*1*				*4*	*17*		*IV*	*PC*	*(39 TX)*		
CTX	*2*		*2*	*1*				*5*	*18*		*II*	*PR/PC*			
STX/Tam.	*1*		*2*	*1*				*5*	*17*		*II*	*PR/PC*			
Herring Gull	**5**	**3**	**2**	**1**	**1**	**1**	**13**								
Southeast U.S. Region	**2**		**2**	**1**				**2**	**12**		**IV**	**PC**	**<1 us-can (<1 gl)**	**5a**	**5**
SECP (BCR 27)	**2**		**2**	**1**				**2**	**12**		**IV**	**PC**	**98 reg.**	**3a**	
SACP	*2*		*2*	*1*				*2*	*12*		*IV*	*PC*	*(98)*		
GCP (BCR 37)	**2**		**2**	**1**				1					**2 reg.**	**2**	
LA	*2*		*2*	*1*				*1*					*(2) hybrids w/Kelp Gull*		

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Great Black-backed Gull	**4**	**4**	**2**	**1**	**3**	**2**	**16**								
Southeast U.S. Region	**2**		**2**	**1**				**2**	**16**		**IV**	**PC**	**<1 us-can (<1 gl)**	**4b**	**3**
SECP (BCR 27)	**2**		**2**	**1**				**2**	**16**		**IV**	**PC**	**100 reg.**	**4b**	
SACP	*2*		*2*	*1*				*2*	*15*		*IV*	*PC*	*(100)*		
Gull-billed Tern	**4**	**4**	**4**	**2**	**3**	**2**	**19**			**15 CC b**					
Southeast U.S. Region	**4**		**4**	**2**				**5**	**24**	**20 RC**	**I**	**MA**	**>90 us-can (6 gl)**	**6**	**6a**
MAV (BCR 26)	**3**		**4**	**2**				**1**			**I V**	**PR**	**1 reg.**	**2**	
SECP (BCR 27)	**4**		**4**	**2**				**3**	**22**	**18 RC**	**I**	**MA**	**17 reg. (1 gl)**	**5b**	
SACP	*4*		*4*	*2*				*3*	*22*	*18 RC*	*I*	*MA*	*(15) (1 gl)*		
EGCP	*3*		*4*	*2*				*3*	*21*	*17 RC*	*I*	*MA*	*(2)*		
PENFL (BCR 31)	**3**		**4**	**2**				**2**	**20**	**16 RC**	**I**	**MA**	**1 reg.**	**2**	
CENFL	*3*		*4*	*2*				*2*	*20*	***16 RC***	*I*	*MA*			
STFL	*3*		*4*	*2*				*1*			*IV*	*PR*			
TAMB (BCR 36)	**3**		**4**	**2**				**1**			**IV**	**PR**			
GCP (BCR 37)	**4**		**4**	**2**				**5**	**24**	**20 RC, S**	**I**	**MA**	**81 reg. (5 gl)**	**6**	
LA	*3*		*4*	*2*				*3*	*21*	*17 RC*	*I*	*MA*	*(14 LA)*		
UTX	*4*		*4*	*2*				*3*	*22*	*18 RC*	*I*	*MA*	*(67 TX)*		
CTX	*4*		*4*	*2*				*5*	*24*	*20 RC, S*	*I*	*MA*			
STX/Tam.	*3*		*3*	*2*				*4*	*21*	*17*	*IV*	*PR*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Caspian Tern	**1**	**4**	**3**	**2**	**2**	**2**	**14**								
Southeast U.S. Region	**3**		**3**	**2**				**3**	**19**		**IV**	**PR**	**5 us-can (2 gl)**	**6b**	**6**
SECP (BCR 27)	**2**		**3**	**2**				**3**	**18**		**IV**	**PR**	**13 reg.**	**4**	
SACP	*2*		*3*	*2*				*3*	*18*		*IV*	*PR*	*(1)*		
EGCP	*3*		*3*	*2*				*3*	*19*		*IV*	*PR*	*(12)*		
PENFL (BCR 31)	**2**		**3**	**2**				**3**	**18**		**IV**	**PR**	**10 reg.**	**4b**	
CENFL	*2*		*3*	*2*				*3*	*18*		*IV*	*PR*	*(10)*		
GCP (BCR 37)	**4**		**3**	**2**				**4**	**21**	**17 RC, s**	**I**	**MA**	**77 reg. (2 gl)**	**6b**	
LA	*3*		*3*	*2*				*4*	*20*		*IV*	*PR*	*(34 LA)*		
UTX	*2*		*3*	*2*				*4*	*19*		*IV*	*PR*	*(43 TX)*		
CTX	*4*		*3*	*2*				*4*	*21*	*17 RC*	*I*	*MA*			
STX/Tam.	*4*		*3*	*2*				*3*	*20*		*IV*	*PR*			
Royal Tern	**3**	**4**	**3**	**2**	**3**	**3**	**18**								
Southeast U.S. Region	**3**		**3**	**2**				**5**	**23**	**18 S**	**II**	**PR**	**>75 us-can (50 gl)**	**9**	**9a**
SECP (BCR 27)	**3**		**3**	**2**				**5**	**23**	**18 S**	**II**	**PR**	**43 reg. (22 gl)**	**8**	
SACP	*3*		*3*	*2*				*5*	*23*	*18 S*	*II*	*PR*	*(39) (20 gl)*		
EGCP	*3*		*3*	*2*				*3*	*21*		*IV*	*PR*	*(4) (2 gl)*		
PENFL (BCR 31)	**3**		**3**	**2**				**4**	**22**	**17**	**IV**	**PR**	**3 reg. (1 gl)**	**6**	
CENFL	*3*		*3*	*2*				*4*	*22*	*17*	*IV*	*PR*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
STFL	*3*		*3*	*2*				*2*	*20*						
GCP (BCR 37)	**3**		**3**	**2**				**5**	**23**	**18 S**	**II**	**PR**	**54 reg. (27 gl)**	**8a**	
LA	*3*		*3*	*2*				*5*	*23*	*18 S*	*II*	*PR*	*(31) (15 gl)*		
UTX	*3*		*3*	*2*				*5*	*23*	*18 S*	*II*	*PR*	*(23) (12 gl)*		
CTX	*3*		*3*	*2*				*5*	*23*	*18 S*	*II*	*PR*			
STX/Tam.	*3*		*3*	*2*				*2*	*20*		*IV*	*PR*			
Sandwich Tern	**2**	**4**	**3**	**2**	**3**	**3**	**17**								
Southeast U.S. Region	**4**		**3**	**2**				**5**	**24**	**19 RC, S**	**I**	**MA**	**>90 us-can (34 gl)**	**9b**	**9**
SECP (BCR 27)	**4**		**3**	**2**				**4**	**23**	**18 RC**	**I**	**MA**	**11 reg. (4 gl)**	**7b**	
SACP	*4*		*3*	*2*				*4*	*23*	*18 RC*	*I*	*MA*	*(9) (3 gl)*		
EGCP	*4*		*3*	*2*				*3*	*22*	*17 RC*	*I*	*MA*	*(2) (1 gl)*		
PENFL (BCR 31)	**3**		**4**	**2**				**3**	**22**	**17 RC**	**I**	**MA**	**1 (1 gl)**	**4a**	
PENFL	*3*		4	*2*				*3*	*22*	*17 RC*	*I*	*MA*			
STFL (NB)	*2*		*3*	*2*				*3*	*20*		*IV*	*PR*			
GCP (BCR 37)	**5**		**4**	**2**				**5**	**26**	**21 RC, S**	**I**	**IM**	**88 reg. (29 gl)**	**8a**	
LA	*5*		*4*	*2*				*5*	*26*	*21 RC, S*	*I*	IM	*(76 LA) (26 gl)*		
UTX	*4*		*4*	*2*				*3*	*23*	*18 RC*	*I*	*MA*	*(12 TX) (3 gl)*		
CTX	*4*		*4*	*2*				*3*	*23*	*18 RC*	*I*	*MA*			
STX/Tam.	*3*		*3*	*2*				*3*	*21*		*IV*	*PR*			

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Roseate Tern	**4**	**5**	**4**	**3**	**3**	**3**	**22**			**16 CC b**					
(North American-West Indies/Florida breeding pops.)	**4**	**5**	**4**	**3**	**5**	**5**									
Southeast U.S. Region	**3**		**4**	**3**				**2**	**27/23**	**19/17 RC**	**I**	**MA**	**7 us-can (1 gl)**	**4**	**5**
PENFL (BCR 31)	**3**		**4**	**3**				**2**	**27/23**	**19/17 RC, s**	**I**	**MA**	**100 reg.**	**4**	
STFL	*3*		*4*	*3*				*2*	*27/23*	*19/17 RC*	*I*	*MA*	*(100)*		
Common Tern	**5**	**3**	**3**	**3**	**1**	**1**	**16**						**<1 global**		
(Atlantic-Gulf Coast breeding pops.)	**5**	**4**	**4**	**3**	**5**	**4**									
Southeast U.S. Region	**5**		**4**	**3**				**2**	**27/19**	**20/15 RC**	**I**	**IM**	**1 us-can (<1 gl)**	**6b**	**6**
SECP (BCR 27)	**5**		**4**	**3**				**2**	**27/19**	**20/15 RC, s**	**I**	**IM**	**98 reg.**	**6b**	
SACP	*5*		*4*	*3*				*2*	*27/19*	**20/15 RC**	*I*	*IM*	*(92)*		
EGCP	*2*		*4*	*3*				*1*					*(6)*		
GCP (BCR 37)	**5**		**5**	**3**				**2**	**28/20**	**21/16 RC**	**I**	**CR**	**2 reg.**	**2**	
LA	*3*		*5*	*3*				*2*	*26/18*	***19/14 RC***	*I*	*CR*	*(1 LA)*		
UTX	*5*		*5*	*3*				*2*	*28/20*	*21/16 RC*	*I*	*CR*	*(1 TX)*		
CTX	*5*		*5*	*3*				*2*	*28/20*	21/16 RC	*I*	*CR*			
STX/Tam.	*3*		*4*	*3*				*2*	*25/17*		*IV*	PR			
Forster's Tern	**2**	**4**	**3**	**2**	**3**	**2**	**15**								

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Southeast U.S. Region	**3**		**3**	**2**				**3**	**20**	**16 S**	**II**	**PR**	**~20 us-can (20 gl)**	**7**	**7a**
SECP (BCR 27)	**3**		**3**	**2**				**2**	**19**		**IV**	**PR**	**16 reg. (3 gl)**	**6b**	
SACP	*3*		*3*	*2*				*2*	*19*		*IV*	*PR*	*(16) (3 gl)*		
GCP (BCR 37)	**5**		**3**	**2**				**5**	**24**	**20 RC, S**	**I**	**MA**	**84 reg. (17 gl)**	**7b**	
LA	*4*		*3*	*2*				*5*	*23*	*19 RC, S*	*I*	*MA*	*(39 LA) (8 gl)*		
UTX	*5*		*3*	*2*				*4*	*23*	*19 RC, S*	*I*	*MA*	*(45 TX) (9 gl)*		
CTX	*5*		*3*	*2*				*4*	*23*	*19 RC, S*	*I*	*MA*			
STX/Tam.	*3*		*3*	*2*				*2*	*19*	*15*	*IV*	*PR*			
Least Tern	**4**	**4**	**4**	**3**	**3**	**2**	**20**			**15 CC b**					
Southeast U.S. Region	**4**		**4**	**3**				**5**	**25**	**20 RC, S**	**I**	**MA**	**>75 us-can (40 gl)**		
(Interior subsp./pop.)	**4**	**5**	**4**	**3**	**4**	**3**							**15 global**		
Southeast U.S. Region	**2**		**4**	**3**				**5**	**26/23**	**20/18 RC**	**I**	**MA**	**>90 us-can**	**7b**	**7**
OP (BCR 21)	**3**		**4**	**3**				**4/2**	**26/23**	**20/16 RC**	**I**	**MA**	**7 reg. (1 gl)**	**5b**	
WGCP (BCR 25)	**3**		**4**	**3**				**4/2**	**26/23**	**20/16 RC**	**I**	**MA**	**12 reg. (2 gl)**	**5**	
MAV (BCR 26)	**2**		**4**	**3**				**5/3**	**26/23**	**20/16 RC, S**	**I**	**MA**	**73 reg. (11 gl)**	**6**	
SECP (BCR 27)	**2**		**4**	**3**				**3/2**	**24/21**	**18/15 RC**	**I**	**MA**	**6 reg. (1 gl)**	**4a**	
EGCP (KY, TN)	*2*		*4*	*3*				*3/2*	*24/21*	*18/15 RC*	*I*	*MA*	*(6) (1 gl)*		
TAMB (BCR 36)	**2**		**4**	**3**				**2**	**23/20**	17/15 RC	**I**	**MA**	**2 reg. (<1 gl)**	**4b**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
(Western Atl. Coastal subsp./pop.)	**4**	**4**	**4**	**3**	**3**	**2**							**25 global**		
Southeast U.S. Region	**4**		**4**	**3**				**5**	**25**	**20 RC, S**	**I**	**MA**	**>60 us-can**	**8b**	**8**
SECP (BCR 27)	**3**		**4**	**3**				**5**	**24**	**19 RC, S**	**I**	**MA**	**62 reg. (16 gl)**	**7a**	
SACP	*3*		*4*	*3*				*5*	*24*	*19 RC, S*	*I*	*MA*	*(46) (12 gl)*		
EGCP	*4*		*4*	*3*				*4*	*24*	*19 RC*	*I*	*MA*	*(16) (4 gl)*		
PENFL (BCR 31)	**3**		**4**	**3**				**5**	**24**	**19 RC, S**	**I**	**MA**	**24 reg. (6 gl)**	**6a**	
CENFL	*3*		*4*	*3*				*4*	*23*	*18 RC*	*I*	*MA*			
STFL	*3*		*4*	*3*				*5*	*24*	*19 RC*	*I*	*MA*			
GCP (BCR 37)	**5**		**4**	**3**				**4**	**25**	**20 RC, S**	**I**	**IM**	**14 reg. (4 gl)**	**6**	
LA	*5*		*4*	*3*				*4*	*25*	*20 RC*	*I*	*IM*	*(10 LA) (3 gl)*		
UTX	*4*		*4*	*3*				*4*	*24*	*19 RC*	*I*	*MA*	*(4 TX) (1 gl)*		
CTX	*4*		*4*	*3*				*4*	*24*	*19 RC*	*I*	*MA*			
STX/Tam.	*3*		*3*	*3*				*4*	*22*	*17*	*IV*	*PR*			
Bridled Tern	**4**	**4**	**3**	**2**	**3**	**3**	**19**			**14 CC c**					
Southeast U.S. Region	**2**		**3**	**2**				**1**			**IV**	**PR**	**100 us-can (<1 gl)**	**1**	**1**
PENFL (BCR 31)	**2**		**3**	**2**				**1**			**IV**	**PR**	**100 reg.**	**1**	
STFL	*2*		*3*	*2*				*1*			*IV*	*PR*	*(100)*		
Sooty Tern	**3**	**2**	**3**	**2**	**3**	**2**	**15**								
Southeast U.S. Region	**2**		**3**	**2**				**5**	**19**	**15 s**	**II**	**PR**	**100 us-can (<1 gl)**	**8**	**8a**

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**2**		**3**	**2**				**1**					**<1 reg.**	**1**	
SACP	*2*		*3*	*2*				*1*					*(<1)*		
PENFL (BCR 31)	**2**		**3**	**2**				**5**	**19**	**15 s**	**II**	**PR**	**99 reg.**	**8**	
STFL	*2*		*3*	*2*				*5*	*19*	*15 s*	*II*	*PR*			
GCP (BCR 37)	**2**		**3**	**2**				**1**					**<1 reg.**	**2**	
Brown Noddy	**3**	**3**	**3**	**2**	**3**	**2**	**16**								
Southeast U.S. Region	**2**		**3**	**2**				**4**	**19**	**15 s**	**II**	**PR**	**100 us-can (<1 gl)**	**6**	**6a**
PENFL (BCR 31)	**2**		**3**	**2**				**4**	**19**	**15 s**	**II**	**PR**	**100 reg.**	**6**	
STFL	*2*		*3*	*2*				*4*	*19*	*15 s*	*II*	*PR*	*(100)*		
Black Skimmer	**4**	**4**	**4**	**3**	**3**	**3**	**21**			**15 CC b**					
Southeast U.S. Region	**4**		**4**	**3**				**5**	**26**	**20 RC, S**	**I**	**MA**	**~35 us-can (20 gl)**	**8b**	**8**
MAV (BCR 26)	**2**		**4**	**3**				**2**	**21**	**15 RC**	**I**	**MA**	**<1 reg.**	**3b**	
SECP (BCR 27)	**4**		**4**	**3**				**5**	**26**	**20 RC, S**	**I**	**MA**	**24 reg. (5 gl)**	**6**	
SACP	*4*		*4*	*3*				*5*	*26*	*20 RC, S*	*I*	*MA*	*(20) (4 gl)*		
EGCP	*3*		*4*	*3*				*3*	*23*	*17 RC*	*I*	*MA*	*(4) (1 gl)*		
PENFL (BCR 31)	**4**		**4**	**3**				**5**	**26**	**20 RC**	**I**	**MA**	**12 reg. (2 gl)**	**5**	
CENFL	*4*		*4*	*3*				*5*	*26*	*20 RC*	*I*	*MA*			
STFL	*3*		*4*	*3*				*3*	*23*	*17 RC*	*I*	*MA*			
GCP (BCR 37)	**4**		**4**	**3**				**5**	**26**	**20 RC, S**	**I**	**MA**	**64 reg. (13 gl)**	**7**	

Species Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*3*		*4*	*3*				*5*	*25*	*19 RC, S*	*I*	*MA*	*(24 LA) (4 gl)*		
UTX	*4*		*4*	*3*				*5*	*26*	*20 RC, S*	*I*	*MA*	*(40 TX) (9 gl)*		
CTX	*4*		*4*	*3*				*5*	*26*	*20 RC, S*	*I*	*MA*			
STX/Tam.	*3*		*3*	*2*				*5*	*23*	*18*	*IV*	*PR*			

KEY:

Region/BCRS/Subarea:

Southeast U.S Region.: All Bird Conservation Regions (BCRs) making up the Southeast U.S. Waterbird Conservation Planning Region
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)
CENFL: Central 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.

Factor Scores:

PT = Population Trend

5 = Definite decrease
4 = Possible decrease
3 = Trend uncertain, No data
2 = Possible increase, stable
1 = Definite increase

PT was derived based on a combination of data sources, principally BBS tempered by local and state datasets for breeding species. For many species of waterbirds and most non-breeding species usually best professional judgement often based in part on continental trends shown in BBS and/or CBC. Since waterbird trends are often dramatic and not linear, an inspection of trend graphs was often required to make a judgment as to trend score, again tempered by local and state data sets if they existed.

Significant increase (BBS trend >1.36%/yr, P<0.10, df>13)	1		
Possible increase (>0.47 to 1.36%/ yr, P<0.35, w/any df)	2a		
Possible increase (>1.36%/yr, 0.1<P<0.35, df>13)	2a		
Possible increase (>1.36%/yr, P<0.10, df<13)	2a		
Stable (> -0.54 to < +0.47%/yr, and UCI<0.47 OR LCI>-0.54)	2b		
- except when trend is negative and P<0.10 and LCI<-0.54, then Possible decrease			
Trend uncertain (<-0.54%/yr or >0.47%/yr and P>0.35)	3		
Trend uncertain (>-0.54%/yr and <0.47%/yr and UCI>0.47 AND LCI<-0.54)	3	No data	3
Possible decrease (either of next 3 options, but based on 6-13 degrees of freedom)	4		
Possible decrease (<-0.54 to -2.27%/yr, P=0.0-0.35)	4		
Possible decrease (<-2.27%/yr, 0.1<P<0.35)	4		
Significant decrease (<-2.27%/yr and P<0.10)	5		

PS=Population Size

5 = Rare (<50 thousand breeding individuals globally)
4 = Uncommon (50-500 thousand breeding individuals globally)
3 = Fairly Common (500 thousand-5 million breeding individuals globally)
2 = Common (5 million to 50 million breeding individuals globally)
1 = Abundant (50 million + breeding individuals globally)

PS based on best population estimates globally, for waterbirds most based on Delany and Scott (2002) and Kushlan et al. (2002).

TB and TN=Threats Breeding and Threats Non-breeding

5 = Extreme deterioration in the future suitability of breeding/non-breeding conditions is expected; species is in danger of regional extirpation or major range contraction, or has already been extirpated
4 = Severe deterioration in the future suitability of breeding/non-breeding conditions is expected
3 = Slight to moderate decline in the future suitability of breeding/non-breeding conditions is expected
2 = Expected future conditions for breeding/non-breeding populations are expected to remain stable; no known threats
1 = Expected future conditions for breeding/non-breeding populations are enhanced by human activities or land-uses; potentially a 'problem' species

BD and ND=Breeding Distribution and Non-breeding Distribution

5 = Very Local Distribution (<500,000 km2, or very restricted coastal areas or interior uplands)
4 = Local Distribution (>500,000 and <1,000,000 km2, or <1,600 km of coast)
3 = Moderate Distribution (>1,000,000 and <2,000,000 km2, or >1,600 to <5,000 km of coast)
2 = Widespread (>2,000,000 and <4,000,000 km2, or >5,000 to <8,000 km of coast)
1 = Very Widespread (>4,000,000 km2, or >8,000 km of coast)

RD=Relative Density (same concept formerly referred to as AI = Area Importance)

5 = Very High relative abundance (~50+% of maximum relative abundance)
4 = High relative abundance (~25-49% of maximum relative abundance)
3 = Moderate relative abundance (~10-24% of maximum relative abundance)
2 = Low relative abundance (~1-9% of maximum relative abundance)
1 = Peripheral, scattered occurrence.

RD reflects the "relative" density (or relative abundance) for each area within the range, scaled against its maximum relative abundance (i.e., the BCR supporting the highest relative abundance).

Total Score: is the sum of all seven factors. Since a new scoring system is in place using subset of the 7 factors, Total Score is primarily reported here to compare with past treatments as well as with the new Combined Scores that are now used for identifying conservation planning tiers.

Combine Score (concern and steward): Combined Scores are used to determine species status assessments, especially to indicate level of Continental Concern , Regional Concern, and Stewardship as explained below (the Partners in Flight approach). A species is considered to be of **Continental Concern (CC)** using this formula:

PT + PS + maximum of D (BD or ND) + maximum of T (TB or TN)

Species with Combined Scores of 14 or more, or with 13 with PT=5, up to a maximum possible of 20 are identified as of Continental Concern (also referred to as "Watchlist" species). At the continental scale, three types of Continental Concern species are identified as follows: (a) species with multiple concerns, (b) species with high threats and/or declining, and (c) species that are local and/or rare. Those species identified as of Continental Concern have the Continental Combined Score and type of Continental Concern displayed in the yellow (continental) field for this

column.

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.

At the Regional scale of planning (i.e., Southeast U.S., each Bird Conservation Region [BCR], and subarea), species are considered to be of Continental Concern only when all the following criteria are met:

1) On PIF Continental Watch List (Concern at the Continental Scale)
2) Threat Score > 1 at the Regional scale
3) RD > 1 at the Regional scale

Notes: Threat Scores are regionally-derived scores in the season of interest (i.e., TB_R for Breeding Species, TN_R for Non-breeding birds);

In addition to identification of species as of Continental Concern at the Regional Scale, such species (as well as those not identified as of Continental Concern) are then determined whether or not they meet criteria for being species of **Regional Concern**, **(RC)** when all of the following criteria are met:

1) Regional Combined Score > 13 (out of a possible 25) at the Regional scale
2) Threat Score > 3 OR Threat=3 AND PT > 3 at the Regional scale
3) RD > 1 at the Regional scale

Notes: Regional Combined Score rules:

- Breeding = RD_B + TB_L + PT_B + PS + BD
- Non-breeding (Permanent Residents) = RD_B + TN_L + PT_B + PS + ND
- Non-breeding (Seasonal Residents) = RD_N + TN_L + PT_G + PS + ND

[additional non-breeding categories may be needed here]

[PT_N may be used in place of PT_B or PT_G in non-breeding total scores]

Finally, either as also of concern (continental and/or regional) or otherwise, species are identified for purposes of highlighting high regional conservation responsibility to maintain relatively large populations. These **Stewardship (S)** species are identified using the following criteria:

1) Pct Pop >= 25% OR [RD = 5 AND Pct Pop >= 5%]
2) Regional Combined Score > 13 (out of a possible 25) at the Regional scale
3) Threat Score > 1 at the Regional scale

Notes:
- Pct Pop is estimated percent of global population
- For species with at least 25% population in BCR, Threat >1 rule can be overridden by BCR lead to ensure highest responsibility species are not left off, but Threat score remains 1
- For species with at least 25% population in BCR, threat and total score criteria can be overridden by BCR lead to ensure highest responsibility species are not left off, but all scores remain unchanged

A few additional species with large populations at the regional scale, but representing small percentages of global populations (i.e., species established in temperate North America of otherwise tropical or Eastern Hemispheric distribution), also are identified as of stewardship responsibility **(s)** at the regional scale (e.g., Glossy Ibis, Sooty Tern, Brown Noddy)

Tier: There are four conservation tiers identified for planning and implementing priorities:

I=**Concern** including all species meeting at the regional scale both continental and regional concern criteria, regional concern criteria only, and continental concern only.

II=**Additional Stewardship** including all species meeting stewardship criteria not otherwise already identified in Tier I.

III=**Additional Legally Protected (Federal and/or State** including all legally protected species not otherwise identified in Tiers I or II.

IV=**Additional Local or Regional Interest Species** including all other species not otherwise identified in Tiers I, II, or III, that are of potential local or regional interest such as economically important as hunted or for promoting nature tourism, environmental indicators, subject to depredation concern, etc.

Action Level: Ultimately the most important factor for identifying priorities is identifying the level of action needed to effect conservation. Action levels, strongly implying conservation priorities when used in combination with regional combined score and percent of population, are identified when meeting the following criteria:

CR (Critical Recovery) meets criteria for Regional Concern Species with **TB/N=5**; critical recovery actions needed to prevent likely extirpation or to reintroduce a species that has been extirpated.

IM (Immediate Management) meets criteria for Regional Concern Species with **TB/N=4 and PT=5**; conservation action 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 Attention) meets criteria for Regional Concern Species with **TB/N=4 and PT<5, and TB/N=3 and PT=4 or 5**; 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 (Planning and Responsibility) meets criteria for (1) **Continental Concern Species that are not also of Regional Concern**; (2) **all species meeting criteria for Stewardship** that are not already also meeting continental or region concern criteria, and (3) **many local or regional interest species**; 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, not otherwise considered to be of regional concern.

PC (Large scale Population Control/Suppression) are species generally considered secure and increasing that may come into conflict with other species of higher conservation concern or other resources of interest.

PCL (Local Population Control) are species **g**enerally listed with action codes MA or PR across the planning region, but locally may be subject to population control measures to alleviate documented economic, environmental, or human health and safety conflicts, but only when economics and conservation implications have been thoroughly considered.

Percent of Responsibility, 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).

Estimated Population Category was developed from collective estimates among state waterbird conservation coordinators and **Population Objective Category** provides suggested regional population targets.

[1]Key to population categories:
(1) <10 pairs

(2a) 40<60 pairs	(8a) 40,000<60,000 pairs
(2) 10-50 pairs	(8) 10,000-50,000 pairs
(2b) 1>20 pairs	(8b) 9,000>20,000 pairs
(3a) 90<200 pairs	(9a) 90,000<200,000 pairs
(3) 50-100 pairs	(9) 50,000-100,000 pairs
(3b) 40>60 pairs	(9b) 40,000>60,000 pairs

(4a) 400<600 pairs
(4) 100-500 pairs
(4b) 90>200 pairs

(5a) 900<2,000 pairs
(5) 500-1,000 pairs
(5b) 400>600 pairs

(6a) 4,000<6,000 pairs
(6) 1,000-5,000 pairs
(6b) 900>2,000 pairs

(7a) 9,000<20,000 pairs
(7) 5,000-10,000 pairs
(7b) 4,000>6,000 pairs

(10a) 400,000<600,000 pairs
(10) 100,000-500,000 pairs
(10b) 90,000>200,000 pairs

Status Assessment, Conservation Tiers and Action Levels, Responsibility, and Population Categories for the Southeast U.S. Waterbird Conservation Region

Breeding Non-Colonial Waterbirds (revised 4/20/2006)

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Least Grebe	**3**	**3**	**2**	**2**	**1**	**1**	12								
Southeast U.S. Region	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**>95 us-can (2 gl)**		
OP (BCR 21)	**3**		**3**	**3**				**2**	**16**		**IV**	**PR**	**10 reg.** (<1 gl)		
TAMB (BCR 36)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**45 reg.** (1 gl)		
GCP (BCR 37)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**	**45 reg.** (1 gl)		
CTX	*3*		*3*	*3*				*2*	*16*		*IV*	*PR*			
STX/Tam.	*3*		*3*	*2*				*4*	*17*		*IV*	*PR*			
Pied-billed Grebe	**2**	**3**	**3**	**2**	**1**	**1**	12								
Southeast U.S. Region	**4**		**4**	**3**				**3**	**19**	**15 RC**	**I**	**MA**	**<5 us-can (2 gl)**		
EP (BCR 20)	**3**		**4**	**3**				**1**							
OP (BCR 21)	**3**		**4**	**3**				**1**							
WGCP (BCR 25)	**3**		**4**	**3**				**1**							
MAV (BCR 26)	**4**		**4**	**3**				**2**	**18**	**14 RC**	**I**	**MA**	**15 reg. (< 1 gl)**		
SECP (BCR 27)	**4**		**4**	**3**				**2**	**18**	**14 RC, s**	**I**	**MA**	**20 reg. (< 1 gl)**		
SACP	*4*		*4*	*3*				*2*	*18*	*14 RC*	*I*	*MA*			
EGCP	*3*		*4*	*3*				*2*	*17*						
APPS (BCR 28)	**3**		**4**	**3**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PIED (BCR 29)	**3**		**4**	**3**				**1**							
PENFL (BCR 31)	**5**		**4**	**3**				**2**	**19**	**15 RC, s**	**I**	**IM**	**20 reg. (<1 gl)**		
CENFL	*5*		*4*	*3*				*2*	*19*	*15 RC*	*I*	*IM*			
STFL	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**4**	**3**				**2**	**17**		**IV**	**PR**	**5 reg. (<1 gl)**		
GCP (BCR 37)	**4**		**4**	**3**				**3**	**19**	**15 RC, s**	**I**	**MA**	**40 reg. (1 gl)**		
LA	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
UTX	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
CTX	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
STX/Tam.	*2*		*4*	*3*				*2*	*16*						
Least Bittern	**4**	**3**	**3**	**3**	**1**	**1**	15								
Southeast U.S. Region	**4**		**4**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**	**>75 us-can (48 gl)**		
EP (BCR 20)	**3**		**4**	**3**				**1**							
OP (BCR 21)	**3**		**4**	**3**				**2**	**17**		**IV**	**PR**	**2 reg. (1 gl)**		
WGCP (BCR 25)	**4**		**4**	**3**				**2**	**18**	**14 RC**	**I**	**MA**	**3 reg. (1 gl)**		
MAV (BCR 26)	**4**		**4**	**3**				**3**	**19**	**15 RC**	**I**	**MA**	**4 reg. (2gl)**		
SECP (BCR 27)	**4**		**4**	**3**				**3**	**19**	**15 RC**	**I**	**MA**	**4 reg, (2 gl)**		
SACP	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
EGCP	*4*		*4*	*3*				*3*	*19*	*15 RC*	*I*	*MA*			
APPS (BCR 28)	**3**		**3**	**3**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PIED (BCR 29)	**3**		**4**	**3**				**2**	**17**		**IV**	**PR**	**<1 reg.**		
PENFL (BCR 31)	**4**		**4**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**	**42 reg. (20 gl)**		
CENFL	*4*		*4*	*3*				*4*	*20*	*16 RC, S*	*I*	*MA*			
STFL	*4*		*4*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
TAMB (BCR 36)	**3**		**4**	**3**				**1**							
GCP (BCR 37)	**4**		**4**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**	**46 reg. (22 gl)**		
LA	*4*		*4*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
UTX	*4*		*4*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
CTX	*4*		*4*	*3*				*4*	*20*	*16 RC*	*I*	*MA*			
STX/Tam.	*2*		*3*	*3*				*3*	*16*	*12*	*IV*	*PR*			
Black Rail	**5**	**4**	**4**	**4**	**5**	**5**	**27**			**18 CC a**					
Southeast U.S. Region	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**	**>65 us-can (40 gl)**		
SECP (BCR 27)	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**	**60 reg. (24 gl)**		
SACP	*4*		*4*	*4*				*5*	*32*	*23 RC*	*I*	*IM*			
EGCP	*3*		*4*	*4*				*2*	*27*	*18 RC*	*I*	MA			
APPS (BCR 28)	**5**		**5**	**5**				**1**							
PIED (BCR 29)	**5**		**4**	**4**				**2**	**29**	**20 RC**	**I**	**IM**			
PENFL (BCR 31)	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**	**35 reg. (14 gl)**		
CENFL	*5*		*4*	*4*				*5*	*32*	*23 RC*	*I*	*IM*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
GCP (BCR 37)	**5**		**4**	**4**				**3**	**30**	*21 RC*	**I**	**IM**	**5 reg. (2 gl)**		
LA	*3*		*4*	*4*				*2*	*27*	*18 RC*	*I*	*MA*			
UTX	*5*		*4*	*4*				*3*	*30*	*21 RC*	*I*	*IM*			
CTX	*5*		*4*	*4*				*3*	*30*	*21 RC*	*I*	*IM*			
Clapper Rail	**3**	**4**	**3**	**3**	**4**	**4**	21			**14 CC c**					
Southeast U.S. Region	**3**		**3**	**3**				**5**	**26**	**19 S**	**I**	**PR**	**>75 us-can (22 gl)**		
SECP (BCR 27)	**3**		**3**	**3**				**5**	**26**	**19 S**	**I**	**PR**	**48 reg. (10 gl)**		
SACP	*3*		*3*	*3*				*5*	*26*	*19 S*	*I*	*PR*			
EGCP	*3*		*3*	*3*				*5*	*26*	*19 S*	*II*	*PR*			
PENFL (BCR 31)	**4**		**3**	**3**				**4**	**26**	**19 RC**	**I**	**MA**	**8 reg. (2 gl)**		
CENFL	*4*		*3*	*3*				*4*	*26*	*19 RC*	*I*	*MA*			
STFL	*4*		*3*	*3*				*4*	*26*	*19 RC*	*I*	*MA*			
GCP (BCR 37)	**3**		**3**	**3**				**5**	**26**	**19 S**	**I**	**PR**	**44 reg. (10 gl)**		
LA	*3*		*3*	*3*				*5*	*26*	*19 S*	*I*	*PR*			
UTX	*3*		*3*	*3*				*5*	*26*	*19 S*	*I*	*PR*			
CTX	*3*		*3*	*3*				*5*	*26*	*19 S*	*I*	*PR*			
STX/Tam.	*2*		*3*	*3*				*5*	*24*	*18 S*	*I*	*PR*			
King Rail	**5**	**4**	**4**	**3**	**2**	**3**	21			**16 CC a**					
Southeast U.S. Region	**5**		**4**	**3**				**5**	**26**	**20 RC, S**	**I**	**IM**	**>95 us-can (87 gl)**		
OP (BCR 21)	**3**		**4**	**3**				**2**	**21**	**15 RC**	**I**	**MA**	**8 reg. (7 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**5**		**4**	**3**				**2**	**23**	**17 RC**	**I**	**IM**	**2 reg. (2 gl)**		
MAV (BCR 26)	**5**		**4**	**3**				**2**	**23**	**17 RC**	**I**	**IM**	**2 reg. (2 gl)**		
SECP (BCR 27)	**4**		**4**	**3**				**3**	**23**	**17 RC**	**I**	**MA**	**12 reg. (10 gl)**		
SACP	*4*		*4*	*3*				*3*	*23*	*17 RC*	*I*	*MA*			
EGCP	*4*		*4*	*3*				*3*	*23*	*17 RC*	*I*	*MA*			
APPS (BCR 28)	**3**		**4**	**3**				**2**	**21**	**15 RC**	**I**	**MA**			
PIED (BCR 29)	**5**		**4**	**3**				**2**	**23**	**17 RC**	**I**	**IM**			
PENFL (BCR 31)	**4**		**4**	**3**				**4**	**24**	**18 RC**	**I**	**MA**	**11 reg. (10 gl)**		
CENFL	*4*		*4*	*3*				*3*	*23*	*17 RC*	*I*	*MA*			
STFL	*4*		*4*	*3*				*5*	*25*	*19 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**4**	**3**				**1**					**1 reg. (1 gl)**		
GCP (BCR 37)	**5**		**4**	**3**				**5**	**26**	**20 RC, S**	**I**	**IM**	**64 reg. (55 gl)**		
LA	*5*		*4*	*3*				*5*	*26*	*20 RC, S*	*I*	*IM*			
UTX	*4*		*4*	*3*				*5*	*25*	*19 RC, S*	*I*	*MA*			
CTX	*5*		*4*	*3*				*4*	*25*	*19 RC*	*I*	*IM*			
STX/Tam.	*3*		*4*	*3*				*3*	*22*	*16 RC*	*I*	*MA*			
Purple Gallinule	**4**	**3**	**3**	**2**	**1**	**1**	14								
Southeast U.S. Region	**4**		**4**	**3**				**5**	**21**	**17 RC**	**I**	**MA**	**100 us-can (5 gl)**		
OP (BCR 21)	**4**		**4**	**3**				**2**	**18**	**14 RC**	**I**	**MA**	**1 reg. (<1 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**3**		**4**	**3**				**2**	**19**	**14 RC**	**I**	**MA**	**2 reg. (<1 gl)**		
MAV (BCR 26)	**3**		**4**	**3**				**2**	**18**	**14 RC**	**I**	**MA**	**2 reg. (<1 gl)**		
SECP (BCR 27)	**5**		**4**	**3**				**3**	**20**	**16 RC**	**I**	**IM**	**10 reg. (1 gl)**		
SACP	*5*		*4*	*3*				*3*	*20*	*16 RC*	*I*	*MA*			
EGCP	*3*		*4*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
PENFL (BCR 31)	**3**		**4**	**3**				**3**	**18**	**14 RC**	**I**	**MA**	**12 reg. (1 gl)**		
CENFL	*3*		*4*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
STFL	*3*		*4*	*3*				*5*	*20*	*16 RC*	*I*	*MA*			
TAMB (BCR 36)	**3**		**4**	**3**				**2**	**17**	**13**	IV	PR			
GCP (BCR 37)	**5**		**4**	**3**				**5**	**22**	**18 RC, s**	**I**	**IM**	**72 reg. (3 gl)**		
LA	*5*		*4*	*3*				*5*	*22*	*18 RC*	*I*	*IM*			
UTX	5		*4*	*3*				*5*	*21*	*18 RC*	*I*	*IM*			
CTX	*4*		*4*	*3*				*4*	*20*	*16 RC*	*I*	*MA*			
STX/Tam.	*4*		*3*	*3*				*5*	*20*	*16 RC*	*I*	*MA*			
Common Moorhen	**2**	**2**	**3**	**2**	**1**	**1**	11								
Southeast U.S. Region	**1**		**3**	**3**				**5**	**16**		**IV**	**PR**	**>95 us-can (13 gl)**		
OP (BCR 21)	**3**		**3**	**3**				**2**	**15**		**IV**	**PR**	**1 reg.**		
WGCP (BCR 25)	**3**		**3**	**3**				**3**	**16**		**IV**	**PR**	**1 reg.**		
MAV (BCR 26)	**3**		**3**	**3**				**3**	**16**		**IV**	**PR**	**6 reg. (1 gl)**		
SECP (BCR 27)	**5**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**	**12 reg. (1 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SACP	*5*		*3*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
EGCP	*5*		*3*	*3*				*3*	*18*	*14 RC*	*I*	*MA*			
APPS (BCR 28)	**3**		**3**	**3**				**1**					**1 reg.**		
PIED (BCR 29)	**3**		**3**	**3**				**2**	**15**		**IV**	**PR**	**1 reg.**		
PENFL (BCR 31)	**2**		**3**	**3**				**5**	**17**		**IV**	**PR**	**36 reg. (5 gl)**		
CENFL	*2*		*3*	*3*				*5*	*17*		*IV*	*PR*			
STFL	*2*		*3*	*3*				*4*	*16*		*IV*	*PR*			
TAMB (BCR 36)	**5**		**3**	**3**				**2**	**17**		**IV**	**PR**	**1 reg.**		
GCP (BCR 37)	**1**		**3**	**3**				**5**	**16**		**IV**	**PR**	**42 reg. (6 gl)**		
LA	*1*		*3*	*3*				*5*	*16*		*IV*	*PR*			
UTX	*1*		*3*	*3*				*5*	*16*		*IV*	*PR*			
CTX	*1*		*3*	*3*				*4*	*15*		*IV*	*PR*			
STX/Tam.	*3*		*2*	*2*				*5*	*16*	*13*	*IV*	*PR*			
American Coot	**4**	**3**	**3**	**3**	**1**	**1**	15								
Southeast U.S. Region	**5**		**4**	**3**				**3**	**20**	**16 RC**	**I**	**IM**	**<5 us-can (3 gl)**		
EP (BCR 20)	**3**		**4**	**3**				**1**							
OP (BCR 21)	**3**		**4**	**3**				**1**							
WGCP (BCR 25)	**3**		**4**	**3**				**2**	17				2 reg. (<1 gl)		
MAV (BCR 26)	**3**		**4**	**3**				**2**	**17**				3 reg. (<1 gl)		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**5**		**4**	**3**				**2**	**19**	**15 RC**	**I**	**IM**	28 reg. (1 gl)		
SACP	*5*		*4*	*3*				*2*	*19*	*15 RC*	*I*	*IM*			
EGCP	*3*		*4*	*3*				*2*	*17*						
APPS (BCR 28)	**3**		**4**	**3**				**1**					1 reg. (<1 gl)		
PIED (BCR 29)	**3**		**4**	**3**				**2**	**17**				1 reg. (<1 gl)		
PENFL (BCR 31)	**5**		**4**	**3**				**2**	**19**	**15 RC**	**I**	**IM**	4 reg. (<1 gl)		
CENFL	*5*		*4*	*3*				*2*	*20*	*15 RC*	*I*	*IM*			
STFL	*5*		*4*	*3*				*2*	*20*	*15 RC*	*I*	*IM*			
TAMB (BCR 36)	**2**		**4**	**3**				**2**	16				3 reg. (<1 gl)		
GCP (BCR 37)	**2**		**4**	**3**				**4**	**18**	**14 RC**	**I**	**MA**	**58 reg. (2 gl)**		
LA	*2*		*4*	*3*				*3*	*17*						
UTX	*2*		*4*	*3*				*3*	*17*						
CTX	*2*		*4*	*3*				*4*	*18*	*14 RC*	*I*	*MA*			
STX/Tam.	*2*		*2*	*2*				*4*	*15*						
Limpkin	**4**	**3**	**3**	**3**	**1**	**1**	15								
(Florida pop.)	**4**	**5**	**4**	**4**	**5**	**5**									
Southeast U.S. Region	**4**		**4**	**4**				**5**	**32/22**	**23/17 RC**	**I**	**MA**	**100 us-can (1 gl)**	**6**	**7**
SECP (BCR 27)	**5**		**4**	**4**				**3**	**31/21**	**22/16 RC**	**I**	**IM**	**20 reg. (<1 gl)**	**6b**	
SACP	*5*		*4*	*4*				*3*	*31/21*	*22/16 RC*	*I*	*IM*	*(24)*		
EGCP	*5*		*4*	*4*				*2*	*30/20*	*21/15 RC*	*I*	*IM*	*(1, ext?)*		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**4**		**4**	**4**				**5**	**32/22**	**23/17RCs**	**I**	**MA**	**80 reg. (1 gl)**	**6**	
CENFL	*4*		*4*	*4*				*5*	*32/22*	*23/17RC s*	*I*	*MA*			
STFL	*4*		*4*	*4*				*5*	*32/22*	*23/17RC s*	*I*	*MA*			
Sandhill Crane	**1**	**3**	**3**	**3**	**1**	**3**	14								
(Mississippi subsp.)	**5**	**5**	**5**	**5**	**5**	**5**							**<1 global**		
Southeast U.S. Region	**5**		**5**	**5**				**5/2**	**35/24**	**25/16 RC**	**I**	**CR**	**100 us-can**		
SECP (BCR 27)	**5**		**5**	**5**				**5/2**	**35/24**	**25/16 RC**	**I**	**CR**	**100 regional**		
EGCP	*5*		*5*	*5*				*5/2*	*35/24*	*25/16 RC*	*I*	*CR*	*(100)*		
(Florida subsp.)	**1**	**5**	**3**	**3**	**5**	**5**							**3 us-can (3 gl)**		

KEY:
See Appendix 2-1

Status Assessment, Conservation Tiers and Action Levels, Responsibility, and Population Categories for the Southeast U.S. Waterbird Conservation Region
Nonbreeding Waterbirds (revised 06/20/06)

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Red-throated Loon	**4**	**4**	**3**	**3**	**1**	**1**	16								
Southeast U.S. Region	**5**		**3**	**4**				**5**	**23**	**19 RC**	**I**	**IM**	**<33 us-can (10 gl)**		
SECP (BCR 27)	**5**		**3**	**4**				**5**	**23**	**19 RC**	**I**	**IM**	**>95 regional**		
SACP	*5*		*3*	*4*				*5*	*23*	*19 RC*	*I*	*IM*	(~90)		
EGCP	*4*		*3*	*3*				*2*	*19*	*14 RC*	*I*	*MA*	(~5)		
PENFL (BCR 31)	**4**		**3**	**3**				2	**19**	*14 RC*	*I*	*MA*	(<5)		
CENFL	*4*		*3*	*3*				*2*	**19**	*14 RC*	*I*	*MA*			
Common Loon	**1**	**3**	**3**	**3**	**1**	**2**	13								
Southeast U.S. Region	**1**		**3**	**4**				**5**	**19**	**15 RC, S**	**I**	**MA**	**>33 us-can (25 gl)**		
EP (BCR 20)	**1**		**3**	**3**				**2**	**15**						
OP (BCR 21)	**1**		**3**	**3**				**2**	**15**						
WGCP (BCR 25)	**1**		**3**	**3**				**2**	**15**						
MAV (BCR 26)	**1**		**3**	**3**				**2**	**15**						
SECP (BCR 27)	**1**		**3**	**4**				**5**	**19**	**15 RC**	**I**	**MA**			
SACP	*1*		*3*	*4*				*5*	*19*	*15 RC*	*I*	*MA*			
EGCP	*1*		*3*	*3*				*4*	*17*		*IV*	*PR*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
APPS (BCR 28)	**1**		**3**	**3**				**2**	**15**						
PIED (BCR 29)	**1**		**3**	**3**				**2**	**15**						
PENFL (BCR 31)	**1**		**3**	**3**				3	**16**		IV	PR			
CENFL	*1*		*3*	*3*				*3*	**16**		IV	PR			
STFL	*1*		*3*	*3*				*2*	**15**		IV	PR			
TAMB (BCR 36)	**1**		**3**	**3**				**2**	**15**						
GCP (BCR 37)	**1**		**3**	**3**				**3**	**16**		**IV**	**PR**			
LA	*1*		*3*	*3*				*3*	*16*		*IV*	*PR*			
TX	*1*		*3*	*3*				*3*	*16*		*IV*	*PR*			
Tam.	*1*		*3*	*3*				*3*	*16*		*IV*	*PR*			
Pied-billed Grebe	**2**	**3**	**3**	**2**	**1**	**1**	12								
Southeast U.S. Region	**2**		**3**	**2**				**5**	**17**						
EP (BCR 20)	**2**		**3**	**2**				**5**	**17**						
OP (BCR 21)	**2**		**3**	**2**				**5**	**17**						
WGCP (BCR 25)	**2**		**3**	**2**				**4**	**16**						
MAV (BCR 26)	**2**		**3**	**2**				**4**	**16**						
SECP (BCR 27)	**2**		**3**	**2**				**4**	**16**						
SACP	*2*		*3*	*2*				*4*	*16*						
EGCP	*2*		*3*	*2*				*4*	*16*						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
APPS (BCR 28)	**2**		**3**	**2**				**3**	**15**						
PIED (BCR 29)	**2**		**3**	**2**				**3**	**15**						
PENFL (BCR 31)	**2**		**3**	**2**				**5**	**17**						
CENFL	*2*		*3*	*2*				*5*	*17*						
STFL	*2*		*3*	*2*				*4*	*16*						
TAMB (BCR 36)	**2**		**3**	**2**				**4**	**16**						
GCP (BCR 37)	**2**		**3**	**2**				**5**	**17**						
LA	*2*		*3*	*2*				*5*	*17*						
TX	*2*		*3*	*2*				*5*	*17*						
Tam.	*2*		*3*	*2*				*2*	*15*						
Horned Grebe	**5**	**3**	**3**	**3**	**1**	**2**	17			**13/5 CC b**					
Southeast U.S. Region	**5**		**3**	**3**				**5**	**22**	**18 RC**	**I**	**MA**	**>33 us-can (10 gl)**		
EP (BCR 20)	**5**		**3**	**3**				**1**							
OP (BCR 21)	**5**		**3**	**3**				**1**							
WGCP (BCR 25)	**5**		**3**	**3**				**2**	**19**	**15 RC**	**I**	**MA**			
MAV (BCR 26)	**5**		**3**	**3**				**2**	**19**	**15 RC**	**I**	**MA**			
SECP (BCR 27)	**5**		**3**	**3**				**5**	**22**	**18 RC**	**I**	**MA**			
SACP	*5*		*3*	*3*				*5*	*22*	*18 RC*	*I*	*MA*			
EGCP	*5*		*3*	*3*				*4*	*21*	*18 RC*	*I*	*MA*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
APPS (BCR 28)	**5**		**3**	**3**				**1**							
PIED (BCR 29)	**5**		**3**	**3**				**2**	**19**	**15 RC**	**I**	**MA**			
PENFL (BCR 31)	**5**		**3**	**3**				**3**	**20**	**16 RC**	**I**	**MA**			
CENFL	*5*		*3*	*3*				*3*	*20*	*16 RC*	*I*	*MA*			
STFL	*5*		*3*	*3*				*2*	*19*	*15 RC*	*I*				
GCP (BCR 37)	**5**		**3**	**3**				**3**	**20**	**16 RC**	**I**	**MA**			
LA	*5*		*3*	*3*				*3*	*20*	*16 RC*	*I*	*MA*			
TX	*5*		*3*	*3*				*3*	*20*	*16 RC*	*I*	*MA*			
Red-necked Grebe	**2**	**4**	**3**	**3**	**1**	**2**	15								
Southeast U.S. Region	**2**		**3**	**3**				**2**							
SECP (BCR 27)	**2**		**3**	**3**				**2**							
SACP	*2*		*3*	*3*				*2*							
Eared Grebe	**1**	**3**	**3**	**3**	**1**	**2**	13								
Southeast U.S. Region	**1**		**3**	**3**				**3**	**16**						
EP (BCR 20)	**1**		**3**	**3**				**3**	**16**						
OP (BCR 21)	**1**		**3**	**3**				**3**	**16**						
WGCP (BCR 25)	**1**		**3**	**3**				**3**	**16**						
MAV (BCR 26)	**1**		**3**	**3**				**2**	**15**						
SECP (BCR 27)	**1**		**3**	**3**				**2**	**15**						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EGCP	*1*		*3*	*3*				*2*	*15*						
APPS (BCR 28)	**1**		**3**	**3**				**1**							
PIED (BCR 29)	**1**		**3**	**3**				**1**							
PENFL (BCR 31)	**1**		**3**	**3**				**1**							
CENFL	*1*		*3*	*3*				*1*							
STFL	*1*		*3*	*3*				*1*							
TAMB (BCR 36)	**1**		**3**	**3**				**3**	**16**						
GCP (BCR 37)	**1**		**3**	**3**				**3**	**16**						
LA	*1*		*3*	*3*				*3*	*16*						
TX	*1*		*3*	*3*				*3*	*16*						
Tam.	*1*		*3*	*3*				*3*	*16*						
Bermuda Petrel	**5**	**5**	**5**	**5**	**5**	**5**	30			**20 CC a**					
Southeast U.S. Region	**5**		**5**	**5**				**2**	**32**	**22 RC**	**I**	**CR**	**100 us-can (1 gl)**		
SECP (BCR 27)	**5**		**5**	**5**				**2**	**32**	**22 RC**	**I**	**CR**	**100 regional**		
SACP	*5*		*5*	*5*				*2*	*32*	*22 RC*	*I*	*CR*	(100)		
Black-capped Petrel	**5**	**5**	**5**	**3**	**5**	**3**	26			**20 CC a**					
Southeast U.S. Region	**5**		**5**	**3**				**5**	**31**	**21 RC, S**	**I**	**MA**	**100 us-can (100 gl)**		
SECP (BCR 27)	**5**		**5**	**3**				**5**	**31**	**21 RC, S**	**I**	**MA**	**100? Regional**		
SACP	*5*		*5*	*3*				*5*	*31*	*21 RC, S*	*I*	*MA*	*(100)*		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**5**		**5**	**3**				**3**	**29**	**19 RC**	**I**	**MA**	**>50**		
CENFL	*5*		*5*	*3*				*3*	*29*	*19 RC*	*I*	*MA*			
STFL	*5*		*5*	*3*				*3*	*29*	*19 RC*	*I*	*MA*			
Cory's Shearwater	**3**	**3**	**3**	**2**	**5**	**2**	18			**14 CC c**					
Southeast U.S. Region	**3**		**3**	**3**				**5**	**24**	**16 S**	**I**	**PR**	**>75 us-can (50 gl)**		
SECP (BCR 27)	**3**		**3**	**3**				**5**	**24**	**16 S**	**I**	**PR**			
SACP	*3*		*3*	*3*				*5*	*24*	*16 S*	*I*	*PR*			
EGCP	*3*		*3*	*2*				*3*	*21*						
PENFL (BCR 31)	**3**		**3**	**3**				**4**	**23**	**15**	**I**	**PR**			
CENFL	*3*		*3*	*3*				*4*	*23*	*15*	*I*	*PR*			
STFL	*3*		*3*	*3*				*3*	*22*						
GCP (BCR 37)	**3**		**3**	**2**				**2**	**20**						
LA	*3*		*3*	*2*				*2*	*20*						
TX/Tam.	*3*		*3*	*2*				*1*							
Greater Shearwater	**3**	**3**	**3**	**3**	**5**	**2**	19			**14 CC c**					
Southeast U.S. Region	**3**		**3**	**3**				**5**	**24**	**16 S**	**I**	**PR**	**>75 us-can (50 gl)**		
SECP (BCR 27)	**3**		**3**	**3**				**5**	**24**	**16 S**	**I**	**PR**			
SACP	*3*		*3*	*3*				*5*	*24*	***16 S***	*I*	*PR*			
EGCP	*3*		*3*	*3*				*2*	*21*						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**3**		**3**	**3**				**3**	**22**	**17**	**I**	**PR**			
CENFL	*3*		*3*	*3*				*3*	*22*	*17*	*I*	*PR*			
STFL	*3*		*3*	*3*				*2*	*21*						
GCP (BCR 37)	**3**		**3**	**3**				**2**	**21**						
LA	*3*		*3*	*3*				*2*	*21*						
TX/Tam.	*3*		*3*	*3*				*2*	*21*						
Sooty Shearwater	**4**	**3**	**2**	**3**	**4**	**1**	17								
Southeast U.S. Region	**4**		**2**	**3**				**4**	**21**	**15 RC**	**I**	**MA**	**<33 us-can (10 gl)**		
SECP (BCR 27)	**4**		**2**	**3**				**4**	**21**	**15 RC**	**I**	**MA**			
SACP	*4*		*2*	*3*				*4*	*21*	*15 RC*	*I*	*MA*			
PENFL (BCR 31)	**4**		**2**	**3**				**3**	**20**	**14 RC**	**I**	**MA**			
CENFL	*4*		*2*	*3*				*3*	*20*	*14 RC*	*I*	*MA*			
STFL	*4*		*2*	*3*				*3*	*20*	*14 RC*	*I*	*MA*			
Manx Shearwater	**3**	**4**	**3**	**2**	**5**	**2**	19			**15 CC c**					
Southeast U.S. Region	**3**		**3**	**2**				**3**	**22**	**14**	**I**	**PR**	**<25 us-can (1 gl)**		
SECP (BCR 27)	**3**		**3**	**2**				**3**	**22**	**14**	**I**	**PR**	**100 regional**		
SACP	*3*		*3*	*2*				*3*	*22*	*14*	*I*	*PR*	*(100)*		
Audubon's Shearwater	**5**	**4**	**4**	**3**	**3**	**3**	22			**16 CC b**					
West Indies Subspecies	**5**	**5**	**4**	**4**	**4**	**4**							**<20 global**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Southeast U.S. Region	**5**		**4**	**4**				**5**	**30/27**	**23/21 RC S**	**I**	**IM**	**100 us-can (20 gl)**		
SECP (BCR 27)	**5**		**4**	**4**				**5**	**30/27**	**23/21 RC, S**	**I**	**IM**			
SACP	*5*		*4*	*4*				*5*	*30/27*	*23/21 RC, S*	*I*	*IM*			
EGCP	*5*		*4*	*4*				*2*	*27/24*	*20/18 RC*	*I*	*IM*			
PENFL (BCR 31)	**5**		**4**	**4**				**3**	**28/25**	**21/19 RC**	**I**	**IM**			
CENFL	*5*		*4*	*4*				*3*	*28/25*	*21/19 RC*	*I*	*IM*			
STFL	*5*		*4*	*4*				*3*	*28/25*	*21/19 RC*	*I*	*IM*			
GCP (BCR 37)	**5**		**4**	**4**				**3**	**28/25**	**21/19 RC**	**I**	**IM**			
LA	*5*		*4*	*4*				*3*	*28/25*	*21/19 RC*	*I*	*IM*			
TX /Tam.	*5*		*4*	*4*				*3*	*28/25*	*21/19 RC*	*I*	*IM*			
Wilson's Storm-Petrel	**3**	**2**	**2**	**2**	**2**	**1**	12								
Southeast U.S. Region	**3**		**2**	**2**				**5**	**17**						
SECP (BCR 27)	**3**		**2**	**2**				**5**	**17**						
SACP	*3*		*2*	*2*				*5*	*17*						
EGCP	*3*		*2*	*2*				*2*	*14*						
PENFL (BCR 31)	**3**		**2**	**2**				**3**	**15**						
CENFL	*3*		*2*	*2*				*3*	*15*						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
STFL	*3*		*2*	*2*				*2*	*14*						
GCP (BCR 37)	**3**		**2**	**2**				**2**	**14**						
LA	*3*		*2*	*2*				*2*	*14*						
TX /Tam.	*3*		*2*	*2*				*2*	*14*						
Leach's Storm-Petrel	**2**	**2**	**3**	**2**	**2**	**2**	13								
Southeast U.S. Region	**2**		**3**	**2**				**2**	**15**						
SECP (BCR 27)	**2**		**3**	**2**				**2**	**15**						
SACP	*2*		*3*	*2*				*2*	*15*						
Band-rumped Storm-Petrel	**5**	**4**	**3**	**2**	**5**	**2**	21			**17 CC b**					
Southeast U.S. Region	**5**		**3**	**2**				**3**	**24**	**16**	**I**	**PR**	**>90 us-can (10 gl)**		
SECP (BCR 27)	**5**		**3**	**2**				**3**	**24**	**16**	**I**	**PR**			
SACP	*5*		*3*	*2*				*3*	*24*	*16*	*I*	*PR*			
EGCP	*5*		*3*	*2*				*2*	*23*	*15*	*I*	*PR*			
PENFL (BCR 31)	**5**		**3**	**2**				**2**	**23**	**15**	**I**	**PR**			
CENFL	*5*		*3*	*2*				*2*	*23*	*15*	*I*	*PR*			
STFL	*5*		*3*	*2*				*2*	*23*	*15*	*I*	*PR*			
GCP (BCR 37)	**5**		**3**	**3**				**3**	**25**	**17 RC**	**I**	**MA**			
LA	*5*		*3*	*3*				*3*	*25*	**17 RC**	*I*	*MA*			
TX/Tam.	*5*		*3*	*3*				*1*							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
White-tailed Tropicbird	**4**	**4**	**4**	**3**	**3**	**2**	20			**15 CC b**					
Southeast U.S. Region	**4**		**4**	**3**				**1**							
SECP (BCR 27)	**4**		**4**	**3**				**1**							
SACP	*4*		*4*	*3*				*1*							
PENFL (BCR 31)	**4**		**4**	**3**				**1**							
CENFL	*4*		*4*	*3*				*1*							
STFL	*4*		*4*	*3*				*1*							
Red-billed Tropicbird	**4**	**5**	**4**	**3**	**4**	**3**	23			**17 CC a**					
Southeast U.S. Region	**4**		**4**	**3**				**1**							
SECP (BCR 27)	**4**		**4**	**3**				**1**							
SACP	*4*		*4*	*3*				*1*							
EGCP	*4*		*4*	*3*				*1*							
PENFL (BCR 31)	**4**		**4**	**3**				**1**							
CENFL	*4*		*4*	*3*				*1*							
STFL	*4*		*4*	*3*				*1*							
GCP (BCR 37)	**4**		**4**	**3**				**1**							
LA	*4*		*4*	*3*				*1*							
TX/Tam.	*4*		*4*	*3*				*1*							
Masked Booby	**4**	**4**	**4**	**3**	**3**	**2**	20			**15 CC c**					

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Southeast U.S. Region	**4**		**4**	**3**				**2**	**22**	**15 RC**	**I**	**MA**			
SECP (BCR 27)	**4**		**4**	**3**				**1**							
SACP	*4*		*4*	*3*				*1*							
EGCP	*4*		*4*	*3*				*1*							
PENFL (BCR 31)	**4**		**4**	**3**				**2**	**22**	**15 RC**	**I**	**MA**			
CENFL	*4*		*4*	*3*				*2*	*22*	*15 RC*	*I*	*MA*			
STFL	*4*		*4*	*3*				*2*	*22*	*15 RC*	*I*	*MA*			
GCP (BCR 37)	**4**		**4**	**3**				**2**	**22**	**15 RC**	**I**	**MA**			
LA	*4*		*4*	*3*				*2*	*22*	*15 RC*	*I*	*MA*			
TX/Tam.	*4*		*4*	*3*				*1*							
Brown Booby	**4**	**3**	**4**	**3**	**3**	**2**	19			**14 CC b**					
Southeast U.S. Region	**4**		**4**	**3**				**2**	**21**	**14 RC**	**I**	**MA**			
SECP (BCR 27)	**4**		**4**	**3**				**1**							
SACP	*4*		*4*	*3*				*1*							
EGCP	*4*		*4*	*3*				*1*							
PENFL (BCR 31)	**4**		**4**	**3**				**2**	**21**	**14 RC**	**I**	**MA**			
CENFL	*4*		*4*	*3*				*1*							
STFL	*4*		*4*	*3*				*2*	*21*	*14 RC*	*I*	MA			
GCP (BCR 37)	**4**		**4**	**3**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*4*		*4*	*3*				*1*							
TX/Tam.	*4*		*4*	*3*				*1*							
Red-footed Booby	**4**	**3**	**4**	**4**	**3**	**2**	20			**14 CC b**					
Southeast U.S. Region	**4**		**4**	**4**				**1**							
PENFL (BCR 31)	**4**		**4**	**4**				**1**							
STFL	*4*		*4*	*4*				*1*							
Northern Gannet	**1**	**4**	**3**	**3**	**4**	**2**	17								
Southeast U.S. Region	**1**		**3**	**4**				**5**	**23**	**16 RC S**	**I**	**MA**	**>50 us-can (33 gl)**		
SECP (BCR 27)	**1**		**3**	**4**				**5**	**23**	**16 RC**	**I**	**MA**			
SACP	*1*		*3*	*4*				*5*	*23*	*16 RC*	*I*	*MA*			
EGCP	*1*		*3*	*4*				*3*	*21*	*14 RC*	*I*	*MA*			
PENFL (BCR 31)	**1**		**3**	**4**				**4**	**22**	**15 RC**	**I**	**MA**			
C*ENFL*	*1*		*3*	*4*				*4*	*22*	*15 RC*	*I*	*MA*			
STFL	*1*		*3*	*4*				*3*	*21*	*14 RC*	*I*	*MA*			
GCP (BCR 37)	**1**		**3**	**4**				**3**	**21**	**14 RC**	**I**	**MA**			
LA	*1*		*3*	*4*				*3*	*21*	*13 RC*	*I*	*MA*			
TX /Tam.	*1*		*3*	*4*				*1*							
American White Pelican	**2**	**4**	**3**	**3**	**3**	**2**	17								
Southeast U.S. Region	**2**		**3**	**4**				**5**	**23**	**17 RC, S**	**I**	**MA**	**>67 us-can (67 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EP (BCR 20)	**2**		**3**	**3**				**3**	**20**		**IV**	**PR**			
OP (BCR 21)	**2**		**3**	**3**				**3**	**20**		**IV**	**PR**			
WGCP (BCR 25)	**2**		**3**	**3**				**4**	**21**		**IV**	**PR**			
MAV (BCR 26)	**2**		**3**	**4**				**5**	**23**	**17 RC, S**	**I**	**MA/PCL**			
SECP (BCR 27)	**2**		**3**	**4**				**3**	**21**	**15 RC**	**I**	**MA/PCL**			
SACP	*2*		*3*	*3*				*2*	*19*		*IV*	*PR*			
EGCP	*2*		*3*	*4*				*3*	*21*	*15 RC*	*I*	*MA/PCL*			
APPS (BCR 28)	**2**		**3**	**3**				**1**							
PIED (BCR 29)	**2**		**3**	**3**				**1**							
PENFL (BCR 31)	**2**		**3**	**3**				**5**	**21**	**16 RC, S,**	**II**	**PR**			
CENFL	*2*		*3*	*3*				*5*	*21*	*16 RC, S*	*II*	*PR*			
STFL	*2*		*3*	*3*				*4*	*21*	*15 RC*	*II*	*PR*			
TAMB (BCR 36)	**2**		**3**	**3**				**3**	**20**						
GCP (BCR 37)	**2**		**3**	**3**				**5**	**22**	**16 RC, S**	**II**	**PR**			
LA	*2*		*3*	*3*				*5*	*22*	*16 RC, S*	*II*	*PR*			
TX	*2*		*3*	*3*				*5*	*22*	*16 RC, S*	*II*	*PR*			
Tam.	*3*		*3*	*3*				*3*	*21*	*15 RC, S*	*II*	*PR*			
Double-crested Cormorant	**1**	**3**	**2**	**2**	**2**	**2**	12								
Southeast U.S. Region	**1**		**2**	**3**				**5**	**18**	**14 S**	**II**	**PC**	**>50 us-can (50 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EP (BCR 20)	**1**		**2**	**3**				**3**	**16**						
OP (BCR 21)	**1**		**2**	**3**				**4**	**17**						
WGCP (BCR 25)	**1**		**2**	**3**				**4**	**17**		**IV**	**PC**			
MAV (BCR 26)	**1**		**2**	**3**				**5**	**18**	**14 S**	**II**	**PR/PC**			
SECP (BCR 27)	**1**		**2**	**2**				**5**	**17**		**IV**	**PC**			
SACP	*1*		*2*	*2*				*5*	*17*		*IV*	*PC*			
EGCP	*1*		*2*	*2*				*4*	*16*		*IV*	*PC*			
APPS (BCR 28)	**1**		**2**	**2**				**2**	**14**						
PIED (BCR 29)	**1**		**2**	**2**				**3**	**15**						
PENFL (BCR 31)	**1**		**2**	**2**				**5**	**17**		**IV**	**PC**			
C*ENFL*	*1*		*2*	*2*				*5*	*17*		*IV*	*PC*			
STFL	*1*		*2*	*2*				*5*	*17*		*IV*	*PC*			
TAMB (BCR 36)	**1**		**2**	**2**				**4**	**16**						
GCP (BCR 37)	**1**		**2**	**2**				**5**	**17**		**IV**	**PC**			
LA	*1*		*2*	*2*				*5*	*17*		***IV***	*PC*			
TX	*1*		*2*	*2*				*4*	*16*			*PC*			
Tam.	*1*		*2*	*2*				*3*	*15*						
Great Cormorant	**3**	**3**	**2**	**2**	**2**	**1**	13								
Southeast U.S. Region	**3**		**2**	**2**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP	*3*		*2*	*2*				*1*							
PENFL (BCR 31)	**3**		**2**	**2**				**1**							
CENFL	*3*		*2*	*2*				*1*							
Magnificent Frigatebird	**4**	**4**	**4**	**3**	**4**	**3**	22			**16 CC c**					
Southeast U.S. Region	**4**		**4**	**3**				**4**	**26**	**18 RC**	**I**	**MA**	**>90 us-can (10 gl)**		
SECP (BCR 27)	**4**		**4**	**3**				**2**	**24**	**16 RC**	**I**	**MA**			
SACP	*4*		*4*	*3*				*2*	*24*	*16 RC*	*I*	*MA*			
EGCP	*4*		*4*	*3*				*2*	*24*	*16 RC*	*I*	*MA*			
PENFL (BCR 31)	**4**		**4**	**3**				**3**	**25**	**17 RC**	**I**	**MA**			
CENFL	*4*		*4*	*3*				*3*	*25*	*17 RC*	*I*	*MA*			
STFL	*4*		*4*	*3*				*4*	*26*	*18 RC*	*I*	*MA*			
GCP (BCR 37)	**4**		**4**	**3**				**2**	**24**	**16 RC**	**I**	**MA**			
LA	*4*		*4*	*3*				*2*	*24*	***16 RC***	*I*	*MA*			
TX	*4*		*4*	*3*				*2*	*24*	*16 RC*	*I*	*MA*			
Tam.	*4*		*4*	*3*				*2*	*24*	*16 RC*	*I*	*MA*			
American Bittern	**4**	**3**	**3**	**3**	**1**	**2**	16								
Southeast U.S. Region	**4**		**3**	**4**				**5**	**22**	**18 RC, S**	**I**	**MA**	**>33 us-can (33 gl)**		
EP (BCR 20)	**4**		**3**	**3**				**2**	**18**	**14 RC**	**I**	**MA**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
OP (BCR 21)	**4**		**3**	**3**				**2**	**18**	**14 RC**	**I**	**MA**			
WGCP (BCR 25)	**4**		**3**	**3**				**3**	**19**	**15 RC**	**I**	**MA**			
MAV (BCR 26)	**4**		**3**	**4**				**5**	**22**	**18 RC, S**	**I**	**MA**			
SECP (BCR 27)	**4**		**3**	**4**				**4**	**21**	**17 RC**	**I**	**MA**			
SACP	*4*		*3*	*4*				*4*	*21*	*17 RC*	*I*	*MA*			
EGCP	*4*		*3*	*4*				*3*	*20*	*16 RC*	*I*	*MA*			
APPS (BCR 28)	**4**		**3**	**4**				**2**	**19**	**15 RC**	**I**	**MA**			
PIED (BCR 29)	**4**		**3**	**4**				**2**	**19**	**15 RC**	**I**	**MA**			
PENFL (BCR 31)	**4**		**3**	**4**				**5**	**22**	**18 RC, S**	**I**	**MA**			
C*ENFL*	*4*		*3*	*4*				***5***	*22*	*18 RC, S*	*I*	*MA*			
STFL	*4*		*3*	*4*				*5*	*22*	*18 RC, S*	*I*	*MA*			
TAMB (BCR 36)	**4**		**3**	**3**				**3**	**19**	**15 RC**	**I**	**MA**			
GCP (BCR 37)	**4**		**3**	**4**				**5**	**22**	**18 RC, S**	**II a**	**MA**			
LA	*4*		*3*	*4*				*5*	*22*	*18 RC, S*	*II a*	*MA*			
TX	*4*		*3*	*4*				*4*	*21*	17 RC	*II a*	*MA*			
Tam.	*4*		*3*	*4*				*3*	*20*	*16 RC*	*II a*	*MA*			
Wood Stork	**4**	**4**	**4**	**3**	**1**	**1**	17								
Southeast U.S. Region	**4**		**4**	**4**				**5**	**23**	**18 RC, S**	**I**	**MA**	**>80 us-can (33 gl)**		
EP (BCR 20)	**4**		**4**	**3**				**2**	**19**	**14 RC**	**I**	**MA**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
OP (BCR 21)	**4**		**4**	**3**				**2**	**19**	**14 RC**	**I**	**MA**			
WGCP (BCR 25)	**4**		**4**	**3**				**4**	**21**	**16 RC**	**I**	**MA**			
MAV (BCR 26)	**4**		**4**	**4**				**4**	**22**	**16 RC**	**I**	**MA**			
SECP (BCR 27)	**4**		**4**	**4**				**3**	**21**	**15 RC**	**I**	**MA**			
EGCP	*4*		*4*	*4*				*3*	*21*	*15 RC*	*I*	*MA*			
TAMB (BCR 36)	**4**		**4**	**3**				**3**	**20**	**15 RC**	**I**	**MA**			
GCP (BCR 37)	**4**		**4**	**3**				**5**	**22**	**17 RC, S**	**I**	**MA**			
LA	*4*		*4*	*3*				*5*	*22*	*17 RC, S*	*I*	*MA*			
TX	*4*		*4*	*3*				*5*	*22*	*17 RC, S*	*I*	*MA*			
Tam.	*3*		*4*	*3*				*3*	*19*	*14 RC, S*	*I*	*MA*			
Greater Flamingo	**2**	**2**	**3**	**3**	**4**	**4**	**3**	**3**	**3**	**3**	**3**	18	18					**0 global (at present)**		
Southeast U.S. Region	**5**		**5**	**3**				**2**	**24**	**16 RC**	**I**	**MA**	**100 us-can**		
PENFL (BCR 31)	**5**		**5**	**3**				**2**	**24**	**16 RC**	**I**	**MA**	**100 reg.**		
STFL	*5*		*5*	3				*2*	*24*	*16 RC*		*MA*	*(100)*		
Yellow Rail	**4**	**5**	**4**	**4**	**3**	**5**	25			**18 CC a**					
Southeast U.S. Region	**4**		**4**	**4**				**5**	**30**	**23 RC, S**	**I**	**MA**	**100 us-can (100 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EP (BCR 20)	**4**		**4**	**4**				**1**							
OP (BCR 21)	**4**		**4**	**4**				**2**	**27**	**20 RC**	**I**	**MA**			
WGCP (BCR 25)	**4**		**4**	**4**				**2**	**27**	**20 RC**	**I**	**MA**	**~2 gl**		
MAV (BCR 26)	**4**		**4**	**4**				**2**	**27**	**20 RC**	**I**	**MA**	**~3 gl**		
SECP (BCR 27)	**4**		**4**	**4**				**4**	**29**	**22 RC**	**I**	**MA**	**~20 gl**		
SACP	*4*		*4*	*4*				*4*	*29*	*22 RC*	*I*	*MA*			
EGCP	*4*		*4*	*4*				*4*	*29*	*22 RC*	*I*	*MA*			
APPS (BCR 28)	**4**		**4**	**4**				1							
PIED (BCR 29)	**4**		**4**	**4**				1							
PENFL (BCR 31)	**4**		**4**	**4**				**4**	**29**	**22 RC**	**I**	**MA**	**~20 gl**		
C*ENFL*	*4*		*4*	*4*				*4*	*29*	*22 RC*	*I*	*MA*			
STFL	*4*		*4*	*4*				*4*	*29*	*22 RC*	*I*	*MA*			
GCP (BCR 37)	**4**		**4**	**4**				**5**	**30**	**23 RC, S**	**I**	**MA**	**~55 gl**		
LA	*4*		*4*	*4*				*5*	*30*	*23 RC, S*	*I*	*MA*			
TX	*4*		*4*	*4*				*5*	*30*	*23 RC, S*	*I*	*MA*			
Black Rail	**5**	**4**	**4**	**4**	**5**	**5**	27			**17 CC a**					
Southeast U.S. Region	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**	**>90 us-can (90 gl)**		
EP (BCR 20)	**5**		**4**	**4**				**1**							
OP (BCR 21)	**5**		**4**	**4**				**2**	**29**	**20 RC**	**I**	**IM**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**5**		**4**	**4**				**2**	**29**	**20 RC**	**I**	**IM**			
MAV (BCR 26)	**5**		**4**	**4**				**2**	**29**	**20 RC**	**I**	**IM**			
SECP (BCR 27)	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**			
SACP	*5*		*4*	*4*				*5*	*32*	*23 RC, S*	*I*	*IM*			
EGCP	*5*		*4*	*4*				*4*	*31*	*22 RC*	*I*	*IM*			
PENFL (BCR 31)	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**			
CENFL	*5*		*4*	*4*				*5*	*32*	*23 RC, S*	*I*	*IM*			
STFL	*5*		*4*	*4*				*3*	30	*21 RC, S*	*I*	*IM*			
GCP (BCR 37)	**5**		**4**	**4**				**5**	**32**	**23 RC, S**	**I**	**IM**			
LA	*5*		*4*	*4*				*5*	*32*	*23 RC, S*	*I*	*IM*			
TX	*5*		*4*	*4*				*5*	*32*	*23 RC, S*	*I*	*IM*			
Virginia Rail	**1**	**4**	**3**	**2**	**1**	**2**	13								
Southeast U.S. Region	**1**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**	**>33 us-can (33 gl)**		
EP (BCR 20)	**1**		**3**	**2**				**3**	**16**		**IV**	**PR**			
OP (BCR 21)	**1**		**3**	**2**				**3**	**16**		**IV**	**PR**			
WGCP (BCR 25)	**1**		**3**	**3**				**3**	**17**		**IV**	**PR**			
MAV (BCR 26)	**1**		**3**	**3**				**4**	**18**		**IV**	**PR**			
SECP (BCR 27)	**1**		**3**	**3**				**4**	**18**		**IV**	**PR**			
SACP	*1*		*3*	*3*				*4*	*18*		*IV*	*PR*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EGCP	*1*		*3*	*3*				*4*	*18*		*IV*	*PR*			
APPS (BCR 28)	**1**		**3**	**2**				**3**	**16**		**IV**	**PR**			
PIED (BCR 29)	**1**		**3**	**2**				**3**	**16**		**IV**	**PR**			
PENFL (BCR 31)	**1**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**			
CENFL	*1*		*3*	*3*				*5*	*19*		*II*	*PR*			
STFL	*1*		*3*	*3*				*5*	*19*		*II*	*PR*			
TAMB (BCR 36)	**1**		**3**	**3**				**3**	**17**		**IV**	**PR**			
GCP (BCR 37)	**1**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**			
LA	*1*		*3*	*3*				*5*	*19*		*II*	*PR*			
TX	*1*		*3*	*3*				*5*	*19*		*II*	*PR*			
Tam.	*1*		*3*	*3*				*2*	*16*		*IV*	*PR*			
Sora	**3**	**3**	**3**	**2**	**1**	**1**	12								
Southeast U.S. Region	**3**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**	**>33 us-can (33 gl)**		
EP (BCR 20)	**3**		**3**	**2**				**3**	**16**		**IV**	**PR**			
OP (BCR 21)	**3**		**3**	**2**				**3**	**16**		**IV**	**PR**			
WGCP (BCR 25)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**			
MAV (BCR 26)	**3**		**3**	**3**				**4**	**18**		**IV**	**PR**			
SECP (BCR 27)	**3**		**3**	**3**				**4**	**18**		**IV**	**PR**			
SACP	*3*		*3*	*3*				*4*	*18*		*IV*	*PR*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EGCP	*3*		*3*	*3*				*3*	*17*		*IV*	*PR*			
APPS (BCR 28)	**3**		**3**	**2**				**2**	**15**		**IV**	**PR**			
PIED (BCR 29)	**3**		**3**	**2**				**2**	**15**		**IV**	**PR**			
PENFL (BCR 31)	**3**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**			
CENFL	*3*		*3*	*3*				*5*	*19*	*15 S*	*II*	*PR*			
STFL	*3*		*3*	*3*				*5*	*19*	*15 S*	*II*	*PR*			
TAMB (BCR 36)	**3**		**3**	**3**				**3**	**17**		**IV**	**PR**			
GCP (BCR 37)	**3**		**3**	**3**				**5**	**18**	**15 S**	**II**	**PR**			
LA	*3*		*3*	*3*				*5*	*18*	*15 S*	*II*	*PR*			
TX	*3*		*3*	*3*				*5*	*18*	*15 S*	*II*	*PR*			
Tam.	*3*		*3*	*3*				*4*	*18*		*IV*	*PR*			
American Coot	**4**	**3**	**3**	**3**	**1**	**1**	15								
Southeast U.S. Region	**4**	**3**	**3**	**3**	**1**	**1**		5	**20**	**16 RC**	**I**	**MA**	**<33 us-can (25 gl)**		
EP (BCR 20)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**			
OP (BCR 21)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**			
WGCP (BCR 25)	**4**		**3**	**3**				**4**	**19**	**15 RC**	**I**	**MA**			
MAV (BCR 26)	**4**		**3**	**3**				**5**	**20**	**16 RC**	**I**	**MA**			
SECP (BCR 27)	**4**		**3**	**3**				**4**	**19**	**15 RC**	**I**	**MA**			
SACP	*4*		*3*	*3*				*4*	*19*	*15 RC*	*I*	*MA*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
EGCP	*4*		*3*	*3*				*4*	*19*	*15 RC*	*I*	*MA*			
APPS (BCR 28)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**			
PIED (BCR 29)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**			
PENFL (BCR 31)	**4**		**3**	**3**				**5**	**20**	**16 RC, S**	**I**	**MA**			
CENFL	*4*		*3*	*3*				*5*	*20*	**16 RC**	*I*	*MA*			
STFL	*4*		*3*	*3*				*5*	*20*	**16 RC**	*I*	*MA*			
TAMB (BCR 36)	**4**		**3**	**3**				**3**	**18**	**14 RC**	**I**	**MA**			
GCP (BCR 37)	**4**		**3**	**3**				**5**	**20**	**16 RC, S**	**I**	**MA**			
LA	*4*		*3*	*3*				*5*	*20*	*16 RC*	*I*	*MA*			
TX	*4*		*3*	*3*				*5*	*20*	*16 RC*	*I*	*MA*			
Tam.	*4*		*3*	*3*				*4*	*19*	*15 RC*	*I*	*MA*			
Sandhill Crane	**1**	**3**	**3**	**3**	**1**	**3**	14								
Southeast U.S. Region	**1**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**	**>33 us-can (33 gl)**		
(Eastern population of Greater Sandhill Crane, breeding Ontario, MN, WI, MI)															
WGCP (BCR 25)	**1**		**3**	**3**				**2**	**16**		**IV**	**PR**			
MAV (BCR 26)	**1**		**3**	**3**				**2**	**16**		**IV**	**PR**			
SECP (BCR 27)	**1**		**3**	**3**				**4**	**18**	**14 S**	**II**	**PR**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SACP	*1*		*3*	*3*				*4*	*18*	*14 S*	*II*	*PR*			
EGCP	*1*		*3*	*3*				1							
APPS (BCR 28)	**1**		**3**	**3**				**4**	**18**	**14 S**	**II**	**PR**			
PIED (BCR 29)	**1**		**3**	**3**				**4**	**18**	**14 S**	**II**	**PR**			
PENFL (BCR 31)	**1**		**3**	**3**				**4**	**18**	**14 S**	**II**	**PR**			
CENFL	*1*		*3*	*3*				*4*	*18*	**14 S**	*II*	*PR*			
STFL	*1*		*3*	*3*				*3*	*17*		*IV*	*PR*			
(Gulf Coast subpopulation of Mid-continent populations, breeding Prairie Provinces and NWT)															
EP (BCR 20)	**1**		**3**	**3**				**3**	**17**						
OP (BCR 21)	**1**		**3**	**3**				**4**	**18**		**IV**	**PR**			
TAMB (BCR 36)	**1**		**3**	**3**				**3**	**17**		**IV**	**PR**			
GCP (BCR 37)	**1**		**3**	**3**				**5**	**19**	**15 S**	**II**	**PR**			
LA	*1*		*3*	*3*				*2*	*16*		*IV*	*PR*			
TX	*1*		*3*	*3*				*5*	*19*	*15 S*	*II*	*PR*			
Tam.	*1*		*3*	*3*				*5*	*19*	*15 S*	*II*	*PR*			
Whooping Crane	**5**	**5**	**5**	**5**	**5**	**5**	30			**20 CC a**					
Southeast U.S. Region	**5**		**5**	**5**				**5**	**35**	**25 RC S**	**I**	**CR**	**100 us-can (100 gl)**		

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
PENFL (BCR 31)	**1**		**5**	**5**				**2**	**28**	**17 RC**	**I**	**CR**		**2**	**4**
CENFL (Reintroduced migratory flock from Wisconsin)	*1*		*5*	*5*				*2*	*28*	*17 RC*	*I*	*CR*			
GCP (BCR 37)	**5**		**5**	**5**				**5**	**35**	**25 RC S**	**I**	**CR**	**100 regional**		
LA	*5*		*5*	*5*				*2*	*32*	*22 RC*	*I*	*CR*	*(extirpated)*		
TX	*5*		*5*	*5*				*5*	*35*	*22 RC S*	*I*	*CR*	*(100)*		
Great Skua	**3**	**4**	**2**	**2**	**5**	**2**	18			**14 CC c**					
Southeast U.S. Region	**3**		**2**	**2**				**1**							
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP	*3*		*2*	*2*				*1*							
South Polar Skua	**3**	**4**	**2**	**2**	**2**	**1**	14								
Southeast U.S. Region	**3**		**2**	**2**				**1**							
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP	*3*		*2*	*2*				*1*							
PENFL (BCR 31)	**3**		**2**	**2**				**1**							
CENFL	*3*		*2*	*2*				*1*							
Pomarine Jaeger	**3**	**4**	**2**	**2**	**2**	**1**	14								
Southeast U.S. Region	**3**		**2**	**2**				**4**	**18**						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**3**		**2**	**2**				**4**	**18**						
SACP	*3*		*2*	*2*				*4*	*18*						
EGCP	*3*		*2*	*2*				*3*	*17*						
PENFL (BCR 31)	**3**		**2**	**2**				**4**	**18**						
CENFL	*3*		*2*	*2*				*4*	*18*						
STFL	*3*		*2*	*2*				*4*	*18*						
GCP (BCR 37)	**3**		**2**	**2**				**3**	**17**						
LA	*3*		*2*	*2*				*3*	*17*						
TX /Tam.	*3*		*2*	*2*				*3*	*17*						
Parasitic Jaeger	**3**	**4**	**2**	**2**	**1**	**1**	13								
Southeast U.S. Region	**3**		**2**	**2**				**4**	**17**						
SECP (BCR 27)	**3**		**2**	**2**				**4**	**17**						
SACP	*3*		*2*	*2*				*4*	*17*						
EGCP	*3*		*2*	*2*				*3*	*16*						
PENFL (BCR 31)	**3**		**2**	**2**				**4**	**17**						
CENFL	*3*		*2*	*2*				*4*	*17*						
STFL	*3*		*2*	*2*				*4*	*17*						
GCP (BCR 37)	**3**		**2**	**2**				**3**	**16**						
LA	*3*		*2*	*2*				*3*	*16*						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
TX/Tam.	*3*		*2*	*2*				*3*	*16*						
Long-tailed Jaeger	**3**	**4**	**2**	**2**	**1**	**1**	13								
Southeast U.S. Region	**3**		**2**	**2**				**1**							
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP								1							
Franklin's Gull	**2**	**3**	**3**	**3**	**3**	**2**	16								
Southeast U.S. Region	**2**		**3**	**3**				**5**	**21**	**15 S**	**II**	**PR**	**>75 us-can (75 gl)**		
EP (BCR 20)	**2**		**3**	**3**				**3**	**19**						
OP (BCR 21)	**2**		**3**	**3**				**5**	**21**	**15 S**	**II**	**PR**			
WGCP (BCR 25)	**2**		**3**	**3**				**3**	**19**						
MAV (BCR 26)	**2**		**3**	**3**				**2**	**18**						
SECP (BCR 27)	**2**		**3**	**3**				**1**							
SACP	*2*		*3*	*3*				*1*							
EGCP	*2*		*3*	*3*				*1*							
PENFL (BCR 31)	**2**		**3**	**3**				**1**							
CENFL	*2*		*3*	*3*				*1*							
STFL	*2*		*3*	*3*				*1*							
TAMB (BCR 36)	**2**		**3**	**3**				**3**	**19**						
GCP (BCR 37)	**2**		**3**	**3**				**5**	**21**	**15 S**	**II**	**PR**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*2*		*3*	*3*				*5*	*21*	*15 S*	*II*	*PR*			
TX	*2*		*3*	*3*				*5*	*21*	*15 S*	*II*	*PR*			
Tam.	*2*		*3*	*3*				*5*	*21*	*15 S*	*II*	*PR*			
Little Gull	**4**	**4**	**3**	**2**	**2**	**2**	17								
Southeast U.S. Region	**4**		**3**	**2**				**1**							
SECP (BCR 27)	**4**		**3**	**2**				**1**							
SACP	*4*		*3*	*2*				*1*							
PENFL (BCR 31)	**4**		**3**	**2**				**1**							
CENFL	*4*		*3*	*2*				*1*							
Black-headed Gull	**3**	**2**	**2**	**2**	**1**	**1**	11								
Southeast U.S. Region	**3**		**2**	**2**				**1**							
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP	*3*		*2*	*2*				*1*							
PENFL (BCR 31)	**3**		**2**	**2**				**1**							
CENFL	*3*		*2*	*2*				*1*							
Bonaparte's Gull	**3**	**4**	**2**	**2**	**1**	**2**	14								
Southeast U.S. Region	**3**		**2**	**2**				**5**	**19**	**16 S**	**II**	**PR**	**>33 us-can (33 gl)**		
EP (BCR 20)	**3**		**2**	**2**				**3**	**17**						
OP (BCR 21)	**3**		**2**	**2**				**3**	**17**						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**3**		**2**	**2**				**3**	**17**						
MAV (BCR 26)	**3**		**2**	**2**				**3**	**17**						
SECP (BCR 27)	**3**		**2**	**2**				**5**	**19**	**16 S**	**II**	**PR**			
SACP	*3*		*2*	*2*				*5*	*19*	*16 S*	*II*	*PR*			
EGCP	*3*		*2*	*2*				*4*	*18*						
APPS (BCR 28)	**3**		**2**	**2**				**2**	**16**						
PIED (BCR 29)	**3**		**2**	**2**				**3**	**17**						
PENFL (BCR 31)	**3**		**2**	**2**				**5**	**19**	**16 S**	**II**	**PR**			
CENFL	*3*		*2*	*2*				*5*	*19*	*16 S*	*II*	*PR*			
STFL	*3*		*2*	*2*				*4*	*18*						
TAMB (BCR 36)	**3**		**2**	**2**				**3**	**17**						
GCP (BCR 37)	**3**		**2**	**2**				**5**	**19**	**16 S**	**II**	**PR**			
LA	*3*		*2*	*2*				*5*	*19*	*16 S*	*II*	*PR*			
TX	*3*		*2*	*2*				*3*	*17*						
Tam.	*3*		*2*	*2*				*2*	*16*						
Ring-billed Gull	**1**	**3**	**1**	**1**	**1**	**1**	8								
Southeast U.S. Region	**1**		**1**	**1**				**5**	**13**						
EP (BCR 20)	**1**		**1**	**1**				**3**	**11**						
OP (BCR 21)	**1**		**1**	**1**				**5**	**13**						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**1**		**1**	**1**				**4**	**12**						
MAV (BCR 26)	**1**		**1**	**1**				**4**	**12**						
SECP (BCR 27)	**1**		**1**	**1**				**5**	**13**						
SACP	*1*		*1*	*1*				*5*	*13*						
EGCP	*1*		*1*	*1*				*4*	*12*						
APPS (BCR 28)	**1**		**1**	**1**				**3**	**11**						
PIED (BCR 29)	**1**		**1**	**1**				**3**	**11**						
PENFL (BCR 31)	**1**		**1**	**1**				**5**	**13**						
CENFL	*1*		*1*	*1*				*5*	*13*						
STFL	*1*		*1*	*1*				*5*	*13*						
TAMB (BCR 36)	**1**		**1**	**1**				**3**	**11**						
GCP (BCR 37)	**1**		**1**	**1**				**5**	**13**						
LA	*1*		*1*	*1*				*5*	*13*						
TX	*1*		*1*	*1*				*5*	*13*						
Tam.	*1*		*1*	*1*				*2*	*10*						
Herring Gull	**5**	**3**	**2**	**1**	**1**	**1**	13								
Southeast U.S. Region	**5**		**2**	**1**				**4**	**17**						
EP (BCR 20)	**5**		**2**	**1**				**2**	**15**						
OP (BCR 21)	**5**		**2**	**1**				**2**	**15**						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
WGCP (BCR 25)	**5**		**2**	**1**				**2**	**15**						
MAV (BCR 26)	**5**		**2**	**1**				**2**	**15**						
SECP (BCR 27)	**5**		**2**	**1**				**4**	**17**						
SACP	*5*		*2*	*1*				*4*	*17*						
EGCP	*5*		*2*	*1*				*3*	*16*						
APPS (BCR 28)	**5**		**2**	**1**				**2**	**15**						
PIED (BCR 29)	**5**		**2**	**1**				**2**	**15**						
PENFL (BCR 31)	**5**		**2**	**1**				**3**	**16**						
C*ENFL*	*5*		*2*	*1*				*3*	*16*						
STFL	*5*		*2*	*1*				*3*	*16*						
TAMB (BCR 36)	**5**		**2**	**1**				**2**	**15**						
GCP (BCR 37)	**5**		**2**	**1**				**3**	**16**						
LA	*5*		*2*	*1*				*3*	*16*						
TX	*5*		*2*	*1*				*3*	*16*						
Tam.	*5*		*2*	*1*				*2*	*15*						
Iceland Gull	**3**	**4**	**2**	**1**	**4**	**2**	16								
Southeast U.S. Region	**3**		**2**	**1**				**1**							
SECP (BCR 27)	**3**		**2**	**1**				**1**							
SACP	*3*		*2*	*1*				*1*							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Lesser Black-backed Gull	**1**	**4**	**2**	**1**	**3**	**1**	12								
Southeast U.S. Region	**1**		**2**	**1**				**1**							
EP (BCR 20)	**1**		**2**	**1**				**1**							
OP (BCR 21)	**1**		**2**	**1**				**1**							
WGCP (BCR 25)	**1**		**2**	**1**				**1**							
MAV (BCR 26)	**1**		**2**	**1**				**1**							
SECP (BCR 27)	**1**		**2**	**1**				**1**							
SACP	*1*		*2*	*1*				*1*							
EGCP	*1*		*2*	*1*				*1*							
APPS (BCR 28)	**1**		**2**	**1**				**1**							
PIED (BCR 29)	**1**		**2**	**1**				**1**							
PENFL (BCR 31)	**1**		**2**	**1**				**1**							
CENFL	*1*		*2*	*1*				*1*							
STFL	*1*		*2*	*1*				*1*							
TAMB (BCR 36)	**1**		**2**	**1**				**1**							
GCP (BCR 37)	**1**		**2**	**1**				**1**							
LA	*1*		*2*	*1*				*1*							
TX	*1*		*2*	*1*				*1*							
Tam.	*1*		*2*	*1*				*1*							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
Glaucous Gull	**3**	**4**	**2**	**2**	**1**	**1**	13								
Southeast U.S. Region	**3**		**2**	**2**				**1**							
EP (BCR 20)	**3**		**2**	**2**				**1**							
OP (BCR 21)	**3**		**2**	**2**				**1**							
WGCP (BCR 25)	**3**		**2**	**2**				**1**							
MAV (BCR 26)	**3**		**2**	**2**				**1**							
SECP (BCR 27)	**3**		**2**	**2**				**1**							
SACP	*3*		*2*	*2*				*1*							
EGCP	*3*		*2*	*2*				*1*							
APPS (BCR 28)	**3**		**2**	**2**				**1**							
PIED (BCR 29)	**3**		**2**	**2**				**1**							
PENFL (BCR 31)	**3**		**2**	**2**				**1**							
CENFL	*3*		*2*	*2*				*1*							
GCP (BCR 37)	**3**		**2**	**2**				**1**							
LA	*3*		*2*	*2*				*1*							
TX	*3*		*2*	*2*				*1*							
Great Black-backed Gull	**4**	**4**	**2**	**1**	**3**	**2**	16								
Southeast U.S. Region	**4**		**2**	**1**				**3**	**19**						
EP (BCR 20)	**4**		**2**	**1**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
OP (BCR 21)	**4**		**2**	**1**				**1**							
WGCP (BCR 25)	**4**		**2**	**1**				**1**							
MAV (BCR 26)	**4**		**2**	**1**				**1**							
SECP (BCR 27)	**4**		**2**	**1**				**3**	**19**						
SACP	*4*		*2*	*1*				*3*	*19*						
EGCP	*4*		*2*	*1*				*2*	*18*						
APPS (BCR 28)	**4**		**2**	**1**				**1**							
PIED (BCR 29)	**4**		**2**	**1**				**1**							
PENFL (BCR 31)	**4**		**2**	**1**				**2**	**18**						
CENFL	*4*		*2*	*1*				*2*	*18*						
GCP (BCR 37)	**4**		**2**	**1**				**1**							
LA	*4*		*2*	*1*				*1*							
TX	*4*		*2*	*1*				*1*							
Tam.	*4*		*2*	*1*				*1*							
Black-legged Kittiwake	**3**	**2**	**2**	**2**	**2**	**1**	12								
Southeast U.S. Region	**3**		**2**	**2**				**2**	**14**						
SECP (BCR 27)	**3**		**2**	**2**				**2**	**14**						
SACP	*3*		*2*	*2*				*2*	*14*						
PENFL (BCR 31)	**3**		**2**	**2**				**1**							

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
CENFL	*3*		*2*	*2*				*1*							
Caspian Tern	**1**	**4**	**3**	**2**	**2**	**2**	14								
Southeast U.S. Region	**1**		**3**	**2**				**3**	**17**						
EP (BCR 20)	**1**		**3**	**2**				**2**	**16**						
OP (BCR 21)	**1**		**3**	**2**				**3**	**16**						
WGCP (BCR 25)	**1**		**3**	**2**				**3**	**16**						
MAV (BCR 26)	**1**		**3**	**2**				**3**	**16**						
APPS (BCR 28)	**1**		**3**	**2**				**2**	**15**						
PIED (BCR 29)	**1**		**3**	**2**				**2**	**15**						
TAMB (BCR 36)	**1**		**3**	**2**				**2**	**15**						
Common Tern	**5**	**3**	**3**	**3**	**1**	**1**	16								
Southeast U.S. Region	**5**		**3**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**	**>66 us-can (20 gl)**		
EP (BCR 20)	**5**		**3**	**3**				**1**							
OP (BCR 21)	**5**		**3**	**3**				**2**	**18**	**14 RC**	**I**	**MA**			
WGCP (BCR 25)	**5**		**3**	**3**				**2**	**18**	**14 RC**	**I**	**MA**			
MAV (BCR 26)	**5**		**3**	**3**				**3**	**19**	**15 RC**	**I**	**MA**			
SECP (BCR 27)	**5**		**3**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**			
SACP	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*M A*			
EGCP	*5*		*3*	*3*				*4*	*20*	*16 RC*	*I*	*MA*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
APPS (BCR 28)	**5**		**3**	**3**				**1**							
PIED (BCR 29)	**5**		**3**	**3**				**1**							
PENFL (BCR 31)	**5**		**3**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**			
CENFL	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
STFL	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
TAMB (BCR 36)	**5**		**3**	**3**				**2**	**18**	**14 RC**	**I**	**MA**			
GCP (BCR 37)	**5**		**3**	**3**				**5**	**21**	**17 RC, S**	**I**	**MA**			
LA	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
TX	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
Tam.	*5*		*3*	*3*				*5*	*21*	*17 RC, S*	*I*	*MA*			
Forster's Tern	**2**	**4**	**3**	**2**	**3**	**2**	16								
Southeast U.S. Region	**2**		**3**	**2**				**5**	**21**	**15 S**	**II**	**PR**	**>66 us-can (66 gl)**		
EP (BCR 20)	**2**		**3**	**2**				**3**	**19**						
OP (BCR 21)	**2**		**3**	**2**				**3**	**19**						
WGCP (BCR 25)	**2**		**3**	**2**				**3**	**19**						
MAV (BCR 26)	**2**		**3**	**2**				**3**	**19**						
SECP (BCR 27)	**2**		**3**	**2**				**5**	**21**	**15 S**	**II**	**PR**			
SACP	*2*		*3*	*2*				*5*	*21*	*15 S*	*II*	*PR*			
EGCP	*2*		*3*	*2*				*5*	*21*	*15 S*	*II*	*PR*			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
APPS (BCR 28)	**2**		**3**	**2**				**2**	**18**						
PIED (BCR 29)	**2**		**3**	**2**				**2**	**18**						
PENFL (BCR 31)	**2**		**3**	**2**				**5**	**21**	**15 S**	**II**	**PR**			
CENFL	*2*		*3*	*2*				*5*	*21*	*15 S*	*II*	*PR*			
STFL	*2*		*3*	*2*				*5*	*21*	*15 S*	*II*	*PR*			
TAMB (BCR 36)	**2**		**3**	**2**				**2**	**18**						
GCP (BCR 37)	**2**		**3**	**2**				**5**	**21**	**15 S**	**II**	**PR**			
LA	*2*		*3*	*2*				*5*	*21*	**15 S**	*II*	*PR*			
TX	*2*		*3*	*2*				*5*	*21*	*15 S*	*II*	*PR*			
Tam.	*2*		*3*	*2*				*3*	*19*						
Bridled Tern	**4**	**4**	**3**	**2**	**3**	**3**	19			**14 CC c**					
Southeast U.S. Region	**4**		**3**	**2**				**3**	**22**	**16**	**I**	**PR**	**100 us-can (10 gl)**		
SECP (BCR 27)	**4**		**3**	**2**				**3**	**22**	**16**	**I**	**PR**			
SACP	*4*		*3*	*2*				*3*	*22*	*16*	*I*	*PR*			
EGCP	*4*		*3*	*2*				*2*	*21*	*15*	*I*	*PR*			
PENFL (BCR 31)	**4**		**3**	**2**				**3**	**22**	**16**	**I**	**PR**			
CENFL	*4*		*3*	*2*				*3*	*22*	*16*	*I*	*PR*			
STFL	*4*		*3*	*2*				*3*	*22*	*16*	*I*	*PR*			
GCP (BCR 37)	**4**		**3**	**2**				**2**	**21**	**15**	**I**	**PR**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
LA	*4*		*3*	*2*				*2*	*21*	*15*	*I*	*PR*			
TX/Tam.	*4*		*3*	*2*				*2*	*21*	*15*	*I*	*PR*			
Sooty Tern	**3**	**2**	**3**	**2**	**3**	**2**	15								
Southeast U.S. Region	**3**		**3**	**2**				**4**	**19**				**100 us-can (10 gl)**		
SECP (BCR 27)	**3**		**3**	**2**				**3**	**18**						
SACP	*3*		*3*	*2*				*3*	*18*						
EGCP	*3*		*3*	*2*				*2*	*17*						
PENFL (BCR 31)	**3**		**3**	**2**				**4**	**19**						
CENFL	*3*		*3*	*2*				*4*	*19*						
STFL	*3*		*3*	*2*				*4*	*19*						
GCP (BCR 37)	**3**		**3**	**2**				**2**	**17**						
LA	*3*		*3*	*2*				*2*	*17*						
TX/Tam.	*3*		*3*	*2*				*2*	*17*						
Black Tern	**4**	**4**	**3**	**2**	**1**	**2**	17								
Southeast U.S. Region	**4**		**3**	**3**				**5**	**22**	**18 RC, S**	**I**	**MA**	**>50 us-can (50 gl)**		
EP (BCR 20)	**4**		**3**	**2**				**3**	**19**						
OP (BCR 21)	**4**		**3**	**2**				**3**	**19**						
WGCP (BCR 25)	**4**		**3**	3				**3**	**20**	**16 RC**	**I**	**MA**			
MAV (BCR 26)	**4**		**3**	**3**				**4**	**21**	**17 RC**	**I**	**MA**			

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
SECP (BCR 27)	**4**		**3**	**3**				**4**	**21**	**17 RC**	**I**	**MA**			
SACP	*4*		*3*	*3*				*4*	*21*	*17 RC*	*I*	*MA*			
EGCP	*4*		*3*	*3*				*4*	*21*	*17 RC*	*I*	*MA*			
APPS (BCR 28)	**4**		**3**	**3**				**2**	**19**	**15 RC**	**I**	**MA**			
PIED (BCR 29)	**4**		**3**	**3**				**2**	**19**	**15 RC**	**I**	**MA**			
PENFL (BCR 31)	**4**		**3**	**3**				**4**	**21**	**17 RC**	**I**	**MA**			
CENFL	*4*		*3*	*3*				*4*	*21*	*17 RC*	*I*	*MA*			
STFL	*4*		*3*	*3*				*4*	*21*	*17 RC*	*I*	*MA*			
TAMB (BCR 36)	**4**		**3**	**3**				**3**	**20**	**16 RC**	**I**	**MA**			
GCP (BCR 37)	**4**		**3**	**3**				**5**	**22**	**18 RC, S**	**I**	**MA**			
LA	*4*		*3*	*3*				*5*	*22*	*18 RC, S*	*I*	*MA*			
TX/Tam.	*4*		*3*	*3*				*5*	*22*	*18, RC, S*	*I*	*MA*			
Brown Noddy	**3**	**3**	**3**	**2**	**3**	**2**	16								
Southeast U.S. Region	**3**		**3**	**2**				**3**	**19**				**100 us-can (10 gl)**		
SECP (BCR 27)	**3**		**3**	**2**				**1**							
SACP	*3*		*3*	*2*				*1*							
EGCP	*3*		*3*	*2*				*1*							
PENFL (BCR 31)	**3**		**3**	**2**				**3**	**19**						
CENFL	*3*		*3*	*2*				*3*	*19*						

Species Globally Region, BCR, Subarea	PT	PS	TB	TN	BD	ND	Subtotal	RD	Total	Combine Score (concern, steward)	Tier	Action Level	Percent Responsibility	Estimated Population Category	Population Objective Category
STFL	*3*		*3*	*2*				*3*	*19*						
Black Noddy	**3**	**4**	**3**	**2**	**3**	**2**	17								
Southeast U.S. Region	**3**		**3**	**2**				**1**							
PENFL (BCR 31)	**3**		**3**	**2**				**1**							
STFL	*3*		*3*	*2*				*1*							
Dovekie	**3**	**3**	**3**	**3**	**4**	**2**	18								
Southeast U.S. Region	**3**		**3**	**3**				**1**							
SECP (BCR 27)	**3**		**3**	**3**				**1**							
SACP	*3*		*3*	*3*				*1*							
Razorbill	**3**	**4**	**3**	**4**	**4**	**3**	21			**14 CC b**					
Southeast U.S. Region	**3**		**3**	**4**				**2**	**23**	**16 RC**	**I**	**MA**	**<10 us-can (5 gl)**		
SECP (BCR 27)	**3**		**3**	**4**				**2**	**23**	**16 RC**	**I**	**MA**			
SACP	*3*		*3*	*4*				*2*	*23*	*16 RC*	*I*	*MA*			