

Memorandum

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1 July 2002

Dear Reviewer:

The following manuscript is the product of 33 months of work by dozens of individuals who have assisted with Audubon of Florida's IBA Program. This is an external review copy of the manuscript, and represents the final opportunity for widespread review. Due to a recent change in the production schedule, publication of *The Important Bird Areas of Florida: 2000–2002* now is planned for spring 2003. **Note that information in this draft manuscript is subject to change before publication. Please do not cite any information in this manuscript.**

Printed copies of the entire manuscript will be sent to the Florida IBA Executive Committee and a few other individuals. IBA site accounts will be sent to all site nominators. This PDF (Adobe Acrobat) copy of the manuscript has been posted to encourage maximum participation in the review process. (Despite the significant contributions that the IBA Program has received, several important potential contributors undoubtedly have been overlooked. I will be grateful to readers who inform their colleagues about this manuscript).

Please read the introductory material before reviewing the IBA site accounts. Many “blanks” remain in the site accounts (and elsewhere in the text), and questions or comments are included in brackets and underlined. It is anticipated that missing data will be supplied by the site nominators and other reviewers. Several additional tasks remain to be completed by the Executive Committee or me; some of these are listed on the following page. There may be other, later changes made to the manuscript (e.g., the boundaries of some IBAs may be adjusted).

GIS maps included in this manuscript show the boundaries of most of Florida's IBAs (a few wading bird rookery islands are too small to appear). These maps will be improved and updated before publication.

For the most part, IBA site selection has ended and we are not seeking additional nominations. However, *truly significant* sites that are not included here *will* be considered as additional IBAs provided that the nominations are complete, that they conform to the format used in this manuscript, and that they are received in a timely manner (i.e., by 1 August 2002). **Please contact me before formally nominating any new site as a potential IBA.**

The Executive Committee chose to designate as an Important Bird Area any nominated site that supports at least 1% of the state population of any species of conservation priority or concern. *We are aware that several additional sites could be nominated on the basis of using this “1% criterion” for a single species (e.g., IBAs based on 11 Bald Eagle nests or 2 pairs of Wilson's Plovers).* However, at this stage in the Florida IBA Program, we are most concerned with sites that support larger populations of listed species, significant populations of several species, or very large numbers of waterfowl, shorebirds, or Neotropical migrants. (Subsequent site-selection efforts in Florida may need to use a “2%” or “3%” criterion to select the state's IBAs).

The deadline for submission of comments is 15 August 2002 (or 31 August for reviewers of the entire manuscript). Minor comments or corrections may be e-mailed to <bpranty@audubon.org>; please put “IBA review” in the subject line, or FAXed to 813-623-4086. All other comments or corrections must be made on printed copies mailed to me at the above address. **Please do not submit an edited electronic copy of this manuscript.**

All comments, additions, and especially corrections of errors of omission or commission are sought. Significant contributors will be acknowledged as reviewers of the Florida IBA book.

On behalf of Audubon of Florida and the Florida IBA Executive Committee, I thank you for your assistance.

Tasks remaining before production of the final manuscript

1. Design a system to numerically rank Florida's IBAs
2. Determine Global [DONE], Continental, and National IBAs, and mention all these in the accounts
3. Define the number of species in certain groups (e.g., waterfowl, shorebirds, wood-warblers) for which a "significant diversity" of species will be accepted. This probably can most easily be determined by choosing a particular percentage (probably 80–90%) of the species that occur regularly in Florida. For example 80% of the regularly-occurring wood-warblers would be 30 species, while 90% would be 34.
4. Review +(Cox et al. 1994) to ensure that all Strategic Habitat Conservation Areas within IBAs are designated in "Other Resources."
5. For at least some species, review and reference the U.S. Fish and Wildlife Service's South Florida Multi-Species Recovery Plan for distribution, conservation, and other information.
6. Review the FCREPA series to make consistent the English names of all non-avian animals
7. Reference the Florida Forever 5-year plan for information on IBAs that contain CARL–FF projects
8. Table 4 (page 32) begs for some type of analysis/discussion

**PUBLIC AGENCIES OR PRIVATE CONSERVATION ORGANIZATIONS
THAT OWN OR MONITOR LANDS WITHIN FLORIDA’S IBAs**

FEDERAL PROPERTIES

Department of Defense installations: Avon Park Air Force Range, Cape Canaveral Air Station, Eglin Air Force Base, Eglin Air Force Base Test Site, and (part of) Tyndall Air Force Base

National Estuarine Research Reserve: Rookery Bay

National Forests: Apalachicola, Ocala, and Osceola

National Monument: Fort Matanzas

National Seashores: Canaveral, and Gulf Islands

National Parks: Biscayne, Dry Tortugas, and Everglades

National Preserve: Big Cypress

National Wildlife Refuges: Arthur R. Marshall Loxahatchee, Cedar Keys, Chassahowitzka, Crocodile Lake, Florida Panther, Great White Heron, J.N. “Ding” Darling, Key West, Lake Wales Ridge, Lake Woodruff, Lower Suwannee, Merritt Island, National Key Deer, Okefenokee, Passage Key, Pelican Island, Pine Island, Pinellas, St. Johns, St. Marks, St. Vincent, and Ten Thousand Islands

Other: Kingsley Plantation, and Timucuan Ecological and Historic Preserve

STATE PROPERTIES

Fish Management Area: Tenoroc

Military Reservation: Cape Blanding

Northwest Florida Water Management District properties: [none yet]

St. Johns Water Management District Conservation Areas: Blue Cypress, Buck Lake, Canaveral Marshes, Emerald Marsh, Fort Drum Marsh, Lake George, Lochloosa Wildlife, Moses Creek, Seminole Ranch, and Three Forks Marsh

St. Johns Water Management District other properties: Brevard Coastal Scrub Ecosystem, Gum Root Swamp, Lake Apopka Restoration Area, and Ranch Reserve

South Florida Water Management District properties: Corkscrew Regional Ecosystem Watershed, Corkscrew Regional Mitigation Bank, Dupuis Reserve, East Coast Buffer, Frog Pond/L-31 N Transitional Lands, Kissimmee Chain of Lakes, Kissimmee River, Loxahatchee Slough, Model Lands Basin, Pal–Mar, Southern Glades, Stormwater Treatment Areas, Strazzulla Tract, and Upper Lakes Basin Watershed

Southwest Florida Water Management District properties: Annutteliga Hammock, Bright Hour Watershed, Chassahowitzka River and Coastal Swamps, Cypress Creek Flood Detention Area, Flying Eagle Ranch, Green Swamp Wilderness, Gum Slough, Halpata Tastanaki Preserve, Jack Creek, Lake Panasoffkee, Myakka River, Panasoffkee/Outlet Tract, Potts Preserve, Starkey Wilderness Park, and Weekiwachee Preserve

State Forests: Blackwater River, Goethe, Jennings, Lake George, Lake Wales Ridge, Myakka, Picayune Strand, Ross Prairie, Seminole, Tate’s Hell, and Withlacoochee

State Parks: Allen David Broussard Catfish Creek Preserve, Anastasia, Anclote Key Preserve, Bahia Honda, Big Talbot Island, Bill Baggs Cape Florida, Caladesi Island, Collier–Seminole, Curry Hammock, Dr. Julian G. Bruce St. George Island, Edward Ball Wakulla Springs, Fakahatchee Strand Preserve, Faver–Dykes, Fort Clinch, Fort George Island Cultural, Guana River, Highlands Hammock, Honeymoon Island, Hugh Taylor Birch, Ichetucknee Springs, John Pennekamp Coral Reef, John U. Lloyd Beach, Jonathan Dickinson, Key Largo Hammock Botanical, Kissimmee Prairie Preserve, Lake June-In-Winter Scrub, Lake Kissimmee, Lake Louisa, Lignumvitae Key Botanical, Little Talbot Island, Long Key, Lower Wekiva River Preserve, Myakka River, Oscar Scherer, Paynes Prairie Preserve, San Felasco Hammock Preserve, (part of) St. Andrews, T.H. Stone Memorial St. Joseph

Peninsula, Tomoka, Topsail Hill Preserve, Waccasassa Bay Preserve, Wekiwa Springs, and Werner–Boyce Salt Springs

State Recreation and Conservation Area: (parts of) Cross Florida Greenway

State Reserves: Cape St. George, Cedar Key Scrub, Rock Springs Run, and William Beardall Tosohatchee

Suwannee Water Management District properties: [none yet]

Wildlife and Environmental Areas: Florida Keys, Lake Placid, Little Gator Creek, Platt Branch Mitigation Park, and Split Oak Mitigation Park

Wildlife Management Areas: Big Bend, Bull Creek, Chassahowitzka, Everglades and Francis S. Taylor, Fisheating Creek, Fred C. Babcock–Cecil M. Webb, Guana River, Half Moon, Hilochee, Holey Land, J.W. Corbett, Rotenberger, Three Lakes, and Triple N Ranch

COUNTY AND MUNICIPAL

Alachua County: Gum Root Park/Gum Root Conservation Area

Brevard County: Batchelor, Dicerandra Scrub Sanctuary, Enchanted Forest Sanctuary, Jordan Boulevard, Malabar Scrub Sanctuary, Micco Scrub Sanctuary, North Rockledge Sanctuary, South Babcock/Ten Mile Ridge, Tico Scrub Sanctuary, Turkey Creek Sanctuary, and Valkaria Scrub Sanctuary

Duval County: Huguenot Memorial Park

Hillsborough County: E.G. Simmons Park, The Kitchen, and Wolf Branch

Lee County: Stairstep Mitigation Bank

Miami-Dade County: Charles Deering Estate, and Matheson Hammock Park

Orange County: Moss Park

Osceola County: Lake Lizzie Nature Preserve

Palm Beach County: City of West Palm Beach Water Catchment Area, Loxahatchee River Natural Area, Loxahatchee Slough Natural Area, and Pal–Mar Natural Area

Pasco County: Withlacoochee River Park

Pinellas County: Al-Bar Ranch, Cross Bar Ranch Wellfield, and Fort De Soto County Park

Polk County: Babson/Hesperides Tract, Saddle Creek County Park, and Sumica/Lake Walk-in-the-Water Tract

Sarasota County: North Lido Public Beach, Palmer Point County Park, Pinelands Reserve, and T. Mabry Carleton, Jr. Memorial Reserve

Volusia County: Smyrna Dunes Park

PRIVATE CONSERVATION ORGANIZATIONS

Archbold Expeditions, Inc.: Archbold Biological Station

Audubon of Florida: Corkscrew Swamp Sanctuary, Florida Coastal Islands Sanctuaries, Lake Okeechobee Sanctuaries, Sabal Point Sanctuary, and Saddle Creek Sanctuary

Tall Timbers Research Station: Tall Timbers Research Station, and the following Conservation Easements: Allee Property, Chemonie Plantation, Conlin Island, Foshalee Plantation, Horseshoe Plantation, Pickney Hill Plantation, Straw Pond, Sunny Hill Plantation, Swamp Creek Preserve, and Woodfield Springs Plantation

The Nature Conservancy: Avalon Plantation Conservation Easement, Carter Creek, Catfish Creek, Disney Wilderness Preserve, Fillman Bayou Preserve, Holmes Avenue, Jeff Lewis Wilderness Preserve, Mays Pond Plantation Conservation Easement, Saddle Blanket Lakes Preserve, Saddle Bunch Keys, Sun Ray Scrub, Tiger Creek Preserve, Torchwood Hammock Preserve, and Withlacoochee Swamp Conservation Easement

THE IMPORTANT BIRD AREAS OF FLORIDA: 2000–2002

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“Since the 1950s, Florida's population has risen at an annual rate of approximately four percent. In the [past] 50 years, more than eight million acres of forest and wetland habitats (about 24 percent of the state) have been cleared to accommodate the expanding human population. In 1990, about 19 acres per hour of forest, wetland, and agricultural land [were] being converted for urban uses.”

—History of Florida's Conservation Lands +(<<http://p2000.dep.state.fl.us/background.htm>>)

“Take ... 1500 acres of farm or forest, divide it into 300 lots, dig 300 wells, plant one septic tank on each plot, and add a home for three people. You will have accommodated just one days' worth of immigrants to Florida.”

—*Problems, Prospects, and Strategies for Conservation* by Ronald L. Myers and John J. Ewel in *Ecosystems of Florida* +(Myers and Ewel 1990)

“Florida is a unique former-paradise, engulfed in monumental change. The Seminoles knew it as an unbroken mosaic of wetlands, scrubs, seashores, prairies, and steamy forests. Mammoth oaks, palms, cypress, and mahoganys were laced together from the panhandle to the keys by a nearly continuous forest of stately pines. A subtropical peninsula attached to an arctic continent, Florida served for eons as a prolific reservoir of biological diversity. ... Today ... the huge trees are gone. Wetlands are levied or drained, prairie grasses are replaced by domestic forage crops, and almost every inch of seashore can be viewed from an upper-story window. The visual and biological impacts of explosive human immigration dominate the landscape. As of 1990, Florida harbors eight of the ten fastest growing cities in the United States. Growth of Florida's human population seems destined to proceed in permanent fast-forward. Birds will either adjust to the new human landscape or they will continue to perish in our wake.”

—*Foreword* by John W. Fitzpatrick in *Florida Bird Records in American Birds and Audubon Field Notes 1947–1989* +(Loftin et al. 1991)

“It all began with one man and one boat, protecting pelicans on a tiny five-acre island in Florida. From that humble beginning arose the world's largest and most diverse network of lands dedicated to the protection and management of a vast array of wildlife. America's National Wildlife Refuges now [encompass] over 93 million acres on over 500 refuges. In 1903, Pelican Island became the center of an epic battle between conservationists and feather hunters. After years of relentless slaughter, many of our most majestic birds were at the brink of [extirpation]. Pelican Island was the last breeding ground for Brown Pelicans along the entire east coast of Florida and it was here that a stand was made. Urged on by a German immigrant named Paul Kroegel, many prominent people rallied around this small island to spearhead the protection of the last remaining areas vital to the survival of wildlife. Under the leadership of President Theodore Roosevelt, wildlife protection became a national interest, and for the first time, was based on wildlife's intrinsic worth rather than its utilitarian value. With the stroke of a pen, on March 14, 1903, Teddy Roosevelt set in motion a commitment to the preservation of our wildlife heritage, and, in so doing, prevented many species from certain extinction.”

—Introduction to *Pelican Island: Honoring a Legacy* +(USFWS 1999)

“Just as we now blame past generations for the extinction of the Passenger Pigeon, Carolina Parakeet, and Ivory-billed Woodpecker, future Floridians will ultimately hold our generation responsible for the manner in which we conserve the species and natural resources we inherited. Perhaps the greatest insult we could ever bear would be to document the problems that threaten some of Florida's rarest plants and animals, propose solutions to these problems, and then fail to act with proper speed and resolve.”

—*Foreword of Closing the Gaps in Florida's Wildlife Habitat Conservation System* by James Cox, Randy Kautz, Maureen McLaughlin, and Terry Gilbert +(1994)

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ALPHABETICAL LISTING OF ALL IBAs

ABC Islands
Alachua Lakes
Apalachicola and Tates Hell Forests
Avon Park Air Force Range–Bombing Range Ridge
Babcock–Webb Ecosystem
Bay County Beaches
Big Bend Ecosystem
Big Cypress Swamp Watershed
Big Marco Pass Shoal
Biscayne Bay
Blackwater River State Forest
Brevard Scrub Ecosystem
Bright Hour Watershed
Buck Island Ranch
Camp Blanding–Jennings State Forest
Cape Canaveral–Merritt Island
Central Pasco
Chassahowitzka–Weekiwachee
Citrus County Spoil Islands
Clearwater Harbor–St. Joseph Sound
Coastal Pasco
Cockroach Bay–Terra Ceia
Corkscrew Swamp Watershed
Crystal River Tidal Marshes
Disney Wilderness Preserve
Dog Island–Lanark Reef
Dry Tortugas National Park
Duval and Nassau Tidal Marshes
Eglin Air Force Base
Emeralda Marsh
Everglades National Park
Fisheating Creek Watershed
Florida Keys Hammocks
Fort George and Talbot Islands
Goethe State Forest
Great White Heron National Wildlife Refuge
Greater Apalachicola Bay
Green Swamp Ecosystem
Guana River
Gulf Islands GEOpark
Gulf Islands National Seashore & adjacent areas
Highlands Hammock–Charlie Creek
Hillsborough Bay
Huguenot Park–Nassau Sound
Ichetucknee Springs State Park
J.N. “Ding” Darling National Wildlife Refuge
Johns Pass
Kanapaha Prairie
Key West National Wildlife Refuge
Kissimmee Lake and River
Kissimmee Prairie Preserve State Park
Lake Apopka Restoration Area
Lake Disston
Lake Hancock–Upper Peace River
Lake Istokpoga
Lake Lafayette
Lake Mary Jane–Upper Econ Mosaic
Lake Okeechobee
Lake Tohopekaliga and Adjacent Uplands
Lake Wales Ridge
Lake Woodruff National Wildlife Refuge
Little Estero Lagoon
Lower Tampa Bay
Loxahatchee River and Slough
Matanzas Inlet and River
Myakka River Watershed
North Lido Beach–Palmer Point
Northern Atlantic Migrant Stopover
Northern Everglades
Ocala National Forest–Lake George
Orlando Wetlands Park
Oscar Scherer State Park
Osceola Flatwoods and Prairies
Osceola National Forest–Pinhook and Okefenokee Swamps
Paynes Prairie Preserve State Park
Pelican Island National Wildlife Refuge
Pelican Shoal
Pine Island National Wildlife Refuge
Red Hills Ecosystem
Rookery Bay National Estuarine Research Reserve
St. Johns National Wildlife Refuge
St. Joseph Bay
St. Marks National Wildlife Refuge
St. Sebastian River State Buffer Preserve
San Felasco Hammock Preserve State Park
Sanibel Lighthouse Park
Sarasota and Roberts Bays
Southern Atlantic Migrant Stopover
Starkey Wilderness
Ten Thousand Islands National Wildlife Refuge
Turkey Creek Sanctuary
Upper St. Johns River Basin
Volusia County Colony Islands
Wakulla Springs
Walton County Beaches
Wekiva–Ocala Greenway
Wekiwa Basin GEOpark
William Beardall Tosohatchee State Reserve
Withlacoochee–Panasoffkee–Big Scrub
Withlacoochee State Forest

FOREWORD

(to be written by Stuart Strahl)

ACKNOWLEDGMENTS

This book is the product of the efforts of dozens of individuals representing Federal, State, and local government agencies, non-governmental conservation and scientific organizations, and private citizens. *The Important Bird Areas of Florida: 2000–2002* represents a cooperative effort to identify, preserve, and properly manage those sites deemed most critical for maintaining the diversity, abundance, and distribution of the state's native avifauna.

To give the Florida IBA Program strong scientific credibility, an advisory committee composed of some of the state's leading ornithologists and conservation biologists was formed. Five Committee members were from Audubon while the remaining seven were affiliated with other conservation agencies or organizations, and one university. This “Executive Committee” assisted with development of the site selection criteria and was responsible for designation of the Important Bird Areas of Florida. Members of the Committee and their professional affiliations are: Gianfranco Basili (St. Johns River Water Management District, formerly the ornithologist of Florida Audubon Society), Reed Bowman (Archbold Biological Station), Jim Cox (Tall Timbers Research Station), Frances James (Florida State University), Mark Kraus (Audubon of Florida), Katy NeSmith (Florida Natural Areas Inventory), Ann Paul (Audubon of Florida), Rich Paul (Audubon of Florida), Bill Pranty (Coordinator; Audubon of Florida), Stuart Strahl (Audubon of Florida), George Wallace (formerly with the Florida Fish and Wildlife Conservation Commission, now at Rocky Mountain Bird Observatory), and Glen Woolfenden (Archbold Biological Station). The late William B. Robertson, Jr. had also agreed to serve on the Committee, but passed away before its first meeting. I am greatly honored that many of Florida's leading ornithologists considered the IBA Program sufficiently important to have volunteered their time and offered their comments and advice so readily.

An equally vital group of individuals nominated sites for consideration as IBAs. These individuals have my sincere gratitude for the assistance they provided; those marked with an asterisk (*) nominated multiple sites: Beverly Anderson, Allison Baker, *Gian Basili, *Sonny Bass, *Ted Below, Shane Belson, Lianne Bishop, Seth Blicht, Brian Braudis, *Roger Clark, *Sam Cole, Scott Crosby, Mike DelGrosso, Teresa Downey, Terry Doyle, Charles DuToit, Nancy Dwyer, Erik Egensteiner, Susan Epps, *Charlie Ewell, Judy Fisher, Cathy Flegel, Monica Folk, Liz Golden, Paul Gray, Bruce Hagedorn, Jim Higgins, Harry Kelton, Jerry Krummrich, Ed Kwater, Pat Leary, Mike Legare, Manny Lopez, Andrew Mackie, Joy Marburger, *Mike McMillian, Doug McNair, J.B. Miller, Cynthia Meketa, Jane Monaghan, Ann Moore, Vince Morris, Katy NeSmith, *Steve Nesbitt, Terry O'Toole, Richard Owen, Tom Palmer, *Ann Paul, *Rich Paul, Pat Pazara, Charlie Pedersen, Kwami Pennick, Belinda Perry, Gary Popotnik, Peggy Powell, *Bill Pranty, Arnold Rawson, Joe Reinman, Sharon Robbins, Jayde Roof, *Rex Rowan, Sean Rowe, Petra Royston, Charles Sample, Rick Sawicki, Mark Sees, *Celeste Shitama, David Simpson, Ileana and Glenn Sisson, Ed Slaney, *Parks Small, *Gary Sprandel, J.B. Starkey, Jr., *Eric Stolen, Dan Sullivan, Tammy Summers, Dave Sumpter, *Ken Tracey, George Wallace, *Jeff Weber, *Tom Wilmers, and Mike Wilson.

Thanks are given to others who reviewed nominations, provided additional data, or otherwise assisted with site nominations: Jocie Baker, Mary Barnwell, Gary Beecham, Paul Blair, Dick Blewett, Gary Comp, Tylan Dean, Mike Delany, Robin Diaz, Lucy Duncan, Dot Freeman, Wally George, Mark Glisson, Doria Gordon, Ross Hinkle, Ron Houser, Julie Hovis, Dotty and Hank Hull, Teri Jabour, Fred Lohrer, Ken Meyer, John Mitchell, Norman Moss, Mike Renda, Arlyne Salcedo, Hank Smith, Ken Spilios, Hilary Swain, Cindy Thompson, and Rick West. I thank staff at Archbold Biological Station for hosting the initial “pre-meeting” of the Executive Committee, and Todd Engstrom for setting up its formal meeting at Tall Timbers Research Station.

Several biologists provided avian data that were of great use to the Florida IBA Program. For their assistance with providing databases and GIS coverages, I thank Mike Delany (“Florida” Grasshopper Sparrow data), Julia Dodge (wading bird and Bald Eagle nests), Patty Kelly (Snowy and Piping plovers), Paul Kubilis (wading bird nests), Ken Meyer (Swallow-tailed Kites and Short-tailed Hawks), Jim Rodgers (Snail Kites), Gary Sprandel (shorebirds), and George Wallace (Snowy Plovers).

Robert “Chip” Chipley of the American Bird Conservancy provided criteria for ranking Globally significant IBAs. Sally Jue and other staff of the Florida Natural Areas Inventory were extremely helpful in providing current GIS coverages of the state’s conservation lands.

Deep appreciation is given to the foundations and organizations that funded the Florida IBA Program: The Elizabeth Ordway Dunn Foundation; the Batchelor Foundation; Pinellas County Utilities; and the Jim and Jonnie Swann Foundation, as well as several individuals. Furthermore, I greatly appreciate the assistance of Pick Talley, Wayman Bailey, and others at Pinellas County Utilities for funding a Florida Scrub-Jay conservation project that indirectly supported the IBA Program.

The efforts of Gian Basili and Clay Henderson of the former Florida Audubon Society, and Paul Gray, Wayne Hoffman, and Rich Paul of state offices of the National Audubon Society, are appreciated for their initial efforts to begin an IBA program in Florida. To Gian Basili, a big thank you for continued guidance on IBA and other matters. Under the leadership of Stuart Strahl, Audubon of Florida has grown considerably since its formation in 1999. I thank Stuart and several other AOF employees for the assistance they provided: Sandra Bogan, former editor of the *Florida Naturalist*; Mark Kraus, Deputy Director; Irela Bague, Public Affairs Coordinator; Susan Cummins, Editorial Assistant; Don Ebbert, Director of Finance and Administration; Kristy Loria, Senior Accounting and Budgeting Director; Shannon Mayorga, Conservation Associate; Connie Perez, Foundation and Government Relations Manager; Erin Petra, former Executive Assistant; and Lisa Yalkut, Associate Director of Development. At the National Audubon Society, I appreciate the advice and support of Frank Gill, Senior Vice-President; Fred Baumgarten, former National IBA Coordinator; Dan Niven, current National IBA Coordinator; and Jeff Wells, former Coordinator for the New York IBA, who freely offered advice and encouragement whenever called upon. Jim Wilson, IBA Coordinator for Georgia, attended the first Executive Committee meeting, and contributed ideas about IBAs that share our states’ boundaries.

I am extremely grateful to Kurt Rademaker, who performed an invaluable service to Audubon by designing the Florida IBA website, which broadcast the program widely, efficiently, and without cost.

In addition to many of the site nominators, the following individuals improved the “final” draft of the manuscript: Sally Treat, [and probably dozens more over the next two months].

Lastly, I thank my parents, Dom and Peggy Pranty, for a lifetime of support, and Holly Lovell for continued friendship and support. To any individual whose name inadvertently was omitted from this list, please accept my apologies and thanks. Finally, to all who assisted with this program in any of a myriad of ways, I hope that this book meets your expectations for helping to conserve Florida's spectacular avifauna.

Bill Pranty
Tampa, Florida
29 June 2002

INTRODUCTION¹

Florida is blessed with an abundance of natural riches. It boasts the greatest native avian diversity (474 species) of any state east of the Mississippi River, 81 natural communities, 8500 miles (13,600 km) of shoreline, 7800 lakes and ponds, 1700 rivers and creeks, some of the most diverse forests and grasslands in North America, hardwood hammocks of West Indian affinity, tropical coral reef systems unique on the continent, and one of the world's great wetlands. Overall, Florida supports about 3800 native or naturalized plants and 700 native vertebrates, with 8% and 17% of these, respectively, endemic to the state (i.e., they occur nowhere else in the world).

Florida also boasts a succession of the largest and most aggressive public land acquisition programs in the world, which began in 1964. By the end of 2000, State and municipal governments and private conservation organizations had spent over \$3.7 *billion* to protect 4.7 million acres (1.9 million ha) of land. When combined with Federal conservation areas, these lands protect 8.7 million acres (3.4 million ha), or just over one-quarter of the state's non-submerged land area. There currently are over 1200 individual public and private conservation lands in Florida. The State's newest land acquisition program, Florida Forever, was designed to raise \$300 million annually between 2000 and 2009 for the acquisition and management of conservation lands.

Concurrently, and in stark contrast, Florida is the most endangered state in the Union. According to a report issued in 1995 by Defenders of Wildlife, Florida was the only state to earn “extreme” ratings for every category measured (overall risk, ecosystem risk, species risk, development risk, development status, and development trend), and it contained more endangered ecosystems (nine) than any other state. So great is the threat that *every* natural community in southern Florida was combined into the “South Florida Landscape”—considered to be the most endangered ecosystem in the United States.

Florida gains 700–900 residents *every day*, or one million residents every three to four years, making it one of the fastest-growing states in the nation. Florida's population increased from 2.7 million residents in 1950 to 15.9 million in 2000. An appalling amount of habitat—about 165,000 acres (66,000 ha) *annually*—has been destroyed to accommodate the expanding human population. This growth has reduced cutthroatgrass seeps by 99%, Miami pine rocklands by 98%, longleaf pine flatwoods by 97%, unimpounded Brevard County salt marshes by 95%, Lake Wales Ridge scrub by 85%, and Everglades marshland by 65%. If the current rate of growth continues, *virtually every remaining buildable acre of Florida will be developed by 2065*. In less time than an average human lifespan, all of Florida's remaining private forests, scrubs, prairies, wetlands, farms, groves, and pastures will either be developed or preserved.

During the twentieth century, five birds native to Florida (the Passenger Pigeon, Carolina Parakeet, Ivory-billed Woodpecker, Bachman's Warbler, and “Dusky” Seaside Sparrow) were driven to extinction by human activities, and populations of numerous others have been reduced severely. Twenty species or subspecies of birds are listed by the Florida Fish and Wildlife Conservation Commission as Endangered, Threatened, or of Special Concern. In a more thorough inventory, the Florida Committee on Rare and Endangered Plants and Animals listed 72 birds as recently extinct, recently extirpated, endangered, threatened, rare, of special concern, or of status undetermined.

¹ References cited in the Introduction are: +Bowman (2000, 2001), +Chafin (2000), +FGFWFC (1997), +Jue et al. (2001), +FNAI (1990), +McCaffrey (2002), +Myers and Ewel (1990), +Noss and Peters (1995), +Rodgers (1996), and the website of the Atlas of Vascular Plants of Florida (<<http://www.plantatlas.usf.edu>>).

BACKGROUND OF THE IBA PROGRAM

The Important Bird Areas Program is part of a global effort to conserve bird populations by identifying, preserving, and properly managing their habitats. The first IBA program was implemented in Europe in 1985 by ornithologists from an organization known now as Birdlife International. Focusing on wetlands, this initial effort designated 2444 sites in 32 European countries +(Grimmett and Jones 1989). Next to be published was *Important Bird Areas in the Middle East* +(Evans 1994), which identified 391 sites in 14 Middle Eastern countries. Following these inventories, the IBA Program was brought to the New World by the American Bird Conservancy and the National Audubon Society. Audubon-based programs in New York and Pennsylvania completed their initial inventories in 1998, identifying 127 and 73 IBAs, respectively +(Wells 1998, Crossley [1998]). Subsequent statewide efforts identified 52 IBAs in Idaho +(Ritter 2000), 46 in Colorado +(Cafaro 2000), 53 in Washington +(Cullinan 2001), and 208 in California +(Cooper 2001). Currently, over 100 countries and 39 states have IBA programs underway.

In 1997 and 1998, Audubon ornithologists attempted an IBA program in Florida, but sufficient funding was not available at the time. Florida's IBA Program began formally in March 1999, when members of the fledgling Advisory Committee (later renamed the Executive Committee) met for the first time at Archbold Biological Station. The following month, an IBA workshop was presented to members of the Florida Ornithological Society. In October 1999, the Program Coordinator was hired, based out of Audubon's sanctuary office in Tampa. The following month, the Florida Audubon Society and the state offices of the National Audubon Society merged to form Audubon of Florida. A twelve-member Executive Committee finalized the site-selection criteria in January 2000.

As modified for the Florida program, **an Important Bird Area is a site that is documented to support significant populations of one or more species of native birds, or a significant diversity of species.** It is important to point out that **the IBA Program carries no regulatory powers; therefore, IBA designation places no restrictions on a site.** On the other hand, IBA designation often implies good site management, and frequently results in publicity beneficial to land owners. The Florida Program excluded as IBAs those sites that have been heavily disturbed (e.g., phosphate mines or agricultural lands), even though these sites may support large numbers of birds during one or more seasons. On the other hand, a few artificial dredged-material (i.e., “spoil”) islands that support significant wading bird or larid colonies were accepted as IBAs. Also designated as IBAs were former agricultural lands now in public ownership and being restored to wetlands (e.g., at Emeralda Marsh, Lake Apopka, and the Northern Everglades).

The primary goal of Florida's IBA Program is to help ensure the persistence of the state's native avifauna, which is under extreme pressure from habitat destruction, human disturbance, fire exclusion, and other factors. About 25% of the state's land area has been developed, mostly since 1950 (Florida Department of Environmental Protection website; +<http://p2000.dep.state.fl.us/backgrnd.htm>>), while another quarter is composed of conservation lands held in public ownership or under perpetual conservation easements +(Jue et al. 2001). The remaining half of the state is—or eventually will be—up for sale to the highest bidder, with conservationists competing with developers to determine the final fate of Florida's privately owned lands and waters. Consider the following fact: in Brevard County, it took *ten years* for the County's Environmentally Endangered Lands Program to purchase and protect 13,000 acres (5200 ha) of land. During a *five-month* period from late 1999 to early 2000, an equal amount of land elsewhere in the county was permitted for development (R. Hinkle pers. comm., April 2000). Continuing habitat destruction on such a massive scale will continue to exert intense pressure on Florida's bird communities, and it is essential that the IBA Program plays an integral role in conserving bird populations and habitats throughout the state. This role includes protecting the habitats of rare species, as well as “keeping common birds common.”

It also seems important to point out that **this book is not meant to encourage widespread visitation to IBAs**—specific directions to the sites are not included. As the data contained within this book clearly demonstrate, increased human use of most of Florida's coastal IBAs will further endanger some of the state's most critically imperiled species. Rather, **the primary intent of this book is to**

present to a wide audience an “avian resource inventory” of Florida's IBAs, identifying *which* sites were selected, *why* they are important, *how* the public can assist to preserve bird populations, and—in many cases—*where* human and resource management can be improved to benefit native birds and their habitats. Perhaps this resource-based concept will be adopted to map areas critical to other groups of Florida's flora and fauna (e.g., “Important Sea Turtle Areas,” “Important Butterfly Areas,” or perhaps “Important Orchid Areas”).

This edition of *The Important Bird Areas of Florida: 2000–2002* presents the initial 99 sites selected as IBAs in the state. Site nomination began in February 2000 and initially was planned to end in December 2000, but nominations were accepted through June 2002 to allow many more of the state's potential IBAs to be nominated formally. Nonetheless, **potential IBAs unrecognized in this book undoubtedly exist in Florida**, and ornithologists, birders, land managers, foresters, Audubon members, and others should keep these sites in mind when the revision of this book is planned (probably around 2005). With the massive amount of habitat destruction occurring in Florida, as well as the various land acquisition programs that constantly are bringing significant natural areas into public ownership or under perpetual conservation easement, IBA site selection and review in Florida should occur frequently.

IBAs and private property

The IBA Coordinator could not be expected to identify thousands of private properties that deserve to be preserved; to contact the land owners to determine their interest in preservation; and finally to receive their consent to include the properties within designated Important Bird Areas. Rather, the Florida IBA Program has relied on government agencies and conservation organizations to identify these properties, primarily through the State's “Conservation and Recreation Lands,” “Florida Forever,” and “Save Our Rivers” land acquisition programs. However, the inclusion of non-public lands in the IBA Program is vital, since nearly half of the state remains in private ownership, and IBA designation of some private properties may result in public acquisition or improved management. Florida's IBA Program required land owner approval for all properties specifically mentioned by name in this book, but obviously not for all properties mapped—some state acquisition projects included within IBAs contain literally thousands of landowners. Private lands targeted for preservation have been added to Florida's IBAs when they were adjacent or close to existing conservation lands—many IBAs consist of a core public ownership surrounded by private properties sought for public acquisition or perpetual conservation easement (e.g., the Myakka River Watershed or Florida Keys Ecosystem IBAs). However, in a few instances when significant supporting avian data have been provided, the IBA program has recommended the preservation of private lands that have not been identified by others (e.g., the Alachua Lakes, and Osceola Flatwoods and Prairies IBAs). On the other hand, we suppressed the inclusion of a highly significant ranch from the Lake Wales Ridge IBA on the recommendation of a member of the State's Acquisition and Restoration Council, who feared that the IBA Program might somehow interfere with on-going attempts by others to publicly acquire the property.

It is hoped that the recommendations made herein will be embraced by the agencies responsible for acquiring private lands, for managing public lands, and for enforcing laws designed to protect the state's floral and faunal resources. Contact information for the primary conservation agencies and organizations in Florida is found on pages 27–28.

The “Important Birding Areas” Program

There was some confusion about the purposes and goals of the IBA Program. Some individuals referred to the IBA Program as the “Important Birding Areas” Program, and thought that its purpose was to denote worthwhile birding sites. These individuals nominated as IBAs sites that typically were small city or county parks that provided opportunities for birding or environmental education, but did not support significant populations of any species. The majority of these sites were not accepted as IBAs, although a few sites were designated if they were deemed important to *populations* of birds, rather than to a few

individuals, or that contained a diversity of Neotropical migrants that seemed significant. For information on birding sites in Florida, see *A Birder's Guide to Florida* (Pranty 1996a), or visit the website for the Great Florida Birding Trail: <http://www.floridabirdingtrail.com>.

METHODS

Site Selection

The Florida IBA Coordinator, assisted by the Executive Committee and other biologists, prepared the criteria for site selection. These criteria followed those used by IBA programs around the world, but were modified specifically for circumstances in Florida. Because many bird populations in the state are surveyed periodically (e.g., Bald Eagle nests and many larid colonies annually, Piping Plovers every five years, and wading bird rookeries every 10 years), the Florida IBA Program developed stringent site-selection criteria emphasizing specific, recent avian data significant at the statewide level. Four primary categories were used to select Florida's IBAs, and all designated areas met the criteria of at least one of these. A fifth—and secondary—category, for long-term avian research, could be used only in conjunction with one or more of the primary categories. Florida's site selection criteria are listed below; bird names in quotation marks denote subspecies.

CATEGORY 1: Sites that support significant populations of Endangered or Threatened birds.

This category contains all birds on the “official” list of Endangered or Threatened species or subspecies, maintained by the Florida Fish and Wildlife Conservation Commission (FFWCC; +FGFWFC 1997). We make one exception to this list: the Red-cockaded Woodpecker is listed as Federally Endangered but only State Threatened (and is currently proposed for down-listing to Special Concern); for IBA purposes, the Red-cockaded Woodpecker was considered Endangered. A “significant” population was defined as meeting or exceeding 1% of the total statewide population (Table 1) of any listed species. Nominated sites that met this criterion for any Category 1 birds were designated as IBAs.

1a: FFWCC Endangered species or subspecies

Wood Stork, Snail Kite, Peregrine Falcon, Red-cockaded Woodpecker, “Florida” Grasshopper Sparrow, and “Cape Sable” Seaside Sparrow.

1b: FFWCC Threatened species or subspecies

Bald Eagle, Crested Caracara, “Southeastern” American Kestrel, “Florida” Sandhill Crane, Snowy Plover, Piping Plover, Roseate Tern, Least Tern, White-crowned Pigeon, and Florida Scrub-Jay.

CATEGORY 2: Sites that support significant populations of other birds of conservation priority.

This category contains all birds considered by the FFWCC to be of “Special Concern,” as well as birds on the lists of the Florida Committee on Rare and Endangered Plants and Animals (FCREPA; +Rodgers et al. 1996), the Partners In Flight Watch List and/or Audubon WatchList, as well as three other birds of concern chosen by the Florida IBA Executive Committee because they do not appear on any other list. FCREPA species listed in Category 2 are only those not listed by the FFWCC in Category 1. For Watch List species, the Executive Committee chose to concentrate on those with significant breeding or wintering populations in Florida; those species occurring largely as migrants can occur in a wide variety of habitats, and are much more difficult to prioritize on a site-by-site basis. The definition of a significant population is the same as for Category 1 species or subspecies, but statewide counts or estimates (Table 1) are not available for many of the birds in Category 2.

2a: FFWCC Species of Special Concern

Brown Pelican, Little Blue Heron, Snowy Egret, Tricolored Heron, Reddish Egret, White Ibis, Roseate Spoonbill, Limpkin, American Oystercatcher, Black Skimmer, Burrowing Owl, Marsh Wren (breeding populations only), and Seaside Sparrow (excluding the “Cape Sable” Seaside Sparrow, which is Endangered).

2b: FCREPA birds (Endangered, Threatened, Rare, Species of Special Concern, and Status Undetermined). Two species (Antillean Nighthawk and Cave Swallow) were not included in the IBA Program because they breed solely in disturbed areas or on artificial structures.

Magnificent Frigatebird, Least Bittern, “Great White” Heron, Great Egret, Black-crowned Night-Heron, Yellow-crowned Night-Heron, Glossy Ibis, Osprey, Swallow-tailed Kite, White-tailed Kite, Cooper’s Hawk, Short-tailed Hawk, Merlin, Black Rail, Wilson’s Plover, American Avocet, Gull-billed Tern, Caspian Tern, Royal Tern, Sandwich Tern, Sooty Tern, Brown Noddy, Mangrove Cuckoo, Hairy Woodpecker, Black-whiskered Vireo, White-breasted Nuthatch, “Cuban” Yellow Warbler, “Florida” Prairie Warbler, and Painted Bunting.

2c: Species on the Partners In Flight Watch List and/or the Audubon WatchList (only those for which data were submitted are included here).

Mottled Duck, Yellow Rail, Willet, Red Knot, Stilt Sandpiper, Gray Kingbird, Brown-headed Nuthatch, Loggerhead Shrike, Bachman's Sparrow, and Henslow's Sparrow.

2d: IBA species of concern

Magnificent Frigatebird, “Greater” Sandhill Crane, and Laughing Gull (breeding populations only)

CATEGORY 3: Sites that support significant numbers of birds, or a significant diversity of species.

This broad category is broken down into seven sub-categories, five for supporting specific groups of birds, another for other species or groups, and one for diversity. The Florida IBA Program requested that all avian data submitted were gathered recently (i.e., preferably in the past 10 years), and that population counts or estimates be based on daily totals. In cases where several consecutive years of data were available for a site, oftentimes only those for the past 3–5 years were used and only the means and ranges are given.

3a: Aquatic birds. Sites that support 10,000 aquatic birds, primarily in winter. This group includes loons, grebes, cormorants, waterfowl, rails, Purple Gallinules, Common Moorhens, and American Coots. *This criterion was seldom used (Table 6, pages 38–41) suggesting that the Florida threshold was set too high.*

3b: Wading birds. Sites that support 1000 breeding pairs, or 500 birds at foraging or roosting sites. We arrived at the former figure after the results of the 1999 FFWCC statewide wading bird survey were made available to us; the 29 largest rookeries in the state each contained 1000 or more breeding pairs of wading birds. *Data for Cattle Egrets were not used by the IBA Program because Cattle Egrets are not dependent on wetlands as are all other wading birds. The exclusion of Cattle Egrets follows the methodology used by most wading bird biologists.*

3c: Raptors. Sites that support 300 raptors, primarily during fall migration. This group excludes vultures due to recent taxonomic reclassification +(AOU 1998). *This criterion was used primarily for stopover sites (i.e., roosting or foraging areas) and other natural areas, rather than any site from which large numbers of migrating raptors could be observed.*

3d: Shorebirds. Sites that support 1000 shorebirds during migration or in winter. (*For breeding species, Categories 1b, 2a, 2b, or 3f were used*).

3e: Larids. Sites that support 250 nesting pairs of larids, or 1000 terns or skimmers during migration or in winter. *Concentrations of non-breeding gulls were not included in the Florida IBA Program.*

3f: Others. Sites that support any species or subspecies not listed in Categories 1 or 2, or any group not listed above (e.g., wintering flocks of sparrows, or migrating flocks of Bobolinks). Because no thresholds could be established for these species, nominated sites had to be clearly more important than surrounding areas, and had to support large numbers of individuals for any species or group claimed.

3g: Diversity. Sites that support an exceptional diversity of birds, whether in overall species or within a particular group (e.g., wading birds, shorebirds, or wood-warblers). Again, because no thresholds could be established for diversity [we may yet determine diversity thresholds], nominated sites had to be clearly more important than surrounding areas.

CATEGORY 4: Sites that support species characteristic of natural habitats.

Originally, this category was to be used only for IBAs that were exceptional in size and/or quality, or represented the best regional example of a natural community. But because nearly all natural habitats in Florida are severely threatened by human use, it was later decided that this category should apply to any IBA that contained large (and presumably significant) amounts of natural habitats. We required that the site be documented to contain significant populations of native birds—sites nominated solely on the basis of habitat, or the “presumed” presence of significant bird populations, were not accepted as IBAs. A few of these non-accepted sites seem worthy of future IBA designation if sufficient avian data can be gathered; see Appendix 1 (pages 262–263).

CATEGORY 5: Sites that support, or have supported, long-term avian research.

“Long-term” research was defined as being 10 or more years in duration, and ideally has resulted in the publication of one or more peer-reviewed papers. *This was a secondary category, and no site could be nominated solely on the basis of long-term avian research.*

Table 1. Significant population counts or estimates of Category 1 or Category 2 species or subspecies.

The following table includes all birds that are listed by the Florida Fish and Wildlife Conservation Commission (FFWCC) as Endangered (E), Threatened (T), or Species of Special Concern (SSC). It also includes all birds ranked by the Florida Committee on Rare and Endangered Plants and Animals (FCREPA), species on the Partners In Flight Watch List or Audubon WatchList (WL; only those for which data were provided are included), and three other birds (Magnificent Frigatebird, “Greater” Sandhill Crane, and Laughing Gull) included by the Florida IBA Executive Committee for conservation reasons (IBA). **State-listed (i.e., FFWCC) species are bold-faced.**

The numbers in Table 1 are taken mostly from the FCREPA bird volume +(Rodgers et al. 1996), but more recent population figures have been used when available, such as for Brown Pelicans (2000–2001; +Nesbitt 2001a), Bald Eagles (1998–2000), American Oystercatchers (2001), Snowy and Piping plovers (2001), Red-cockaded Woodpeckers (mostly 1999; +USFWS 2000), and “Florida” Grasshopper Sparrows +(1999; Delany et al. 1999). For larids, we used the highest single count during 1998–2001 from IBA data and +(Gore and Sprandel 2000). Note that some of the counts or estimates below refer to the number of *individuals*, while others refer to *pairs*. *Pairs* are understood to denote breeding birds. For many species that breed in Florida, only breeding season data were used—numbers of shorebirds and larids in Florida greatly increase during migration and winter. “Significant” populations could not be determined for birds that lack statewide population counts or estimates (marked with a “?”). In these cases, nominators were asked to supply as much information about a site as was available, and only those counts that seemed to be significant were used.

N.B. As an aside, these data are intriguing in terms of the status of species or subspecies listed by the FFWCC with regard to statewide population size. For example, Wood Storks are considered Endangered, even though their population numbers 5500 breeding pairs. On the other hand, Snowy Plovers, which probably number fewer than 150 pairs, are listed as (only) Threatened, and Short-tailed Hawks, which number perhaps only 500 individuals and virtually are restricted in the U.S. to Florida, are not listed at all. It seems clear that revision of the listed status of several species needs to be re-examined based upon current statewide counts or estimates. Petitioning the FFWCC to change the status of several birds in Florida seems to be a worthwhile project for conservation committees of Audubon of Florida, the Florida Ornithological Society, and perhaps other organizations.

RANKING	SPECIES	STATEWIDE POPULATION (SURVEY PERIOD)	SIGNIFICANT (i.e., ≥1%) TOTALS
SSC	Brown Pelican	8650 pairs (1999)	87 pairs
IBA	Magnificent Frigatebird	70 pairs (1993) or 5000 individuals	1 pair or 50 individuals
FCREPA	Least Bittern.....?	?	?
FCREPA	“Great White” Heron	850 pairs	9 pairs
FCREPA	Great Egret.....	39,000 individuals (1980s)	150 pairs
SSC	Snowy Egret?	?	?
SSC	Little Blue Heron	17,000 individuals (1980s)	60 pairs
SSC	Tricolored Heron	?	?
SSC	Reddish Egret	375 pairs (1990)	4 pairs
FCREPA	Black-crowned Night-Heron.....?	?	?
FCREPA	Yellow-crowned Night-Heron	?	?
SSC	White Ibis	17,100 pairs (1988)	171 pairs
FCREPA	Glossy Ibis	3500 individuals (1970s)	15 pairs
SSC	Roseate Spoonbill	1000 pairs (1992)	10 pairs
E	Wood Stork	5523 pairs (1995)	55 pairs
WL	Mottled Duck	?	?
FCREPA	Osprey.....	1600 pairs (1983)	16 pairs
FCREPA	Swallow-tailed Kite	610 pairs (1990)	7 pairs

RANKING	SPECIES	STATEWIDE POPULATION (SURVEY PERIOD)	SIGNIFICANT (i.e., ≥1%) TOTALS
FCREPA	White-tailed Kite.....	? (perhaps 25–50 pairs)	1 pair
E	Snail Kite	996 individuals (1994)	4 pairs or 10 individuals
T	Bald Eagle	1043 pairs (1999)	11 pairs
FCREPA	Cooper’s Hawk	?	?
FCREPA	Short-tailed Hawk	500 individuals (1980s)	2 pairs or 5 individuals
T	Crested Caracara	450 individuals (1991)	2 pairs
T	“Southeastern” American Kestrel	?	?
FCREPA	Merlin.....	?	?
E	Peregrine Falcon	2000 individuals (1990s)	20 individuals
WL	Yellow Rail.....	?	?
FCREPA	Black Rail	?	?
SSC	Limpkin	?	?
T	“Florida” Sandhill Crane	4000 individuals (1970s)	15 pairs
IBA	“Greater” Sandhill Crane	25,000 individuals (1989)	250 individuals
T	Snowy Plover	311 individuals (2001)	2 pairs
FCREPA	Wilson’s Plover.....	>300 individuals (1980s)	2 pairs
T	Piping Plover	~450 individuals (2001)	5 individuals
SSC	American Oystercatcher	391 pairs (2001)	4 pairs
FCREPA	American Avocet	?	?
WL	Willet	?	?
WL	Red Knot.....	?	?
WL	Stilt Sandpiper.....	?	?
IBA	Laughing Gull	23,336 pairs (1999)	234 pairs
FCREPA	Gull-billed Tern	55 pairs (1998–2000)	1 pair
FCREPA	Caspian Tern	323 pairs (1998–2000)	4 pairs
FCREPA	Royal Tern	5352 pairs (2000)	54 pairs
FCREPA	Sandwich Tern	531 pairs (2000)	6 pairs
T	Roseate Tern	324 pairs (1998–2000)	4 pairs
T	Least Tern	10,000 individuals (1990s)	40 pairs
FCREPA	Sooty Tern.....	80,000 individuals (1970s)	300 pairs
SSC	Brown Noddy	2750 pairs (1990s)	28 pairs
SSC	Black Skimmer	1404 pairs (2000)	14 pairs
T	White-crowned Pigeon	8500 pairs (1990s)	85 pairs
FCREPA	Mangrove Cuckoo.....	?	?
SSC	Burrowing Owl	3000–10,000 pairs (1987)	65 pairs
FCREPA	Hairy Woodpecker	?	?
E	Red-cockaded Woodpecker	>1226 clusters (1999)	13 clusters
WL	Gray Kingbird	?	?
WL	Loggerhead Shrike	?	?
FCREPA	Black-whiskered Vireo	?	?
T	Florida Scrub-Jay	3640 groups (1993)	37 groups
FCREPA	White-breasted Nuthatch.....	?	?
WL	Brown-headed Nuthatch	?	?
SSC	Marsh Wren	4000 pairs (1990s)	40 pairs
FCREPA	“Cuban” Yellow Warbler.....	3000 individuals (1990s)	12 pairs
FCREPA	“Florida” Prairie Warbler.....	?	?
WL	Bachman’s Sparrow	?	?
E	“Florida” Grasshopper Sparrow	<1000 individuals (1998)	4 pairs or 10 individuals
WL	Henslow's Sparrow.....	?	?
E	“Cape Sable” Seaside Sparrow	2800 individuals (1995)	28 individuals
SSC	(other) Seaside Sparrows	5750–11,000 pairs (1987)	85 pairs
FCREPA	Painted Bunting.....	?	?

Avian Data

A vast amount of information about Florida's avifauna is available—Stevenson and Anderson (1994) compiled a bibliography of about 10,000 publications through the late 1980s. The Florida IBA Program required that recent avian data significant at the statewide level be provided for every site formally nominated as an IBA, and requested that a current bird list—even if rudimentary—be included. Most data provided to the IBA Program came from one of three sources: 1) unpublished observations provided by the site nominator; 2) observations published in either *Florida Field Naturalist* or *American Birds–Field Notes–North American Birds*; and 3) “gray literature” such as unpublished technical reports available from the Florida Fish and Wildlife Conservation Commission or U.S. Fish and Wildlife Service. The wealth of avian data available for Florida ensures that other publications relevant to the state's IBAs exist, and Audubon requests notice of these publications for possible inclusion in future editions of this book.

After the close of the site nomination period, the IBA Coordinator perused all issues of *Florida Field Naturalist*, the journal of the Florida Ornithological Society, for articles and notes pertaining to sites designated as IBAs. Pranty also searched a text file containing all “Field Observations” published in *Florida Field Naturalist* since summer 1992 to add significant observations to the avian data tables, and to increase the bird lists of several sites.

Although the bird lists for each IBA are not included in this book (for reasons of space), they are available online at [+<http://www.audubon.org/bird/iba/florida>](http://www.audubon.org/bird/iba/florida). Not every site included a bird list, especially those IBAs consisting of small islands used primarily as wading bird rookeries, or recent state acquisitions, in which little ornithological work has been accomplished. Nonetheless, the bird lists generated for most sites (61 of 99 IBAs; 61%) proved informative, and helped the Executive Committee to rank sites. Additionally, the number of species observed in each IBA is presented in the avian data tables associated with each site.

The following procedures were used in compiling bird lists for the IBA Program:

- 1) Native and exotic species are listed separately.
- 2) Only those native species on the “Official state list of the birds of Florida” (Bowman 2000, 2001) are included. One exception, concerning the Couch's/Tropical Kingbird complex, was allowed due to the extreme similarity of these two species. The Tropical Kingbird is on the official Florida list but the Couch's Kingbird is not (Bowman 2000, 2001). For IBA lists, all reports of Couch's Kingbird have been changed to Couch's/Tropical Kingbird. Native species reported to occur within IBAs, but not on the official Florida list (e.g., Prairie Falcon, Common Poorwill, Cuban Emerald, Olive-capped Warbler, Bahama Yellowthroat, and Common Redpoll) were purged from IBA bird lists.
- 3) Perusal of the bird lists compiled for Florida's IBAs reveals several doubtful reports. While extensive review of these lists is beyond the scope of the IBA Program, some changes were made to improve the accuracy of the data: all Scarlet Ibises are considered to represent exotics (i.e., escapees); all White-winged Doves were considered native; reports of Ringed Turtle-Doves were changed to Eurasian Collared-Doves due to almost certain misidentifications; and all “Northern Orioles” were presumed to represent Baltimore Orioles, even though Bullock's Orioles also occur in the state. Although breeding populations of Canada Geese and Mallards clearly represent exotic (“feral”) populations, all individuals of these two species were considered native because “wild” populations winter in the state, and checklists often did not distinguish between feral vs. wild individuals.
- 4) Considering that bird checklists are available for many public areas, especially Federal properties and state parks, there are perhaps 100 or more site-specific individual checklists published in Florida (in addition to county lists). These lists are compiled in a bewildering number of different formats, they often contain taxonomy out-dated by one or more decades, and *some lists are presented in alphabetical order by English name!* It seems time that Audubon and the Florida Ornithological Society make some attempt to ensure that all bird lists published in the state are based on current nomenclature and taxonomy (*see* Bowman 2000, 2001 for the currently accepted Florida bird list),

and include standardized definitions of abundance and occurrence. Birds not on the official Florida list should be listed in a separate “hypothetical” section.

Data Presentation

Following the introductory material, most of this book is composed of the individual accounts for each of Florida's 99 IBAs. The format of the accounts is straightforward, and generally follows that of the original three-page nomination form. The following information is provided for each site:

- The name of the IBA. For IBAs composed of a single land ownership, this name usually follows the name of the site (e.g., Eglin Air Force Base, Paynes Prairie Preserve State Park), but the names of some public ownerships have been shortened for IBA purposes. (Several state properties have exceedingly long names, e.g., Dr. Julian G. Bruce St. George Island State Park, Fred C. Babcock–Cecil M. Webb Wildlife Management Area, Split Oak Forest Mitigation Park Wildlife and Environmental Area, and T.H. Stone Memorial St. Joseph Peninsula State Park). Other IBAs are named to best describe the area included within the IBA (e.g., Lower Tampa Bay, Nassau and Duval Tidal Marshes, Northern Everglades). For IBAs composed of multiple ownerships, each public and consenting private site is listed separately on the next line (e.g., the Lower Tampa Bay IBA is composed of Egmont Key National Wildlife Refuge, Fort De Soto County Park, Passage Key National Wildlife Refuge, Pinellas National Wildlife Refuge, and Shell Key Preserve). Some of these multiple-site IBAs were nominated separately but later were combined by the Executive Committee, while others were nominated as a single unit.
- The county or counties in which the IBA occurs
- The size of the IBA, listed in acres and hectares (abbreviated ha). For IBAs that contain private lands sought for public acquisition, the total acreage (or “hectarage”) is given first, followed by the number of acres (hectares) publicly acquired or protected under perpetual conservation easements.
- A general location, usually just a few lines of text, giving county designations and often describing boundaries based on public roadways or waterways. Adjacent or nearby (i.e., within 10 miles [16 km]) IBAs also are included in this section.
- A basic description of the site, often including the number of recreationists and hunters (if applicable) that the site receives annually. Elevation is not given for Florida's IBAs, since the state has so little elevational relief. The highest point in Florida, in Walton County in the western Panhandle, is 345 feet (106 m) above sea level, while Sugarloaf Mountain in Lake County, at 316 feet (95 m) above sea level, is the highest point in the Peninsula. Also not presented in this book are Latitude/Longitude coordinates of the approximate centers of Florida's IBAs. While these coordinates are useful for small islands only a few acres (hectares) in size, they are meaningless for large sites such as Everglades National Park, which encompasses over 1.5 million acres (600,000 ha). Furthermore, the precise boundaries of Florida's IBAs are mapped in this book, unlike IBAs for other countries and states, which use a “same-sized dot” format on their maps. Lastly, Florida's IBA Program is GIS-based (Projection: UTM; Datum: NAD83; Units: Meters), and the UTM coordinates of any site in the state can instantly be determined with GIS software such as ArcView®, given the proper coverages. Digital Ortho Quarter-Quads (DOQQs) are extremely detailed (one-meter resolution) infrared aerial photographs that can be imported directly into GIS coverages with the above file specifications. About half of the state's DOQQs (1999 vintage) may be downloaded free of charge from the Florida Department of Environmental Protection's Bureau of Survey and Mapping's website: (<<http://labins.org/doqq/1999sid.htm>>), an incredible resource.
- The public agency or agencies that own and/or manage the site. Non-public lands located within IBAs are designated simply as “private” properties unless the landowners consented to having their properties mentioned specifically by name or ownership.

- Habitats within the IBA; those marked with an asterisk (*) are primary habitats. See pages 21–27 for specific information on Florida habitats. For some IBAs consisting of two or more sites, information on habitats, land use, IBA categories, other resources, threats, and conservation issues is listed separately, while these data are combined for other IBAs.
- Land usage of the IBA; those marked with an asterisk (*) are primary uses.
- IBA categories for which significant data were provided; see pages 13–15.
- A usually brief summary of the avian species or groups supported, followed by one or more tables composed of specific data. These data typically consist of specific dates and numbers of individuals seen, the percentage of the known or estimated statewide population (*see* Table 1), and the status of each species onsite, whether permanent resident (R), breeding resident (B), winter resident (W), migrant (M), or non-breeding foraging or roosting flocks (N)—note that “N” does *not* refer to “*nesting*.” The tables usually include only avian data significant at the statewide level, although lesser data occasionally were included for some sites. Below the table are listed the sources from which the data were obtained.
- Other natural, cultural, or historical resources occurring within the IBA, if any.
- Threats to the site; those marked with an asterisk (*) are severe threats: See pages 38–42 for more information. *N.B. The site nomination form also included “potential” threats, but this book lists only existing threats.*
- Conservation issues impacting the IBA, along with existing or proposed solutions. Other information of conservation concern or interest may also be provided.
- The name(s) and affiliation(s) of the site nominator(s).
- References for all publications or “gray literature” used for avian data and other information.
- Website(s), if available. For the most part, these are limited to “official” (e.g., governments or “friends” groups) websites in order to minimize the likelihood of repeating misinformation potentially found elsewhere on the Internet. Furthermore, only those websites that provide additional useful information are provided.

Other conventions used are the following:

- In the data tables, months are written out as only their first three letters.
- Metric measurements are placed in parentheses following all American measurements.
- First-time listing of all plants and non-avian animals include both the English and Latin names; subsequent listings are solely of the English names. The English and Latin names of all flora and non-avian fauna mentioned in this book appear in Appendix 2 (pages 264–265); Latin names of birds are not included in the text. The English names of birds are capitalized (e.g., Great Egret, Florida Scrub-Jay), whereas those of all other species are not (e.g., longleaf pine, gopher tortoise). Subspecies are listed in quotation marks (e.g., “Florida” Grasshopper Sparrow, “Southeastern” beach mouse). Two subspecies of mammals are listed here without quotation marks, following the treatment in +(Humphrey (1992): the ♦Florida manatee (*Trichechus manatus latirostris*) is an endemic subspecies of the West Indian manatee, while the ♦Florida panther (*Felis concolor coryi*) is an endemic subspecies of the mountain lion (or cougar). For species represented in the state by only one subspecies (e.g., black bear), no subspecific name is given. The nomenclature for all plants was taken from the Institute of Systematic Botany’s website, Atlas of Florida Vascular Plants (<<http://www.plantatlas.usf.edu>>). [What do we use for animals?]
- Abbreviations have been used sparingly in the text, and only the following are used: BBS (Breeding Bird Survey), CARL (Conservation and Recreation Lands acquisition program, 1990–1999), CBC (Christmas Bird Count), FCREPA (Florida Committee on Rare and Endangered Plants and Animals), FF (Florida Forever land acquisition program, 2000–2009), FFWCC (Florida Fish and Wildlife Conservation Commission), GIS (Geographic Information System), IBA (Important Bird Area), SOR

(Save Our Rivers land acquisition programs of Florida’s water management districts), YBP (Years Before Present).

- Two symbols are used for convenience in this manuscript: a plus (+) is used to denote and easily find all references, while a diamond (◆) is used to denote the initial listing of the English names of all plants and animals.

Map Production

The maps in this book were produced with ArcView® GIS 3.1 software +(ESRI 1999) using public domain coverages, as well as coverages created by the IBA Coordinator. Draft maps, which were available on the Florida IBA website beginning in early 2000, used a public-lands coverage a few years old and therefore somewhat outdated. In mid-2002, the Florida Natural Areas Inventory provided an up-to-date public-lands coverage, from which the maps in this book were produced. These maps illustrate every IBA, along with several other land and water features.

HABITATS

Florida is an immensely diverse state, ranging from the Red Hills of Tallahassee to the tropical hammocks of the Florida Keys. The Florida Natural Areas Inventory +(FNAI 1990) identified 81 natural communities in the state, with 13 of these endemic. Detailed information on many of Florida's habitat communities is described below, inasmuch as habitat is one of the primary factors that determine the distribution and abundance of the state's avifauna. Information on Florida's habitats was taken extensively from the chapters in +Myers and Ewel (1990), a superb resource, while bird data were taken from +Pranty (1996a).

Pine Flatwoods were the most extensive upland habitat in Florida prior to human settlement. Today, they are perhaps the most threatened. Flatwoods are characterized by flat or gently rolling, relatively poorly drained soils composed of typically open-canopy ◆longleaf pine (*Pinus palustris*), ◆slash pine (*P. elliotii*), or ◆pond pine (*P. serotina*) forests with a low understory of ◆saw palmetto (*Serenoa repens*), ◆threeawns (i.e., wiregrass; *Aristida* spp.), ◆gallberry (*Ilex glabra*), and others shrubs, forbs, and grasses. Longleaf pine predominated in the Panhandle and northern half of the Peninsula, with slash pine flatwoods most common in southern Florida. Low-intensity lightning-induced growing-season fires burned flatwoods on a frequent basis, perhaps every year or two, which kept the forest open and lacking a shrub understory. Fire-maintained pine flatwoods originally covered over half of Florida's land area, but their range has been greatly reduced by development, agriculture, and silviculture. Furthermore, fire exclusion has impacted virtually all remaining flatwoods by increasing the tree density and greatly increasing the shrub layer, allowing invasion of oaks and other hardwoods. In southeastern Florida and some of the Florida Keys, the flatwoods are composed of ◆“South Florida” slash pines (*P. elliotii* var. *densa*) and are called **Pine Rocklands** because the state's limestone base is close to, or at, the “soil” surface. The understory of pine rocklands is composed largely of plants of West Indian origin, including several species of palms. Nearly all of this habitat has been destroyed for residential development and agriculture; Everglades National Park and National Key Deer Refuge on Big Pine Key preserve the largest examples remaining. Characteristic breeding birds of Florida's varied pine flatwoods include the Swallow-tailed Kite, Red-tailed Hawk, “Southeastern” American Kestrel, Northern Bobwhite, Common Ground-Dove, Great Horned Owl, Common Nighthawk, all woodpeckers including the Red-cockaded Woodpecker, Great Crested Flycatcher, Eastern Kingbird, Blue Jay, Brown-headed Nuthatch, Eastern Bluebird, Yellow-throated Warbler, Pine Warbler, Common Yellowthroat, Summer Tanager, Eastern Towhee, and Bachman's Sparrow. **Pine Plantations** are common throughout the state, especially in the Northern Peninsula, and most are harvested every 20 or so years for the production of paper and related products. Some birds of pine flatwoods occur also in pine plantations, such as Downy Woodpecker,

Brown-headed Nuthatch, and Summer Tanager, but others such as Hairy Woodpecker, Red-cockaded Woodpecker, and Bachman's Sparrow do not. For information on **Scrubby Flatwoods**, see the section on scrub.

Sandhills are mixed forests of oaks and pines growing on well-drained sandy soils. Many sandhills were formerly longleaf pine forests that now are dominated by ♦turkey oak (*Quercus laevis*) and ♦bluejack oak (*Q. incana*) following clear-cutting of the pines and decades of subsequent fire exclusion. Some sandhills still retain the open, grassy structure of the former flatwoods, while others now are dense forests of oaks. Extensive sandhills occur in the western Panhandle and the west-central Peninsula; two sites known for their sandhills are Eglin Air Force Base and Withlacoochee State Forest. Many sandhills are being restored to flatwoods through removal of oaks and an increase in fire frequency. **Southern Ridge Sandhill** is a particular plant community endemic to the Lake Wales Ridge, which runs through the interior of central Florida. The oaks are composed of scrub species and the endemic ♦scrub hickory (*Carya floridana*) often is conspicuous. Characteristic breeding birds of sandhills depend upon the extent of oak/pine and shrub/grass coverages, and may include the Cooper's Hawk, Red-tailed Hawk, “Southeastern” American Kestrel, Northern Bobwhite, Common Ground-Dove, Great Horned Owl, Common Nighthawk, Red-cockaded Woodpecker, Great Crested Flycatcher, Yellow-throated Vireo, Blue Jay, Tufted Titmouse, Brown-headed Nuthatch, Eastern Bluebird, Yellow-throated Warbler, Pine Warbler, Common Yellowthroat, Summer Tanager, Eastern Towhee, and Bachman's Sparrow.

Hammocks are forests of hardwoods (e.g., oaks, hickories, and magnolia) that occur throughout Florida. **Temperate Hammocks** are common along the northern border with Alabama and Georgia, and extend spottily into the central Peninsula, primarily the western half. Hammocks in northern Florida contain some of the most diverse forests in the eastern United States. Those along the Apalachicola River contain plants and animals disjunct from their primary range in the Appalachian Mountains, and these hammocks contain a few endemic trees such as the ♦Florida torreya (*Torreya taxifolia*) and ♦Florida yew (*Taxus floridana*). ♦Live oaks (*Quercus virginiana*) and ♦laurel oaks (*Q. laurifolia*) are abundant in hammocks. Because many oaks in Florida are nearly evergreen, hammocks are shaded year-round; as a result, the understory often is extremely sparse and the ground is covered with leaf litter. Fires do not normally occur in hammocks. Except in extreme northern Florida, ♦cabbage palms (*Sabal palmetto*)—Florida's state “tree” (palms aren't trees; they're cycads)—also occur in hammocks, and many hammocks in the prairies north and west of Lake Okeechobee are composed entirely of cabbage palms. Some examples of temperate hammocks occur at Tall Timbers Research Station north of Tallahassee, San Felasco Hammock Preserve State Park near Gainesville, and Highlands Hammock State Park near Sebring. **Maritime Hammocks** are temperate hammocks along or close to the Atlantic coast. They often are sculpted by sea breezes, and are low in stature. Characteristic breeding birds of temperate and maritime hammocks include the Cooper's Hawk, Red-shouldered Hawk, Wild Turkey, Yellow-billed Cuckoo, Barred Owl, Red-bellied Woodpecker, Downy Woodpecker, Great Crested Flycatcher, White-eyed Vireo, Yellow-throated Vireo, Red-eyed Vireo, Carolina Chickadee, Northern Parula, and Summer Tanager. **Tropical Hammocks** are limited to southern Florida, and are composed of evergreen trees, shrubs, and palms largely of West Indian affinity, such as ♦gumbo-limbo (*Bursera simaruba*), ♦pigeon plum (*Coccoloba diversifolia*), ♦false tamarind (*Lysiloma latisiliquum*), ♦false mastic (*Mastichodendron foetidissimum*), and ♦strangler fig (*Ficus aurea*). Trees and palms are covered with orchids and bromeliads, and ferns carpet the ground. Two subspecies of mammals are endemic to tropical hammocks of the mainline Keys. Royal Palm Hammock and Mahogany Hammock, both in Everglades National Park, as well as the hammocks on Key Largo, are typical examples. The diversity of avian species breeding in tropical hammocks is quite limited, but several of these species occur nowhere else in the United States. Characteristic breeding birds include the White-crowned Pigeon, Mangrove Cuckoo, Great Crested Flycatcher, Gray Kingbird, White-eyed Vireo, and Black-whiskered Vireo. West Indian birds

that stray to Florida, such as the Zenaida Dove, Cuban Pewee, La Sagra's Flycatcher, Thick-billed Vireo, and Western Spindalis, typically are found in tropical hammocks.

Scrub is Florida's oldest plant community, and was formerly common throughout the Peninsula during periods of lower sea levels and drier climates. Today, scrub is restricted to areas of excessively well-drained soils, which now occur largely on sand ridges that represent earlier shorelines created during periods of higher sea levels. Scrub occurs on ridge systems throughout the Peninsula, and along the Gulf coast in the Panhandle, west barely into Alabama. **Xeric Oak Scrub** is an early successional form of scrub, with numerous patches of bare sand, and where vegetation is kept low from intense fires that occur perhaps every eight to 20 years. Because scrub is Florida's oldest plant community and was often isolated from other habitats by large expanses of water, scrub flora and fauna have a high degree of endemism; at least 40% of oak scrub species are endemic. Florida's only endemic bird species—the Florida Scrub-Jay—is restricted to xeric oak scrub of the Peninsula, as are several other vertebrates such as the ♦Florida scrub lizard (*Sceloporus woodi*), ♦sand skink (*Neoseps reynoldsi*), and ♦Florida mouse (*Podomys floridanus*). In the absence of fire, xeric oak scrub succeeds to oak hammocks or sand pine scrub, and scrub endemics decline in numbers, potentially to extirpation, unless fire is returned to the community.

The Lake Wales Ridge is the oldest ridge system in Florida, and contains nearly all the oak scrub endemics. The endemic ♦scrub oak (*Quercus inopina*) is common in most interior scrubs, but is not found along coastal ridges; other oak species are ♦sand live oak (*Quercus geminata*), ♦myrtle oak (*Quercus myrtifolia*) and ♦Chapman's oak (*Quercus chapmanii*). ♦Florida rosemary (*Ceratiola ericoides*) is a common evergreen shrub of many scrublands in Florida. Because scrub soils are well-drained, much habitat has been destroyed by the citrus industry, while other scrublands have been eliminated by commercial and residential development. By the early 1990s, it was estimated that about 85% of Lake Wales Ridge scrub had been destroyed, and most of the remainder would almost certainly suffer the same fate unless public acquisition activities were initiated quickly. As a result, several State and Federal agencies and non-profit groups partnered to purchase the most significant patches of xeric oak scrub that remained. Preservation of Lake Wales Ridge habitats has been the State's highest priority for several years, and as a result, many of the most significant scrublands have been preserved. The first scrub preserve—Archbold Biological Station, established in 1941—remains one of the most impressive and most diverse scrub sites in Florida (and the world). The Merritt Island–Cape Canaveral complex also contains large amounts of scrub habitats that are undergoing much-needed restoration after a long period of fire exclusion. Another State concern is the scrub ridges of mainland Brevard County, which are under severe threat from residential development. Characteristic breeding birds of xeric oak scrub are few but include the Northern Bobwhite, Mourning Dove, Common Ground-Dove, Common Nighthawk, White-eyed Vireo, Florida Scrub-Jay, Northern Mockingbird, Common Yellowthroat, and Eastern Towhee.

Scrubby Flatwoods contain a canopy of longleaf or slash pines and a sparse to extensive understory of scrub oaks. They occur widely in the central Peninsula. +Abrahamson and Hartnett (1990) note that some of scrubby flatwoods may be artifacts of previous logging and fire exclusion activities. For a startling and graphic example of how quickly and completely oaks can invade pine flatwoods in the absence of fire, see the photographs in +Myers and Ewell (1990: 192) of the same landscape at Archbold Biological Station in 1929 and 1988, after 60 years of fire exclusion. Scrubby flatwoods typically contain a mixture of flatwoods and xeric oak scrub species.

The third scrub community is **Sand Pine Scrub**, a forested habitat dominated by ♦sand pines (*Pinus clausa*). Because most scrubs formerly burned more frequently than at present, sand pine scrub probably was less common historically than it is at present. Indeed, sand pine forests are the only natural habitat that *increased* in extent during the 20th century +(Kautz 1993). As noted above, all scrub-endemic species decline as the oaks and pines increase in coverage and height, so sand pine scrub supports an entirely different avifauna than does xeric oak scrub. The largest patch of sand pine scrub in the world occurs in and around Ocala National Forest. Other patches of sand pine scrub occur along the Panhandle

coast and in the Peninsula south to Palm Beach County. Characteristic breeding birds include the Cooper's Hawk, Eastern Screech-Owl, Hairy Woodpecker (local), Great Crested Flycatcher, White-eyed Vireo, Blue Jay, Pine Warbler, and Summer Tanager.

Dry Prairie bears little resemblance to the rolling prairies of the central United States. In Florida, prairies are flat, treeless areas grown to threeawns, saw palmetto, ♦fetterbush (*Lyonia lucida*), ♦staggerbushes (*Lyonia ferruginea* and *Lyonia fructosa*), ♦blueberries (*Vaccinium* spp.), ♦wax myrtle (*Myrica cerifera*), and dozens of other grasses, forbs, and shrubs. Contrary to their name, dry prairies are poorly drained areas, and often are inundated with one inch (2.3 cm) or more of water following late spring or summer thunderstorms. Dry prairies are an exceptionally diverse community, with as many as 41 species of plants per square meter, one of the most diverse plant communities in the Western Hemisphere +(Orzell and Bridges 1998). The most extensive dry prairies in Florida occur north and west of Lake Okeechobee in the south-central Peninsula. Populations of the endemic, Endangered “Florida” Grasshopper Sparrow have declined severely as prairies have been converted to unsuitable habitats, primarily to pastures planted with non-native grasses such as ♦bahiagrass (*Paspalum notatum*). Avon Park Air Force Range, Fisheating Creek Ecosystem, Kissimmee Prairie Preserve State Park, and Myakka River Watershed IBAs all contain much dry prairie habitat. Characteristic breeding birds include the Red-shouldered Hawk, White-tailed Kite, Crested Caracara, Northern Bobwhite, “Florida” Sandhill Crane, Mourning Dove, Common Ground-Dove, Burrowing Owl, Common Nighthawk, Eastern Kingbird, Loggerhead Shrike, American Crow, Eastern Meadowlark, Bachman's Sparrow, and “Florida” Grasshopper Sparrow. During migration, flocks of Bobolinks are observed frequently, and other sparrows are common residents during the winter. “**Wet Prairies**” are quite unlike dry prairies and are synonymous with shallow freshwater marshes.

Swamps are wetland forests characteristic of the southeastern United States. They grow along the edges of rivers and streams, in poorly-drained seepage basins and ponds, or occupy large, shallowly-flooded areas, often mixed with slightly elevated areas grown to pinelands. Three types of swamps are discussed here, but several other types of swamps, bogs, domes, strands, and other wetland forests occur. **Cypress Swamps** are composed primarily of two species of trees: ♦bald-cypress (*Taxodium distichum*) and ♦pond-cypress (*Taxodium ascendens*). Bald-cypresses tend to occur along moving water, while pond-cypresses tend to grow in still water, but many individuals cannot be identified with certainty, even by skilled botanists +(Ewel 1990). **Hardwood Swamps** occur in much of the same areas as cypress swamps but are dominated by hardwoods such as ♦blackgum (*Nyssa sylvatica*), ♦hickories (*Carya* spp.), ♦red maple (*Acer rubrum*), and several other species. **Bay Swamps** are smaller depression swamps often surrounded by uplands. They are characterized by ♦loblolly bay (*Gordonia lasianthus*), ♦sweetbay (*Magnolia virginiana*), and ♦swamp bay (*Persea palustris*). Well-known swamps include those along the Apalachicola River, Pinhook Swamp in northern Florida, Green Swamp in central Florida, and Big Cypress Swamp and Corkscrew Swamp in southwestern Florida. Characteristic breeding birds of Florida's varied swamps and other wetland forests include the Anhinga, wading birds (perhaps most notably the Wood Stork), Wood Duck, Osprey, Swallow-tailed Kite, Bald Eagle, Red-shouldered Hawk, Limpkin, Yellow-billed Cuckoo, Eastern Screech-Owl, Barred Owl, many woodpeckers (notably Pileated Woodpecker but not Red-cockaded Woodpecker), Great Crested Flycatcher, White-eyed Vireo, Red-eyed Vireo, American Crow, Fish Crow, Carolina Chickadee, Carolina Wren, Blue-gray Gnatcatcher, Northern Parula, Prothonotary Warbler, Northern Cardinal, and Common Grackle.

Mangrove Forests are one of the most characteristic features of low wave-energy shorelines of the southern half of the Peninsula. They are composed of three primary species, each in their own genus: ♦red mangrove (*Rhizophora mangle*), ♦black mangrove (*Avicennia germinans*), and ♦white mangrove (*Laguncularia racemosa*). Mangroves cannot tolerate sub-freezing temperatures for extended periods, although black mangroves are somewhat cold-hardy and occur farther north than the other species. About

90% of Florida's mangrove forests are found in Collier, Lee, Miami-Dade, and Monroe counties. Dozens of tiny mangrove islands occur in the Ten Thousand Islands region southeast of Naples, and in Florida Bay between the southern mainland and the Mainline Florida Keys. Destruction of mangrove forests is now largely illegal due to wetlands protection laws. Characteristic breeding birds include the Brown Pelican, Magnificent Frigatebird (Dry Tortugas National Park only), wading birds, Clapper Rail, White-crowned Pigeon, Mangrove Cuckoo, Gray Kingbird, Black-whiskered Vireo, “Cuban” Yellow Warbler, and “Florida” Prairie Warbler.

Freshwater Marshes are abundant throughout the Peninsula and locally in the Panhandle. There are several different varieties of freshwater marsh, depending primarily on the water depth and duration of flooding. Wetlands in Florida typically contain multiple varieties of marsh; three types are described here. **Flag Marshes** are dominated by tall forbs such as ♦ pickerelweed (*Pontedaria cordata*), ♦ arrowheads (*Sagittaria* spp.), and other species. **Cattail Marshes** contain ♦ cattails (*Typha* spp.) often in extremely dense monotypic stands. **Sawgrass Marshes** are typical of the Everglades and are dominated by ♦ Jamaican swamp sawgrass (*Cladium jamaicense*), which despite its name, is a sedge, not a grass. (The Everglades therefore is a “River of Sedge” rather than a “River of Grass”). The Upper St. Johns River marshes and Everglades National Park are two examples of extensive marsh systems in Florida. Characteristic breeding birds depend upon the type of marsh and may include the following: the Pied-billed Grebe, Least Bittern, Mottled Duck, Snail Kite, King Rail, Common Moorhen, Purple Gallinule, Sandhill Crane, Common Yellowthroat, Red-winged Blackbird, and Boat-tailed Grackle. The “Cape Sable” Seaside Sparrow has occupied at least four types of freshwater and brackish marshes in the extreme southwestern Peninsula—it is unique among Seaside Sparrows in that it breeds in freshwater marshes.

Tidal Marshes also are composed of several different types, depending upon their proximity to salt water and degree of soil salinity. They are found along coastlines with little wave action, along shores of rivers often many miles (km) upstream, and in protected coves on barrier islands. They are most extensive along the Gulf coast from Wakulla County south to Pasco County, where they occur nearly unbroken for nearly 200 miles (315 km). The two primary types of salt marshes are composed of often monotypic stands of ♦ needle rush (*Juncus roemerianus*) and ♦ smooth cordgrass (*Spartina alterniflora*); several other species are present in “high marsh” far from salt water. Extensive areas of tidal marsh are found within the Big Bend Ecosystem and Crystal River Marshes IBAs. Breeding bird diversity of tidal marshes is limited to a few species, primarily the Black Rail, Clapper Rail, Willet, Marsh Wren, Common Yellowthroat, Seaside Sparrow (excluding the Cape Sable subspecies), and Red-winged Blackbird.

Lacustrine habitats (i.e., lakes and ponds) are abundant in the Peninsula but rare in the Panhandle. No other southern state contains a lake district like that of Florida, and in fact, no state closer than those adjacent to Canada contain a comparable number of lakes. There are over 7800 lakes in Florida greater than 1 acre (0.4 ha) in size. Most of these are small, but five lakes exceed 39 square miles (100 square km). Lake Okeechobee, the second-largest fresh water lake wholly within the Lower 48 States, is largest, followed by lakes George, Kissimmee, Apopka, and Istokpoga. Most lakes occur along the ridge systems that run through the center of much of the Peninsula; appropriately named Lake County contains 1345 lakes and ponds. Most lakes are (or at least historically were) rimmed by extensive forests of bays, cypresses, and other hardwoods, while many ponds are surrounded by willows and other shrubs. Characteristic breeding birds include the Pied-billed Grebe, Mottled Duck, Snail Kite, King Rail, Common Moorhen, Common Yellowthroat, Red-winged Blackbird, and Boat-tailed Grackle. The six largest lakes in Florida are IBAs.

Riverine habitats (i.e., rivers, streams, and sloughs) also are abundant in Florida, with over 1700 in the state. The longest river in Florida is the St. Johns, which winds north for 320 miles (512 km) from Indian River County before emptying into the Atlantic Ocean at Jacksonville. Several rivers, creeks, and streams are spring-fed. Florida contains over 300 springs, of which 27 are termed “first magnitude,” which means they each discharge at least 64 million gallons (242 million liters) of water daily. The total discharge of Florida's springs is an estimated 8 billion gallons (30 billion liters) of water daily, with about 80% of this amount from first-magnitude springs. Florida contains nearly one-third of all first-magnitude springs known in the United States. Extensive riverine habitats are found within the Apalachicola and Tates Hell Forests, Green Swamp, and Withlacoochee–Panassoffkee–Big Scrub IBAs. Characteristic breeding birds of rivers and creeks depend primarily upon habitats present. Forested rivers will contain species found in cypress forests and bayheads, while slow-moving sloughs will contain species of freshwater marshes.

Estuarine habitats (i.e., estuaries, bays, seagrass beds, oyster bars, etc.) represent one of the most significant habitats in Florida, if defined broadly. Livingston (1990), who used the term “inshore marine habitats,” defined estuarine habitats as “any area where sea water is diluted by land runoff.” Using this description, he estimated that 3 million acres (1.2 million ha) along the Gulf coast qualified as estuarine habitats. Extensive mudflats, oyster bars, and associated communities are prevalent along Florida's west coast because the Gulf of Mexico is quite shallow offshore. Characteristic birds of Florida's varied estuarine habitats include Brown Pelicans, wading birds, waterfowl, shorebirds, and larids; bird use is strongly dependent upon tidal conditions.

N.B. Lacustrine, riverine, and estuarine habitats are not really habitats per se, but rather different types and salinities of aquatic habitats. However, because it would have been cumbersome to designate “open water” or “moving water” with varying salinity levels as different habitats, and because lakes, rivers, and estuaries are such conspicuous features of the landscape, these “habitats” have been used here.

Coastal Strand represents the beach–dune habitats that occur (or formerly occurred) abundantly along both coasts, especially along the entire Atlantic coast, and barrier island systems along Gulf coast in the Panhandle and southern half of the Peninsula. Most of this habitat has been destroyed or severely impacted by high-rise development and heavy recreational use. As a result, breeding birds of coastal strand probably are the most threatened group of birds in Florida. Some species (American Oystercatcher, Least Tern, other terns, and Black Skimmers) now nest on rooftops (with varying success) in areas where the beaches receive heavy human use. The most familiar plant on foredunes is ♦seaoats (*Uniola paniculata*), but several other grasses and forbs are present. Away from the foredunes, vegetation varies considerably, dependent upon the location in Florida and the extent of wave and wind actions. Backdune vegetation may include grasslands, wind-sculpted oak scrub, cabbage palm hammocks, tropical hardwood hammocks, or slash pine flatwoods. Extensive areas with coastal strand habitats are protected on barrier islands in the Panhandle, at numerous sites along the Atlantic coast, most notably the Cape Canaveral area, and scattered remnants in southern Florida. Characteristic breeding birds of coastal dunes and beaches include the American Oystercatcher, Snowy Plover, Wilson's Plover, Laughing Gull, Least Tern, Royal Tern, Gull-billed Tern, Black Skimmer, and Common Ground-Dove.

Artificial Habitats refer to human-modified or human-created areas such as mined areas, dredged-material “spoil” islands, parking lots and buildings, etc. Two other artificial habitats, pastures and agricultural fields, are described separately below. Virtually all IBAs in Florida contain some artificial habitats—even if only a paved parking lot or fields mowed for recreation—but very few IBAs are composed primarily of artificial habitats. Perhaps the best example of critical artificial habitats are the “spoil” islands within the Hillsborough Bay IBA, which support extremely significant breeding populations of wading birds, shorebirds, and larids.

Non-native Pastures are planted with bahiagrass and other exotic forage grasses and forbs, usually after all or most native vegetation has been removed. Surprising as it may seem, Florida is a significant cattle-producing state, ranked 10th among all states in the number of cattle. In 1998, over 1,050,000 cow/calf units were supported on 5.5 million acres (2.2 million ha) of “native range” and pastureland, predominantly in a ten-county area in southwestern-central Florida (Archbold Biological Station website: <http://www.archbold-station.org/abs/Biennial97/R7Research/R7MAERC.htm>). The state contains four of the nation's ten largest cattle ranches, including the largest ranch, which grazes more than 35,000 cattle on 300,000 acres (120,000 ha)! Because pastures are highly disturbed and largely sterile habitats, they are included in IBAs only when native habitats also are present, and/or when pastures have been purchased by conservation agencies and will be restored to native plant communities. Depending upon the severity of grazing and other habitat present, breeding birds may include the “Florida” Sandhill Crane, Burrowing Owl, Loggerhead Shrike, Northern Mockingbird, and Eastern Meadowlark. **Agricultural Fields** support one or more fruit or vegetable crops but a very limited diversity of breeding species. The only IBAs in Florida that contain agricultural fields are those where the farmland is sought for public acquisition and will be restored to native habitats, as is occurring in IBAs at Emeralda Marsh, Lake Apopka, and in the Everglades. The continued rapid expansion of citrus groves into southwestern and south-central Florida severely threatens the continued existence of many prairie and flatwoods species, especially the Crested Caracara and Florida panther. The citrus industry has also played a major role in the severe habitat reduction and fragmentation of xeric oak scrub, especially along interior ridges of central Florida, which has severely reduced populations of Florida Scrub-Jays.

LAND ACQUISITION AND MANAGEMENT IN FLORIDA

Several dozen agencies and non-governmental organizations are engaged in acquiring and managing conservation lands in Florida. The primary agencies and organizations are listed below, with contact information supplied for most. Dozens of other local agencies (counties and municipalities) and private land trusts also are involved with the acquisition and management of conservation lands in Florida. Refer to +(Jue et al. 2001) for additional information.

Federal Agencies

U.S. Department of Defense
[apparently no state or regional office]

U.S. Forest Service
National Forests in Florida
325 John Knox Road, Suite F-100
Tallahassee, Florida 32303
850-523-8500
<<http://www.southernregion.fs.fed.us/florida>>

U.S. Fish and Wildlife Service
Southeast Regional Office
1875 Century Boulevard
Atlanta, Georgia 30345
404-679-4006
<<http://southeast.fws.gov/maps/fl.html>>

U.S. National Park Service
Southeast Region
100 Alabama Street SW
1924 Building
Atlanta, Georgia 30303
404-562-3100
<<http://www.nps.gov/legacy/regions.html>>

State Agencies

Florida Department of Environmental Protection
Division of Recreation and Parks
850-488-9872
<<http://www.dep.state.fl.us/parks/index.asp>>

Florida Department of Environmental Protection
Office of Greenways and Trails
3900 Commonwealth Boulevard
Mail Station 795
Tallahassee, Florida 32399-3000
1-877-822-5208
<<http://www.dep.state.fl.us/gwt>>

Florida Department of Environmental Protection
Office of Coastal and Aquatic Managed Areas
3900 Commonwealth Boulevard
Mail Station 235
Tallahassee, Florida 32399-3000
850-488-3456
<<http://www.dep.state.fl.us/coastal/contacts.htm>>

Florida Department of Agriculture and Consumer Services
Division of Forestry
3125 Conner Boulevard
Tallahassee, Florida 32399-1650
850-488-4274
<<http://www.fl-dof.com>>

State Agencies, continued

Florida Fish and Wildlife Conservation Commission
Division of Wildlife
620 South Meridian Street
Tallahassee, Florida 32399-1600
850-488-3831
<<http://floridaconservation.org>>

Northwest Florida Water Management District
81 Water Management Drive
Havana, Florida 32333-4712
850-539-5999
<<http://sun6.dms.state.fl.us/nwfwmd>>

St. Johns River Water Management District
P.O. Box 1429
Palatka, Florida 32178-1429
800-451-7106 or 386-329-4500
<<http://www.sjrwmd.com>>

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33416-4680
800-432-2045 or 561-686-8800
<<http://www.sfwmd.gov>>

Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34604-6899
800-423-1476 or 352-796-7211
<<http://www.swfwmd.state.fl.us>>

Suwannee River Water Management District
9225 County Road 49
Live Oak, Florida 32060
800-604-2272 or 386-362-1001
<<http://www.srwmd.state.fl.us>>

Private organizations

Audubon of Florida
444 Brickell Avenue, Suite 850
Miami, Florida 33131
305-371-6399
<<http://www.audubonofflorida.org>>

The Nature Conservancy
222 South Westmonte Drive, Suite 300
Altamonte Springs, Florida 32714
407-682-3664
<<http://nature.org/wherewework/northamerica/states/florida>>

[[Archbold Biological Station?](#)
[Tall Timbers Research Station?](#)]

SITE NOMINATION PROCESS

Several methods were used to broadcast the Florida IBA Program to maximize the number of nominations. The first of these was a fund-raising letter and a simple “nomination form” that was mailed in early 1999 to all members of Florida Audubon Society. Next was an IBA workshop presented to members of the Florida Ornithological Society (FOS) in spring 1999. During this presentation, a large (5 x 6 foot; 1.5 x 1.8 m) laminated map of Florida was hung on a wall, and workshop participants placed numbered stickers over potential IBAs.

Once the Florida IBA Program was underway and the site selection criteria had been finalized, the Program was broadcast widely. In February 2000, a website (<http://www.audubon.org/bird/iba/florida>) was created and updated frequently. This website included site-nomination instructions and the nomination form, as well as draft maps that showed the locations of Florida’s IBAs by regions. Additionally, a two-page article about the program was published in the March 2000 edition of Audubon's *Florida Naturalist* magazine, and a notice was published in the May 2000 edition of FOS's *Florida Field Naturalist*. These notices were followed up with letters mailed to presidents and conservation chairs of Audubon's 45 Florida chapters, and field-oriented members of FOS. Additionally, hundreds of regular mail or e-mail letters were sent to managers of national and state forests, parks, and refuges; state recreation areas; wildlife management areas; water management district landholdings; preserves of The Nature Conservancy; and many others. These letters introduced readers to the Florida IBA Program and pointed them to the website, from which site-nomination materials could be downloaded and printed. IBA workshops were presented to participants of Audubon's Annual Assemblies in November 2000 and November 2001, and a publicity event at Corkscrew Swamp in November 2001 helped to “launch” Audubon's IBA Program nationwide. Finally, after the manuscript was “completed” in June 2002, an Adobe Acrobat (PDF) copy was posted to the Florida IBA website to encourage widespread participation in the review process, and also to encourage nomination of additional sites.

RESULTS

Site nominations

Respondents to the 1999 Florida Audubon Society fund-raising appeal suggested 108 sites possibly worthy of IBA designation, while participants of the spring 1999 FOS workshop identified 116 potential sites. Because these site-selection efforts preceded the formal IBA nomination process, individuals who identified these potential IBAs were contacted in early 2000 and asked to nominate the sites formally. Over 300 regular mail letters were sent out to promote the Florida IBA Program, and several hundred pages of e-mail correspondence were generated. Between February 2000 and July 2002, the Florida IBA website received over 3500 “hits,” and probably hundreds of nomination forms were downloaded from it. Published notices of the Florida IBA Program reached 43,000 Audubon members in Florida, over 400 members of FOS, and dozens of land managers and other biologists.

Nominations were received from several sources, but most sites were nominated by the IBA Coordinator or a biologist associated with the site (e.g., park or forest biologist). Very few sites were nominated by members of Audubon or FOS; the extensive three-page nomination form likely discouraged submissions from most non-professionals. Ultimately, 138 sites were formally nominated as potential IBAs in Florida. Several other sites were suggested by individuals as potential IBAs but the data submitted were insufficient for formal nomination; these informally nominated sites were not sent to the IBA Executive Committee for review.

Site selection

Eight months into the site nomination period, several dozen sites had been nominated formally. Members of the IBA Executive Committee met for a day-long meeting at Tall Timbers Research Station on 1 October 2000. (Jim Wilson, IBA Coordinator for Georgia, also attended). During that meeting, 62 sites were discussed; eight of these were not accepted, and the remaining 54 sites were accepted as 32 IBAs—the Executive Committee combined several sites when it made sense from biological and/or geographical perspectives. Nominations continued to be received into mid-2002, and the Committee voted several additional times. Because schedules of the Committee members precluded face-to-face meetings, the IBA Coordinator prepared electronic copies of site nomination forms, and e-mailed these to Committee members on a frequent basis. E-mail voting was “closed” when at least six Committee members had responded. Sites unanimously accepted by voting members of the Committee were immediately designated as IBAs, while sites for which all votes were negative were dropped from further consideration. Sites that received mixed votes (i.e., some for and some against IBA designation) were deferred until the Committee could discuss those nominations in detail.

The first e-mail site-selection “meeting” was closed in March 2001, when 16 nominations were reviewed. Additional e-mail “meetings” were closed in April 2001 (17 sites), May 2001 (15 sites), and July 2001 (12 sites in two meetings). At the end of August 2001, a conference call among Committee members was held to discuss 11 nominations, including some deferred previously. E-mail selection rounds were resumed in November 2001 (2 sites), January 2002 (6 sites), February 2002 (10 sites), March 2002 (6 sites), and May 2002 (4 sites). Finally, on 22 May 2002, during a second conference call, Committee members voted on 8 new sites and 11 sites deferred previously. This phone call nearly marked the close of the site-selection period for the Florida IBA Program—a period originally anticipated to end in November 2000! In early June 2002, an additional site was nominated by two Committee members, and this site was quickly accepted by the entire Committee.

Of the 138 sites nominated formally as potential Important Bird Areas in Florida, 126 (91%) were accepted as 99 IBAs, while the remaining 11 sites (8%) were not accepted [an additional site remains deferred pending additional data]. IBAs are distributed in 55 (80%) of Florida's 67 counties. Four counties (Brevard, Highlands, Osceola, and Volusia) each contain seven IBAs, while Lake, Pasco, and Polk counties each contain six. The sole nomination from St. Lucie County was not accepted as an IBA, and no nominations were submitted from 11 counties: Bradford, Calhoun, Gadsden, Gilchrist, Hamilton, Holmes, Jackson, Lafayette, Madison, Union, and Washington. As mentioned previously, all IBAs had to meet the criteria of at least one of the four primary site-selection categories (pages 13–15); surprisingly, nearly half (47; 47%) of the IBAs met all four categories (Table 6; pages 34–37). Florida's IBAs vary considerably in size, ranging from Pelican Shoal (less than 1 acre; 0.4 ha) to Everglades National Park and associated wetlands (more than 1.5 million acres; 600,000 ha). All together, Florida's IBAs encompass over 10.3 million acres (4.1 million ha) of land and water, including about 26% of the state's land area. These sites support 437 species of native birds, which represent 92% of the state's accepted native avifauna +(Bowman 2000, 2001).

Some IBAs are a single land ownership—a national park or a state forest for example, while other IBAs are composed of several ownerships that would not qualify individually (e.g., the Withlacoochee–Panasoffkee–Big Scrub IBA, pages 211–212). Most of Florida's IBAs are a mix of public and private lands, 44 are entirely publicly owned, and four IBAs (Bright Hour Watershed, Buck Island Ranch, Kanapaha Prairie, and Red Hills Ecosystem) are entirely in private ownership.

[Need to mention/describe the tables]

Table 2. Global, Continental, and National IBAs in Florida. [Need to explain what these are (including the G4 rankings) and need to add Continental and National IBAs, once these criteria have been established].

IBA Name	County(ies)	IBA Ranking
ABC Islands	Collier	G4-f
Apalachicola and Tates Hell Forests	Franklin, Leon, Liberty, and Wakulla	G1
Avon Park Air Force Range–Bombing Range Ridge	Highlands and Polk	G1
Big Bend Ecosystem	Dixie, Levy, and Taylor	<u>G4-f</u>
Brevard Scrub Ecosystem	Brevard	G1
Cape Canaveral–Merritt Island	Brevard and Volusia	G1
Central Pasco	Pasco	<u>G1</u>
Disney Wilderness Preserve	Osceola and Polk	<u>G1</u>
Eglin Air Force Base	Okaloosa, Santa Rosa, and Walton	G1
Everglades National Park	Miami-Dade and Monroe	<u>G1?</u> , G4-d
Fisheating Creek Ecosystem	Highlands and Glades	G1
Gulf Islands GEOPark	Pasco and Pinellas	G1
<u>Hillsborough Bay</u>	<u>Hillsborough</u>	<u>G4-c</u> , <u>G4-f</u>
<u>Kissimmee Prairie Preserve State Park</u>	<u>Okeechobee and Osceola</u>	<u>G1</u>
Lake Apopka Restoration Area	Lake and Orange	G4-b
Lake Wales Ridge	Highlands, Lake, Osceola, and Polk	G1
<u>Osceola Flatwoods and Prairies</u>	<u>Osceola</u>	<u>G1</u>
Ocala National Forest–Lake George	Lake, Marion, and Putnam	G1
Osceola National Forest–Okenfenokee and Pinhook Swamps	Baker and Columbia	G1
Oscar Scherer State Park	Sarasota	G1
St. Sebastian River State Buffer Preserve	Brevard and Indian River	G1
Ten Thousand Islands National Wildlife Refuge	Collier	G4-f
Upper St. Johns River Basin	Brevard, Indian River, Orange, Osceola, Seminole, and Volusia	G4-f
Wekiva–Ocala Greenway	Lake and Volusia	G1
Withlacoochee–Panasoffkee–Big Scrub	Citrus, Marion, and Sumter	G1

Table 3. The 13 most diverse IBAs in Florida, arranged in descending numeric order. All these IBAs support a native diversity in excess of 250 species. *Includes the entire seashore (i.e., both the Florida and Mississippi portions). A plus (+) denotes inland sites.

IBA Name	County(ies)	# of Species
Everglades National Park	Miami-Dade and Monroe	344
Eglin Air Force Base	Okaloosa, Santa Rosa, and Walton	324
St. Marks National Wildlife Refuge	Jefferson, Taylor, and Wakulla	320
Cape Canaveral–Merritt Island	Brevard and Volusia	313
*Gulf Islands National Seashore	Escambia, Okaloosa, and Santa Rosa	310
+Lake Apopka Restoration Area	Lake and Orange	304
Lower Tampa Bay	Hillsborough, Manatee, and Pinellas	302
Dry Tortugas National Park	Monroe	300
Big Bend Ecosystem	Dixie, Levy, and Taylor	277
Gulf Islands GEOPark	Pasco and Pinellas	268
+Paynes Prairie Preserve State Park	Alachua	266
Chassahowitzka–Weekiwachee	Citrus, Hernando, and Pasco	258
+Northern Everglades	Broward, Miami-Dade, and Monroe	252

Table 4. Approximate statewide percentages of populations of listed species and subspecies supported by Florida’s IBAs. For breeding species, only those IBAs that support breeding populations are included, to avoid double-counting individuals. Generally, only data gathered since 1999 were used to compute population totals and no data gathered before 1990 were used. The Burrowing Owl now occupies largely artificial habitats +(Bowen 2001), so very few birds occur within IBAs. For some species (i.e., Marsh Wrens, “Cuban” Yellow Warbler, and Seaside Sparrows), sizes of most populations within IBAs are poorly known or unknown, so most subspecies are not included in the table. For species whose breeding populations are known to be limited to IBAs (e.g., most larids), the figure of 100% is placed in parentheses next to the percentage obtained by summing all the numbers from each individual IBA. See text for explanation of percentages that exceed 100%. Recent Snail Kite data are lacking for most Everglades sites, but virtually all of the Snail Kites in Florida occur within IBAs.

Species	Estimated statewide population (Table 1) (pages 16–17)	# of IBAs that support significant populations	% of the statewide population within IBAs
Brown Pelican	8650 pairs	18	63
Magnificent Frigatebird	70 pairs	breeding: 1	100
“Great White” Heron	850 pairs	3	63
Great Egret	39,000 birds	12	54
Little Blue Heron	17,000 birds	8	35
Reddish Egret	375 pairs	8	25
White Ibis	17,100 pairs	11	“135”
Glossy Ibis	3500 birds	4	40
Roseate Spoonbill	1000 pairs	7	28
Wood Stork	5523 pairs	14	64
Osprey	1600 pairs	<u>13/14</u>	<u>51/52</u>
Swallow-tailed Kite	610 pairs	breeding: 7	breeding: 28
Snail Kite	996 birds	5	100?
Bald Eagle	1043 pairs	15	30
Short-tailed Hawk	500 birds	2	6
Crested Caracara	450 birds	9	23
“Florida” Sandhill Crane	4000 birds	6	7
“Greater” Sandhill Crane	25,000 birds	6	30
Snowy Plover	311 birds	10	57
Wilson’s Plover	>300 birds	11	41
Piping Plover	450 birds	12	71
American Oystercatcher	391 birds	7	36
Laughing Gull	23,336 pairs	7	“124” (100?)
Gull-billed Tern	55 pairs	3	91
Caspian Tern	323 pairs	4	92 (100)
Royal Tern	5352 pairs	4	97 (100)
Sandwich Tern	531 pairs	4	“164” (100)
Roseate Tern	324 pairs	1	79
Least Tern	10,000 birds	9	25
Sooty Tern	80,000 birds	1	100
Brown Noddy	2750 pairs	1	100
Black Skimmer	1600 pairs	8	“130”
White-crowned Pigeon	8500 pairs	3	97
Burrowing Owl	3000–10,000 birds	0(!)	0
Red-cockaded Woodpecker	>1226 clusters	13	99
Florida Scrub-Jay	3640 groups	10	58
“Worthington’s” Marsh Wren	?	1	100?
“Florida” Grasshopper Sparrow	<1000 birds	3	>95
“Cape Sable” Seaside Sparrow	2800 birds	1 or 2	100
“MacGillivray’s” Seaside Sparrow	?	1	100?

Table 5. Florida IBAs of which at least 20% are held in private ownership, ranked hierarchically. Lands protected under conservation easements—although still privately owned—are not included in the column denoting private acreage, as these lands are protected from further alteration, theoretically in perpetuity. *Source: +Jue et al. (2001)

IBA name	County(ies)	Total Acreage	Private Acreage	% privately owned*
Bright Hour Watershed	De Soto	47,235	47,235	100
Buck Island Ranch	Highlands	10,300	10,300	100
Kanapaha Prairie	Alachua	3520	3520	100
Red Hills Ecosystem	Gadsden, Jefferson, and Leon	105,000	105,000	100
Brevard Scrub Ecosystem	Brevard	33,982	26,502	77
Alachua Lakes	Alachua and Marion	60,948	41,484	69
Fisheating Creek Ecosystem	Glades and Highlands	176,760	116,882	66
Central Pasco	Pasco	52,885	33,475	63
Highlands Hammock–Charlie Creek	Hardee and Highlands	15,243	9703	63
Babcock–Webb	Charlotte and Lee	174,231	104,504	62
<u>Wakulla Springs</u>	<u>Wakulla</u>	<u>12,704</u>	<u>7964</u>	<u>62</u>
Matanzas Inlet and River	St. Johns	24,985	14,700	58
Corkscrew Swamp Watershed	Collier and Lee	72,463	40,075	55
Emeralda Marsh	Lake and Marion	15,706	8617	54
Wekiva–Ocala Greenway	Lake and Volusia	72,000	34,785	48
Osceola Flatwoods and Prairies	Osceola	216,692	102,146	47
St. Joseph Bay	Gulf	8401	3933	46
Green Swamp Ecosystem	Lake, Pasco, Polk, and Sumter	242,010	101,161	45
Lake Wales Ridge	Highlands, Lake, Osceola, and Polk	69,011	24,834	35
Avon Park Air Force Range–Bombing Range Ridge	Highlands and Polk	145,183	35,064	24
Florida Keys Hammocks	Monroe	23,383	5685	24
Myakka River Watershed	De Soto, Manatee, and Sarasota	105,146	24,790	23
Withlacoochee–Panasoffkee–Big Scrub	Citrus, Marion, and Sumter	93,900	<u>21,592</u>	<u>22</u>
Osceola National Forest–Okefenokee and Pinhook Swamps	Baker and Columbia	250,411	51,927	20
<u>Duval and Nassau Tidal Marshes</u>	<u>Duval and Nassau</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
<u>Walton County Beaches</u>	<u>Walton</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>

Table 6. Site-selection criteria met by each IBA in Florida. A summary of the 15 site selection sub-categories are listed here: **1a** (significant population of Endangered species); **1b** (significant population of Threatened species); **2a** (significant population of Species of Special Concern); **2b** (significant population of FCREPA species); **2c** (significant population of Watch List species); **2d** (significant population of IBA species); **3a** (10,000 aquatic birds at one time); **3b** (wading birds: 3000 breeding pairs, or 500 roosting or foraging individuals at one time); **3c** (300 raptors per day); **3d** (1000 shorebirds at one time); **3e** (larids: 250 breeding pairs, or 1000 terns and skimmers roosting or foraging at one time); **3f** (significant population of others species or groups); **3g** (significant diversity, overall or within a group); **4** (significant natural habitats); and **5** (long-term research).

IBA Name	County(ies)	1a	1b	2a	2b	2c	2d	3a	3b	3c	3d	3e	3f	3g	4	5
ABC Islands	Collier			x	x		x		x							x
Alachua Lakes	Alachua and Marion		x		x						x		x	x	x	
Apalachicola and Tates Hell Forests	Franklin, Leon, Liberty, and Wakulla	x		x	x	x							x	x	x	
Avon Park Air Force Range– Bombing Range Ridge	Highlands and Polk	x	x	x	x	x								x	x	x
Babcock–Webb	Charlotte and Lee	x	x			x								x	x	
Bay County Beaches	Bay		x													x
Big Bend Ecosystem	Dixie, Levy, and Taylor		x	x	x		x		x		x					x
Big Cypress Swamp Watershed	Collier, Miami-Dade, and Monroe	x		x	x	x			x						x	x
Big Marco Pass Shoal	Collier		x	x	x	x					x	x			x	x
Biscayne Bay	Miami-Dade		x	x	x		x									x
Blackwater River State Forest	Okaloosa and Santa Rosa	x	x		x	x								x	x	x
Brevard Scrub Ecosystem	Brevard		x													x
Buck Island Ranch	Highlands		x	x	x										x	x
Camp Blanding–Jennings	Clay	x	x			x									x	x
Cape Canaveral–Merritt Island	Brevard and Volusia	x	x	x	x			x	x			x			x	x
Central Pasco	Pasco		x		x											x
Chassahowitzka–Weekiwachee	Citrus, Hernando, and Pasco			x											x	x
Citrus County Spoil Islands	Citrus			x	x		x									
Clearwater Harbor–St. Joseph Bay	Pinellas		x	x	x							x				<u>x</u>
Coastal Pasco	Pasco												x	x	x	
Cockroach Bay–Terra Ceia	Hillsborough and Manatee			x					x						x	<u>x</u>
Corkscrew Swamp Watershed	Collier and Lee	x							x						x	x
Crystal River Tidal Marshes	Citrus		x												x	x
Disney Wilderness Preserve	Osceola and Polk	x	x		x	x									x	
Dog Island–Lanark Reef	Franklin		x	x	x						x	x	x		x	
Dry Tortugas National Park	Monroe			x	x		x					x	x	x	x	x

IBA Name	County(ies)	1a	1b	2a	2b	2c	2d	3a	3b	3c	3d	3e	3f	3g	4	5
Lake Okeechobee	Glades, Hendry, Martin, Okeechobee, and Palm Beach	x	x		x		x	x	x		x				x	x
Lake Tohopekaliga and Adjacent Uplands	Osceola	x	x		x										x	
Lake Wales Ridge	Highlands, Lake, Osceola, and Polk		x												x	x
Lake Woodruff National Wildlife Refuge	Volusia				x					x			x		x	
Little Estero Lagoon	Lee		x		x	x					x	x				
Lower Tampa Bay	Hillsborough, Manatee, and Pinellas		x	x	x	x	x				x	x	x	x	x	
Loxahatchee River And Slough	Martin and Palm Beach	x	x	x	x				x						x	
Matanzas Inlet and River	St. Johns	x									x				x	
Myakka River Watershed	De Soto, Manatee, Sarasota				x	x			x				x		x	
Northern Atlantic Migrant Stopover	Flagler, Nassau, St. Johns, and Volusia	x	x	x	x	x				x		x	x		x	
North Lido Beach–Palmer Point	Sarasota		x		x										x	
Northern Everglades	Broward, Hendry, Miami-Dade, and Palm Beach	x		x	x				x						x	<u>x</u>
Ocala National Forest–Lake George	Lake, Marion, Putnam, and Volusia	x	x		x	x				x				x	x	<u>x</u>
Orlando Wetlands Park	Orange	x		x	x				x						x	
Osceola National Forest–Okefenokee and Pinhook Swamps	Baker and Columbia	x	x			x								x	x	<u>x</u>
Oscar Scherer State Park	Sarasota		x												x	x
Osceola Flatwoods and Prairies	Osceola	x	x		x	x								x	x	x
Paynes Prairie Preserve State Park	Alachua	x	x										x	x	x	
Pelican Island National Wildlife Refuge	Indian River	x		x					x						x	
Pelican Shoal	Monroe		x									x				
Pine Island National Wildlife Refuge	Lee			x					x						x	
Red Hills Ecosystem	Leon and Liberty		x		x									x	x	x
Rookery Bay National Estuarine Research Reserve	Collier			x	x				x						x	x
St. Johns National Wildlife Refuge	Brevard				x										x	
St. Joseph Bay	Gulf		x	x		x				x					x	

IBA Name	County(ies)	1a	1b	2a	2b	2c	2d	3a	3b	3c	3d	3e	3f	3g	4	5
St. Marks National Wildlife Refuge	Jefferson, Taylor, and Wakulla		x	x	x		x	x	x		x	x		x	x	x
St. Sebastian River State Buffer Preserve	Brevard and Indian River		x			x								x	x	
San Felasco Hammock Preserve State Park	Alachua												x	x	x	
Sanibel Lighthouse Park	Lee												x			
Sarasota and Roberts Bays	Manatee and Sarasota	x		x										x		
Southern Atlantic Migrant Stopover	Broward and Palm Beach												x	x	x	
Starkey Wilderness	Pasco					x										x
Ten Thousand Islands National Wildlife Refuge	Collier		x	x	x				x					x	x	
Turkey Creek Sanctuary	Brevard												x	x		
Upper St. Johns River Basin	Brevard, Indian River, Orange, Osceola, Seminole, and Volusia	x	x	x	x	x		x	x	x						x
Volusia County Colony Islands	Volusia			x												
<u>Wakulla Springs</u>	Wakulla				x											x
Walton County Beaches	Walton		x													x
Wekiva–Ocala Greenway	Lake and Volusia		x													x
Wekiwa Basin GEOPark	Lake, Orange, and Seminole					x							x			x
William Beardall Tosohatchee State Reserve	Brevard and Orange		x	x					x							x
Withlacoochee–Panasoffkee–Big Scrub	Citrus, Marion, and Sumter		x													x
Withlacoochee State Forest	Citrus, Hernando, and Sumter	x				x								x		x

THREATS

Site nominators identified 18 severe or minor threats to Florida's IBAs. These are listed below arranged hierarchically [currently they're in alphabetical order], and include widespread threats such as development, human disturbance, exotic plants, and habitat succession, as well as localized threats that include erosion, raccoons, or cattle grazing. The site nomination form identified three levels of threats: severe, minor, and potential. This book includes only existing threats. Only 10 (10%) IBAs in Florida were considered by their nominator(s) to be free of severe threats: Blackwater River State Forest, Chassahowitzka–Weekiwachee, Crystal River Tidal Marshes, Dry Tortugas National Park, Lake Lafayette, Lake Woodruff National Wildlife Refuge, Pelican Shoal, St. Sebastian River State Buffer Preserve, William Beardall Tosohatchee State Reserve, and Upper St. Johns River Basin.

Altered hydrology is symptomatic of most of Florida's wetlands systems. As defined here, altered hydrology is any human-caused disruption of natural water delivery amount, timing, duration, or frequency. In most cases, levees and drainage canals have reduced the amount of surface water available and decreased the period that lands are flooded. In other cases, the opposite is true, where natural lands are over-flooded in order to protect agricultural and inhabited areas. Oftentimes, both factors are working against natural systems simultaneously, thereby compounding the problem. Everglades National Park and Lake Okeechobee are two IBAs that are severely impacted by altered hydrology.

Bombing and gunnery exercises were listed as a minor threat at Avon Park Air Force Range. While live-fire bombing and gunnery practice from air- and ground-based weapons systems likely impact populations of birds living within the active ranges, the frequent ordnance-caused fires associated with such activities may actually help *maintain* populations of fire-dependent species and habitats, most notably “Florida” Grasshopper Sparrows.

Cattle grazing was listed as a threat for only two IBAs, Avon Park Air Force Range and Kissimmee Prairie Preserve State Park, where the threats were considered minor. In both cases, cattle graze semi-native prairies occupied by “Florida” Grasshopper Sparrows. The effects of cattle grazing on sparrow populations is unknown (and deserving of study), but some sparrow nests surely must be trampled by cattle. In most other areas, cattle graze non-native pastures, which support an extremely limited native avifauna.

Cowbird brood parasitism is not (yet?) a serious threat in Florida as it is elsewhere. Populations of birds elsewhere in the United States (e.g., “Least” Bell's Vireo in California, Black-capped Vireo in Texas, and Kirtland's Warbler in Michigan) are severely threatened by cowbird brood parasitism, but effects in Florida are only local and do not seem to be impacting significant populations of any species. However, populations of breeding birds in Florida evolved *without* cowbirds, so invading populations of Brown-headed Cowbirds from the north, and (possibly) Shiny Cowbirds from the Caribbean may pose increasing threats to native breeding species in the future.

Development: As defined here, development refers to any form of habitat destruction or alteration for human use. Typically, the term refers to residential and commercial Developments of Regional Impact (DRIs) that each destroy hundreds or thousands of acres (or ha) of land. However, conversion of natural habitats to cattle pastures, citrus groves, other forms of agriculture, or silviculture (tree-farming) also was classified as development. Habitat destruction poses the greatest threat to Florida's native species and communities. Virtually all IBAs in Florida that are privately owned are under severe threat of development. Even publicly owned sites are threatened from impacts of offsite development (e.g., agricultural or commercial runoff, feral cats, increased difficulty using fire as a management tool, or increased recreational use). Undoubtedly, many private properties in Florida that contain significant

populations of plants and animals will be lost to development before preservation can be realized. In fact, such activities have been occurring for decades.

Erosion was listed as a major threat to several natural or artificial islands in Florida. In some cases, “riprap” (i.e., large rocks, tires, or other objects placed along the shoreline) can minimize erosion, as can the planting of marsh grasses and mangroves, or the creation of offshore oyster bars or shoals.

Exotic animals do not pose the threat to Florida’s native flora and fauna posed by exotic plants, but “wild” populations of three domesticated species do pose threats. ♦ **Feral cats** (*Felis domesticus*) were listed as a major threat to Hugh Taylor Birch State Park (part of the Southern Atlantic Migrant Stopover IBA), and minor threats to five other IBAs. There are over 66 million cats in the United States, and over 40 million of these are allowed to roam freely, causing massive destruction to birds and other small wildlife. It has been estimated that cats kill *hundreds of millions* of birds and *billions* of small mammals annually (American Bird Conservancy website: <<http://www.abcbirds.org/cats/wildlife.pdf>>). Readers of this book who own cats should *never* allow them to roam free, under any circumstances and for any length of time. (The notion that “belling” your cat prevents them from killing birds is false, as birds do not associate ringing bells with danger). ♦ **Feral hogs** (*Sus scrofa*) are a threat to bird populations indirectly by greatly disturbing terrestrial habitats from the hogs’ foraging behavior. Eurasian wild boars were released into Florida by the Spaniards in the 1500s, and subsequently by hunt clubs. Domestic pigs have escaped from farms and barn yards, and have interbred with wild boars, so the term “feral hogs” is used for all varieties of *Sus scrofa*. The state population of free-roaming feral hogs, which occur in all of Florida’s 67 counties, was estimated at over 500,000 in 1983 +(Layne 1997). Managers of most public lands remove feral hogs whenever they are encountered, but feral hogs are a prized game species in Florida, so their presence on some lands (e.g., Wildlife Management Areas) is encouraged to benefit hunters—a practice that should be discontinued on public lands. ♦ **Free-roaming dogs** (*Canis domesticus*) were listed as a minor threat to two IBAs: Bay County Beaches and Wekiwa GEOpark, but unleashed pet dogs are a severe threat to beach-roosting and -foraging birds; see the section on human disturbance, below.

Interestingly, **exotic birds** pose little threat to populations of native birds. Even though an amazing number of exotic species has been observed free-flying in the state (over **180** species—with 74 of these parrots; +Pranty 2001), the vast majority of these are restricted to urban areas that support few native species. Population sizes of most exotics number no more than a few dozen individuals each (e.g., +Pranty and Epps in review). Only three species of exotic birds in Florida are known to be directly impacting native species: cavity-nesting European Starlings that compete with woodpeckers, House Sparrows that apparently compete locally with Eastern Bluebirds, and breeding populations of Mallards that hybridize with Mottled Ducks +(Moorman and Gray 1994). For the Mallard, eradication efforts seem to be justified to prevent the extirpation of a native species of waterfowl. It has been estimated that at least 5% of Florida’s Mottled Ducks contain Mallard-like plumage characteristics +(Moorman and Gray 1994). Furthermore, +Moorman and Gray (1994) warn that, “if no preventative management action [against feral Mallards] is taken, the Mottled Duck as a discreet entity has a questionable future.” Exotic birds are prevalent in virtually all of Florida’s IBAs, usually the same two to three species—Rock Dove, Eurasian Collared-Dove European Starling, and/or House Sparrow. Everglades National Park (the largest IBA in Florida) contains the largest number of exotic birds—12 species—but perhaps only the European Starling is a regularly breeding species. Overall, 37 species of exotic birds have been reported within the boundaries of Florida’s IBAs, but no site nominator considered any of these species to be a threat.

Exotic plants are a catastrophic problem in the state (primarily the southern half of the Peninsula), posing the second-greatest threat to native species and ecosystems. Excepting Hawaii, Florida is plagued with the most severe exotic plant problem in the United States, with more than \$75 million spent annually on their control. It has been estimated that over 25,000 species of exotic plants have been brought into Florida, primarily as ornamentals, and 1200 of these are reproducing on their own. Sixty-five species are ranked as

Category 1 exotics, meaning they have the greatest potential to replace native communities. Over 1.5 million acres (600,000 ha) of the state currently are infested with exotic plants (Florida Department of Environmental Protection website: <<http://www.dep.state.fl.us/secretary/comm/2001/01-214.htm>>). The most serious of these are the ♦punktree (*Melaleuca quinquenervia*), ♦Brazilian pepper (*Schinus terebinthifolius*), ♦Australian-pine (*Casuarina* spp.), ♦Japanese climbing fern (*Lygodium japonicum*), and ♦common water-hyacinth (*Eichhornia crassipes*). Punktree is by far the most serious exotic, converting huge amounts of Everglades marshland into dense monotypic forests. Nearly half of Loxahatchee National Wildlife Refuge's 145,000+ acres (58,000+ ha) are infested by punktree. To date, over 2.4 million punktrees have been removed from the Refuge, but these efforts are grossly insufficient: punktree invades an estimated 10 acres (4 ha) of Refuge lands *every day* (<<http://loxahatchee.fws.gov/Biology/exotics.asp>>). Japanese climbing fern is a recent invader to southern Florida; coverage by this species increased 328% in four years, from 25,000 acres (10,000 ha) in 1993 to 107,000 acres (42,800 ha) in 1997 (Loxahatchee National Wildlife Refuge website). Funding for control of invasive exotics in Florida is inadequate, assuring that additional areas will become infested. Federal and State agencies hope for a 25% reduction of invasive exotics within National Park Service lands in Florida by 2010 (Florida Department of Environmental Protection website), with total eradication seemingly impossible. +Curnutt (1989) documented a greatly reduced avian diversity, and lower overall breeding densities, in a mature Brazilian pepper stand at Everglades National Park compared to adjacent native habitats.

Ground-water extraction from wellfields was listed as minor threats to two IBAs in Pasco County: Central Pasco and Starkey Wilderness. Florida's explosive growth has far exceeded its ability to provide sufficient water to its residents without negatively impacting the environment. Unfortunately, Florida's state and municipal governments repeatedly have chosen to damage the environment rather than to control growth. Excessive wellfield pumping is not limited to wellfields in Pasco County, but three of its wellfields were the only ones in the state that were nominated as IBAs. Until alternate sources of drinking water become available (e.g., desalination, or reuse of treated wastewater), then wellfields will continue to impact local wetlands. On the other hand, wellfields assure that tens of thousands of acres (thousands of hectares) of habitats will never be developed, and they serve as significant conservation areas in Pasco County and elsewhere.

Habitat succession is a concept that is poorly understood by the public, but is a serious problem in Florida. Put simply, habitat succession is the process where one plant community changes to another over time, from either natural or human causes. When land is cleared, for instance, it quickly "succeeds" from a plot of bare sand to a weedy field, then eventually to some type of forested habitat if not grazed, mowed, or cleared again. Habitat succession is a natural process, but one that has been altered drastically by humans. In Florida, which receives more lightning strikes than any other region in North America +(Chen and Gerber 1990), most upland habitats evolved *with* fire, and many of the state's plants and animals *require* fire periodically for their reproduction and survival. Previously, fires in Florida might burn for several days or weeks, burning tens of thousands of acres (or hectares). In some areas, the same site might have burned annually or nearly so for hundreds of years. By building roads, fire breaks, and other structures, humans have substantially reduced the frequency that any patch of habitat can burn, causing habitat succession on a massive scale. Habitats historically maintained in open conditions now have succeeded to dense forests with extensive under- and mid-story vegetation, or to areas densely grown to shrubs. It is no coincidence that some of Florida's most imperiled birds (e.g., the Red-cockaded Woodpecker, Florida Scrub-Jay, and "Florida" Grasshopper Sparrow) are those that require fire, and have declined severely in its absence.

Human disturbance: Virtually all coastal areas that contain beach habitats—including those within Florida's IBAs—suffer from severe and frequent disturbance by humans and unleashed dogs. It seems to be an irresistible impulse to many people for themselves, their children, or their dogs to intentionally and repeatedly flush roosting or foraging flocks of shorebirds or larids. At some sites, these flocks are

disturbed dozens to perhaps hundreds of times each day. At important sites where coastal species congregate, fencing, signage, and education are necessary to keep out humans and their dogs. When these deterrents fail to protect birds (e.g., when dog owners ignore signs and/or leash laws), then enforcement becomes necessary. Unfortunately, enforcement is sparse or lacking at most coastal areas where birds are disturbed frequently—even Critical Wildlife Areas designated by the Florida Fish and Wildlife Conservation Commission are not patrolled to discourage disturbance. Other coastal areas (e.g., wading bird rookeries on keys) are disturbed by adjacent boat or jet-ski traffic, or from boaters who anchor too close to nesting colonies. Inland sites also suffer from human disturbance. Perhaps most notably, airboaters damage lakes and other wetlands throughout the state, and cause great disturbance to waterfowl and flocks of wintering coots. Airboaters also were blamed for the abandonment of the largest Swallow-tailed Kite roost in North America; fortunately, the birds moved to a nearby site not impacted by airboats.

Monofilament fishing line was listed as a serious threat at several coastal IBAs that support Brown Pelican and/or wading bird rookeries. With the number of people who fish off bridges and piers, under which Brown Pelicans and other species fly, these birds often get hooked, and uneducated people often let the bird fly away while still hooked and trailing a length of fishing line. When these birds return to the rookery, they and others can become entangled in the line and die from strangulation or starvation. Monofilament fishing line removal is an annual event at many coastal wading bird rookeries. (If you are fishing and hook a bird, *do not cut the line*. Rather, reel in the bird, push the hook through the skin, cut off the barb, and back out the remainder of the hook through the wound. Once the hook is removed, release the bird if it appears uninjured, or turn it over to a wildlife rehabilitation center if the wound appears serious).

Organochlorine pesticide residues present in soils were listed as a serious threat at Lake Apopka Restoration Area, where over 18,000 acres (7200 ha) of farmland have been purchased in recent years to clean up Lake Apopka and to restore large areas of former marshland along its northern shoreline. The possibility of pesticide-contaminated fields at Belle Glade resulted in this site being rejected as an IBA, despite the huge numbers of wading birds and shorebirds that use the fields regularly in summer and early fall (e.g., Sykes and Hunter 1978). Pesticides may pose threats to other farmland restoration projects ongoing or planned in Florida. (Although the most harmful organochlorine pesticides—e.g., DDT and its breakdown products DDE and DDD, toxaphene, and dieldrin—have been banned for several years to a few decades, they may persist in lethal amounts in muck soils for many years).

Poaching was listed as a minor threat to the Wakulla Springs potential IBA. Although no other nominator mentioned poaching, it likely occurs on many public and private lands in the state.

Raccoons were considered a serious threat at a few coastal islands that support colonial water bird rookeries. Because they are capable of killing adult birds as well as eating their nestlings and eggs, even a single raccoon can cause the abandonment of large rookeries. Colonial water birds seek out islands as nesting areas because they usually are free of terrestrial predators, but during extremely low tides, some islands are connected to the mainland—or islands already occupied by raccoons—which allows for raccoons to invade new islands. Raccoons found on islands that support significant pelican and/or wading bird rookeries are removed as quickly as possible.

Runoff is water pollution from any of several sources. Residential and commercial runoff may contain chemicals such as pesticide residues or motor oil, while agricultural runoff is rich in nutrients such as phosphorus and nitrogen. When this nutrient-rich water runs into lakes, it can cause “blooms” of algae, cattails, or other undesirable plants, and can create serious water-quality problems. Runoff was listed as a minor threat to many of Florida's IBAs, and a severe threat to two: Alachua Lakes and Lake Okeechobee. Lake Apopka, northwest of Orlando, was the most polluted water body in Florida, following decades of

abuse by the agricultural industry, but the farms were bought out by 1999, and the lake slowly is recovering.

Sea-level rise was listed as severe threats to four IBAs: Duval and Nassau Tidal Marshes, Everglades National Park, Great White Heron National Wildlife Refuge, and Key West National Wildlife Refuge. In all these cases, a significant rise in sea levels due to global warming could inundate substantial portions of these areas, or allow their succession to another habitat (e.g., much of the marshland of Everglades National Park may succeed to mangrove forests, while existing mangroves in the Keys may be completely inundated). The U.S. Environmental Protection Agency's Florida webpages (<http://www.epa.gov/globalwarming/impacts/stateimp/florida/index.html>) contains much useful information. The average annual temperature at Ocala during 1892–1921 was 66°F; during 1966–1995 it was 69°F. A climactic model predicts an additional 3–4° rise in temperatures in Florida by 2100. Increased temperatures worldwide are causing rising sea levels. In southern Florida, sea levels have risen about 12 inches (30 cm) since 1846, and are currently rising 8–16 inches (20–40 cm) per century. This rate is 6–10 times faster than the rate of sea-level rise during the previous 3000 years (EPA website). A sea-level increase of 20 inches (50 cm) over the next 100 years will involve potentially catastrophic losses of land, wildlife, and human structures in Florida. Rising temperatures are also expected to alter the forest composition of the state, especially if changes in precipitation amounts and timing also occur.

Timber harvesting was considered a severe threat at Camp Blanding, and a minor threat in the Red Hills Ecosystem. In the former case, salvage logging of dead pines was believed to be impacting cavity breeders, especially “Southeastern” American Kestrels. In the Red Hills, there was a concern that shorter harvest rotations would reduce the amount of Red-cockaded Woodpecker habitat. Timber harvesting probably is impacting other IBAs as well.

LIMITATIONS OF THE IBA PROGRAM

Despite its successes around the world with habitat protection, monitoring of bird populations, and greater citizen awareness of conservation, the IBA Program by itself cannot accomplish all the goals of preserving bird populations. Furthermore, limitations related to IBA methodology are inherent within each program, including such issues as site selection criteria and boundary designation. Below are some aspects that may be considered limitations of the Florida IBA Program.

1. Of the two primary methods for designating IBAs that support listed species, one is to select the top 5–10 sites most important to a particular species or group (e.g., Red-cockaded Woodpeckers or waterfowl). The other method, which was used in Florida, was to designate any site documented to support 1% or more of the state population of any listed species. Although one might have thought that this would result in hundreds of IBAs in Florida, surprisingly it did not. Perhaps one reason for this is that only *nominated* sites were designated as IBAs. During 2001 and even into mid-2002, statewide GIS coverages, databases, and survey reports for several listed species were supplied to the IBA Coordinator by Federal or State biologists. Rather than nominate (literally) a few dozen additional IBAs based on the “1% criterion” well into the manuscript preparation phase of the Program, the Coordinator chose to add only those that seemed most important. As examples, a review of the Bald Eagle GIS coverage resulted in Orange Lake being added to the Alachua Lakes IBA, several thousand acres (and ha) of private lands on the north side of Lake Marian were added to the Osceola Flatwoods and Prairies IBA, and a 1-mile (1.6 km) buffer was drawn around the shoreline of Lake Tohopekaliga.
2. Colonially-breeding species and winter-flocking species are emphasized heavily within IBAs simply because large numbers are easy to count, whereas Neotropical migrants and other non-colonial species are far less represented. However, it is believed that our approach of choosing large areas of

natural habitat within IBAs has allowed significant numbers of virtually all of Florida's native bird species to be protected within the state's IBAs, even if these species or groups are not mentioned specifically in the IBA accounts.

3. Some population data used in Tables 1 and 4 were gathered in the 1970s or 1980s and probably are outdated. The 1983 statewide estimate of 1600 pairs of Ospreys, for example, likely is an underestimate of current numbers. The increase in Bald Eagle nests in the past 20 years may support this belief. During 1980–1984, the mean number of eagle nests in the state was 362 (range of 340–378), but the number of nests in 2001 was 1102 +(Nesbitt 2001b). The elimination of DDT and other organochlorine pesticides presumably is responsible for this increase, and it seems likely that Florida's Osprey population has rebounded similarly. The statewide estimate of Wilson's Plovers (>300 birds), a species never formally censused in the state, also seems to be an underestimate. *The data in Table 1 perhaps can be used to prioritize the list of species for which current statewide population data should be determined.*
4. Statewide populations of some colonial breeding species vary considerably from one year to the next, often due to weather-related events (e.g., during years of extreme drought, wading birds may leave Florida to nest farther north). As a result, the percentage of the statewide population occurring within IBAs (Table 4, page 32) exceeded 100% for several species. For species whose breeding populations were restricted to IBAs (e.g., most larids), we used IBA data to determine the statewide population. For other species (e.g., White Ibis), we used the most recent population data to determine the percentage of the population found within IBAs, even if this figure is greater than 100%.
5. Based upon data summarized in Table 4, it is clear that the IBA Program failed to adequately “cover” a few species. Of the 40 species or subspecies included in Table 4, IBAs account for less than half of the statewide populations for 14 species, and less than 25% for 4 species (Short-tailed Hawk, 6%; Crested Caracara, 23%; “Florida” Sandhill Crane, 7%, and Burrowing Owl, 0%). The lack of significant populations of Burrowing Owls within IBAs can be explained by the tendency for owls to use human-modified habitats (which generally were ignored by the IBA selection process) and probably insufficient surveys on some several large properties that likely support significant populations (e.g., Kissimmee Prairie Preserve State Park). The small percentage of the populations of the Short-tailed Hawks, Crested Caracaras, and “Florida” Sandhill Cranes within IBAs may also reflect insufficient data from large properties, but future IBA site-selection efforts in Florida should keep these species in mind.
6. Because site nominations were being received at a slow rate—far too slowly to finish the initial site selection period on schedule, a “top-down” approach eventually was taken. Using this method, the Florida IBA Coordinator nominated or “pre-nominated” dozens of sites, and then sought assistance and review from others. For the same reason, a similar “top-down” approach was undertaken in California +(Cooper 2001) and Georgia (J. Wilson pers. comm.). It is hoped that participation in the Florida IBA process will increase now that sites have been selected. Local individuals or groups can volunteer to lead bird walks, assist with bird surveys, or update bird checklists, remove trash or exotic plants and replant native vegetation, lobby politicians to purchase private property adjacent to IBAs, or assist agency staff with site management or improvement in other ways.
7. Some important contributors to the Florida IBA Program were not contacted until shortly before the final manuscript was prepared, which prevented these individuals from contributing significantly to the program. It seems a certainty that other equally important individuals who could have improved this document never were aware of the IBA Program before or during manuscript preparation. It is hoped that these and other individuals will offer their assistance with future IBA site selection efforts in Florida.

FLORIDA IBAS BY COUNTY

Alachua

Alachua Lakes, Goethe State Forest, Kanapaha Prairie, Paynes Prairie Preserve State Park, San Felasco Hammock Preserve State Park

Baker

Osceola National Forest–Okefenokee and Pinhook Swamps

Bay

Bay County Beaches

Bradford

No nomination submitted

Brevard

Brevard Scrub Ecosystem, Cape Canaveral–Merritt Island, St. Johns River National Wildlife Refuge, St. Sebastian River State Buffer Preserve, Turkey Creek Sanctuary, Upper St. Johns River Basin, William Beardall Tosohatchee State Reserve

Broward

Northern Everglades, Southern Atlantic Migrant Stopover

Calhoun

No nomination submitted

Charlotte

Babcock–Webb

Citrus

Chassahowitzka–Weekiwachee, Citrus County Spoil Islands, Crystal River Tidal Marshes, Withlacoochee–Panasoffkee–Big Scrub

Clay

Camp Blanding–Jennings

Collier

ABC Islands, Big Cypress Swamp Watershed, Big Marco Pass, Corkscrew Swamp Watershed, Ten Thousand Islands National Wildlife Refuge

Columbia

Osceola National Forest–Okefenokee and Pinhook Swamps

De Soto

Myakka River Watershed

Dixie

Big Bend Ecosystem

Duval

Duval and Nassau Tidal Marshes, Huguenot Park–Nassau Sound, Northern Atlantic Migrant Stopover

Escambia

Gulf Islands National Seashore and adjacent areas

Flagler

Lake Disston, Northern Atlantic Migrant Stopover

Franklin

Apalachicola and Tates Hell Forests, Dog Island–Lanark Reef, Greater Apalachicola Bay

Gadsden

No nomination submitted

Gilchrist

No nomination submitted

Glades

Fisheating Creek Watershed, Kissimmee Lake and River, Lake Okeechobee

Gulf

St. Joseph Bay

Hamilton

No nomination submitted

Hardee

Highlands Hammock–Charlie Creek

Hendry

Lake Okeechobee

Hernando

Chassahowitzka–Weekiwachee,
Withlacoochee State Forest

Highlands

Avon Park Air Force Range–Bombing
Range Ridge, Buck Island Ranch, Fisheating
Creek Watershed, Highlands Hammock–
Charlie Creek, Kissimmee Lake and River,
Lake Istokpoga, Lake Wales Ridge

Hillsborough

Cockroach Bay–Terra Ceia, Hillsborough
Bay, Lower Tampa Bay

Holmes

No nomination submitted

Indian River

St. Sebastian River State Buffer Preserve,
Upper St. Johns River Basin

Jackson

No nomination submitted

Jefferson

St. Marks National Wildlife Refuge

Lafayette

No nomination submitted

Lake

Green Swamp Ecosystem, Emeralda Marsh,
Lake Apopka Restoration Area, Lake Wales
Ridge, Ocala National Forest–Lake George,
Wekiva–Ocala Greenway, Wekiwa Basin
GEOpark

Lee

Babcock–Webb, Corkscrew Swamp
Watershed, J.N. “Ding” Darling National
Wildlife Refuge, Little Estero Lagoon, Pine
Island National Wildlife Refuge

Leon

Apalachicola and Tates Hell Forests, Lake
Lafayette

Levy

Big Bend Ecosystem, Goethe State Forest

Liberty

Apalachicola and Tates Hell Forests

Madison

No nomination submitted

Manatee

Cockroach Bay–Terra Ceia, Lower Tampa
Bay, Myakka River Watershed, Sarasota
Bay

Marion

Alachua Lakes, Emeralda Marsh, Ocala
National Forest–Lake George,
Withlacoochee–Panasoffkee–Big Scrub

Martin

Lake Okeechobee, Loxahatchee River and
Slough

Miami-Dade

Big Cypress Swamp Watershed, Biscayne
Bay, Everglades National Park, Northern
Everglades

Monroe

Big Cypress Swamp Watershed, Dry
Tortugas National Park, Everglades National
Park, Florida Keys Ecosystem, Great White
Heron National Wildlife Refuge, Key West
National Wildlife Refuge, Pelican Shoal

Nassau

Duval and Nassau Tidal Marshes, Huguenot
Park–Nassau Sound, Northern Atlantic
Migrant Stopover

Okaloosa

Blackwater River State Forest, Eglin Air
Force Base

Okeechobee

Disney Wilderness Preserve, Kissimmee
Prairie Preserve State Park, Kissimmee Lake
and River, Lake Okeechobee

Orange

Lake Apopka Restoration Area, Lake Mary
Jane–Upper Econ Mosaic, Upper St. Johns
River Basin, Wekiwa Basin GEOpark,
William Beardall Tosohatchee State Reserve

Osceola

Kissimmee Prairie Preserve State Park, Kissimmee Lake and River, Lake Mary Jane–Upper Econ Mosaic, Lake Tohopekaliga, Lake Wales Ridge, Osceola Flatwoods and Prairies, Upper St. Johns River Basin

Palm Beach

Lake Okeechobee, Loxahatchee River and Slough, Northern Everglades, Southern Atlantic Migrant Stopover

Pasco

Central Pasco, Chassahowitzka–Weekiwachee, Coastal Pasco, Green Swamp Ecosystem, Gulf Islands GEOpark, Starkey Wilderness

Pinellas

Clearwater Harbor–St. Joseph Bay, Gulf Islands GEOpark, Johns Pass, Lower Tampa Bay

Polk

Avon Park Air Force Range–Bombing Range Ridge, Disney Wilderness Preserve, Green Swamp Ecosystem, Kissimmee Lake and River, Lake Hancock–Upper Peace River, Lake Wales Ridge

Putnam

Ocala National Forest–Lake George

St. Johns

Matanzas Inlet and River, Northern Atlantic Migrant Stopover

St. Lucie

No nomination accepted

Santa Rosa

Blackwater River State Forest, Eglin Air Force Base, Gulf Islands National Seashore and adjacent areas

Sarasota

Myakka River Watershed, Oscar Scherer State Park, Sarasota and Roberts Bays

Seminole

Upper St. Johns River Basin, Wekiwa Basin GEOpark

Sumter

Green Swamp Ecosystem, Withlacoochee–Panasoffkee–Big Scrub

Suwannee

Ichetucknee Springs State Park

Taylor

Big Bend Ecosystem, St. Marks National Wildlife Refuge

Union

No nomination submitted

Volusia

Cape Canaveral–Merritt Island, Ocala National Forest–Lake George, Lake Woodruff National Wildlife Refuge, Northern Atlantic Migrant Stopover, Upper St. Johns River Basin, Volusia County Colony Islands, Wekiva–Ocala Greenway

Wakulla

Apalachicola and Tates Hell Forests, St. Marks National Wildlife Refuge, Wakulla Springs

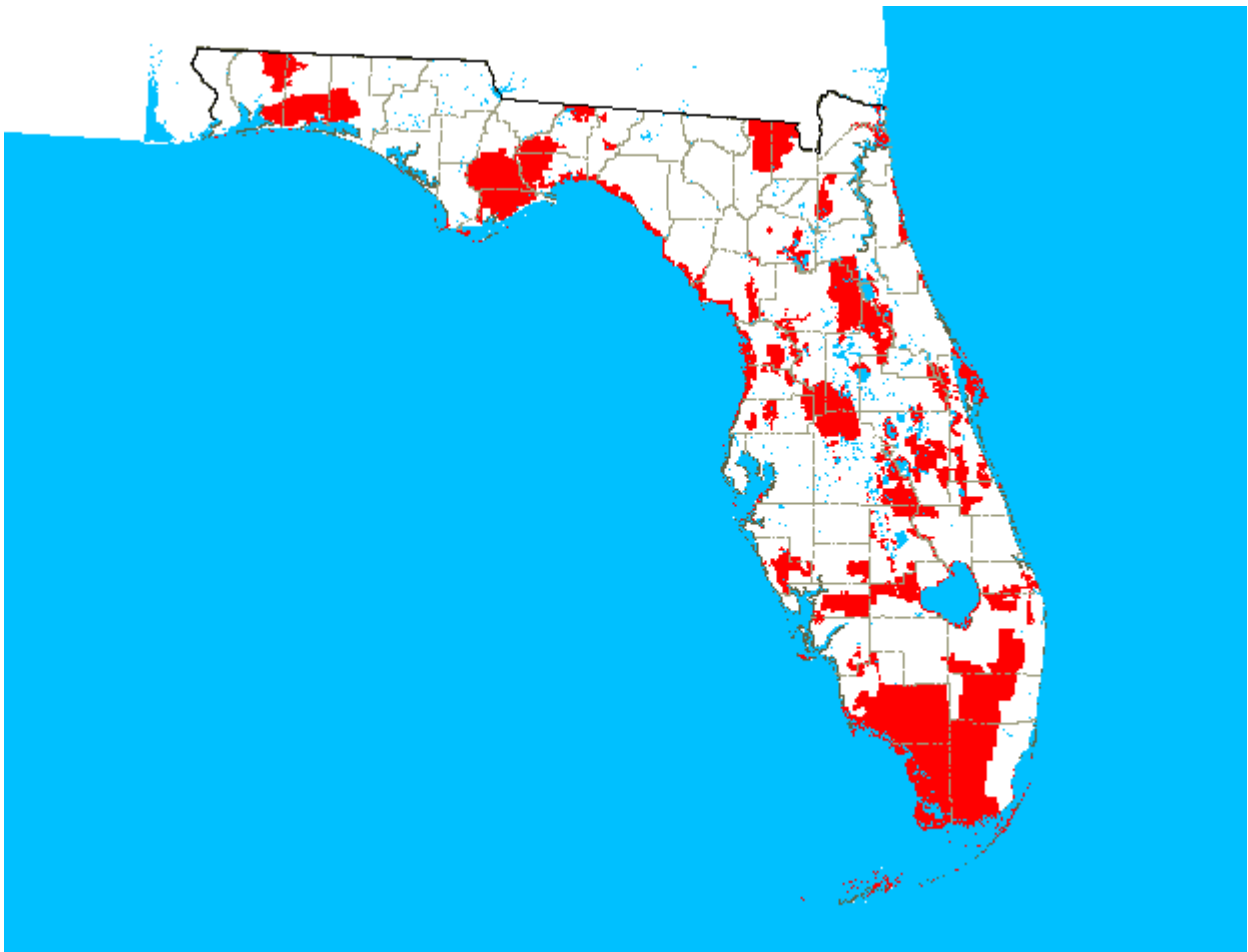
Walton

Eglin Air Force Base, Walton County Beaches

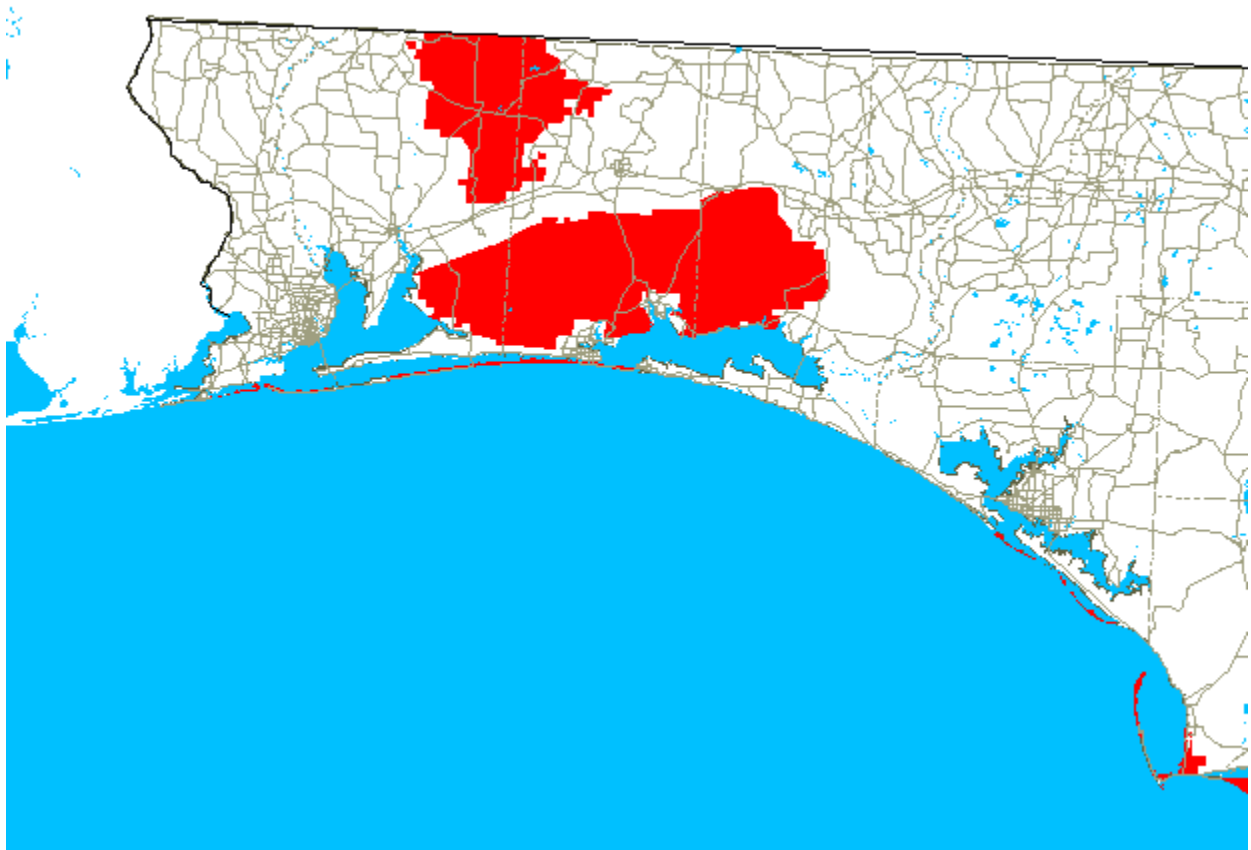
Washington

No nomination submitted

THE IMPORTANT BIRD AREAS OF FLORIDA: 2000–2002



WESTERN PANHANDLE



BAY COUNTY BEACHES

Crooked “Island” (1906 acres; 762 ha) and **Shell “Island”** (1162 acres; 464 ha), including parts of **St. Andrews State Recreation Area** and **Tyndall Air Force Base**

Bay County
3068 acres (1234 ha)

LOCATION: in the Gulf of Mexico in southeastern Bay County south of Panama City, extending from St. Andrews State Recreation Area southeast to Mexico Beach.

DESCRIPTION: two long peninsulae connected to the mainland. **Crooked “Island”** [length?] is a highly dynamic beach that consists of two separate peninsulae known as East Crooked “Island” and West Crooked “Island.” The eastern end of East Crooked “Island” now is attached to the mainland, as is the western end of West Crooked “Island.” Only a small part of what formerly was East Crooked “Island” remains an island. Crooked “Island” has been designated as a Critical Wildlife Area by the Florida Fish and Wildlife Conservation Commission, and has been proposed as Critical Habitat for the Piping Plover by the U.S. Fish and Wildlife Service. **Shell “Island”** became an island when a pass was dredged along its western edge; its eastern portion now is connected to the mainland via West Crooked “Island.” It is about 6 miles (9.6 km) long, and may be accessed through Tyndall Air Force Base, or by boat shuttle from St. Andrews State Recreation Area. Crooked “Island” and Shell “Island” receive ___ and ___ recreationists annually, respectively.

OWNERSHIP: **Crooked “Island:”** U.S. Air Force (Tyndall Air Force Base). **Shell “Island:”** U.S. Air Force (eastern portion; **Tyndall Air Force Base**), Florida Division of Recreation and Parks (western portion; **St. Andrews State Recreation Area**), and private owners (middle portion)

HABITATS: **Crooked “Island:”** *coastal strand. **Shell “Island:”** *coastal strand, tidal marsh.

LAND USE (same for each): *conservation, recreation.

IBA CATEGORIES (same for each): significant populations of Threatened species; and significant natural habitats

AVIAN DATA: Both “islands” support large numbers of shorebirds, especially Piping and Snowy plovers. [Are bird lists available for the “islands”?].

Crooked “Island:”

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	winter 1993–1994	8 birds	1% (W)
	Jan–Feb 2001	0 birds	
Snowy Plover	1989	5 pairs	2% (R)
	winter 1993–1994	28 birds	7% (R)
	Jan–Feb 2001	15 birds	3% (R)

Data from +Gore and Chase (1989), +Sprandel et al. (1997), and provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission)

Shell “Island:”

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	winter 1993–1994	47 birds	8% (W)
	Jan–Feb 2001	16 birds	3% (W)
Snowy Plover	1989	4 pairs	2% (R)
	winter 1993–1994	19 birds	4% (R)
	Jan–Feb 2001	45 birds	11% (R)

Data from +Gore and Chase (1989), +Sprandel et al. (1997), and provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: West Crooked “Island” and Shell “Island” both contain ♦ “Choctawhatchee” beach mice (*Peromyscus polionotus allophrys*) and East Crooked “Island” has ♦ “St. Andrews” beach mice (*P. p. peninsularis*), both Federally- and State-listed Endangered subspecies. Sea turtles nest along the beaches.

THREATS: Crooked “Island:” *human disturbance, *habitat succession. **Shell “Island:”** *human disturbance, *habitat succession, feral cats, feral dogs

CONSERVATION ISSUES: Much of the “islands” are owned by Tyndall Air Force Base but are not used for military activities. The far eastern end of East Crooked “Island” is private property. Parts of West Crooked “Island” are used for recreation by military personnel, and other parts are accessible to the public. • Dogs are prohibited on the Air Force Base portion of the “island.” [what is being done about the feral cats and dogs?]

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission)

REVIEWED BY: Nadine Craft (Florida Division of _____), George Wallace (Florida Fish and Wildlife Conservation Commission), Patty Kelley (U.S. Fish and Wildlife Service), and Ron Houser (Bay County Audubon Society)

REFERENCES: +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITE: <<http://www.dep.state.fl.us/parks/district1/standrews>>

BLACKWATER RIVER STATE FOREST

Okaloosa and Santa Rosa counties

189,594 acres (75,837 ha)

LOCATION: in northeastern Santa Rosa County and northwestern Okaloosa County, extending from the Alabama state line south to U.S. Highway 90. Nearly contiguous with the Eglin Air Force Base IBA to the south.

DESCRIPTION: The Forest is a dominant land feature of Florida's western Panhandle. [[more information preferred](#)]. The Forest receives ____ recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Forest; co-managed by the Florida Division of Wildlife as "Blackwater Wildlife Management Area"

HABITATS: *sandhills, longleaf pine flatwoods, pine plantation, fields, agricultural fields, cypress swamp, hardwood swamp, bayhead, freshwater marsh, riverine, lacustrine, seepage slope (pitcher plant bog), artificial

LAND USE: *conservation, *hunting, *timber production, recreation

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and Watch List species; significant numbers of wintering sparrows; complete diversity of longleaf pine flatwoods; and significant natural habitats

AVIAN DATA: Blackwater River State Forest supports a significant population of Red-cockaded Woodpeckers and all other species of longleaf pine flatwoods and sandhills. [[Is a bird list available?](#)]

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	2001	>6 pairs	1% (B)
"Southeastern" American Kestrel	2001	"significant" numbers	(R)
Red-cockaded Woodpecker	Jul 2001	26 clusters	2% (R)
Brown-headed Nuthatch	2001	5.9 birds/BBS route	1% (R)
Bachman's Sparrow	2000	46.8 birds/BBS route	(R)
Henslow's Sparrow	2000	"significant population"	(W)

Sparrow data from +Robinson and Tucker (2000), all other data provided by Mike Wilson (Florida Fish and Wildlife Conservation Commission).

OTHER RESOURCES: the combined land area of Blackwater River State Forest, Eglin Air Force Base, and Conecuh National Forest (in Alabama) contains the greatest coverage of old-growth longleaf pine remaining in the world. Significant floral species include ♦whitewitch pitcherplant (*Sarracenia leucophylla*), ♦Panhandle lily (*Lilium iridollae*), and ♦dwarf witchhazel (*Fothergilla gardenii*). Significant faunal species include the ♦pine barrens treefrog (*Hyla andersonii*), ♦gopher tortoise (*Gopherus polyphemus*), ♦"Sherman's" fox squirrel (*Sciurus niger shermani*), and two undescribed amphibians (!) found in seepage bogs: a dwarf salamander and a siren (Paul Moler *vide* Mike Wilson). The Forest contains the largest expanse of sandhills, longleaf pine upland forests, and seepage slopes in state ownership. • The Blackwater River flows through the Forest for approximately 30 miles (48 km). It is a relatively unique sand bottom stream that has been protected in its natural state since the mid-1930s. The Florida Department of Environmental Protection has classified portions of the river bounded by State lands as an Outstanding Florida Waterway to acknowledge its high water quality and populations of fish and other wildlife.

THREAT: exotic plants

CONSERVATION ISSUES: Priority is given to management, promotion, and enhancement of the longleaf pine-threawn ecosystem. Management activities include prescribed fire at 2–5 year intervals, and conversion of slash pine plantations back into longleaf pine forests. In addition, priority is given to

protection of embedded natural communities (e.g., seepage slopes, baygall) and wetlands. [what about exotic plants?]

NOMINATED BY: Mike Wilson (Florida Fish and Wildlife Conservation Commission)

REFERENCE: +Robinson, W.G., and J.W. Tucker, Jr. 2000. Influence of season and frequency of fire on Bachman's Sparrows and Henslow's Sparrows in longleaf pine forests of the Gulf coastal plain. Auburn University, Alabama.

WEBSITE: <http://www.fl-dof.com/state_forests/blackwater.htm>

EGLIN AIR FORCE BASE

Okaloosa, Santa Rosa, and Walton counties

463,448 acres (185,379 ha)

LOCATION: in southeastern Santa Rosa County, southern Okaloosa County, and southwestern Walton County, bordered by the Yellow River, Shoal River, and Titi Creek to the north, Highway 331 and private land to the east and northeast, Choctawhatchee Bay and the Gulf of Mexico to the south, and Escambia Bay to the west. Eglin is approximately 52 miles (83 km) east to west and 18 miles (28 km) north to south, and is nearly contiguous with the Blackwater River State Forest IBA to the north.

DESCRIPTION: Eglin Air Force Base formerly was Choctawhatchee National Forest, but was converted to military use at the beginning of World War II. The U.S. Air Force uses the Base to test and develop conventional munitions on 60,000 acres (24,000 ha) of test ranges. The Base receives ____ recreationists and ____ hunters annually.

OWNERSHIP: U.S. Air Force

HABITATS: *sandhills, *riverine, *coastal strand, longleaf pine flatwoods, pine plantation, sand pine scrub, fields, hardwood swamp, bayhead, lacustrine

LAND USE: *conservation, *military training, recreation, hunting, timber production

IBA CATEGORIES: significant populations of Endangered and Threatened species; complete diversity of longleaf pine flatwoods and sandhills species; significant overall diversity; and significant natural habitats [long-term research for RCWs?]

AVIAN DATA: This vast IBA supports the fourth-largest population of Red-cockaded Woodpeckers remaining in the world, as well as all other species of longleaf pine flatwoods and sandhills. [what about diversity of coastal strand? – overall shorebirds?]

SPECIES	DATES	NUMBERS	COMMENTS
“Southeastern” American Kestrel	2000	74 nests	only a “small sample” (R)
Snowy Plover	1989	at least 53 nests	at least 26% (R)
	Jan–Feb 2001	20 birds	5% (R)
Red-cockaded Woodpecker	2000	301 active clusters	23% (R)
Overall diversity	Undated list	324 natives	second most diverse IBA in
		3 exotics	Florida

Kestrel data provided by researchers from Virginia Polytechnic Institute and State University, plover data from +Gore and Chase (1989) and provided by Jeff Gore (Florida Fish and Wildlife Conservation Commission), other data provided by Bruce Hagedorn (U.S. Air Force)

OTHER RESOURCES: Eglin Air Force Base is the largest forested military installation in the United States. It is recognized by The Nature Conservancy as an area of global significance for biodiversity, with 34 natural communities identified, and 118 rare or imperiled species present, including numerous endemics. • It encompasses nearly the entire range of two state-endemic vertebrates: the ♦ bog frog (*Rana okaloosae*) and ♦ Okaloosa darter (a fish; *Etheostoma okaloosae*), and supports 5% of Florida’s ♦ black bears (*Ursus americanus*). • A low density of sea turtles nest at Santa Rosa Island and Okaloosa Island. From 1992 to 1997, numbers of nests along 17 miles (27 km) of beach ranged from 0–16 ♦ green turtle (*Chelonia mydas*) nests and 17–32 ♦ loggerhead sea turtle (*Caretta caretta*) nests. • Perhaps only 5000 acres (2000 ha) of old-growth longleaf pine remain in the world, and 1712 acres (684 ha) of these are found in four tracts at Eglin, the largest contiguous acreage of old-growth longleaf pine surviving. The largest tract—the Patterson Natural Area—is 928 acres (371 ha) and contains trees that on average are 130 years old and 16 inches (40 cm) in diameter at breast height. Patterson Natural Area recently has been enlarged to nearly 4500 acres (1800 ha). • Barrier islands occur in three separate areas at Eglin Air Force Base: 13 miles (20 km) of Santa Rosa Island, 4 miles

(6.4 km) of “Okaloosa Island” (which seems to be the easternmost portion of Santa Rosa Island), and 3 miles (4.8 km) at the Eglin Air Force Base Test Site (part of the St. Joseph Bay IBA, pages 57–59). The Nature Conservancy has rated Santa Rosa and Okaloosa islands as the highest quality barrier islands in western Florida and Alabama because of the absence of human disturbance and exotic plants, and the presence of rare floral and faunal species. • Eglin supports the following listed species: 73 plants, 10 fishes, 10 terrestrial reptiles and amphibians, 5 marine reptiles (sea turtles), 14 birds, 3 terrestrial mammals, and 6 marine mammals (5 whales). • Cultural resources also are present.

THREATS: *habitat succession, *feral hogs, exotic plants

CONSERVATION ISSUES: Management issues at Eglin balance military use, recreational use, forest use, and ecosystem protection. Forest management practices are moving toward uneven-aged stands of longleaf pine. Most timbering is for removal of sand pines and pine plantations. Prescribed fire was applied to over 202,000 acres (80,800 ha) between 1993 and 1997. • Sandhills restoration activities involve mechanically removing sand pines and hardwoods, replanting longleaf pine (8 million seedlings since 1993), and annually burning over 40,000 acres (16,000 ha), mostly during the growing season. • Exotic plants include several species, with ♦Chinese tallowtree (*Sapium sebiferum*) and ♦cogongrass (*Imperata cylindrica*) posing the most severe threats. Control measures are underway. • Collisions between birds and aircraft (bird air strike hazard; BASH) are the focus of the Bird Hazard Working Group. BASH events at Eglin are considered “sporadic” and have required lethal control for only short periods. Most of the collisions involve Cattle Egrets and Ring-billed Gulls. [what about feral hogs?]

NOMINATED BY: Bruce Hagedorn (U.S. Air Force)

REFERENCES: +Eglin Air Force Base. 2001. Integrated natural resources transitional plan. Natural Resources Management. Eglin Air Force Base, FL. • +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITE: <<http://www.eglin.af.mil/newcomers/leisure.htm>>

Eglin Air Force Base Test Site at Cape San Blas, a non-contiguous part of Eglin Air Force Base, is included in the St. Joseph Bay IBA, on pages 57–59.

GULF ISLANDS NATIONAL SEASHORE and ADJACENT AREAS

Big Lagoon State Park (730 acres; 292 ha), **Big Sabine Point** (___ acres; ___ ha), **Gulf Islands National Seashore** (66,549 acres; 26,619 ha)

Escambia, Okaloosa, and Santa Rosa counties
67,279 acres (26,911 ha) [+Big Sabine Point]

[This IBA needs additional information]

LOCATION: in southern Escambia, Santa Rosa, and Okaloosa counties, representing most of the barrier islands and offshore waters between Johnson Beach (on Perdido Key) to the eastern end of Santa Rosa Island just west of Destin. Much of eastern Santa Rosa Island is part of Eglin Air Force Base, but the National Seashore includes the inshore and offshore waters surrounding the island. A small portion of the mainland immediately east of Gulf Breeze is also part of the National Seashore. [Mention the other sites]

DESCRIPTION: ___ Gulf Islands National Seashore is composed of two separate sections of coastline, one in Mississippi and the other in the western Panhandle of Florida (the anticipated link between these two sites never materialized when the State of Alabama refused to participate in the creation of the park). The Florida section ____. The National Seashore receives ___ recreationists annually, while the State Park receives ___.

OWNERSHIP: U.S. National Park Service (Gulf Islands National Seashore), Florida Division of Recreation and Parks (Big Lagoon State Park), and [?] (Big Sabine Point)

HABITATS: ___

LAND USE: ___

IBA CATEGORIES: significant populations of Threatened species; significant overall diversity; and significant natural habitats

AVIAN DATA: Gulf Islands National Seashore supports an extremely high diversity of species, and contains one of Florida’s largest remaining breeding populations of Snowy Plovers. The bird list for Gulf Islands National Seashore includes the entire property (i.e., includes the portion in Mississippi). [Need more information]

Big Lagoon State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	Jan–Feb 2001	7 birds	1% (R)

Data provided by Patty Kelly (U.S. Fish and Wildlife Service)

Big Sabine Point:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	4 birds	<1% (W)
Snowy Plover	Jan–Feb 2001	19 birds	3% (R)

Data provided by Patty Kelly (U.S. Fish and Wildlife Service)

Gulf Islands National Seashore:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	1 bird	<1% (W)
Snowy Plover	1989	18 pairs	9% (R)
	Jan–Feb 2001	22 birds	4% (R)
Least Tern	8 Jun 1999	20 pairs	<1% (B)
Black Skimmer	8 Jun 1999	11 pairs	<1% (B)
Overall diversity	____ list	310 natives 4 exotics	Includes the Mississippi portion of the Seashore; presuming that all birds on the list have been seen in the Florida portion, this IBA rank as the fifth most diverse in Florida.

Plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), larid data from Hovis and Sprandel (1999).

OTHER RESOURCES: ____

THREATS: *human disturbance

CONSERVATION ISSUES: ____

NOMINATED BY: Bill Pranty (Audubon of Florida) and ____

WEBSITE: <<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/gulfisle.htm>>,

<<http://www.dep.state.fl.us/parks/district1/biglagoon>>

<<http://www.nps.gov/guis>>

ST. JOSEPH BAY

Black's Island (7 acres; 2.8 ha), **Eglin Air Force Base Test Site** (500 acres; 200 ha), **Palm Point** (100 acres; 40 ha), **St. Joseph Bay Buffer CARL–FF Project** (5378 acres [2151 ha], with 2115 acres [846 ha] acquired as **St. Joseph Bay State Buffer Preserve**), and **T.H. Stone Memorial St. Joseph Peninsula State Park** (2516 acres; 1006 ha)

Gulf County

8500 acres (3400 ha), with 4468 acres (1787 ha) acquired

LOCATION: at the “elbow” of the Florida Panhandle in southwestern Gulf County, surrounding the town of Port St. Joe.

DESCRIPTION: This IBA surrounds and forms St. Joseph Bay, which is a State-designated Aquatic Preserve. It consists of several public land ownerships, as well as other sites sought for public acquisition. **Black's Island** is a small privately-owned island in southern St. Joseph Bay. **Eglin Air Force Base Test Site**, at the southern end of the St. Joseph Peninsula—and known as Cape San Blas—is used by the military for [what type of use?]. It has been proposed by the U.S. Fish and Wildlife Service as Critical Habitat for the Piping Plover. **Palm Point** is private land along the northern shore of St. Joseph Sound, just north of the community of Highland View, extending northwest 2 miles (3.1 km). **St. Joseph Bay State Buffer Preserve** is a State acquisition project designed to protect the entire eastern shore of St. Joseph Bay south of Port St. Joe, as well as a few miles (km) of Gulf coast between Cape San Blas and Indian Peninsula. No other data were provided for the Buffer Preserve. **T.H. Stone Memorial St. Joseph Peninsula State Park** occupies most of a long, narrow peninsula jutting north from Cape San Blas for more than 15 miles (24 km). It is bounded on the east by St. Joseph Sound and on the west and north by the Gulf of Mexico. At its northernmost point, it is only about 2 miles (3.2 km) from the mainland at St. Joe Beach. Annual visitation is ____ recreationists for the Eglin Air Force Base Test Site, and 142,500 recreationists for T.H. Stone Memorial St. Joseph Peninsula State Park.

OWNERSHIP: U.S. Air Force (Eglin Air Force Base Test Site), Florida Division of Marine Resources (St. Joseph Bay State Buffer Preserve), Florida Division of Recreation and Parks (T.H. Stone Memorial St. Joseph Peninsula State Park), and private owners (Black's Island, other remaining acreage of the St. Joseph Bay Buffer CARL–FF Project, and Palm Point)

HABITATS: **Black's Island:** *temperate hammock, coastal strand, artificial. **Eglin Air Force Base Test Site:** *coastal strand. **T.H. Stone Memorial St. Joseph Peninsula State Park:** *slash pine flatwoods, *sand pine scrub, *coastal strand, temperate hammock, sawgrass marsh, tidal marsh, estuarine, coastal grasslands, artificial

LAND USE: **Black's Island:** *private (planned development). **Eglin Air Force Base Test Site:** *conservation, *low-impact military use, recreation. **Palm Point:** private. **T.H. Stone Memorial St. Joseph Peninsula State Park:** *conservation, *recreation

IBA CATEGORIES: **Black's Island:** significant populations of Special Concern species. **Eglin Air Force Base Test Site:** significant populations of Threatened species; and significant natural habitats. **T.H. Stone Memorial St. Joseph Peninsula State Park:** significant populations of Threatened and FCREPA species; significant numbers of raptors; and significant natural habitats

AVIAN DATA: These five sites that surround and form St. Joseph Bay are regionally important for breeding Brown Pelicans (Black's Island), breeding Snowy Plovers (Palm Point), wintering shorebirds, migrant raptors (state park), Neotropical migrants (state park), and other species. Bird diversity of all sites combined is ____ native species.

Black's Island:

SPECIES	DATE	NUMBERS	COMMENTS
Brown Pelican	May 2000	100 pairs	1% (B)
Snowy Egret	May 2000	50 pairs	(B)
Tricolored Herons	May 2000	50 pairs	(B)

Data provided by Tammy Summers (Apalachicola Bay Aquatic Preserve)

Eglin Air Force Base Test Site:

SPECIES	DATE	NUMBERS	COMMENTS
Piping Plover	1 Feb 1994	26 birds	4% (W)
	Jan–Feb 2001	0 birds	
Snowy Plover	31 Dec 1993	3 birds	<1% (R)
	31 Aug 1999	3 birds	<1% (R)
	Jan–Feb 2001	0 birds	
Least Tern	16 Jul 1999	23 pairs	<1% (B)

2001 plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), all other data provided by (____)

Palm Point:

SPECIES	DATE	NUMBERS	COMMENTS
Snowy Plover	1989	6 pairs	3% (R)

Data from +Gore and Chase (1989)

T.H. Stone Memorial St. Joseph Peninsula State Park:

SPECIES	DATE	NUMBERS	COMMENTS
Raptors	fall ____	>3000 birds	
Piping Plover	Jan–Feb 2001	2 birds	<1% (W)
Snowy Plover	1989	6 pairs	3% (R)
	26 Jul 2000	39 birds	9% (R)
	Jan–Feb 2001	19 birds	3% (R)
Overall diversity	Oct 1982 list	179 natives 1 exotics	

Raptor data from +Steadman (1984); 1989 Snowy Plover data from +Gore and Chase (1989); Piping Plover data provided by Patty Kelly (U.S. Fish and Wildlife Service); other data are observations of Jimmy Butler (____).

OTHER RESOURCES: Black's Island: Pottery shards and shell tools dating from the Fort Walton and Weedon Island cultural periods have been found. **Eglin Air Force Base Test Site:** From 1994 to 1997, between 25 and 53 loggerhead sea turtle nested on the beach. **T.H. Stone St. Joseph Peninsula State Park** is the only park in the Florida system that has a “Wilderness Zone” designation, and contains some of the best remaining beach dune habitat in the state. • “Vast numbers” of sea turtles nest along the beach, mostly loggerhead sea turtles with occasional nesting by green turtles and ♦ leatherback turtles (*Dermochelys coriacea*; +DEP 2000). • The “Wilderness Zone” contains a population of the “St. Andrew” beach mice, a Federally- and State-listed Endangered subspecies. • Gopher tortoises were extirpated from the Park since before acquisition began in 1964; the potential for reintroduction is being explored. • Six cultural sites are known from the State Park, but most are

in fair to poor condition because of erosion and looting +(DEP 2000). • The park is an excellent site to observe migrating dragonflies and butterflies +Sprandel (2001).

THREATS: **Black's Island:** *development, *human disturbance. **Eglin Air Force Base Test Site:** *human disturbance. **Palm Point:** *development, *human disturbance. **T.H. Stone Memorial St. Joseph Peninsula State Park:** *human disturbance, *erosion, exotic plants, feral cats, cowbird brood parasitism

CONSERVATION ISSUES: **Black's Island** is privately owned and a proposed development includes 14 hosing units and a restaurant. The bird nesting area is proposed as a posted conservation area, but preparation for development already has disturbed the colony. • The island is sought for public acquisition as part of the St. Joseph Bay Buffer CARL–FF Project, and is surrounded by the St. Joseph Bay Aquatic Preserve. The beach at **Eglin Air Force Base Test Site** is open to public recreation. The site contains 3 miles (4.8 km) of Gulf frontage, but parts are suffering from severe erosion; 30 feet (9 m) were lost in 1993 alone. The main concern at the Test Site is from 4-wheel drive trucks and ATVs that have damaged the dunes, and affected nesting birds and sea turtles. Efforts are underway to manage off-road use, and critical shorebird nesting areas will be posted. • **T.H. Stone Memorial St. Joseph Peninsula State Park:** A Draft Unit Management Plan was prepared in March 2000 +(DEP 2000); most of the information in this section comes from the management plan. • Unauthorized access into the “Wilderness Zone” from boaters disturbs beach-nesting and -roosting species. Other sensitive areas are posted to control or prevent human access. • The northern half of the State Park has been proposed as Critical Habitat for the Piping Plover. • The southern portion of the park has been identified as one of the most critically eroding areas in Florida, due mostly to tropical storm activity. • A large area of sand pine scrub is found in the “Wilderness Zone.” The fire management plan is to allow the area to burn naturally when a fire occurs there, but the site will not be prescribed-burned. Other habitats are burned at varying intervals between 3–25 years. • Coyotes and feral cats are removed when encountered. • Exotic plants are not a serious problem, and are removed as needed.

Palm Point was identified by +Gore and Chase (1989) as important habitat for Snowy Plovers. No other data are known for the site, and it is not included within the St. Joseph Bay Buffer CARL–FF Project boundaries. If the site continues to support Snowy Plovers, then perhaps it should be considered for public acquisition.

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission) and Tammy Summers (Apalachicola Bay Aquatic Preserve)

REVIEWED BY: Jeff Gore, Karen Lamonte, and George Wallace (all of the Florida Fish and Wildlife Conservation Commission)

REFERENCES: +DEP 2000. T.H. Stone Memorial St. Joseph Peninsula State Park unit management plan. DEP Advisory Group review draft. Department of Environmental Protection. [Tallahassee, FL]. • +Sprandel, G.L. 2001. Fall dragonfly (Odonata) and butterfly (Lepidoptera) migration at St. Joseph Peninsula, Gulf County, Florida. *Florida Entomologist* 84: 234–248. • +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Stedman, S.J. 1984. St. Joseph Peninsula hawk migration. Florida Department of Natural Resources. Tallahassee, FL.

WEBSITE: <<http://www.dep.state.fl.us/parks/district1/stjoseph>>

WALTON COUNTY BEACHES

Camp Creek Inlet (___ acres; ___ ha), **Deer Lake State Park** (1994 acres; 797 ha), and **Topsail Hill Preserve State Park** (1642 acres; 656 ha)
 3636 acres (1454 ha) [+Camp Creek]

LOCATION: two separate areas between U.S. Highway 98 and the Gulf of Mexico in southern Walton County. **Topsail Hill Preserve State Park** is between Four Mile Village and Beach Highlands, **Deer Lake State Park** is about 11.5 miles (18.4 km) farther east, and **Camp Creek Inlet** is just east of Deer Lake State Park.

DESCRIPTION: three parcels (two adjacent) along the Gulf of Mexico that preserve significant portions of some of the most scenic and diverse coastal habitats in the region, including several freshwater lakes just inland of the coastal dunes. Topsail Hill Preserve State Park and Deer Lake State Park are part of a much larger South Walton County Ecosystem CARL–FF Project, which also includes **Point Washington State Forest** (15,101 acres; 6040 ha) that is not contained within this IBA. The State Parks were acquired by the State through eminent domain, which explains the high cost of acquisition (\$223 million). Annual visitation for the state parks is ___ for Deer Lake and ___ for Topsail Hill.

OWNERSHIP: Florida Division of Recreation and Parks (Deer Lake State Park and Topsail Hill Preserve State Park), private (Camp Creek Inlet)

HABITATS: *coastal strand, *coastal lakes, pine flatwoods, sand pine scrub, sandhills, basin swamp, tidal marsh, and freshwater marsh.

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Threatened species; and significant natural habitats

AVIAN DATA: Two of the three sites within this IBA supports significant populations of Snowy Plovers, and Topsail Hill reportedly also contains Red-cockaded Woodpeckers. Deer Lake State Park supports no Snowy Plovers currently, but the habitat is suitable, and the site is adjacent to Camp Creek Inlet, which is used by plovers. [Are bird lists available for the state parks?]

Camp Creek Inlet:

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	Jan–Feb 2001	14 birds	3% (R)

Data provided by Patty Kelly (U.S. Fish and Wildlife Service)

Topsail Hill Preserve State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	1989	8 pairs	4% (R)
	Jan–Feb 2001	9 birds	2% (R)
Red-cockaded Woodpecker	?	?	<1%? (R)

Plover data from +Gore and Chase (1989) and provided by Patty Kelly (U.S. Fish and Wildlife Service); presence of woodpeckers mentioned in DEP (2001) but not in USFWS (2000)

OTHER RESOURCES: The sites support “Choctawhatchee” beach mice and sea turtles. The coastal dune lakes are unique to Florida, and are a critically imperiled habitat. The CARL–FF Project contains 13 rare plants, 6 rare animals, 14 natural communities, and 7 archaeological sites, and many of these occur within the two state parks. **Topsail Hill Preserve State Park** preserves about 3 miles (4.8 km) of coastline and two coastal dune lakes.

THREATS: *development, *_human disturbance.

CONSERVATION ISSUES: Deer Lake State Park contains no designated trails, which causes people to walk all over the dunes. Boardwalks over, or specific paths through, the dunes should be developed, to protect the fragile dune ecosystem. The park contains no breeding Snowy Plovers even though the habitat is suitable; human disturbance may be a factor.

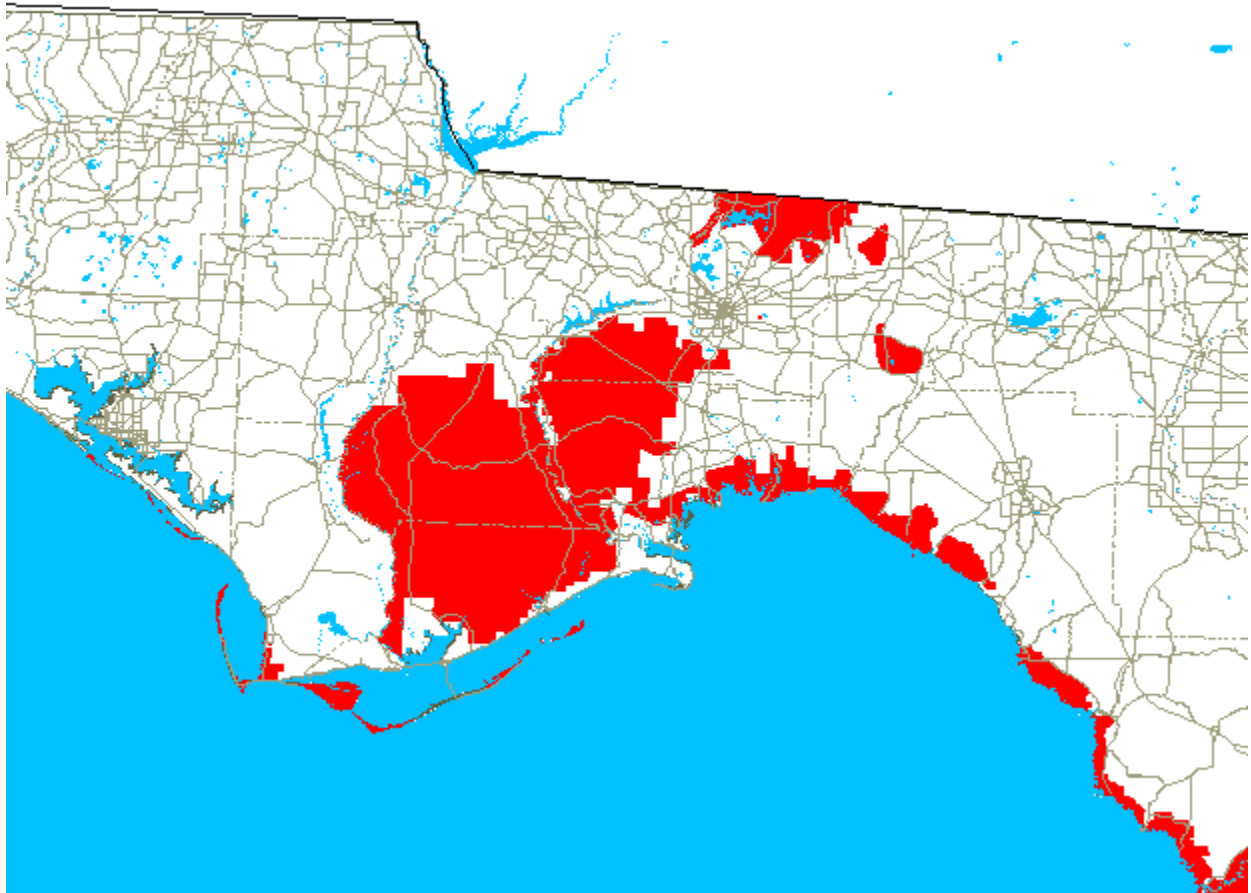
+Gore and Chase (1989) found 4 pairs of Snowy Plovers at Philips Inlet, just east of the Walton/Bay county line; preservation of this area should be investigated.

NOMINATED BY: Bill Pranty (Audubon of Florida) and George Wallace (Florida Fish and Wildlife Conservation Commission)

REFERENCES: +DEP. 2001. Florida Forever five-year plan, 2001. Florida Department of Environmental Protection. Tallahassee, FL. • +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +USFWS 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, GA.

WEBSITE: <<http://www.dep.state.fl.us/parks/district1/topsailhill>>

EASTERN PANHANDLE



APALACHICOLA AND TATES HELL FORESTS

Apalachicola National Forest (569,596 acres; 227,838 ha) and **Tates Hell State Forest** (198,901 acres [79,560 ha], with 158,756 acres [63,502 ha] acquired)

Franklin, Leon, Liberty, and Wakulla counties

768,497 acres (307,398 ha), with 728,352 acres (291,340 ha) acquired

LOCATION: southwest of Tallahassee, in southwestern Leon County, western Wakulla County, most of Franklin County, and southern Liberty County, extending west to the Apalachicola River and south to U.S. Highway 98 along the Gulf of Mexico. Parts are contiguous with the St. Marks National Wildlife Refuge IBA to the east and southeast, and with the potential Wakulla Springs IBA to the east.

DESCRIPTION: A huge forested area comprising over 800,000 acres (320,000 ha) when non-IBA public acreage is added. **Apalachicola National Forest** is divided into two Ranger Districts: Apalachicola and Wakulla. It is one of Florida’s largest and most significant conservation areas. _____. The National Forest receives _____ recreationists and _____ hunters annually. **Tates Hell State Forest** is a large area south of, and contiguous with, Apalachicola National Forest. Public acquisition began in 1992, and over 150,000 acres (60,000 ha) have been purchased to date, at a cost of over \$100 million. The State Forest receives _____ recreationists and _____ hunters annually.

OWNERSHIP: U.S. Forest Service (Apalachicola National Forest) and Florida Division of Forestry (Tates Hell State Forest, co-managed by the Florida Division of Wildlife as “Tates Hell Wildlife Management Area”

HABITATS: Apalachicola National Forest: *longleaf pine flatwoods, *pine plantation, *pine savanna, *sandhills, *cypress swamp, *hardwood swamp, *bayhead, *riverine, freshwater marsh, lacustrine.

Tates Hell State Forest: *longleaf pine flatwoods, *pine plantation, *pine savanna, *cypress swamp, *riverine, hardwood swamp, bayhead, freshwater marsh, lacustrine, coastal strand

LAND USE: Apalachicola National Forest: *conservation, *timber production, *hunting, recreation.

Tates Hell State Forest: *conservation, recreation, hunting, timber production

IBA CATEGORIES: Apalachicola National Forest: significant populations of Endangered and Watch List species; complete diversity of longleaf pine flatwoods and savannas species; significant numbers of wintering sparrows; and significant natural habitats [long-term research for RCWs?]. **Tates Hell State Forest:** significant populations of Endangered, Special Concern, and FCREPA species; complete diversity of longleaf pine flatwoods species; and significant natural habitats.

AVIAN DATA: This vast IBA is critically important for the Red-cockaded Woodpecker, with 638 active clusters. Apalachicola National Forest alone supports 611 clusters, representing nearly half of Florida’s population, and 12% of the world population. Apalachicola also supports large numbers of other species of longleaf pine flatwoods and savannas, including Henslow's Sparrows, which are locally abundant winter residents. Tates Hell State Forest supports significant populations of the state's breeding Swallow-tailed Kites and Red-cockaded Woodpeckers. Bird diversity of both sites combined is _____ native species. [Are bird lists available for either Forest?]

Apalachicola National Forest:

SPECIES	DATES	NUMBERS	COMMENTS
Yellow Rail	Annual	Uncommon	(W)
Red-cockaded Woodpecker	1999	611 clusters	47% (R)
Red-headed Woodpecker	Annual	Common	(R)
Sedge Wren	Annual	Abundant	(W)
	22 Jan 1997	20 birds	in one savanna (W)
Brown-headed Nuthatch	Annual	Common	(R)
Bachman’s Sparrow	Annual	Common	(R)
Le Conte’s Sparrow	Annual	Common	(W)
Henslow’s Sparrow	Annual	Abundant	(W)

DOG ISLAND–LANARK REEF

Lanark Reef (depending on the tide, 5–73 acres; 2–29 ha) and **Dog Island** (1102 acres [440 ha] acquired as **Jeff Lewis Wilderness Preserve**)

Franklin County

1100+ acres

LOCATION: two islands in the Gulf of Mexico off central Franklin County. Lanark Reef is about 1 mile (1.6 km) south of Lanark Village, while Dog Island is about 4 miles (6.4 km) south of Carrabelle. This IBA is just east of the Greater Apalachicola Bay IBA.

DESCRIPTION: **Dog Island** is the much larger of the two islands, more than 6 miles (9.6 km) long and nearly 1 mile (1.6 km) wide at its widest point. It encompasses 1842 acres (736 ha), of which about 60% is managed by The Nature Conservancy in cooperation with the Barrier Island Trust as the Jeff Lewis Wilderness Preserve. The remainder of the island is in private ownership in small tracts. *N.B. For now, we currently consider all of Dog Island as an IBA, since much of the privately owned properties remain in their native state. However, IBA designation may eventually apply only to Jeff Lewis Wilderness Preserve, as privately-owned lands on Dog Island are developed.* **Lanark Reef** comprises mostly sand flats, with mud flats occurring at the eastern and western ends during low tides. During high tides, most of Lanark Reef is submerged, with only a few grassy areas above water. Both islands have been proposed by the U.S. Fish and Wildlife Service as Critical Habitat for the Piping Plover. [Is the number of recreationists to either site known?]

OWNERSHIP: State of Florida (all [?] of Lanark Reef), The Nature Conservancy (60% of Dog Island), and private owners (remainder of Dog Island, and possibly the western end of Lanark Reef)

HABITATS: **Dog Island:** *pine flatwoods, xeric oak scrub, sand pine scrub, depression marsh, mangrove forest, tidal marsh, estuarine, coastal strand. **Lanark Reef:** *coastal strand, tidal marsh

LAND USE: **Dog Island:** *conservation, residential, recreation. **Lanark Reef:** *conservation, recreation

IBA CATEGORIES: **Dog Island:** significant populations of Threatened, Special Concern, and FCREPA species; significant numbers of larids and Neotropical migrants; and significant natural habitats. **Lanark Reef:** significant populations of Threatened, Special Concern, and FCREPA species; significant numbers of shorebirds and larids; and significant natural habitats

AVIAN DATA: This IBA is one of the most important wintering shorebird areas in Florida, especially for Piping Plovers and Snowy Plovers. Lanark Reef was ranked by +Sprandel et al. (1997) as the biologically most important site in Florida for winter shorebirds. Lanark Reef also supports a breeding colony of Brown Pelicans, wading birds, American Oystercatchers, and larids. In the early 1990s, a banding station at Jeff Lewis Wilderness Preserve [?] recorded large numbers of Neotropical migrants, including over **6000** Gray Catbirds in a single day. [Are bird lists available for the two islands, especially Dog?]

Dog Island (mostly limited to Jeff Lewis Wilderness Preserve):

SPECIES	DATE	NUMBERS	COMMENTS
Common Loon	19 Dec 1993	450 birds	(W)
Reddish Egret	18 Sep 1993	13 birds	(N)
Northern Harrier	13 Oct 1996	96 birds	(M)
Snowy Plover	1989	0 birds	
	20 Jan 1993	20 birds	4% (R)
	Jan–Feb 2001	0 birds	
Piping Plover	21 Feb 1993	92 birds	15% (W)
	Jan–Feb 2001	3 birds	<1% (W)
Sandwich Tern	30 Aug 1992	490 birds	(M)
Common Tern	27 Sep 1992	700 birds	(M)
Least Tern	7 Jun 2000	339 pairs	8% (B)

Black Skimmer	7 Jun 2000	20 pairs	1% (B)
Yellow-billed Cuckoo	22 Oct 1993	50 birds	(M)
Ruby-crowned Kinglet	3 Nov 1996	40 birds	(M)
Hermit Thrush	3 Nov 1996	40 birds	(M)
Gray Catbird	28 Sep 1993	6000 birds	Florida record count, by far (M)
White-throated Sparrow	3 Nov 1996	25 birds	(M)

1989 Snowy Plover data from +Gore and Chase (1989); Least Tern and skimmer data provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission); all other data from observations of Duncan Evered and Lyla Messick published in *Florida Field Naturalist*.

Lanark Reef:

SPECIES	DATE	NUMBERS	COMMENTS
Brown Pelican	25 May 1999	375 pairs	4% (B)
	31 May 2000	377 pairs	4% (B)
Black-bellied Plover	winter 1993–1994	153 birds	(W)
Snowy Plover	29 Jan 1997	22 birds	5% (R)
	Jan–Feb 2001	2 birds	<1% (R)
Piping Plover	winter 1993–1994	87 birds	14% (W)
	16 Jan 1996	83 birds	13% (W)
	Jan–Feb 2001	15 birds	3% (W)
American Oystercatcher	winter 1993–1994	110 birds	(W)
Willet	winter 1993–1994	704 birds	(W)
Marbled Godwit	4 Feb 1997	376 birds	(W)
Red Knot	22 Oct 1995	410 birds	(M)
Dunlin	20 Feb 1997	1064 birds	(W)
Shorebirds	winter 1993–1994	3287 birds	(W)
Laughing Gull	25 May 1999	460 pairs	nearly 2% (B)

Pelican and knot data provided by George Wallace (Florida Fish and Wildlife Conservation Commission), shorebird data from +Sprandel et al. (1997) and +Gunnels (1999), and gull data from +Hovis and Sprandel (1999).

OTHER RESOURCES: Dog Island supports small numbers of nesting sea turtles.

THREATS: Dog Island: *human disturbance. **Lanark Reef:** *development, human disturbance

CONSERVATION ISSUES: Ownership of the western end of **Lanark Reef** is in dispute; if parts are private property and development was attempted, it could be a serious threat. However, any proposed development probably would be prevented due to resource concerns. During nesting, human disturbance of colonies from fisherman who land on the island could be a threat. **Dog Island:** _____

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission) and Bill Pranty (Audubon of Florida)

REVIEWED BY: Jeff Gore, Karen Lamonte, and George Wallace (all of the Florida Fish and Wildlife Conservation Commission)

REFERENCES: +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL • +Gunnels, C.M. 1999. Survey and home range analyses of wintering shorebirds using the Lanark Reef shorebird complex, Franklin County, Florida. M.Sc. thesis, West Virginia University, Morgantown, WV. • +Hovis, J.A., and G.L. Sprandel. 1999. Statewide breeding shorebird survey preliminary draft, annual report. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

GREATER APALACHICOLA BAY

Apalachicola Bird Island (8 acres; 3.2 ha), **Cape St. George State Reserve** (2294 acres; 917 ha), **Dr. Julian G. Bruce St. George Island State Park** (1962 acres; 784 ha), **St. George Island Causeway** (50 acres; 20 ha), **St. Vincent National Wildlife Refuge** (12,489 acres; 4995 ha), and **Yent Bayou** (50 acres; 20 ha)

Franklin County

16,853 acres

LOCATION: off the coast of southwestern Franklin County, where the Apalachicola River and several barrier islands form Apalachicola Bay. **Apalachicola Bird Island** is located about 0.5 miles (0.8 km) south of the western end of the John Gorrie Bridge. **St. George Island Causeway** is about 4 miles (6.4 km) long and connects the island with the mainland at Eastpoint. St. George Island is about 4–8 miles (6.4–12.8 km) south of the mainland; **Dr. Julian G. Bruce St. George Island State Park** occupies the eastern end of the island, about 4 miles (6.4 km) from the causeway. **Cape St. George** is between St. George Island and St. Vincent Island, about 6–8 miles (9.6–12.8 km) off the mainland. **St. Vincent Island** is the westernmost island, a few miles (km) off the mainland. **Yent Bayou** is on the mainland about 7 miles (11.2 km) east of Eastpoint and about 6 miles (9.6 km) west of Carrabelle Beach, bounded on the west by Royal Bluff. The Greater Apalachicola Bay IBA is just west of the Dog Island–Lanark Reef IBA.

DESCRIPTION: This IBA contains six islands (two artificial) in Apalachicola Bay, one of the most productive estuaries in the Northern Hemisphere. **Apalachicola Bird Island** is a “spoil” island at the mouth of the Apalachicola created in 1995 from dredging activities. **Cape St. George State Reserve** encompasses all of Little St. George Island, which was formed when a channel was dug in 1957 through the western third of St. George Island. It is inaccessible except by private boat and was purchased by the State in 1977. No formal IBA nomination was submitted. The **St. George Island Causeway** is about 4 miles (6.4 km) long, and a 1 mile (1.6 km) stretch of shell and grass supports nesting American Oystercatchers and a larid rookery. The causeway is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. **Dr. Julian G. Bruce St. George Island State Park** was purchased beginning in 1963 and opened to the public in 1980. It protects more than 9 miles (14.4 km) of beaches and dunes at the eastern half of St. George Island. During World War II, the island's dunes were used by troops for training exercises. Most of the eastern end of St. George Island has been proposed by the U.S. Fish and Wildlife Service as Critical Habitat for the Piping Plover. **St. Vincent Island National Wildlife Refuge** encompasses all of St. Vincent Island and is inaccessible except by private boat. No formal IBA nomination was received; the limited data here were provided by others or were taken from the Refuge website. It is four miles wide (6.4 km) at the eastern end and nine miles (14.4 km) long, and is composed of several ridges that represent different shorelines over the past 5000 years. **Yent Bayou** is mostly private property, part of the Hidden Beaches and Victorian Village developments. The areas below mean high tide is State-sovereign land. Annual visitation to the sites are: ____ for Bird Island, ____ vehicles on the causeway, ____ to the State Park, ____ to the State Reserve, ____ to the National Wildlife Refuge, and ____ to Yent Bayou.

OWNERSHIP: U.S. Fish and Wildlife Service (St. Vincent Island National Wildlife Refuge), State of Florida (submerged acres of Yent Bayou), Florida Department of Transportation (St. George Island Causeway [and Bird Island, or U.S. Army Corps of Engineers?]), Florida Division of Marine Resources (Cape St. George State Reserve), Florida Division of Recreation and Parks (Dr. Julian G. Bruce St. George Island State Park), and private owners (uplands adjacent to Yent Bayou).

HABITATS: **Bird Island:** *artificial (spoil island). **St. George Island Causeway:** *artificial (grassy causeway). **St. George Island State Park:** *slash pine flatwoods, *coastal strand, temperate hammock, sand pine scrub, sawgrass marsh, tidal marsh, estuarine, coastal grasslands, artificial. **Yent Bayou:** *estuarine, coastal strand, private (housing lots)

LAND USE: Bird Island: *dredged-material disposal area, conservation. **St. George Island Causeway:** *transportation, conservation. **St. George Island State Park:** *conservation, *recreation. **Yent Bayou:** conservation (sovereign wetlands), recreation, residential (uplands)

IBA CATEGORIES: Bird Island: significant populations of Special Concern and FCREPA species; significant numbers of shorebirds and larids. **St. George Island Causeway:** significant populations of Threatened, Special Concern, FCREPA, and IBA species; significant numbers of larids. **St. George Island State Park:** significant populations of Endangered, Threatened, and FCREPA species; significant numbers of Neotropical migrants; and significant natural habitats. **Yent Bayou:** significant populations of Threatened species.

AVIAN DATA: The islands are regionally important for breeding and wintering shorebirds and for breeding larids, while wooded portions of the state park are important for Neotropical migrants. Apalachicola Bird Island also supports breeding shorebirds. Bird diversity for all sites combined is ____ native species. [I have bird lists for St. George and St. Vincent; are lists available for any of the other sites?]

Apalachicola Bird Island:

SPECIES	DATE	NUMBERS	COMMENTS
Brown Pelican	2001	269 pairs	3% (B)
American Oystercatcher	11 Jul 1999	3 chicks	<1% (B)
Gull-billed Tern	11 Jun 1999	18 pairs	32% (B)
	2000	6 pairs	10% (B)
Caspian Tern	1 Jun 1998	105 nests	32% (B)
	26 May 1999	104 pairs	32% (B)
	2000	148 pairs	45% (B)
Royal Tern	11 Jun 1999	174 pairs	3% (B)
	2000	718 pairs	13% (B)
Sandwich Tern	1998	7 pairs	<1% (B)
	2000	30 pairs	3% (B)
Least Tern	26 May 1999	20 pairs	<1% (B)
Black Skimmer	11 Jun 1999	186 pairs	12% (B)
	2000	115 pairs	7% (B)

Pelican and oystercatcher data provided by ____, other data from +Hovis and Sprandel (1999) and provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission), 1996–1998 Caspian Tern data from +McNair and Gore (2000).

Cape St. George State Reserve:

SPECIES	DATE	NUMBERS	COMMENTS
Snowy Plover	1989	4 pairs	2% (R)
	Jan–Feb 2001	12 birds	3% (R)

Data from +Gore and Chase (1989) and provided by Patty Kelly (U.S. Fish and Wildlife Service)

Dr. Julian G. Bruce St. George Island State Park:

SPECIES	DATE	NUMBERS	COMMENTS
Peregrine Falcon	24 Sep 1998	42 birds	2% (M)
Merlin	24 Sep 1998	40 birds	(M)
Piping Plover	15–21 Jan 1996	6 birds	1% (W)
	Jan–Feb 2001	7 birds	1% (W)
Snowy Plover	1989	14 pairs	7% (R)
	Jan–Feb 2001	2 birds	<1% (R)
Yellow-billed Cuckoo	29 Sep 1999	40 birds	(M)
Red-eyed Vireo	9 Sep 1998	60 birds	(M)
Veery	1 May 1998	20 birds	(M)
Swainson's Thrush	29 Sep 1999	21 birds	(M)
Overall diversity	_____ list	233 natives	
		1 exotic	

1989 Snowy Plover data from +Gore and Chase (1989); other plover data provided by Patty Kelly (U.S. Fish and Wildlife Service); all other State Park data gathered by Jim Cavanagh for the Florida Fish and Wildlife Conservation Commission, provided by George Wallace

St. George Island Causeway:

SPECIES	DATE	NUMBERS	COMMENTS
American Oystercatcher	annually	1–2 pairs	<1% (B)
Laughing Gull	26 May 1999	3443 pairs	14% (B)
	2000	2695 pairs	11% (B)
Least Tern	26 May 1999	128 pairs	3% (B)
	2000	142 pairs	3% (B)
Royal Tern	26 May 1999	1086 pairs	20% (B)
	2000	187 pairs	3% (B)
Sandwich Tern	26 May 1999	39 pairs	4% (B)
	2000	3 pairs	<1% (B)

Data provided by the Florida Fish and Wildlife Conservation Commission, from +Hovis and Sprandel (1999) and provided by Jeff Gore and Gary Sprandel.

St. Vincent National Wildlife Refuge:

SPECIES	DATE	NUMBERS	COMMENTS
Snowy Plover	1989	5 pairs	2% (R)
	Jan–Feb 2001	4 birds	1% (R)

Data provided by Patty Kelly (U.S. Fish and Wildlife Service)

Yent Bayou:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	11 Jan 1997	14 birds	2% (W)
	Jan–Feb 2001	0 birds	
Snowy Plover	22 Jan 2000	23 birds	5% (R)
	Jan–Feb 2001	0 birds	

Data from +Hovis and Sprandel (1999) and provided by Patty Kelly (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Sea turtles nest along the beaches. • The St. George Lighthouse, on Little St. George Island, was built in 1852. At that time, the lighthouse was 1330 feet (400 m) from the beach, but erosion of the island has brought the shoreline to its base; the lighthouse is being stabilized to prevent its collapse. • St. George Island State Park contains some virgin “cat-faced” slash pines from the turpentine industry active in the early 1900s. • St. Vincent Island National Wildlife Refuge is a breeding site for the critically endangered ♦red wolf (*Canis rufus*). • Apalachicola Bay is a designated International Biosphere Reserve, and a National Estuarine Research Reserve.

THREATS: **Bird Island:** *human disturbance. **St. George Island Causeway:** *human disturbance. **St. George Island State Park:** human disturbance. **Yent Bayou:** *development (adjacent uplands), *human disturbance

CONSERVATION ISSUES: **Apalachicola Bird Island** is posted from April through August to prevent disturbance to the breeding colony. The island is maintained as a bird nesting area by the U.S. Army Corps of Engineers by adding dredged material every few years, and by controlling vegetation. **Cape St. George State Reserve:** Prescribed fire is used to maintain the condition of pine flatwoods and savannas, and exotic plants are removed as needed. • Dogs must be leashed at all times. • The larid colony on the **St. George Island Causeway** is subject to high mortality from motor vehicles. To prevent continued bird deaths from vehicles, the speed limit on the causeway has been reduced to 35 mph (56 kph) and fencing keeps young birds off the road. A new bridge is being built between the mainland and St. George Island; when this is completed, the existing causeway will become an island managed for nesting birds. • **St. George Island State Park:** Most of the dunes in the state park are off limits except along paths; private portions of the island are undergoing extensive development. • **St. Vincent Island National Wildlife Refuge** contains populations of exotic ♦sambar deer (*Cervus unicolor*) [and a second exotic mammal?] native to southeastern Asia; these are remnants of previous owners who used the island as a hunting reserve. These deer apparently are not impacting the island negatively. • **Yent Bayou:** Uplands are residential lots, which probably will be developed eventually. It is not known whether this will impact shorebird use of the tidal wetlands. • Yent Bayou has been proposed as Critical Habitat for the Piping Plover.

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission). Two other sites, Cape St. George State Reserve and St. Vincent Island National Wildlife Refuge, later were added to this IBA, but were not nominated formally.

REVIEWED BY: Jeff Gore and Karen Lamonte (Florida Fish and Wildlife Conservation Commission).

REFERENCES: +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Hovis, J.A., and G.L. Sprandel. 1999. Statewide breeding shorebird survey preliminary draft, annual report. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. • +McNair, D.B., and J.A. Gore. 2000. Recent breeding of Caspian Terns in northwest Florida. *Florida Field Naturalist* 28: 30–32. x

WEBSITES: <<http://www.baynavigator.com/TheIslands/capestgeorge.html>>
<<http://www.dep.state.fl.us/parks/district1/stgeorge>>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/vincent.htm>>

LAKE LAFAYETTE

688 acres (275 ha)

Leon County

LOCATION: in southeastern Leon county a few miles (km) east of Tallahassee.

DESCRIPTION: an island in this freshwater lake supports a wading bird colony. Annual use of the lake is ____ recreationists and ____ hunters.

OWNERSHIP: Florida Division of Wildlife

HABITATS: *lacustrine, freshwater marsh

LAND USE: *hunting, conservation, recreation

IBA Category: significant populations of Endangered species; and significant natural habitats

AVIAN DATA: An island in Lake Lafayette contains a wading bird rookery with a significant number of Wood Storks. Waterfowl also use the lake. [Is a bird list available?].

SPECIES	DATE	NUMBERS	COMMENTS
Wood Stork	1993	283 nests	5% (B)
	1 Jun 1999	225 nests	4% (B)

Data supplied by Jim Rodgers (Florida Fish and Wildlife Conservation Commission) and taken from +Rodgers et al. (in prep.). [Are data available for 2000–2002?]

OTHER RESOURCES: none known

THREAT: human disturbance, runoff

CONSERVATION ISSUES: Access to the rookery is prohibited during the breeding season. During nesting, human disturbance of colonies from landing fisherman or airboats could be a threat. • Located near an urban area, Lake Lafayette faces water quality impacts from nearby developments and a landfill.

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission)

REVIEWED BY: Jeff Gore and Karen Lamonte (Florida Fish and Wildlife Conservation Commission).

REFERENCE: +Rodgers, J.A., Jr., P.S. Kubelis, S.A. Nesbitt, M.F. Delany, R.K. Felix, J. Swan, K.T. Bowman, and J.B. Dodge. In prep. Atlas of breeding sites for colonial waterbirds in Florida during 1999. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL.

RED HILLS ECOSYSTEM

Gadsden, Jefferson, and Leon counties

105,000 acres (42,120 ha), with about 25,000 acres (10,000 ha) protected under perpetual conservation easements

LOCATION: an IBA shared by Florida and Georgia. The Florida portion encompasses a tiny portion of northeastern Gadsden County, two separate parcels in northern Jefferson County, and all of northern Leon County, north of Tallahassee between Havana and Monticello,

DESCRIPTION: The Red Hills physiographic region encompasses a large area between Thomasville, Georgia and Tallahassee, Florida. The region is so named after its reddish clay soils and rolling topography. The Red Hills Ecosystem IBA contains nearly 250,000 acres (100,000 ha), with a majority of this area in Georgia. Longleaf pine flatwoods were the original land cover, but these forests were cleared and heavily farmed for cotton and corn during Antebellum times. Today, oldfield pine communities of loblolly and ♦shortleaf pines (*Pinus echinata*) dominate the Florida portion of the Red Hills, and most of the plantations exist for hunting Northern Bobwhites. Despite the lack of their original threeawn ground cover, these pine forests resemble native pinewoods. Landowners in the region have a strong land stewardship tradition that recognizes the value of biological diversity. Several conservation organizations, led by Tall Timbers Research Station, are encouraging landowners to protect their plantations with perpetual conservation easements that balance consumptive use of resources with sustainable management. At the heart of the easement program is the encouragement of implementing good timber management practices, for both sustainable forestry and ecological values. Hunter use is unknown since the properties are privately owned.

OWNERSHIP: private (plantations proposed for or under perpetual conservation easements, overseen by the Tall Timbers Research Station, The Nature Conservancy, or other conservation organizations).

HABITATS: *oldfield pinelands, longleaf pine flatwoods, pine plantation, fields, non-native pasture, agricultural fields, hardwood swamp, freshwater marsh, cattail marsh, riverine, lacustrine, and artificial

LAND USE: *hunting, *timber production, conservation, agriculture, ecological research, environmental education

IBA CATEGORIES: significant populations of Endangered, FCREPA, and Watch List species; complete diversity of pinewood species; significant diversity of breeding species; significant natural habitats; and long-term research

AVIAN DATA: The Red Hills are the last stronghold in Florida for the White-breasted Nuthatch, which has disappeared from the remainder of their statewide range. The Red Hills support the sixth largest population of Red-cockaded Woodpeckers remaining in the world, but nearly all of these clusters now occur in Georgia; Florida populations in the Red Hills have declined significantly. Data obtained during the Florida Breeding Bird Atlas (FBBA) Project documented over 100 breeding species, one of the most diverse breeding areas in Florida. A long-term study of birds killed by a television tower at Tall Timbers Research Station was censused *nearly daily* for 28 years, establishing a study “almost unique for its duration and rigorous effort” (+Crawford and Engstrom 2001; see also +Crawford 2001). Bird diversity for all sites combined is ____ native species. [Are bird lists available? There must be one for Tall Timbers at least].

Florida portion [data on the entire IBA (i.e., Florida and Georgia portions) will be provided later]:

SPECIES	DATE	NUMBERS	COMMENTS
Red-cockaded Woodpecker	2002	13–14 clusters	1% (R)
White-breasted Nuthatch	1986–1991		20 of the state's 37 FBBA blocks that contained this species were in the Red Hills
	2002	common	
Bachman's Sparrow	2002	common	
Overall diversity	____ list	____ natives	
		____ exotics	

FBBA data from Kale et al. (1992); other data provided by Jim Cox (Tall Timbers Research Station). See also +Crawford (2001) and +Crawford and Engstrom (2001)

OTHER RESOURCES: The pinewoods of the Red Hills are unique in Florida, as pines do not grow in clay soils elsewhere in the state. • Protection of this IBA will aid in recharge of the Floridan Aquifer. • Several rare plants and animals occur within the IBA, such as pine snake, gopher tortoise, and black bear. • Many historical and cultural features are present, from the Plantation era to Indian settlements.

THREATS: *development, timber harvesting

CONSERVATION ISSUES: this IBA is entirely in private ownership, but the owners of several plantations have established perpetual conservation easements on their properties, thereby ensuring the preservation of their natural resources. • The Red Hills support one of the largest populations of Red-cockaded Woodpeckers remaining on private property. Populations in the Florida portion of the IBA are small but management activities are increasing this number. • This IBA also contains one of few demographically stable populations of Northern Bobwhites in the state. • Management includes selective timbering, herbiciding of oaks, and frequent prescribed fires to maintain the open understory of the pinewoods. In some plantations, longleaf pine is being replanted as other pines are logged.

NOMINATED BY: Jim Cox (Tall Timbers Research Station)

REFERENCES: +Crawford, R.L. 2001. Some erroneous WCTV tower data. *Florida Field Naturalist* 29: 129. • +Crawford, R.L., and R.T. Engstrom. 2001. Characteristics of avian mortality at a Northern Florida television tower: A 29-year study. *Journal of Field Ornithology* 72: 380–388.

WEBSITES: <<http://www.ttrs.org>>, <<http://www.ttrs.org/conserv/ceinrhr.html>>

ST. MARKS NATIONAL WILDLIFE REFUGE

Jefferson, Taylor, and Wakulla counties

67,562 acres (27,024 ha)

LOCATION: along the Gulf of Mexico in southern Wakulla County, extreme southern Jefferson County, and extreme northwestern Taylor County, south of U.S. Highway 98. Parts are contiguous with the Apalachicola and Tates Hell Forests IBA to the west and northwest.

DESCRIPTION: St. Marks National Wildlife Refuge was established in 1931 to provide wintering habitat for migratory waterfowl. It consists of four units: Aucilla River, Panacea, St. Marks, and Wakulla. The Refuge receives 250,000 recreationists and ____ hunters annually.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *slash pine flatwoods, *sandhills, *temperate hammock, *cypress swamp, *hardwood swamp, *freshwater marsh, *sawgrass marsh, *freshwater impoundments, *tidal marsh, *riverine, *estuarine, pine plantation, xeric oak scrub, fields, non-native pastures, bayhead, cattail marsh, lacustrine

LAND USE: *conservation, *recreation, hunting

IBA CATEGORIES: significant populations of Threatened, Special Concern, FCREPA, and IBA species; significant numbers of aquatic birds, wading birds, shorebirds, and larids; significant overall diversity; significant natural habitats; and long-term research

AVIAN DATA: The Refuge supports a great variety of aquatic birds, including wading birds, waterfowl, and shorebirds. Coastal hammocks and upland forests are important for Neotropical migrants.

SPECIES	DATE	NUMBERS	COMMENTS
Brown Pelican	summer 1999	125 pairs	1% (B)
Great Egret	1 Jun 2000	250 nests	1% (B)
Snowy Egret	1 Jun 2000	250 nests	>1% (B)
Tricolored Heron	1 Jun 2000	480 nests	>1% (B)
Reddish Egret	Jun–Sep 1999	12 birds	1% (N)
Black-crowned Night-Heron	1 Jun 2000	75 nests	(B)
Wading birds	Mar–Jun 2000	1300 nests	(B)
Ducks	995–1996 to 1999–2000	mean of 6256 birds (range of 3953–9680)	Impoundments only (W)
Redhead	Jan surveys, 1998–2000	mean of 4601 birds (range of 2430–8644)	Ochlockonee to Aucilla Rivers (W)
American Coot	1995–1996 to 1999–2000	mean of 6664 (range of 811–12,624)	Impoundments only (W)
Swallow-tailed Kite	6 Jul 1999	16 birds	1% (N)
Bald Eagle	1998–1999 and 1999–2000	13 nests	1% (B)
Wilson's Plover	8 Jul 2001	30 birds	7% (N)
Shorebirds	winter 1993–1994	4006 birds	(W)
	19 Nov 1999	7600 birds	(W)
Laughing Gull	Jun 1999	775 pairs	3% (B)
Red-cockaded Woodpecker	summer 2000	7 clusters	<1% (R)
Long-term research	since 1981		Red-cockaded Woodpecker demography
Overall diversity	1991 list	321 natives 5 exotics	The third most diverse IBA in Florida.

Pelican data from +Rodgers et al. (in prep.), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), 1993–1994 shorebird data from +Sprandel et al. (1997), plover data from an

observation by Tom Curtis published in *Florida Field Naturalist*, other data provided by Refuge staff or from +USFWS (1991).

OTHER RESOURCES: The refuge protects over 40 miles (64 km) of coastline. • The St. Marks Lighthouse was built in 1832 and remains in use today.

THREAT: human disturbance

CONSERVATION ISSUES: Red-cockaded Woodpeckers at the Refuge are “demographically and geographically connected” to others on nearby public lands such as Ochlockonee River State Park and Apalachicola National Forest. Biologists from Florida State University are assisting with monitoring all Red-cockaded Woodpeckers in the region, and are color-banding nestlings and adding cavity inserts to stabilize and increase the population. • Monitoring of birds and other wildlife has declined in recent years because of increased staff workloads and “changing priorities.”

NOMINATED BY: Gary Sprandel (Florida Fish and Wildlife Conservation Commission) and Joe Reinman (U.S. Fish and Wildlife Service)

REFERENCES: +Rodgers, J.A., Jr., P.S. Kubelis, S.A. Nesbitt, M.F. Delany, R.K. Felix, J. Swan, K.T. Bowman, and J.B. Dodge. In prep. Atlas of breeding sites for colonial waterbirds in Florida during 1999. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +USFWS. 2001. St. Marks National Wildlife Refuge Annual Narrative, Fiscal Year 2000. U.S. Fish and Wildlife Service. St. Marks, FL.

WEBSITES: <<http://saintmarks.fws.gov>>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/stmarks.htm>>

WAKULLA SPRINGS

Edward Ball–Wakulla Springs State Park (4740 acres; 1896 ha) and the **Wakulla Springs Protection Zone CARL–FF Project** (7964 acres [3185 ha] remaining)

Wakulla County

12,704 acres (5081 ha), with 4740 acres (1887 ha) acquired

[This nomination needs additional data; it has not yet been designated as an IBA]

LOCATION: in north-central Wakulla County, 13 miles (20.8 km) south of downtown Tallahassee. Contiguous with the Apalachicola and Tates Hell Forests IBA to the west.

DESCRIPTION: Edward Ball–Wakulla Springs State Park protects Wakulla Springs and the upper 3 miles (5 km) of the Wakulla River. The Wakulla Springs Protection Zone CARL–FF Project will preserve much additional lands west and north of the State Park, which overlie some of the extensive cavern systems of the springs. The State Park receives 180,000 recreationists annually. All data for this IBA refer solely to the State Park except for land use of the private properties, which was taken from +DEP (2001).

OWNERSHIP: Florida Division of Recreation and Parks (Edward Ball–Wakulla Springs State Park), Florida Division of Forestry (some acquired acreage of the Wakulla Springs Protection Zone CARL–FF Project), private owners (remaining acreage in the Wakulla Springs Protection Zone CARL–FF Project)

HABITATS: *longleaf pine flatwoods, *xeric oak scrub, *hardwood swamp, *riverine, pine plantation.

LAND USE: Edward Ball–Wakulla Springs State Park: *conservation, *recreation. **Wakulla Springs Protection Zone CARL–FF Project:** *timber production, agriculture

IBA CATEGORIES: significant populations of FCREPA species; and significant natural habitats

AVIAN DATA: The State Park supports a diversity of species, including breeding Mississippi Kites and other woodland species, wintering waterfowl, and Neotropical migrants. Until recently, the park supported a large population of Limpkins, which was called “the largest population” in northern Florida (Stevenson and Anderson 1994). Wakulla Springs also marks the westernmost nesting site of the Snail Kite in the United States; a nest was found along the river in 1929 (plate 29 in Howell 1932), which is 228 miles (365 km) northwest of Orlando Wetlands Park (pages 186–187), the most recent northernmost breeding site.

SPECIES	DATE	NUMBERS	COMMENTS
Osprey	Jan–Jun 2001	15 nests	1% (B)
Overall diversity	Undated list	180 natives 0 exotics	

Data provided by Scott Savery and Sandy Cook (Florida Division of Recreation and Parks)

OTHER RESOURCES: Edward Ball–Wakulla Springs encompasses the largest, deepest, and best-mapped underground springs and tunnel system in the world; it is 185 feet (55.5 m) deep. • The Wakulla River has been designated as an Outstanding Florida Water. • Wakulla Springs is designated as a National Natural Landmark. • Over 60 cultural or historical sites are found within the State Park, including the Wakulla Lodge, which is on the National Register of Historical Places.

THREATS: *human disturbance, *exotic plants, development, habitat succession, feral hogs, poaching

CONSERVATION ISSUES: Hydrilla has infested the spring and Wakulla River, which may have contributed to the decline of the Limpkin population in recent years. • About 1300 acres of the park are prescribed-burned. • Restoration of uplands disturbed by from either fire exclusion or logging is ongoing. • An approved Management Plan is in place. • Wakulla Springs Protection Zone CARL–FF Project was designed to protect lands above “enormous caverns” that feed the springs and that are

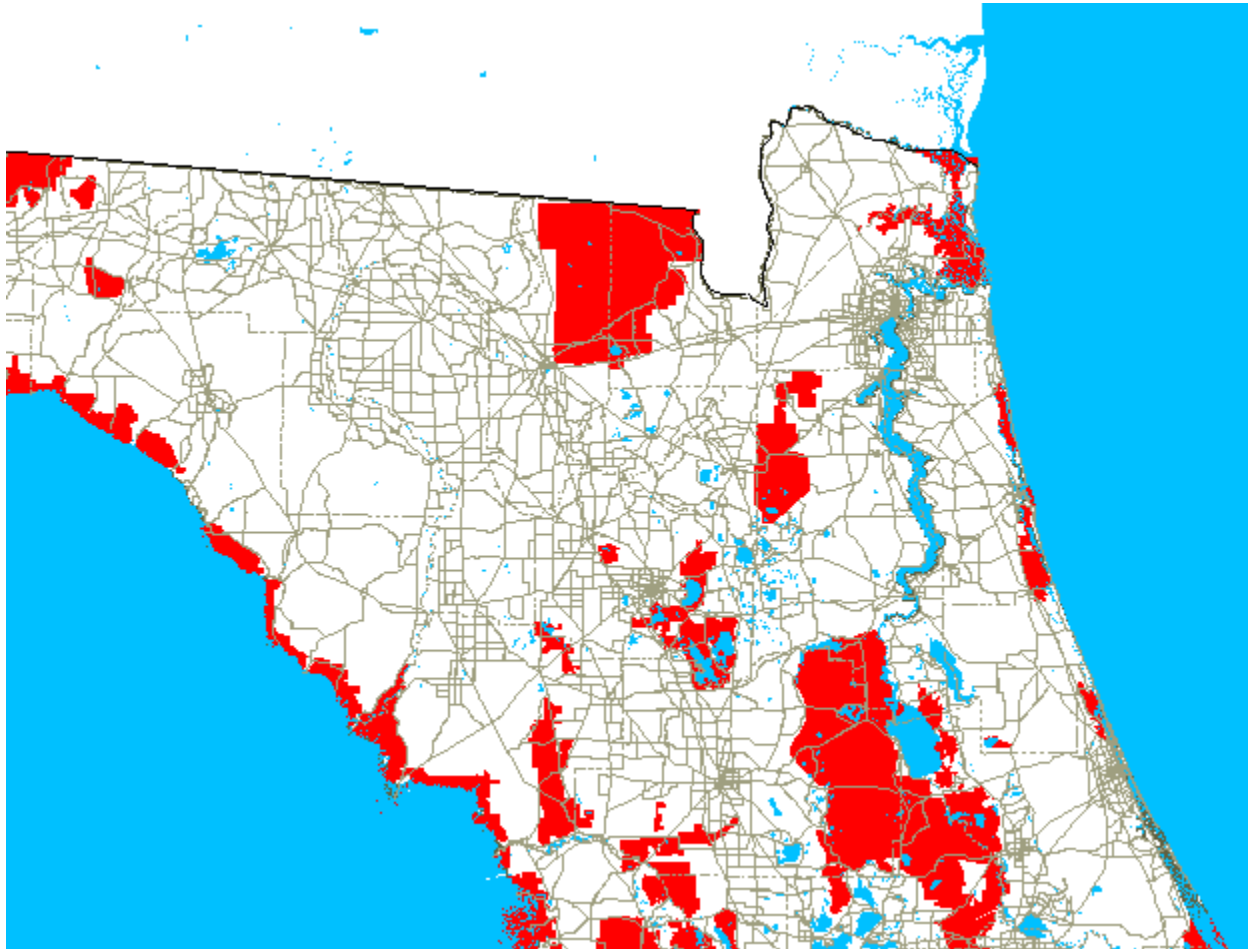
located north and west of the State Park. Nearly half of the CARL–FF Project acreage has been acquired, and if fully purchased, will directly link Edward Ball–Wakulla Springs State Park with Apalachicola National Forest to the northwest. Much of the acreage of the Wakulla Springs Protection Zone CARL–FF Project, of which 70% is pasture or commercial pine forest, will be added to the State Park, but some will be managed by the Florida Division of Forestry and Florida Division of Wildlife.

NOMINATED BY: Scott Savery and Sandy Cook (Florida Division of Recreation and Parks)

REFERENCES: +DEP. 2001. Florida Forever five year plan. Department of Environmental Protection. Tallahassee, FL. • Stevenson, H.M., and B.H. Anderson. 1994. *The Birdlife of Florida*. University Press of Florida. Tallahassee, FL.

WEBSITE: <<http://www.dep.state.fl.us/parks/district1/wakullasprings>>

NORTHERN PENINSULA



ALACHUA LAKES

Gum Root Swamp Conservation Area and Park (1895 acres; 758 ha); **Lochloosa Wildlife CARL–FF Project** (33,793 acres [13,517 ha], including 16,994 acres [6797 acres] acquired as **Lochloosa Wildlife Conservation Area**), **Newnans Lake CARL–FF Project** (12,957 acres [5582 ha], including 372 acres [148 ha] acquired), **Prairie Creek Conservation Area** (203 acres; 81 ha), and private lands surrounding **Orange Lake** (~12,100 acres; 4840 ha)

Alachua and Marion counties

60,948 acres (24,379 ha), including 19,464 acres (7785 ha) acquired, mostly as perpetual conservation easements

LOCATION: in southeastern Alachua County and extreme northern Marion County, bordered by State Road 24 to the north, U.S. Highway 301 to the east, County Road 318 to the south, and Paynes Prairie Preserve State Park and U.S. Highway 441 to the west. Contiguous with the Paynes Prairie Preserve State Park IBA to the west.

DESCRIPTION: _____ [Is annual visitation/hunter use known for any of the lakes or upland sites?]

OWNERSHIP: St. Johns River Water Management District (Gum Root Swamp Conservation Area, Lochloosa Wildlife Conservation Area, and Prairie Creek Conservation Area), Florida Division of Recreation and Parks (Prairie Creek Conservation Area), Gainesville Department of Recreation and Parks (Gum Root Park), and private owners (lands under conservation easements, and unacquired acreage of the Lochloosa Wildlife CARL–FF Project, and lands surrounding Orange Lake outward about 1 mile [1.6 km])

HABITATS: *temperate hammock, *cypress swamp, *hardwood swamp, *lacustrine, pine flatwoods, pine plantation, sandhills, cattail marsh, riverine

LAND USE: *conservation, *recreation, *timber production, hunting

IBA CATEGORIES: significant populations of Threatened and FCREPA species; significant numbers and diversity of shorebirds; significant diversity of Neotropical migrants; and significant natural habitats

AVIAN DATA: This IBA supports significant numbers of Bald Eagle and Osprey nests. Water levels at Newnans Lake have receded in recent years due to drought, and as a result, the extensive mudflats have attracted large numbers of wading birds and shorebirds. [Are bird lists available for any of these sites?].

Newnans Lake:

SPECIES	DATES	NUMBERS	COMMENTS
Osprey	2000	>15 nests	1% (B)
Semipalmated Plover	29 Apr 2000	100 birds	(M)
Lesser Yellowlegs	29 Apr 2000	340 birds	(M)
Whimbrel	26 Apr 2000	15 birds	(M)
Semipalmated Sandpiper	27 May 2000	500 birds	(M)
Least Sandpiper	23 Apr 2000	600 birds	(M)
White-rumped Sandpiper	29 Apr 2000	31 birds	(M)
Dunlin	29 Mar 2000	60 birds	(M)
Long-billed Dowitcher	23 Apr 2000	130 birds	(M)
Shorebirds	Jan–Dec 2000	30 species	(W)
	Apr–May 2000	>1500 birds	(W)
Blue-winged Warbler	22 Sep 1985	15 birds	(M)*
Cape May Warbler	9 May 1992	36 birds	(M)*
Blackpoll Warbler	9 May 1992	41 birds	(M)*
American Redstart	13 Oct 1993	>20 birds	(M)*
Wood-warblers	Annually in fall	~25 species	(M)

Observations of John Hintermister, Adam Kent, Andy Kratter, Cathy Reno, and Rex Rowan, mostly published in *Florida Field Naturalist*. *Observed along a 1 mile (1.6 km) stretch of Lakeshore Drive.

All sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Bald Eagle	1998–1999 and 1999–2000	35 nests	3% (B)

GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: The Newnans Lake–Lake Lochloosa–Orange Lake–Paynes Prairie system is one of the most critical wetland systems in the northern Peninsula. The lakes support very large densities of nesting Bald Eagles and Ospreys. Newnans Lake is bordered by an intact, continuous fringe of cypress, unlike all other lakes of similar size in the region. • Numerous Indian artifacts have been found, including dozens of dugout canoes along Newnans Lake, where one or more battles during the Second Seminole War were fought.

THREATS: *exotic plants, *runoff, feral hogs, cowbird brood parasitism

CONSERVATION ISSUES: Water flowing into Newnans Lake is high in phosphorus, which creates algae “blooms” that contribute to lower water quality. One source of the phosphorus is the soil surrounding the lake, much of which is composed of pine plantations. Soil disturbance associated with harvesting of the pines allows the phosphorus to drain into the lake. Other sources resulting in low water quality are residential and industrial developments in Gainesville. • Nearly all of the uplands surrounding Lochloosa Lake have been protected, although most lands are pine plantations still privately owned, with perpetual conservation easements purchased by the State. The northern, eastern, and southern portions of Newnans Lake are sought for acquisition (or conservation easement), but have not yet been protected.

Acquisition of the shoreline and adjacent uplands surrounding Orange Lake should be considered. These areas contain 15 of the 35 Bald Eagle nests occurring within the IBA.

NOMINATED BY: Rex Rowan (Alachua Audubon Society) and Bill Pranty (Audubon of Florida)

BIG BEND ECOSYSTEM

Big Bend Wildlife Management Area (58,435 acres 23,374 ha), including **Hagens Cove** [1200 acres; 480 ha]), **Cedar Key Scrub State Reserve** (4875 acres; 1950 ha) and **adjacent private properties** (>3400 acres; >1360 ha), **Cedar Keys National Wildlife Refuge** (832 acres; 332 ha), **Lower Suwannee National Wildlife Refuge** (50,838 acres; 20,335 ha), and **Waccasassa Bay Preserve State Park** (34,032 acres; 13,612 ha)

Dixie, Levy, and Taylor counties

149,303 acres (59,721 ha)

LOCATION: along the Gulf of Mexico encompassing most coastal portions in western Taylor, Dixie, and Levy counties. Nearly contiguous with the St. Marks National Wildlife Refuge IBA to the northwest, and with the Crystal River marshes IBA to the south.

DESCRIPTION: a great expanse of tidal marshes and adjacent uplands stretching nearly continuously for 120 miles (192 km) from the Aucilla River south to the Withlacoochee River. Hagens Cove is a small non-hunted portion of Big Bend Wildlife Management Area, a site for which no other data were submitted. Annual visitation of the sites is as follows: ____ to Big Bend Wildlife Management Area, ____ to Cedar Key Scrub State Reserve, 25,000 to Cedar Keys National Wildlife Refuge, 8000 vehicles to Hagens Cove, 10,000 to Lower Suwannee National Wildlife Refuge, and ____ to Waccasassa Bay Preserve State Park. Annual hunter use of the sites is: ____ to Big Bend Wildlife Management Area, ____ to Cedar Key Scrub State Reserve, 8000 to Lower Suwannee National Wildlife Refuge, and ____ to Waccasassa Bay Preserve State Park. Cedar Keys National Wildlife Refuge and Hagens Cove are not hunted.

OWNERSHIP: U.S. Fish and Wildlife Service (Cedar Keys National Wildlife Refuge and Lower Suwannee National Wildlife Refuge), Florida Division of Recreation and Parks (Cedar Key Scrub State Reserve and Waccasassa Bay Preserve State Park), Florida Division of Wildlife (Big Bend Wildlife Management Area), and private owners (north and east of Cedar Key Scrub State Reserve)

HABITATS: **Big Bend Wildlife Management Area:** _____. **Cedar Key Scrub State Reserve:** *pine flatwoods, *xeric oak scrub, sandhills, sand pine scrub, cattail marsh, artificial. **Cedar Keys National Wildlife Refuge:** *temperate hammock, *tidal marsh, *estuarine, *coastal strand, mangrove forest. **Hagens Cove:** *tidal marsh, *estuarine, pine flatwoods, artificial. **Lower Suwannee National Wildlife Refuge:** *pine plantation, *cypress swamp, *freshwater marsh, *sawgrass marsh, *tidal marsh, *riverine, *estuarine, longleaf pine flatwoods, sandhills, temperate hammock, xeric oak scrub, fields, bayhead, cattail marsh, lacustrine, coastal strand. **Waccasassa Bay Preserve State Park:** _____.

LAND USE: **Big Bend Wildlife Management Area:** _____. **Cedar Key Scrub State Reserve:** *conservation, *hunting, recreation. **Cedar Keys National Wildlife Refuge:** *conservation, recreation. **Hagens Cove:** *recreation, conservation. **Lower Suwannee National Wildlife Refuge:** *conservation, *hunting, recreation, timber production. **Waccasassa Bay Preserve State Park:** _____.

IBA CATEGORIES: **Big Bend Wildlife Management Area:** ____; significant natural habitats. **Cedar Key Scrub State Reserve:** significant populations of Threatened species; and significant natural habitats. **Cedar Keys National Wildlife Refuge:** significant populations of Special Concern, FCREPA, and IBA species; significant numbers of wading birds and shorebirds; and significant natural habitats. **Hagens Cove:** significant populations of Threatened and Special Concern species; significant numbers of shorebirds; and significant natural habitats. **Lower Suwannee National Wildlife Refuge:** significant populations of Threatened species; and significant natural habitats. **Waccasassa Bay Preserve State Park:** ____; significant natural habitats.

AVIAN DATA: _____. Cedar Keys National Wildlife Refuge supports one of the largest wading bird rookeries in the northern half of the Peninsula, and a large roost of Magnificent Frigatebirds. The Cedar Key area contains significant numbers of shorebirds, including very large numbers of wintering

American Oystercatchers. Cedar Key Scrub State Reserve and adjacent properties once supported a viable population of Florida Scrub-Jays, which has declined severely in the past 20 years. The IBA is also extremely important for breeding Short-tailed Hawks. Bird diversity of all sites combined is 277 native species. [Bird list is a combination of Cedar Keys and Lower Suwannee National Wildlife Refuges; are bird lists available for any other site?].

Cedar Key Scrub State Reserve and adjacent private lands:

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	Sep 1980–Mar 1981	55 birds	<1% (R); habitat management would increase this significantly
	Nov 1992–Jan 1996	27 birds	
	summer 1997	16 birds	

Data from +Cox (1987), +Pranty (1996b), and provided by Tom Webber (University of Florida)

Cedar Keys National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	_____	700 pairs	8% (B)
	26 May 1999	200–600 pairs	2–9% (B)
Magnificent Frigatebird	_____	200 birds	4% (N)
	26 May 1999		
Great Egret	_____	250 pairs	1% (B)
	26 May 1999	100–300 pairs	<1–2% (B)
Snowy Egret	_____	300 pairs	(B)
	26 May 1999	100–300 pairs	
Tricolored Heron	_____	75 pairs	(B)
	26 May 1999	100–300 pairs	
White Ibis	_____	3000 pairs	(B)
	26 May 1999	200–600 pairs	1–3% (B)
Wading birds	_____	>3650 pairs	(B)
	26 May 1999	800–2400 pairs	(B)
American Oystercatcher	4 Jan 1997	431 birds	(W)
	Dec 1998	588 birds	(W)
	30 Dec 1999	483 birds	(W)
	15 Nov 2000	485 birds	(W)
Shorebirds	winter 1993–1994	3449 birds	(W)
Black Skimmer	30 Dec 1999	349 birds	(W)

Wading bird data from the Seahorse Key rookery provided by Dale Henderson [need year]; 1999 wading bird data provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission); 1993–1994 shorebird data from +Sprandel et al. (1997), November 2001 oystercatcher data supplied by Steve Nesbitt (Florida Fish and Wildlife Conservation Commission), other oystercatcher and skimmer data from Cedar Key Christmas Bird Counts—some of these observations probably were of birds outside the Refuge (and IBA).

Hagen's Cove:

SPECIES	DATES	NUMBERS	COMMENTS
Shorebirds	winter 1993–1994	1198 birds	(W)

Data from +Sprandel et al. (1997)

Lower Suwannee National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	25–27 Mar 1997	19–24 pairs	3–4% (B)

Data from +Sykes et al. (1999)

Multiple sites:

SPECIES	DATES	NUMBERS	COMMENTS
Reddish Egret	summer 2000	>25 birds	2% (N)
	30 Jul 2001	16 birds	>1% (N)
Wading birds	15 Nov 2000	“several thousand” birds	(N)
Osprey	1999–2000	50 nests	3% (B)
Bald Eagle	1998–1999 and 1999–2000	20 nests	2% (B)
Short-tailed Hawk	1999–2001	ca. 25 radio-tagged birds under study; 10–15 pairs estimated	5–7% (B)
Black Rail	Mar–Jul 1989	8 birds	(B)
American Oystercatcher	15 Nov 2000	585 birds	(W)
Piping Plover	winter 1999–2000	>6 birds	1% (W)
Shorebirds	15 Nov 2000	“several thousand” birds	(W)
Overall diversity	Sep 1998 list	277 natives 2 exotics	Cedar Keys and Lower Suwannee national wildlife refuges only

Reddish Egret data from observations by John Hintermister et al. published in *Florida Field Naturalist*, eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), hawk data provided by Ken Meyer (Avian Research and Conservation Institute), rail data from +Runde et al. (1990), November 2001 data provided by Steve Nesbitt (Florida Fish and Wildlife Conservation Commission), other data provided by U.S. Fish and Wildlife Service personnel or Celeste Shitama (University of Florida) and Steve Nesbitt (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: This and other IBAs protect about 120 miles (192 km) of coastline, nearly all of it continuous, and encompassing virtually the entire Gulf coast from the Ochlockonee River (Franklin and Wakulla counties) to south of the Pithlachascotee River (Pasco County), a distance of over 200 miles (320 km). **Big Bend Wildlife Management Area:** _____. **Cedar Keys National Wildlife Refuge:** Atsena Otie Key contains the remnants of the original (1890s) town of Cedar Key, while Seahorse Key contains a Civil War cemetery and the Cedar Key lighthouse. **Lower Suwannee National Wildlife Refuge:** Numerous Indian middens and burial mounds occur onsite; the Shell Mound site is well-known. **Waccasassa Bay Preserve State Park:** _____.

THREATS: **Big Bend Wildlife Management Area:** _____. **Cedar Key Scrub State Reserve:** *offsite development, *habitat succession. **Cedar Keys National Wildlife Refuge:** cowbird brood parasitism. **Hagens Cove:** offsite development, overharvesting, increased human use. **Lower Suwannee National Wildlife Refuge:** none. **Waccasassa Bay Preserve State Park:** _____.

CONSERVATION ISSUES: **Big Bend Wildlife Management Area:** _____. **Cedar Key Scrub State Reserve and adjacent private properties** formerly supported a regionally significant population of Florida Scrub-Jays, but lack of fire management has reduced the population to very low levels (by 1999, only 7 groups remained, with 6 of these on private lands). Without immediate restoration of scrub habitats at Cedar Key Scrub State Reserve—coupled with acquisition of adjacent privately owned scrub—the future for this population is bleak. **Cedar Keys National Wildlife Refuge:** _____. **Hagens Cove:** There are few management concerns, but there is no legal protection to prevent vehicles from driving into the marsh. Over-harvesting of fiddler crabs by bait dealers is a minor

concern. **Lower Suwannee National Wildlife Refuge:** _____. **Waccasassa Bay Preserve State Park:** _____.

The State should vigorously pursue scrub acquisition efforts in the Cedar Key–Sumner–Rosewood area, and take immediate steps to properly manage scrub habitats at Cedar Key Scrub State Reserve.

NOMINATED BY: Cedar Key National Wildlife Refuge and Lower Suwannee National Wildlife Refuge: Dale Henderson (____), **Hagens Cove:** Jerry Krummrich (Florida Fish and Wildlife Conservation Commission), **Waccasassa Bay to Deadman Bay:** Steve Nesbitt (Florida Fish and Wildlife Conservation Commission) and Celeste Shitama (University of Florida), **Cedar Key Scrub State Reserve and adjacent private properties:** Bill Pranty (Audubon of Florida)

REFERENCES: +Cox, J.A. 1987. *Status and Distribution of the Florida Scrub Jay*. Florida Ornithological Society Special Publication Number 3. Gainesville, FL. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL. • +Runde, D.E., P.D. Southall, J.A. Hovis, R. Sullivan, and R.B. Renken. 1990. Recent records and survey methods for the Black Rail in Florida. *Florida Field Naturalist* 18: 33–35. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Sykes, Jr., P.W., C.B. Kepler, K.L. Litzenberger, H.R. Sansing, E.T.R. Lewis, and J.S. Hatfield. 1999. Density and habitat of breeding Swallow-tailed Kites in the Lower Suwannee ecosystem, Florida. *Journal of Field Ornithology* 70: 321–336.

WEBSITES: <<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/cedarkey.htm>>, <<http://www.dep.state.fl.us/parks/district2/cedarkeyscrub>>, <<http://www.dep.state.fl.us/parks/district2/waccasassabay>> <http://www.gorp.com/gorp/resource/us_nwr/fl_cedar.htm>, <http://www.gorp.com/gorp/resource/us_nwr/fl_lower.htm>.

CAMP BLANDING–JENNINGS

Camp Blanding Military Reservation (62,340 acres; 24,936 ha) and **Jennings State Forest** (20,567 acres; 8226 ha)

Clay County

82,907 acres (33,162 ha)

LOCATION: in western Clay County from the Duval County line south to State Road 21 near Keystone Heights, west to the Bradford County line.

DESCRIPTION: _____ Camp Blanding Military Reservation receives ____ recreationists and 9000 hunters annually, while annual use of Jennings State Forest is >500 recreationists and 350 hunters.

OWNERSHIP: Florida Department of Military Affairs (Camp Blanding Military Reservation), Florida Division of Forestry and St. Johns River Water Management District (Jennings State Forest)

HABITATS: Camp Blanding Military Reservation: *longleaf pine flatwoods, *pine plantation, *sandhills, *xeric oak scrub, *lacustrine, sand pine scrub, fields, riverine, artificial. **Jennings State Forest:** *longleaf pine flatwoods, *pine plantation, *sandhills, *bayhead, *riverine, temperate hammock, non-native pasture, hardwood swamp, freshwater marsh, lacustrine

LAND USE: Camp Blanding Military Reservation: *military training, timber production, conservation, hunting. **Jennings State Forest:** *conservation, recreation, hunting, timber production.

IBA CATEGORIES: Camp Blanding Military Reservation: significant populations of Endangered species; complete diversity of longleaf pine flatwoods species; and significant natural habitats.

Jennings State Forest: significant populations of Threatened and Watch List species; and significant natural habitats.

AVIAN DATA: Both areas contain extensive areas of longleaf pine flatwoods. [Are bird lists available for either site?].

Camp Blanding Military Reservation:

SPECIES	DATE	NUMBERS	COMMENTS
Red-cockaded Woodpecker	1998	13 clusters	1% (R)

Data from John Kappes (University of Florida), provided by Rex Rowan (Alachua Audubon Society)

Jennings State Forest:

SPECIES	DATES	NUMBERS	COMMENTS
“Southeastern” American Kestrel	2000	>15 pairs	(R)
Bachman's Sparrow	2000	common	(R)
Red-cockaded Woodpecker		0 birds	extirpated in the 1950s–1960s, but good potential for natural colonization or translocation in the future

Data provided by Charlie Pedersen (Florida Division of Forestry)

OTHER RESOURCES: Camp Blanding Military Reservation: Numerous other scrub and flatwoods species are present, including gopher tortoise, ♦ indigo snake (*Drymarchon corais*), ♦ gopher frog (*Rana capito*), and Florida mouse. **Jennings State Forest:** Extensive longleaf pine flatwoods and sandhills have retained their natural ground cover. Seepage ravines contain Appalachian flora; many of the seepage slopes contain their original floral diversity.

THREATS: Camp Blanding Military Reservation: *timber harvesting. **Jennings State Forest:** *offsite development, *feral hogs, human disturbance, exotic plants, habitat succession

CONSERVATION ISSUES: Camp Blanding Military Reservation: Fire management and mechanical restoration is needed in longleaf pine flatwoods to increase the number of Red-cockaded Woodpeckers. • Habitat for the “Southeastern” American Kestrel needs to be increased. • Salvage logging of snags in burned areas eliminates nesting sites for kestrels and other cavity-nesting species. **Jennings State Forest** was acquired beginning in 1991. The five-year Resource Management Plan currently is up for review. Conservation issues include returning fire as a management tool, restoring longleaf pine flatwoods and sandhills, restoring the hydrology, and maintaining water quality. • The Forest contains 6000 (2400 ha) acres of flatwoods and a similar amount of sandhills, which are under “aggressive” restoration via prescribed fire, removing sand pine and slash pine from some sites, and by replanting longleaf pine. • Red-cockaded Woodpeckers have been extirpated from the Forest since the 1960s or earlier, but as the longleaf pine forests age, there is great potential for translocation, or natural colonization from Camp Blanding.

NOMINATED BY: Charlie Pedersen (Florida Division of Forestry) and Rex Rowan (Alachua Audubon Society)

WEBSITE: <http://www.fl-dof.com/state_forests/Jennings.htm>
<http://www.floridaguard.net/cbts/post_history.htm>

DUVAL AND NASSAU TIDAL MARSHES

Nassau River–St. Johns River Marshes Aquatic Preserve (mostly submerged; 85,000 acres; 34,000 ha) and **Timucuan Ecological and Historic Preserve** (46,000 acres [18,400 ha], 23,946 acres [9578 ha] in public ownership). Adjacent uplands include the **Pumpkin Hill Creek CARL–FF Project** (6927 acres; 2770 ha), with 3720 acres (1488 ha) acquired as **Pumpkin Hill Creek State Buffer Preserve**.

Duval and Nassau counties

137,927 acres (mostly submerged; 55,170 ha), with 112,666 acres (45,066 ha) protected

LOCATION: in northeastern Duval County and southeastern Nassau County northeast of Jacksonville, encompassing all tidal areas from the southern shore of the St. Marys River (the border with Georgia), through the Nassau River to the northern shore of the St. Johns River. Contiguous with the Huguenot Park–Nassau Sound and Northern Atlantic Migrant Stopover IBAs to the east, and the Fort George and Talbot Islands IBA to the south.

DESCRIPTION: _____. The tidal marshes were nominated as a single IBA, with no specific data submitted for the individual public ownerships. [Is visitation and hunter use of the site(s) known?]

OWNERSHIP: U.S. National Park Service (Timucuan Ecological and Historic Preserve), State of Florida (submerged lands), Florida Division of Marine Resources (Nassau River–St. Johns River Marshes Aquatic Preserve), St. Johns River Water Management District (Pumpkin Hill Creek State Buffer Preserve), and private owners (remaining acreage of the Pumpkin Hill CARL–FF Project, and portions of Timucuan Ecological and Historic Preserve)

HABITATS: *tidal marsh, *riverine, red-cedar hammock

LAND USE: *conservation, recreation, hunting

IBA CATEGORIES: significant populations of Special Concern species; significant numbers of wading birds; complete diversity of tidal marsh species; and significant natural habitats

AVIAN DATA: The marshes support virtually the entire Florida populations of “Worthington’s” Marsh Wren and “MacGillivray’s” Seaside Sparrow. [Are bird lists available for any of the sites?].

SPECIES	DATES	NUMBERS	COMMENTS
White Ibis	22 May 2000	>500 birds	1% (N)
“Worthington’s” Marsh Wren	Apr–Jul 2000	342 birds	25 of 53 points in Duval County and 92 of 100 points in Nassau County; (B)
“MacGillivray’s” Seaside Sparrow	Apr–Jul 2000	412 birds	22 of 53 points in Duval County and 90 of 100 points in Nassau County (B)

Data provided by Katy NeSmith (Florida Natural Areas Inventory)

OTHER RESOURCES: Significant historical resources are known from the site, although not necessarily in the marshes.

THREATS: *sea-level rise, human disturbance

CONSERVATION ISSUES: Marshes along the St. Johns River in Duval County are mostly protected as Timucuan Ecological and Historic Preserve and Pumpkin Hill Creek State Buffer Preserve, but the Nassau River marshes in Nassau County are mostly unprotected. A Florida Forever Project in 2001 has targeted Tiger Island and Little Tiger Island (1260 acres; 504 ha) for state acquisition. Several archaeological sites on these islands are known, but they have been impacted by “rampant looting” +(DEP 2001).

NOMINATED BY: Katy NeSmith (Florida Natural Areas Inventory)

WEBSITE: <<http://www.nps.gov/timu>>

FORT GEORGE AND TALBOT ISLANDS

Big Talbot Island State Park (1592 acres; 636 ha), **Fort George Island** (1000 acres; 400 ha), and **Little Talbot Island State Park** (2633 acres; 1052 ha)

Duval County
5225 acres (2090 ha)

LOCATION: along the Atlantic Ocean in northeastern Duval County, between the Nassau River and St. Johns River. Contiguous with the Duval and Nassau Tidal Marshes IBA to the west, the Huguenot Park–Nassau Sound IBA to the north and south, and part of the Northern Atlantic Migrant Stopover IBA to the east.

DESCRIPTION: **Big Talbot Island State Park** _____. The Park receives _____ visitors annually. **Fort George Island** consists of **Fort George Island Cultural State Park** (620 acres; 248 ha), and **Kingsley Plantation** (20 acres; 8 ha), and some private residences. The two publicly owned sites receive 85,000 recreationists annually. **Little Talbot Island State Park** is a barrier island between Nassau Sound and the St. Johns River, about 1 mile (1.6 km) wide and 5 miles (8 km) long. Except for State Road A1A, which bisects the island, most habitats are largely undisturbed. The State Park receives 100,000 recreationists annually. [Is Long Island a part of either state park?]

OWNERSHIP: U.S. National Park Service (Kingsley Plantation), Florida Division of Recreation and Parks (Big Talbot Island State Park, Fort George Island Cultural State Park, and Little Talbot Island State Park).

HABITATS: **Big Talbot Island State Park** _____. **Fort George Island:** *temperate hammock, *maritime hammock, pine plantation, sawgrass marsh, riverine, estuarine. **Little Talbot Island State Park:** *xeric oak scrub, *coastal strand, temperate hammock, sawgrass marsh, riverine, estuarine, artificial.

LAND USE: **Big Talbot Island State Park** _____. **Fort George Island:** *conservation, *recreation. **Little Talbot Island State Park:** *conservation, *recreation.

IBA CATEGORIES: **Big Talbot Island State Park** _____. **Fort George Island:** significant populations of Watch List species; and significant natural habitats. **Little Talbot Island State Park:** significant populations of Threatened and Watch List species; and significant natural habitats.

AVIAN DATA: Big Talbot and Little Talbot islands support significant populations of breeding and wintering shorebirds and larids. All three islands support significant breeding populations of Painted Buntings. Overall diversity is _____ species. [Are bird lists available for any site?]

Fort George Island:

SPECIES	DATES	NUMBERS	COMMENTS
Painted Bunting	1997	58 banded	(B)
	2000	61 banded	(B)
	May 2000	78 singing males	(B)

Banding data provided by Paul Sykes (U.S. Geological Survey), other data provided by Roger Clark (U.S. National Park Service)

Little Talbot Island State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	26 birds	5% (W)
Painted Bunting	2000	>100 birds banded	(B)

Plover data provided by Roger Clark (U.S. National Park Service) and bunting data provided by Paul Sykes (U.S. Geological Survey)

OTHER RESOURCES: Big Talbot Island State Park _____. About 70% of **Fort George Island** consists of >100-year old maritime hammock. • The cultural history of the island is outstanding. Shell middens created by the Timucuan Indians and their predecessors date back as far as 7000 YBP. One midden, the *Shell Ring*, is thought to have been an important center of worship. A Spanish Mission (San Juan del Puerto) was established in the center of the island in 1587 and lasted until 1702. General James Oglethorpe established Fort Saint Georges on the island in 1736 as the English tried to take Florida from Spain (the location of the fort today is unknown). The English gained control of Florida and the island in 1763 and this began the plantation period. The most dramatic evidence of this period can be found at Kingsley Plantation, a unit of the National Park Service. • **Little Talbot Island State Park** shares much of the same history as the other islands in the vicinity. An extensive Indian culture is evidenced by shell middens. • Some of the most important habitats are at the southern part of the island, which formed in the 1880s due to the building of the jetties at the mouth of the St. Johns River.

THREATS: Big Talbot Island State Park: _____. **Fort George Island:** development (proposed channel dredging), human disturbance, erosion, feral cats, habitat succession, cowbird brood parasitism, and exotic plants. **Little Talbot Island State Park:** development, human disturbance, habitat succession, cowbird brood parasitism, and feral hogs.

CONSERVATION ISSUES: Big Talbot Island State Park _____. **Fort George Island:** Talbot Island State Park managers are currently writing the Management Plan. A General Management Plan was completed by the National Park Service and does not address the conservation aspects of the island proper, but of the Timucuan National Preserve (the proposed new name of the preserve) in general. The major future impacts will come from increasing human use. The National Park Service and Kingsley Plantation are contemplating a Landscape Management Plan, which has the potential to clear habitats between the Slave Quarters and the Plantation House that may remove habitat for several pairs of Painted Buntings. • The State Park is currently restoring the Ribault Club House on the southeast side of the island. Preparations for increased use of this part of the island include increased mowing, removing trees along the edge of the marsh to open up the view, and planning additional parking and picnicking areas. • The interior of the island contains unique habitat. A golf course built in the 1920s was abandoned in 1991 and offers an opportunity to manage old fairways as habitat for many wildlife species. **Little Talbot Island State Park:** The park management plan is rewritten every five years. Visitation is rising and will become an increasing concern. One positive regulation is that dogs are prohibited from the park. Little Talbot Island is long and linear, with about 5 miles (8 km) of beach. Driving on the beach is prohibited. The main problem along the beach is the disturbance of nesting and roosting birds, especially on the north end of the island. However, boaters who land on the sand islands between Little and Big Talbot Islands are a much more urgent problem. • State Road A1A is the main highway between Fernandina Beach and Jacksonville. This highway may become an issue if planners need to move the highway farther inland as the southern end of the island continues to erode. There has already been significant erosion on the south end of the island. The pier was lost two years ago and encroachment by the sea is becoming more evident. A decision looming by city, state, and federal agencies about the Fort George River Inlet Bridge will greatly impact the south end of Little Talbot Island.

NOMINATED BY: Roger Clark (U.S. National Park Service)

WEBSITES: <<http://www.dep.state.fl.us/parks/district2/bigtalbot>>, <<http://www.dep.state.fl.us/parks/district2/fortgeorge>>, <<http://www.dep.state.fl.us/parks/district2/littletalbot>>

GOETHE STATE FOREST

Goethe State Forest (49,229 acres; 19,691 ha) and the **Watermelon Pond CARL–FF Project** (11,585 acres [4634 ha] remaining)

Alachua and Levy counties

60,814 acres (24,325 ha), including 49,229 acres (19,691 ha) acquired

LOCATION: mostly in southeastern Levy County east of U.S. Highway 19; a separate parcel is in northeastern Levy County and extreme southwestern Alachua County.

DESCRIPTION: Goethe State Forest protects extensive longleaf pine flatwoods and high-quality sandhills. Most of the Forest was purchased from the Goethe family in 1992 for \$65 million. The Forest receives ____ recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Forestry (Goethe State Forest) and private owners (remaining acreage of the Watermelon Pond CARL–FF Project)

HABITATS: *longleaf pine flatwoods, *temperate hammock, pine plantation, sandhills, non-native pasture, cypress swamp, bayhead, riverine, lacustrine

LAND USE: *conservation, *timber production, recreation, hunting

IBA CATEGORIES: significant populations of Endangered, Threatened, and Watch List species; complete breeding diversity of longleaf pine flatwoods species; and significant natural habitats

AVIAN DATA: Goethe State Forest contains all species of longleaf pine flatwoods. _____. [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	Jul 1999	200 birds	1% (N)
“Southeastern” American Kestrel	Jul 2000	>20 nests	(R)
Red-cockaded Woodpecker	Jun 2000	28 clusters	2% (R)

Data provided by staff of the Florida Division of Forestry and the Florida Fish and Wildlife Conservation Commission, provided by Kwami Pennick (Florida Division of Forestry)

OTHER RESOURCES: Goethe State Forest contains one of the largest contiguous tracts of longleaf pine remaining in the Peninsula, with pitcher plant bogs and other rare flora and fauna.

THREATS: *habitat succession, development, human disturbance

CONSERVATION ISSUES: Goethe State Forest is undergoing a revised management plan that involves Alachua Audubon Society. The plan is to create an uneven-aged forest to mimic natural pine flatwoods. • The Red-cockaded Woodpecker population is monitored intensively.

NOMINATED BY: Kwami Pennick (Florida Division of Forestry)

WEBSITE: <http://www.fl-dof.com/state_forests/Goethe.htm>

GUANA RIVER

Guana River State Park (2397 acres; 958 ha) and **Guana River Wildlife Management Area** (9815 acres; 3926 ha)

St. Johns County

12,212 acres (4884 ha)

LOCATION: on the barrier island between the Tolomato River (Intracoastal Waterway) and the Atlantic Ocean in northeastern St. Johns County, bordered on the north by State Road 210.

DESCRIPTION: Two adjacent public ownerships purchased in 1984 that protect a large area of coastal habitats. The State Park occupies the southern quarter of the property (north to Guana dam), while Guana River Wildlife Management Area occupies the northern three-quarters of the IBA. Guana Lake was formed by damming a portion of the Guana River. Beachfront property north and south of the IBA is composed of single-family homesites. The park receives ____ recreationists annually, and the Wildlife Management Area receives ____ hunters and ____ recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks (Guana River State Park), Florida Division of Wildlife (Guana River Wildlife Management Area)

HABITATS: Guana River State Park: *temperate hammock, *xeric oak scrub, *tidal marsh, *estuarine, *coastal strand, pine flatwoods, freshwater marsh. **Guana River Wildlife Management Area:** ____.

LAND USE: Guana River State Park: *conservation, *recreation. **Guana River Wildlife Management Area:** ____.

IBA CATEGORIES: Guana River State Park: significant population of Endangered, and FCREPA species; significant numbers of migrant raptors; and significant natural habitats. **Guana River Wildlife Management Area:** ____.

AVIAN DATA: Since 1997, a raptor watch has been conducted during the same 16-day period from late September through mid-October, and has recorded significant numbers of Peregrine Falcons, and presumably also of Merlins. The park also supports breeding Painted Buntings, and is a monitoring site for a color-banding project underway by the U.S. Geological Survey. The Park supports a small colony of Least Terns. [Is a bird list available for the WMA?].

Guana River State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Peregrine Falcon	1997–2001 seasons (27 Sep–12 Oct)	mean of 371 birds (range of 234–489)	mean of 18% (range of 11–24%; M)
Merlin	1997–2001 seasons (27 Sep–12 Oct)	mean of 51 birds (range of 40–65)	(M)
Least Tern	18 Jul 2001	116 birds	1% (B)
Overall diversity	Aug 1995 list	220 natives 3 exotics	

Raptor data of Bob Stoll and cooperators, observed from the northernmost beach platform; other data provided by Richard Owen (Florida Division of Recreation and Parks)

OTHER RESOURCES: This IBA contains 4.2 miles (6.7 km) of undeveloped beach–dune habitats, one of the longest stretches remaining along the Atlantic Ocean. The dunes at Guana River are some of the highest in Florida, with the secondary dunes attaining heights of 20–35 feet (6–10.5 m). • In 1992, fifty-five ♦ “Anastasia Island” beach mice (*Peromyscus polionotus phasma*) were reintroduced into the beaches dunes; periodic releases of additional mice from Anastasia Island are undertaken to decrease the threat of inbreeding. • Three species of sea turtles nest along the beaches: the loggerhead sea turtle, leatherback, and green turtle. Park staff have monitored sea turtle nests since

1987. • The State Park contains nine natural communities and 17 significant historic or pre-historic cultural sites; an early 19th century Minorcan coquina block well is on the National Register of Historic Places. The region has been inhabited almost continuously for the past 5000 years. There is some evidence that Juan Ponce de Leon first landed in Florida at Guana River [year?].

THREATS: Guana River State Park: development. **Guana River Wildlife Management Area:** ____.

CONSERVATION ISSUES: Guana River State Park: Least Tern surveys conducted by park staff since 1994 indicate that there once may have been a significant colony at the park. In recent years, only small numbers (12 or fewer pairs) have bred, and fledging success is low, due primarily from storm tides washing away nests. The nesting area is fenced and posted against human intrusion. • Erosion “blowouts” have been caused by vehicles and pedestrians crossing the dunes. The largest occur at sites used for vehicular access in the past—vehicles are now prohibited from the park beaches. Pedestrian traffic through the dunes has been alleviated somewhat by the creation of three parking lots with accompanying walkovers across the dunes. As offsite development continues, visitation is expected to increase and the problem will be magnified. • Guana River flows south from Guana Dam to the Intracoastal Waterway. Water quality of both the lake and river has been poor in recent years, and shellfishing currently is prohibited. **Guana River Wildlife Management Area:** ____.

NOMINATED BY: Richard Owen (Florida Division of Parks and Recreation) and Bill Pranty (Audubon of Florida)

WEBSITE: <<http://www.dep.state.fl.us/parks/district3/guanariver>>

HUGUENOT PARK–NASSAU SOUND

Huguenot Memorial Park (169 upland acres; 67 ha), and **Nassau Sound Bird Islands** (100 acres; 40 ha)

Duval County

269 acres (107 ha)

LOCATION: coastal areas along the Atlantic Ocean in extreme northeastern Duval County, from just north of the Nassau River south to the St. Johns River, much of it on both sides of State Road A1A. Contiguous with the Duval and Nassau Tidal Marshes IBA to the west, and with the Fort George and Talbot Islands IBA to the north and south.

DESCRIPTION: two separate conservation areas divided by Fort George Island, north of the St. Johns River and east of Sisters Creek. Both sites have been designated by the Florida Fish and Wildlife Conservation Commission as Critical Wildlife Areas. The Nassau Sound Bird Islands consist of three small sand keys within the **Nassau River–St. Johns River Marshes Aquatic Preserve**. Huguenot Memorial Park, known locally as Ward's Bank, receives 100,000 visitors annually. [Is visitation known for Nassau Sound?]

OWNERSHIP: U.S. Army Corps of Engineers and the State of Florida (Huguenot Memorial Park), the State of Florida (Nassau Sound Bird Islands, but ownership of Big Bird Island is in dispute), and (possibly) private owners (Big Island)

HABITATS: **Huguenot Memorial Park:** *estuarine, *coastal strand, tidal marsh, maritime hammock. **Nassau Sound Bird Islands:** *coastal strand, tidal marsh, estuarine.

LAND USE: **Huguenot Memorial Park:** *recreation, conservation. **Nassau Sound Bird Islands:** *conservation, *recreation

IBA CATEGORIES: **Huguenot Memorial Park:** significant populations of Threatened, Special Concern, and FCREPA species; significant numbers of raptors and larids; and significant natural habitats. **Nassau Sound Bird Islands:** significant populations of Endangered, Threatened, Special Concern, FCREPA, Watch List, and IBA species; significant numbers of raptors, shorebirds, and larids; and significant natural habitats

AVIAN DATA: This IBA is extremely important for breeding and roosting shorebirds and larids, and significant numbers of migrant falcons in fall. [I have a bird list for Huguenot Memorial Park; is a list available for Nassau Sound?].

Huguenot Memorial Park:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	23 Feb 1986	410 birds	(N)
Wilson's Plover	19 Jun 1999	5 nests	2% (B)
Piping Plover	29 Jan 1978	28 birds	5% (W)
	26 Dec 1994	10 birds	2% (W)
	Jan–Feb 2001	8 birds	1% (W)
Red Knot	15 Feb 1981	1466 birds	(W)
Shorebirds	28 Dec 1996	1127 birds	(W)
Laughing Gull	8 Aug 1999	4700 birds	20% (B)
Gull-billed Tern	summer 1999	4 nests	7% (B)
Royal Tern	8 Aug 1999	1850 birds	(N)
Sandwich Tern	8 Aug 1999	68 birds	(N)
Least Tern	20 Jul 1990	100 adults	1% (B)
Black Skimmer	20 Feb 1985	2026 birds	(W)
	7 Jul 1985	100 nests	6% (B)
Total diversity	Jan 2001	180 natives	
		2 exotics	

1980s data provided by Bob Richter (____) and Linda Bremer (____), 1999 observations of Roger Clark published in *Florida Field Naturalist*, 1994 data from the 1994 Jacksonville CBC, bird list compiled by Peggy Powell (Duval Audubon Society).

Nassau Sound Bird Islands:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	6 Oct 1999	500 birds	(N)
Merlin	17 Oct 1999	53 birds	(M)
	21 Apr 2000	83 birds	(M)
Peregrine Falcon	17 Oct 1999	30 birds	1% (M)
Raptors	17 Oct 1999	343 birds	(M)
	21 Apr 2000	311 birds	(M)
Wilson's Plover	1999	7 nests	3% (B)
Piping Plover	10 Feb 2000	15 birds	2% (W)
	11 Nov 2000	10 birds	>1% (W)
American Oystercatcher	1999	4 nests	1% (B)
Gull-billed Tern	1974–1977	mean of 203 nests (range of 157–261)	? (B)
	1987–1988	6–12 nests	? (B)
	1999	8 nests	14% (B)
	4 Jul 2001	22 pairs	40% (B)
Royal Tern	1974–1977	mean of 1296 nests (range of 533–2153)	? (B)
	1987–1988	3000–4200 nests	? (B)
	27 Sep 1999	2000 birds	>1% (W)
	10 Oct 2000	>1000 birds	>1% (W); Third Bird Island only
Sandwich Tern	1974–1976	mean of 10 nests (range of 5–21)	? (B)
Common Tern	10 Sep 2000	>1000 birds	Third Bird Island only
Least Tern	1974–1977	mean of 131 nests (range of 80–202)	? (B)
Black Tern	24 Aug 1999	500 birds	
Black Skimmer	1974–1977	mean of 772 nests (range of 556–933)	? (B)
	1987–1988	390–630 nests	? (B)
	1999	75 nests	4% (B)
	27 Sep 1999	2000 birds	(M)
	4 Jul 2001	250 pairs	15% (B)
Larids	10 Sep 2000	>2200 birds	(M)

1970s larid data of Robert Loftin (deceased), 1980s data of the Florida Game and Fresh Water Fish Commission, other data provided by Patrick Leary (Duval Audubon Society)

OTHER RESOURCES: Huguenot Memorial Park: ____ . Nassau Sound Bird Islands contain remnant natural inlet, dunes, and coastal hammocks. [what about Huguenot?]

THREATS: Huguenot Memorial Park: *human disturbance, *erosion, *development (channel-dredging proposal). **Nassau Sound Bird Islands:** *human disturbance, *erosion

CONSERVATION ISSUES: Driving on dunes at **Huguenot Memorial Park** is prohibited, but it does occur. Dogs are supposed to be leashed at all times, but often are allowed to run free, causing severe disturbance to shorebirds and larids. Regular enforcement to protect beach-nesting and –roosting birds is needed urgently. • Parts of the beach are eroding and “riprap” has been placed along the shoreline. Beach renourishment is recommended. • Jet skis should be prohibited, especially in the bay portion. • Water quality should be monitored. • A large amount of sand has accreted at the north

end of the spit, which threatens to close the Fort George Inlet. • A proposal to dredge a new channel through the Critical Wildlife Area could have devastating effects on the birds that nest and roost there. • Erosion has greatly reduced the size of **Nassau Sound Bird Islands** since the 1970s • Increasing use of the Bird Islands for human recreation threatens the nesting and roosting populations of its shorebirds and larids. Although designated as a Critical Wildlife Area, enforcement is lacking and disturbance of birds from humans and unleashed dogs is rampant. • The islands are just offshore of Big Talbot Island State Park, and may become part of the park.

It is essential that the State enforce protection of the Critical Wildlife Areas during spring and summer to protect their breeding colonies.

NOMINATED BY: Huguenot Memorial Park: Peggy Powell (Duval Audubon Society), and **Nassau Sound Bird Islands:** Patrick Leary (Duval Audubon Society)

ICHECTUCKNEE SPRINGS STATE PARK

Columbia and Suwannee counties

2276 acres (910 ha)

LOCATION: mostly north of U.S. 98 along both sides of the Ichetucknee River in southeastern Suwannee County and southwestern Columbia County, just upstream of its convergence with the Santa Fe River.

DESCRIPTION: Ichetucknee Springs is a series of first-magnitude springs that discharge 233 million gallons (880 million liters) per day and that form the short (6 mile; 9.6 km) Ichetucknee River. The Park receives 200,000 recreationists annually, primarily inner-tubists on the river.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *upland (“high pine”) forest, *sandhills, *temperate hammock, *riverine, fields, cypress swamp, hardwood swamp, freshwater marsh

LAND USE: *conservation, *recreation

IBA CATEGORIES: significant populations of Watch List species; and significant natural habitats

AVIAN DATA: The Park contains a diversity of species, including pine flatwoods–sandhills species and Neotropical migrants. A kestrel nest-box “trail” was established in 1994, and nestlings have been banded annually since then.

SPECIES	DATES	NUMBERS	COMMENTS
“Southeastern” American Kestrel	2000	8 of 13 nest boxes occupied	(R)
	2001	7 of 13 nest boxes occupied	(R)
	1994–2001	147 birds banded (141 nestlings and 6 adults)	(R)
Bachman's Sparrow	2001	76 territories	(R)
Wood-warbler diversity	Oct 2000 list	32 species	(M)
Overall diversity	Oct 2000 list	170 natives 4 exotics	

Data provided by Sam Cole (Florida Division of Recreation and Parks); kestrels banded with the cooperation of John Smallwood (____)

OTHER RESOURCES: Surveys in 1994 documented **629** vascular plant species, including several significant sandhills and “high pine” species. The Park also supports 134 other vertebrate [or animal?] species. Plants and animals of interest include ♦ “Ichetucknee ladies'-trusses” (*Spiranthes odorata* X *S. ovalis*), ♦ wakerobin (*Trillium* spp.), ♦ King Solomon's seal (*Polygonatum biflorum*), ♦ Florida willow (*Salix floridana*), ♦ Ichetucknee silt snail (*Cincinnatia mica*), ♦ mountain mullet (*Agonostomus monticola*), ♦ pine snake (*Pituophis melanoleucus*), ♦ short-tailed snake (*Stilosoma extenuatum*), gopher frog, gopher tortoise, Florida mouse, and “Sherman's” fox squirrel. • Many cultural sites occur within the Park, of which the most studied is the Mission de San Martin de Timucua. Ichetucknee Springs was declared a National Natural Landmark in 1972.

THREATS: *human disturbance, offsite development

CONSERVATION ISSUES: The Park has an approved management plan. Upland habitats are burned at frequent intervals to maintain their open characters. • Overuse of the river by inner-tube “riders” has caused damage to vegetation in the river and along its banks. As a result, the number of inner-tubists within the Park now is regulated to protect riverine habitats. • Off-site development may impact water quality in the river.

NOMINATED BY: Sam Cole (Florida Division of Recreation and Parks)

WEBSITE: <<http://www.dep.state.fl.us/parks/district2/ichetuckneesprings>>

KANAPAHA PRAIRIE

Alachua County
 3520 acres (1487 ha)

LOCATION: in southwestern Alachua County, bordered by State Road 24 to the north and west, State Road 121 to the east, and County Road 346 to the south. Nearly contiguous with the Paynes Prairie Preserve State Park IBA to the east.

DESCRIPTION: a privately owned site _____. [Is there any public visitation or hunter use?]

OWNERSHIP: private

HABITATS: *temperate hammock, *freshwater marsh, *fields, agricultural fields

LAND USE: *cattle grazing, conservation, recreation

IBA CATEGORIES: significant numbers of wading birds and wintering cranes and sparrows

AVIAN DATA: Kanapaha Prairie supports large numbers of “Greater” Sandhill Cranes and sparrows during winter, and can support significant numbers of wading birds. [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Wading birds	Year-round	up to 1000 birds	(N)
“Greater” Sandhill Crane	Annual	1500 birds	6% (W)
Wintering sparrows	Annual	>1000 birds estimated	50% Savannah, 20% Swamp, 10% Vesper, 10% Song, and 10% others

Data provided by Celeste Shitama (University of Florida) and Steve Nesbitt (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: none known.

THREATS: *habitat succession, human disturbance, exotic plants

CONSERVATION ISSUES: The site is below the 100-year floodplain and no development will be permitted. Kanapaha Prairie is under consideration for public acquisition by the Alachua County Forever program.

NOMINATED BY: Celeste Shitama (University of Florida) and Stephen Nesbitt (Florida Fish and Wildlife Conservation Commission)

LAKE DISSTON

Flagler County
1844 acres (736 ha)

[As recommended by the IBA Executive Committee, the boundaries of this IBA will be adjusted to include upland habitats to protect the Swallow-tailed Kite roosting and breeding areas].

LOCATION: in extreme southwestern Flagler County, between the Volusia County line and State Road 11, south of County Road 304 and north of the Volusia County line.

DESCRIPTION: Lake Disston is a shallow (average depth 8–10 feet; 2.4–3 m) tannic lake that is drained by Little Haw Creek, which flows north into Crescent Lake. Lake Disston is ringed by a band of ancient cypresses, mostly along the northern end. The lake and creek are part of the St. Johns River basin. Two developments are built along parts of the eastern and southwestern shorelines of the lake, but these do not impact the cypresses. The lake receives an estimated 250 boats and 80 hunters annually.

OWNERSHIP: State of Florida

HABITATS: *lacustrine, cypress swamp

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of FCREPA species; and significant natural habitats

AVIAN DATA: Lake Disston supports significant populations of Swallow-tailed Kites and Ospreys. The number of Osprey nests has been monitored informally in many years since 1967, when 5 nests were known. Since that time, numbers have increased significantly, but show a high degree of annual fluctuation; the highest count was 84 nests in 1985.

SPECIES	DATES	NUMBERS	COMMENTS
White Ibis	Nov 2001	800 birds	(N)
Wood Stork	2000	18 nests	new rookery; <1% (R)
	2002	36 nests	<1% (R)
Swallow-tailed Kite	1997	27 birds	1% (N); pre-roost assemblage
	Mar–Apr 1999	2 nests found; others suspected to occur	<1% (B)
Osprey	1998	40 nests	2% (R)
	May 2000	40 nests	2% (R)
	31 Mar 2002	33 nests	2% (R)

Wood Stork data provided by Steve Nesbitt (Florida Fish and Wildlife Conservation Commission); ibis and Osprey data provided by Ann Moore (Lake Disston LakeWatch); kite data provided by Ken Meyer (Avian Research and Conservation Institute)

OTHER RESOURCES: The largely intact natural forest cover surrounding the lake (from the relative lack of development) and its water clarity help to explain the importance of Lake Disston to raptors, and have allowed for the lake and its drainage to remain one of the most pristine and intact black-water habitats in northeastern Florida. In April 2001, the State designated Lake Disston as an Outstanding Florida Water.

THREATS: *development (of surrounding uplands), runoff

CONSERVATION ISSUES: A proposed development along the Lake’s southeastern shore will be composed of homes built with septic tanks. Together with existing residences, which also use septic tanks, and surrounding agricultural areas, this may impact water quality in the lake. The St. Johns River Water Management District has identified this property as a potential acquisition. If acquired, this property will form a contiguous swath of protected lands from Lake Disston southwest through

Heart Island Conservation Area, Lake George State Forest, and Ocala National Forest to extensive conservation lands in the Wekiva River basin.

NOMINATED BY: Ann Moore (Lake Disston LakeWatch) and Gianfranco Basili (St. Johns Audubon Society)

MATANZAS INLET AND RIVER

Fort Matanzas National Monument (300 acres; 120 ha), **Northeast Florida Blueway Phase II Tolomato and Matanzas Rivers FF Project** (~15,000 acres; 6000 ha, none acquired), and State-sovereign lands (9985 acres; 3994 ha)

St. Johns County

24,985 acres (9994 ha), with 300 acres (120 ha) acquired and 9985 acres (3994 ha) of sovereign lands

LOCATION: in southeastern St. Johns County, from State Road 312 to Pellicer Creek (the boundary between St. Johns and Flagler counties) between the mainland and the barrier islands. Fort Matanzas National Monument is at the extreme southern end of Anastasia Island in southeastern St. Johns County, along the north side of the Matanzas Inlet. This IBA is contiguous with parts of the Northern Atlantic Migration Stopover IBA to the north and south.

DESCRIPTION: **Fort Matanzas National Monument:** a national monument with undisturbed coastal dunes surrounding Fort Matanzas. **Tolomato and Matanzas Rivers FF Project:** an extensive marsh and estuarine system running from St. Augustine south for 14 miles (22 km). The entire FF Project area encompasses 27,929 acres (11,191 ha), but some of this is north of State Road 312, which marks the northern boundary of the IBA. A 9000-acre (3600-ha) silvicultural site sought for public acquisition occupies virtually the entire southern half of the IBA. **Matanzas Inlet** is a natural inlet that connects the Matanzas River with the Atlantic Ocean. The Inlet is characterized by extensive tidal flats and sandbars, interspersed with natural out-croppings of coquina rock.

OWNERSHIP: U.S. National Park Service (Fort Matanzas National Monument), State of Florida (sovereign lands), and private (acreage part of the Northeast Florida Blueway Phase II Tolomato and Matanzas Rivers FF Project)

HABITATS: **Fort Matanzas National Monument:** *coastal strand, maritime hammock, artificial. **Tolomato and Matanzas Rivers FF Project:** *tidal marsh, *estuarine, *pine plantation, *maritime hammock, sand pine scrub, freshwater marsh, hardwood swamp, riverine.

LAND USES: **Fort Matanzas National Monument:** *conservation, *recreation, *historic preservation. **Tolomato and Matanzas Rivers FF Project:** *silviculture, *conservation, recreation, private lands under threat of development

IBA CATEGORIES: **Fort Matanzas National Monument:** significant natural habitats. **Tolomato and Matanzas Rivers FF Project:** significant populations of Endangered species; significant numbers of shorebirds; and significant natural habitats.

AVIAN DATA: this IBA supports a Wood Stork rookery, large numbers of wintering shorebirds and larids, and smaller numbers of breeding larids.

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	2 Jun 1999	50–250 pairs	Blueway Project; <1–4% (aerial survey only; B)
American Oystercatcher	8 Dec 2001	48 birds	Matanzas River
	16 Dec 2001	44 birds	
Shorebirds	25 Feb 2001	1141 birds	Matanzas River
	8 Dec 2001	1013 birds	
	16 Dec 2001	998 birds	
Least Tern	May–Jun 2000	100 nests	Fort Matanzas; 2% (B)
	25 May 2001	24 nests	Fort Matanzas; <1% (B)

Wood Stork rookery data provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission); shorebird data provided by Gian Basili (St. Johns River Water Management District); and larid data provided by Peggy Powell, published in *Florida Field Naturalist*.

OTHER RESOURCES: This IBA is part of Guana-Tolomato-Matanzas National Estuarine Research Reserve, part of a significant regional fishery. • Fort Matanzas was built by the Spanish during 1740–1742 to guard the Matanzas Inlet, and to warn St. Augustine of British invasion from the south.

THREATS: Fort Matanzas National Monument: human disturbance. **Tolomato and Matanzas Rivers FF Project:** development, runoff.

CONSERVATION ISSUES: Fort Matanzas National Monument: the Least Tern rookery is posted against human intrusion. • Driving on the beach which disturbs roosting and foraging shorebirds and larids, is permitted within the National Monument. **Matanzas River Blueway FF Project:** The entire piece is private and under moderate threat of development. • Residential runoff from existing development impacts the river.

NOMINATED BY: Gianfranco Basili (St. Johns Audubon Society)

WEBSITE: <<http://www.nps.gov/foma>>

NORTHERN ATLANTIC MIGRANT STOPOVER

Anastasia State Park (1492 acres; 596 ha), **Faver-Dykes State Park** (1465 acres; 586 ha), **Fort Clinch State Park** (1362 acres; 544 ha); **Moses Creek Conservation Area** (2042 acres; 816 ha), **Smyrna Dunes Park** (250 acres; 100 ha); **Tomoka Basin GEOpark** (7000 acres; 2800 ha), **Tomoka Marsh Aquatic Preserve** (8000 acres; 3200 ha), **Washington Oaks Gardens State Park** (413 acres; 165 ha)

Flagler, Nassau, St. Johns, and Volusia counties
22,004 acres (8809 ha)

[This IBA needs additional information]

LOCATIONS are variable, but all are along or near the Atlantic Ocean. **Anastasia State Park** is opposite St. Augustine in central St. Johns County, at the northern portion of Anastasia Island on the eastern shoreline of the Matanzas River. **Faver-Dykes State Park** is on the mainland in extreme southeastern St. Johns County, east of Interstate 75 along the north side of Pellicer Creek. **Fort Clinch State Park** occupies the northernmost tip of Amelia Island in extreme northeastern Nassau County, across the St. Mary's River from Cumberland Island, Georgia. **Moses Creek Conservation Area** is in southeast St. Johns County, north of County Road 206 on the west side of the Matanzas River. **Smyrna Dunes Park** is north of New Smyrna Beach in northeastern Volusia County, occupying the northernmost tip of the barrier island south of Ponce de Leon Inlet. **Tomoka Basin GEOpark**, including **Tomoka Marsh Aquatic Preserve**, extends from south of Flagler Beach in extreme southeastern Flagler south to north of Ormond Beach in northeastern Volusia County, between State Road 5A and the Intracoastal Waterway. **Washington Oaks Gardens State Park** _____.

DESCRIPTION: Several fairly large, disjunct sites along the Atlantic Ocean between the Georgia state line and New Smyrna Beach, a distance of 115 miles (185 km). **Anastasia State Park** _____. The Park receives 750,000 recreationists annually. **Faver-Dykes State Park:** _____. **Fort Clinch State Park:** _____. **Moses Creek Conservation Area** preserves one of the few remaining tidal creeks in the region; Moses Creek is a tributary of the Matanzas River. The Conservation Area receives _____ recreationists annually. **Smyrna Dunes Park:** a coastal area on the barrier island, bordered by Ponce de Leon Inlet on the north and New Smyrna Beach on the south. **Tomoka Basin GEOpark** includes Addison Blockhouse Historic State Park (5 acres; 2 ha) Bulow Creek State Park (5200 acres; 2080 ha), Bulow Plantation Ruins Historic State Park (150 acres; 60 ha), and Tomoka State Park (1645 acres; 658). Together with **Tomoka Marsh Aquatic Preserve**, these two sites preserve a large area of uplands and wetlands north and south of Tomoka Basin. The GEOpark receives 75,000 recreationists annually. **Washington Oaks Gardens State Park** _____. The State Park receives _____ recreationists annually.

OWNERSHIP: U.S. Department of Transportation and the U.S. Coast Guard (Smyrna Dunes Park, managed by Volusia County Parks and Recreational Services), Florida Division of Recreation and Parks (Anastasia State Park, Fort Clinch State Park, Tomoka Basin GEOpark, and Washington Oaks Gardens State Park), Florida Office of Coastal and Aquatic Areas (Tomoka Marsh Aquatic Preserve), St Johns River Water Management District (Moses Creek Conservation Area).

HABITATS: **Anastasia State Park:** *coastal strand (525 acres; 210 ha), *tidal marsh (400 acres; 160 ha), estuarine, maritime hammock. **Bulow Creek State Park:** _____. **Faver-Dykes State Park:** _____. **Fort Clinch State Park:** _____. **Moses Creek Conservation Area** *maritime hammock, *sandhills, *slash pine flatwoods, *tidal marsh, temperate hammock, sand pine scrub, estuarine. **Smyrna Dunes Park:** *coastal strand, *maritime hammock, tidal marsh, artificial. **Tomoka Basin GEOpark/Tomoka Marsh Aquatic Preserve:** *pine flatwoods, *maritime hammock, *hardwood swamp, *tidal marsh, *riverine, *estuarine, pine plantation, xeric oak scrub, sand pine scrub, bayhead, sawgrass marsh, lacustrine, and artificial. **Washington Oaks Gardens State Park** _____

LAND USE: Anastasia State Park: *conservation, *recreation. **Bulow Creek State Park:** _____. **Faver-Dykes State Park:** _____. **Fort Clinch State Park** _____. **Moses Creek Conservation Area** *conservation, recreation. **Smyrna Dunes Park:** *conservation, *recreation. **Tomoka Basin GEPark/Tomoka Marsh Aquatic Preserve:** *conservation, *recreation. **Washington Oaks Gardens State Park** _____

IBA CATEGORIES: Anastasia State Park: significant populations of Threatened, Special Concern, FCREPA, and Watch List species, significant numbers of shorebirds and larids; and significant natural habitats. **Bulow Creek State Park:** _____. **Faver-Dykes State Park:** _____. **Fort Clinch State Park** _____. **Moses Creek Conservation Area** significant numbers of Neotropical migrants and significant natural habitats. **Smyrna Dunes Park:** significant numbers of Neotropical migrants and significant natural habitats. **Tomoka Basin GEPark/Tomoka Marsh Aquatic Preserve:** significant populations of Endangered, Threatened, and FCREPA species; significant numbers of wading birds; and significant natural habitats. **Washington Oaks Gardens State Park** _____.

AVIAN DATA: All of these sites support large numbers and a diversity of Neotropical migrants during spring and fall. Smyrna Dunes Park was one of two sites from which the largest migration of Neotropical migrants in Florida (estimated at “hundreds of thousands” of birds—and many of these made landfall) was observed in a few hours 17 October 1999, the day following the passage of Hurricane *Irene*. Anastasia Island supports significant populations of breeding and wintering shorebirds and larids, and breeding Painted Buntings. The Tomoka sites support large numbers of foraging wading birds and larids. Overall diversity is ____ species. [I have a (small) bird list for Anastasia State Park; are lists available for any of the other sites?]

Anastasia State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Wilson's Plover	summer 2000	5 pairs	2% (B)
Royal Tern	11 Sep 2000	1570 birds	(N)
Sandwich Tern	11 Sep 2000	128 birds	(N)
Least Tern	1 Jul 1999	140 birds	1% (N)
Black Skimmer	11 Sep 2000	102 birds	(N)
Shorebirds	23 Mar 1998	1200 birds	(M)
Painted Bunting	summer 1999	>30 pairs	(B)
Overall diversity	_____ list	92 natives	
		1 exotic	

Data from a quarterly shorebird survey by which agency?, other data provided by J.B. Miller (Florida Division of Recreation and Parks)

Smyrna Dunes Park:

SPECIES	DATES	NUMBERS	COMMENTS
Neotropical migrants	17 Oct 1999	“hundreds of thousands” of birds (60% Palm Warblers, 15% each Blackpoll and Cape May warblers, 5% Black-throated Blue Warblers, and 100s of Yellow-billed Cuckoos and Gray Catbirds)	(M); part of the largest fallout observed in Florida

Data of Cindy and Kurt Rademaker, published in *Florida Field Naturalist*; see also +Rademaker and Rademaker (in press)

Tomoka Basin GEOPark/Tomoka Marsh Aquatic Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	__ Nov 1995	270 birds	2% (N)
	__ Feb 1996	204 birds	1% (N)
Wading birds*	11 Oct 1995	1613 birds	(N)
Peregrine Falcon	11 Oct 1995	20 birds	1% (M)
Least Tern	__ Apr 1996	186 birds	1% (N)
Royal Tern	__ May 1996	242 birds	2% (N)
Overall diversity	undated list	173 natives 2 exotics	

Data obtained from monthly surveys (Aug 1995–Jul 1996), conducted by Lorne Malo (St. Johns River Water Management District) and prepared by Teresa Downey and Charles DuToit (Florida Division of Recreation and Parks). *500 or more wading birds were counted on nearly every survey; only the highest count is listed.

OTHER RESOURCES: Aquatic habitats within **Anastasia State Park** have been designated as Outstanding Florida Water. The park supports a large population of the Endangered “Anastasia Island” beach mouse and contains 4 miles (6.4 km) of frontage along the Atlantic Ocean and 5 miles along (8 km) Salt Run. **Bulow Creek State Park:** __. **Faver-Dykes State Park:** ____. **Fort Clinch State Park** ____. Timucuan Indians used **Moses Creek Conservation Area** thousands of years ago. **Tomoka Basin GEOPark/Tomoka Marsh Aquatic Preserve** supports 260 native plants, 108 native fishes, 28 reptiles, 7 amphibians, and 20 mammals. The Tomoka River is a designated sanctuary for the Florida manatee. **Washington Oaks Gardens State Park** ____

THREATS: **Anastasia State Park:** human disturbance, cowbird brood parasitism. **Bulow Creek State Park:** __. **Faver-Dykes State Park:** ____. **Fort Clinch State Park:** ____. **Moses Creek Conservation Area:** feral hogs, runoff, exotic plants. **Tomoka Basin GEOPark/Tomoka Marsh Aquatic Preserve:** *exotic plants, human disturbance, habitat succession, feral hogs. **Washington Oaks Gardens State Park** ____

CONSERVATION ISSUES: **Anastasia State Park:** Nesting areas are roped off against human disturbance.

- Beach access is limited to trails to protect the dunes. Most of the park is designated as a protected zone in the park management plan.
- The bird list could be improved substantially from surveys that target Neotropical migrants.

Bulow Creek State Park: __. **Faver-Dykes State Park:** ____. **Fort Clinch State Park** ____. **Moses Creek Conservation Area** is surrounded by residential subdivisions, which complicates prescribed-fire management. Feral hogs and exotic plants (primarily ____) are controlled as needed. **Tomoka Basin GEOPark/Tomoka Marsh Aquatic Preserve:** A Draft Management Plan was written in December 2001. The primary objective is to preserve and restore ecological functions of the area through prescribed fire, controlling exotics, and restoring wetland communities. **Washington Oaks Gardens State Park** ____.

NOMINATED BY: **Anastasia State Park:** J.B. Miller (Florida Division of Recreation and Parks); **Bulow Creek State Park:** __. **Faver-Dykes State Park:** ____. **Fort Clinch State Park** ____. **Moses Creek Conservation Area:** Gianfranco Basili (St. Johns Audubon Society). **Tomoka Basin GEOPark/Tomoka Marsh Aquatic Preserve:** Charles DuToit and Teresa Downey (Florida Division of Recreation and Parks). **Washington Oaks Gardens State Park** ____

REFERENCE: +Rademaker, K., and C. Rademaker. In press (2002). First recent record of the Kirtland’s Warbler in Florida. *Florida Field Naturalist* 30: ____.

WEBSITES: <<http://www.dep.state.fl.us/parks/district3/anastasia>>, <<http://www.dep.state.fl.us/parks/district3/bulowcreek>>, <<http://www.dep.state.fl.us/parks/district3/faver-dykes>>, <<http://www.dep.state.fl.us/parks/district2/fortclinch>>, <<http://www.dep.state.fl.us/parks/district3/tomoka>>, <<http://www.dep.state.fl.us/parks/district3/washingtonoaks>>

OCALA NATIONAL FOREST–LAKE GEORGE

Lake George Conservation Area (20,184 acres; 8073 ha), **Lake George State Forest** (19,609 acres; 7842 ha), and **Ocala National Forest** (383,573 acres; 153,429 ha)
 Lake, Marion, Putnam, and Volusia counties
 423,366 acres; 169,346 ha

LOCATION: in northern Lake County, eastern Marion County, extreme southern Putnam County, and western Volusia County, primarily from the northern portion of the Ocklawaha River south to State Road 40 between the western portion of the Ocklawaha River and U.S. Highway 17. Contiguous with the Lake Woodruff National Wildlife Refuge IBA to the south.

DESCRIPTION: ____; **Lake George Conservation Area** is managed as a Wildlife Management Area by the Florida Fish and Wildlife Conservation Commission. **Lake George State Forest** _____. The Conservation Area receives ____ recreationists and ____ hunters annually, while use of the State Forest is ____ recreationists and ____ hunters annually. _____. **Ocala National Forest** is the southernmost national forest in the continental United States. The Forest receives ____ recreationists and ____ hunters annually.

OWNERSHIP: U.S. Forest Service (Ocala National Forest), St. Johns River Water Management District and Volusia County (Lake George Conservation Area), Florida Division of Forestry (Lake George State Forest).

HABITATS: **Lake George Conservation Area:** *hardwood swamp, *slash pine plantation, pine flatwoods, temperate hammock, cypress swamp, lacustrine. **Lake George State Forest:** *slash pine plantation, *longleaf pine flatwoods, *hardwood swamp, riverine. **Ocala National Forest:** *sand pine scrub, *xeric oak scrub, longleaf pine flatwoods, sandhills, temperate hammock, cypress swamp, hardwood swamp, bayhead, freshwater marsh, riverine, lacustrine, artificial

LAND USE: **Lake George Conservation Area:** *conservation, *recreation, *hunting, *timber production. **Lake George State Forest:** *conservation, *timber production, *recreation, *hunting. **Ocala National Forest:** *conservation, *recreation, *timber production, *hunting

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and Watch List species; significant numbers of raptors; and significant natural habitats

AVIAN DATA: Ocala National Forest is critical to the survival of the Florida Scrub-Jay, supporting the largest extant population and accounting for more than 20% of overall numbers. It also supports Red-cockaded Woodpeckers and other flatwoods/sandhills species. Eighty point count stations (40 in sand pine scrub and 40 in longleaf pine sandhills) in the National Forest are surveyed once annually during the breeding season to track populations of selected species. The area surrounding Lake George, nearly entirely within this IBA, contains one of the densest nesting concentrations of Bald Eagles in the United States. The points are surveyed for 10 minutes are broken down into segments of 0–3, 4–5, and 6–10 minute segments to allow comparison with BBS data and other surveys methods.

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	Jul 1997	200 birds	13% (N)
Bald Eagle	2001	79 nests	7% (B)
“Southeastern” American Kestrel	2001	75 nest boxes occupied	(B)
Red-cockaded Woodpecker	1999	18 clusters	1% (R)
	2001	30 clusters	2% (R)
Florida Scrub-Jay	1998	>700 groups	19% (R)
	2001	763 groups	21% (R)
Bachman's Sparrow	2001	2.0 birds/sandhills sample point	(R)
Overall diversity	1998 checklist	244 natives	
		____ exotics	

Kite data provided by Ken Meyer (Avian Research and Conservation Institute); eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission); woodpecker data from +USFWS (2000); 1998 scrub-jay data from +Stith (1999); and all 2001 data provided by Laura Lowery (U.S. Forest Service)

OTHER RESOURCES: Ocala National Forest contains the largest patch (over 200,000 acres; 80,000 ha) of xeric oak scrub remaining in the world. • Two of Florida's 27 first-magnitude springs occur within the National Forest: Alexander Springs (76 million gallons [287 million liters] per day) and Silver Glen Springs (70 million gallons [264 million liters] per day), along with 20 or more smaller springs. • Ocala Forest also contains over 200 ephemeral ponds important to amphibians of xeric habitats. • Lake George is the second-largest lake in Florida. • The regional population of black bears is under study. • **Lake George State Forest** contains pre-historic Indian sites dating back thousands of years, but most of the shell middens were destroyed when they were excavated for roadfill.

THREATS: Conservation Area: human disturbance, offsite development, exotic plants, feral hogs. **State Forest:** _____. **Ocala National Forest:** *human disturbance (Off-Road Vehicles), *habitat succession, *exotic plants •

CONSERVATION ISSUES: Lake George Conservation Area: Off-Road Vehicle disturbance is addressed [how?] in the management plan. • Feral hogs and exotic plants are controlled as needed. Some out-parcels remain to be acquired. • Pine plantations are being thinned, and will be managed to attain a more natural old-growth condition. Forests heavily burned during the July 1998 wildfires were salvaged-logged and are being replanted to longleaf pine to be managed as natural flatwoods. **Lake George State Forest:** Beginning in the 1960s, native longleaf pine was “aggressively harvested” and converted to slash pine plantations. Nearly half of the Forest burned during the July 1998 wildfires; current restoration efforts include salvage logging and replanting with longleaf and slash pines. • Most of **Ocala National Forest** is managed for the production of sand pines, which are harvested for pulpwood. The Forest contains more Florida Scrub-Jay groups than any other site, determined to be 763 groups in 2001. Clear-cuts regenerate initially as xeric oak scrub, then succeed to sand pine forests. +Cox (1987) found that clear-cuts 4–7 years old are most suitable for Florida Scrub-Jays, which then must move to other, more recent clear-cuts as the sand pines increase in density and height. The long-term effects of mechanical treatment as a substitute for fire management on scrub flora and fauna are unknown +(Woolfenden and Fitzpatrick 1996). • A “National Forests in Florida Land and Resource Management Plan” was issued in 1999. Its conservation objective is to contribute to recovery of Endangered and Threatened species by maintaining viable populations. The Management Plan has set a goal of 44 active Red-cockaded Woodpecker clusters (an increase from 30 in 2001), and 907 Florida Scrub-Jay groups. • The northern boundary of the Forest is defined by the Ocklawaha River, which has been flooded and dammed by the Rodman Dam (recently renamed the Kirkpatrick Dam to “honor” its long-time political supporter) for 30 years, a relict of the now-defunct Cross-Florida Barge Canal. State legislation to remove the dam has so far been unsuccessful, largely due to a few powerful politicians. The Federal government owns land flooded by the dam and the U.S. Forest Service recently prepared an Environmental Impact Statement (EIS) that calls for removal of most of the dam and the restoration of 9000 acres (3600 ha) of riverine habitats, with 600 acres (240 ha) within the Forest. The Federal EIS calls for removal of the Kirkpatrick dam by 30 June 2006. • There is heavy and increasing demand for Off-Road Vehicle use of the Forest; an Access Plan is in preparation.

NOMINATED BY: Lake George Conservation Area: Gianfranco Basili (St. Johns River Water Management District), **Lake George State Forest:** _____, and **Ocala National Forest:** Laura Lowery (U.S. Forest Service)

REFERENCES: +Cox, J.A. 1987. *Status and Distribution of the Florida Scrub Jay*. Florida Ornithological Society Special Publication Number 3. Gainesville, FL. • +Stith, B.M. 1999. Metapopulation variability analysis of the Florida Scrub-Jay (*Aphelocoma coelurescens* [sic]). Final report to U.S. Fish and Wildlife Service. Jacksonville, FL. • USFWS. 2000. Technical/agency draft revised

recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, GA. • Woolfenden, G.E., and J.W. Fitzpatrick. 1996. Florida Scrub-Jay (*Aphelocoma coerulescens*). In *The Birds of North America*, No. 228 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

WEBSITES: <<http://www.r8web.com/florida/forests/ocala.htm>>,
<http://www.fl-dof.com/state_forests/Lake_George.htm>

OSCEOLA NATIONAL FOREST–OKEFENOKEE AND PINHOOK SWAMPS

Osceola National Forest (193,104 acres; 77,241 ha), **Okefenokee National Wildlife Refuge** (3678 acres; 1471 ha), and unacquired acreage of the **Pinhook Swamp CARL–FF Project** (51,972 acres [20,788 ha] remaining)

Baker and Columbia counties

248,754 acres (99,501 ha), including 196,782 (78,712 ha) acquired

LOCATION: in eastern Columbia County and western Baker County between the Suwannee and St. Marys rivers, and extending from the Georgia state line south to State Road 90.

DESCRIPTION: a vast area of pine flatwoods, cypress swamps, and wetlands. Okefenokee National Wildlife Refuge is one of the most preserved freshwater habitats in the United States. It is a vast depressional area that supports a diversity of swamps. Most of Okefenokee (390,000 acres; 156,000 ha) is located in Georgia. The Forest receives ____ recreationists and ____ hunters annually, while the Refuge receives ____ recreationists and ____ hunters annually.

OWNERSHIP: U.S. Fish and Wildlife Service (Okefenokee National Wildlife Refuge), U.S. Forest Service (Osceola National Forest), and private owners (unacquired acreage of the Pinhook Swamp CARL–FF Project)

HABITATS: *longleaf pine flatwoods, *cypress swamp, *hardwood swamp, pine plantation, bayhead, riverine, lacustrine, quaking bog

LAND USE: *conservation, *timber production, recreation, hunting, saw palmetto berry harvesting

IBA CATEGORIES: significant populations of Endangered, Threatened, and Watch List species; complete diversity of longleaf pine flatwoods species; and significant natural habitats

AVIAN DATA: Osceola National Forest supports the full diversity of pine flatwoods species, including Red-cockaded Woodpecker; no avian data are available for Okefenokee National Wildlife Refuge or the Pinhook Swamp CARL–FF Project.

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	1994–1998	3–4 nests found annually; many others predicted	probably >1% (B)
“Florida” Sandhill Crane	1999	>25 pairs	1% (R)
Red-cockaded Woodpecker	2000	66 clusters	5% (R)
Brown-headed Nuthatch	1994–1998	common	(R)
Prothonotary Warbler	1994–1998	common	(B)
Bachman's Sparrow	1994–1998	common	(R)
Overall diversity	undated list	167 natives 3 exotics	

Stork data provided by Terry Noonan (Florida Fish and Wildlife Conservation Commission), kite data provided by Ken Meyer (Avian Research and Conservation Institute), woodpecker data from +USFWS (2000), all other data provided by Jane Monaghan (U.S. Fish and Wildlife Service)

OTHER RESOURCES: This IBA represents one of the largest roadless areas in the Southeast. The region supports a large population of black bears, and was included in a recent experiment that released western cougars into the region as part of a potential Florida panther reintroduction project. • Over one-third of Osceola National Forest has an intact ground-cover, representing significant examples of native longleaf pine flatwoods. The only known ♦ flatwoods salamander (*Ambystoma cingulatum*) population occurring east of the Suwannee River is found in the Forest. On 20 February 1864, the battle of Olustee, the largest Civil War battle to occur in Florida, was fought in what is now Osceola National Forest.

THREATS: *human disturbance, *habitat succession, development, exotic plants, feral hogs

CONSERVATION ISSUES: The primary management issue is returning a natural fire regime to the flatwoods. For the past 30 years, fires have been set during the non-growing season. A wildfire in 1998 burned over 20,000 acres (8000 ha); vegetation surveys of the burned area documented their recovery. Large-scale restoration using growing-season fires is urgently needed. Longleaf pines and threawn are being replanted in areas formerly converted to slash pine plantations; these areas need to be monitored to determine the effectiveness of the restoration. • CARL–FF land is added to the National Forest as publicly acquired.

NOMINATED BY: Jane Monaghan (U.S. Fish and Wildlife Service)

REFERENCE: +USFWS. 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, GA.

WEBSITE: <<http://www.r8web.com/florida/forests/osceola.htm>>

PAYNES PRAIRIE PRESERVE STATE PARK

Alachua County

20,945 acres (8378 ha)

LOCATION: in southern Alachua County a few miles south of Gainesville, primarily between County Road 121 and County Road 234. Contiguous with the Alachua Lakes IBA to the east, and near the Kanapaha Prairie IBA to the west.

DESCRIPTION: a large natural area centered around Paynes Prairie, currently a shallow marsh but previously a large lake; steamboats plied its waters in the 1880s. The State Park receives 125,000 recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *pine flatwoods, *temperate hammock, *freshwater marsh, *cattail marsh, fields, non-native pasture, cypress swamp, bayhead, sawgrass marsh, riverine, lacustrine, artificial

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Endangered and Threatened species; significant numbers of wintering Sandhill Cranes; significant overall diversity; and significant natural habitats

AVIAN DATA: A large diversity of species has been recorded in recent years, partially dependent upon water levels in the prairie. Hammocks around the prairie support a variety of Neotropical migrants in spring and fall, and other upland species at other seasons.

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	30 Oct 1999	666 birds	5% (N)
Bald Eagle	winter 1999–2000	>50 birds	1% (N)
“Greater” Sandhill Crane	19 Dec 1999	4882 birds	19% (W)
Ruby-throated Hummingbird	21 Sep 1997	42 birds	along 1 mile (1.6 km) of trail (M)
Wood-warbler diversity		34 species	mostly (M)
Overall diversity	Sep 1999 list	267 natives 4 exotics	

Stork observation from Howard Adams, published in *Florida Field Naturalist*, eagle and crane data are from the 1999 Gainesville CBC; diversity data from park checklist.

OTHER RESOURCES: The Preserve supports an extraordinary floral diversity: over **700** species of native plants have been identified. Upland habitats contain over 100 gopher tortoises. The prairie rim has been inhabited by humans nearly continuously for 10,000 years. The Prairie contained the largest 17th century cattle ranch in Florida. Some fortifications built during the Second Seminole War occurred along the prairie rim [do these still exist?]

THREATS: *exotic plants, *habitat succession, cowbird brood parasitism, feral cats, runoff

CONSERVATION ISSUES: Sweetwater Branch, a primary source of water to the Prairie, is affected by residential runoff, which has accelerated succession of the marsh in the Preserve's northeastern quarter to woody plants such as willow, wax myrtle, and ♦boxelder (*Acer negundo*). Fire frequency is insufficient to return this area back to wet prairie and open marsh. • Exotic plants are a serious problem, especially Chinese tallow and ♦wild taro (*Colocasia esculenta*). Common water-hyacinth has been a problem in the past. • An organization in Gainesville that supports “colonies” of feral cats refused to agree to keep “colonies” at least 1 mile (1.6 km) from the park boundaries. Feral cats could have a devastating impact on native animals in the park.

NOMINATED BY: Rex Rowan (Alachua Audubon Society)

WEBSITE: <<http://www.dep.state.fl.us/parks/district2/paynesprairie>>

SAN FELASCO HAMMOCK PRESERVE STATE PARK

Alachua County
6927 acres (2770 ha)

LOCATION: northwest of Gainesville in northwestern Alachua County, mostly between U.S. Highway 441 and Interstate 75.

DESCRIPTION: ____ The Park receives 27,000 recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *sandhills, *temperate hammock, non-native pasture, bayhead, riverine, lacustrine

LAND USE: *conservation, recreation

IBA CATEGORIES: significant numbers or diversity [?] of Neotropical migrants and significant natural habitats

AVIAN DATA: The Park supports significant numbers [and diversity?] of Neotropical migrants, and approaches the southernmost breeding site in Florida for the Wood Thrush.

SPECIES	DATES	NUMBERS	COMMENTS
Acadian Flycatcher	9 May 1992	27 birds	(B)
Great Crested Flycatcher	9 May 1992	48 birds	(B)
Yellow-throated Vireo	9 May 1998	20 birds	(B)
Red-eyed Vireo	9 May 1998	67 birds	(B)
	13 May 2000	55 birds	(B)
Veery	21 Sep 1996	30 birds	(M)
Northern Parula	9 May 1998	65 birds	(B)
Ovenbird	24 Sep 2000	22 birds	(M)
Bay-breasted Warbler	14 Oct 1991	20 birds	(M)
Black-throated Blue Warbler	27 Apr 1997	27 birds	(M)
American Redstart	8 Oct 2000	18 birds	(M)
Black-and-white Warbler	8 Oct 2000	15 birds	(M)
Summer Tanager	21 Sep 1996	19 birds	(M)
	9 May 1998	30 birds	(B)
Overall diversity	Apr 1998 list	178 natives 1 exotic	

Data from observations of John Hintermister, Mitch Lysinger, and Mike Manetz published in *Florida Field Naturalist* and observations during the spring and fall North American Migration Counts, provided by Sam Cole (Florida Division of Recreation and Parks), checklist data from the Management Plan.

OTHER RESOURCES: Ravines and sinks within the Preserve harbor flora that otherwise occur no closer than the Appalachian Mountains; San Felasco marks the southern limit of several plants. • The Preserve supports healthy populations of gopher tortoises, Florida mice, and 27 species of ♦underwing moths (*Catocala* spp.). • Twenty-five archaeological or historical sites occur onsite, from Paleo-Indians to post Civil War. Many Spanish-era artifacts have been found, along with several associated village sites. Spring Grove, the former (19th century) Alachua County seat, was built within the current Preserve boundaries.

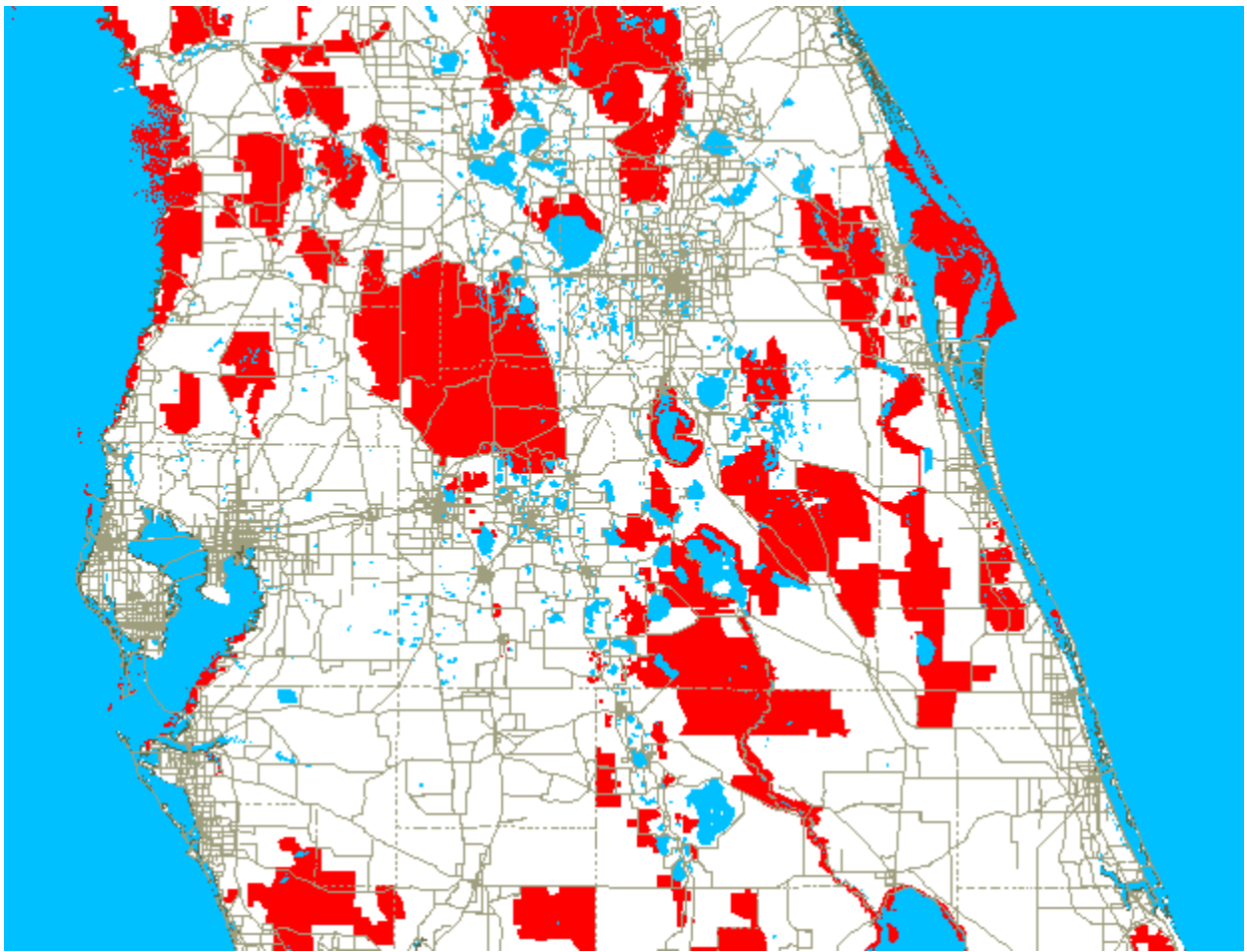
THREATS: *offsite development, *exotic plants, cowbird brood parasitism, feral hogs

CONSERVATION ISSUES: Encroaching development from Gainesville threatens to isolate the Preserve. • Water quality is declining from runoff from increased development. • About 20 species of exotic plants occur within the Preserve, and several are considered to be threats, including Chinese tallow, wild taro, ♦tropical soda apple (*Solanum viarum*), cogon grass, ♦Chinaberrytree (*Melia azedarach*), ♦tungoil tree (*Aleurites fordii*), and ♦black mimosa (*Mimosa pigra*). • Feral hogs are a minor concern; eradication is planned.

NOMINATED BY: Rex Rowan (Alachua Audubon Society) and Sam Cole (Florida Division of Recreation and Parks)

WEBSITE: <<http://www.dep.state.fl.us/parks/district2/sanfelasco>>

CENTRAL PENINSULA



AVON PARK AIR FORCE RANGE—BOMBING RANGE RIDGE

Avon Park Air Force Range (106,110 acres; 42,444 ha) and the adjacent **Bombing Range Ridge CARL–FF Project** (39,073 acres [15,629 ha], with 4009 acres [1603 ha] acquired as the **Sumica/Lake Walk-In-The-Water Tract**)

Highlands and Polk counties

145,183 acres (58,073 ha), with 110,119 acres (44,047 ha) acquired

LOCATION: in southeastern Polk County and northeastern Highlands County about 10 miles (16 km) east of the town of Avon Park. The Bombing Range Ridge CARL–FF Project lies north of the Air Force Range, extending north along the western shore of Lake Kissimmee to Lake Kissimmee State Park and west to Lake Weohyakapka between Fedhaven and Indian Lake Estates. Contiguous with parts of the Lake Wales Ridge IBA to the west, the Lake Kissimmee Lake and River IBA to the east, and is across the Kissimmee River from the Kissimmee Prairie IBA.

DESCRIPTION: **Avon Park Air Force Range** is a large, active military range used by the U.S. Air Force and the National Guard for bombing and gunnery practice, frequently using live ammunition. A state prison, juvenile detention facility, and numerous other buildings are located onsite. A majority of the Range remains in natural habitats, although 19,728 acres (7891 ha; 19%) were converted to pine plantations in the 1960s, and 2,199 acres (879 ha) are developed. Lake Arbuckle and Arbuckle Creek form the western boundary, while the Kissimmee River forms the eastern boundary. The Range receives ____ recreationists and ____ hunters annually. The **Bombing Range Ridge CARL–FF Project** encompasses a large, diverse area that is mostly undisturbed, although several hunting cabins and other dwellings exist; virtually no avian data are available presently. Because the CARL-FF Project is largely unacquired, data for this IBA are virtually limited to Avon Park Air Force Range.

OWNERSHIP: U.S. Air Force (Avon Park Air Force Range), South Florida Water Management District and Polk County (Sumica Lake Walk-In-The-Water Tract), and private owners (remaining acreage of the Bombing Range Ridge CARL–FF Project; Florida Division of Forestry will be the owner if the site is publicly acquired)

HABITATS: *longleaf pine flatwoods, *slash pine plantation, *temperate hammock, *xeric oak scrub, *dry prairie, *freshwater marsh, sand pine scrub, sandhills, non-native pasture, agricultural fields, cypress swamp, bayhead, cattail marsh, sawgrass marsh, riverine, lacustrine, artificial

LAND USE: **Avon Park Air Force Range:** *bombing and gunnery practice, *conservation, *timber production, recreation, hunting, cattle grazing, state prison and juvenile detention facility. **Bombing Range Ridge CARL–FF Project:** *private property, *conservation, *hunting, weekend residences

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, FCREPA, and Watch List species; complete diversity of longleaf pine flatwoods and dry prairie species; significant natural habitats; and long-term research

AVIAN DATA: Avon Park Air Force Range is extremely important for three Endangered or Threatened species: the Red-cockaded Woodpecker, Florida Scrub-Jay, and “Florida” Grasshopper Sparrow, and supports numerous other listed species. The range also contains probably is one of the largest populations of Hairy Woodpeckers remaining in the southern half of the Peninsula. • Henslow’s Sparrows appear to be regular winter residents in the prairies. Not much is known about avian use of the Bombing Range Ridge CARL–FF Project, but it does support all species of longleaf pine flatwoods, including a significant population of Red-cockaded Woodpeckers, and a singing male “Florida” Grasshopper Sparrow was found in the southeastern section 15 May 1997 +(Delany et al. 1996b).

Both sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
White Ibis	21 Dec 1993	1750 birds	(N)
	29 Dec 1996	2318 birds	(N)
Short-tailed Hawk		1 pair at least	<1% (B)
Red-shouldered Hawk	21 Dec 1993	124 birds	(R)
Crested Caracara	1998–1999	>2 pairs	1% (B)
Sandhill Crane (probably mostly “Greater” Sandhill Crane)	21 Dec 1993	360 birds	1% (W)
	29 Dec 1995	329 birds	1% (W)
Barred Owl	29 Dec 1994	71 birds	(R)
Hairy Woodpecker	29 Dec 1994	21 birds	(R)
Red-cockaded Woodpecker	2000	31 active clusters	2% (R)
Northern Flicker	29 Dec 1994	48 birds	(R)
Brown-headed Nuthatch	29 Dec 1994	145 birds	(R)
Florida Scrub-Jay	1991	100 groups	2% (R)
	2000	50 groups	1% (R)
Blue-gray Gnatcatcher	29 Dec 1994	412 birds	(W)
Pine Warbler	21 Dec 1993	1035 birds	Record North American CBC total
	29 Dec 1994	1021 birds	(R)
Common Yellowthroat	29 Dec 1994	345 birds	(R)
Eastern Towhee	21 Dec 1993	380 birds	(R)
Bachman's Sparrow	21 Dec 1993	50 birds	(R)
	29 Dec 1994	50 birds	(R)
“Florida” Grasshopper Sparrow	spring 1997	134 singing males	13% (R)
	spring 1998	108 singing males	10% (R)
	spring 1999	118 singing males	11% (R)
	spring 2000	81 singing males	8% (R)
	spring 2001	76 singing males	7% (R)
Swamp Sparrow	21 Dec 1993	155 birds	
Overall diversity	___ list	165 natives 3 exotics	Avon Park Air Force Range only

December sightings from various Avon Park Air Force Range CBCs, Short-tailed Hawk data observations by Bill Pranty (Audubon of Florida), woodpecker data from +Bowman et al. (1998a), scrub-jay data from +Bowman et al. (1998b), Grasshopper Sparrow data from +Delany et al. (1998, 1999a, b, 2000, and 2001)

OTHER RESOURCES: [Aren't there over 1000 species of native plants known from the Range?] A number of cultural sites are known Avon Park Air Force Range. Approximately 55% of the Range meet the standards of the Florida Natural Areas Inventory as “natural areas” +(Orzell 1997). Two Federally-listed plants occur onsite: ♦Florida jointweed (*Polygonella basiramia*) and ♦sweetscented pigeonwings (*Clitoria fragrans*). Half of the shoreline of Lake Arbuckle and over 12 miles (19.2 km) of frontage along the Kissimmee River are within the Air Force Range.

THREATS: Avon Park Air Force Range: *habitat succession, human disturbance, exotic plants, feral hogs, cattle grazing, bombing and gunnery exercises. **Bombing Range Ridge CARL–FF Project:** *development, *timbering, human disturbance, exotic plants, feral hogs

CONSERVATION ISSUES: There are 20 active Red-cockaded Woodpecker clusters on the Range, and 11 on the adjacent Bombing Range Ridge CARL–FF Project. The birds are color-banded and monitored regularly, and the population is stable +(Bowman et al. 1998a). • The population of Florida Scrub-Jays on the Range has declined severely from over 100 groups in 1991 to about 50 in 2000 due to insufficient habitat restoration activities. Scrub-Jay dispersal is hampered by fire exclusion in native flatwoods, and conversion of flatwoods to pine plantations +(Bowman et al. 1998b). Individuals on the Range are color-banded and monitored regularly. • Three apparently separate populations of “Florida” Grasshopper Sparrows occur on the Range and all are declining. In particular the population

at Bravo Range has declined since its discovery in 1997 from 21 singing males +(Delany et al. 1999) to 4 singing males in 2001 +(Delany et al. 2001). Prairies in which “Florida” Grasshopper Sparrows breed are grazed for short periods during the sparrow breeding season; the effect of cattle on sparrow nests is unstudied. Prairies are burned on a three-year rotation, mostly during late winter or early spring to coincide with the calving season, and some areas are becoming too overgrown to support sparrows. Long-term effects of off-season fires on prairie flora and fauna deserves study. Bombing and gunnery practice do not appear to have a significant negative effect on “Florida” Grasshopper Sparrow populations, and in fact, the frequent ordnance-caused fires may have supported the persistence of the population at Echo Range. At least two areas (east of Durden Road and Wise Road) formerly occupied by “Florida” Grasshopper Sparrow in recent years now are vacant (M.F. Delany pers. comm.); the former site now is shrubby and the latter site is small and surrounded by pine plantations (B. Pranty pers. obs.). A large habitat modification experiment, resulting in the conversion of 510 acres (204 ha) of longleaf pine flatwoods to dry prairie was begun in 1998. This area, which is adjacent to the OQ Range–Delta Trail Area population, will be monitored to determine whether sparrows will colonize the site +(Delany et al. 2000). • Over 25,000 acres (10,000 ha) of the Air Force Range are prescribed-burned annually. The **Bombing Range Ridge CARL–FF Project** supports high-quality longleaf pine flatwoods, which are susceptible to clear-cutting for timber. The site is also in danger of residential development.

Over 6500 acres (2600 ha) of high-quality longleaf pine flatwoods that extend west to County Road 630 are excluded from the CARL–FF Project boundary. Public acquisition of these properties should be investigated.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: Mike Delany (Florida Fish and Wildlife Conservation Commission)

REFERENCES: +Bowman, R., D.L. Leonard, L. Backus, P. Barber, A. Mains, L. Richman, and D. Swan. 1998a. Demography and habitat characteristics of the Red-cockaded Woodpecker at the Avon Park Air Force Range: Final report 1994–1998. Final report to U.S. Department of Defense, MacDill Air Force Base, Tampa, Florida. • +Bowman, R., N. Hamel, L.A. Riopelle, and S.P. Rowe. 1998b. Demography and habitat characteristics of Florida Scrub Jays at Avon Park Air Force Range: Final report 1994–1998. Final report to U.S. Department of Defense, MacDill Air Force Base, Tampa, Florida. • +Delany, M.F., D.W. Perkins, and B. Pranty. 1998. Florida Grasshopper Sparrow demography, Avon Park Air Force Range, 31 March 1997–31 March 1998. Final report submitted to Environmental Flight, Avon Park Air Force Range, FL. • +Delany, M.F., D.W. Perkins, and B. Pranty. 1999a. Florida Grasshopper Sparrow demography and habitat alteration, Avon Park Air Force Range, February 1998–February 1999. Annual report submitted to Environmental Flight, Avon Park Air Force Range, FL. • +Delany, M.F., P.B. Walsh, B. Pranty, and D.W. Perkins. 1999b. A previously unknown population of Florida Grasshopper Sparrows on Avon Park Air Force Range. *Florida Field Naturalist* 27: 52–56. • +Delany, M.F., B. Pranty, and H.W. Lovell. 2000. Florida Grasshopper Sparrow demography and habitat alteration, Avon Park Air Force Range, 1 February 1999–31 January 2000. Annual report submitted to Environmental Flight, Avon Park Air Force Range, FL. • +Delany, M.F., V. Rumancik, and J.O. Garcia. 2001. Population monitoring and habitat management of the Florida Grasshopper Sparrow at Avon Park Air Force Range, and regional habitat mapping and distribution. Second quarterly report to Avon Park Air Force Range, FL. • +Orzell, S. 1997. Natural areas inventory of Avon Park Air Force Range in Polk and Highlands counties, Florida. Florida Natural Areas Inventory. Tallahassee, FL.

BREVARD SCRUB ECOSYSTEM

Sites at least partially acquired are the: **Batchelor Tract** (22 acres; 8.8 ha), **Dicerandra Scrub Sanctuary** (44 acres; 17.6 ha), **Enchanted Forest Sanctuary** (393 acres; 157 ha), **Fox Lake Tract** (3695 acres; 1478 ha), **Jordan Boulevard Tract** (354 acres; 141 ha), **Malabar Scrub Sanctuary** (395 acres; 158 ha), **Micco Scrub Sanctuary** (1322 acres; 528 ha), **North Rockledge Sanctuary** (140 acres; 56 ha), **South Babcock–Ten Mile Ridge Tract** (53 acres; 21 ha), **Tico Scrub Sanctuary** (52 acres; 20 ha), and **Valkaria Scrub Sanctuary** (457 acres; 182 ha). Other sites targeted for acquisition through **Brevard Coastal Scrub Ecosystem CARL–FF Project** but not yet acquired are: Grissom Parkway, Jordan Boulevard, Malabar, Malabar Expansion, Micco, Micco Expansion, Rockledge, South Babcock, Ten Mile Ridge, Titusville Wellfield, Valkaria, and Valkaria–Micco Expansion.

Brevard County
33,982 acres (13,592 ha), with 7480 acres (2992 ha) acquired

LOCATION: on the mainland in central and southern Brevard County, along Interstate 95 from just north of State Road 50 south to St. Sebastian River State Buffer Preserve. Parts are contiguous with the St. Sebastian River State Buffer Preserve IBA to the south, near parts of the St. Johns River National Wildlife Refuge IBA to the north and south, and near the Upper St. Johns River Basin IBA to the west.

DESCRIPTION: all significant xeric oak scrub sites remaining on the Brevard County mainland, growing on ridge systems that represent coastal dunes during periods of higher sea levels. The Brevard Coastal Scrub Ecosystem CARL–FF Project is one of two State acquisition projects targeting the preservation of scrub flora and fauna. [Is visitation known for any public site?]

OWNERSHIP: State of Florida (Enchanted Forest Sanctuary and Micco Scrub Sanctuary, both managed by Brevard County), Brevard County Parks and Recreation Department (Batchelor Tract, Dicerandra Scrub Sanctuary, Jordan Boulevard Tract, Malabar Scrub Sanctuary, North Rockledge Sanctuary, South Babcock–Ten Mile Ridge Tract, Tico Scrub Sanctuary, and Valkaria Scrub Sanctuary), St. Johns River Water Management District (Fox Lake Tract), and private owners (remaining acreage of the Brevard Coastal Scrub Ecosystem CARL–FF Project)

HABITATS: *pine flatwoods, *xeric oak scrub, *sand pine scrub, dry prairie, cypress swamp, bayhead, freshwater marsh

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Threatened species; and significant natural habitats

AVIAN DATA: This IBA is essential for maintaining a viable population of Florida Scrub-Jays in the region. Scrub-Jays on the mainland appear to be completely isolated from those on Merritt Island and Cape Canaveral by the Indian River, so preservation of the mainland population is needed to maintain genetic variability. [Is a bird list available for any of the sites?].

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	1992–1993	~140 groups	3% (R)
	1999	100 groups	2% (R)

1992–1993 data from +Pranty (1996b); 1999 data from +Breininger et al. (1999)

OTHER RESOURCES: At least eight listed plants and “several rare vertebrates” are known to occur on the various sites +(DEP 2001).

THREATS: *development, *habitat succession

CONSERVATION ISSUES: All sites are under extreme threat of residential and commercial development. Three sites (representing 1874 acres; 749 ha) that were targeted in the 1990s for acquisition (Canova Beach, Condev, and Wickham Road) were destroyed by development or were otherwise rendered

unsuitable for public acquisition by early 2001 +(DEP 2001). Furthermore, habitats on the sites are extremely overgrown from decades of fire exclusion, and scrub-jay populations continue to decline.

Extensive habitat restoration will be required once sites are acquired publicly. Currently, these sites support about 100 Florida Scrub-Jay groups, a number that perhaps can be doubled with full acquisition and proper management. Prompt public acquisition and proper habitat management are needed urgently for the sites within the IBA.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: David Breininger (Dynamac Corporation)

REFERENCES: +Breininger, D.R., D.M. Oddy, M.L. Legare, and B.W. Duncan. 1999. Developing biological criteria for the recovery of Florida Scrub-Jay populations on public lands in Brevard County: patterns of fire history, habitat fragmentation, habitat use, and demography. Final report to Endangered Species Office, U.S. Fish and Wildlife Service. Jacksonville, FL. • +DEP. 2001. *Florida Forever Five Year Plan*. Office of Environmental Services. Tallahassee, FL. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

WEBSITE: <<http://eelbrevard.com/eel/scb/index.htm>>

BRIGHT HOUR WATERSHED

De Soto County

47,235 acres (18,894 ha), of which 31,989 acres (12,795 ha) are under perpetual conservation easement

LOCATION: in southeastern De Soto County, south of State Road 70 and east of State Road 31. A citrus grove that reportedly is the largest in the world occupies a huge area north of the IBA.

DESCRIPTION: two ranches partly or fully under perpetual conservation easement. Several thousand additional acres (and ha) of non-native pasture within one of the ranches are not part of the SOR Project but have been included within the IBA boundary because pastures are an important landscape feature for Crested Caracaras.

OWNERSHIP: private (perpetual conservation easements monitored by the Southwest Florida Water Management District)

HABITATS: *dry prairie, *freshwater marsh, *temperate hammock, *non-native pastures, riverine, bay swamp, xeric oak scrub, longleaf pine scrubby flatwoods, cutthroatgrass seep, citrus groves

LAND USES: *conservation, *grazing, and crop production

IBA CATEGORIES: significant populations of Threatened species; significant diversity of dry prairie species; and significant natural habitats

AVIAN DATA: this IBA supports or previously supported nearly all species of dry prairies. It also supports a “substantial and apparently viable” (Stith 1999) population of Florida Scrub-Jays. The Bright Hour scrub-jays have vocalizations distinct from those on the Lake Wales Ridge, about 20 miles (32 km) to the east, and appear to represent a “highly isolated” population (Stith 1999). “High concentrations” of wading birds, “great flocks” of Wild Turkeys, and “presumably excellent populations” of “Florida” Sandhill Cranes, Crested Caracaras, and possibly Mottled Ducks were found in May and June 1996, but no numerical data were given due to the brevity of the surveys +(TNC 1996). Parts of the Watershed are proposed Strategic Habitat Conservation Areas for wading birds, the Mottled Duck, Swallow-tailed Kite, Crested Caracara, “Florida” Sandhill Crane, and “Florida” Grasshopper Sparrow (Cox et al. 1994).

SPECIES	DATES	NUMBERS	COMMENTS
Crested Caracara	1994–1995	2 pairs	1% (B)
	May–Jun 1996	?	
“Florida” Sandhill Crane	May–Jun 1996	?	?
Florida Scrub-Jay	1993?	21 groups	<1% (R), but a distinct and isolated population
“Florida” Grasshopper Sparrow	24 Apr 1990	2 singing males	<1% (R); apparently extirpated by 1997

1996 data from +TNC (1996), caracara data provided by Joan Morrison (Trinity College), scrub-jay data from +Pranty (1996) and +Stith (1999), and sparrow data provided by Mike Delany (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: This IBA supports “exceptional hydrological and wildlife resources ... its lands form a mosaic of natural and interacting wetland and upland communities on a scale grand enough to embrace a full array of unimpeded ecosystem processes ... The Bright Hour Watershed is a remarkable wilderness – vast and unspoiled, it stretches for miles in all directions. With its rare and diverse natural communities and rich associations of vertebrate fauna, the project represents the kind of large, natural, and functionally integrated landscape that is vital to the long-term health and conservation of Florida’s biological and hydrological resources” +(TNC 1996). It includes portions of six watersheds and extensive acreage of dry prairie. • Much of the IBA is a proposed Strategic Habitat Conservation Area for the Florida panther +(Cox et al. 1994). • Cutthroatgrass seeps were

not known to occur in De Soto County until one was discovered within the Bright Hour Watershed in 1996 +(TNC 1996).

THREATS: development (portions of the ranches not within the conservation easements).

CONSERVATION ISSUES: The perpetual conservation easement areas of this IBA are secure. +TNC (1996) mentioned that, “past disturbances to the tract have been few” and “the virtual absence of exotics is remarkable for a property located in this area of Florida. The few roads on the tract are all unimproved and there are – amazingly for a property of this size – no utility or transmission corridors running through the property. The entire project area has been so well-managed with regular, prescribed fire that the species composition, community structure, and integrity of the ranch appear nearly pristine over the vast majority of its natural land base.” • An apparently isolated and distinct population of Florida Scrub-Jays occupies at least 300 acres (120 ha) of xeric oak scrub in the eastern portion of the IBA (although the number of groups found in 1993 – 21 – suggests a greater amount of habitat). By 1996, the scrub was succeeding to xeric hammock +(TNC 1996), but restoration activities were undertaken subsequently (M. Barnwell pers. comm., Southwest Florida Water Management District). This scrub-jay population should be monitored to insure its long-term survival. • Two singing male “Florida” Grasshopper Sparrows were discovered in 1990 but apparently were extirpated by 1997 (T. Dean pers. comm., U.S. Fish and Wildlife Service). However, an extensive amount of dry prairie is preserved within this IBA, and the site should be considered for translocation.

Several large ranches between the Bright Hour Watershed and protected areas of the Lake Wales Ridge retain extensive amounts of natural communities. It would be extremely worthwhile to consider obtaining perpetual conservation easements on these ranches to better protect native flora and fauna of the De Soto Plain.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCE: +TNC. 1996. Bright Hour Watershed, Water Management Lands Trust Fund, Save Our Rivers/Preservation 2000, project proposal application. Prepared for the Southwest Florida Water management District. The Nature Conservancy. Tallahassee, FL.

BUCK ISLAND RANCH

Highlands County
 10,300 acres (4120 ha)

LOCATION: in southeastern Highlands County, south of State Road 70, west and north of the Harney Pond Canal, and east to the Glades County line. Contiguous with the Fisheating Creek Watershed IBA to the south, and east of portions of the Lake Wales Ridge IBA.

DESCRIPTION: a cattle ranch within the Istokpoga-Indian Prairie region, formerly a mixed wet and dry prairie ecosystem between Lake Istokpoga and Lake Okeechobee, but now mostly drained. Cattle ranches were the dominant use of the land until recently, but citrus groves, a far less compatible use, have begun to invade the prairie to a great extent, which threatens the continued survival of most native species in the region. Buck Island Ranch is owned by the MacArthur Foundation, but has been leased to Archbold Biological Station for 30 years (beginning in 1989) to study the effects of ranching and citrus production on the ecosystem. The ranch is now also known as the MacArthur Agro-Ecology Research Center. [visitation?]

OWNERSHIP: John D. and Katharine T. MacArthur Foundation, leased to Archbold Biological Station for long-term study

HABITATS: *non-native pasture, *"semi-native wet-dry prairie," *freshwater marsh, temperate hammock, agricultural fields, citrus groves, sawgrass marsh, lacustrine, artificial

LAND USE: *grazing, *long-term agro-ecology research, conservation, recreation, hunting (6 hunters per year), cabbage palm harvesting (embryonic fronds are edible), citrus production

IBA CATEGORIES: significant populations of Threatened, Special Concern, and FCREPA species; complete diversity of Indian Prairie species; significant natural habitats; and long-term research

AVIAN DATA: The ranch supports all known birds of the Istokpoga-Indian Prairie ecosystem, including Mottled Duck, King Rail, Sandhill Crane, White-tailed Kite, Crested Caracara, and Burrowing Owl. It is also an important site for Sedge Wrens, sparrows, and other wintering species.

SPECIES	DATES	NUMBERS	COMMENTS
White Ibis	Sporadic	>500 birds	1% (N)
"Florida" Sandhill Crane	May 2001	6 pairs	<1% (R)
White-tailed Kite	Since 1996	1–2 pairs	(B)
Red-shouldered Hawk	1995–2000	50 pairs	One of the densest nesting concentrations known (R)
Crested Caracara	2000–2001 early 2000	7 pairs >66 birds	3% (R) Single roost; >10% (N)
American Kestrel	Oct–Mar 1996–2000	>70 birds	(W)
Barred Owl	1995–2000	15 pairs	(R)
Burrowing Owl	May 2001	4–6 pairs	<1% (R)
Eastern Phoebe	Oct–Mar 1996–2000	>190 birds	(W)
Sedge Wren	Jan–Feb 1998	160 birds in 210 point count surveys	(W); most numerous species in pastures and semi-native prairies
Loggerhead Shrike	2001	>30 pairs	(R)
Savannah Sparrow	Jan–Feb 1998	136 birds in 210 point count surveys	(W); third most numerous species in pastures and semi-native prairies
Eastern Meadowlark	Jan–Feb 1998	159 birds in 210 point count surveys	(R); second most numerous species in pastures and semi-native prairies
Long-term research	since 1990		Agro-ecology studies
Overall diversity	_____ list	156 natives 5 exotics	

1998 data by Bill Pranty (Audubon of Florida); all other data provided by Mike McMillian (Archbold Biological Station)

OTHER RESOURCES: Numerous Indian mounds are found on the property; the Brighton Indian Reservation is within 5 miles (8 km) to the southeast. • There are more than 500 isolated wetlands on the ranch (although most are connected by drainage ditches).

THREATS: development, human disturbance, feral hogs

CONSERVATION ISSUES: Conservation issues revolve around water quality of a working cattle ranch. A comprehensive study is in progress to quantify and resolve water quality problems caused by cattle grazing operations. • The Ranch is working with the Federal Wetland Reserve Program, and has offered 1000 (400 ha) acres for wetlands restoration, including reestablishing a 50 acre (20 ha) hardwood swamp. Other proposed plans include the establishment of several small palm–oak hammocks and creating an island in an existing pond, primarily as a wading birds to roost and possibly to nest.

NOMINATED BY: Mike McMillian (Archbold Biological Station)

WEBSITE: <<http://www.archbold-station.org/ABS/maerc/maerc.htm>>

CAPE CANAVERAL–MERRITT ISLAND

Cape Canaveral Air Station (15,438 acres; 6175 ha), **Canaveral National Seashore** (57,661 acres; 23,064 ha), and **Merritt Island National Wildlife Refuge** (139,155 acres; 55,662 ha)

Brevard and Volusia counties

212,254 acres (84,901 ha)

LOCATION: in northeastern Brevard County and extreme southeastern Volusia County, encompassing most of the barrier island complex from New Smyrna Beach south to State Road 528.

DESCRIPTION: a huge complex of barrier islands and a large peninsula jutting out into the Atlantic Ocean, and containing the Banana River, Indian River Lagoon, and Mosquito Lagoon, all large, brackish estuaries. The National Seashore and Air Station are separated from most of Merritt Island by the Mosquito Lagoon and Banana River, respectively. The Refuge and the Air Station are both active rocket launch facilities, and Space Shuttle missions also are launched from the Refuge's Kennedy Space Center. NASA purchased much of Merritt Island in the 1960s for its massive space launch complex, and later deeded much of these lands to the U.S. Fish and Wildlife Service and National Park Service to increase public use of non-essential acreage. Parts of the Refuge are off-limits to the public at all times, and other areas are closed when a Space Shuttle is scheduled to be launched. The Refuge receives over 2,000,000 recreationists and ____ hunters annually. [What about visitation to the Air Station – none?]

OWNERSHIP: U.S. Air Force (Cape Canaveral Air Station), National Aeronautics and Space Administration (Merritt Island National Wildlife Refuge; managed by the U.S. Fish and Wildlife Service, and Canaveral National Seashore; managed by the U.S. National Park Service)

HABITATS: **Canaveral National Seashore:** *maritime hammock, *tidal marsh, *estuarine, *coastal strand, pine flatwoods, xeric oak scrub, citrus groves. **Cape Canaveral Air Station:** *xeric oak scrub, *coastal strand, maritime hammock, freshwater marsh, cattail marsh, tidal marsh, artificial. **Merritt Island National Wildlife Refuge:** *slash pine flatwoods, *maritime hammock, *xeric oak scrub, *mangrove forest, *freshwater marsh, *tidal marsh, *estuarine, citrus groves, coastal strand, artificial.

LAND USE: **Canaveral National Seashore:** *conservation, *recreation, hunting. **Cape Canaveral Air Station:** *military and commercial space launching facility, conservation. **Merritt Island National Wildlife Refuge:** *commercial launch facility, *conservation, recreation, hunting

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers of aquatic birds, wading birds, and larids; significant overall diversity; and significant natural habitats

AVIAN DATA: Together, these sites form a large, contiguous conservation area vital to several listed species, including the second-largest remaining population of Florida Scrub-Jays. Merritt Island also contains extensive wetlands, and supports large numbers of waterfowl, wading birds, shorebirds, and larids. Peak concentrations of waterfowl can exceed 100,000 individuals in winter, mostly Lesser Scaup [so says the checklist; need to document this – got a nice recent reference for scaup, but still need other waterfowl data]. Canaveral National Seashore was one of two sites from which the largest migration of Neotropical migrants in Florida (estimated at “hundreds of thousands” of birds) was observed—and many made landfall—in the span of about *one hour* 17 October 1999, the day following the passage of Hurricane *Irene*. Merritt Island Refuge formerly contained one of only two populations of the “Dusky” Seaside Sparrow, but impoundment of salt marshes on the Island, primarily for mosquito control, was one factor that caused its extinction. Bird diversity of all sites combined is **313** native species. the fourth most diverse IBA in Florida. [Is a bird list available for Cape Canaveral Air Station?].

Canaveral National Seashore:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	1987–1993	mean of 385 pairs (range of 271–592)	mean of 2% (B)
Snowy Egret	1987–1993	mean of 442 pairs (range of 184–1224)	(B)
Tricolored Heron	1987–1993	mean of 368 pairs (range of 188–733)	mean of 2% (B)
Reddish Egret	1987–1993	mean of 14 pairs (range of 9–17)	mean of 3% (B)
White Ibis	1987–1993	mean of 2112 pairs (range of 715–7226)	mean of 12% (B)
Glossy Ibis	1987–1993	mean of 174 pairs (range of 50–423)	mean of 12% (B)
Wood Stork	1987–1993	mean of 48 pairs (range of 0–122)	mean of <1% (B)
Wading birds [<u>including</u> Cattle Egrets?]	1987–1993	mean of 3904 pairs (range of _____)	(B)
	1987–1991	mean of 14,064 birds (range of _____)	(N)
Merlin	17 Oct 1999	50 birds	four-hour survey (M)
Peregrine Falcon	_____ 1997	>20 birds	1% (M)
Florida Scrub-Jay	2000	>20 groups	<1% (R)
Neotropical migrants	17 Oct 1999	“hundreds of thousands” of birds (60% Palm Warblers, 15% each Blackpoll and Cape May warblers, 5% Black-throated Blue Warblers, and 100s of Yellow- billed Cuckoos and Gray Catbirds)	(M); part of the largest fallout observed in Florida
Overall diversity	_____ list	_____ natives _____ exotics	

Wading bird data from +Smith and Breininger (1995), Peregrine Falcon data from the 1997 Merritt Island National Wildlife Refuge Annual Narrative, scrub-jay data provided by John Stiner (____), Neotropical migrant data from +Rademaker and Rademaker (in press).

Cape Canaveral Air Station:

SPECIES	DATES	NUMBERS	COMMENTS
Royal Tern	1 Dec 1995	1052 birds	(W)
Florida Scrub-Jay	1999	104 groups	2% (R)

Tern data provided by Eric Stolen (Dynamac Corporation), scrub-jay data provided by Ted Stevens (The Nature Conservancy)

Merritt Island National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	2000	300 pairs	2% (B)
Snowy Egret	2000	325 pairs	(B)
Little Blue Heron	2000	350 pairs	5% (B)
Tricolored Heron	2000	535 pairs	(B)
White Ibis	2000	1000 pairs	5% (B)
Glossy Ibis	2000	55 pairs	3% (B)
Roseate Spoonbill	2000	45 pairs	4% (B)
Wading birds	2000	2610 pairs	(B)
Lesser Scaup	16 Jan 2001	32,698 birds	(W)
<u>American Coot</u>			
<u>Waterfowl</u>			
Shorebirds	winter 1993–1994	4645 birds	(W)
Bald Eagle	1998–1999 and 1999–2000	14 nests	1% (B)
Wilson's Plover	2000	3 pairs	1% (B)
Caspian Tern	2000	35 pairs	10% (B)

Florida Scrub-Jay	1992–1993	400 groups	15% (R)
Overall diversity	undated list – 1982?	313 natives 4 exotics	Additional species from observations in <i>Florida Field Naturalist</i>

Scaup data from +Herring and Collazo (2001), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), shorebird data from +Sprandel et al. (1997), scrub-jay data from +Pranty (1996b), other data provided by Gary Popotnik (U.S. Fish and Wildlife Service). Also see +Breininger (1997).

OTHER RESOURCES: Canaveral National Seashore contains a mix of temperate and tropical habitats; Turtle Mound is the northernmost location for many tropical species. The Seashore includes 24 miles (38 km) of undeveloped beaches and dunes, the longest stretch of undeveloped coastal strand remaining along Florida's Atlantic coast. Over 4000 sea turtles nest on the beach annually. Over 100 archaeological sites are known, including many on the National Register. • **Cape Canaveral Air Station** contains a large population of the ♦“Southeastern” beach mouse (*Peromyscus polionotus niveiventris*), a Federally Threatened species. There also are a number of aboriginal and recent archaeological sites. The name “Canaveral,” referring to the easternmost point on the Cape, was named by ___ in ___ and is one of the first-named landmarks in North America. (The site was renamed Cape Kennedy for several years after President Kennedy's assassination, but reverted back to Cape Canaveral for historical reasons). • In addition to 317 species of birds, **Merritt Island National Wildlife Refuge** contains **over 1000 plant species** [all native?], 80 fishes, 53 reptiles (including 3 exotics), 32 mammals (5 exotics), and 19 amphibians (1 exotic). • Together, the Refuge and Seashore support 14 Federally listed animals.

THREATS: *human disturbance, *exotic plants, *habitat succession, *feral hogs, development

CONSERVATION ISSUES: Canaveral National Seashore: Long-term fire suppression has resulted in heavily overgrown scrub habitat, and Florida Scrub-Jay populations have declined severely. Management currently includes mechanical treatment of scrub and prescribed fire. • Exotic plants, primarily Brazilian pepper and Australian-pine, are serious threats. Seashore staff is working with the state and county to remove exotic vegetation. • Impoundment of the salt marshes for mosquito control has extensively altered the habitat. Many of these impounded marshes are being reconnected to the Mosquito Lagoon. • **Cape Canaveral Air Station:** A long history of fire exclusion has resulted in oak scrub on the Station becoming extremely overgrown, which threatens the continued survival of Florida Scrub-Jays onsite. Extensive habitat disturbance and fragmentation has occurred from development of launch facilities. Station personnel are conducting a moderate amount of scrub restoration, using mechanical means and controlled burning, but the effort is on too small a scale to allow the scrub-jay population to recover. The Station also has a large volume of traffic on many roads, which may be further impacting scrub-jay populations. • There is great potential for the invasion of exotic plants into several areas. • **Merritt Island National Wildlife Refuge:** Long-term fire exclusion has resulted in heavily overgrown scrub habitat, and Florida Scrub-Jay populations have declined severely. Management for scrub-jays needs to be increased and accelerated, as numbers are declining from habitat succession. In the early 1990s, 500 groups of scrub-jays were estimated to occur—less than half that could occur with additional habitat management—and this number has been further reduced in recent years. Management currently includes mechanical treatment of scrub and prescribed fire. • Invasive exotic plants (Brazilian pepper and Australian-pine) are a serious threat, and are chemically and mechanically controlled. • Extensive alteration of the salt marshes for mosquito control has extensively altered the habitat by ditching and impounding, and helped to cause the extinction of the “Dusky” Seaside Sparrow. Currently, many of these impounded marshes are being reconnected to the Mosquito Lagoon. • Trappers remove 3000 feral hogs per year. • For other information on the “Dusky” Seaside Sparrows, and the actions and inactions that drove it to extinction, see +(Sharp 1970), +(Delany et al. 1981), +(Walters 1992), and +Kale (1996).

NOMINATED BY: Eric Stolen (Dynamac Corporation) and Gary Popotnik (U.S. Fish and Wildlife Service)

REFERENCES: +Breininger, D.R. 1997. Avifauna of an unimpounded salt marsh on Merritt Island. *Florida Field Naturalist* 25: 1–10. • +Delany, M.F., W.P. Leenhouts, B. Sauselein, and H.W. Kale, II. 1981. The 1980 Dusky Seaside Sparrow survey. *Florida Field Naturalist* 9:64–67. • +Herring, G., and J. Collazo. 2001. Wintering Lesser Scaup population dynamics at Merritt Island National Wildlife Refuge (Florida). Poster presented to the Waterbird Society, Niagara Falls, Canada, November 2001. • +Kale, H.W., II 1996. Dusky Seaside Sparrow (*Ammodramus maritimus nigrescens*). Pages 7–12 in *Rare and Endangered Biota of Florida, Volume V, Birds* (J.A. Rodgers, Jr., H.W. Kale, II, and H.T. Smith, editors). University Press of Florida. Gainesville, FL. • +1997 Merritt Island National Wildlife Refuge Annual Narrative. [need full reference] • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL. • +Rademaker, K., and C. Rademaker. In press (2002). First recent record of the Kirtland's Warbler in Florida. *Florida Field Naturalist* 30: _____. • +Sharp, B. 1970. A population estimate of the Dusky Seaside Sparrow. *Wilson Bulletin* 82: 158–166. • +Smith, R.B., and D.R. Breininger. 1995. Wading bird populations of the Kennedy Space Center. *Bulletin of Marine Science* 57:230–236. • +Sprandel, G.L., J.A. Gore, D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Walters, M.J. 1992. *A Shadow and a Song: The Struggle To Save an Endangered Species*. Chelsea Green Publishing Co. Post Mills, VT.

WEBSITES: <<http://merrittisland.fws.gov>>,
<<http://www.nps.gov/cana>>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/merritt.htm>>

CENTRAL PASCO

Al-Bar Ranch (4092 acres; 1636 ha), **Cross Bar Ranch Wellfield** (7931 acres; 3172 ha), **Cypress Creek Flood Detention Area** (7387 acres; 2954 ha), and the **Pasco One SOR project** (29,383 acres [11,753 ha], none acquired)

Pasco County

52,885 acres (21,154 ha), with 19,410 acres (7764 ha) acquired

LOCATION: in central Pasco County, bordered roughly by the Hernando County line to the north, County Road 581 to the east, State Road 52, State Road 54, or County Road 583 variously to the south, and U.S. Highway 41 to the west.

DESCRIPTION: existing conservation areas separated by ranches sought for public acquisition. The Cross Bar and Cypress Creek sites are wellfields that supply more than 35 million gallons (132 million liters) of water per day to the residents of the Tampa Bay area. The private ranches support cattle grazing and silviculture. Cypress Creek Flood Detention Area receives ____ recreationists annually; public access to Al-Bar Ranch and Cross Bar Ranch Wellfield is planned for the near-future. Except for land use, all data for this IBA refer solely to Al-Bar Ranch and Cross Bar Ranch Wellfield.

OWNERSHIP: Pinellas County Utilities (Al-Bar Ranch and Cross Bar Ranch Wellfield), Southwest Florida Water Management District (Cypress Creek Flood Detention Area), and private owners (acreage of the Pasco One SOR Project; to be owned by the Southwest Florida Water Management District if acquired publicly)

HABITATS: *pine plantation, *sandhills, *temperate hammock, *pasture, *cypress swamp, *grassy depressions (former wetlands), lacustrine, longleaf pine flatwoods, xeric oak scrub, fields, hardwood swamp, bayhead, freshwater marsh, artificial

LAND USE: *conservation, *timber production, *grazing, *water supply, *private (planned developments), recreation, hunting, sludge disposal

IBA CATEGORIES: significant populations of Threatened, and FCREPA species; and significant natural habitats

AVIAN DATA: Significant populations of “Florida” Sandhill Cranes and Florida Scrub-Jays occurs within this IBA, but the scrub-jay population is threatened severely by development and habitat succession. This IBA may also support significant numbers of Burrowing Owls. Bird diversity of all sites is at least 153 native species. [Is a bird list available for Cypress Creek?].

Al-Bar Ranch and Cross Bar Ranch Wellfield:

SPECIES	DATES	NUMBERS	COMMENTS
“Florida” Sandhill Crane	1999	>13 pairs	private ranches contain others; 1% (R)
Burrowing Owl	1999	14 pairs	<1% (R); private ranches contain others
Florida Scrub-Jay	spring 2001	at least 24 groups (only 4 at Al-Bar Ranch)	<1% (R); habitat restoration underway
Overall diversity	Dec 2000 list	153 natives 4 exotics	

Crane and owl data from +Peacock and Associates, Inc. (1999), other data provided by Bill Pranty (Audubon of Florida).

OTHER RESOURCES: part of this IBA is a Strategic Habitat Conservation Area +(Cox et al. 1994)

THREATS: *development, *habitat succession, human disturbance, exotic plants, feral hogs, groundwater extraction

CONSERVATION ISSUES: This IBA contains a significant, isolated population of Florida Scrub-Jays that is the second-largest on the Gulf coast. Most of the oak habitat in the IBA has succeeded to xeric

hammock, which has forced the jays to move into non-scrub uplands such as gallberry thickets and saw palmetto flats. • The long-term persistence of Florida Scrub-Jays at Al-Bar Ranch is a goal of Pinellas County Utilities, which owns the property. Pinellas County Utilities is working with Audubon of Florida on a large-scale habitat restoration project, which is restoring nearly 400 acres (160 ha) of young hammocks back into oak scrub habitats. Prescribed burning of scrub habitats now is part of the overall land management plan. Al-Bar Ranch may be able to support 12–15 scrub-jay groups after habitat restoration is complete, but this number falls short of the 30 groups that are considered a viable population. At least 20 other scrub-jay groups occur on the private ranches, where their habitats are not being managed properly. • Central Pasco County is under intense development pressure from urban sprawl to the west and south. Nearly half of this IBA (in two separate parcels) is publicly owned, but four large ranches and a few smaller tracts, which total over 27,000 acres (10,800 ha), remain unprotected. The private lands are part of the Pasco One SOR Project of the Southwest Florida Water Management District, but no acreage has yet been acquired. If acquired in its entirety, the Pasco One SOR Project would link Cross Bar Wellfield with Cypress Creek Wellfield, and would create a 75-square-mile (192-square km) conservation area in the center of Pasco County. Loss of the ranches to development will destroy this link, and will isolate both wellfields by surrounding them with thousands of houses. The southernmost ranch in the IBA, which comprises 8000 acres (3200 ha), was permitted by the Pasco County Commission in July 2000 for transformation into a 27-year planned development containing over 30,000 houses and 4 million square feet (360,000 square meters) of office space. (However, the water management district continues to negotiate for purchase of at least some of this ranch). In 2001, owners of a second ranch within the IBA applied for a development permit. • From a combination of excessive drainage, long-term drought, a reduction in water recharge areas due to extensive regional development, and from wellfield pumping, many of the wetlands in the northern part of the IBA (i.e., north of State Road 52) are dry most months of the year. Pinellas County Utilities has augmented eight wetlands with water pumped from the wellfield, and will augment several additional wetlands in 2002. This restoration has been quite successful at returning wetland plants and animals back onto the site, but requires continual pumping in order to achieve success. In an attempt to limit further damage to local wetlands, the wellfield has reduced its pumping capacity by several millions of gallons (>10 million liters) of water per day. • On at least one of the private ranches, sludge is regularly deposited on pastures and palmetto “prairies,” including some used by Florida Scrub-Jays for foraging. Potential negative effects—if any—of birds foraging near deposited sludge deserves study [anything already known?].

The four primary ranches that compose the Pasco One SOR Project are critical for assuring the long-term persistence of the region's population of Florida Scrub-Jays. Public acquisition efforts must be given top priority by the Southwest Florida Water Management District and possibly other agencies such as the U.S. Fish and Wildlife Service. • Efforts to link this IBA directly with the Starkey Wilderness IBA to the west should be undertaken.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCES: +Cox, J., R. Kautz, M. McLaughlin, and T. Gilbert. 1994. Closing the Gaps in Florida's Wildlife Habitat Conservation System. Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Peacock and Associates, Inc. 1999. Pinellas County Utilities wildlife management report for Cross Bar and Al Bar ranches. Peacock and Associates, Inc. Palm Harbor, FL.

CHASSAHOWITZKA–WEEKIWACHEE

Chassahowitzka National Wildlife Refuge (30,842 acres; 12,336 ha), **Chassahowitzka Rivers and Coastal Swamps SOR Tract** (5678 acres; 2271 ha), **Chassahowitzka Wildlife Management Area** (28,656 acres; 11,462 ha), the **Homosassa Tract of Withlacoochee State Forest** (21,753 acres; 8701 ha), and the **Weekiwachee Riverine System SOR project** (16,027 acres [6410 ha], with 9510 acres [3804 ha] acquired as **Weekiwachee Preserve**)

Citrus, Hernando, and Pasco counties

81,203 acres (32,481 ha), with 74,686 acres (29,874 ha) acquired

LOCATION: in extreme northwestern Pasco County, and western Citrus and Hernando counties, encompassing most of the area west of U.S. Highway 19 from Homosassa Springs south to Aripeka. Contiguous with the Crystal River Marshes IBA to the north, and near the Coastal Pasco IBA to the south.

DESCRIPTION: several contiguous conservation areas along the central Florida Gulf coast. **Chassahowitzka National Wildlife Refuge** was established in 1941 and is accessible only by private boat. It receives 35,000 recreationists and ____ hunters annually, and contains a 23,000 acre (9200 ha) Wilderness Area. **Weekiwachee Preserve** was purchased beginning in 1993 and protects thousands of acres (and ha) of temperate hammocks just inland of the Gulf of Mexico, as well as some tidal marshes. About 80% of the Preserve is within the 100-year floodplain. Public access is limited to day use, and motorized vehicles, bicycles, horses, pets, and hunting are prohibited. The Preserve receives ____ recreationists annually.

OWNERSHIP: U.S. Fish and Wildlife Service (Chassahowitzka National Wildlife Refuge), Florida Division of Forestry (Withlacoochee State Forest), Southwest Florida Water Management District (Weekiwachee Preserve, Chassahowitzka Rivers and Coastal Swamps SOR Tract, and SOR project acreage as acquired), and private owners (remaining acreage of the Chassahowitzka Rivers and Swamps SOR Project and the Weekiwachee Riverine System SOR Project)

HABITATS: **Chassahowitzka National Wildlife Refuge:** _____. **Weekiwachee Preserve:** *temperate hammock, *pine flatwoods, *tidal marsh, sandhills, sand pine scrub, fields, freshwater marsh, cattail marsh, sawgrass marsh, estuarine, riverine, artificial (mostly mine pits).

LAND USE: **Chassahowitzka National Wildlife Refuge:** _____. **Weekiwachee Preserve:** *conservation, recreation

IBA CATEGORIES: **Chassahowitzka National Wildlife Refuge:** _____. **Weekiwachee Preserve:** significant populations of Special Concern species; complete diversity of tidal marsh species; significant diversity; and significant natural habitats

AVIAN DATA: Coastal marshes at the preserve contain a previously unknown population of Black Rails, and breeding populations of probably large numbers of Clapper Rails, Marsh Wrens, and Seaside Sparrows. The hammocks are important for Neotropical migrants, and support large numbers of wintering passerines, including Yellow-rumped Warblers. Disturbed areas around mine pits have been used as nesting sites by small numbers [how many pairs?] of Wilson's Plovers and Least Terns. Bird diversity of all sites combined is ____ native species.

Chassahowitzka National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
<u>WATERFOWL?</u>			
Overall diversity	_____ list	258 natives 7 exotics	

Weekiwachee Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Black Rail	Mar–May 1998	18 birds	Previously unknown population (R)
Yellow-rumped Warbler	19 Dec 2001	2400 birds	(W)
Overall diversity	1995–2000	210 natives 5 exotics	

Black Rail data from +Pranty et al. (in prep.), warbler data gathered by Paul Young et al. on the Aripeka–Bayport CBC, checklist data from +SWFWMD (2000), based largely on data gathered by members of Hernando Audubon Society, especially Al and Bev Hansen, Clay Black, and Paul Young.

Both sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Bald Eagle	1998–1999 and 1999– 2000	11 nests	1% (B)

GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: Along with the Crystal River Marshes IBA, this IBA protects virtually the entire coastlines and associated uplands of Citrus and Hernando counties, including dozens of offshore islands. (Additional lands have been targeted for purchase in Pasco County, but acquisition in this area has not yet begun). This IBA is essential to sustain a population of black bears in coastal west-central Florida; the bears are monitored via radio telemetry. Vehicle mortality continues to threaten the long-term survival of this population. **Chassahowitzka National Wildlife Refuge:** _____ • **Weekiwachee Preserve** protects four miles (6.4 km) of frontage along the southern shore of the Weekiwachee River, which is used regularly by Florida manatees. • The Preserve supports at least 68 species of butterflies, 14 species of listed plants, and 7 non-avian vertebrates. • Several archaeological sites are known.

THREATS: **Chassahowitzka National Wildlife Refuge:** _____. **Weekiwachee Preserve:** offsite development, human disturbance, exotic plants

CONSERVATION ISSUES: **Chassahowitzka National Wildlife Refuge:** _____. **Weekiwachee Preserve:** A management plan (Kelly et al. 1997) has been prepared. The Preserve is designated as “urban fringe parkland,” and management for public recreation will be balanced with protection of wildlife such as black bears. About 560 acres (224 ha) of the property consist of disturbed areas surrounding 500 acres (200 ha) of pits from which limerock was extracted. These pits are 40–60 feet (12–18 m) deep, have a limited shoreline, and are relatively sterile. Future recreational use of the Preserve will be centered around this area to minimize disturbance to native habitats. However, about 200 acres (80 ha) of the disturbed area is used by breeding Wilson’s Plovers and Least Terns. This area is a designated Research Area and is off-limits to the public at all times. • Frontage along the Weekiwachee River will be managed as a Special Protection Area where development will be prohibited, and to which access will be solely on foot. • About 18% of the Preserve consists of fire-

maintained uplands, which will be prescribed-burned on a regular rotation. • Salt marshes will be prescribed-burned in small units on a 5–6 year rotation. • Exotic plants present onsite include Brazilian pepper, cogongrass, ♦ air-potato (*Dioscorea bulbifera*), and ♦ skunkvine (*Paederia foetida*). These are controlled when encountered, and the perimeter of the Preserve is monitored for additional exotics invading from adjacent areas. • Damage from feral hogs appears to be “minimal;” special hunts will be considered if needed to reduce the hog population. • Pine plantations comprise only 54 acres (21 ha) of the Preserve; these will be thinned and replanted with native species. • Black Rail habitat is the uppermost portion of the salt marsh, in areas not affected by tides. This habitat appears to be regarded as an “upland” habitat, because numerous houses in developments immediately north and south of the site have been built up to the wet areas of the salt marsh (i.e., beyond, and clearly on top of, the Black Rail habitat). • An attempt was made in 1998 to build a college campus in the Preserve, but this was defeated. Development clearly is an incompatible land use of a preserve. • Continuing regional development surrounding Weekiwachee Preserve may destroy the habitat link to conservation lands in Pasco County, to the south. In October 2001, two black bear cubs were killed while crossing a road bordering the Preserve.

NOMINATED BY: Bill Pranty (Audubon of Florida) and _____

REVIEWED BY: Clay Black (Southwest Florida Water Management District) and Bev Hansen (Hernando Audubon Society)

REFERENCES: +Kelly, E.M., J. Robertshaw, and M. Barnwell. 1997. Plan for the use and management of the Weekiwachee Preserve. Southwest Florida Water Management District. Brooksville, FL. • +Pranty, B., D. Robinson, M. Barnwell, and C. Black. In prep. Reports of Black Rails along the central Gulf coast, based upon cursory surveys in 1998. • +SWFWMD. 2000. Field checklist of the birds of the Weekiwachee Preserve. Southwest Florida Water Management District. Brooksville, FL.

WEBSITES: <http://www.fl-dof.com/state_forests/Withlacoochee.htm>,
<<http://chassahowitzka.fws.gov>>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/chassaho.htm>>

CITRUS COUNTY SPOIL ISLANDS

Citrus County
<500 acres (<200 ha)

LOCATION: off extreme northwestern Citrus County, beginning just south of the mouth of the Withlacoochee River and extending about 4.6 miles (7.5 km) southwest into the Gulf of Mexico. Nearly contiguous with the Big Bend Ecosystem IBA to the north, and with the Crystal River Marshes IBA to the south.

DESCRIPTION: a series of 11–14 “spoil” islands created when the Cross-Florida Barge Canal was dredged. The islands range in size from 0.5–60 acres (0.2–24 ha) and were created between 1964 and 1967. They are composed primarily of coarse limestone rubble, with finer elements and sand on the western islands. Islands nearer to the mainland are taller (up to 16.5 feet [5 m]) and longer (up to 0.75 miles [1.2 km]) than the others. The Barge Canal was deauthorized by the U.S. Congress in 1986, and the islands now are part of the **Cross Florida Greenway State Recreation and Conservation Area**. The number of recreationists who visit the islands annually is not known.

OWNERSHIP: U.S. Army Corps of Engineers and Florida Office of Greenways and Trails

HABITATS: *artificial (dredged-material islands), tidal marsh

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Special Concern, FCREPA, and IBA species

AVIAN DATA: some of the islands support a significant breeding population of shorebirds, and formerly supported significant breeding populations of larids. A rudimentary bird list is available [[list data in the table](#)].

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	13 Jun 1987	75 pairs	? (B)
	6 Jun 1988	>125 pairs	? (B)
American Oystercatcher	2 Jun 1992	52 pairs	13% (B)
	22 May 1995	41 pairs	10% (B)
	14 Jun 2001	47 pairs	11% (B)
Snowy Plover	3 Jul 1975	4 birds	? (R)
Wilson's Plover	13 Jun 1987	10 pairs	? (B)
	22 May 1995	12 pairs	6% (B)
	14 Jun 2001	5 pairs	2% (B)
Laughing Gull	3 Jul 1975	225 pairs	? (B)
	Apr–May 1977	240 pairs	? (B)
	13 Jun 1987	450 pairs	? (B)
Royal Tern	6 Jun 1988	445 pairs	? (B)
	3 Jul 1975	47 nests	? (B)
	13 Jun 1987	50 pairs	? (B)
Sandwich Tern	6 Jun 1988	40 pairs	? (B)
	13 Jun 1987	25 pairs	? (B)
Least Tern	6 Jun 1988	25 pairs	? (B)
	3 Jul 1975	112 pairs	? (B)
	22 May 1995	40 pairs	1% (B)
Black Skimmer	14 Jun 2001	19 nests	<1% (B)
	3 Jul 1975	125 pairs	? (B)
	11 Jul 1993	10 pairs	<1% (B)

1975 data from +Barbour et al. (1976), 1977 data from +Schreiber and Schreiber (1978), other data supplied by Ann and Rich Paul (Audubon of Florida).

OTHER RESOURCES: none known

THREATS: *erosion, human disturbance

CONSERVATION ISSUES: Bird use is primarily restricted to the westernmost four or five islands, while human use is concentrated on the islands closer to the mainland. There have been attempts to close some islands as bird nesting sites, but these have been ineffective. The degree of human disturbance on the birds is unknown. • Breeding productivity is monitored semi-annually by Audubon of Florida and the Florida Fish and Wildlife Conservation Commission.

Given the importance of these islands to American Oystercatchers and other sensitive beach-nesting species, stronger efforts should be made to protect the breeding islands from human disturbance and erosion, perhaps by the addition of “riprap” around the shorelines, or the creating of oyster bars or other wave breaks offshore.

NOMINATED BY: Bill Pranty and Rich Paul (Audubon of Florida)

REFERENCES: +Barbour, D.B., S.A. Nesbitt, and D.T. Gilbert. 1976. A second recent Royal Tern nesting colony on the Gulf coast of Florida. *Florida Field Naturalist* 4: 9–10. • +Schreiber, R.W., and E.A. Schreiber. 1978. Colonial bird use and plant succession on dredged material islands in Florida, Vol. 1: sea and wading bird colonies. Technical Report D-78=14. Prepared for the Chief of Engineers, U.S. Army. Washington, D.C.

CLEARWATER HARBOR–ST. JOSEPH SOUND

Belleair Beach (<3 acres; <1.2 ha), **Indian Rocks Beach** (0.5 acres; 0.2 ha), **“Island I-25”** (4 acres; 1.6 ha), **“Marker 6 Island”** (0.1 acre; 0.04 ha), **“Marker 10 Island”** (0.1 acre; 0.04 ha), **“Marker 26 Island”** (<2 acres; <0.8 ha), and **North Clearwater Beach** (1 acre; 0.4 ha).

Pinellas County

10 acres (4 ha), plus adjacent foraging areas

LOCATION: in west-central Pinellas County, north of State Road 586 to the north, the mainland to the east, State Road 688 to the south, and the barrier islands or Gulf of Mexico to the west. The islands range off Ozona to the north and Indian Rocks Beach to the south. All the islands lie within the Pinellas County Aquatic Preserve.

DESCRIPTION: several islands (most formed from dredging operations) between the barrier islands and mainland, as well as one site (North Clearwater Beach) that is on the barrier island. Many of the islands are named after nearby channel markers in the Intracoastal Waterway. “Marker 26 Island” is north of State Road 586 between Honeymoon Island and Ozona. “Island I-25” is just south of State Road 60. “Marker 10” and “Marker 6” islands are south of “Island I-25” but north of State Road 686. Indian Rocks Beach consists on two islands between state roads 686 and 688. North Clearwater Beach is part of a sand spit that links Caladesi Island with Clearwater Beach.

OWNERSHIP: State of Florida (the “marker islands”), City of Clearwater (“Island I-25”), unknown: (Belleair Beach, Indian Rocks Beach, North Clearwater Beach)

HABITATS: **Belleair Beach:** *mangrove forest, spoil uplands. **Indian Rocks Beach:** *mangrove forest. **“Island I-25:”** *mangrove forest, tidal marsh, coastal strand. **“Marker 6 Island:”** *coastal strand. **“Marker 10 Island:”** *coastal strand. **“Marker 26 Island:”** *spoil uplands, mangrove forest. **North Clearwater Beach:** *coastal strand.

LAND USE: **Belleair Beach:** *conservation. **Indian Rocks Beach:** *conservation. **“Island I-25:”** *conservation. **“Marker 6 Island:”** *conservation, recreation. **“Marker 10 Island:”** *conservation, recreation. **“Marker 26 Island:”** *conservation. **North Clearwater Beach:** *conservation, *recreation.

IBA CATEGORIES: significant populations of Threatened, Special Concern, and FCREPA species; significant populations of larids

AVIAN DATA: sites within this IBA support several regionally important Brown Pelican, wading bird, and larid colonies, and also support breeding population of shorebirds. “Marker 26 Island” currently is the northernmost nesting site of Reddish Egrets on the Gulf coast of Florida.

Belleair Beach:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	24 May 1999	92 pairs	1% (B)
	2 May 2000	98 pairs	1% (B)
	May–Jun 2001	94 pairs	1% (B)

“Island I-25:”

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	13 May 1999	120 pairs	1% (B)
	2 May 2000	148 pairs	1% (B)
	May 2001	99 pairs	1% (B)
Reddish Egret	13 May 1999	4 pairs	1% (B)
	2 May 2000	3 pairs	<1% (B)
	May 2001	5 pairs	1% (B)
Roseate Spoonbill	13 May 1999	1 pair	<1% (B)
	2 May 2000	4 pairs	<1% (B)
	May 2001	8 pairs	<1% (B)

“Marker 6 Island:”

SPECIES	DATES	NUMBERS	COMMENTS
Black Skimmer	25 May 1999	65 pairs	4% (B)
	23 Jun 2000	275 pairs	16% (B)
	May 2001	170 pairs	10% (B)

“Marker 10 Island:”

SPECIES	DATES	NUMBERS	COMMENTS
Least Tern	3 May 2000	30 pairs	<1% (B)
	May 2001	65 pairs	1% (B)
Black Skimmer	May 2001	105 pairs	7% (B)

“Marker 26 Island:”

SPECIES	DATES	NUMBERS	COMMENTS
Reddish Egret	25 May 1999	4 pairs	1% (B)
	May 2000	8 pairs	2% (B)
	Mar–May 2001	6 pairs	1% (B)

North Clearwater Beach:

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	1989	4 pairs	2%
	7 Jul 2001	1 pair	<1%

Various sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	May 1999	278 pairs	1% (B)
	May 2000	187 pairs	1% (B)
	Mar–May 2001	219 pairs	1% (B)
Snowy Egret	May 1999	211 pairs	(B)
	May 2000	261 pairs	(B)
	Mar–May 2001	157 pairs	(B)
White Ibis	May 1999	236 pairs	1% (B)
	May 2000	245 pairs	1% (B)
	Mar–May 2001	88 pairs	<1%
American Oystercatcher	May 1999	8 pairs	2% (B)
	May 2000	5 pairs	1% (B)
	Mar–May 2001	9 pairs	2% (B)

1989 Snowy Plover data from Gore and Chase (1989); all other data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: none known.

THREATS: *erosion, *human disturbance, *monofilament fishing line, exotic plants

CONSERVATION ISSUES: all sites are posted against human intrusion during the nesting season by either Audubon of Florida, the City of Belleair Beach, or the Clearwater Marine Aquarium. • Exotic plants, primarily Brazilian pepper, have invaded some of the islands but control is difficult, as many of the birds are nesting in the pepper stands. • The addition of “construction grade” dredged material is being considered to stabilize Markers 6 and 10 islands, and riprap of other material is needed to secure the shoreline of “Marker 26 Island.”

REFERENCE: +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

COASTAL PASCO

Belcher Mines Park (200 acres; 80 ha), **Fillman Bayou Preserve** (607 acres; 242 ha), **Robert K. Rees County Park** (52 acres; 21 ha), **Key Vista Nature Park** (103 acres; 41 ha), **Robert Crown Wilderness Area** (350 acres; 140 ha), **Suncoast Seabird Sanctuary property** (300 acres; 120 ha), **Werner–Boyce Salt Springs State Park** (3682 acres; 1472 ha), and **adjacent, private coastal properties**

Pasco County

>5894 acres (>2357 ha), with 5294 acres (2117 ha) acquired

LOCATION: several sites between the Gulf of Mexico and U.S. Highway 19 in western Pasco County. Near the Chassahowitzka–Weekiwachee IBA to the north.

DESCRIPTION: virtually all remaining tidal and adjacent upland habitats in Pasco County, one of the fastest-growing counties in Florida. Most sites are tidal marshes; most uplands have already been developed or are planned for development. Fortunately, most of the sites within this IBA are owned by a public or conservation agency. Werner–Boyce Salt Springs State Park and adjacent properties preserve a large coastal area in the Bayonet Point–Port Richey area.

OWNERSHIP: Florida Division of Recreation and Parks (Werner–Boyce Salt Springs State Park, Robert Crown Wilderness Area), Pasco County Parks and Recreation Department (Key Vista Nature Park, Robert K. Rees County Park), City of New Port Richey (Robert K. Rees County Park), The Nature Conservancy (Fillman Bayou Preserve), Suncoast Seabird Sanctuary [permission sought] (____), private owners (many sites).

HABITATS: *mangrove forest, *tidal marsh, *estuarine, slash pine flatwoods, sandhills, temperate hammock, xeric oak scrub, sand pine scrub, cypress swamp, freshwater marsh, cattail marsh, sawgrass marsh, riverine, lacustrine, artificial beach, salt barrens, artificial

LAND USE: *conservation, recreation, private lands

IBA CATEGORIES: significant numbers of Neotropical migrants; complete diversity of tidal marshes; and significant natural habitats

AVIAN DATA: Varied habitats within this IBA support several groups of coastal birds. Most important by far are the extensive needlerush marshes that contain breeding populations of Marsh Wrens and Seaside Sparrows, and presumably a breeding population of Black Rails. These marshes represent the southernmost breeding areas known for these three species along the Gulf coast of Florida. The sizes of the populations are not known, but future surveys may document that at least some are significant. Clapper Rails are common year-round. Extensive mudflats at low tide support large numbers of wading birds, shorebirds, and larids. Mangroves support breeding Gray Kingbirds and Prairie Warblers. In May 2001, large numbers of Neotropical migrants, primarily wood-warblers, were found at Green Key, and this site supported large flocks of Yellow-rumped Warblers in November 2001.

SPECIES	DATES	NUMBERS	COMMENTS
Roseate Spoonbill	19 Aug 2001	48 juveniles	(W)
Black Skimmer	5 Nov 2001	189 birds	(W)
Black Rail	15 Mar 1998	2 birds	all in different parts of the state park; undoubtedly others are present (R)
	10 Aug 1999	2 birds	
	29 Dec 2000	2 birds	
“Marian's” Marsh Wren	Resident	common	(R)
Black-and-white Warbler	3–9 May*	mean of 15 birds (range of 7–40)	(M)
Blackpoll Warbler	3–9 May*	mean of 101 birds (range of 46–253)	(M)
Black-throated Blue Warbler	3–9 May*	mean of 28 birds (range of 7–67)	(M)
American Redstart	3–9 May*	mean of 94 birds (range of 44–208)	(M)
Neotropical Migrants (mostly wood-warblers that could not be identified to species)	3–9 May*	mean of 1146 birds (range of 573–1619)	(M)
Yellow-rumped Warbler	23–25, 27, and 29–30 Nov 2001	mean of 821 birds (range of 359–1208)	dawn roost survey (M)
“Scott's” Seaside Sparrow	Resident	uncommon	(R)
Overall diversity	May 2001 list	203 natives 5 exotics	

Rail, wren, and sparrow data from Bill Pranty (Audubon of Florida), all other data provided by Ken Tracey (West Pasco Audubon Society), much of it published in *Florida Field Naturalist* and *North American Birds*. See also +Pranty et al. (in prep.). *2.5-hour count periods from dawn to 0900.

OTHER RESOURCES: There are a number of Indian middens south of the Pithlachascotee River (especially around Bailey's Bluff), but those on private lands have been (or eventually will be) developed, and those at Key Vista Nature Park have been subjected to looting for several years.

THREATS: *development, *exotic plants

CONSERVATION ISSUES: This IBA contains virtually all undeveloped coastal acreage in Pasco County. Most of these coastal areas are protected as parks or preserves, but some properties, especially those containing uplands, remain in private ownership. Development of some of the unprotected sites is a severe threat; 500 acres (200 ha) of mixed sand pine scrub and sandhill immediately east of Key Vista Nature Park were destroyed in mid–2000 for a new subdivision. The 400 acre (160 ha) Mickler Ranch, immediately south of this site, and the last significant upland property remaining in coastal southwestern Pasco County, was sold in October 2001 to a developer who intends to build 800 homes. All other private properties within this IBA, even those away from high-growth areas, almost certainly will be similarly destroyed if not publicly purchased soon. (A Florida Forever project to preserve some of the coastal sites in Pasco County was not accepted in 2001; perhaps this proposal will be resubmitted in 2002). • The U.S. Fish and Wildlife Service has attempted to purchase 600-acre (240-ha) site south of Green Key, but the owner (a developer), was refused to sell; the ultimate disposition of the property uncertain.

NOMINATED BY: Ken Tracey (West Pasco Audubon) and Bill Pranty (Audubon of Florida)

REFERENCE: +Pranty, B., D.J. Robinson, M.E. Barnwell, and C. Black. In prep. Reports of Black Rails along the central Florida Gulf coast, based on cursory surveys in 1998.

WEBSITE: <<http://www.dep.state.fl.us/parks/district4/werner-boycesaltsprings>>

COCKROACH BAY–TERRA CEIA

Cockroach Bay ELAPP site (875 acres; 350 ha), **Cockroach Bay State Buffer Preserve** (360 acres; 144 ha), **Dot–Dash colony** (<5 acres; <2 ha), **E.G. Simmons Park** (469 acres; 187 ha), **Emerson Point** (250 acres; 100 ha), **Piney Point** (10 acres; 4 ha), **Tampa Bay Estuarine Ecosystem SOR Project** (___ acres; ___ ha unacquired), **Terra Ceia State Buffer Preserve** (1424 acres; 569 ha), **Washburn Sanctuary** (17 acres; 6.8 ha), and **Wolf Branch ELAPP Site** (126 acres; 450 ha)

Hillsborough and Manatee counties
3536 acres (1414 ha) acquired

LOCATION: in southwestern Hillsborough County and northwestern Manatee County, along the eastern shorelines of Hillsborough Bay and Tampa Bay (south of Apollo Beach), and including the Manatee River eastward to the mouth of the Braden River. Near the Hillsborough Bay IBA to the north, and the Lower Tampa Bay IBA to the west.

DESCRIPTION: several coastal areas and mangrove keys that contain wading bird colonies. Many of the wetland sites are currently under restoration. Access is primarily by boat, but access to some uplands is planned. Much of the estuarine habitats of this IBA are part of the Cockroach Bay and Terra Ceia aquatic preserves.

OWNERSHIP: Florida Office of Coastal and Aquatic Managed Areas (Cockroach Bay and Terra Ceia state buffer preserves), State of Florida and Carlton Arms development (Dot-Dash colony); Hillsborough County (Cockroach Bay and Wolf Branch ELAPP sites, and E.G. Simmons Park), Tampa Electric Company [permission sought] (Piney Point); Audubon of Florida (Washburn Sanctuary), and private owners (acreage of the Tampa Bay Estuarine Ecosystem SOR Project).

HABITATS: *mangrove forest, *estuarine, tidal marsh, salt barrens, uplands under restoration

LAND USE: *conservation, recreation, sod farm, potential development

IBA CATEGORIES: significant populations of Endangered and Special Concern species; significant numbers and diversity of wading birds; and significant natural habitats

AVIAN DATA: the islands support significant colonial water bird rookeries, and Washburn Sanctuary contains one of the two most diverse rookeries in Florida. Mangrove forests support some Mangrove Cuckoos, which approach their northern range limits within this IBA. No bird list is available.

Dot–Dash:

SPECIES	DATES	NUMBERS	COMMENTS
Little Blue Heron	10 May 2001	115 pairs	1% (B)
Tricolored Heron	10 May 2001	75 pairs	(B)
White Ibis	11 May 2000	240 pairs	1% (B)
	10 May 2001	100 pairs	<1% (B)
Glossy Ibis	10 May 2001	65 pairs	4% (B)
Wood Stork	1999–2001	mean of 140 pairs (range of 117–163)	mean of 2% (range of 2–3%) (B)

Data provided by Ann and Rich Paul (Audubon of Florida)

Piney Point:

SPECIES	DATE	NUMBERS	COMMENTS
Anhinga	1999–2001	mean of 77 pairs (range of 80–115)	(B)
Snowy Egret	1999–2001	mean of 98 pairs (range of 55–180)	(B)
Little Blue Heron	1999–2001	mean of 36 pairs (range of	<1%; (B)

Tricolored Heron	1999–2001	mean of 216 pairs (range of 130–380)	35–30)	(B)
White Ibis	1999–2001	mean of 411 pairs (range of 324–470)	mean of 2% (range of 1–2%)	(B)
Wading birds	1999–2001	mean of 925 pairs (range of 700–1223)		(B)

Data provided by Ann and Rich Paul (Audubon of Florida)

Washburn Sanctuary:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 50 pairs (range of 12–78)	<1% (B)
Snowy Egret	1999–2001	mean of 173 pairs (range of 80–250)	(B)
Little Blue Heron	1999–2001	mean of 68 pairs (range of 66–70)	mean and range of 1% (B)
Tricolored Heron	1999–2001	mean of 85 pairs (range of 65–105)	(B)
Reddish Egret	1999–2001	mean of 6 pairs (range of 3–10)	mean of 1% (range of <1–2%) (B)
Black-crowned Night-Heron	1999–2001	mean of 38 pairs (range of 35–45)	(B)
White Ibis	1999–2001	mean of 798 pairs (range of 740–855)	mean of 4% (range of 4–5%) (B)
Glossy Ibis	1999–2001	mean of 66 pairs (range of 45–88)	mean of 4% (range of 3–5%) (B)
Roseate Spoonbill	1999–2001	mean of 23 pairs (range of 20–27)	mean and range of 2% (B)
Wading bird diversity	1999–2001	16 species annually	One of the two most diverse colonies in Florida (B)

Data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: This IBA supports Florida manatees [[more info....](#)]. • Indian shell mounds also occur on some of the uplands.

THREATS: *human disturbance, *raccoons, *erosion, *discarded monofilament fishing line, *exotic plants, feral hogs

CONSERVATION ISSUES: Uplands at Emerson Point, Cockroach Bay ELAPP site, and Wolf Branch ELAPP site are being restored to native communities. At the Wolf Branch site, which was first a citrus grove and then tomato farms, shallow wetlands are being excavated for wetlands mitigation. • Eradication of exotic plants (mainly Australian-pine and Brazilian pepper) are underway at most upland sites. • Colony islands ands are posted and monitored during the nesting season to reduce human intrusion, and raccoons are removed seasonally. • Cordgrass and mangroves have been planted to stabilize the shorelines of Washburn Sanctuary, but erosion continues to be a problem.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

CRYSTAL RIVER TIDAL MARSHES

Crystal River State Buffer Preserve (36,000 acres; 14,400 ha) and **St. Martins Marsh Aquatic Preserve** (23,123 acres; 9249 ha, mostly submerged)

Citrus County

59,123 acres (23,649 ha)

LOCATION: in western Citrus County, encompassing most of the area west of U.S. Highway 19 between the Withlacoochee River and Homosassa Springs. Contiguous with the Chassahowitzka–Weekiwachee IBA to the south, and near the Citrus County Spoil Islands IBA to the north.

DESCRIPTION: This IBA encompasses an area of extensive tidal marshes that, together with the Chassahowitzka–Weekiwachee IBA, preserves nearly the entire coastlines of Citrus and Hernando counties. ____ The Buffer Preserve receives ____ recreationists annually, while the Aquatic Preserve receives ____ recreationists.

OWNERSHIP: Florida Division of Marine Resources

HABITATS: *temperate hammock, *hardwood swamp, *slash pine plantation, *tidal marsh, *estuarine, pine flatwoods, xeric oak scrub, fields, bayhead, mangrove forest, freshwater marsh, sawgrass marsh, riverine, lacustrine

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Threatened species; complete diversity of tidal marshes; and significant natural habitats

AVIAN DATA: Extensive tidal marshes probably support significant populations of Clapper Rails, Marsh Wrens, and Seaside Sparrows, and may also support a large population of Black Rails. A plan to introduce a migratory population of Whooping Cranes, which will winter in the area, began in December 2001. Studies of food availability for the cranes were conducted at the Aquatic Preserve. Quarterly bird monitoring has been conducted since October 1996 and is scheduled to be continued “for years,” as it is part of the Management Plan. Surveys are 30 point-count stations in forested uplands.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1995–1996	>100 nests	1% (B)
Bald Eagle	1998–1999 and 1999–2000	10 nests	1% (B)
Black Rail	5 Apr 1998	2 birds	(R)
Overall diversity	1996–2001	95 natives 1 exotic	

Pelican data and checklist provided by Seth Blicht (Florida Department of Environmental Protection), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), and rail data provided by Clay Black (Southwest Florida Water Management District); see also +Pranty et al. (in prep.)

OTHER RESOURCES: The Aquatic Preserve is an Outstanding Florida Water. • 232 cultural sites have been identified, which are spread around one of the largest and most southern ceremonial burial grounds of the Mississippian culture.

THREATS: exotic plants, feral hogs

CONSERVATION ISSUES: Restoration of 1100 acres (440 ha) of slash pine plantation to longleaf pine flatwoods is underway. Prescribed fire and selected timbering have reduced the canopy cover. Longleaf pine and threeawn will be replanted where appropriate. • A comprehensive monitoring program is in place. Prescribed burning is used in all fire-dependent habitats. • Exotic plants, mostly Brazilian pepper and cogongrass, are actively controlled. • The Management Plan is revised every five years, and both sites are managed by DEP. • Hunting is prohibited and logging is solely for restoration purposes. • A few groups of Florida Scrub-Jays occur in recently-purchased scrub just

south of the Withlacoochee River. The scrub is heavily overgrown in the absence of fire, and mechanical treatment is planned for 2001 [was this done?].

NOMINATED BY: Seth Blich (Florida Department of Environmental Protection)

REFERENCE: +Pranty, B., D.J. Robinson, M.E. Barnwell, and C. Black. In prep. Reports of Black Rails along the central Florida Gulf coast, based on cursory surveys in 1998.

DISNEY WILDERNESS PRESERVE

Osceola and Polk counties

11,498 acres (4599 ha)

LOCATION: in northwestern Osceola County and northeastern Polk County, south of Kissimmee and east of Haines City. The Preserve is bordered by Lake Russell to the north, Reedy Creek to the east, Lake Hatchineha to the south, and private lands (sought for public acquisition) to the west. The Lake Wales Ridge IBA is across Lake Hatchineha to the southwest.

DESCRIPTION: a magnificent expanse of longleaf pine flatwoods, xeric oak scrub, cypress domes, and other habitats along the north shore of Lake Hatchineha. Planned as a massive development, the property instead was established in 1992 as an offsite mitigation area for development by the Walt Disney Company. Additional acreage has been added to mitigate for expanded development at Orlando International Airport.

OWNERSHIP: The Nature Conservancy

HABITATS: *longleaf pine flatwoods, *xeric oak scrub, *cypress swamp, *lacustrine, temperate hammock, dry prairie, fields, non-native pastures, hardwood swamp, bayhead, freshwater marsh, riverine

LAND USE: *conservation, environmental research and education

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and Watch List species; and significant natural habitats

AVIAN DATA: The preserve contains high-quality longleaf flatwoods that formerly supported Red-cockaded Woodpeckers and may be suitable for relocation in the future. The flatwoods still contain large numbers of Brown-headed Nuthatches and Bachman's Sparrows. The Preserve also contains a population of Florida Scrub-Jays that has declined severely in recent years, but is expected to recover.

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	spring 1999	>60 nests	1% (B)
Osprey	spring 2000	>50 nests	3% (B)
Bald Eagle	spring 1999	16 pairs	1% (B)
“Florida” Sandhill Crane	Jun 2000	13 pairs	<1% (R)
Florida Scrub-Jay	spring 1990	26 groups	<1% (R)
	Nov 1993	39 groups	1% (R)
	1997	19 groups	<1% (R)
	1998–2000	13 groups	<1% (R)
Brown-headed Nuthatch	2000	common	(R)
Bachman's Sparrow	2000	common	(R)
Overall diversity	undated list	149 natives	
		2 exotics	

Stork data provided by Susan Rallo (University of Central Florida), eagle data provided by John White (Florida Fish and Wildlife Conservation Commission), 1990 and 1993 scrub-jay data from +Pranty (1996b), all other data provided by Petra Royston and Monica Folk (The Nature Conservancy)

OTHER RESOURCES: At least 18 historical or archaeological sites are known. Included among these are two burial mounds between 1600–2500 YBP, an Indian village active 1000–1200 YBP, an early 20th century cattle camp and homestead, and a 1920s era turpentine camp. • Other fauna observed onsite include the southernmost known maternity colony of ♦ big-eared bats (*Plecotus rafinesquii*), “Sherman's” fox squirrels, gopher tortoises, and an occasional Florida panther. The Preserve also contains the northernmost known colony of ♦ ruddy daggerwings (a butterfly; *Marpesia petreus*).

THREATS: *offsite development, *habitat succession, *exotic plants, feral hogs

CONSERVATION ISSUES: With more than 100 years of human activity onsite, large portions of the Preserve have been impacted by a combination of ditching, cattle grazing, logging, and off-season fire. Since the Preserve was established, staff at The Nature Conservancy have restored habitats by filling in drainage ditches and other artificial obstructions, limiting cattle grazing to non-native pastures, removing exotic plants, and returning a growing-season fire regime. Preserve activities are guided by an overall management plan, and individual restoration plans for specific parcels. The population of Florida Scrub-Jays has declined severely in the past 10 years, but intensive habitat management should return numbers to pre-decline levels over the next several years. • Listed species are studied and their populations are monitored.

NOMINATED BY: Petra Royston and Monica Folk (The Nature Conservancy)

REFERENCE: +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

WEBSITE: <<http://nature.org/wherewework/northamerica/states/florida/preserves/art5523.html>>

EMERALDA MARSH

Emeralda Marsh Conservation Area (7089 acres; 2835 ha) and the **Emeralda Marsh SOR Project** (8617 acres [3446 ha] remaining)

Lake and Marion counties

15,706 acres (6282 ha), with 7089 acres (2835 ha) acquired

LOCATION: north of Leesburg in the Upper Ocklawaha River basin, in northwestern Lake County and southeastern Marion County, along the eastern shore of Lake Griffin. Bordered by State Road 42 to the north and County Road 452 to the east. Nearly all acquired lands are in Lake County. Contiguous with the Ocala National Forest–Lake George IBA to the north.

DESCRIPTION: former marshland that was converted to vegetable farms in the 1950s and 1960s. Most of the soils are rich muck derived from drained peat. Public acquisition began in 1991 and has cost \$13 million to date. Flooding in the Conservation Area began in 1992 to restore aquatic and wetland habitats. Areas adjacent to Lake Griffin are being converted to marsh flow-ways to remove excess phosphorus and sediments from the lake. The Conservation Area receives 1150 recreationists and 150 hunters annually.

OWNERSHIP: St. Johns River Water Management District (Emeralda Marsh Conservation Area) and private owners (remaining acreage of the Emeralda Marsh SOR Project)

HABITATS: *agricultural fields, *freshwater marsh, *cattail marsh, *lacustrine, temperate hammock, non-native pasture, hardwood swamp

LAND USE: *conservation, *marsh filtering system to clean up Lake Griffin, *vegetable farming, recreation, waterfowl hunting

IBA CATEGORIES: significant populations of Endangered species; significant numbers of wading birds; and significant diversity

AVIAN DATA: The marshes supports dozens of wetland species, including large numbers of wading birds.

SPECIES	DATES	NUMBERS	COMMENTS
American White Pelican	27 Feb 1999	878 birds	(W)
Snowy Egret	27 Jan 1995	350 birds	(N)
Little Blue Heron	28 Jun 1997	182 birds	1% (N)
White Ibis	13 May 1995	457 birds	1% (N)
Glossy Ibis	29 Dec 1995	405 birds	(W)
Wood Stork	25 Oct 1997	1065 birds	(N)
Osprey	27 Dec 1999	87 birds	(W)
“Greater” Sandhill Crane	2 Jan 1998	638 birds	2%; (W)
Overall diversity	1995–2001	200 natives 4 exotics	

Data provided by Joy Marburger (St. Johns River Water Management District), with some species added to the checklist by Peter May (Stetson University; <<http://www.stetson.edu/~pmay/emeralda/list.htm>>)

OTHER RESOURCES: Emeralda Marsh is part of the Ocklawaha River Restoration Project and is adjacent to Lake Griffin, the headwaters of the Ocklawaha River. The marsh and adjacent lakes support a large population of ♦ American alligators (*Alligator mississippiensis*).

THREATS: *exotic plants, *habitat succession, human disturbance, feral hogs

CONSERVATION ISSUES: Emeralda Marsh Conservation Area consists of 6500 acres (2600 ha) of former agricultural fields that were purchased by the St. Johns Water Management District to help clean up Lake Griffin. Thousands of additional acres currently in agricultural production are sought for public purchase and would, if acquired, connect the Conservation Area with Ocala National Forest to the north. • Exotic plants and feral hogs are controlled as needed. • Monthly bird surveys were conducted by Water Management District staff and volunteers between 1995 and 2000.

NOMINATED BY: Joy Marburger (St. Johns River Water Management District)

WEBSITES: <http://sjr.state.fl.us/programs/acq_restoration/s_water/uockr/emeralda/overview.html>,
<<http://www.stetson.edu/~pmay/emeralda>>

GREEN SWAMP ECOSYSTEM

Green Swamp Wilderness Preserve (121,618 acres; 48,647 ha), **Lake Louisa State Park** (4449 acres; 1779 ha), the **Richloom Tract of Withlacoochee State Forest** (49,200 acres; 19,680 ha), and the **Green Swamp CARL–FF Project** (117,780 acres [47,112 ha], with 14,827 acres [5930 ha] acquired, including **Hiloochee Wildlife Management Area** [3759 acres; 1503 ha])

Lake, Pasco, Polk, and Sumter counties
242,010 acres (96,804 ha), with 140,849 acres (56,339 ha) acquired

LOCATION: in southeastern Hernando County, southern Lake and Sumter counties, northern Polk County, and eastern Pasco County, bordered by State Road 50 to the north, U.S. Highway 27 to the east, south of Interstate 4 to the south, and the Withlacoochee River to the west. Near part of the Withlacoochee State Forest IBA to the west.

DESCRIPTION: A vast wetlands system, the Green Swamp is extremely important for aquifer recharge and wildlife and habitat protection. It serves as the headwaters for the Hillsborough, Ocklawaha, Peace, and Withlacoochee rivers. Much of the uplands have been converted to cattle pastures, but extensive wetlands remain, including cypress swamps and bayheads. Public acquisition of the Green Swamp has been a state priority since 1992. Green Swamp Wilderness Preserve is the only site within this IBA that was nominated formally; data are mostly or entirely lacking for the remaining sites. The Wilderness Preserve receives ___ recreationists and ___ hunters annually.

OWNERSHIP: Florida Division of Recreation and Parks (Lake Louisa State Park), Florida Division of Wildlife (Hiloochee Wildlife Management Area), Southwest Florida Water Management District (Green Swamp Wilderness Preserve), and private owners (remaining acreage of the Green Swamp CARL–FF Project)

HABITATS: *longleaf pine flatwoods, *cypress swamp, *hardwood swamp, *riverine, pine plantation, sandhills, oak and palm hammocks, xeric oak scrub, dry prairie, fields, non-native pasture, bayhead, freshwater marsh, cattail marsh, lacustrine, artificial

LAND USE: *conservation, *hunting, recreation, timber production, cattle grazing

IBA CATEGORIES: significant populations of Endangered, Threatened, and FCREPA species; and significant natural habitats

AVIAN DATA: This IBA is thought to support significant populations of more species than the limited data presented below suggest. [I have a bird list for Lake Louisa State Park, and have compiled a rudimentary (and greatly incomplete) list for Green Swamp Preserve; are lists available for other site?].

Green Swamp Wilderness Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	Mar–Jul 1998	58 nests	1% (B)
Swallow-tailed Kite	Jul–Aug 1997	>40 birds	3% (N)
Bald Eagle	1999–2000	10 nests	1% (B)

Stork data from +Barnwell et al. (1999), kite data from +Barnwell et al. (1998), and eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission).

Lake Louisa State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Overall diversity	Aug 2000 list	91 natives 1 exotics	

Data provided by Rosi Mulholland (Florida Division of Recreation and Parks)

OTHER RESOURCES: The Green Swamp is a designated Area of Critical State Concern because of its aquifer recharge abilities.

THREATS: *development, *exotic plants, *feral hogs, human disturbance

CONSERVATION ISSUES: Green Swamp Wilderness Preserve: Flatwoods are prescribed-burned, and overgrown xeric oak scrub is mechanically treated and prescribed-burned. Nearly 13,000 acres were burned in 1998. • Some buildings (e.g., a sawmill) of previous land owners were removed in 1994, and the sites replanted with native species. Monitoring of these restoration areas continues. Selected pastures and citrus groves have been removed and restored to longleaf pine sandhills. Other pastures have been converted to slash pine plantations to produce future revenue (a recent mandate of Water Management District properties). • Exotic plants such as skunkvine and tropical soda apple are “aggressively” controlled with herbicides. • Feral hogs are removed by hunting and trapping. Other sites? Under threat of development.

NOMINATED BY: Manny Lopez (Southwest Florida Water Management District) and Bill Pranty (Audubon of Florida)

REFERENCES: +Barnwell, M.E., P.M. Elliott, D.L. Freeman, and C.A. Gates. 1998. Resource monitoring program report, natural systems 1997. Southwest Florida Water Management District. Brooksville, FL. • +Barnwell, M.E., M.P. Eagen, P.M. Elliott, and D.L. Freeman. 1999. Resource monitoring program report, natural systems 1998. Southwest Florida Water Management District. Brooksville, FL.

WEBSITES: <http://www.fl-dof.com/state_forests/Withlacoochee.htm>, <<http://www.dep.state.fl.us/parks/district3/lakelouisa>>, <<http://www.swfwmd.state.fl.us/recguide/pdf/12a.pdf>>

GULF ISLANDS GEOPARK

Anclote Bar (___ acres; ___ ha), **Anclote Key State Preserve** (438 acres; 175 ha), **Caladesi Island State Park** (650 upland acres [260 ha] and 1100 acres [440 ha] of mangroves and grass flats), **Honeymoon Island State Recreation Area** (2808 acres; 1123 ha), and **Three Rooker Island** (___ acres; ___ ha)

Pasco and Pinellas counties
 ~3300 acres (1320 ha)

LOCATION: in the Gulf of Mexico off extreme southwestern Pasco County and northwestern Pinellas County, generally 2–4 miles (3.2–6.4 km) from the mainland between Anclote and Dunedin. Offshore from part of the Coastal Pasco IBA to the east.

DESCRIPTION: several barrier island systems off the heavily developed central Gulf coast. Honeymoon Island State Recreation Area is connected to the mainland, while the others are accessible only by boat. All islands receive heavy visitation on weekends during spring and summer; Honeymoon Island receives over 700,000 recreationists annually, and this number is increasing [is visitation known for any other site?]. [mention the Anclote sandbar]

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *slash pine flatwoods, *mangrove forest, *coastal strand, *estuarine, temperate hammock, fields, tidal marsh

LAND USE: *conservation, *recreation

IBA CATEGORIES: significant populations of Threatened, Special Concern, FCREPA, Watch List, and IBA species; significant numbers of shorebirds, larids, and Neotropical migrants; significant overall diversity; and significant natural habitats

AVIAN DATA: The islands are critical for shorebirds and breeding larids. Mangrove forests support one or more pairs of Mangrove Cuckoos (at least at Honeymoon Island State Recreation Area) and Black-whiskered Vireos and several pairs of “Florida” Prairie Warblers, and the uplands attract Neotropical migrants. Bird diversity for all sites combined is ___ native species. [Need to add bird list from Anclote Key; does Caladesi or Three Rooker have a bird list?].

Anclote Bar and Anclote Key State Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	39 birds	7% (W)
Snowy Plover	May 2000	3 pairs	1% (R)
	21 May–11 Jun 2001	2 pairs	1% (R)
Wilson's Plover	21 May–11 Jun 2001	2 pairs	1% (R)
Shorebirds	winter 1993–1994	3088 birds	(W)
Least Tern	21 May–11 Jun 2001	25 pairs	<1% (B)
Overall diversity	___ list	___ natives	
		___ exotics	

2000–2001 data provided by Ann and Rich Paul (Audubon of Florida), Piping Plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), other shorebird data from +Sprandel et al. (1997)

Caladesi Island State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	1 bird	<1% (W)
Snowy Plover	1989	1 pair	<1% (R)
	Jan–Feb 2001	4 birds	<1% (R)
Shorebirds	winter 1993–1994	1432 birds	(W)

1989 data from Gore and Chase (1989), 1993–1994 shorebird data from Sprandel et al. (1997), 2001 data provided by Patty Kelly (U.S. Fish and Wildlife Service)

Honeymoon Island State Recreation Area:

SPECIES	DATES	NUMBERS	COMMENTS
Double-crested Cormorant	29 Jan 2000	>4000 birds	(W)
Osprey	spring 2000	21 pairs	1% (B)
Snowy Plover	17 Jan 1993	25 birds	5% (R)
	Jan–Feb 2001	7 birds	1% (R)
Wilson's Plover	3 Jul 1994	131 birds	33%? (N)
	8 Feb 2000	>150 birds	(W)
Semipalmated Plover	17 Jul 1994	118 birds	(W)
Piping Plover	23 Mar 1994	110 birds	22% (W)
	Jan–Feb 2001	19 birds	3% (W)
American Oystercatcher	27 Dec 1998	26 birds	(W)
Whimbrel	22 Dec 2001	35 birds	(W)
Red Knot	27 Dec 1998	435 birds	(W)
Shorebirds	27 Dec 1998	2700 birds	(W)
Royal Tern	6 Mar 1999	200 birds	Higher counts likely (M)
Sandwich Tern	3 Oct 1999	400 birds	(M)
Common Tern	10 Oct 1999	>5000 birds	(M)
Least Tern	15 Aug 1998	450 birds	(N); breeds in some years
Gray Kingbird	29 Aug 1998	15 birds	(B)
Veery	23 Apr 1997	25 birds	(M)
Swainson's and Gray-cheeked thrushes	23 Apr 1997	250 birds	(M)
Wood Thrush	23 Apr 1997	30 birds	(M)
"Florida" Prairie Warbler	14 May 1994	19 singing males	(R)
Hooded Warbler	9 Apr 1994	800 birds	Florida record high count (M)
Scarlet Tanager	23 Apr 1997	50 birds	(M)
Rose-breasted Grosbeak	23 Apr 1997	>100 birds	(M)
Indigo Bunting	10 Apr 1994	94 birds	(M)
Overall diversity		268 natives	
		8 exotics	

Osprey data provided by Recreation Area ranger, 2001 plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), other data provided by Ed Kwater (Florida Ornithological Society), observations of Lyn Atherton, Paul Fellers, Dave Gagne, Austin and Ron Smith, Doug Stotz, and Wilfred Yusek published in *Florida Field Naturalist*, or data from the North Pinellas CBC.

Three Rooker Island:

SPECIES	DATES	NUMBERS	COMMENTS
Piping Plover	Jan–Feb 2001	80 birds	16% (W)
	5 Dec 2001	67 birds	13% (W)
Snowy Plover	Jan–Feb 2001	16 birds	3% (W)
	30 Sep 2001	25 birds	5% (W)

Wilson's Plover	25 May 1999	4 pairs	2% (B)
	25 May 2000	17 nests	8% (B)
	21 May–2 Jul 2001	5 pairs	2% (B)
American Oystercatcher	25 May 1999	4 pairs	1% (B)
	15 Jun 2000	13 adults	2–3% (B)
	21 May–2 Jul 2001	4 pairs	1% (B)
Shorebirds	winter 1993–1994	1582 birds	(W)
	5 Dec 2001	1932 birds	(W)
Laughing Gull	25 May 1999	3100 pairs	13% (B)
	25 May 2000	4000 nests	17% (B)
	21 May–2 Jul 2001	2200 pairs	9% (B)
Caspian Tern	25 May 1999	3 pairs	<1% (B)
	25 May 2000	38 nests	11% (B)
	21 May–2 Jul 2001	25 pairs	7% (B)
Royal Tern	25 May 2000	639 nests	11% (B)
	21 May–2 Jul 2001	111 pairs	2% (B)
Sandwich Tern	17 Jul 2000	24 adults	1% (B)
Least Tern	25 May 1999	65 pairs	1% (B)
	25 May 2000	74 nests	1% (B)
	21 May–2 Jul 2001	14 pairs	<1% (B)
Black Skimmer	25 May 1999	275 pairs	17% (B)
	25 May 2000	264 nests	16% (B)
	21 May–2 Jul 2001	330 pairs	20% (B)

1993–1994 shorebird data from Sprandel et al. (1997), 2001 plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), December 2001 data gathered by Clearwater Audubon Society, provided by Marianne Korosy, other data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: **Honeymoon Island State Recreation Area** contains a rare remnant 80-acre (32-ha) virgin slash pine flatwoods [doesn't Caladesi have a stand too?]. Loggerhead sea turtles nest along the beach. • The Anclote Key Lighthouse was built in 1886; it was decommissioned in 1984.

THREATS: *human disturbance, exotic plants, cowbird brood parasitism

CONSERVATION ISSUES: **Honeymoon Island:** Nesting areas for shorebirds and Least Terns are roped off seasonally, and some areas may be permanently posted to protect year-round roosting areas. Unleashed dogs harass roosting shorebirds and larids at the Pet Beach. Pine flatwoods are burned for habitat maintenance. Most of the Brazilian pepper has been removed from the Recreation Area. **Three Rooker Island:** 60% of the island is posted seasonally to protect nesting or roosting birds, but Snowy Plovers nest non-colonially, and usually are outside protected areas. The Florida Park Service is revising its management plans and is increasing emphasis on bird protection. Unleashed dogs continue to be a problem. • **Anclote Key:** the size of the island has increased 30% since 1957 • Bird nesting areas are not roped off to prevent human/dog intrusion. [mention sandbar]

NOMINATED BY: Ed Kwater (Florida Ornithological Society) and Bill Pranty (Audubon of Florida)

REVIEWED BY: Terry Hingtgen (Florida Department of Environmental Protection) [+HISRA staff?]

REFERENCE: +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report. Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITES: <<http://www.dep.state.fl.us/parks/district4/anclotekey>>,
<<http://www.dep.state.fl.us/parks/district4/caladesiisland>>,
<<http://www.dep.state.fl.us/parks/district4/honeymoonisland>>

HIGHLANDS HAMMOCK–CHARLIE CREEK

Highlands Hammock State Park (5540 acres; 2216 ha) and the **Charlie Creek SOR project** (9703 acres [3881 ha] remaining)

Hardee and Highlands counties

15,243 acres (6097 ha), with 5540 acres (2216 ha) acquired

LOCATION: west of Sebring, predominantly in northwestern Highlands County with a tiny portion in northeastern Hardee County, mostly between the Hardee–Highlands county line and County Road 635. Near part of the Lake Wales Ridge IBA to the east.

DESCRIPTION: a diverse assemblage of habitats along the western edge of the Lake Wales Ridge. The park's main feature is a magnificent virgin hardwood hammock covering many hundreds of acres (>100 ha). The Park receives ____ recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks (Highlands Hammock State Park) and private owners (remaining acreage of the Charlie Creek SOR Project)

HABITATS: *slash pine flatwoods, *temperate hammock, *sand pine scrub, *cypress swamp, *hardwood swamp, xeric oak scrub, bayhead, freshwater marsh, riverine

LAND USE: *conservation, *recreation, private

IBA CATEGORIES: significant numbers of Neotropical migrants and significant natural habitats

AVIAN DATA: The primary importance of this IBA is to Neotropical migrants. If located closer to metropolitan areas in central Florida, Highlands Hammock State Park undoubtedly would be the top destination for birders seeking fall migrants; no other site in the region contains a similar amount of habitats for Neotropical migrants. Unfortunately, the relative isolation of the park has prevented much avian surveying. The SOR project contains the site of the last-reported Ivory-billed Woodpecker in Florida, in 1969 [AOU doesn't accept this?].

SPECIES	DATES	NUMBERS	COMMENTS
Northern Parula	27 Apr 1994	102 birds	(B)
Wood-warbler diversity	since 1930s	32 species	(M)
Overall diversity	Dec 1997 list	180 natives 2 exotics	Highlands Hammock State Park only

Northern Parula observation of Doug Stotz, published in *Florida Field Naturalist*; other information from the Highlands Hammock State Park bird checklist.

OTHER RESOURCES: The virgin hardwood hammock that is the centerpiece of Highlands Hammock State Park contains oaks that are over 1000 years old and up to 33 feet (9.9 m) in circumference. One of the first four sites purchased in Florida (in 1931) for its natural resources, the park is a little-known treasure.

THREATS: *development, *habitat succession, human disturbance, exotic plants, feral hogs

CONSERVATION ISSUES: Much of the xeric oak scrub onsite is heavily overgrown, and needs management to sustain the resident Florida Scrub-Jays. • Over 12,300 acres (4920 ha) have yet to be acquired north and (mostly) south of the existing park. Efforts to acquire these buffer areas should be accelerated. • Development is a moderate to serious threat to the unacquired properties surrounding Highlands Hammock State Park. • The Young Hammock Trail area contains one of the very few remaining virgin slash pine flatwoods remaining in Florida, with many “cat-faced” turpentine trees still alive. But this area has succeeded to a hardwood hammock in the recent absence of fire, with no pine regeneration for many years—the park management plan does not address restoring this area to flatwoods. • There is some infestation of exotic plants such as air-potato and cogongrass, but these are monitored and controlled by park staff. • An unpaved county road through the park allows non-park traffic to interfere with the aesthetic beauty and serenity of the park.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: Fred Lohrer (Archbold Biological Station), Terry Hingtgen (Florida Department of Environmental Protection), and Ken Alvarez (Florida Department of Environmental Protection)

WEBSITE: <<http://www.dep.state.fl.us/parks/district4/highlandshammock>>

HILLSBOROUGH BAY**Alafia Bank Bird Sanctuary** (50 acres; 20 ha) and **Islands 2D and 3D** (1100 acres; 440 ha)

Hillsborough County

1150 acres (460 ha)

[Other sites will be added to this IBA, e.g., McKay Bay]**LOCATION:** in Hillsborough Bay in southern Hillsborough County, between the city of Tampa and the Alafia River**DESCRIPTION:** Four artificial (“spoil”) islands created in Hillsborough Bay during the dredging of the Alafia River channel (Alafia Bank) or the main shipping channel to the Port of Tampa (Islands 2D and 3D) and nearby coastal estuaries north of the Alafia River. Alafia Bank is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. The islands are posted against human intrusion year-round, but hundreds of boaters trespass on the islands, mostly during spring and summer.**OWNERSHIP:** Cargill Fertilizer, Inc. [permission sought] (Alafia Bank; managed by Audubon of Florida) and Tampa Port Authority (2D and 3D)**HABITATS:** *artificial (dredged material islands), *mangrove forest, *estuarine, tidal marsh, coastal strand**LAND USE:** *conservation, *dredge-material spoil area**IBA CATEGORIES:** significant populations of Special Concern, FCREPA, and IBA species; significant numbers of wading birds and larids; and significant water bird breeding diversity.**AVIAN DATA:** Despite their artificial nature, Alafia Bank and Islands 2D and 3D are critical breeding sites for several species of wading birds, shorebirds, and larids. Alafia Bank ranks with Washburn Sanctuary (Lower Tampa Bay IBA) as the most diverse colonial water bird rookery site in Florida. This IBA also supports large numbers of migrant and wintering shorebirds. [Is a bird list available for any site?].**Alafia Bank:**

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 452 pairs (range of 310–650 pairs)	mean of 4% (range of 3–7%); (B)
Great Egret	1999–2001	mean of 93 pairs (range of 65–120)	<1% (B)
Snowy Egret	1999–2001	mean of 199 pairs (range of 80–159)	(B) (B) (B)
Little Blue Heron	1999–2001	mean of 58 pairs (range of 30–70)	mean of just <1% (range of <1–1%); (B)
Tricolored Heron	1999–2001	mean of 151 pairs (range of 115–190)	(B)
Reddish Egret	1999–2001	mean of 46 pairs (range of 45–50)	mean of 10% (range of 10–12%); (B)
Black-crowned Night-Heron	1999–2001	mean of 50 pairs (range of 50–50 pairs)	(B)
Yellow-crowned Night-Heron	1999–2001	mean of 50 pairs (range of 50–50 pairs)	(B)
White Ibis	1999–2001	mean of 4891 pairs (range of 4560–5500)	mean of 28% (range of 26–32%); (B)
Glossy Ibis	1999–2001	mean of 240 pairs (range	mean of 16% (range of 10–24%)

Roseate Spoonbill	1999–2001	mean of 133 pairs (range of 125–145)	mean of 13% (range of 12–14%)	(B)
Wading birds	1999–2001	mean of 6063 pairs (range of 5489–6800)		(B)
Diversity of colonial water birds	1999–2001	16–17 species	One of the two most diverse breeding colonies in Florida	
American Oystercatcher	1999–2001	mean of 15% (range of 13–18)	mean of 3% (range of 3–4%);	(B)
Shorebirds	Nov–Dec 1993	>1000 birds		(W)

Shorebird data from +Sprandel et al. (1997), other data provided by Ann and Rich Paul (Audubon of Florida).

Islands 2D and 3D:

SPECIES	DATES	NUMBERS	COMMENTS
Wilson's Plover	2000	3 pairs	1% (B)
American Oystercatcher	1998–2001	mean of 51 pairs (range of 48–53)	mean of 12% (range of 12–13%); (B)
Shorebirds	Nov–Dec 1993	>2000 birds	(W)
Laughing Gull	1998–2001	mean of 6375 (range of 5200–8200)	mean of 27% (range of 22–35%); (B)
Gull-billed Tern	May 2001	7 pairs	12% (B)
Caspian Tern	1998–2001	mean of 87 pairs (range of 75–102)	mean of 26% (range of 23–31%); (B)
Royal Tern	1998–2001	mean of 317 pairs (range of 93–765)	mean of 5% (range of 1–14%); (B)
Sandwich Tern	1998–2001	mean of 100 pairs (range of 50–180)	mean of 12% (range of 6–22%); (B)
Black Skimmer	1998–2001	mean of 258 pairs (range of 160–360)	mean of 16 (range of 10–22%); (B)

Shorebird data from +Sprandel et al. (1997), other data provided by Ann and Rich Paul (Audubon of Florida).

OTHER RESOURCES: none known

THREATS: *offsite development, *human disturbance, *exotic plants, *erosion, *raccoons, *discarded monofilament fishing line

CONSERVATION ISSUES: Alafia Bank: the islands are posted and patrolled to control human access. • Bird populations are monitored annually • Raccoons are removed to prevent disruption or abandonment of the nesting colony • Removal of monofilament fishing line is conducted seasonally. • Erosion is controlled by occasional planting of shoreline vegetation by Audubon staff and volunteers. • The size of the islands are increased periodically from dredging projects. • Exotic plants e.g., Brazilian pepper, ♦ white leadtree (*Leucaena leucocephala*) and ♦ carrotwood (*Cupaniopsis anacardioides*) are controlled as needed. • **Islands 2D and 3D:** the Islands are seasonally posted and patrolled to protect nesting birds from human disturbance. More recently, the islands will soon be closed year-round for security reasons. • A “Migratory Bird Protection Committee” meets twice a year to anticipate dredging needs and to avoid nesting birds • Long-term management and reconstruction of the islands remains an issue • The upland portions of the islands are infested with exotic plants, especially lead tree and Brazilian pepper, with some control performed by Audubon staff.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

REFERENCE: +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report. Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

JOHNS PASS

Dogleg Key and adjacent foraging areas

Pinellas County

>2 acres (>0.8 ha)

LOCATION: in southeastern Pinellas County, at the mouth of Long Bayou, east of the Intracoastal Waterway.

DESCRIPTION: Dogleg Key is a small mangrove key in the northern part of Boca Ciega Bay, an estuary nearly completely surrounded by dredge-and-fill residential developments.

OWNERSHIP: State of Florida; monitored by Audubon of Florida

HABITATS: *mangrove forest, estuarine, artificial

LAND USE: *conservation, recreation

IBA Category: significant populations of Special Concern species

AVIAN DATA: Dogleg Key contains a significant colonial waterbird rookery. No bird list is available.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 123 pairs (range of 109–143)	mean and range of 1% (B)
Great Egret	1999–2001	mean of 143 pairs (range of 127–152)	mean of nearly 1% (B)
Snowy Egret	1999–2001	mean of 122 pairs (range of 80–150)	(B)
American Oystercatcher	May 2001	2 pairs	<1% (B)

Data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: none known.

THREATS: *erosion, human disturbance, exotic plants

CONSERVATION ISSUES: Dogleg Key is posted and monitored against human intrusion. Erosion is a concern, and currently is being evaluated.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

KISSIMMEE LAKE AND RIVER

Kissimmee Chain of Lakes SOR Tract (26,715 acres; 10,686 ha), **Kissimmee River floodplain** (____ acres; ____ ha), **Kissimmee River SOR Tracts** (43,921 acres; 17,568 ha), **Lake Kissimmee** (____ acres; ____ ha), **Lake Kissimmee State Park** (5822 acres; 2328 ha), [and probably other sites] Glades, Highlands, Okeechobee, Osceola, and Polk counties ____ acres (____ ha), with 70,636 acres (28,254 ha) acquired

LOCATION: in southeastern Polk County, southwestern Osceola County, extreme eastern Highlands County, extreme western Okeechobee County, and extreme northeastern Glades County, along the entire Kissimmee River, from Lake Hatchineha to Lake Okeechobee. Contiguous with the Avon Park–Bombing Range Ridge IBA to the west, the Osceola Flatwoods and Prairies IBA and Kissimmee Prairie IBA to the east, and with the Lake Okeechobee IBA to the south.

DESCRIPTION: ____ [Largest river restoration project in history; part of the world's largest habitat restoration project]. The Park receives ____ recreationists annually, while the Kissimmee River receives an estimated 3000 recreationists and 1000 hunters. [what about the lake?]

OWNERSHIP: State of Florida (Lake Kissimmee and Kissimmee River), Florida Division of Recreation and Parks (Lake Kissimmee State Park), South Florida Water Management District (Kissimmee Chains of Lakes SOR Tracts and Kissimmee River SOR Tracts), and private owners (remaining acreage of the Kissimmee Chain of Lakes SOR Project and the Kissimmee River SOR Project).

HABITATS: **Kissimmee River:** *fresh water marsh, *wet prairie, *riverine, temperate hammock. **Lake Kissimmee:** *lacustrine, _____. **Lake Kissimmee State Park:** *longleaf pine flatwoods, *freshwater marsh, scrubby flatwoods, temperate hammock, non-native pasture, bayhead, riverine, lacustrine.

LAND USE: **Kissimmee River:** *conservation, recreation, hunting. **Lake Kissimmee:** *recreation, *conservation _____. **Lake Kissimmee State Park:** *conservation, *recreation, cattle grazing.

IBA CATEGORIES: **Kissimmee River:** significant populations of Threatened, Special Concern, and FCREPA species; significant numbers of wading birds; long-term research. **Lake Kissimmee:** _____. **Lake Kissimmee State Park:** significant populations of Endangered and Threatened species; and significant natural habitats.

AVIAN DATA: Lake Kissimmee is one of the most important sites in Florida for Snail Kites, serving as an important refugium during droughts in the Everglades. The pre-channelized Kissimmee River formerly supported large numbers of wading birds and waterfowl; restoration of portions of the river are expected to increase the currently low numbers of these groups of birds. Bird diversity for all sites combined is 188 native species. [I have no bird list for Lake Kissimmee itself].

Kissimmee River:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	Nov 1998	584 birds	(N)
White Ibis	Nov 1997	7388 birds	(N)
Glossy Ibis	Dec 1998	212 birds	(N)
Waterfowl	1949–1950 to 1956–1957	20,000–25,000 birds of 19 species	Includes the entire Kissimmee River basin, with about 20% of these occurring within the river floodplain (W)
Bald Eagle	1962–1971	23 nests annually	>1% (B)
Crested Caracara	1996–1997	15 pairs annually	7% (R)
Long-term research	Since the 1950s		Water bird monitoring
<u>Overall diversity</u>		____ natives ____ exotics	

Waterfowl data from +Toth (1993), caracara data from +Morrison (1996, 1997), all other data provided by Stefani Melvin (South Florida Water Management District). See also +Melvin (2001).

Lake Kissimmee:

SPECIES	DATES	NUMBERS	COMMENTS
Bald Eagle	1998–1999 and 1999–2000	17 nests	1% (B); excludes 11 other nests along the west side of Lake Kissimmee (10), and near the Kissimmee River (1) that are within the Avon Park Air Force Range–Bombing Range Ridge IBA
Snail Kite	1981–1985	mean of 17 birds (range of 4–38)	mean of 5% of then-current numbers (range of 1–9%) (N)

Eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), kite data from +Rodgers et al. (1988)

Lake Kissimmee State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Snail Kite	11 Aug 1999	>10 birds	1% (N)
Crested Caracara	1999	>5 birds	1% (R)
Overall diversity	Undated list	169 natives 2 exotics	

Data provided by Erik Egensteiner (Florida Division of Recreation and Parks)

OTHER RESOURCES: The **Kissimmee River** historically served as a major commercial waterway between the Kissimmee chain of lakes and Lake Okeechobee. It was a culturally important area during the 1800s, and several historical points of interest remain. The Lockett Estate and an Indian mound on the property have been preserved as a historical site. Fort Basinger and Fort Kissimmee, both built during the Seminole Indian Wars, are located on the river. **Lake Kissimmee:** _____. **Lake Kissimmee State Park:** Several listed plants occur onsite, such as ♦garberia (*Garberia heterophylla*), ♦Catesby's lily (*Lilium catesbaei*), ♦cutthroatgrass (*Panicum abscissum*), ♦yellow-flowered butterwort (*Pinguicula lutea*), ♦giant orchid (*Pteroglossapsis ecristata*), ♦common wild pine (*Tillandsia fasciculata*), and ♦Atamasco lily (*Zephyranthus atamasco*).

THREATS: **Kissimmee River:** *exotic plants, *altered hydrology (river channelization). **Lake Kissimmee:** _____. **Lake Kissimmee State Park:** *feral hogs, human disturbance, exotic plants

CONSERVATION ISSUES: Kissimmee River: The River and its floodplain represented a unique ecosystem because the floodplain was inundated for much of the year. Extensive floodplain marshes flanked by wet prairies and temperate hammocks supported a large and diverse bird community, including several listed species and large numbers of wading birds and waterfowl +(NAS 1936–1959, +Perrin et al. 1982). The entire length of the Kissimmee River was channelized into a canal for flood protection and land reclamation between 1962 and 1970. The biological impacts of channelization were severe: 35 miles (56 km) of river channel were destroyed, 30,000 acres (12,000 ha) of floodplain were drained and converted mostly to pasture, waterfowl use declined 92%, and Bald Eagle territories along the river declined 74%. • A comprehensive plan to restore the Kissimmee River has begun. Phase 1 of the restoration—backfilling 7.5 miles (12 km) of canal, restoring 15 miles (24 km) of river channel habitat, and reflooding 11,132 acres (4453 ha) of floodplain wetlands—was completed in February 2001. The initial response by birds was phenomenal and is expected to increase as the prey base in the reflooded wetlands returns. • Future phases of restoration will be completed by 2001. Total restoration involves recreating (___ square miles) 104 square km of river–floodplain habitats, restoring 26,820 acres (10,728 ha) of floodplain wetlands, restoring 43 miles (69 km) of original river channel, and improving habitats for more than 320 species of wildlife. The restored river channel is expected to support >10,000 wading birds, with at least 2000 breeding pairs anticipated. A significant increase in wintering waterfowl already has been observed in the restored section of the river. • The primary goal of restoration is to establish a self-sustaining river–floodplain ecosystem. An adaptive management plan for the restored Kissimmee River system is proposed to perpetuate ecosystem health and function. **Lake Kissimmee:** _____. **Lake Kissimmee State Park:** The park is managed by the Department of Recreation and Parks. An active prescribed burning program is in place. • A recent acquisition of 850 acres (340 ha) was added along the north shore of Lake Rosalie. The habitat is cattle pasture–marsh that will continue to be grazed in the short-term, but will be restored to wetlands eventually by removing ditches and replanting with native vegetation.

NOMINATED BY: Kissimmee River: Stefani Melvin (South Florida Water Management District), **Lake Kissimmee:** _____, **Lake Kissimmee State Park:** Erik Egensteiner (Florida Division of Recreation and Parks)

REFERENCES: +Melvin, S.L. 2001. Waterbird use of a hydrologically altered river system. *Florida Field Naturalist* 29: 1–12. • +Morrison, J.L. 1996. Distribution and habitat use of Audubon's Crested Caracara (*Caracara plancus audubonii*) within the Kissimmee River restoration project area. Final report to South Florida Water Management District, Project PC P601833. West Palm Beach, FL. • +Morrison, J.L. 1997. Distribution and habitat use of Audubon's Crested Caracara (*Caracara plancus audubonii*) within the Kissimmee River restoration project area. Final report to South Florida Water Management District, Project PC P703067. West Palm Beach, FL. • +NAS. 1936–1959. Audubon warden field reports. National Audubon Society. Everglades National Park. Homestead, FL. • +Perrin, L., M.J. Allen, L.A. Rowse, F. Montalbano, III, K.J. Foote, and M.W. Olinde. 1982. A report on fish and wildlife studies in the Kissimmee River basin and recommendations for restoration. Florida Game and Fresh Water Fish Commission. Okeechobee, FL. • +Rodgers, J.A., Jr., S.T. Schwikert, and A.S. Wenner. 1988. Status of the Snail Kite in Florida: 1981–1985. *American Birds* 42: 30–35. • +Toth, L.A. 1993. The ecological basis of the Kissimmee River restoration plan. *Florida Scientist* 56: 25–51.

WEBSITES: <<http://www.dep.state.fl.us/parks/district3/lakekissimmee>>, <http://www.sfwmd.gov/koe_section/2_kissimmee.html>

KISSIMMEE PRAIRIE PRESERVE STATE PARK

Okeechobee and Osceola counties

54,000 acres (21,600 ha)

LOCATION: along the eastern shore of the Kissimmee River in extreme southwestern Osceola County and northwestern Okeechobee County, forming an area roughly 7 miles (11.2 km) north to south and 10–14 miles (16–22.4 km) east to west. Adjacent to the Kissimmee Lake and River IBA to the west, and across the Kissimmee River from the Avon Park Air Force Range–Bombing Range Ridge IBA to the west.

DESCRIPTION: Kissimmee Prairie Preserve State Park contains the largest contiguous expanse of high-quality dry prairie (a habitat endemic to central Florida) remaining. Most of the property remains as original native prairie. Cattle graze 5000 acres (2000 ha) of non-native pastures, recreation is passive, and hunting is prohibited. Over 8.5 miles (13.6 km) of the soon-to-be-restored Kissimmee River form the western boundary of the State Park The Park receives ____ recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *dry prairie (>21,885 acres; >8754 ha), *freshwater marsh (12,887 acres; 5154 ha), *wet prairie (8481 acres; 3392 ha), temperate hammock (1071 acres; 428 ha), xeric oak scrub (721 acres; 288 ha), non-native pasture (5479 acres; 2191 ha), swale (2137 acres; 854 ha), riverine

LAND USE: *conservation, recreation, grazing

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and Watch List species; significant numbers of wading birds; complete diversity of dry prairie species; and significant natural habitats

AVIAN DATA: Kissimmee Prairie Preserve State Park probably supports the largest remaining population of “Florida” Grasshopper Sparrows, and contains other species of dry prairies, such as Mottled Ducks, Sandhill Cranes (both subspecies), White-tailed Kites, Crested Caracaras, Burrowing Owls, and Bachman's Sparrows. Several groups of Florida Scrub-Jays occur in patches of “prairie scrub,” and Whooping Cranes have been observed. The Park also contains two wading bird rookeries that total about 800 pairs. The Park may have great conservation value to wintering sparrows.

SPECIES	DATES	NUMBERS	COMMENTS
Black-crowned Night-Heron	summer 2001	>75 pairs	(B)
Crested Caracara	1997–2001	“several” pairs	>1% (R)
“Florida” Sandhill Crane	2000–2001	>15 pairs	1% (R)
“Greater” Sandhill Crane	2000–2001	100s of birds	>1% (W)
Burrowing Owl	2000–2001	>25 pairs	<1% (R); 22 pairs located on adjacent property
“Florida” Grasshopper Sparrow	spring–summer 2001	110 singing males	22% (R); only 9% of habitat surveyed
Bachman's Sparrow	spring–summer 2001	>150 singing males	(R); only 9% of habitat surveyed
Overall diversity	2001 list	115 natives 2 exotics	New species are being added regularly with monitoring

Data provided by Parks Small (Florida Division of Recreation and Parks)

OTHER RESOURCES: A diverse butterfly population combined with the low height of prairie vegetation make the state park a premier viewing destination. • This site comprises one of the largest roadless areas in central Florida.

THREATS: *altered hydrology, *feral hogs, human disturbance, exotic plants, cattle grazing

CONSERVATION ISSUES: The overall quality of habitat within the state park is excellent. Previous landowners used frequent prescribed fires to increase forage for cattle that were grazed in low

densities across native range. Higher densities of cattle grazed pastures. Just under 7000 acres (2800 ha) previously owned and managed by the National Audubon Society (Ordway-Whittell Kissimmee Prairie Sanctuary) were sold to the State in November 2001; profits will fund future management and research activities. • Restoration activities have targeted restoring the hydrology within the 54,000 public acres (21,600 ha) and on adjacent private lands. Within the past year, over 73 miles (116 km) of ditches and canals at the State Park have been back-filled, and restoration efforts will continue. Cattle grazing still occurs on pastures, including some areas occupied by “Florida” Grasshopper Sparrows; the impacts of grazing on these endangered sparrows deserves study. • Prescribed fire is used to replace natural fires. A short (2 to 3 years) growing-season fire interval is being used to keep dry prairie habitat suitable for “Florida” Grasshopper Sparrows. Since 1997 when the State acquired the majority of the land, over 90% of the park has been burned. A portion of more recently acquired land still needs prescribed fire to restore prairie conditions. • Future plans for recreation in the park include campgrounds and guided wildlife observation tours. The State Park provides views uninterrupted by manmade features across miles of dry prairie landscape. Views up to 6 miles (9.6 km) are common. The State Park is a premier site for nature photography. • The park has experienced great success in the removal of feral hogs, and removal efforts will continue.

NOMINATED BY: Parks Small (Florida Division of Recreation and Parks) and Bill Pranty (Audubon of Florida)

REVIEWED BY: Paul Gray (Audubon of Florida)

WEBSITE: <<http://www.dep.state.fl.us/parks/district3/kissimmeeprairie>>

LAKE APOPKA RESTORATION AREA

Lake and Orange counties

19,710 (7884 ha)

LOCATION: in east-central Lake County and west-central Orange County, comprising the entire northern shoreline of Lake Apopka, north to Duda–Jones Road, and south to include all of Clay Island on the lake’s northwestern shore.

DESCRIPTION: Former marshland diked off from Lake Apopka and converted to vegetable farms in the early to mid–1900s. Most of the soils are rich muck, derived from drained peat. Public acquisition of the farms began in 1988 to begin clean-up of Lake Apopka—Florida’s most polluted lake—after decades of abuse by the agricultural industry. Most acquisitions were completed in 1999–2000, when 13,000 acres (5200 ha) of farmland were purchased for more than \$100 million. Former agricultural fields have lain fallow and unflooded since February 1999. West of Apopka–Beauclair Canal, an additional 6000 acres (2400 ha) are being converted to a Marsh Flow-Way to filter phosphorus and suspended sediments from Lake Apopka. Natural habitats are limited largely to remnant patches along the boundaries of the property. The Restoration Area currently is off-limits to the public, but the area attracted large numbers of birders in the past—and presumably will again in the future.

OWNERSHIP: St. Johns River Water Management District; the Natural Resources Conservation Service holds a 30-year easement over part of the area.

HABITATS: *freshwater marsh, *old fields (former agricultural fields), pine flatwoods, temperate hammock, xeric oak scrub, sod farm, fields, bayhead, lacustrine

LAND USE: *conservation, *marsh filtering system, recreation, sod farm

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, FCREPA, Watch List, and IBA species; significant numbers of aquatic birds, wading birds, raptors, shorebirds, larids, and wintering sparrows, and significant overall diversity.

AVIAN DATA: An exceptional diversity of species occur onsite, as shallowly flooded fields attracted large numbers of migratory shorebirds, wintering waterfowl and shorebirds, and resident wading birds. Fragments of remaining forests support numerous Neotropical migrant species. One or two groups of Florida Scrub-Jays occur along the western boundary of the Restoration Area. Part of the site had been one of the most popular birding spots in Florida from the early 1960s until late 1998, when the U.S. Fish and Wildlife Service closed to the area to public access while conducting a criminal investigation. Extensive, twice-weekly surveys by Harry Robinson have been conducted since August 1998 and have greatly improved our knowledge of the bird diversity onsite. Through 27 May 2002, Harry has completed 381 surveys of the Restoration Area, and personally has observed 306 species (297 natives and 9 exotics) in the easternmost 8000 acres (3200 ha)! Among these have been several record Florida high counts, the first state record of Rough-legged Hawk (three individuals; ____), and the state’s first breeding record of Dickcissels +(Pranty et al. in press).

All these data, except total diversity, are solely from the eastern 8000 acres (3200 ha) of the Restoration Area.

SPECIES	DATES	NUMBERS	COMMENTS
Pied-billed Grebe	18 Nov 1999	750 birds	(W)
American White Pelican	29 Jan 1999	4370 birds	(W)
Great Blue Heron	3 Dec 1998	395 birds	(N)
Great Egret	6 Nov 1998	1950 birds	(N)
Snowy Egret	15 Aug 1998	300 birds	(N)
White Ibis	15 Aug 1998	1000 birds	(N)
Glossy Ibis	8 Jan 1999	1010 birds	(N)
Wood Stork	18 Nov 1998	1130 birds	(N)
Mottled Duck	20 Aug 1999	197 birds	(R)
Blue-winged Teal	2 Nov 1998	10,500 birds	Possibly record high count (W)

Northern Shoveler	27 Jan 1999	770 birds	(W)
Green-winged Teal	18 Dec 1998	12,565 birds	Florida record high count (W)
Ring-necked Duck	3 Dec 1998	11,900 birds	(W)
Swallow-tailed Kite	20 Jul 1999	102 birds	(M)
Northern Harrier	14 Jan 2000	223 birds	Florida record high count (W)
Red-tailed Hawk	14 Mar 2000	94 birds	(W)
Common Moorhen	17 Sep 1999	1310 birds	(N)
American Coot	18 Nov 1998	16,720 birds	(W)
Black-necked Stilt	17 Sep 1998	368 birds	(B)
Black-bellied Plover	3 Dec 1998	346 birds	(W)
Western Sandpiper	11 Sep 1998	965 birds	(M)
Least Sandpiper	31 Dec 1998	2450 birds	(W)
Lesser Yellowlegs	16 Dec 1998	1195 birds	(W)
Stilt Sandpiper	21 Oct 1998	490 birds	(M)
Long-billed Dowitcher	12 Dec 1998	1890 birds	Florida record high count (W)
Common Snipe	28 Dec 1998	898 birds	(W)
Shorebird diversity	since the 1960s	38 natives	Third most diverse site in Florida
		1 exotic	
Caspian Tern	10 Feb 1999	208 birds	(W)
Forster's Tern	2 Sep 1998	500 birds	(M)
Black Tern	2 Sep 1998	500 birds	(M)
Mourning Dove	8 Jul 2001	2120 birds	(R)
Common Ground-Dove	May–Jun 2001	116 territories	(R)
Chimney Swift	2 Oct 1999	1510 birds	(M)
Eastern Phoebe	29 Oct 1999	107 birds	(W)
Western Kingbird	27 Jan 2002	72 birds	Florida record high count (W)
Purple Martin	19 Jun 1999	1935 birds	(M)
Barn Swallow	17 Apr 1999	2200 birds	(M)
Carolina Wren	May–Jun 2001	153 territories	(R)
House Wren	5 Nov 2000	674 birds	(W)
Sedge Wren	26 Nov 2000	108 birds	(W)
Marsh Wren	26 Nov 1999	210 birds	(W)
Blue-gray Gnatcatcher	5 Nov 2000	96 birds	(W)
American Pipit	8 Dec 1998	520 birds	(W)
Yellow Warbler	14 Aug 2001	71 birds	(M)
Prairie Warbler	9 Sep 2001	39 birds	Florida record fall count (M)
Palm Warbler	8 Dec 1998	370 birds	(W)
American Redstart	14 May 2001	48 birds	(M)
Northern Waterthrush	21 Sep 2000	38 birds	(M)
Louisiana Waterthrush	16 Aug 2000	34 birds	(M)
Common Yellowthroat	25 Sep 1999	176 birds	(R)
Clay-colored Sparrow	3 Sep 1998	46 birds	Florida record high count (W)
Savannah Sparrow	8 Dec 1998	860 birds	Florida record high count (W)
Swamp Sparrow	20 Dec 1998	100 birds	(W)
White-crowned Sparrow	3 Feb 1999	51 birds	Second highest Florida count (W)
Sparrow diversity	since the 1970s	17 species	
Northern Cardinal	May–Jun 2001	320 territories	(R)
Blue Grosbeak	May–Jun 2001	76 territories	(B)
Indigo Bunting	May–Jun 2001	54 territories	(B)
	10 Oct 2001	108 birds	(M)
Dickcissel	May–Jul 1999	13m, 5f, 2j	First Florida breeding record (B)
Bobolink	30 Apr 2000	3140 birds	(M)
Overall diversity	since the 1960s	304 natives	Most diverse inland site in Florida
		9 exotics	

All data except overall diversity are observations of Harry Robinson (database maintained by Bill Pranty, Audubon of Florida); *see* +Robinson [2001 and 2002]. See also +Pranty and Basili (1998, 1999) and +Pranty et al. (in press)

OTHER RESOURCES: There apparently are potentially significant cultural sites along the eastern edge of the Restoration Area.

THREATS: *altered hydrology (deep-flooding of the fields), *pesticide residues in the soil, exotic plants

CONSERVATION ISSUES: Pesticide residues present in the soils apparently caused a die-off of large fish-eating birds (500 onsite and perhaps a similar number offsite), mostly American White Pelicans, beginning in November 1998 +(USFWS 1999a, +Pranty and Basili 1999). All fields were drained by February 1999 and have remained unflooded. The U.S. Fish and Wildlife Service is conducting an investigation of the die-off. It is anticipated that the pesticide residues eventually will be removed or will dissipate, and the area can again be managed for wading birds, waterfowl, shorebirds, and numerous other species, but the Fish and Wildlife Service controls all access and activities while its investigation continues. Extensive sampling was conducted in summer 1999 to determine the extent and severity of the pesticide residues present. • Management plans to flood portions of the area for shorebirds and other species have been put on hold until results of the sampling are known. • A Marsh Flow-Way is being constructed in the westernmost 5000 acres (2000 ha) to filter phosphorus and suspended sediments from Lake Apopka. It is expected to be operational by 2003. • The initial management plan, to reconnect the fields to Lake Apopka by breaching selected dikes and levees, would have flooded the fields with more than 4 feet (1.2 m) of water. This would have eliminated all bird foraging and roosting habitats onsite. The revised management plan, prepared by the former Florida Audubon Society +(Pranty and Basili 1998) and embraced in concept by the St. Johns River Water Management District and Natural Resource Conservation Service, includes managing at least 2000 acres (800 ha) as shallowly flooded fields to support migratory shorebirds, wintering waterfowl and other species, and resident wading birds. • A small pasture in the extreme western portion of the Area is being restored to longleaf pines.

Hunting, dogs, airboats, and other sources of disturbance to birds should be prohibited within the Restoration Area once the site is returned to public use.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: Gian Basili and Joy Marburger (St. Johns River Water Management District)

REFERENCES: +Pranty, B., and G.D. Basili. 1998. Bird use of agricultural fields at Lake Apopka, Florida, with recommendations for the management of migratory shorebirds and other species. Florida Audubon Society. Winter Park, FL. • +Pranty, B., and G.[D.] Basili. 1999. Zellwood, birds, and the ghosts of banned pesticides. *Florida Naturalist* 72(3): 10–13. • +Pranty, B., G.D. Basili, and H.P. Robinson. In press (2002). First nesting record of the Dickcissel in Florida. *Florida Field Naturalist* 30: ____ • Robinson, H. [2001]. Bird report, Zellwood Drainage and Water Control District, Unit 1, Unit 2, and the Zellwin Sand Farm Property at Zellwood, Florida. August 15, 1998–August 14, 1999. Submitted to St. Johns River Water Management District. Palatka, FL. • Robinson, H. [2002]. Bird usage of Lake Apopka’s North Shore Restoration Area, Zellwood Drainage and Water Control District, Unit 1, Unit 2, and the Zellwin Sand Farm Property at Zellwood, Florida. August 15, 1999–August 14, 2000. Submitted to St. Johns River Water Management District. Palatka, FL. • +USFWS. 1999a. Organochlorines are preliminary cause of death in birds and fish near Lake Apopka, Florida. Press release No. R99-022, 17 February 1999. United States Fish and Wildlife Service, Atlanta, GA.

WEBSITE: <http://sjr.state.fl.us/programs/acq_restoration/s_water/lapopka/overview.html>

LAKE HANCOCK–UPPER PEACE RIVER

Circle B Bar Preserve (1275 acres; 510 ha), **Fort Meade Recreation Area** (817 acres; 326 ha), **IMC–Agrico Peace River Park** (440 acres; 176 ha), **Lake Hancock** (4553 acres; 1821 ha), **Saddle Creek County Park** (700 acres; 280 ha), **Saddle Creek Sanctuary** (315 acres; 126 ha), **Tenoroc Fish Management Area** (7364 acres; 2945 ha), and several properties under consideration for public acquisition

Polk County

17,029 acres (6811 ha), with 15,464 acres (6185 ha) in public ownership

LOCATION: in western Polk County, east of Lakeland south to Fort Meade.

DESCRIPTION: several existing and proposed conservation areas in the heart of the phosphate mining district; portions of many of the sites are reclaimed mined lands. Lake Hancock is one of the largest lakes in the state, and the Peace River, which forms near the south end of the lake, empties into Charlotte Harbor. The number of visitors to the publicly owned sites is not known, but is estimated to be >10,000 recreationists annually to Saddle Creek County Park. Lake Hancock receives relatively little boat traffic due to poor public access.

OWNERSHIP: State of Florida (Lake Hancock), Florida Division of Wildlife (Tenoroc Fish Management Area), Southwest Florida Water Management District (Circle B Bar Preserve), Polk County Parks and Recreation Department (IMC–Agrico Peace River Park and Saddle Creek County Park), Audubon of Florida (Saddle Creek Sanctuary), City of Fort Meade (Fort Meade Recreation Area), and private owners

HABITATS: *riverine, *lacustrine, *artificial (mined lands), pine flatwoods, temperate hammock, fields, cypress swamp, freshwater marsh, cattail marsh

LAND USE: *conservation, recreation, grazing, private lands

IBA CATEGORIES: significant populations of Special Concern and FCREPA species; significant numbers of breeding wading birds; and significant numbers or diversity of Neotropical migrants.

AVIAN DATA: Rookeries along the shore of Lake Hancock support significant numbers of wading birds and Ospreys, while the uplands are most important to Neotropical migrants. Saddle Creek County Park is one of the most well-known fall-migrant birding sites in Florida.

Lake Hancock (and surrounding areas):

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	1988	112 pairs	<1%? (B)
Snowy Egret	1988	160 pairs	(B)
Little Blue Heron	1988	110 pairs	1%? (B)
White Ibis	1988	4230 pairs	24%? (B)
Wading birds [no Cattle Egrets]	1988	4768 pairs	(B)
Osprey	9 Jun 1996	28 nests	nearly 2% (B)

Wading bird data from +Edelson and Collopy (1990), Osprey data provided by Mike McMillian (Archbold Biological Station) and Bill Pranty (Audubon of Florida)

Saddle Creek County Park:

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	9 Aug 1996	33 birds	2% (N)
Northern Parula	31 Jul 1997	71 birds	(B)
Black-throated Blue Warbler	16 Oct 1999	>30 birds	(N)
American Redstart	5–6 Oct 1996	105 birds	(N)
Ovenbird	26 Sep 1998	42 birds	(N)
Wood-warbler diversity		33 species	
Overall diversity		140 natives 4 exotics	

Observations of Brian Ahern, Larry Albright, Paul Fellers, Chuck Geanangel, and Pete Timmer published in *Florida Field Naturalist*; list compiled by Tom Palmer

Tenoroc Fish Management Area:

SPECIES	DATES	NUMBERS	COMMENTS
Glossy Ibis	Nov 1983	55 birds	1% (N)
	Sep 1984	62 birds	1% (N)
Overall diversity	Nov 1983–Sep 1984	152 natives 3 exotics	

Data compiled by Charles Geanangel (Lake Region Audubon Society)

OTHER RESOURCES: Some Indian artifacts have been found, but since most of the properties have been strip-mined, most of the cultural and historical resources have been destroyed. Fossils are abundant in creek and river beds.

THREATS: *development (of privately owned sites), human disturbance, exotic plants

CONSERVATION ISSUES: Most of this IBA is in public ownership, but private lands are threatened by residential development. “Old Florida Plantation” is a 4700-unit residential development that recently was approved on mined lands along the southern shore of Lake Hancock. • what about disturbance and exotic plants? • In 2001, Polk County and the Southwest Florida Water Management District jointly purchased a ranch on the northwest shore of Lake Hancock, now known as Circle B Bar Preserve. Part of the management plan involves rehydrating drained wetlands along Banana Creek. Since public acquisition, the Preserve has attracted large numbers of waterfowl and shorebirds, a phenomenal change in less than a year. • About 1565 acres (626 ha) of land, primarily surrounding Lake Hancock, remain to be acquired publicly. Only 3 of 28 Osprey nests in June 1998 contained young; the causes of this apparently low nesting success deserve study.

NOMINATED BY: Tom Palmer

REFERENCE: +Edelson, N.A., and M.W. Collopy. 1990. Foraging ecology of wading birds using an altered landscape in central Florida. Final report to Florida Institute of Phosphate Research. Bartow, FL.

LAKE ISTOKPOGA (and surrounding uplands)

Highlands County

26,500 acres (10,600 ha)

LOCATION: east of the town of Lake Placid in central Highlands County, bordered by U.S. Highway 98 to the north, County Road 621 to the south and east, and the Lake Wales Ridge to the west. One parcel of the Lake Wales Ridge IBA fronts a portion of the western part of the lake.

DESCRIPTION: the fifth-largest natural lake in Florida, surrounded by pasture, caladium fields (an exotic plant used in landscaping and floral displays), citrus groves, a scrub preserve, and some development. The lake contains two islands (Big Island and Bumblebee Island). The lake receives an estimated 60,000 boaters annually.

OWNERSHIP: State of Florida (Lake Istokpoga), The Nature Conservancy (Apthorpe Preserve, which protects a small portion of the western shoreline), and private owners (most uplands, and Big and Bumblebee islands)

HABITATS: *cypress swamp, *freshwater marsh, *cattail marsh, *lacustrine, pine flatwoods, sand pine scrub, non-native pasture, agricultural fields, citrus grove, hardwood swamp, bayhead, riverine

LAND USE: Lake Istokpoga: *recreation, conservation, water supply; **Surrounding uplands:** *residential, *grazing, agriculture

IBA CATEGORIES: significant populations of FCREPA species; significant numbers of raptors; significant natural habitats; and long-term research

AVIAN DATA: Lake Istokpoga supports populations of aquatic species, including wading birds and Limpkins. It is believed to contain the greatest concentration of Osprey nests in the world, a population that has been color-banded and monitored by Mike McMillian for 12 years.

SPECIES	DATES	NUMBERS	COMMENTS
Least Bittern	Resident	extremely common	
Great Egret	May 2000	>100 nests	<1% (B)
Limpkin	Resident	common	
Bald Eagle	2000	9 nests	<1% (B)
Osprey	Jun 2000	229 nests	27% (B)
Short-tailed Hawk	Mar 2001	1 pair	<1%
Long-term research	Since 1991		Osprey demography study
Overall diversity	2001 list	160 natives 2 exotics	

Data provided by Mike McMillian (Archbold Biological Station)

OTHER RESOURCES: Lake Istokpoga is ringed by virgin cypresses, of which many are hundreds of years old. Indian sites are thought to be present in adjacent uplands.

THREATS: *human disturbance, *exotic plants, *habitat succession, development

CONSERVATION ISSUES: ♦ Hydrilla (*Hydrilla vericillata*), an invasive exotic plant, is controlled every three years with SONAR herbicide treatment. Lake vegetation is sprayed seasonally to keep open boat traffic lanes. • In 2001, a \$3 million clean-up project was initiated, during which the water level was lowered for the first time since the 1960s. Over 2 million tons (___ million metric tons) of muck and accumulated marsh vegetation (i.e., “tussocks”) were removed. • Disturbance by airboats is a severe problem to waterfowl, especially American Coots.

NOMINATED BY: Mike McMillian (Archbold Biological Station)

LAKE MARY JANE–UPPER ECON MOSAIC

Lake Lizzie Nature Preserve (918 acres; 367 ha), **Lake Mary Jane** (___ acres; ___ ha), **Moss Park** (1551 acres; 620 ha), **Split Oak Forest Mitigation Park Wildlife and Environmental Area** (1689 acres; 675 ha), and **Upper Econ Mosaic CARL–FF Project** (31,153 acres [12,461 ha] remaining)

Orange and Osceola counties

36,229 acres; (14,491 ha), with 4158 acres (1663 ha) acquired

[This IBA needs additional data]

LOCATION: in south-central Orange County and north-central Osceola County, between (but not extending to) Weewahootee Road and County Road 500-A, east of State Road 15. It is bordered on the northwest by Lake Hart and on the south by Lake Lizzie and Bay Lake.

DESCRIPTION: three small parks and preserves (two adjacent and the third about 5.7 miles [9.2 km] to the south) linked by a portion of the largest cattle ranch in Florida, which currently is sought for public acquisition. This IBA is between the massively burgeoning cities of Orlando and Kissimmee/St. Cloud. It is a large expanse of habitats within the northern part of the Osceola Plain physiographic region and supports a mosaic of natural communities. The IBA includes the Econlockhatchee River Swamp (the headwaters of the Econlockhatchee River), all of four large lakes and additional small ones, and portions of six other lakes.

OWNERSHIP: State of Florida (Lake Mary Jane), Orange County (Moss Park), Osceola County (Lake Lizzie Nature Preserve), Orange and Osceola counties (Split Oak Forest Mitigation Park Wildlife and Environmental Area; managed by the Florida Fish and Wildlife Conservation Commission), and private owners (unacquired acreage of the Upper Econ Mosaic CARL–FF Project)

HABITATS (acreages exclude Moss Park and Split Oak Forest): *longleaf pine flatwoods (12,957 acres; 5182 ha), *cypress and bay swamps (9928 acres; 3971 ha), *lacustrine, flag and sawgrass marshes (2614 acres; 1045 ha), xeric oak scrub and sand pine scrub (1814 acres; 725 ha), slash pine flatwoods (acreage included within longleaf pine flatwoods), temperate hammock (728 acres; 291 ha), riverine (50 acres; 20 ha), artificial.

LAND USE: *grazing, *private (potential development), *conservation, recreation

IBA CATEGORIES: significant populations of Endangered, Threatened, and Watch List species; and significant natural habitats

AVIAN DATA: Lake Mary Jane contains a 5-acre (2-ha) island that supports a significant wading bird rookery. Split Oak Forest and Lake Lizzie Nature Preserve both support small (i.e., non-viable) populations of Florida Scrub-Jays, but the CARL-FF Project contains 2500 acres (1000 ha) of suitable habitat and could potentially support nearly 100 scrub-jay groups with proper habitat restoration and management.

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	13 May 2000	>100 pairs	Lake Mary Jane rookery; 1% (B)
“Florida” Sandhill Crane	Mar–May 1995	“several pairs”	Upper Econ Mosaic; <1% (R); many more pairs likely
Red-cockaded Woodpecker	Mar–May 1995	11 active clusters	Upper Econ Mosaic; 1% (R)
Florida Scrub-Jay	6 Aug 1993	1 group	Split Oak Forest Park (R)
	Mar–May 1995	4 groups	Lake Lizzie Preserve (R)
Bachman’s Sparrow	Mar–May 1995	>30 birds	Upper Econ Mosaic (R)

Stork data by Roger and Sharon Robbins (___), 1995 data by Jim Cox and Katy NeSmith (Florida Natural Areas Inventory), and scrub-jay data from +(Pranty 1996a).

OTHER RESOURCES: Other listed species occurring within the IBA include gopher tortoise and “Sherman’s” fox squirrel. • Econlockhatchee River Swamp is designated as an Outstanding Florida Water.

THREATS: _____

CONSERVATION ISSUES: _____

If publicly acquired, a management priority of the Upper Econ Mosaic CARL-FF Project must be the creation and maintenance of a demographically viable population of Florida Scrub-Jays in a region where such populations are virtually unknown. Additionally, it seems quite likely that this site provides the only opportunity for creating a large scrub-jay population between Seminole State Forest and Disney Wilderness Preserve.

NOMINATED BY: Roger and Sharon Robbins (_____), and Bill Pranty (Audubon of Florida)

REFERENCES: +Rodgers, J.A., Jr., and S.T. Schwikert. 1999. Breeding ecology of the Least Bittern in central Florida. *Florida Field Naturalist* 27: 141–149. • +Rodgers, J.A., Jr., S.T. Schwikert, and A.S. Wenner. 1988. Status of the Snail Kite in Florida: 1981–1985. *American Birds* 42: 30–35.

LAKE TOHOPEKALIGA and Adjacent Uplands

Osceola County

42,900 acres (17,160 ha)

[This IBA needs additional data]

LOCATION: in northwestern Osceola County, bordered by U.S. Highway 17/92 to the north and west of Florida's Turnpike. The town of Kissimmee borders the extreme northwestern portion of the lake.

DESCRIPTION: the sixth-largest lake in Florida, surrounded primarily by cattle pastures. A 1-mile (1.6-km) buffer was drawn around the lake for IBA purposes. This IBA is near the Disney Wilderness Preserve IBA to the southwest. The lake receives ____ recreationists and ____ hunters annually.

OWNERSHIP: State of Florida (lake) and private owners (uplands)

HABITATS: Lake Tohopekaliga: *lacustrine. **Uplands:** ____

LAND USE: Lake Tohopekaliga: *conservation, *recreation. **Uplands:** *cattle grazing, residential, recreation

IBA CATEGORIES: significant populations of Endangered, Threatened, and FCREPA species; and significant natural habitats.

AVIAN DATA: Limited data are available for Lake Tohopekaliga, but Least Bitterns are common breeders, a significant population of Bald Eagles nest around the lake, and during severe droughts in the Everglades, the lake has supported significant numbers of Snail Kites. Lake Kissimmee is an important refugium for Snail Kites during drought years. The lake probably supports more avian species than the table illustrates, especially wading birds.

SPECIES	DATES	NUMBERS	COMMENTS
Least Bittern	1995–1997 (years combined)	common; 143 nests	(R)
Snail Kite	1981–1985	mean of 6 birds (range of 0–17)	0–5% of then-current numbers (R)
Bald Eagle	1998–1999 and 1999–2000	29 nests	2% (R)

Bittern data from +Rodgers and Schwikert (1999), kite data from +Rodgers et al. (1988), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: ____

THREATS: ____

CONSERVATION ISSUES: Rodgers and Schwikert (1999) found nests of the Least Bittern, Purple Gallinule, Common Moorhen, Boat-tailed Grackle, and Red-winged Blackbird that had failed because the cattails in which they were built had been sprayed with herbicide. Agencies responsible for the spraying regarded dense stands as providing little wildlife value. Rodgers and Schwikert (1999) recommended that future management of lakes in the region allow for the protection of some stands of cattail to provide suitable breeding habitat for several species of birds.

There are 29 Bald Eagle nests within about 1 mile (1.6 km) of the lakeshore, and several other nests beyond this distance. All property surrounding Lake Tohopekaliga is in private ownerships, and some attempt should be made to acquire these properties (possibly through perpetual conservation easement) to ensure protection of the eagle nests.

NOMINATED BY: Bill Pranty (Audubon of Florida) and James A. Rodgers, Jr. (Florida Fish and Wildlife Conservation Commission)

- REFERENCES:** +Rodgers, J.A., Jr., and S.T. Schwikert. 1999. Breeding ecology of the Least Bittern in central Florida. *Florida Field Naturalist* 27: 141–149. • +Rodgers, J.A., Jr., S.T. Schwikert, and A.S. Wenner. 1988. Status of the Snail Kite in Florida: 1981–1985. *American Birds* 42: 30–35.

LAKE WALES RIDGE

Publicly owned sites are **Lake Arbuckle State Park** (2813 acres; 1125 ha), **Lake June-In-Winter Scrub State Park** (845 acres; 338 ha), **Lake Placid Wildlife and Environmental Area** (3150 acres; 1260 ha), **Lake Wales Ridge State Forest** (16,675 acres; 6670 ha), and **Platt Branch Mitigation Park Wildlife and Environmental Area** (1972 acres; 788 ha). **Archbold Biological Station** (5200 acres; 2080 ha), **Saddle Blanket Lakes Preserve** (642 acres; 256 ha), and **Tiger Creek Preserve** (4778 acres; 1911 ha) are privately-owned conservation areas. Part of the **Catfish Creek CARL–FF Project** (11,280 acres; 4512 ha) has been acquired as **Allan David Brossard Catfish Creek Preserve State Park** (4339 acres; 1735 ha). Sites targeted for public acquisition (most are partially acquired) through the **Lake Wales Ridge Ecosystem CARL–FF Project** (43,089 acres [17,235 ha], with 20,378 acres [8295 ha] acquired) are: Avon Park Lakes (225 acres; 90 ha, unacquired) Carter Creek (4630 acres; 1852 ha, mostly acquired), Castle Hill (75 acres; 30 ha, unacquired), Flamingo Villas (1420 acres; 568 ha, about 50% acquired), Flat Lake (120 acres; 48 ha, acquired), Gould Road (419 acres; 167 ha, nearly all acquired), Henscratch Road (2869 acres; 1147 ha, nearly all acquired), Hesperides (2696 acres; 1078 ha, some acquired), Highlands Ridge (6318 acres; 2527 ha, about half acquired), Holmes Avenue (1269 acres; 507 ha, nearly all acquired), Horse Creek Scrub (1325 acres; 530 ha, mostly acquired), Lake Apthorpe (2503 acres; 1001 ha, nearly all acquired), Lake Blue (65 acres; 26 ha, mostly acquired), Lake Davenport (500 acres; 200 ha, unacquired), Lake McLeod (55 acres; 22 ha, nearly all acquired), Lake Walk-In-The-Water (8615 acres; 3446 ha, mostly acquired), McJunkin Ranch (750 acres; 300 ha, acquired), Mountain Lake Cutoff (217 acres; 86 ha, nearly all unacquired), Ridge Scrub (80 acres; 32 ha, unacquired), Schofield Sandhill (120 acres; 48 ha, unacquired), Silver Lake (2020 acres; 808 ha, mostly acquired), Sugarloaf Mountain (52 acres; 20 ha, some acquired), Sun ‘N Lakes South (570 acres; 228 ha, some acquired), Sunray–Hickory Lake South (1970 acres; 788 ha, some acquired), and Trout Lake (65 acres; 26 ha, unacquired).

Highlands, Lake, Osceola, and Polk counties

69,011 acres (27,604 ha), with 44,117 acres (17,646 ha) acquired

LOCATION: in southeastern Lake County, extreme northwestern Osceola County, eastern Polk County, and western Highlands County, generally along U.S. Highway 27 from north of Clermont south to Venus. Parcels are contiguous with the Avon Park Air Force Range–Bombing Range Ridge and Lake Istokpoga IBAs to the east, and the Fisheating Creek Watershed IBA to the south. Other parcels are near the Highlands Hammock–Charlie Creek IBA to the west.

DESCRIPTION: approximately 30 separate parcels of uplands along the Lake Wales Ridge, an ancient dune system in the center of the Florida Peninsula. The Lake Wales Ridge is the oldest biological community in Florida, and during periods of higher sea levels, it at times represented a series of islands, as most of the Peninsula was submerged. This isolation from the rest of the continent has allowed several species of plants and animals to evolve on the Ridge, creating one of the greatest concentrations of endemism in North America. The dominant vegetation community historically was xeric oak scrub, which grows only on excessively drained sandy soils. Destruction of scrub along the Ridge, predominantly by the citrus industry, began in the late 19th century. By the early 1990s, over 85% of xeric oak scrub on the Lake Wales Ridge had been destroyed, and efforts were undertaken to purchase the remaining significant parcels. This land acquisition effort became the Lake Wales Ridge Ecosystem CARL–FF Project, a cooperative effort of several Federal, State, and private agencies; it has been the top-ranked acquisition project in Florida for several years. Also part of the U.S. National Wildlife Refuge system, it is the first refuge established specifically for the protection of Endangered and Threatened plants. Several of the sites are “vacant” subdivision with many miles (km) of roads, but with few or no houses. [Is the number of visitors known for any site? Archbold?]

OWNERSHIP: U.S. Fish and Wildlife Service (part of Carter Creek Tract and all of Flamingo Villas Tract; **Lake Wales Ridge National Wildlife Refuge**), Florida Division of Forestry (Lake Wales Ridge State Forest), Florida Division of Recreation and Parks (Lake Arbuckle State Park, Lake June-In-

Winter Scrub State Park, and Allan David Broussard Catfish Creek Preserve State Park), Florida Division of Wildlife (Lake Placid Wildlife and Environmental Area and Platt Branch Mitigation Park and Wildlife and Environmental Area), Archbold Expeditions, Inc. (Archbold Biological Station; permission sought), The Nature Conservancy (Saddle Blanket Lakes Preserve, Tiger Creek Preserve, and several of the Lake Wales Ridge CARL–FF Project sites; permission sought), and private owners (remaining acreage of the Lake Wales Ridge CARL–FF Project)

HABITATS: *pine flatwoods, *xeric oak scrub, *sand pine scrub, southern ridge sandhill, temperate hammock, fields, non-native pasture, cutthroat seeps, cypress swamp, bayhead, freshwater marsh, riverine, lacustrine, artificial

LAND USE: *conservation, recreation, hunting (Lake Wales Ridge State Forest only), timber production (a few sites only)

IBA CATEGORIES: significant populations of Threatened species; complete diversity of oak scrub and sand pine scrub species; significant diversity of wood-warblers; significant natural habitats; and long-term research

AVIAN DATA: Although established primarily to prevent the extinction of several endemic plant species, the Lake Wales Ridge acquisition project is also essential for maintaining viable population of Florida Scrub-Jays in the interior central Peninsula; the Ridge supports the third-largest population remaining. Glen Woolfenden, John Fitzpatrick, and their colleagues have closely monitored a stable, color-banded population of about 100 Florida Scrub-Jays at Archbold since 1969, one of the longest-running continuous bird studies in the world. A small, color-banded population of Hairy Woodpeckers was studied at Archbold from 1988 to 1994. Pine flatwoods along the Ridge support large numbers of Bachman’s Sparrows. Xeric oak scrub is rather depauperate in bird diversity, but the bird list for Archbold Biological Station nonetheless totals 212 native species, the results of observations of dozens of ornithologists for more than 30 years. Because most of the other CARL–FF parcels are privately owned or recently acquired, it is likely that the Archbold bird list represents the known avifauna of the Lake Wales Ridge.

Archbold Biological Station:

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	1992–1993	~100 groups	3% (R)
Wood-warbler diversity	since 1941	30 species	
Overall diversity	since 1941	212 natives 9 exotics	
Long-term research	since 1969		Florida Scrub-Jay study

Scrub-jay data from +Pranty (1996b); diversity data from +(Lohrer and Woolfenden 1992; revised online in 1998)

All other sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	1992–1993	~265 groups	7% (R); approximate number of groups per site: Allan David Brossard Catfish Creek Preserve State Park (35), Avon Park Lakes (5), Carter Creek (35), Flamingo Villas (7), Henscratch Road–Jack Creek (20), Hesperides (5), Highlands Ridge (45), Holmes Avenue (10), Lake Apthorpe (25), Lake June West (10), Lake Placid Scrub (30), Lake Wales Ridge State Forest (13), Platt Branch (10), Saddle Blanket Lakes (2), Silver Lake (10), and Sunray–Hickory Lake South (2)

Data from +Pranty (1996b)

OTHER RESOURCES: The Lake Wales Ridge supports 35 Endangered, Threatened, or rare plants and 11 listed non-avian vertebrates. Highlands County ranks 11th in the nation in the number of listed species present. Plants endemic to the Ridge include the ♦pigmy fringetree (*Chionanthus pygmaeus*), ♦Carter's pinelandcress (*Warea carteri*), ♦Avon Park harebells (*Crotalaria avonensis*), ♦Christman's mint (*Dicerandra christmanii*), ♦wedgeleaf eryngo (*Eryngium cunefolium*), ♦Highlands scrub St. John's-wort (*Hypericum cumulicola*), ♦scrub blazing-star (*Liatris olingerae*), and ♦Florida jujube (*Ziziphus celata*). Only 1% of the historic cutthroatgrass seeps remain, mostly at Archbold Biological Station. The Station alone supports 40 listed plants, seven invertebrates, and 18 vertebrates (+Lohrer 1992).

THREATS: *development, *habitat succession, human disturbance, exotic plants, feral hogs

CONSERVATION ISSUES: Since CARL–FF acquisition began in 1992, just over half of the total acreage has been protected. Acquisition activity continues, but two sites that were part of the original proposal (Ferndale Ridge in Lake County and Eagle Lake in Polk County) were developed in 1997 +(DEP 1999). The remaining privately-held acreage can be presumed to be under a similar extreme threat of development. • Most of the scrub in these parcels is severely overgrown, and fire management is critical to restore the habitats for virtually all scrub endemics, including Florida Scrub-Jays. But management will be difficult at many small sites that are surrounded by existing development, as well as in the “vacant” developments heavily subdivided by roads.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: Fred Lohrer (Archbold Biological Station)

REFERENCES: +DEP. 1999. *Conservation and Recreation Lands (CARL) Annual Report 1999*. Department of Environmental Florida. Tallahassee, FL. • +Lohrer, F.E., editor. 1992. Archbold Biological Station. Lake Placid, Florida. Sixth edition. Lake Placid, FL. • +Lohrer, F.E., and G.E. Woolfenden. 1992. *Birds of the Archbold Biological Station*, Lake Placid, Florida. Archbold Biological Station. Lake Placid, FL. • +Myers, R.L., and J.J. Ewell. 1990. *Ecosystems of Florida*. University of Central Florida Press. Orlando, FL. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

WEBSITES: <http://www.fl-dof.com/state_forests/Lake_Wales_Ridge.htm>, <<http://www.archbold-station.org/ABS/index.htm>>, <<http://nature.org/wherewework/northamerica/states/florida/preserves/art5524.html>>

LAKE WOODRUFF NATIONAL WILDLIFE REFUGE

Volusia County
21,559 acres (8623 ha)

LOCATION: west of DeLand in western Volusia County. Contiguous with the Ocala National Forest–Lake George IBA to the north and west.

DESCRIPTION: encompasses all of Lake Woodruff and extends west to the St. Johns River. The Refuge receives 70,000 recreationists and 700 hunters annually.

OWNERSHIP: U.S. Fish and Wildlife Service and St. Johns River Water Management District

HABITATS: *hardwood swamp (5800 acres; 2320 ha), *freshwater, cattail, and sawgrass marshes (combined; 12,100 acres; 4400 ha), longleaf pine flatwoods, temperate hammock (2400 acres; 960 ha), xeric oak scrub, and lacustrine (1000 acres; 400 ha)

LAND USE: *conservation, *recreation, hunting

IBA CATEGORIES: significant populations of FCREPA species; significant numbers of raptors and Neotropical migrants [+ significant diversity?]; and significant natural habitats

AVIAN DATA: The Refuge supports a great diversity of aquatic birds, including wading birds, 23 species of waterfowl, and possibly an inland breeding population of Black Rails. It also supports what is currently the second-largest Swallow-tailed Kite roost in the United States. Neotropical migrants also are well-represented, with 30 species of wood-warblers reported. The Refuge probably supports significant numbers of many more species than is shown in the table below.

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	Jul 1999	576 birds	38% (N)
	Aug 2000	>400 birds	26% (N)
Black Rail	Aug 1981	6 birds	(R?)
Thrushes (mostly Veerys)	[no date provided]	>500 birds	(M)
Overall diversity	1982 list	216 natives 2 exotics	

Kite data provided by Ken Meyer (Avian Research and Conservation Institution), rail and thrush data from +Wamer (1991)

OTHER RESOURCES: Florida manatees occur throughout the refuge, and several archaeological sites are present.

THREAT: exotic plants

CONSERVATION ISSUES: Fire-dependent communities are prescribed-burned to maintain and restore habitats. • Exotic plants are controlled by herbicides as needed. Feral hogs have been successfully controlled; none have been seen for several years. • Artificial impoundments are managed for waterfowl and wading birds. • Staff shortages make it difficult to survey and monitor wildlife use.

NOMINATED BY: Brian Braudis (U.S. Fish and Wildlife Service)

REFERENCE: +Wamer, N. 1991. Black Rails in Florida: How & where. Published privately.

WEBSITES: <<http://lakewoodruff.fws.gov>>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/woodruff.htm>>

LOWER TAMPA BAY

Egmont Key National Wildlife Refuge (381 acres; 152 ha), **Fort De Soto County Park** (1136 acres; 454 ha), **Passage Key National Wildlife Refuge** (<5 acres; <2 ha), **Pinellas National Wildlife Refuge** (394 acres; 157 ha), and **Shell Key Preserve** (>180 acres >[72 ha] of uplands; total acreage?) Hillsborough, Manatee, and Pinellas counties
1732 upland acres (692 ha)

LOCATION: at the mouth of Tampa Bay between St. Petersburg and Anna Maria Island; three sites are in southern Pinellas County, Egmont Key is within the shipping channel of Hillsborough County, and Passage Key is extreme western Manatee County.

DESCRIPTION: Several islands at the mouth of Tampa Bay. **Fort De Soto County Park** is well-known for attracting Neotropical landbirds. It is the southernmost part of a chain of barrier islands along the Gulf coast of Pinellas County. Before development of the park, the area was composed of five keys, but these were combined into a single island, Mullet Key, by dredging. The Park receives 2,700,000 recreationists annually. **Egmont Key National Wildlife Refuge** was established in 1974 and receives 81,000 recreationists annually. **Shell Key Preserve** receives 100,000 recreationists annually. [More information needed]

OWNERSHIP: U.S. Fish and Wildlife Service (Egmont Key National Wildlife Refuge, Passage Key National Wildlife Refuge, and Pinellas National Wildlife Refuge), U.S. Coast Guard (Egmont Key National Wildlife Refuge), and Pinellas County (Fort De Soto County Park and Shell Key Preserve)

HABITATS: **Egmont Key National Wildlife Refuge:** *tropical hammock, *coastal strand, fields, artificial. **Fort De Soto County Park:** *temperate hammock, *fields, *mangrove forest, *tidal marsh, *estuarine, *coastal strand, slash pine flatwoods, tropical hammock, artificial. **Passage Key National Wildlife Refuge:** *coastal strand. **Pinellas National Wildlife Refuge:** *mangrove forest, estuarine. **Shell Key Refuge:** *mangrove forest, *coastal strand, *seagrass beds, tidal marsh.

LAND USE: **Egmont Key National Wildlife Refuge:** *conservation, historic preservation, recreation. **Fort De Soto County Park:** *recreation, historic preservation, conservation. **Passage Key National Wildlife Refuge:** *conservation. **Pinellas National Wildlife Refuge:** *conservation. **Shell Key Refuge:** *conservation, *recreation

IBA CATEGORIES: significant populations of Threatened, Special Concern, FCREPA, Watch List, and IBA species; significant numbers and diversity of shorebirds, larids, and Neotropical migrants; significant overall diversity; and significant natural habitats

AVIAN DATA: These five sites are some of the most important areas for wading birds, shorebirds, larids, and Neotropical migrants in Florida, and they support a great diversity of species. The waterbird rookeries on Tarpon Key and Whale Key, two islands of Pinellas National Wildlife Refuge, annually contain 12–15 species, making them one of the two most diverse rookeries in Florida. Fort De Soto County Park probably is the most famous migratory stopover site in Florida, and certainly is one of the most popular birding spots. The park is also important for shorebirds and larids. Shell Key Preserve is extremely significant for migrant and wintering shorebirds, Bird diversity of all sites combined is 304 native species, the seventh most diverse IBA in Florida. Through 1999, Egmont Key supported only a colony of Laughing Gulls, but as nearby Passage Key continues to erode, several other larids (and Brown Pelicans) have moved to Egmont. [Is a bird list available for Shell Key?].

Egmont Key National Wildlife Refuge:

SPECIES	DATE	NUMBERS	COMMENTS
Brown Pelican	23 May 2000	108 pairs	1% (B)
	22 May 2001	340 pairs	3% (B)
American Oystercatcher	23 May 2000	4 pairs	1% (B)
	22 May 2001	4 pairs	1% (B)
Laughing Gull	1999	750 pairs	3% (B)
	23 May 2000	>1500 pairs	6% (B)
	22 May 2001	10,000 pairs	42% (B)
Royal Tern	22 May 2001	3542 pairs	65% (B)
Sandwich Tern	22 May 2001	702 pairs	83% (B)
Breeding larids	22 May 2001	14,244 pairs	(B)
Overall diversity	1998 list	103 natives 4 exotics	

Data provided by Ann and Rich Paul (Audubon of Florida); diversity information provided by Jerry Shrewsbury (St. Petersburg Audubon Society)

Fort De Soto County Park:

SPECIES	DATES	NUMBERS	COMMENTS
Magnificent Frigatebird	9 Oct 1994	570 birds	11% (N)
Snowy Plover	5 Jul 1992	10 birds	2% (R)
	Jan–Feb 2001	5 birds	1% (R)
Wilson's Plover	4 Aug 2000	9 birds	2% (R)
	22 May 2001	2 pairs	1% (R)
Piping Plover	29 Jan 1996	17 birds	3% (W)
	Jan–Feb 2001	9 birds	1% (W)
American Oystercatcher	4 Aug 2000	17 birds	1% (R)
Red Knot	4 Sep 1998	1000 birds	(M)
Solitary Sandpiper	30 Apr 1996	90 birds	(M)
Shorebirds	winter 1993–1994	1672 birds	(W)
Common Tern	9 Oct 1998	6000 birds	(M)
Sandwich Tern	27 Sep 1996	225 birds	(M)
Ruby-throated Hummingbird	30 Apr 1996	250 birds	(M)
Eastern Wood-Pewee	2 Oct 1998	50 birds	(M)
Eastern Kingbird	22 Aug 1997	150 birds	(M)
White-eyed Vireo	15 Mar 1999	151 birds	(M)
Red-eyed Vireo	20 Sep 1998	400 birds	(M)
Bank Swallow	2 Oct 1998	120 birds	(M)
Wood Thrush	6 Apr 1993	20 birds	(M)
Swainson's Thrush	6 Oct 1994	21 birds	(M)
Blue-winged Warbler	7 Apr 1994	11 birds	(M)
Tennessee Warbler	2 Oct 1998	63 birds	(M)
Northern Parula	2 Oct 1998	64 birds	(M)
Chestnut-sided Warbler	2 Oct 1998	28 birds	(M)
Magnolia Warbler	2 Oct 1998	51 birds	(M)
Black-throated Green Warbler	4 Nov 1998	82 birds	Florida record high count (M)
Blackpoll Warbler	25 Apr 1998	70 birds	(M)
Palm Warbler	2 Oct 1998	870 birds	(M)
American Redstart	2 Oct 1998	200 birds	(M)
Kentucky Warbler	6 Apr 1993	20 birds	(M)
Hooded Warbler	29 Aug 1992	>200 birds	(M)
Common Yellowthroat	7 May 1996	100 birds	(M)
Orchard Oriole	7 Apr 1993	35 birds	(M)

Summer Tanager	2 Oct 1998	41 birds	(M)
Scarlet Tanager	30 Apr 1996	>25 birds	(M)
Rose-breasted Grosbeak	30 Apr 1996	40 birds	(M)
Indigo Bunting	30 Apr 1996	>100 birds	(M)
Dickcissel	23 Apr 1997	116 birds	Florida record high count (M)
Overall diversity		302 natives 10 exotics	

1980 Snowy Plover data from Gore and Chase (1989), Wilson's Plover data provided Lyn Atherton, Paul Blair, Hugh Fagan, and Ann and Rich Paul, 1993–1994 shorebird data from +Sprandel et al. (1997), Snowy and Piping plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), all other data from observations by Lyn and Brooks Atherton, Steve Backes, Paul Blair, Paul Fellers, Brett Hoffman, Ed Kwater, Harry Robinson, Ron Smith, and Margie Wilkinson, published in *Florida Field Naturalist*.

Passage Key National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1998–2001	mean of 172 pairs (range of 65–326)	mean of nearly 2% (range of <1–3%) (B)
American Oystercatcher	1999–2001	mean of 6 pairs (range of 5–9)	mean of 1% (B)
Shorebirds	winter 1993–1994	1754 birds	(W)
Laughing Gull	1999–2001	mean of 3033 pairs (range of 1900–4700)	mean of 16% (range of 10–25%) (B)
Royal Tern	1999–2001	mean of 1697 pairs (range of 37–2730)	mean of 31% (range of <1–50%) (B)
Sandwich Tern	1999–2001	mean of 193 pairs (range of 0–450)	mean of 42% (range of 0–100%) (B)
Black Skimmer	1999–2001	mean of 318 pairs (range of 250–405)	mean of 19% (range of 15–25%) (B)
Breeding larids	1999–2001	mean of 5242 pairs (range of 2342–7405)	(B)

Shorebird data from +Sprandel et al. (1997); other data provided by Ann and Rich Paul (Audubon of Florida).

Pinellas National Wildlife Refuge (Tarpon Key and Whale Key):

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 254 pairs (143–345)	mean of 2% (range 1–3%) (B)
Magnificent Frigatebird	24 May 1999	265 birds	5% (N)
Reddish Egret	1999–2001	mean of 4 pairs (range of 3–5)	mean of 1% (B)
Black-crowned Night-Heron	24 May 2000	79 pairs	(B)
Roseate Spoonbill	May–Jun 2001	16 pairs	1% (B)
American Oystercatcher	1999–2001	mean of 1 pair (range of 1–2)	<1% (B)
Colonial water bird diversity	1999–2001	mean of 13 species (range of 13–14)	

Data provided by Ann and Rich Paul (Audubon of Florida)

Shell Key Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Reddish Egret	25 Jan 1998	10 birds	(N)
Roseate Spoonbill	18 Feb 1999	27 birds	(N)
Snowy Plover	1998–2000	mean of 11 birds (range of 10–15)	mean of 2% (N)
Wilson's Plover	1998–2000	mean of 37 birds (range of 31–50)	25%? (B) 15%? (B) 15%? (B)
Piping Plover	1998–2001	mean of 41 birds (range of 38–47)	mean of 8% (range of 7–9%) (W)
American Oystercatcher	2000–2001	6 and 7 pairs	1% (B)
Red Knot	4 Oct 1997	4100 birds	(M)
	23 Feb 1998	2000 birds	(W)
	2 Oct 1999	2000 birds	(M)
Shorebirds	winter 1993–1994	2594 birds	(W)
	winters 1995–2000	1000–5000 birds	typical counts (W)
Laughing Gull	1995–1999 (deserted 2000–2001)	mean of 2370 pairs (range of 750–>5000)	mean of 12% (range of 4–26%) (B)
Least Tern	1 Jul 1997	600 birds	6% (N)
	28 Jun 1998	>300 birds	3% (N)
	31 May 2000	>80 birds	<1% (N)
	22 May 2001	17 pairs	<1% (B)
Black Skimmer	23 May 2000	57 pairs	3% (B)

Skimmer breeding data provided by Ann and Rich Paul (Audubon of Florida), 1993–1994 shorebird data from +Sprandel et al. (1997), 2001 plover data provided by Patty Kelly (U.S. Fish and Wildlife Service), all other data provided by Paul Blair (St. Petersburg Audubon Society)

OTHER RESOURCES: Fort De Soto County Park: Fort De Soto was built during the Spanish-American War to protect the mouth of Tampa Bay. The fort contains the last four 12-inch (30 cm), 1890 seacoast mortars mounted on carriages that remain in the continental U.S. Additionally, the last two 6-inch (15 cm), 1898 rapid-fire guns from Fort Dade (on Egmont Key, across the shipping channel) now are mounted at Fort De Soto. In 1977, Fort De Soto was added to the National Register of Historic Places. **Egmont Key National Wildlife Refuge** supports large populations of gopher tortoises and ♦ box turtles (____). Sea turtles nest on the beaches. • A lighthouse was built in 1848; it was rebuilt in 1858 and still stands. • Fort Dade was built in 1882, and a town with 70 building and 300 residents existed from 1899–1916; the town's red brick roads still remain. Much of the fort has eroded into Tampa Bay. **Shell Key Preserve** supports some loggerhead sea turtle nests (Meylan et al. 1999 *in* +DEM 2000).

THREATS: *human disturbance, *exotic plants, *erosion, *raccoons, development, habitat succession, cowbird brood parasitism, feral hogs

CONSERVATION ISSUES: Fort De Soto County Park visitation has increased from an average of 1.7 million people in 1976–1980 to nearly 2.7 million people in 1999. Increased visitation has damaged native habitats, and caused increased disturbance to beach nesting and roosting birds. • Future park plans include separating Bonne Fortune and St. Jean keys from Mullet Key to improve tidal flow and to increase sea grass habitats. • The park contains 26 listed species: 13 birds, 3 reptiles, and 10 plants. • Dogs are required to be leashed at all times, except in one field where they may run free, but many dog owners allow their dogs to run unleashed on the beaches and mudflats; disturbance to beach-roosting and -foraging shorebirds and larids is severe. • Brazilian pepper is controlled throughout the park. Australian-pine has been removed from most areas, but is used for landscaping in parking lots and elsewhere. Other exotic plants, such as air-potato and ♦ castor bean (*Ricinus communis*), are

minor threats. **Egmont Key National Wildlife Refuge:** 97 acres (38.8 ha), including some beaches, are set aside as a Wildlife Sanctuary where human intrusion is prohibited year-round. • Australian-pines have been removed from most of the key. **Passage Key National Wildlife Refuge:** The site is under control of Refuge staff at Chassahowitzka National Wildlife Refuge, nearly 100 miles (160 km) to the north. Trespassing is frequent, and although enforcement is necessary during the nesting season, it occurs infrequently. The island continues to erode, and in 2001, most of its breeding birds moved to Egmont Key. **Pinellas National Wildlife Refuge:** Patrol is minimal. • In 2000, cordgrass was planted to stabilize eroding shorelines. • Raccoons are regularly removed from the islands, but some remain, and these have contributed to the decline in the number of breeding Brown Pelicans. • Some control of exotic plants is needed. **Shell Key Preserve** is used heavily by boaters; managing the preserve for its natural resources while allowing public access and day-use will be a challenge. A draft management plan (dated 15 February 2000) designates 82 acres (32.8 ha; 46%) of the island for public use and 98 acres (39.2 ha; 54%) closed to human access. Human access is planned for the northern and southern thirds of the island, with the bird protection area in the center; fencing will be placed in an attempt to exclude dogs from the bird area. Outside of this area, dogs may be unleashed but are required to be under voice control at all times, which is impossible to enforce. • Breeding success of shorebirds and larids has been monitored by St. Petersburg Audubon Society members and Florida Fish and Wildlife Conservation Commission staff, and will continue under coordination of Pinellas County Environmental Lands Division staff. • Some Australian-pines exist on Shell Key and these will be gradually removed and replaced with native trees. • In 2001, raccoons invaded the island and caused a near-total collapse of breeding shorebirds and larids; only 21 pairs of birds attempted to nest. Ten raccoons were removed from the Preserve in spring 2001.

NOMINATED BY: Paul Blair (St. Petersburg Audubon Society), Ann and Rich Paul (Audubon of Florida), Bill Pranty (Audubon of Florida), and Jerry Shrewsbury (St. Petersburg Audubon Society)

REVIEWED BY: Hugh Fagan (Pinellas County Parks and Recreation), Lyn Atherton (____)

REFERENCES: +Department of Environmental Management. 2000. Shell Key Preserve Management Plan. Draft plan submitted to the Board of County Commissioners, Pinellas County, FL. • +Gore, J.A., and C.A. Chase, III. 1989. Snowy Plover breeding distribution. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITES: <<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/egmont.htm>>, <<http://www.dep.state.fl.us/parks/district4/egmontkey>>, <http://www.co.pinellas.fl.us/BCC/Environ/management_plan.htm>

MYAKKA RIVER WATERSHED

Myakka River State Park (37,124 acres; 14,849 ha), **Myakka State Forest** (8532 acres; 3340 ha), **Pinelands Reserve** (6151 acres; 2460 ha), **T. Mabry Carlton, Jr. Memorial Reserve** (24,565 acres; 9826 ha), and the **Myakka River Watershed SOR project** (28,774 acres [11,509 ha], with 3993 acres [1597 ha] acquired)

De Soto, Manatee, and Sarasota counties

105,146 acres (42,058), with 80,365 acres (32,146 ha) acquired

LOCATION: in extreme southeastern Manatee County, much of Sarasota County, and extreme western De Soto County, east of Interstate 75 between County Road 780 and the Sarasota–Charlotte county line. Near the Oscar Scherer State Park IBA to the west.

DESCRIPTION: a large area of public and private lands surrounding the Myakka River, from Upper Myakka Lake to within 10 miles (16 km) of Charlotte Harbor. The centerpiece is **Myakka River State Park**, established in 1936 as one of Florida's first conservation areas. The Park receives _____ recreationists annually. In recent years, the Southwest Florida Water Management District and Sarasota County have been purchasing extensive acreage around the park to buffer it from massive development encroaching from the north and west. Further development likely will affect this IBA in the future. All the other sites within this IBA are recent acquisitions, and limited avian data are available. **T. Mabry Carlton, Jr. Memorial Reserve** also functions as a county wellfield, providing 5–7 million gallons (18.9–26.4 million liters) of water per day, while **Pinelands Reserve** contains a county landfill. **Myakka State Forest** was purchased in 1995; no data were provided for this site, nor for the **Myakka River Watershed SOR Project**. [Is visitation known for any other site?]

OWNERSHIP: Florida Division of Forestry (Myakka State Forest), Florida Division of Recreation and Parks (Myakka River State Park), Southwest Florida Water Management District (Myakka River State Park and Myakka River Watershed SOR Project), Sarasota County Resource Management (Pinelands Reserve and T. Mabry Carleton, Jr. Memorial Reserve), and private owners (conservation easements and remaining acreage of the Myakka River Watershed SOR Project)

HABITATS: *slash pine flatwoods, *temperate hammock, *dry prairie, *freshwater marsh, *riverine, *lacustrine, longleaf pine flatwoods, xeric oak scrub, fields, non-native pasture, hardwood swamp, bayhead, sawgrass marsh, artificial

LAND USE: *conservation, *recreation, *county landfill (Pinelands Reserve only), *wellfield (Carlton Reserve only)

IBA CATEGORIES: significant populations of FCREPA and Watch List species; significant numbers of wading birds and wintering Sandhill Cranes; and significant natural habitats

AVIAN DATA: These sites contain breeding species typical of pine flatwoods, and the wetlands support significant numbers of wading birds. Red-cockaded Woodpeckers are not known to occur currently (they are included on the Myakka River State Park checklist from historical reports), but the extensive acreage of pine flatwoods within this IBA suggests that relocation may be an option in the future. Extensive acreage of dry prairie habitat at Myakka River State Park may be suitable for translocating “Florida” Grasshopper Sparrows to better ensure the survival of this Endangered subspecies. Bird diversity of all sites combined is _____ native species. [Are bird lists available for any site other than Myakka River State Park?].

Myakka River State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Wading birds	May 1996	500 birds	(N)
“Greater” Sandhill Crane	Dec 1996	333 birds	1% (W)
Swallow-tailed Kite	Apr 1999	11 pairs	2% (B)
White-tailed Kite	Feb–Apr 2000	1 nest	(B)
Osprey	May 2000	25 nests	1% (B)
Bachman's Sparrow	May–Jul 2000	30 singing males	(B)
Overall diversity	Feb 2000 list	246 natives 7 exotics	

Crane data from the 1996 Myakka River CBC; all other data provided by Belinda Perry (Florida Division of Recreation and Parks)

Pinelands Reserve:

SPECIES	DATES	NUMBERS	COMMENTS
Wading birds	17 Jul 1997	458 birds	(B)
	6 Sep 1998	432 birds	(B)
	12 Oct 2000	486 birds	(B)

Data provided by Jeffrey Weber (Sarasota County Resource Management)

T. Mabry Carlton, Jr. Memorial Reserve:

SPECIES	DATES	NUMBERS	COMMENTS
Wading Birds	9 Feb 1985	909 birds	(N)
	8–9 Mar 1986	729 birds	(N)
Overall diversity	1997–1998	136 natives 2 exotics	

Wading bird data from +Collopy and Jelks (1989), provided by Jeffrey Weber (Sarasota County Resource Management), checklist produced in February 1999 based on surveys by members of Venice Area Audubon Society

OTHER RESOURCES: The Myakka River is designated as a Wild and Scenic River, and as an Outstanding Florida Water. **Myakka River State Park** is one of the oldest and largest units in Florida's state park system, and is part of an extremely significant large, intact natural area along Florida's southwest coast. Acquisition began in 1936, and the Civilian Conservation Corps developed the park's facilities. Twelve of the 13 original CCC buildings remain in use, and are considered historically significant. **Pinelands Reserve:** 5 listed plants and 6 listed animals occur. **T. Mabry Carlton, Jr. Memorial Reserve:** 20 listed plants and 30 listed animals occur, including occasional observations of Florida manatee and Florida panther. A number of cultural and historical sites also are present.

THREATS: *development, *exotic plants, *feral hogs

CONSERVATION ISSUES: Myakka River State Park: The five-year management plan (dated 29 July 1999) specifies maintaining or restoring natural communities. Approximately 12,000 acres (4800 ha) of the park are burned annually to maintain fire-dependent communities such as dry prairie and pine flatwoods. Over the next five years, at least 1000 acres (400 ha) of overgrown dry prairie habitat will be roller-chopped annually to return a natural fire regime. • Invasive exotics such as feral hogs, hydrilla, cogon grass, tropical soda apple, Japanese climbing fern, air-potato, Brazilian pepper, and punktree are treated or removed. • Hydrologic improvements planned include dechannelizing Clay Gulley, minimizing damming of water by the main park road, and possibly removing the weir and dike below Upper Myakka Lake. • Park plans include maintaining at least five groups of Florida

Scrub-Jays onsite. **Pinelands Reserve:** The land management plan (dated November 1992) requires restoration and maintenance of natural communities present onsite. Approximately 2000 acres (800 ha) of flatwoods, dry prairie, and marshes are burned annually. Some areas (200 acres; 80 ha) have been roller-chopped to reduce palmetto height and density. • Invasive exotics, primarily feral hogs, Brazilian pepper, Australian punk tree, cogon grass, ♦ West Indian bristlegrass (*Setaria setosa*), and tropical soda apple, are removed as needed. • Restoration of Old Cow Slough has benefited wading birds and waterfowl. **T. Mabry Carlton, Jr. Memorial Reserve:** A land management plan (dated June 1994) requires restoration and maintenance of natural communities onsite. Approximately 8000 acres (3200 ha) of flatwoods, dry prairie, and marshes are burned annually. A timber management program was recently implemented to thin overgrown flatwoods. Some areas (<200 acres; <80 ha) have been roller-chopped to reduce palmetto height and density. • Invasive exotics (primarily feral hogs, Brazilian pepper, Australian punk tree, cogongrass, West Indian marsh grass, and tropical soda apple) are treated or removed as needed. • Restoration of Deer Prairie Slough was recently completed, and is expected to greatly enhance foraging habitats for wading birds and waterfowl.

NOMINATED BY: Myakka River State Park: Belinda Perry (Florida Division of Recreation and Parks); **Pinelands Reserve and T. Mabry Carleton, Jr. Memorial Reserve:** Jeffrey Weber (Sarasota County Resource Management)

REFERENCE: +Collopy, M. W., and H. L. Jelks. 1989. Distribution of foraging wading birds in relation to the physical and biological characteristics of freshwater wetlands in southwest Florida. Final report to the Nongame Wildlife Program. Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITE: <http://www.fl-dof.com/state_forests/Myakka.htm>,
<<http://www.dep.state.fl.us/parks/district4/myakkariver>>,
<<http://www.swfwmd.state.fl.us/recguide/pdf/21.pdf>>,
<<http://www.swfwmd.state.fl.us/recguide/pdf/22.pdf>>

NORTH LIDO BEACH–PALMER POINT**North Lido Beach** (77 acres; 30 ha) and **Palmer Point County Park** (30 acres; 12 ha)

Sarasota County

107 acres (42 ha)

LOCATION: two sites along the Gulf of Mexico south of Sarasota in west-central Sarasota County, occupying the northern end of Lido Key, and the northern tip of Casey Key and southern tip of Siesta Key. The keys are separated by Midnight Pass. The number of recreationists who use the Park is not known.

DESCRIPTION: two small coastal county parks on barrier islands but connected to the mainland by bridges and causeways

OWNERSHIP: Sarasota Parks and Recreation Department (North Lido Beach), City of Sarasota, managed by Sarasota County Parks and Recreation Department (Palmer Point)

HABITATS: **North Lido Beach:** *estuarine, *coastal strand, mangrove forest, artificial. **Palmer Point County Park:** *mangrove forest, *estuarine, *coastal strand, maritime hammock

LAND USE: **North Lido Beach:** *conservation, recreation. **Palmer Point County Park:** *conservation, *recreation

IBA CATEGORIES: **North Lido Beach:** significant populations of Threatened species. **Palmer Point County Park:** significant populations of Threatened and FRCEPA species; and significant natural habitats

AVIAN DATA: The Parks support significant populations of breeding Snowy Plovers, and significant populations of wintering shorebirds and larids. Palmer Point has been documented as a shorebird breeding site since the 1950s.

Both sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	summer 1990	8 pairs	4% (R)
	summer 1991	9 pairs	4% (R)
Wilson's Plover	summer 1992	5 pairs	2% (R)
	Nov 1997	350 birds	(W)
Shorebirds	Jan 1999	425 birds	(W)
	summer 1992	50 pairs	1% (B)

Data provided by Jeffrey Weber (Sarasota County Resource Management); plover data from the Fiscal Year 1992–1993 Coastal Wildlife Questionnaire of the (former) Florida Game and Fresh Water Fish Commission.

OTHER RESOURCES: **North Lido Beach:** Sea turtles nest on the beach. **Palmer Point County Park:** Listed plants include ♦beach creeper (*Ernodea littoralis*) and ♦inkberry (*Scaevola plumieri*). Sea turtles nest on the beach.

THREATS: **North Lido Beach:** *development, *exotic plants. **Palmer Point County Park:** *exotic plants

CONSERVATION ISSUES: Neither site was documented to contain plovers during the 1989 statewide survey +(Gore and Chase 1989); these sites apparently were overlooked. Furthermore, extant data on Snowy Plovers—on which IBA designation is solely based—are more than 10 years old. • **North Lido Beach:** The Park currently has no management plan. Regularly scheduled land management activities have not been implemented, but occasional monitoring does occur. The beach is actively patrolled for sea turtle nests during the summer. • Exotic plants (primarily Australian-pines) are a problem, but volunteers have removed most of the trees, and maintain other exotic plants at low densities. • Much of the land north and south of the Park is heavily developed. Palmer Point Park currently is a

moderate-use beach and recreation area. **Palmer Point County Park:** Currently, the site has no management plan. Sarasota County Resource Management staff rope off the nesting areas and actively monitor activities. • Exotic plants, including Australian-pines, have been removed from the Park. In some cases, areas have been replanted with native maritime hammock species.

Annual surveys at North Lido Beach should be implemented to ensure that the Snowy Plover breeding areas are protected, and to monitor breeding productivity.

NOMINATED BY: Jeffrey Weber (Sarasota County Resource Management)

ORLANDO WETLANDS PARK

Orange County
1650 acres (660 ha)

LOCATION: in the town of Christmas in northeastern Orange County, north of State Road 50, extending east to the St. Johns River. Contiguous with a part of the Upper St. Johns River Basin IBA to the east and south, and a bit west of the St. Johns national Wildlife Refuge IBA.

DESCRIPTION: the world's first large-scale man-made wastewater “polishing” facility that filters nitrogen and phosphorus from highly treated wastewater through 17 marsh “cells” before its discharge (21–65 days later) into the St. Johns River. Water quality released from the Park is “statistically equal” to that in the St. Johns River both upstream and downstream of the discharge point +(EPA 1993). Up to 40 million gallons (151 million liters) of water can be treated daily. The site was a cattle ranch when purchased in 1984 and historically was St. Johns River floodplain marsh. Since acquisition, over 2 million native aquatic plants and 200,000 native trees have been planted. A 410-acre (164-ha) “deep marsh” composed mostly of cattail and ♦bulrush (*Scirpus* spp.), accomplishes nutrient removal. A 380-acre (152-ha) mixed marsh of more than 60 herbaceous species provides additional nutrient removal and wildlife habitat. A 400-acre (160-ha) hardwood swamp serves primarily as wildlife habitat. The Park receives 10,000 recreationists annually and 200 hunters during the winter, when the Park is closed to the public. Pets, swimming, boating, fishing, camping, horses, and open fires are prohibited. Motorized vehicles also are prohibited except for group tours. The Park was previously known as Orlando Wilderness Park.

OWNERSHIP: City of Orlando

HABITATS: *freshwater marsh, *cattail marsh, *temperate hammock, lacustrine, fields

LAND USE: *wastewater filtering facility, *conservation, environmental education, recreation, hunting

IBA CATEGORIES: significant populations of Endangered, Special Concern, and FCREPA species, significant numbers of wading birds; and significant natural habitats

AVIAN DATA: The Wetlands Park supports significant populations of roosting wading birds, and lesser numbers of breeding wading birds, wintering waterfowl, and wintering and migrant shorebirds. The park also contains perhaps the only native-substrate breeding colony of Purple Martins in Florida; discovered in 1993, the colony now numbers several dozen pairs nesting in cabbage palm snags. In 1996, one pair of Snail Kites bred at the Park, the northernmost breeding location in Florida since the 1930s.

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Egret	Jan 1999	878 birds	(N)
Little Blue Heron	Jan 1999	249 birds	1% (N)
Tricolored Heron	Jan 1999	125 birds	(N)
White Ibis	Jan 1999	1123 birds	2% (N)
Glossy Ibis	Jan 1999	251 birds	7% (N)
Wood Stork	_____	200 birds	1% (N)
Purple Martin	9 May 1999	“dozens” of birds	native-substrate colony (B)
Wading birds	Jan 1999	2827 birds	(N)
Overall diversity	Dec 1994	170 natives 2 exotics	additional observations added from <i>Florida Field Naturalist</i>

Kite data from Sees and Freeman (1998), 1999 martin observation of Cheri Pierce, other data provided by Mark Sees (City of Orlando); see also Sees (1999)

OTHER RESOURCES: other listed species that occur onsite include American alligator, indigo snake, “Sherman's” fox squirrel, Florida manatee, black bear, and 16 plants.

THREATS: exotic plants, feral hogs

CONSERVATION ISSUES: The site will continue to be managed to “polish” nutrients from treated wastewater. Secondary uses are to provide wildlife habitat and passive recreation. Previous owners maintain a waterfowl hunting lease on the property until ____, which the City of Orlando is attempting to purchase and “retire.” • Exotic plants (primarily ____) and hogs are controlled as needed. Water quality is monitored continuously.

NOMINATED BY: Mark Sees (City of Orlando)

REFERENCES: +EPA. 1993. Wetland treatment systems: A case history: The Orlando Easterly Wetlands Reclamation Project. EPA832-R-93-005i. Environmental Protection Agency. Washington, D.C. • +Sees, M.[D]. 1999. Natural nestings of PMs [Purple Martins] observed again at Orlando Wetlands. *The Scout Report* 6(2): 1. The Purple Martin Society. • +Sees, M.D., and D.W. Freeman. 1998. Observed nesting of the Snail Kite in eastern Orange County, Florida. *Florida Field Naturalist* 26: 124–125.

OSCAR SCHERER STATE PARK

Sarasota County
 1384 acres (553 ha)

LOCATION: in the town of Osprey in southwestern Sarasota County, east of U.S. Highway 41, north of County Road 681, and west of Interstate 75. Near the Myakka River Watershed IBA to the east.

DESCRIPTION: a small state park in a rapidly growing part of southwestern Florida. In 1991, the State paid \$11.7 million to purchase 912 acres (364 ha) northeast of the original park to increase its size and to better protect the regional population of Florida Scrub-Jays. The Park receives 130,000 recreationists annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *longleaf pine flatwoods and scrubby flatwoods, *temperate hammock, *riverine, xeric oak scrub, non-native pasture, mangrove forest, freshwater marsh, lacustrine

LAND USE: *conservation, *recreation

IBA CATEGORIES: significant populations of Threatened species; significant natural habitats; and long-term research

AVIAN DATA: The Park supports a significant population of Florida Scrub-Jays that has been color-banded and studied for 13 years.

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	Mar 2000	36 groups	1% (R)
Long-term research	Since 1990		Florida Scrub-Jay demographic study
Overall diversity	1997 list	166 natives 6 exotics	

Data provided by Michael DelGrosso (Florida Division of Recreation and Parks); see also +Thaxton and Hingtgen (1996)

OTHER RESOURCES: The park contains an herbarium collection. Shell scatter sites are evidence of earlier human settlement.

THREATS: *offsite development, *feral hogs [neither of these is addressed in the conservation issues]

CONSERVATION ISSUES: Overgrown scrubby flatwoods in the park were restored to suitable habitat for Florida Scrub-Jays using mechanical means and prescribed fire. By 1999, this restoration effort had created 19 new scrub-jay territories. The scrub-jay population is censused monthly. • A comprehensive management plan is being devised. • Management activities include mechanical treatment and prescribed fire. • Exotic plants such as cogongrass, ♦St. Augustinegrass (*Stenotaphrum secundatum*), ♦rosary pea (*Abrus precatorius*), punktree, and Brazilian pepper are eradicated. • Hydrologic improvements are proposed for South Creek, which flows through the park.

NOMINATED BY: Michael DelGrosso (Florida Department of Environmental Protection)

REFERENCE: +Thaxton, J.E., and T.M. Hingtgen. 1996. Effects of suburbanization and habitat fragmentation on Florida Scrub-Jay dispersal. *Florida Field Naturalist* 24: 25–37.

WEBSITE: <<http://www.dep.state.fl.us/parks/district4/oscarscherer>>

OSCEOLA FLATWOODS AND PRAIRIES

Publicly owned sites are **Bull Creek Wildlife Management Area** (32,394 acres; 12,957 ha), **Three Lakes Wildlife Management Area** (59,490 acres; 23,796 ha), and **Triple N Ranch Wildlife Management Area** (10,894 acres; 4357 ha). Private lands are sought for acquisition or conservation easements under the **Big Bend Swamp–Holopaw Ranch CARL–FF Project** (54,425 acres [21,770 ha], unacquired), **Osceola Pine Savannas CARL–FF Project** (24,189 acres; 9675 ha remaining) and **Ranch Reserve CARL–FF Project** (35,300 acres [14,120 ha], with perpetual conservation easements obtained on 11,768 acres [4707 ha]). [what about Escape Ranch?]

Osceola County

216,692 acres (86,676 ha), with 102,778 acres (41,111 ha) acquired, and perpetual conservation easements obtained on an additional 11,768 acres (4707 ha)

[This IBA needs additional information]

LOCATION: in central and southern Osceola County, encompassing much of the area south of U.S. Highway 441 between the Kissimmee River and the Osceola/Brevard county line. Contiguous with the Kissimmee Lake and River IBA to the west, and near the Upper St. Johns River Basin IBA to the east.

DESCRIPTION: several large conservation areas linked by private ranches encompassing a vast rural area in the central Peninsula. About half of this IBA is in public ownership, while protection of the remainder is sought via perpetual conservation easements. Public properties are managed primarily for hunting. Data for this IBA are largely limited to Three Lakes Wildlife Management Area and ranchland accessible along public roadways. Annual visitation for the wildlife management areas is: ___ recreationists and ___ hunters for Bull Creek, ___ recreationists and ___ hunters for Three Lakes, and ___ recreationists and ___ hunters for Triple N Ranch. Private properties along the northeastern shore of Lake Marian not currently sought for preservation have been added to this IBA because they support several Bald eagle nests.

OWNERSHIP: Florida Division of Wildlife (Three Lakes Wildlife Management Area), St. Johns River Water Management District (Bull Creek Wildlife Management Area and Triple N Ranch Wildlife Management Area; managed by Florida Division of Wildlife), and private owners (remaining acreage of the Osceola Pine Savannas CARL–FF Project, and ranches sought for conservation easements under the Big Bend Swamp–Holopaw Ranch CARL–FF Project; to be monitored by St. Johns River Water Management District). [what about Escape Ranch?]

HABITATS: *longleaf pine flatwoods, *temperate hammock, *dry prairie, *non-native pasture, *cypress swamp, *depressional marsh, pine plantation, sandhills, xeric oak scrub, scrubby flatwoods, sand pine scrub, citrus groves, hardwood swamp, bayhead, cattail marsh, riverine, lacustrine, artificial (sod farm)

LAND USE: *conservation, *hunting (16,000 hunter days [Three Lakes only?]), *cattle grazing (0.08 cattle/acre; 0.032 cattle/ha [Three Lakes only?]), recreation, timber production, agriculture (citrus and sod production)

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and Watch List species; complete diversity of dry prairie and longleaf pine flatwoods species; significant natural habitats; and long-term research.

AVIAN DATA: Avian data are quite limited, owing to the inaccessibility of much of the area, but typical species of flatwoods, prairies, and associated habitats are supported (including large numbers of Wild Turkeys), as well as significant populations of Red-cockaded Woodpeckers and “Florida” Grasshopper Sparrows. One of the densest nesting concentrations of Bald Eagles in North America occurs in the region. Crested Caracaras probably occur in greater numbers than IBA data suggest. A little-known xeric oak scrub/scrubby flatwoods ridge runs southeast through this IBA, south beyond the IBA boundary to areas south and east of Yeehaw Junction. A few groups of Florida Scrub-Jays

are known to occur in scattered patches of scrub or scrubby flatwoods along this ridge, and other groups probably occur. The Whooping Crane reintroduction program, which began in 1992, has concentrated on this area of Osceola County [need more on this project, plus an idea of the total number of “Florida” Sandhill Crane pairs (+ “Greater” Sandhill Cranes in winter?) supported by the entire IBA]. [Don't have a bird list. Three Lakes at least must have one.?]. [Is a bird list available for any site?].

Three Lakes Wildlife Management Area:

SPECIES	DATES	NUMBERS	COMMENTS
Sandhill Crane	2000–2001	>15 pairs	1% (R)
White-tailed Kite	1999	2 nests	(B)
Bald Eagle	1998–1999 and 1999–2000	~12 nests	1% (B)
Red-cockaded Woodpecker	1999	35 clusters	2% (R)
	2001	52 clusters	4% (R)
Florida Scrub-Jay	1992–1993	4 groups	<1% (R); discovered in 1992
Brown-headed Nuthatch	2000–2001	common	(R)
“Florida” Grasshopper Sparrow	1996	94 singing males	~20% (R)
Bachman's Sparrow	2000–2001	common	(R)
Long-term research	Since 1991		“Florida” Grasshopper Sparrow monitoring

Eagle GIS database provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), 1999 woodpecker data from +USFWS (2000), scrub-jay data from +Pranty (1996b), Grasshopper Sparrow data from +Delany et al. (1999), all other data provided by Tylan Dean (U.S. Fish and Wildlife Service)

Northeast shore of Lake Marian:

SPECIES	DATES	NUMBERS	COMMENTS
Bald Eagle	1998–1999 and 1999–2000	10 nests	nearly 1% (B)

GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission)

Other sites, separate or in combination:

SPECIES	DATES	NUMBERS	COMMENTS
Glossy Ibis	2000–2001	>35 birds	1% (N)
Crested Caracara	1999–2001	>2 pairs	1% (R); likely underestimate

Data provided by Tylan Dean (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Several listed plants occur at Three Lakes Wildlife Management Area, along with numerous Indian mounds, and one historic “cracker” house. Other cultural sites likely occur elsewhere within the IBA.

THREATS: *development, human disturbance, exotic plants, feral hogs

CONSERVATION ISSUES: This is a vast area of public and private lands less than an hour south of the massive Orlando metropolitan area. Residential and commercial developments moving southward into the area from Kissimmee and St. Cloud threaten the northern portion of this IBA. State agencies need to expedite protection of this portion of the IBA (primarily through perpetual conservation easements); the central and southern portions are under less threat from development currently. • Prescribed burns of public properties maintain high-quality native habitats that support numerous species. • Protection of the northeastern shore of Lake Marian should be investigated. • This IBA supports what probably is

the least-known population of Florida Scrub-Jays. Surveys and color-banding studies should be undertaken, and additional public acquisition of scrublands should be considered. • The “Florida” Grasshopper Sparrow population at Three Lakes Wildlife Management Area has been monitored annually since 1991; populations appear to be stable [? – need data]. • Red-cockaded Woodpeckers at Three Lakes are color-banded and the population has been monitored since _____. • A Conceptual Management Plan [for Three Lakes?] was revised and approved in 2001.

Private properties along the northeast shore of Lake Marian (adjacent to Three Lakes Wildlife Management Area but not currently sought for acquisition) were added to this IBA on the basis of the significant number of Bald Eagle nests supported; this area should be targeted for public purchase or perpetual conservation easement.

NOMINATED BY: Tylan Dean (U.S. Fish and Wildlife Service) and Bill Pranty (Audubon of Florida)

REFERENCES: +Delany, M.F., P.B. Walsh, B. Pranty, and D.W. Perkins. 1999. A previously unknown population of Florida Grasshopper Sparrows at Avon Park Air Force Range. *Florida Field Naturalist* 27: 52–56. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL. • +USFWS. 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, GA.

PELICAN ISLAND NATIONAL WILDLIFE REFUGE

Indian River County

5440 acres (2176 ha), with 5175 acres (2070 ha) acquired

LOCATION: east of Sebastian in extreme northeastern Indian River County, located in the Indian River Lagoon and on the barrier island.

DESCRIPTION: a few small keys, adjacent uplands, and much open water encompassing the nation’s first National Wildlife Refuge, established in 1903. The Refuge receives 40,000 recreationists annually.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *mangrove forest, tidal marsh, estuarine, coastal strand [this is for the island only; habitats for the rest of the Refuge will be given later].

LAND USE: *conservation, environmental education, recreation

IBA CATEGORIES: significant populations of Endangered and Special Concern species; significant numbers of wading birds; and significant natural habitats

AVIAN DATA: Pelican Island has contained a colonial waterbird rookery since 1858, and supports significant populations of several species.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1995–2000 12 Dec 2001	mean of 84 pairs (range of 49–153) 442 birds	mean of nearly 2% (B) (N)
Reddish Egret	1995–2000 12 Dec 2001	mean of 4 pairs (range of 3–5) 20 birds	1% (B) (N)
White Ibis	12 Dec 2001	449 birds	(N)
Wood Stork	1995–2001	mean of 146 pairs (range of 90–220)	1–3% (B)
Wading birds	1995–2001 12 Dec 2001	mean of 224 pairs (range of 139–355) 943 birds	<1% (B) (N)
Overall diversity	_____ list	74 natives 0 exotics	

Data provided by Mark Graham (U.S. Fish and Wildlife Service)

OTHER RESOURCES: The establishment by President Theodore Roosevelt of Pelican Island as a National Wildlife Refuge began a Federal land acquisition program that now protects over 93 million acres (37.2 million ha) in over 500 refuges +(USFWS 1999b). Pelican Island is a designated National Historic Landmark.

THREATS: *offsite development, *human disturbance, exotic plants, erosion

CONSERVATION ISSUES: From 1903 until 2000, Pelican Island National Wildlife Refuge was patrolled by one man and one boat (USFWS 1999b). However, with increased attention paid to the nation’s first refuge on the eve of its centennial, the staff has been increased to four full-time employees. • Pelican Island has eroded more than 50% since 1943, primarily from waves generated by increasing boat traffic in the Indian River Lagoon. Recently, oyster shell reefs have been created, and cordgrass has been planted, to stabilize the island. A wave break may be created to further reduce erosion. • Public access to Pelican Island is forbidden. Signs currently are placed 100–300 feet (30–90 m) offshore, but will be moved to 410 feet (123 m) offshore. • Exotic plants are controlled as necessary. • 250 acres of private lands (predominantly citrus groves) immediately east of the current Refuge boundary are sought for acquisition (at an estimated cost of \$16.2 million) and will be restored to natural habitats. If these lands are acquired publicly, Pelican Island National Wildlife Refuge will be linked directly with Archie Carr National Wildlife Refuge directly along the Atlantic Ocean. Additionally, 15 acres on the mainland along the Indian River east of Sebastian, representing the Paul Kroegel homestead, are sought for public acquisition, with the intention of restoring the house and

converting it to the Refuge Visitor Center +(USFWS 1999b). • The number of birds breeding at Pelican Island has declined dramatically in the past 100 years. Brown Pelicans declined from 5000 pairs in 1910 to 80 in 1999. Wading birds did not breed on the island until 1941, when 1354 pairs bred; this number had declined to 236 pairs by 1999.

NOMINATED BY: Mark Graham (U.S. Fish and Wildlife Service)

REFERENCE: +USFWS. 1999b. Pelican Island: Honoring a legacy. U.S. Fish and Wildlife Service. Washington, D.C.

WEBSITE: <<http://pelicanisland.fws.gov>>

ST. JOHNS NATIONAL WILDLIFE REFUGE

Brevard County
6254 acres (2501 ha)

LOCATION: two separate parcels in the northern half of mainland Brevard County: north of State Road 50 and west of Interstate 95, and inside the triangle formed by State Road 407, State Road 528, and Interstate 95. Contiguous with part of the Upper St. Johns River IBA to the west. Near part of the Brevard Scrub Ecosystem IBA to the north and south, and the William Beardall Tosohatchee State Reserve IBA to the west.

DESCRIPTION: an inland salt marsh fed from saline upwellings from a confined aquifer in the eastern floodplain of the St. Johns River. The refuge was established in 1971 in an unsuccessful attempt to preserve the “Dusky” Seaside Sparrow, which has been extinct in the wild since 1981 and in captivity since 1990. Most of the refuge remains closed to the public, but plans are underway for some compatible wildlife-oriented uses.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *inland salt marsh, temperate hammock, sawgrass marsh, artificial

LAND USE: *conservation

IBA CATEGORIES: significant populations of FCREPA species; and significant natural habitats

AVIAN DATA: Few bird data are available because the refuge has never been open to the public. However, it is known to support perhaps the largest population of Black Rails in Florida, one of only two known inland breeding sites in the state. [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Black Rail	1993–2000	>30 birds	(B)

Data provided by Mike Legare; see also +Legare (1996) and +Legare et al. (1999)

OTHER RESOURCES: • The Refuge preserves two large expanses of brackish marsh on the east side of the St. Johns River.

THREATS: *habitat succession, exotic plants, feral hogs

CONSERVATION ISSUES: St. Johns National Wildlife Refuge was purchased between 1970–1976 to protect the western population of the “Dusky” Seaside Sparrow. However, the US Fish and Wildlife Service failed to properly manage the property: a drainage ditch dug before public acquisition was not filled in, and fire lanes were not built. During 1970–1977, six wildfires burned the Refuge, and the sparrow population plummeted as a result from 143 males to only 11. By the time the USFWS had built the firelanes—in 1979—the total “Dusky” population that remained within the Refuge was nine birds, all males +(Walters 1992). For other information on the “Dusky” Seaside Sparrows, and the actions and inactions that drove it to extinction, see +(Sharp 1970), +(Delany et al. 1981), and +Kale (1996). • The primary management objective of the Refuge is to restore the marsh to its original condition through prescribed fire and marsh restoration (e.g., filling in drainage ditches). • Exotic plants are controlled as needed. • A legal case is currently pending over illegal dredging and filling of refuge wetlands by a neighboring developer(!).

NOMINATED BY: Mike Legare (Dynamac Corporation)

REFERENCES: +Delany, M.F., W.P. Leenhouts, B. Sauselein, and H.W. Kale, II. 1981. The 1980 Dusky Seaside Sparrow survey. *Florida Field Naturalist* 9:64–67. • +Kale, H.W., II 1996. Dusky Seaside Sparrow (*Ammodramus maritimus nigrescens*). Pages 7–12 in *Rare and Endangered Biota of Florida, Volume V, Birds* (J.A. Rodgers, Jr., H.W. Kale, II, and H.T. Smith, editors). University Press of Florida. Gainesville, FL. • +Legare, M.L. 1996. The effectiveness of tape playbacks in estimating population densities of breeding Black Rails (*Laterallus jamaicensis*) in Florida. M.Sc. thesis.

University of Rhode Island. • +Legare, M.L., W.R. Eddelman, P.A. Buckley, and C. Kelly. 1999. The effectiveness of tape playback in estimating Black Rail density. *Journal of Wildlife Management* 63: 116–125. • +Sharp, B. 1970. A population estimate of the Dusky Seaside Sparrow. *Wilson Bulletin* 82: 158–166. • +Walters, M.J. 1992. *A Shadow and a Song: The Struggle To Save an Endangered Species*. Chelsea Green Publishing Co. Post Mills, VT.

ST. SEBASTIAN RIVER STATE BUFFER PRESERVE

Brevard and Indian River counties

21,500 acres (8600 ha)

LOCATION: in extreme southeastern Brevard County and northeastern Indian River County, east from County Road 507 to the St. Sebastian River, between Micco Road and County Road 512. Contiguous with part of the Brevard Scrub Ecosystem IBA to the north.

DESCRIPTION: an extremely diverse site roughly 7 miles (11.2 km) north to south and east to west, along the western shore of St. Sebastian River. Dogs and hunting are prohibited. The Preserve receives ____ recreationists annually.

OWNERSHIP: St. Johns River Water Management District and Florida Division of Marine Resources

HABITATS: *longleaf pine flatwoods, *xeric oak scrub, *cypress swamp, *hardwood swamp, sandhills, temperate hammock, sand pine scrub, bayhead, mangrove forest, freshwater marsh, cattail marsh, riverine, lacustrine, non-native pasture, artificial

LAND USE: *conservation, recreation, grazing

IBA CATEGORIES: significant populations of Threatened species and Watch List species; complete diversity of longleaf pine flatwoods species; and significant natural habitats.

AVIAN DATA: The Preserve contains all birds of fire-maintained longleaf pine flatwoods, including a nearly significant population of Red-cockaded Woodpeckers, and also supports a significant population of Florida Scrub-Jays. Numbers of both species likely will increase with improved habitat management.

SPECIES	DATES	NUMBERS	COMMENTS
Red-cockaded Woodpecker	1999	10 clusters	<1% (R)
Florida Scrub-Jay	4 Jul 2000	~51 groups	1% (R)
Bachman's Sparrow	10 May 1997	88 birds	Less than half of the Preserve surveyed (R)
Overall diversity	Aug 2000 list	189 natives 3 exotics	

Woodpecker data from +DeLotelle and Leonard (2000), scrub-jay data provided by David Breininger (Dynamac Corporation), other data provided by David Simpson (Florida Division of Recreation and Parks)

OTHER RESOURCES: The St. Sebastian River is an important site for Florida manatees. The population along Florida's Atlantic coast is estimated at 700–1200 individuals, and as many as 100 of these have been observed in the river. The Preserve protects 8 miles (12.8 km) of river frontage. • A study of indigo snakes, using radio telemetry, is being conducted. • Several cultural and archaeological sites are present.

THREATS: exotic plants, feral hogs

CONSERVATION ISSUES: St. Sebastian River State Buffer Preserve is the largest upland preserve in the region, and contains a diversity of natural communities, mostly in good to excellent condition. It is managed for conservation. • Cattle grazing (200 animals) is permitted on 901 acres (360 ha) of pasture in the southeast portion of the Preserve; this lease is evaluated annually and will be discontinued after the pasture is restored to natural communities. • The Red-cockaded Woodpecker population is being increased through artificial cavity augments. The flatwoods habitats are under an intensive prescribed-fire management plan, which will benefit the woodpeckers. The population is being monitored. • A significant population of Florida Scrub-Jays also occurs onsite, estimated at 51 groups. About half of the scrub-jay habitat is in good to optimal condition, with the remainder overgrown from fire exclusion. The Preserve has an aggressive scrub-jay habitat restoration plan in place, which included roller-chopping and burning of 535 acres (214 ha) in 1998 and 1999. The

onsite population of Florida Scrub-Jays is being color-banded and monitored. • Exotic plants are present on the Preserve, but few are a serious threat. Eradication is ongoing for the most invasive species, including Brazilian pepper, Australian punk tree, cogongrass, air potato, and Japanese climbing fern. • Feral hogs are removed when encountered.

NOMINATED BY: David Simpson (Florida Division of Recreation and Parks)

REFERENCE: +DeLotelle, R.S., and D.L. Leonard. 2000. Population enhancement for Red-cockaded Woodpeckers at the St. Sebastian River State Buffer Preserve. Project No. 97B341. Prepared for St. Johns River Water Management District. Palatka, FL.

SARASOTA AND ROBERTS BAYS

Cortez Key Bird Sanctuary (5 acres; 2 ha), **Roberts Bay colony** (1 acre; 0.4 ha), and **adjacent foraging areas**

Manatee and Sarasota counties

>6 acres (>2.4 ha)

LOCATION: in extreme southwestern Manatee County and extreme northwestern Sarasota County, bordered by County Road 684 to the north, the mainland to the east, Philippe Creek to the south, and Longboat, Lido, and Siesta keys to the west.

DESCRIPTION: two small keys in Sarasota Bay and Roberts Bay, about 16 miles (25 km) apart, linked by estuarine foraging habitat.

OWNERSHIP: State of Florida

HABITATS: *mangrove forest, tidal marsh, estuarine

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Endangered and Special Concern species; and significant diversity of colonial water birds.

AVIAN DATA: the islands support significant colonial water bird rookeries, and Cortez Key serves as a roost for large numbers of Magnificent Frigatebirds. No bird list is available.

Cortez Key:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 146 pairs (range of 88–214)	mean of 1% (range of 1–2%) (B)
Magnificent Frigatebird	8 May 2000	>250 birds	5% (N)
Reddish Egret	1999–2001	mean of 2 pairs (range 1–8)	mean of <1% (range of <1%–2%) (B)
Roseate Spoonbill	1999–2001	mean of 5 pairs (range of 0–13)	mean of 1% (range of 0–3%) (B)
Colonial water bird diversity	1999–2001	13 species annually	(B)

Data provided by Ann and Rich Paul (Audubon of Florida)

Roberts Bay:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 189 pairs (range of 89–241)	mean of 2% (range of 1–2%) (B)
Great Egret	1999–2001	mean of 236 pairs (range of 174–271)	mean and range of 1% (B)
Snowy Egret	1999–2001	mean of 41 pairs (range of 30–50)	(B)

Data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: none known

THREATS: *human disturbance, *raccoons, *erosion, *discarded monofilament fishing line, exotic plants

CONSERVATION ISSUES: **Cortez Key:** The islands are posted and patrolled to control human access. • Bird populations are monitored annually. • Raccoons and monofilament fishing line are removed from the islands regularly. • Vegetation has been planted to control erosion, but current efforts are not sufficient. A proposal to add oyster shells to stabilize shorelines is being considered. • **Roberts Bay:**

The islands are posted and monitored by Audubon of Florida staff. Discussion of shoreline stabilization and island enhancement is underway.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

STARKEY WILDERNESS

Anclote River Ranch (2800 acres; 840 ha) and **Starkey Wilderness Park** (21,799 acres [8719 ha], with 18,899 acres [7559 ha] acquired)
 Pasco County
 >24,000 acres (>9600 ha), with 21,799 acres (8719 ha) acquired

LOCATION: in west-central Pasco County, bordered by State Road 52 to the north, the Suncoast Parkway to the east, State Road 54 to the south, and east of County Road 1 to the west.

DESCRIPTION: a large, contiguous area of natural habitats between the developed Gulf coast and Tampa suburbs encroaching north into the Lutz and Land O’ Lakes area. At **Anclote River Ranch**, “Flatwoods Adventures” tours run by the Starkey family present a history of cattle ranching in Florida, with an emphasis on native flora and fauna. **Starkey Wilderness Park** contains a magnificent mosaic of habitats and is a regionally significant natural area. Most notable is a large expanse of longleaf pine flatwoods that probably is the most impressive remnant in the northern Tampa Bay metropolitan area. Prior to public acquisition, the area was a native-range cattle ranch. Extensive areas of fire-maintained flatwoods comprise much of the park’s eastern portion, with considerable sand pine scrub in the central portion, and oak forests and cypress swamps along the Anclote and Pithlachascotee rivers, which flow through the park. The Wilderness Park also serves as a wellfield that supplies 12–15 million gallons (45–56 million liters) of water per day to Pasco County residents. Access by motor vehicle is limited to a 60 acre (24 ha) county park; the Wilderness Park is limited to those on foot or bicycle. Starkey Wilderness Park was part of Anclote River Ranch prior to public purchase. Visitation is ___ recreationists annually to the Ranch and ___ to the Wilderness Park.

OWNERSHIP: Southwest Florida Water Management District (J.B. Starkey Wilderness Park) and J.B. Starkey, Jr. (Anclote River Ranch)

HABITATS: **Anclote River Ranch:** *non-native pasture (1100 acres; 440 ha), *longleaf pine flatwoods (850 acres; 340 ha), *cypress swamp (620 acres; 248 ha), sandhills (50 acres; 20 ha), xeric oak scrub (50 acres; 20 ha), sand pine scrub (50 acres; 20 ha), and lacustrine (80 acres; 32 ha). **Starkey Wilderness Park:** *longleaf pine flatwoods, *temperate hammock, *sand pine scrub, *cypress swamp, *riverine, sandhills, xeric oak scrub, fields, bayhead, freshwater marsh.

LAND USE: **Anclote River Ranch:** *ecotourism, *grazing, conservation, hunting, timber production. **Starkey Wilderness Park:** *conservation, *water supply, recreation

IBA CATEGORIES: significant populations of Watch List species; and significant natural habitats

AVIAN DATA: This IBA lacks significant populations of any listed species but contains large numbers of other flatwoods species such as Brown-headed Nuthatches and Bachman's Sparrows. A few Florida Scrub-Jay groups occurred at the Wilderness Park until 1999, but now appear to be extirpated. Bird diversity of both sites combined is ___ native species.

Starkey Wilderness Park:

SPECIES	DATES	NUMBERS	COMMENTS
Brown-headed Nuthatch	3 Jan 1987	50 birds	(R)
Bachman’s Sparrow	1986–1988	dozens of birds estimated	(R)
Overall diversity		162 natives 2 exotics	

Data provided by Bill Pranty (Audubon of Florida); nuthatch data were from the 1986 New Port Richey CBC, gathered by Dave Goodwin and Bill Pranty.

Anclote River Ranch:

SPECIES	DATES	NUMBERS	COMMENTS
Overall diversity		96 natives ___ exotics	

Data provided by Ken Tracey (West Pasco Audubon Society)

OTHER RESOURCES: ___ black bears, indigo snakes – how many natural communities?

THREATS: *development (of ranch and surrounding area), *proposed highway, groundwater extraction

CONSERVATION ISSUES: Nearly all of Starkey Wilderness Park is off-limits to public vehicles, which limits disturbance. • Flatwoods and other habitats have been burned by prescribed fire on a regular basis since the early 1980s. Wetlands are monitored to determine potential negative effects of the wellfield. • The Suncoast Parkway, a limited-access toll road, recently was completed along the park’s eastern boundary. (Mitigation to build the road resulted in 8000 acres [3200 ha] of habitat being added to the park). • Pasco County is seeking approval to extend Ridge Road from its current end west of the Wilderness Park, east all the way to U.S. Highway 41, primarily to open up >30,000 acres (>12,000 ha) of rangeland east of the park to development. This four-lane highway (expandable to six lanes) will bisect Starkey Wilderness Park and likely will have devastating effects on much of the wildlife (including black bears) that occurs onsite. • Urban sprawl, which is rampant in Pasco County, probably will eventually surround and completely isolate Starkey Wilderness Park, unless some attempt is made to secure lands to the east. Currently, only two large ranches separate Starkey Wilderness Park from Cypress Creek Wellfield (part of the Central Pasco IBA) several miles (km) to the east. • Most of the original Anclote River Ranch now is protected by public purchase (J.B. Starkey Wilderness Park) or through perpetual conservation easements. Additional acreage of the ranch is sought for perpetual conservation easement. • A large amount of sand pine scrub is found in the mitigation area recently added to the Wilderness Park, which offers hope for habitat restoration activities to restore (likely through translocation) a local population of Florida Scrub-Jays.

Building a major highway through a wilderness area (purchased to mitigate for impacts of an adjacent highway!) is environmentally reckless, and Federal and State agencies responsible for permitting the project should ensure that the “Ridge Road Extension” through Starkey Wilderness Park never is built. • Efforts to directly link this IBA with public lands within the Central Pasco IBA to the east should be undertaken immediately, which the opportunity still exists.

NOMINATED BY: Anclote River Ranch: J.B. Starkey, Jr. (Flatwoods Adventures), and Ken Tracey (West Pasco Audubon Society); **J.B. Starkey Wilderness Park:** Bill Pranty (Audubon of Florida)

WEBSITE: <<http://www.swfwmd.state.fl.us/recguide/pdf/27.pdf>>, <<http://www.flatwoodsadventures.com/main.htm>>

TURKEY CREEK SANCTUARY

Brevard County
 117 acres (46 ha)

LOCATION: in the city of Palm Bay, in southern Brevard County, approximately 2 miles (3.6 km) inland of the Indian River.

DESCRIPTION: a small park surrounded by residential development. The Sanctuary receives 25,000 recreationists annually.

OWNERSHIP: City of Palm Bay and Audubon of Florida

HABITATS: *temperate hammock, sand pine scrub, fields, riverine

LAND USE: *recreation, conservation, environmental education

IBA CATEGORIES: significant diversity and numbers of Neotropical migrants

AVIAN DATA: Turkey Creek Sanctuary supports a significant diversity of Neotropical migrants, especially wood-warblers, primarily in fall.

SPECIES	DATES	NUMBERS	COMMENTS
Red-eyed Vireo	9 Sep 2001	30 birds	(M)
Tennessee Warbler	28 Sep 2001	10 birds	(M)
American Redstart	18 May 2001	40 birds	(M)
Prairie Warbler	16 Sep 2000	14 birds	(M)
Blackpoll Warbler	18 May 2001	20 birds	(M)
Black-and-white Warbler	11 Apr 2000	18 birds	(M)
Black-throated Blue Warbler	16 Sep 2000	25 birds	(M)
Blackburnian Warbler	16 Sep 2000	30 birds	(M)
Chestnut-sided Warbler	20 Sep 2000	10 birds	(M)
Magnolia Warbler	29 Sep 2001	15 birds	(M)
Worm-eating Warbler	12 Sep 2001	10 birds	(M)
Ovenbird	26 Apr 2000	20 birds	(M)
Wood-warbler diversity	2001 list	33 species	(M)
Indigo Bunting	21 Oct 2001	20 birds	(M)
Overall diversity	undated list	142 natives 3 exotics	

Data provided by Shirley and William Hills (____)

OTHER RESOURCES: The Margaret Hames Nature Center, with natural history exhibits and environmental educational programs, is located onsite.

THREATS: exotic plants, habitat succession

CONSERVATION ISSUES: Turkey Creek Sanctuary is surrounded by residential development, which makes prescribed burning of fire-dependent habitats dangerous. Mechanical treatment is used as a substitute • Exotic plants are controlled by park staff and volunteers.

NOMINATED BY: Shirley and William Hills (____)

WEBSITE: <http://www.palmbayflorida.org/Departments/Parks&Rec/turkey_creek_sanctuary.htm>

UPPER ST. JOHNS RIVER BASIN

Blue Cypress Conservation Area (49,573 acres; 19,829 ha), **Canaveral Marshes Conservation Area** (6395 acres; 2558 ha), **Fort Drum Marsh Conservation Area** (20,592 acres; 8236 ha), **River Lakes Conservation Area** (34,429 acres; 13,771 ha), **Seminole Ranch Conservation Area** (36,448 acres; 14,579 ha), and **Three Forks Marsh Conservation Area** (54,630 acres; 21,852 ha)
 Brevard, Indian River, Orange, Osceola, Seminole, and Volusia counties
 202,067 acres (80,826 ha) [plus lands sought for acquisition]

LOCATION: along the St. Johns River from southwestern Indian River County northward through Brevard, eastern Orange, southeastern Seminole, and southern Volusia counties, with a very small portion in northeastern Osceola County. The river basin lies generally west of Interstate 95 and is bounded on the south by Florida's Turnpike and on the north by State Road 46. Contiguous with the William Beardall Tosohatchee State Reserve IBA to the west, and near the Brevard Scrub Ecosystem and St. Johns National Wildlife Refuge IBAs to the east.

DESCRIPTION: this vast area protects over 80 miles (128 km) of river, floodplain marshes, and adjacent uplands along the upper St. Johns River, which flows north 320 miles (512 km) and empties into the Atlantic Ocean at Jacksonville. All sites are conservation areas owned and managed by the St. Johns River Water Management District, and, from south to north are: Fort Drum Marsh, Blue Cypress, Three Forks Marsh, River Lakes, Canaveral Marshes, and Seminole Ranch. Combined, the conservation areas receive ____ recreationists and ____ hunters annually.

OWNERSHIP: St. Johns River Water Management District

HABITATS: *cypress swamp, *hardwood swamp, *freshwater marsh, *sawgrass marsh, *riverine, *lacustrine, pine flatwoods, temperate hammock, dry prairie, fields, non-native pasture, bayhead, cattail marsh, artificial (“borrow” pits, levees, and ditches)

LAND USE: *conservation, *recreation, *hunting, timber production, cattle grazing

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, FCREPA, and Watch List species; significant numbers of aquatic birds, wading birds, and raptors; and significant natural habitats

AVIAN DATA: this IBA supports large numbers of breeding wading birds, and huge numbers of foraging individuals. It also attracts large numbers of wintering waterfowl, and also is important to raptors such as Snail Kites and Swallow-tailed Kites.

SPECIES	DATES	NUMBERS	COMMENTS
Great Blue Heron	Aug 1999	547 birds	(N)
Great Egret	1998	1410 pairs	7% (B)
	Aug 1999	12,007 birds	30% (N)
Snowy Egret	1998	2790 pairs	(B)
	Aug 1999	1940 birds	(N)
Little Blue Heron	Aug 1999	487 birds	2% (N)
Wood Stork	1998	760 pairs	13% (B)
	Aug 1999	4133 birds	>33%? (N)
“Small dark herons“	1998	1860 pairs	(B)
	Aug 1999	1813 birds	(N)
Wading birds	Jun 1998	6256 pairs	(B)
	Aug 1999	44,313 birds	(N)
Blue-winged Teal	29 Nov 1999	>1000 birds	SW of Palm Bay (W)
Green-winged Teal	29 Nov 1999	3000 birds	SW of Palm Bay (W)
Osprey	1999–2000	16 nests	1% (B); underestimate
Swallow-tailed Kite	Jul–Aug 1999	200 birds	13% (N)
	Jul–Aug 2000	200 birds	13% (N)
White-tailed Kite	summer 1999	3 birds	(R)

Snail Kite	1997	26 nests	6% (B)
	1997	129 birds	12% (N)
	1998	51 birds	5% (N)
Crested Caracara	1999–2000	8 birds	1% (R)
Tree Swallow	winter 1999–2000	>10,000 birds	(W)
Bobolink	19 Sep 1998	421 birds	Seminole Ranch (M)
	9 Sep 1999	250 birds	SW of Palm Bay (M)
Overall diversity	Aug 2000 list	187 natives	
		3 exotics	

1998–1999 wading bird data from +Sewell (2000), Swallow-tailed Kite data from +Meyer (1998), Snail Kite data from +Dreitz et al. (1999), Seminole Ranch data provided by staff and volunteers of the St. Johns River Water Management District, other data provided by Sean Rowe (St. Johns River Water Management District).

OTHER RESOURCES: The Upper St. Johns River Basin contains numerous freshwater shellfish middens and other archaeological sites, which suggests that a large pre-Columbian Indian population inhabited the area.

THREATS: exotic plants, habitat succession, runoff

CONSERVATION ISSUES: The Upper St. Johns River Basin encompasses several conservation areas designated by the St. Johns River Water Management District. Each area has its own management plan that is updated by the District periodically. Management goals are to provide for water resource conservation, restoration and enhancement of water recharge areas and wetlands, water quality improvement, and enhanced public access and recreation. • Potential threats to the conservation areas include exotic plants, habitat succession, and poor water quality. • Exotic plants include hydrilla, common water hyacinth, and cogongrass. The District has an intensive control program to keep these and other invasive plants at a maintenance control level. • The District has an aggressive prescribed fire program aimed in part at maintaining or restoring habitats to their historic fire regimes. • The District also maintains an extensive network of water quality sampling sites throughout the basin, and is striving to improve water quality.

NOMINATED BY: Sean Rowe (St. Johns River Water Management District)

REFERENCES: +Dreitz, V.J., D.D. DeAngelis, and W.M. Kitchens. 1999. Nesting success, numbers, and dispersal of Snail Kites in the Blue Cypress water management and conservation areas. 1998 final report. University of Miami. Coral Gables, FL. • +Meyer, K.D. 1998. Communal roosts of the American Swallow-tailed Kite in Florida: habitat association, critical sites, and a technique for monitoring population status. Final report. Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Sewell, C.W. 2000. Survey of wading bird utilization of the Upper St. Johns River Basin. Final annual 1999 report. St. Johns River Water Management District. Palatka, FL.

VOLUSIA COUNTY COLONY ISLANDS

New Smyrna Beach Colony (14 acres; 5 ha) and **Port Orange colony** (1.9 acres; 0.7 ha)

Volusia County
16 acres (6 ha)

[Perhaps other islands should be included as foraging areas, etc.]

LOCATION: in northeastern Volusia County, in the Halifax River between the mainland and barrier islands, between the northern and southern bridges of State Road A1A.

DESCRIPTION: two small natural islands that contain significant colonial waterbird colonies

OWNERSHIP: unknown; possibly State of Florida

HABITATS: *mangrove forest, estuarine

LAND USES: *conservation, recreation

IBA CATEGORY: significant populations of Special Concern species

BIRD DATA: the islands support two of the most important Brown Pelican colonies along the Atlantic coast of Florida, as well as significant numbers of other wading birds. The Port Orange colony and adjacent islands also support significant numbers of American Oystercatchers.

New Smyrna Colony:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	8 Jun 2000	197 pairs	2%; (R)
	7 Jun 2001	330 pairs	3%; (R)
Snowy Egret	8 Jun 2000	40 pairs	
	7 Jun 2001	40 pairs	
Tricolored Heron	8 Jun 2000	75 pairs	(R)
	7 Jun 2001	12 pairs	(R)
White Ibis	8 Jun 2000	135 pairs	<1%; (R)
	7 Jun 2001	150 pairs	<1%; (R)

Data provided by Ann and Rich Paul (Audubon of Florida)

Port Orange Colony:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999–2001	mean of 546 pairs (range of 400–642)	mean of 6% (range of 4–7; (R)
Snowy Egret	1999–2001	mean of 73 pairs (range of 25–120)	(R)
American Oystercatcher	2000–2001	8 pairs each year	includes adjacent bars and islands; 2% (R)

Data provided by Ann and Rich Paul (Audubon of Florida)

OTHER RESOURCES: none known

THREATS: human disturbance, monofilament fishing line, erosion

CONSERVATION ISSUES: the islands are not posted against human intrusion; the severity of human disturbance is not known. • Monofilament fishing line should be removed periodically. • There is minor threat of erosion to the southern end of the New Smyrna colony.

NOMINATED BY: Ann and Rich Paul (Audubon of Florida)

WEKIVA–OCALA GREENWAY

Wekiva–Ocala Greenway CARL–FF Project (68,904 acres [27,561 ha], with 37,215 acres [14,886 ha] acquired as **Seminole State Forest**) and **Royal Trails development** (3500 acres; 1400 ha)

Lake and Volusia counties

72,000 acres (28,800 ha), with 37,215 acres [14,886 ha] acquired

LOCATION: in eastern Lake County and western Volusia County, mostly west of the St. Johns and Wekiwa rivers between State Road 40 and State Road 46. Contiguous with the Ocala National Forest–Lake George IBA to the north and the Wekiva Basin GEOPark IBA to the south.

DESCRIPTION: the critical link between Ocala National Forest and Wekiwa Basin GEOPark. Most of this IBA is part of the **Wekiva–Ocala Greenway CARL–FF Project**, which was initiated in 1992 to help preserve the regional population of black bears. The **Royal Trails development**, which is mostly undeveloped and not sought for acquisition, supported dozens of Florida Scrub-Jay groups in 1993, and adjacent areas were estimated to contain dozens of other groups. State acquisition efforts have protected over 37,000 acres (14,800 ha) of the CARL–FF Project, much of which is scrub. Privately owned acreage is added to **Seminole State Forest** when publicly acquired. The Forest receives ____ recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Forestry (Seminole State Forest), Florida Division of Recreation and Parks (other publicly acquired lands; added to Wekiwa Basin GEOPark, which is its own IBA; see pages 208–209), and private owners (Royal Trails and remaining acreage of the Wekiva–Ocala Greenway CARL–FF Project)

HABITATS: *pine flatwoods, *xeric oak scrub, *sand pine scrub, fields, non-native pasture, artificial

LAND USE: *conservation, *private property (proposed for development), recreation

IBA CATEGORIES: significant populations of Threatened species; and significant natural habitats

AVIAN DATA: the Wekiva–Ocala Greenway IBA supports a regionally significant population of Florida Scrub-Jays.

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	16–18 Apr and 14–15 May 1993	30 groups counted, and dozens of others predicted	nearly 1% (R); Royal Trails area only; much additional scrub to the north was inaccessible and undoubtedly contained several other groups.
	Aug and Nov 1997	3 groups	<1% (R); Seminole State Forest

Data from +Pranty (1996b) and +Blanchard et al. (1999)

OTHER RESOURCES: One of the primary reasons for the Wekiva–Ocala Greenway CARL–FF Project was to protect the regional population of black bears.

THREATS: *development, *habitat succession, human disturbance

CONSERVATION ISSUES: Royal Trails: State acquisition efforts have targeted nearly 70,000 acres (28,000 ha) in the region, but have excluded all of Royal Trails a large, mostly undeveloped subdivision. Most of Royal Trails and properties to the north burned in 1989, and the area was prime oak scrub within a few years. Surrounding areas are mostly mature sand pine forests. Not surprisingly, virtually all the Florida Scrub-Jays found in 1993 south of SR-42 and west of SR-44 were in the recently burned area. Over 100 jays were estimated to occur in the northern portion of Royal Trails and properties to the north, and this number may have been a substantial underestimate.

- Purchase and proper management of surrounding lands, once acquired by the State, could allow some of the Royal Trails jays to move into protected areas, but few agencies are willing to restore large areas of heavily overgrown scrub by using fire. The Florida Scrub-Jay population at **Seminole State Forest** has “declined precipitously” in recent years, due to habitat succession +(Blanchard et al.

1999). The State Forest contains 4900 acres (1960 ha) of scrub, and therefore could support well over 100 groups of scrub-jays, but only 3 groups were found in 1999 +(Blanchard et al. 1999). • One of the sites recently acquired as part of Seminole State Forest was a site along the south side of SR-42. In 1993, 6 Florida Scrub-Jay groups were found in a small part of this site, in a 0.5-mile (0.8-km) stretch of SR-42 and Fullerville Road (Lake County #36 in +Pranty 1996b). Between May 1993, when the site was surveyed, and December 1998, when the site was acquired by the State, the property was cleared and converted to non-native pasture +(Blanchard et al. 1999). This (probably non-permitted) clearing of scrub occupied by Florida Scrub-Jays should clearly demonstrate the extreme risk facing both scrub and scrub-jays.

Unless habitats in much of the area have been destroyed since 1993, the feasibility of adding significant areas of Royal Trails and adjacent lands to the north to the Wekiva–Ocala Greenway CARL–FF Project should be investigated. • Extensive habitat restoration for Florida Scrub-Jays needs to be the primary management priority for Seminole State Forest.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCES: +Blanchard, J.D., K. NeSmith, D. Hipes, G. Schultz, and S. Jue. 1999. Survey for rare animals, plants, and natural communities on Seminole State Forest, Lake County, Florida. Florida Natural Areas Inventory. Tallahassee, FL. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

WEBSITE: <http://www.fl-dof.com/state_forests/Seminole.htm>

WEKIWA BASIN GEOPARK

Lower Wekiwa River State Preserve (17,517 acres; 7006 ha), **Rock Springs Run State Reserve** (13,993 acres; 5597 ha), and **Wekiwa Springs State Park** (7940 acres; 3176 ha)

Lake, Orange, and Seminole counties

39,450 acres (15,780 ha)

LOCATION: in eastern Lake County, western Volusia County, and northern Orange County, between State Road 44 and the St. Johns and Wekiwa rivers. Contiguous with the Wekiwa–Ocala Greenway IBA to the north.

DESCRIPTION: The GEOpark is a large, contiguous natural area essential for preservation of the local black bear population. Together with the Wekiwa–Ocala Greenway IBA, it is a critical link to Ocala National Forest–Lake George IBA to the north. The GEOpark receives 300,000 recreationists and _____ hunters (Rock Springs Run State Reserve only) annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *longleaf pine flatwoods (8000 acres; 3200 ha), *temperate hammock (12,000 acres; 4800 ha), *floodplain swamp (9000 acres; 3600 ha), *riverine (35 miles; 56 km), sandhills (2100 acres; 840 ha), xeric oak scrub (120 acres; 48 ha), sand pine scrub (700 acres; 280 ha), non-native pasture (2500 acres; 1000 ha), bayhead (600 acres; 240 ha), freshwater marsh (1100 acres; 440 ha), lacustrine, artificial

LAND USE: *conservation, *recreation, hunting (Rock Springs Run State Reserve only)

IBA CATEGORIES: significant populations of Watch List species; significant numbers and diversity of Neotropical migrants; and significant natural habitats

AVIAN DATA: _____. A MAPS (Monitoring Avian Productivity and Survival) station was set up in the Park in 1995 and had captured over 14,000 birds by 2000.

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	spring 1995	87 pairs	1% (B)
Vireos	Sep–Oct 1995 to Sep– Oct 2000	800 birds of 6 species banded	(M)
Thrushes	Sep–Oct 1995 to Sep– Oct 2000	1000 birds of 6 species banded	(M)
Wood-warblers	Sep–Oct 1995 to Sep– Oct 2000	5200 birds of 33 species banded	(M)
Bachman's Sparrow	spring 1998	>50 singing males	(R)
Landbirds	Sep–Oct 1995 to Sep– Oct 2000	14,141 birds of 101 species banded	mostly (M)
Overall diversity	May 1998 list, with more-recent updates	220 natives 3 exotics	

Data provided by Parks Small (Florida Division of Recreation and Parks)

OTHER RESOURCES: The GEOpark contains 19 natural communities that support 50 listed plants and animals, including two species of snails that are endemic to Wekiwa Springs State Park: the ♦ Wekiwa Springs hydrobe snail (*Aphaestracon monas*) and ♦ Wekiwa siltsnail (*Cincinnatia wekiwae*). The snails have not been surveyed since the 1970s and may be extinct; future surveys are planned. Some plants in the park are more closely related to habitats in the Appalachian Mountains than to those in central Florida. • Black bears occur on all three sites and preservation of this population was the primary reason for the Wekiwa–Ocala Greenway CARL–FF Project. A recent radio-monitoring study documented that the Wekiwa Basin contains the highest density of bears in the state—and also the area with the greatest number of road-kills. This situation will worsen when highways such as State Road 46 are widened. • Over 25 Indian middens have been documented. A

cemetery at the former town of Markham, dating from the late 1800s, occurs onsite. • In 2000, the Wekiva River and its tributaries were designated a National Wild and Scenic River, one of only two rivers in Florida so designated, and the only river in the state designated in its entirety. • Wekiwa Springs discharges 40 million gallons (151 million liters) of water per day and is a second-magnitude spring.

THREATS: *offsite development, *altered hydrology, human disturbance, exotic plants, habitat succession, cowbird brood parasitism, feral hogs, feral dogs, feral cats

CONSERVATION ISSUES: The GEOPark has an approved management plan, from which all of the following information was obtained. The flatwoods and sandhills were logged in the 1930s and 1940s. Sandhills became invaded by oaks in the absence of fire, and are being restored by using prescribed fire and herbicides to remove the hardwoods. Prescribed fire is being used to restore overgrown scrubby flatwoods habitats to benefit Florida Scrub-Jays and other species. Cypressess along the creeks and rivers were logged early in the 20th century, and have not regenerated. Replanting in selected areas should be considered. • Water quality within the GEOPark is good, and is monitored quarterly to assess any impacts from off-site development. Water quantity at Rock Springs Run State Reserve has declined however, from 19 cubic feet (0.7 cubic m) per second in 1969 to 13 cubic feet (0.48 cubic m) per second in 1982. Habitats that previously were floodplain forest have changed to hydric hammock, and some wetlands are now dry for most of the year. • Development has also had severe negative impacts to Lake Prevatt, which now receives much more water than historically, and none of this is treated prior to release. • Overall, the prescribed burning program has been very successful at restoring and maintaining habitats, but increased acreage needing burning, and a shortage of trained staff, are increasing problems. Sandhills are burned every 1–5 years, hydric flatwoods every 2–6 years, mesic flatwoods every 3–8 years, and sand pine scrub every 30 years. • Exotic plants are a problem in some areas. • Wild taro is a “very serious” problem along much of Rock Springs Run that would require “many years of concerted effort” to remove, but staff shortages make control unlikely. Common ater hyacinth is a relatively minor problem. Airpotato occurs widely in the Park and control “may be impossible.” A “very large infestation” of ♦ camphortrees (*Cinnamomum camphora*) occurs at Rock Springs Run State Reserve; to date, 1500 trees have been removed. Numerous other species occur in low densities and are treated as needed and when staff have the time to do so. • A recent effort by the St. Johns River Water Management District to remove feral hogs was quite successful. Feral cats and dogs are lesser problems, and “should be removed immediately.” • Except in rare occasions, Burrowing Owls do not occur within the GEOPark but are found nearby. Owls produced by captive (rehabilitated) pairs are released 10 miles (16 km) to the west. Rock Springs Run State Reserve contains extensive areas of pasture, and introduction of Burrowing Owls should be considered. Some of these pasture areas are being restored. • About 5730 acres (2292 ha) of private property have been identified as additions to the GEOPark.

NOMINATED BY: Parks Small (Florida Division of Recreation and Parks)

WEBSITE: <<http://www.dep.state.fl.us/parks/district3/wekiwaspring>>, <<http://www.dep.state.fl.us/parks/district3/rocksprings>>, <<http://www.dep.state.fl.us/parks/district3/lowerwekiva>>

WILLIAM BEARDALL TOSOHATCHEE STATE RESERVE

Brevard and Orange counties

30,691 acres (12,276 ha)

LOCATION: in extreme eastern Orange County and a small part of western Brevard County, mostly west of the St. Johns River between State Road 50 and the Osceola County line. Contiguous with parts of the Upper St. Johns River Basin IBA to the north and south, and near one parcel of the St. Johns National Wildlife Refuge IBA to the east

DESCRIPTION: A large parcel of flatwoods, hammocks, and marshes along the west side of the St. Johns River. Formerly a cattle ranch, the property was purchased by the State in 1977 to protect its aquatic resources. The Reserve receives ____ recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Recreation and Parks

HABITATS: *slash pine flatwoods, *temperate hammock, *cypress swamp, *tidal marsh, *riverine, bayhead, cattail marsh, sawgrass marsh, lacustrine

LAND USE: *conservation, recreation, hunting

IBA CATEGORIES: significant populations of Threatened and Special Concern species; significant numbers of wading birds; and significant natural habitats

AVIAN DATA: The Reserve supports large numbers of foraging wading birds, and species of slash pine flatwoods. Red-cockaded Woodpeckers formerly occurred, and reintroduction may be an option in the future. A MAPS (Monitoring Avian Productivity and Survival) station is established at the Reserve.

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	Jun 1996	291 birds	(N)
Snowy Egret	Apr 1999	199 birds	(N)
Little Blue Heron	Mar 1996	222 birds	(N)
Tricolored Heron	Aug 1996	162 birds	(N)
White Ibis	Feb 1996	2823 birds	(N)
Wading birds	Feb 1996	3506 birds	(N)
Crested Caracara	Annual	1–2 pairs	1% (R)
Black Skimmer	May 1996	107 birds	(N)
Red-cockaded Woodpecker	Mar 1979	1 bird	Extirpated; last known report
Summer Tanager	Apr 1996	22 birds	(B)
Overall diversity	undated list	182 natives 2 exotics	

Data from surveys conducted by Tosohatchee staff and volunteers, mostly from Orange Audubon Society, provided by Shane Belson (Florida Division of Recreation and Parks)

OTHER RESOURCES: The Reserve contains 15 distinct natural communities. Most significant of these are the St. Johns River, which runs for 19 miles (30 km) along the Reserve's eastern boundary, and the Tootoosahatchee, Jim, and Taylor creek systems that cross the Reserve and empty into the river.

THREATS: development, human disturbance, exotic plants, cowbird brood parasitism

CONSERVATION ISSUES: The management plan emphasizes managing natural communities, rather than managing for individual species. Measures are implemented to mimic the historic natural processes and conditions to the greatest extent possible. The goal is to restore and maintain habitats in their original condition, especially with prescribed fire. Since public acquisition, 14 miles (22 km) of canals have been back-filled, which has restored 6000 acres (2400 ha) of drained grazing land back into wetlands. • Exotic plants are controlled as needed.

NOMINATED BY: Shane Belson (Florida Division of Recreation and Parks)

WEBSITE: <<http://www.dep.state.fl.us/parks/district3/tosohatchee>>

WITHLACOOCHEE–PANASOFFKEE–BIG SCRUB

Carlton SOR Tract (4052 acres; 1620 ha), **Cross Florida Greenway State Recreation and Conservation Area** (11,000 acres; 4400 ha), **Flying Eagle SOR site** (10,878 acres; 4351 ha), **Half Moon Wildlife Management Area** (9520 acres; 3808 ha), **Halpata Tastanaki Preserve** (8090 acres; 3236 ha), **Jumper Creek Tract of Withlacoochee State Forest** (10,068 acres; 4027 ha), **Lake Panasoffkee SOR Tract** (9911 acres; 3964 ha), **Panasoffkee Outlet SOR Tract** (805 acres; 322 ha), **Potts Preserve** (9348 acres; 3739 ha), **Ross Prairie State Forest** (3521 acres [1408 ha] acquired), and the **Two-Mile Prairie Tract of Withlacoochee State Forest** (2900 acres; 1160 ha). Sites sought for public acquisition are **Gum Slough SOR project** (>16,000 acres [>6400 ha], 2283 acres [913 ha] acquired) and the **Longleaf Pine Ecosystem CARL–FF Project** (7919 acres [3167 ha] remaining; acreage to be added to Ross Prairie State Forest).

Citrus, Marion, and Sumter counties

>93,900 acres (>37,560 ha), including 72,308 acres (28,9223 ha) acquired

[This IBA needs additional information]

LOCATION: in eastern Citrus County, extreme southwestern Marion County, and northwestern Sumter County, along both sides of the Withlacoochee River. Lake Panasoffkee Preserve, a few miles (km) to the east, protects the entire eastern shoreline and adjacent uplands of Lake Panasoffkee. Some sites are near portions of the Withlacoochee State Forest IBA to the west and southwest.

DESCRIPTION: a rather eclectic mix of several existing or proposed conservation areas combined to create an IBA for the Florida Scrub-Jay. Visitation for the various sites is: ___ recreationists and ___ hunters for the Cross Florida Greenway State Recreation and Conservation Area, ___ recreationists and ___ hunters for the Flying Eagle SOR site, ___ recreationists and ___ hunters for Half Moon Wildlife Management Area, ___ recreationists and ___ hunters for Halpata Tastanaki Preserve, ___ recreationists and ___ hunters for the two Withlacoochee State Forest tracts combined, ___ recreationists and ___ hunters for the two Panasoffkee sites combined, and ___ recreationists and ___ hunters for Potts Preserve.

OWNERSHIP: U.S. Army Corps of Engineers, U.S. Forest Service, and Florida Office of Greenways and Trails (Cross Florida Greenway State Recreation and Conservation Area), Florida Division of Forestry (Ross Prairie State Forest and Withlacoochee State Forest), Florida Division of Wildlife (Half Moon Wildlife Management Area), Southwest Florida Water Management District (Carlton SOR Tract, Flying Eagle SOR Tract, Halpata Tastanaki Preserve, Lake Panasoffkee Preserve, Panasoffkee Outlet SOR Tract, Potts Preserve, and Two-Mile Prairie State Forest), and private owners (remaining acreage of the Longleaf Pine Ecosystem CARL–FF Project and the Gum Slough SOR Project)

HABITATS: *longleaf pine flatwoods, *freshwater marsh, *riverine, pine plantation, sandhills, temperate hammock, xeric oak scrub, sand pine scrub, fields, non-native pasture, cypress swamp, hardwood swamp, cattail marsh, lacustrine, artificial

LAND USE: *conservation, *hunting, *timber production, recreation, cattle grazing

IBA CATEGORIES: significant populations of Threatened species; and significant natural habitats

AVIAN DATA: The Withlacoochee–Panasoffkee–Big Scrub IBA supports a significant population of Florida Scrub-Jays, a figure that could be increased with proper management of scrub habitats. Not much else is known about avian use of the sites, which mostly are recent State acquisitions. [Is a bird list available for any site?; I was able to throw together a rudimentary list of (only) 93 native species].

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	Jul 1999	140 birds	9% (N)
Florida Scrub-Jay	1992–1993, 2000	~67 groups	1% (R)

Kite data by Tim Breen (Florida Fish and Wildlife Conservation Commission) provided by Ken Meyer (Avian Research and Conservation Institute), scrub-jay data from +Pranty (1996b) and provided by Mary Barnwell (Southwest Florida Water Management District) and Gary Beecham (Florida Division of Forestry)

OTHER RESOURCES: This IBA protects over 25 miles (40 km) of Withlacoochee River frontage (mostly the eastern shore) with its extensive cypress and hardwood swamps, and preserves much of Lake Tsala Apopka, an expansive wetland system.

THREATS: *development, *habitat succession, *human disturbance, exotic plants

CONSERVATION ISSUES: Most of the oak scrub on these sites is overgrown, and probably is negatively impacting the population. At Half Moon Wildlife Management Area, 17 FSJ groups were found in 1992 +(Jester and Sermons 1992, Pranty 1996b), but only 13 were found in 1997, and fewer are thought to occur presently (Nancy Dwyer in litt.). At Halpata Taskanaki Preserve, on the other hand, the number of FSJ groups has increased in the past five years as fire-suppressed, logged pine flatwoods continue to succeed to scrubby flatwoods (M. Barnwell pers. comm.). • [[what about airboats at Potts?](#)] • [[habitat restoration](#)].

NOMINATED BY: Nancy Dwyer (Florida Division of Wildlife) and Bill Pranty (Audubon of Florida)

REFERENCE: +Jester, S.L., and W.O. Sermons, Jr. 1992. Florida Scrub Jay inventory for Half Moon Wildlife Management Area. Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

WEBSITE: <http://www.fl-dof.com/state_forests/Withlacoochee.htm>, <<http://www.swfwmd.state.fl.us/recguide/pdf/11.pdf>>, <<http://www.swfwmd.state.fl.us/recguide/pdf/16.pdf>>, <<http://www.swfwmd.state.fl.us/recguide/pdf/18.pdf>>, <<http://www.swfwmd.state.fl.us/recguide/pdf/23.pdf>>

WITHLACOOCHEE STATE FOREST (Citrus and Croom tracts)

Citrus, Hernando, and Sumter counties

64,072 acres (25,628 ha) in these two tracts; 147,893 total acres (59,157 ha) in the Forest

LOCATION: in south-central Citrus County, northern and eastern Hernando County, and extreme western Sumter County. Near the Green Swamp Ecosystem IBA to the east. [[Need more information](#)]

DESCRIPTION: three of seven primary units of Withlacoochee State Forest, mostly isolated from each other by private lands and development. All seven primary tracts are part of IBAs (see below). Acquisition began in 1936 and additional lands have been acquired as recently as 1999. All tracts of the Forest receive a total of 300,000 recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Forestry

HABITATS: *longleaf pine flatwoods, *sandhills, pine plantation, xeric oak scrub, sand pine scrub, dry prairie, non-native pasture, hardwood swamp, freshwater marsh, lacustrine, artificial

LAND USE: *timber production, conservation, recreation, hunting

IBA CATEGORIES: significant populations of Endangered and Watch List species; complete diversity of longleaf pine flatwoods and sandhills; and significant natural habitats

AVIAN DATA: The Forest supports a significant population of Red-cockaded Woodpeckers, and contains all species of longleaf pine flatwoods and sandhills. [[More information](#)] [[Is a bird list available for the Forest?](#)].

SPECIES	DATES	NUMBERS	COMMENTS
Red-cockaded Woodpecker	2000	46 clusters, 29 nests	3% (R)
Brown-headed Nuthatch	2000	common	(R)
Bachman's Sparrow	2000	common	(R)

Data provided by Vince Morris (Florida Division of Forestry)

OTHER RESOURCES: Other upland animals include the pine snake and “Sherman's” fox squirrel. • Withlacoochee State Forest protects one of the largest patches of sandhills habitat remaining in Florida. • Historic cemeteries occur in the Forest.

THREATS: *habitat succession, exotic plants, feral hogs, offsite development

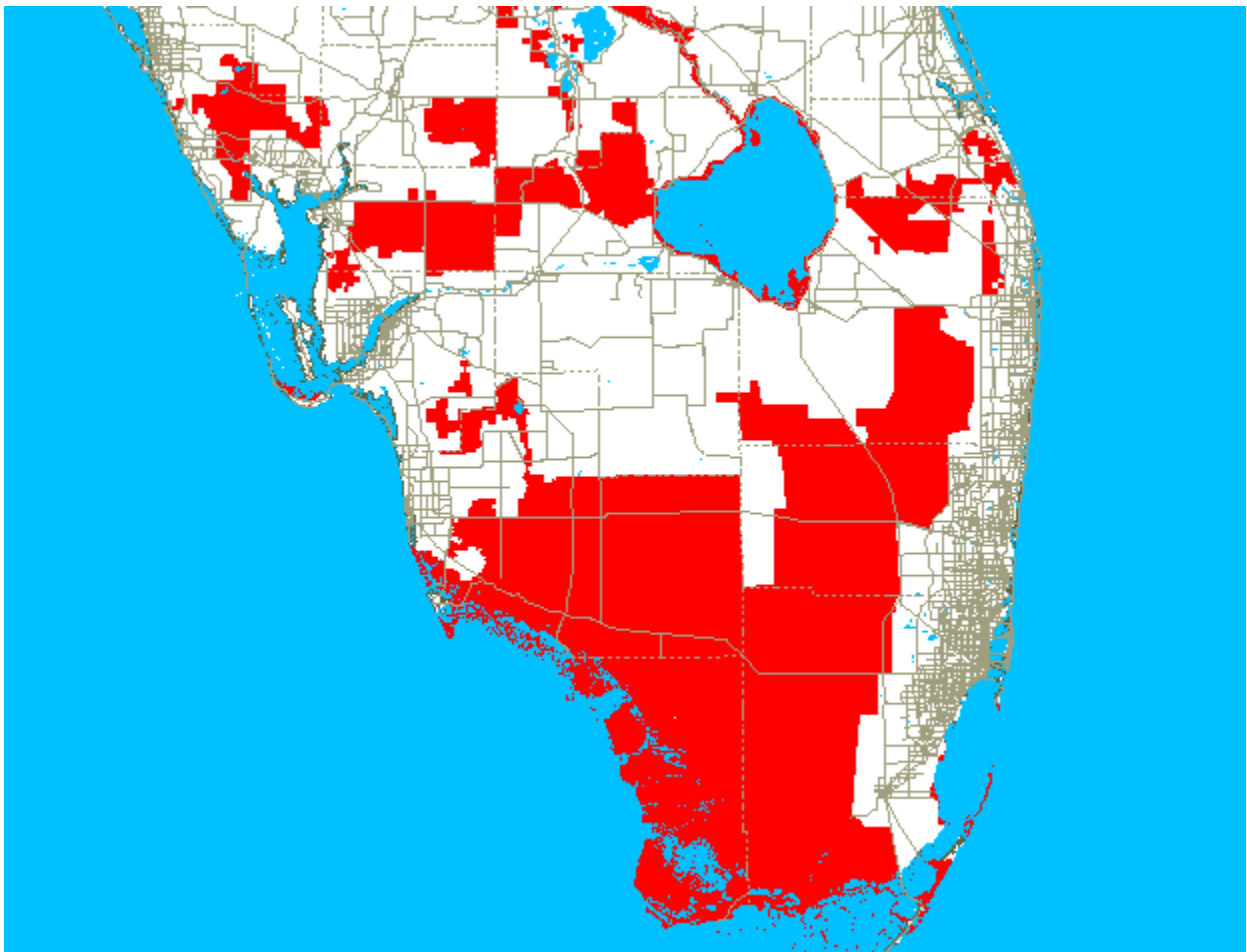
CONSERVATION ISSUES: Prescribed fire frequency is insufficient for maintaining pine flatwoods in an open condition. • The Suncoast Parkway bisects the Forest, which may prevent or hamper movement of some species (e.g., black bears) between the Forest and adjacent areas. • There is potential for contradictory management goals (e.g., timber production vs. wildlife habitat).

NOMINATED BY: Vince Morris (Florida Division of Forestry)

WEBSITE: <http://www.fl-dof.com/state_forests/Withlacoochee.htm>

The Homosassa Tract of Withlacoochee State Forest is part of the Chassahowitzka–Weekiwachee IBA, the Richloam Tract is part of the Green Swamp IBA, and the Jumper Creek and Two-Mile Prairie Tracts are part of the Withlacoochee–Panasoffkee–Big Scrub IBA.

SOUTHERN PENINSULA



ABC ISLANDS

Collier County

5 acres (2 ha)

LOCATION: near Marco Island in southwestern Collier County [need more information]**DESCRIPTION:** three small mangrove islands in the Gulf of Mexico. The islands are designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. [any public visitation?]**OWNERSHIP:** State of Florida**HABITAT:** *mangrove forest**LAND USE:** *conservation, recreation**IBA CATEGORIES:** significant populations of Special Concern, FCREPA, and IBA species; significant numbers of wading birds; and long-term research**AVIAN DATA:** The ABC Islands support significant breeding populations of Brown Pelicans and wading birds, and also contain a regular roost for Magnificent Frigatebirds and wading birds. Between 1974 and 1997, Ted Below conducted 705 dusk roost counts of the islands, and continues to monitor the rookery. [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1983–1998	Mean of 344 nests (<u>range?</u>)	4% (B)
Magnificent Frigatebird	1979–1998	Mean of 245 birds (range of 1–1447)	5% (N)
Great Egret	3 Jun 1999	225 nests	1% (B)
Snowy Egret	1983–1998	Mean of 218 nests (<u>range?</u>)	(B)
	3 Jun 1999	224 nests	(B)
Tricolored Heron	1979–1998	Mean of 853 birds (<u>range?</u>)	(N)
	3 Jun 1999	342 nests	(B)
White Ibis	1979–1998	Mean of 6202 birds (range of 144–17,562 birds)	(N)
Glossy Ibis	1979–1998	Mean of 183 birds (range of 0–995 birds)	(N)
Wading birds	1979–1998	Mean of 8710 birds (<u>range?</u>)	(N)
	1983–1998	Mean of 1081 nests (<u>range?</u>)	(B)
	3 Jun 1999	1174 nests	(B)
Long-term research	1974–1997		705 censuses by Ted Below

1979–1998 data provided by Ted Below (Audubon of Florida), 1999 data from +Below (1999)

OTHER RESOURCES: none known.**THREATS:** *human disturbance, *monofilament fishing line**CONSERVATION ISSUES:** The islands are designated as a Critical Wildlife Area to protect the rookery, but there is no known management plan and disturbance from boaters and fishermen is severe. Operators of tour boats, including 30-passenger airboats, disturb the birds in order to give a “good show;” airboats have actually blown into the rookery to cause the birds to take flight. • Fishermen anchor near shore and often leave fishing line in the mangroves.**NOMINATED BY:** Ted Below (Audubon of Florida)**REFERENCE:** +Below, T.H. 1999. Regional nesting report: Southwest coast. Pages 12–13 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL.

BABCOCK–WEBB ECOSYSTEM

Fred C. Babcock–Cecil M. Webb Wildlife Management Area (69,727 acres; 27,890 ha), **Babcock Ranch FF Project** (90,000 acres; 36,000 ha, unacquired), **Charlotte Harbor Flatwoods CARL–FF Project** (8020 acres; 3208 ha remaining), **Hall Ranch CARL–FF Project** (6484 acres; 2593 ha, unacquired)

Charlotte and Lee counties

174,231 acres (69,692 ha), with 69,727 acres (27,890 ha) acquired

LOCATION: primarily east of Punta Gorda in central and eastern Charlotte County south of State Road 74 and east to the Charlotte/Glades county line. Recent acquisition efforts are purchasing contiguous habitat west to State Road 765 and south to Gator Slough Canal in northwestern Lee County—essentially all undeveloped lands between Tropical Gulf Acres and Cape Coral. A recent acquisition project includes a huge private ranch east of the Wildlife Management Area.

DESCRIPTION: the largest contiguous area of flatwoods, prairies, and wetlands remaining in southwestern Florida, the second fastest-growing region in the United States. The core area is State-owned land, but vast areas of rangeland are proposed for perpetual conservation easements. During World War II, 8720 acres (3488 ha) of the Wildlife Management Area and 5000 acres (2000 ha) of private lands were leased to the War Department to establish the Fort Myers (a.k.a. Bermont) Bombing and Gunnery Range. The bombing range was discontinued in 1946 and the lands were returned to their former owners +(U.S. Army website). The Wildlife Management Area receives ___ recreationists and ___ hunters annually. Avian data for this IBA are restricted to the Wildlife Management Area.

OWNERSHIP: Florida Division of Wildlife (Fred C. Babcock–Cecil M. Webb Wildlife Management Area) and private owners (remaining acreage of the Babcock Ranch FF Project, Charlotte Harbor Flatwoods CARL–FF Project, and the Hall Ranch CARL–FF Project)

HABITATS: *slash pine flatwoods, temperate hammock, dry prairie, fields, freshwater marsh, cattail marsh, lacustrine

LAND USE: *conservation, *hunting, *grazing, ecotourism, recreation

IBA CATEGORIES: significant populations of Endangered, Threatened, and Watch List species; complete diversity of slash pine flatwoods species; and significant natural habitats

AVIAN DATA: Fred C. Babcock–Cecil M. Webb Wildlife Management Area supports significant populations of Red-cockaded Woodpeckers, Brown-headed Nuthatches, Bachman's Sparrows, and other flatwoods species. The Babcock Ranch FF Project site supports populations of Swallow-tailed Kites, Short-tailed Hawks, Crested Caracaras, “Florida” Sandhill Cranes, Red-cockaded Woodpeckers, Florida Scrub-Jays +(DEP 2002). [Is a bird list available for the WMA?; I have a list of (only) 100 native species].

Fred C. Babcock–Cecil M. Webb Wildlife Management Area only:

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	winter 1999–2000	125 birds	1% (N)
“Florida” Sandhill Crane	2000	40 pairs	2% (B)
Red-cockaded Woodpecker	1999	27 clusters	2% (R)
Brown-headed Nuthatch	1999	2000 birds estimated	(R)
Bachman's Sparrow	1999	500 singing males estimated	(R)

Red-cockaded Woodpecker data from +USFWS (2000), all other data provided by Mike Webber (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: Fred C. Babcock–Cecil M. Webb Wildlife Management Area protects one of the largest contiguous slash pine flatwoods remaining in South Florida. The Charlotte Harbor Flatwoods

CARL–FF Project, which began in 1992, has acquired much (11,341 of 19,361 acres; 4536 of 9558 ha) of the old-growth flatwoods lying just southwest of Fred C. Babcock–Cecil M. Webb Management Area. This acreage, now called the Yucca Pens Unit of the Wildlife Management Area, contains a population of the globally-imperiled ♦pretty false pawpaw (*Deeringothamnus rugelli* var. *pulchellus*). • Florida panthers are known to use the Wildlife Management Area, and panthers and black bears occur on the Babcock Ranch FF Project site.

THREATS: *development

CONSERVATION ISSUES: A vast (91,361 acres; 36,544 ha) cattle ranch just east of the Wildlife Management Area was selected as a potential State acquisition project in December 2001 +(DEP 2002). The ranch owners wish to retain 27,801 acres (11,120 ha), and are considering developing 19,890 acres (7956 ha). Nonetheless, the FF Project boundary includes the entire ranch, with about half of the site listed as “essential parcels” +(DEP 2002). • The Wildlife Management Area is managed for populations of Northern Bobwhites and other game species. • Water levels are controlled and exotic vegetation is removed. • Prescribed fires are used to maintain pine flatwoods in open condition to support Red-cockaded Woodpeckers and other fire-dependant species. • The area used as a bombing range during World War II still contains “several hundred” bomb craters, and may still contain high explosive bombs +(<<http://www.hnd.usace.army.mil/oew/factshts/factshts/myersbgr.htm>>). • The Babcock Ranch FF Project is seeking a perpetual conservation easement on all lands between Fred C. Babcock–Cecil M. Webb Wildlife Management Area and the Fisheating Creek Wildlife Management Area. If successful, this acquisition will create a huge, protected area in southwestern Florida, that would extend contiguously from Charlotte Harbor to Lake Okeechobee (with the inclusion of public lands outside this IBA).

Virtually this entire IBA is Priority One habitat for the Florida panther, and efforts to acquire privately owned properties should be accelerated.

NOMINATED BY: Charlie Ewell (Florida Ornithological Society) and Bill Pranty (Audubon of Florida)

REFERENCES: +USFWS 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, Georgia.

WEBSITE: <<http://www.hnd.usace.army.mil/oew/factshts/factshts/myersbgr.htm>>

BIG CYPRESS SWAMP WATERSHED

Big Cypress National Preserve (729,000 acres; 291,600 ha), **Collier–Seminole State Park** (6436 acres; 2574 ha), **Fakahatchee Strand Preserve State Park** (69,088 acres; 27,603 ha), **Florida Panther National Wildlife Refuge** (26,000 acres; 10,400 ha), and **Picayune Strand State Forest** (15,935 acres; 6374 ha). Adjacent private lands are sought for acquisition under the **Belle Meade CARL–FF Project** (9407 acres [3762 ha] remaining), **Fakahatchee Strand CARL–FF Project** (17,398 acres [6959 ha] remaining), and **Save Our Everglades CARL–FF Project** (35,139 acres [14,055 ha] remaining)

Collier, Miami-Dade, and Monroe counties

908,403 acres (363,361 ha), with 846,459 acres (338,583 ha) acquired

[This IBA needs additional information]

LOCATION: all of eastern Collier County, extreme northwestern Miami-Dade County, and northeastern Monroe County, mostly south of Interstate 75, extending southwest nearly to State Road 951, and south nearly to the Gulf of Mexico. Contiguous with the Rookery Bay National Estuarine Research Reserve and Ten Thousand Islands National Wildlife Refuge IBAs to the south and the Everglades National Park IBA to the south and southeast.

DESCRIPTION: a vast and extremely diverse area northwest of, and contiguous with, Everglades National Park, essential for the preservation of the Florida panther and numerous other floral and faunal species. Annual visitation of the sites is 503,000 recreationists and ___ hunters for Big Cypress National Preserve, ___ recreationists for Collier–Seminole State Park, ___ recreationists for Fakahatchee Strand Preserve State Park, and ___ recreationists and ___ hunters for Florida Panther National Wildlife Refuge.

OWNERSHIP: U.S. Fish and Wildlife Service (Florida Panther National Wildlife Refuge), U.S. National Park Service (Big Cypress National Preserve), Florida Division of Forestry (Picayune Strand State Forest), Florida Division of Recreation and Parks (Collier–Seminole State Park and Fakahatchee Strand Preserve State Park), and private owners (remaining acreage of the Belle Meade, Fakahatchee Strand, and Save Our Everglades CARL–FF projects)

HABITATS: Big Cypress National Preserve: *slash pine flatwoods, *temperate hammock, *cypress swamp, *hardwood swamp, *freshwater marsh, tropical hammock, mangrove forest, cattail marsh, tidal marsh, riverine, lacustrine, estuary, artificial. [Need information for the other sites].

LAND USE: Big Cypress National Preserve: *conservation, recreation, hunting, oil production, pilot training. [Need information for the other sites].

IBA CATEGORIES: Big Cypress National Preserve: significant populations of Endangered, Special Concern, FCREPA, and Watch List species; significant numbers of wading birds; complete diversity of slash pine flatwoods; significant natural habitats; and long-term research. [Need information for the other sites].

AVIAN DATA: Everglades National Park and Big Cypress National Preserve support the entire world population of “Cape Sable” Seaside Sparrows. The current status of sparrows in the Preserve is unknown, as surveys in recent years have concentrated on the population in the National Park. Picayune Strand State Forest may eventually support a viable population of Red-cockaded Woodpeckers. Bird diversity of all sites combined is ___ native species. [Is a bird list available for any site other than Big Cypress?].

Big Cypress National Preserve:

SPECIES	DATES	NUMBERS	COMMENTS
Least Bittern	annual	common	(R)
Great Egret	May 1996	200 nests	1% (B)
White Ibis	annually during dry-downs	>400 birds	(N)
Wood Stork	May 1996	>500 nests	9% (B)
Swallow-tailed Kite	annually in spring–summer	~100 pairs	16% (B)
White-tailed Kite	May 1993	1 nest	(B)
Limpkin	resident	common	
Red-cockaded Woodpecker	1998–1999	40 clusters	3% (R)
Brown-headed Nuthatch	resident	common	donor population for the recent reintroduction project into Everglades National Park
“Cape Sable” Seaside Sparrow	1980–1981	2900 birds	~50%? (R); no recent surveys
Long-term research	since 1979		Red-cockaded Woodpecker demographic study
Overall diversity	1997 list	177 natives 5 exotics	

Woodpecker data from +USFWS (2000), 1980–1981 sparrow data from Bass and Kushlan (1982 *in* +Stevenson and Anderson 1994), checklist data from +Pumilio et al. (1997), all other data provided by Deborah Jansen (U.S. National Park Service)

Picayune Strand State Forest:

SPECIES	DATES	NUMBERS	COMMENTS
Red-cockaded Woodpecker	2000	4 males (3 females released)	<1% currently (R)

Data from +Shoun (2000).

OTHER RESOURCES: Big Cypress National Preserve is one of the largest single conservation areas in Florida and contains a great diversity of habitats. It supports one-third of the remaining population of Florida panthers, and contains significant Miccosukee and Seminole Indian cultural sites. **Picayune Strand State Forest** contains hundreds of acres (ha) of old-growth (100–300 year-old) slash pine flatwoods

THREATS: Big Cypress National Preserve: *human disturbance (Off-Road Vehicles), *exotic plants, *altered hydrology, habitat succession, feral hogs, development (expansion of oil- and gas-drilling) [not anymore?]. [Need information for the other sites].

CONSERVATION ISSUES: Big Cypress National Preserve: In the early 1970s, an international airport and massive city were nearly built in Big Cypress Swamp, but this plan was scrapped when it was documented that the development would destroy Everglades National Park. The entire Big Cypress Swamp later was protected by the Federal Government, but a runway 3 miles (4.8 km) in length already had been constructed. This runway continues to be used by airline pilots for practicing take-offs and landings. • Altered quality and quantity of water flowing into the Preserve has impacted natural communities. • A proposal to expand oil and gas extraction activities is in the development and writing stages [not anymore?]. • Off-Road Vehicle (ORV) use of Big Cypress National Preserve has been substantial, and has damaged large portions of the Preserve; literally thousands of miles (km) of trails exist. An ORV management plan was recently established and will limit ORVs to a maximum of 400 miles (640 km) of existing trails. • An active program to control exotic plants is

underway. • Prescribed fires are set to restore and maintain fire-dependent communities. • **Picayune Strand State Forest** contained only four Red-cockaded Woodpeckers (all males) by 2000. Three females from Apalachicola National Forest were released into the Forest to rejuvenate the population. Based on the amount of old-growth habitat available, 25–30 woodpecker clusters may eventually be established.

Determination of the current range and population size of “Cape Sable” Seaside Sparrows at Big Cypress National Preserve should be a priority (+Post and Greenlaw 2000).

NOMINATED BY: Deborah Jansen (Big Cypress National Preserve), _____

REFERENCES: +Post, W., and J.S. Greenlaw. 2000. The present and future of the Cape Sable Seaside Sparrow. *Florida Field Naturalist* 28: 93–110. • +Pumilio, J., D. Jansen, and M. Dusek. 1997. Big Cypress National Preserve bird checklist. Big Cypress National Preserve. Ochopee, FL. • +Shoun, J. 2000. Biologists hope endangered woodpeckers will mate in state park [= state forest]. *Naples Daily News*, 8 December 2000. • +Stevenson, H.M., and B.H. Anderson. 1994. *The Birdlife of Florida*. University Press of Florida. Gainesville, FL. • +USFWS 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, Georgia.

WEBSITES: <<http://www.nps.gov/bicy>>,
<http://www.fl-dof.com/state_forests/Picayune_Strand.htm>,
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/flpanthr.htm>>,
<<http://www.dep.state.fl.us/parks/district4/fakahatcheestrand>>,
<<http://www.dep.state.fl.us/parks/district4/collier-seminole>>

BIG MARCO PASS SHOAL

Collier County

___ acres (___ ha)

LOCATION: on Marco Island in southwestern Collier County. [[More information](#)]

DESCRIPTION: sandflats about 0.6 miles (1 km) in length along the northwestern shoreline of Marco Island. The island is a former mangrove forest converted to a 2000 acre (800 ha) residential development beginning in the 1960s. Big Marco Pass Shoal is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. The shoal receives ___ recreationists annually. This site is also known as Tigertail Beach.

OWNERSHIP: State of Florida (sovereign lands)

HABITATS: *coastal strand, estuarine

LAND USE: *conservation, *recreation

IBA CATEGORIES: significant populations of Threatened, Special Concern, FCREPA, and Watch List species; significant numbers of shorebirds and larids; significant natural habitats; and long-term research

AVIAN DATA: Big Marco Pass is critically important for wintering Piping Plovers, other shorebirds, and breeding and roosting larids. Ted Below has conducted 798 twice-weekly shorebird and larid surveys of Marco Island since 1992. [[Is a bird list available?](#)].

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	1972–present	mean of 3 nests [range?]	1% (B)
	Jan–Feb 2001	17 birds	4% (R)
Wilson's Plover	1974–1999	mean of 15 nests [range?]	7% (B)
	winter 1999	35 birds	7% (W)
Piping Plover	Jan–Feb 2001	41 birds	8% (W)
	several 1999 surveys	mean of 103 birds [range?]	(W)
Shorebirds	several 1999 surveys	mean of 2000 birds [range?]	(W)
Royal Tern	several 1999 surveys	mean of 404 birds [range?]	(N)
Sandwich Tern	several 1999 surveys	mean of 517 birds [range?]	(N)
Black Skimmer	summer 1999	567 nests	35% (B)
Long-term research	since 1992		798 censuses by Ted Below

Data provided by Ted Below (Audubon of Florida)

OTHER RESOURCES: none known

THREATS: *development, *human disturbance

CONSERVATION ISSUES: Marco Island is a massive development surrounded by extensive mangrove forests (*see* Myers and Ewel 1990: 518 for photographs of Marco Island before and after development). The beach along the west side of the island is proposed [[now designated?](#)] by the U.S. Fish and Wildlife Service as critical wintering habitat for Piping Plovers. However, any conservation action on Marco Island is vehemently opposed by the pro-development community. Hence, proposed designation by the U.S. Fish and Wildlife Service of the outer beach and flats as Critical Wintering Habitat for Piping Plovers has been emphatically fought by local residents, even though designation merely maintains the status quo. The inner beach is heavily used for recreation, while the outer beach and flats—the area most used by plovers—are seldom used by humans.

NOMINATED BY: Ted Below (Audubon of Florida)

BISCAYNE BAY

Bird Key (1 acre; 0.4 ha), **Bill Baggs–Cape Florida State Park** (412 acres; 164 ha), **Biscayne National Park** (172,924 acres [69,169 ha], with about 8500 acres [3400 ha] of uplands), **The Deering Estate at Cutler** (420 acres; 171 ha), and **Matheson Hammock Park** (629 acres; 251 ha)

Miami-Dade County

174,386 acres (69,757 ha), with about 9962 acres (3987 ha) of uplands

[This IBA needs additional information].

LOCATION: all sites are east of Miami in eastern Miami-Dade County. **Bird Key** is located in Biscayne Bay about 300 feet (90 m) east of the Intracoastal Waterway and less than 1 mile (<1.6 km) south of North Bay Causeway (State Road 934). **Bill Baggs–Cape Florida State Park** comprises the southern end of Key Biscayne, which forms the northern boundary of Biscayne Bay. **Biscayne National Park** occupies a substantial portion of the Miami-Dade County shoreline between Kendall and Turkey Point. Most of the Park consists of open water of Biscayne Bay. **The Deering Estate at Cutler** is on the mainland south of Kings Bay and is adjacent to the northern mainland boundary of Biscayne National Park. The Estate also includes Chicken Key, about 0.8 miles (1.5 km) offshore. **Matheson Hammock Park** is on the mainland east of Kendall. This IBA is nearly adjacent to the Florida Keys Ecosystem IBA to the south.

DESCRIPTION: **Bird Key** is a small mangrove key within the Flight Control Area of Miami International Airport. This may explain its omission from the state's colonial waterbird surveys, which are based primarily on aerial surveys. **Bill Baggs–Cape Florida State Park** formerly was composed largely of an Australian-pine forest, but now is being replanted largely with native species. The State Park receives 900,000 recreationists annually. **Biscayne National Park** is composed mostly of open salt water but includes a narrow fringe along the mainland. The Park also contains the northernmost Florida Keys, which because of their relative inaccessibility, are generally in pristine condition. The largest of these are Old Rhodes Key (adjacent to Upper Key Largo) and Elliott Key, which is over 7 miles (11.2 km) in length. The National Park boundary extends 10–14 miles (16–22.4 km) off the mainland coast. Most of the Park is inaccessible except by private boat. Biscayne National Park receives 500,000 recreationists, mostly boaters, annually. **The Deering Estate at Cutler** emphasizes historical and natural preservation and environmental education. **Matheson Hammock Park** is a passive-recreation park that consists of mostly natural habitats. The Park receives ____ recreationists annually.

OWNERSHIP: U.S. National Park Service (Biscayne National Park), Florida Division of Recreation and Parks (Bill Baggs–Cape Florida State Park), State of Florida and Miami-Dade County (The Deering Estate at Cutler, managed by Miami-Dade County Park and Recreation Department and the Deering Estate Foundation), Miami-Dade County Park and Recreation Department (Matheson Hammock Park), private (Bird Key)

HABITATS: **Bird Key:** *mangrove forest, **Bill Baggs–Cape Florida State Park:** *coastal strand (under restoration), tropical hammock (under restoration), mangrove forest (under restoration), lacustrine (under restoration), artificial, **Biscayne National Park:** *open water, *tropical hammock, *mangrove forest, _____. **The Deering Estate at Cutler:** *pine rocklands (150 acres; 60 ha), tropical hammock (115 acres; 46 ha), mangrove forest, estuarine, artificial. **Matheson Hammock Park:** *tropical hammock, _____.

LAND USE: **Bird Key:** *conservation. **Bill Baggs–Cape Florida State Park:** *recreation, conservation. **Biscayne National Park:** *conservation, recreation. **The Deering Estate at Cutler:** *historic preservation, *environmental education, recreation, conservation. **Matheson Hammock Park** *recreation, *conservation.

IBA CATEGORIES: **Bird Key:** significant populations of Special Concern and IBA species; **Bill Baggs–Cape Florida State Park:** significant populations of Threatened and FCREPA species; and

significant numbers of Neotropical migrants. **Biscayne National Park:** significant natural habitats. **The Deering Estate at Cutler** significant natural habitats. **Matheson Hammock Park:** significant numbers and diversity of Neotropical migrants; and significant natural habitats.

AVIAN DATA: Bird Key supports a colonial waterbird rookery and a Magnificent Frigatebird roost. **Bill Baggs–Cape Florida State Park** is most important for Neotropical migrants, which can occur in large numbers, especially after storms. In a few hours during recent days during spring, thousands of wood-warblers were observed. Bird diversity for all sites combined is ___ native species. **Biscayne National Park:** >170 species. **The Deering Estate at Cutler:** no data. **Matheson Hammock Park** ____.

Bird Key:

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1999	125 pairs	1% (B)
Magnificent Frigatebird	1999	50 birds	1% (N)
White Ibis	1999	500 pairs	2% (B)

Data supplied by Harry Kelton (Pelican Harbor Seabird Station, Inc.)

Bill Baggs–Cape Florida State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Wilson's Plover	13 Aug 2000	23 birds	5% (N)
Least Tern	7 Aug 1997	205 birds	2% (N)
Wood-warblers	1 May 1999	1000s of birds	mostly Blackpoll and Black-throated Blue warblers
	30 May 2000	>4000 birds	mostly Black-throated Blue, Blackpoll, and Cape May warblers, American Redstarts, and Common Yellowthroats
Overall diversity	1994–2000	164 natives 7 exotics	[need earlier data]

Plover data provided by ____ (____), tern data provided by Elizabeth Golden (Florida Division of Recreation and Parks), wood-warbler observations by John Boyd published in *Florida Field Naturalist*.

Biscayne National Park:

SPECIES	DATES	NUMBERS	COMMENTS
Wading birds	___ Dec 1980	580 birds	(N)
Overall diversity	1980–2000	144 natives 3 exotics	CBC data only

Data from the Biscayne National Park CBC

OTHER RESOURCES: Bird Key: none known. **Bill Baggs–Cape Florida State Park** contains 16 listed plants, primarily in the coastal strand habitat, and 5 listed non-avian animals, including ♦ American crocodile (*Crocodylus acutus*), leatherback turtles, and loggerhead sea turtles. It also contains numerous dragonfly and butterfly species. • The Cape Florida Lighthouse was built in 1846. **Biscayne National Park** protects 44 barrier islands and keys, and the northernmost coral reef in North America. It preserves 14 continuous miles (22.4 km) of mangrove shoreline, the greatest extent remaining on the Atlantic coast. The National Park supports populations of 6 non-avian endangered vertebrates: ♦ Schaus' swallowtail butterfly (*Papilio aristodemus*), American crocodile, green turtle, hawksbill turtle, leatherback turtle, and Florida manatee. **The Deering Estate at Cutler** preserves

several historically significant buildings, including Charles Deering's "Stone House" built in 1922. The Richmond House (1896) and the Richmond Cottage (1900) are two of the few examples of early frame vernacular architecture remaining in southern Florida. Human remains from the Estate date back 10,000 years to the Paleo-Indians; Tequesta Indians occupied the site later, from 2000 YBP to the late 1700s. **Matheson Hammock Park** ____.

THREATS: Bird Key: [none?]. **Bill Baggs–Cape Florida State Park:** *proposed development (sports field), human disturbance, exotic plants, runoff. **Biscayne National Park:** *offsite development, human disturbance, runoff. **The Deering Estate at Cutler:** [none?]. **Matheson Hammock Park:** human disturbance.

CONSERVATION ISSUES: Bird Key: The landowner has permitted the Florida Fish and Wildlife Conservation Commission to close the island to the public to protect the rookery. **Bill Baggs–Cape Florida State Park:** Since Hurricane *Andrew* destroyed the State Park's predominantly exotic vegetation in August 1992, staff have been replanting with native species, which probably will increase its value to birds. Many areas still require work, and the vegetation needs to mature. • Exotic vegetation is controlled as needed by park staff and volunteers. • There is an ongoing local effort to develop a sports field within the park, a plan that is opposed by the State and Audubon. **Biscayne National Park:** [mention the plan to covert Homestead Air Force Base into a commercial airport!]. **The Deering Estate at Cutler** ____ . **Matheson Hammock Park** ____.

NOMINATED BY: Bird Key: Harry Kelton (Pelican Harbor Seabird Station, Inc.), **Bill Baggs–Cape Florida State Park:** Elizabeth Golden (Florida Division of Recreation and Parks), **Biscayne National Park, The Deering Estate at Cutler, and Matheson Hammock Park:** Mark Kraus and Bill Pranty (Audubon of Florida)

WEBSITES: <<http://www.biscayne.national-park.com>>, <<http://www.dep.state.fl.us/parks/district5/billbaggscape>>, <<http://www.metro-dade.com/parks/deering.htm>>

CORKSCREW SWAMP WATERSHED

Corkscrew Swamp Sanctuary (10,895 acres; 4358 ha), **Corkscrew Regional Ecosystem Watershed CARL–FF Project** (61,568 acres [24,627 ha], including 21,493 acres [8597 ha] acquired as **CREW Wildlife and Environmental Area**), and **Stairstep Mitigation Area** (____ acres; ____ ha)

Collier and Lee counties

72,463 acres (28,985 ha), with 32,388 acres (12,955 ha] acquired

LOCATION: in southeastern Lee County and northwestern Collier County, from County Road 850 south in a narrow band through Camp Keatis Swamp west of State Road 29 to Florida Panther National Wildlife Refuge. Contiguous with the Big Cypress Swamp Watershed IBA to the south.

DESCRIPTION: Corkscrew Swamp Sanctuary is one of the most significant natural areas in Florida, containing the largest virgin cypress swamp remaining in North America. The Corkscrew Regional Ecosystem Watershed Project was designed to further protect the Sanctuary by purchasing surrounding habitats, including a direct link to conservation areas to the south. The Stairstep Mitigation Area protects additional wetlands north of the Sanctuary. Corkscrew Swamp receives 100,000 recreationists annually and contains an environmental education center for about 6000 schoolchildren each year. The CREW Wildlife and Environmental Area receives ____ recreationists and ____ hunters annually.

OWNERSHIP: National Audubon Society (Corkscrew Swamp Sanctuary), South Florida Water Management District (acquired acreage of the Corkscrew Regional Ecosystem Watershed CARL–FF Project), and private owners (remaining acreage of the Corkscrew Regional Ecosystem Watershed CARL–FF Project) – what about Stairstep Mitigation Area?

HABITATS: *slash pine flatwoods, *cypress swamp, *sawgrass marsh, temperate hammock, agricultural fields, freshwater marsh, lacustrine, artificial

LAND USE: **Corkscrew Swamp Sanctuary:** *conservation, environmental education. **Corkscrew Regional Ecosystem Watershed CARL–FF Project:** *conservation, recreation, hunting, grazing. **Stairstep Mitigation Area:** *conservation.

IBA CATEGORIES: significant populations of Endangered and FRCREPA species; significant numbers of wading birds; significant natural habitats; and long-term research

AVIAN DATA: Corkscrew Swamp Sanctuary contains what often is the nation's largest Wood Stork rookery, although nesting success (which is dependent on local water levels) is extremely variable. The colony has been monitored annually since 1958. The Sanctuary also supports a diversity of Neotropical migrants, and large numbers of wintering landbirds. Corkscrew Swamp Sanctuary and the Stairstep Mitigation Area contain the third- and fourth-largest Swallow-tailed Kite roosts in the United States. Bird diversity of Corkscrew Swamp Sanctuary is 218 native species; neither of the other sites within the IBA is known to contain additional species.

Corkscrew Swamp Sanctuary:

SPECIES	DATES	NUMBERS	COMMENTS
Wood Stork	1997–2001 seasons	mean of 478 nests (range of 0–1721)	mean of 8%, range of 0–31% (B)
Swallow-tailed Kite	25 Jul 1989	344 birds	>20% (N)
	27 Jul 1996	348 birds	>20% (N)
	Jul 2000	<100 birds	6% (N)
Long-term research	since 1958		Wood Stork monitoring
Overall diversity	undated list	218 natives 4 exotics	

Stork data provided by Andrew Mackie (formerly of Audubon of Florida); kite roost data from +Bensen (1992), observations of Robbie Wooster published in *Florida Field Naturalist*, and provided by Ken Meyer (Avian Research and Conservation Institute).

CREW Wildlife and Environmental Area:

SPECIES	DATES	NUMBERS	COMMENTS
Wading birds [<u>Cattle Egrets?</u>]	Mar 1995	912 birds observed, 6100 estimated	(N)
	Aug 1995	1482 birds observed, 9900 estimated	(N)
	Mar 1996	756 birds observed, 5000 estimated	(N)
	Aug 1996	1501 birds observed, 10,000 estimated	(N)
	Mar 1997	1232 birds observed, 8200 estimated	(N)
Diversity	2001 list	110 natives 2 exotics	

Data from +Bozzo et al. (2001)

Stairstep Mitigation Area:

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	1990s	~200 birds	~13%

Data provided by Ken Meyer (Avian Research and Conservation Institute)

OTHER RESOURCES: Some cypresses at Corkscrew Swamp Sanctuary are more than 600 years old and up to 8 feet (2.4 m) in diameter. A 2.25-mile (3.6-km) boardwalk allows visitor access to several habitats at the Sanctuary, including wet prairie, cypress swamp, and “lettuce” lakes. The Sanctuary was designated by the U.S. Department of the Interior in 1964 as a Registered Natural History Landmark.

THREATS: *development, *human disturbance, *exotic plants, feral hogs [none of these are addressed in Conservation Issues]

CONSERVATION ISSUES: If acquisition efforts of the Corkscrew Regional Ecosystem Watershed CARL–FF Project are successful, Corkscrew Swamp Sanctuary and adjacent lands will be linked directly—albeit via a narrow corridor—with conservation areas to the south, such as Florida Panther National Wildlife Refuge, Big Cypress National Preserve, and Fakahatchee Strand State Preserve.

NOMINATED BY: Andrew Mackie (formerly of Audubon of Florida) and Bill Pranty (Audubon of Florida)

REFERENCES: +Bensen, K.J. 1992. Dynamics of an American Swallow-tailed Kite communal roost at Corkscrew Swamp Sanctuary, Florida. *Florida Field Naturalist* 20: 66–71. • +Bozzo, J., J. Schortemeyer, D. Myers, J. Goodwin, and D. Fousek. 2001. Corkscrew Regional Ecosystem Watershed General Management Plan, 2001–2006. Florida Fish and Wildlife Conservation Commission and South Florida Water Management District.

WEBSITE: <<http://www.audubon.org/local/sanctuary/corkscrew>>

EVERGLADES NATIONAL PARK

Miami-Dade and Monroe counties

1,550,865 acres (620,346 ha), nearly all acquired

LOCATION: at the southern tip of the Florida Peninsula, in western Miami-Dade County and virtually all of mainland Monroe County, ranging from Everglades City in the northwest to Florida City in the southeast. The Park is 43 miles (70 km) east to west and the same distance north to south. U.S. Highway 41 east of Forty-Mile Bend forms the Park's northern boundary, while its southern boundary extends into Florida Bay, including dozens of small keys, and approaches to within a few miles (km) of the Mainline Florida Keys. Contiguous with the Big Cypress Swamp Watershed IBA to the north, and near the Ten Thousand Islands National Wildlife Refuge IBA to the northwest.

DESCRIPTION: At 1,507,850 acres (603,140 ha), Everglades National Park is the largest single conservation area in Florida, and undoubtedly is one of the world's best-known natural treasures. It is an extremely diverse area and receives over 1,000,000 recreationists annually, of which one-third are from other countries. The former fishing village of Flamingo now contains a campground, visitor's center, lodge, restaurants, and living quarters for Park employees. The park and the entire Everglades ecosystem are currently targeted for the largest habitat restoration project in history, expected to cost \$8 billion and take 30 years to complete. This IBA also includes over 40,000 acres (16,000 ha) of adjacent marshland purchased to improve water flow to the park and to buffer it from development. These sites are the **Frog Pond–L-31 Transition Lands** portion of the **East Everglades CARL–FF Project** (6853 acres [2741 ha] acquired as **Frog Pond Wildlife Management Area**), **Southern Glades SOR Tract** (30,722 acres; 12,288 ha), and the **8.5 Square-Mile Area** (5440 acres; 2176 ha, some acquired).

OWNERSHIP: U.S. National Park Service (Everglades National Park), South Florida Water Management District (Southern Glades SOR Tract), Florida Division of Wildlife (Frog Pond Wildlife Management Area), and private owners (unacquired acreage of the East Everglades CARL–FF Project, and the 8.5 Square-Mile Area)

HABITATS: *sawgrass marsh, *tidal marsh, *tropical hammock, *mangrove forest, *estuarine, *cypress swamp, slash pine flatwoods, bayhead, freshwater marsh, cattail marsh, riverine, lacustrine, coastal strand, artificial

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers of wading birds, raptors, shorebirds, and larids; significant diversity of colonial waterbirds, shorebirds, and wintering wood-warblers; significant overall diversity; significant natural habitats; and long-term research

AVIAN DATA: Everglades National Park is the most ornithologically diverse site in Florida, supporting 340 native species. Although reduced by over 90% of their historic numbers—from 265,000 pairs in the 1930s to 18,500 pairs presently (reference?)—wading birds remain the most conspicuous birds of the Everglades. A few of the numerous other species with significant populations in the park are Bald Eagles, wintering American Kestrels and shorebirds, perhaps half of the state's breeding White-crowned Pigeons, and perhaps most of the world's population of “Cape Sable” Seaside Sparrows. Additionally, small numbers of perhaps two dozens species of wood-warblers winter regularly in the park; along with the Florida Keys, the Park probably contains the greatest diversity of wintering wood-warblers in North America.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1997–2000	mean of 404 pairs (range of 200–570)	mean of 4% (range of 2–6); (R)
“Great White” Heron	1997–2000	mean of 121 pairs (range of 4–200)	mean of 13% (range of <1–22); (R)
Great Egret	1997–2000	mean of 1042 pairs (range of 477–1407)	mean of 6% (range of 3–9); (R)
Tricolored Heron	1997–2000	mean of 124 pairs (range of 13–250)	(R)
Roseate Spoonbill	1997–2000	mean of 40 pairs (range of 0–119)	mean of 4% (range of 0–11); (R)
White Ibis	1997–2000	mean of 327 pairs (range of 151–520)	mean of 1% (range of <1–nearly 3); (R)
Wood Stork	1997–2000	mean of 519 pairs (range of 25–1592)	mean of 9% (range of <1–28); (R)
Wading Birds	1997–2000	mean of 2687 pairs (range of 1680–4386)	
Osprey	Dec 1997	27 nests	1% (B)
Swallow-tailed Kite	9 Aug 2001	140 birds	9% (N)
Snail Kite	1970	13 birds	6% of then-current numbers (R)
Bald Eagle	Feb 2000	55 pairs	5% (B)
American Kestrel	Feb 2000	1000 birds	(W)
Shorebirds	winter 1993–1994	>22,632 birds	Carl Ross Key (>10,000), the SE end of Lake Ingraham (4892), NW of Palm Key (5800), Sandy Key (477), and Snake Bight Channel (1463)
White-crowned Pigeon	1991	5055 nests	59% (B)
Mangrove Cuckoo	May 2000	?	(R)
“Cuban” Yellow Warbler	May 2000	?	(R)
“Cape Sable” Seaside Sparrow	May 2000	3500 birds	possibly 100% (R)
Wintering wood-warbler diversity	Dec 2000–Jan 2001	21 species	(W)
Overall diversity		340 natives 12 exotics	The most diverse IBA in Florida

Snail Kite data from +Sykes (1983); White-crowned Pigeon data from +Strong et al. (1991); 1997 wading bird data from +Bass and Oberhofer (1997) and +Browder et al. (1997), 1997 Osprey data from +Browder et al. (1998), 1998 data from +Bass and Osborne (1998), 1998–1999 spoonbill data from +Lorenz (1999), 1998 other 1999 wading bird data from +Bass and Osborne (1999) and +Browder et al. (1999), 2000 wading bird data from +Bass and Osborne (2000) and +Browder et al. (2000), shorebird data from +Sprandel et al. (1997), kite data from an observation by Bryant Roberts published in *Florida Field Naturalist*, wintering wood-warbler diversity from the Coot Bay–Everglades N.P. CBC and observations of Steve Backes and John Boyd, other data provided by Oron Bass, Jr. (U.S. National Park Service).

OTHER RESOURCES: Everglades Park is one of the nation's most valuable conservation areas, encompassing over 1.5 million acres (620,000 ha—nearly 2500 square miles or 620 square km). It has been designated an International Biosphere Preserve, a World Heritage Site, and a Wetland of International Significance. Dedicated in 1947, Everglades National Park contains 150 miles (240 km) of shoreline, the largest stands of pine rocklands and mangrove forests remaining in Florida, and

dozens of small mangrove keys in Florida Bay. Everglades National Park is the only area in the world in which alligators and crocodiles co-exist.

THREATS: *exotic plants, *altered hydrology, *sea-level rise, feral hogs

CONSERVATION ISSUES: The hydrology of the Park has been disrupted for agriculture and flood-control, which has severely impacted its wildlife and the health of Florida Bay. An \$8-billion, 30-year Everglades restoration project recently began, which is projected to involve filling in many drainage canals, reflooding marshes cut off from natural water flow, delivering more water to the park, and acquiring additional acreage. Funding is intended to be split evenly between the Federal and State governments, but the project already is behind schedule. • A management plan, including an intensive prescribed-burning program, is in place. • Water mismanagement! • It is absolutely critical to the ecosystems—and human residents—of South Florida that the Everglades restoration projects are completed. [Need to mention the issue of the 8.5 square-mile area].

NOMINATED BY: Oron Bass, Jr. (U.S. National Park Service)

REFERENCES: +Bass, S. and L. Oberhofer. 1997. Regional nesting report: Everglades National Park. Pages 3–4 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Bass, S., and J. Osborne. 1998. Regional nesting report: Everglades National Park. Page 5 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Bass, S., and J. Osborne. 1999. Regional nesting report: Everglades National Park. Page 7 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Bass, S., and J. Osborne. 2000. Regional nesting report: Everglades National park. Page 8 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Browder, J.A., O. Bass, J. Gebelein, and L. Oberhoffer. 1997. Regional nesting report: Florida Bay. Page 5 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Browder, J.A., J. Gebelein, M. Hearon, O. Bass, L. Oberhoffer, and J. Osborne. 1998. Regional nesting report: Florida Bay. Pages 6–7 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Browder, J.A., O. Bass, J. Osborne, J. Gebelein, L. Oberhoffer, M. Hearon, and T. Jackson. 1999. Regional nesting report: Florida Bay. Pages 8–9 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Browder, J.A., O. Bass, J. Osborne, J. Gebelein, L. Oberhoffer, T. Jackson, and M. Hearon. 2000. Regional nesting report: Florida Bay. Pages 9–10 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Lorenz, J. 1999. Regional nesting report: Roseate Spoonbill – Florida Bay. Pages 10–11 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Strong, A.M., R.J. Sawicki, and G.T. Bancroft. 1991. Estimating White-crowned Pigeon population size from flight-line estimates. *Journal of Wildlife Management* 58: 156–162. • +Sykes, P.W., Jr. 1983. Snail Kite use of the freshwater marshes of South Florida. *Florida Field Naturalist* 11: 73–88.

WEBSITES: <<http://www.nps.gov/ever>>,

<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/everglad.htm>>

FISHEATING CREEK WATERSHED

Fisheating Creek FF Project, with acquired acreage known as Fisheating Creek Wildlife Management Area

Glades and Highlands counties

176,760 acres (67,344 ha), including 18,272 acres (7308 ha) acquired, and perpetual conservation easements obtained on an additional 41,606 acres (16,642 ha)

LOCATION: much of northern Glades County and a portion of southeastern Highlands County, generally from the Glades/Highlands county line south to State Road 74 extending east along Fisheating Creek to Lake Okeechobee. The Fisheating Creek IBA is adjacent to the Babcock–Webb IBA to the west, and to the Lake Okeechobee IBA to the east. It is nearly contiguous with parts of the Lake Wales Ridge IBA to the north.

DESCRIPTION: a vast area west of Lake Okeechobee until recently mostly under a single ownership, roughly 26 miles (43 km) east to west. The State purchased the entire creek drainage in 1999 and intends to acquire perpetual conservation easements on >116,000 acres (>46,400 ha) of adjacent uplands. In 2000, an adjacent ranch in Highlands County was added to the Fisheating Creek FF Project. The Wildlife Management Area receives ____ recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Wildlife (Fisheating Creek Wildlife Management Area) and private owners (unacquired acreage of the Fisheating Creek FF Project, and conservation easements; monitored by the Florida Division of Wildlife)

HABITATS: *longleaf pine flatwoods, *temperate hammock, *dry prairie, *cypress swamp, *riverine, pine plantation, xeric oak scrub, non-native pasture, hardwood swamp, bayhead, freshwater marsh, cattail marsh, lacustrine, artificial, ♦ eucalyptus (*Eucalyptus* spp.) plantation

LAND USE: *conservation, *cattle grazing, recreation, hunting, timber production

IBA CATEGORIES: significant populations of Threatened and FCREPA species; significant numbers of raptors; and significant natural habitats

AVIAN DATA: The site is a Strategic Habitat Conservation Area for the Swallow-tailed Kite and Crested Caracara (+Cox et al. 1994), and contains a significant population of Florida Scrub-Jays. The largest Swallow-tailed Kite roost in North America is within the publicly owned area. “Florida” Grasshopper Sparrows previously occurred (and still may be present), and some areas are suitable for relocation efforts. [Is a bird list available?].

Excepting the Swallow-tailed Kite roost, all these data refer only to the 41,606 acres (16,642 ha) that comprise the “Phase 1 conservation easement lands;” totals for the entire property undoubtedly are higher for most, if not all, species.

SPECIES	DATES	NUMBERS	COMMENTS
Swallow-tailed Kite	used annually since discovery in 1986; highest numbers in the early 1990s	up to 2200 birds at once (1840 was peak in 2000); total use estimated at >3000 birds annually	up to 60% of the U.S. population (N)
Swallow-tailed Kite	22 Apr–22 May 2000	77 birds; 25–30 nests likely	4–5% (B)
Short-tailed Hawk	22 Apr–22 May 2000	4 birds; 2 probable nest sites	1% (B)
Crested Caracara	1–4 May 2000	7 pairs	3% (R)
“Florida” Sandhill Crane	26–27 Apr 2000	16 nests	1% (B)
Red-cockaded Woodpecker	14–20 Apr 2000	3 active clusters	<1% (R)
Florida Scrub-Jay	13–28 Apr 2000	71 groups	nearly 2% (R)

Kite data provided by Ken Meyer (Avian Research and Conservation Institute), all other data from +Enge and Douglass (2000). See also +Millsap (1987)

OTHER RESOURCES: the Fisheating Creek Watershed also is a Strategic Habitat Conservation Area for the Florida panther (+Cox et al. 1994), and contains large populations of three plants endemic to central Florida: ♦Edison’s St. John’s-wort (*Hypericum edisonianum*), cutthroatgrass, and ♦nodding pinweed (*Lechea cernua*). • Fisheating Creek is the only undammed tributary leading into Lake Okeechobee, and flows through largely natural areas all the way the Highlands County line, a distance of more than 25 miles (40 km). • At least 31 archaeological sites are known, including many associated with the Fort Center Site Complex of the Belle Glades culture (300–2200 YBP).

THREATS: *human disturbance, *habitat succession, exotic plants, feral hogs, runoff

CONSERVATION ISSUES: Fisheating Creek contains a staging area for Swallow-tailed Kites that is the largest in the United States. Up to **2200** kites have been seen at once, and perhaps 3000 individuals use the roost annually, which represents about 60% of the North American population. By the early 1990s, the roost moved from a cypress swamp to a grove of Australian-pines; disturbance from airboaters was thought to be the cause. • Florida Scrub-Jay habitat is mostly overgrown from long-term fire exclusion. Habitat within the acquisition area should be restored via prescribed fire as soon as possible, and some arrangement for management of scrub in the easement areas should also be attempted. • Reintroduction of “Florida” Grasshopper Sparrows into suitable (and if necessary, restored) dry prairie habitats within the FF Project should be considered. • Invasive exotic plants mostly are limited to the Hoover Dike along Lake Okeechobee along the eastern edge of the site. • Water quality in some canals has been reduced from agricultural runoff. [what about pine and Eucalyptus plantations?].

It is essential that managers of the Fisheating Creek Wildlife Management Area prohibit airboat use of the creek from early June to early September to protect the Swallow-tailed Kite roost from disturbance, and perhaps airboats should be banned from the site at all times.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REVIEWED BY: Ken Meyer (Avian Research and Conservation Institute)

REFERENCES: +Cox, J., R. Kautz, M. MacLaughlin, and T. Gilbert. 1994. *Closing the Gaps in Florida’s Wildlife Habitat Conservation System*. Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Enge, K.M., and N.J. Douglass. 2000. Easement documentation report (Volume II: vertebrate surveys) for Fisheating Creek Ecosystem – Phase 1, Glades County, Florida. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. • +Millsap, B.A. 1987. Summer concentration of American Swallow-tailed Kites at Lake Okeechobee, Florida, with comments on post-breeding movements. *Florida Field Naturalist* 15: 85–92.

J.N. “DING” DARLING NATIONAL WILDLIFE REFUGE

Lee County
6310 acres (2542 ha)

LOCATION: on Sanibel Island off western Lee County, encompassing much of the island north of Sanibel–Captiva Road. [Need more information]

DESCRIPTION: _____ The Refuge was established in 1945 to protect tidal habitats. The Refuge receives _____ recreationists annually. [Need more information]

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *tropical hammock, *mangrove forest, *estuarine, tidal marsh, artificial

LAND USE: *conservation, *recreation

IBA CATEGORIES: significant populations of Special Concern and FCREPA species; significant numbers of wading birds and shorebirds; significant diversity of mangrove forest species; and significant natural habitats

AVIAN DATA: The Refuge is most important for wading birds and shorebirds, with lesser numbers of waterfowl. Neotropical migrants are found in the hammocks in spring and fall.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1998–2000	mean of 456 pairs (range of 425–514)	mean of 4% (range of 4–5%) (B)
Snowy Egret	7 Feb 2000	463 birds	(N)
Tricolored Heron	Apr–Aug 1998	135 pairs	(B)
Reddish Egret	Apr 2000	10 birds	1% (N)
White Ibis	15 Aug 2000	1442 birds	3% (N)
Roseate Spoonbill	Jul 2000	66 birds	2% (N)
Black-necked Stilt	Mar 2000	319 birds	(W)
Short-billed Dowitcher	Mar 2000	1370 birds	(W)
Shorebirds	winter 1993–1994	1278 birds	(W)
Mangrove Cuckoo	May 1999	6 birds	(B)
“Florida” Prairie Warbler	9 May 2000	12 birds	(B)
Overall diversity		229 natives 9 exotics	1993 checklist – includes all of Sanibel and Captiva islands

1998 data from +Coppen (1998), 1999 pelican data from +Coppen (1999), 2000 pelican data from +Coppen (2000), cuckoo data provided by Charlie Ewell (Florida Ornithological Society), wood-warbler data provided by Jorge Coppen (U.S. Fish and Wildlife Service), shorebird data from +Sprandel et al. (1997), other data provided by Allison Baker (U.S. Fish and Wildlife Service).

OTHER RESOURCES: The Refuge contains extensive acreage of tropical hammock. • Other listed animals include the indigo snake, American crocodile, all four species of sea turtles, and Florida manatee. A listed plant that occurs onsite is the beautiful pawpaw. • Cultural resources include Calusa Indian mounds.

THREATS: *exotic plants, monofilament fishing line, runoff

CONSERVATION ISSUES: Exotic vegetation is the primary concern. Because of the small refuge staff size, control is difficult. Present goals are to achieve a maintenance level status. • High human use also is an issue, causing disturbance to wildlife. • Monofilament fishing line kills birds at roosting or nesting sites. • Runoff from the road surface could impact water quality in the estuary.

NOMINATED BY: J. Allison Baker (U.S. Fish and Wildlife Service)

REFERENCES: +Coppen, J. 1998. Regional nesting report: J.N. “Ding” Darling National Wildlife Refuge complex. Page 11 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water

management District. West Palm Beach, FL. • +Coppen, J. 1999. Regional nesting report: J.N. “Ding” Darling National Wildlife Refuge complex. Page 14 *in* South Florida wading bird report (D.E. Gawlik, editor). South Florida Water management District. West Palm Beach, FL. • +Coppen, J. 2000. Regional nesting report: J.N. “Ding” Darling National Wildlife Refuge complex. Page 14 *in* South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter shorebird survey. Final performance report. Florida Game and Fresh Water Fish Commission. Tallahassee, FL.

WEBSITE: <<http://dingdarling.fws.gov>>,

<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/dingdarl.htm>>

LAKE OKEECHOBEE

Glades, Hendry, Martin, Okeechobee, and Palm Beach counties

470,000 acres (188,000 ha), including >28,250 acres (>11,300 ha) of marshland

LOCATION: in south-central Florida, bordered by Glades County to the west, Okeechobee County to the north, Martin County to the northeast, Palm Beach County to the southeast and south, and Hendry County to the southwest. Contiguous with the Kissimmee Lake and River IBA to the north and the Fisheating Creek Watershed IBA to the west. Near part of the Loxahatchee River and Slough IBA to the east.

DESCRIPTION: at over 730 square miles (1880 square km), Lake Okeechobee is the second-largest freshwater lake entirely within the Lower 48 states (second only to Lake Michigan). It is quite shallow, with its deepest portions only 20 feet (6 m) deep. Much of the southern and western portions are composed of extensive marshes. Hurricanes in the 1920s swept over the lake, causing it to overflow its banks, which killed over 2000 people at Belle Glade, Okeechobee, and Moore Haven. To prevent this human tragedy from recurring, an earthen dike 35 feet (10.5 m) tall and 140 miles (224 km) long was built from the 1930s to the 1960s, completely encircling the lake. This dike separated the lake from the Everglades, into which it previously drained. Extensive marshes remain inside the dike, along the lake's western half and to a lesser degree in the south and southeast. There is even a development – a campground a marina complex – built on uplands inside the dike. For several decades, water levels in Lake Okeechobee have been manipulated for human uses and the lake now serves primarily as an artificial reservoir. Unnatural water levels, and unseasonable releases of water into the Everglades to protect agricultural lands, have had devastating effects on the lake, the Everglades, and their associated wildlife. The lake receives about 2,500,000 recreationists and 60,000 waterfowl hunters annually.

OWNERSHIP: State of Florida; 28,250 acres (11,300 ha) of marshes in the western portion of the Lake are designated as Audubon Sanctuaries

HABITATS: *lacustrine, *freshwater marsh, cattail marsh, and sawgrass marsh, willow heads, mudflats

LAKE USES: *conservation, *water supply (up to 700 million gallons per day; 2.6 billion liters/day), *recreation, *fishing, hunting, and commercial uses (frogs, alligators, turtles, lotus seeds)

IBA CATEGORIES: significant populations of Endangered, Threatened, FCREPA, and IBA species; significant numbers of aquatic birds, wading birds, and shorebirds; significant natural habitats; and long-term research.

AVIAN DATA: Lake Okeechobee is (or was) one of the two most critical sites in Florida for Snail Kites in Florida, and when water levels are favorable, is used abundantly by wading birds, waterfowl, and shorebirds. [Is a bird list available?].

Current statewide estimates are not applied to the wading bird data because of their age, but the numbers clearly are extremely significant.

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	1977–1981 (highest monthly count per year)	mean of 5823 birds (range of 2090–13,210)	(N)
	1977–1981 (highest monthly count per year)	mean of 1352 pairs (range of 100–3250)	(B)
Snowy Egret	1977–1981 (highest monthly count per year)	mean of 2285 birds (range of 625–5622)	(N)
	1977–1981 (highest monthly count per year)	mean of 315 pairs (range of 50–750)	(B)
White Ibis	1977–1981 (highest monthly count per year)	mean of 9682 birds (3040–20,525)	(N)
	1977–1981 (highest monthly count per year)	mean of 1910 pairs (range of 0–3050)	(B)
Glossy Ibis	1977–1981 (highest monthly count per year)	mean of 612 birds (range of 156–1155)	(N)
	1977–1981 (highest monthly count per year)	mean of 80 pairs (range of 0–200)	(B)
Wood Stork	1977–1981 (highest monthly count per year)	mean of 920 birds (range of 0–1407)	(N)
Wading birds	1977–1981 (highest monthly count per year)	mean of 19,352 birds (range of 8297–41,519)	(N)
	1977–1981 (highest monthly count per year)	mean of 4081 pairs (range of 1695–6350)	(B)
	Jul 1990	50,000 birds	(N)
Lesser Scaup	20 Apr 1999	between 750–1650 pairs	aerial surveys only (B)
	winters of 1990–1991 to 2000–2001	mean of 70,000 birds (range of 35,000–91,000)	(W)
Waterfowl	1981–1982	11,886 birds	Fisheating Bay only (W)
American Coot	winters of 1995–1996 to 2000–2001	mean of 19,000 birds	(W)
Snail Kite	1973–1980	mean of 47 birds (range of 39–214)	16–33% of then-current numbers (R)
	1996	35 nests	
	1999–2000	0 nests	8% (R)
Bald Eagle	1999–2000	10 nests within 1.5 miles (2.4 km) of the lake	lake mismanagement nearly 1% (B); lake used extensively for foraging
Shorebirds	drought periods 17 Mar 2001	1000–10,000 birds “thousands” of birds	mostly yellowlegs, with hundreds of dowitchers, peeps, and others
Black Skimmer	annually in recent years	>1000 birds	Jaycee Park roost (N)
Long-term research	since the 1940s		wading bird and Snail Kite monitoring by Audubon wardens
Overall diversity		_____ natives _____ exotics	

Waterfowl data from +Johnson and Montalbano (1984), 1977–1981 wading bird data from +Zaffke (1984), 1990 wading bird data from +Smith et al. (1995), 1999 wading bird data provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), scaup and coot data from annual Midwinter Waterfowl Inventory of the (former) Florida Game and Fresh Water Fish Commission, provided by Paul Gray (Audubon of Florida), kite data

from +Sykes (1983), and provided by Victoria Dreitz and Wiley Kitchens (1996 data; University of Florida), and by Paul Gray (1999–2000 data; Audubon of Florida), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), shorebird and skimmer data by Paul Gray (Audubon of Florida); 17 Mar 2001 observation by Dave Goodwin.

OTHER RESOURCES: Islands along the southern portion of Lake Okeechobee support one of only two known populations of the ♦Okeechobee gourd (*Cucurbita okeechobeensis*).

THREATS: *exotic plants, *altered hydrology, *runoff, human disturbance

CONSERVATION ISSUES: “... Lake Okeechobee is managed under a multiple-use concept that includes competing objectives such as: flood control, water supply, protection against saltwater intrusion for wellfields, production of fish and [other] wildlife resources, recreation, and a water source for the Water Conservation Areas and Everglades National Park” +(David 1994a). See +David (1994b) for a comparison of wading bird use of Lake Okeechobee relative to water levels. • Lake Okeechobee is used by the South Florida Water Management District primarily as a water storage reservoir. The optimal water depth is between 12–15 feet (3.6–4.5 m) above mean sea level (MSL), a level that was maintained through the 1970s. However, state agencies maintained extremely high water levels (above 15 feet [4.5 m] MSL) during the late 1990s, which drowned out more than 50,000 acres (20,000 ha) of marshes and willow stands. This action virtually extirpated all wading birds, waterfowl, and Snail Kites +(see Smith et al. 1995). During the drought of 2001, when Snail Kites needed nesting and foraging habitats, the South Florida Water Management District pumped water out of the lake (dropping its level to a record low of 9 feet [2.7 m] MSL) to supply water for the Everglades Agricultural Area immediately to the south. The subsequent pumping of polluted irrigation water back *into* the lake contributed to its rapid refilling, and prevented drowned plant communities from becoming reestablished. • Agricultural runoff from farms along the Kissimmee River and the lake's northern shore has resulted in large amounts of phosphorus (around 200 parts per billion) entering the lake, which has caused massive algae blooms, the spread of cattails over preferred vegetation, increased turbidity, changes from a sand-bottom community to a mud-based community, and other damaging impacts. A management plan has recommended a maximum phosphorus level of about 40 parts per billion.

The agencies responsible for managing Lake Okeechobee claim to manage the lake for its value to wildlife, but their management practices strongly indicate otherwise.

NOMINATED BY: Paul Gray (Audubon of Florida)

REFERENCES: +David, P.G. 1994a. Wading bird nesting at Lake Okeechobee, Florida: An historic perspective. *Colonial Waterbirds* 17:69–77. • +David, P.G. 1994b. Wading bird use of Lake Okeechobee relative to fluctuating water levels. *Wilson Bulletin* 106: 719–732. • +Johnson, F.A., and F. Montalbano. 1984. Selection of plant communities by wintering waterfowl on Lake Okeechobee, Florida. *Journal of Wildlife Management* 48:174–178. • +Smith, J.P., J.R. Richardson, and M.W. Collopy. 1995. Foraging habitat selection among wading birds (Ciconiiformes) at Lake Okeechobee, Florida in relation to hydrology and vegetative cover. *Archives of Hydrobiological Special Issues of Advanced Limnology* [is this the correct journal name?] 45: 247–285. • +Sykes, P.W., Jr. 1983. Snail Kite use of the freshwater marshes of South Florida. *Florida Field Naturalist* 11: 73–88. • +Zaffke, M. 1984. Wading bird utilization of Lake Okeechobee marshes 1977–1981. Technical Publication 84-9. South Florida Water Management District. [West Palm Beach, Florida].

WEBSITE: <http://www.sfwmd.gov/koe_section/2_lakeokee.html>

LITTLE ESTERO LAGOON**Lee County**

<10 acres (<4 ha)

LOCATION: in southwestern Lee County south of Fort Myers, at the very southern tip of Estero Island (Fort Myers Beach)

DESCRIPTION: Located at the southern end of a Gulf barrier island, Little Estero Lagoon is quite dynamic, with frequent changes occurring to the outer beach, dunes, and lagoon inlets. Extensive mudflats are exposed on the lagoon side of the sandbar during low tides. Little Estero Lagoon is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. The site receives an estimated 36,500 recreationists annually.

OWNERSHIP: City of Fort Myers Beach

HABITATS: *coastal strand, mangrove forest, estuarine

LAND USE: *recreation, conservation

IBA CATEGORIES: significant populations of Threatened, FCREPA, and Watch List species; and significant numbers of shorebirds and larids.

AVIAN DATA: Little Estero Lagoon supports significant populations of resident and migratory shorebirds, and breeding and roosting larids. It is especially important for small plovers.

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Plover	4 Aug 2000	10 birds	2% (R); up to 20 birds in recent years
	Jan–Feb 2001	15 birds	3% (R); “Estero Island”
Wilson's Plover	4 Aug 2000	24 birds	6% (N)
	25 Nov 2000	50 birds	(W)
Piping Plover	25 Nov 2000	30 birds	6% (W)
	Jan–Feb 2001	9 birds	2% (W); “Estero Island”
Red Knot	fall 1999	up to 1000 birds	(M)
Royal Tern	winter 1999–2000	300 birds	(W)
Sandwich Tern	winter 1999–2000	200 birds	(W)
	25 Nov 2000	200 birds	(W)
Least Tern	Jun–Jul 2000	>50 pairs	1% (B)
Black Skimmer	25 Nov 2000	500 birds	(W)
Overall diversity	since 1997	70 natives 2 exotics	List compiled by Charlie Ewell

2001 plover data provided by Patty Kelly (U. S. Fish and Wildlife Service), all other data provided by Charlie Ewell (Florida Ornithological Society)

OTHER RESOURCES: none known

THREAT: *human disturbance

CONSERVATION ISSUES: The upper beach and dunes of Little Estero Lagoon is a designated Critical Wildlife Area, and is posted against human entry during 1 April–31 August. However, human intrusion occurs frequently, causing severe disturbance to beach-nesting and -roosting shorebirds and larids.

NOMINATED BY: Charlie Ewell (Florida Ornithological Society)

LOXAHATCHEE RIVER AND SLOUGH

Atlantic Coastal Ridge CARL–FF Project (13,112 acres [5244 ha], 5971 acres [2388 ha] acquired), **City of West Palm Catchment Area** (14,592 acres; 5836 ha), **Dupuis Reserve** (21,935 acres; 8774 ha), **J.W. Corbett Wildlife Management Area** (60,224 acres; 24,089 ha), **Jonathan Dickinson State Park** (11,573 acres; 4629 ha), **Loxahatchee Slough Natural Area** (10,838 acres; 4335 ha), **Loxahatchee Slough SOR Tract** (1426 acres; 570 ha), and the **Pal-Mar CARL–FF Project** (35,409 acres [14,163 ha], 12,737 acres [5094 ha] acquired). [and Loxahatchee Greenway?]

Martin and Palm Beach counties

169,109 acres (67,634 ha), with 139,296 acres (55,718 ha) acquired

[This IBA needs additional information]

LOCATION: in southern and eastern Martin County and northern Palm Beach County, encompassing several sites south of St. Lucie Canal between Lake Okeechobee and the Atlantic Ocean. Near the Lake Okeechobee IBA to the west and the Northern Everglades IBA to the south.

DESCRIPTION: ____ Visitation to the sites is: ____ recreationists and 12,000 [check this!] hunters for Corbett Wildlife Management Area, ____ recreationists and ____ hunters for Dupuis Reserve, and ____ recreationists for Jonathan Dickinson State Park.

OWNERSHIP: Florida Division of Recreation and Parks (Jonathan Dickinson State Park), Florida Division of Wildlife (J.W. Corbett Wildlife Management Area), South Florida Water Management District (Dupuis Reserve, Loxahatchee Slough SOR Tract), Palm Beach County Department of Environmental Resource Management (Loxahatchee Slough Natural Area), West Palm Beach (City of West Palm Beach Water Catchment Area), and private owners (remaining acreage of the Atlantic Coastal Ridge CARL–FF Project and the Pal-Mar CARL–FF Project)

HABITATS: slash pine flatwoods, freshwater marsh, sawgrass marsh, sand pine scrub, xeric oak scrub, riverine, and lacustrine [need to identify the primary habitats]

LAND USE: ____

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers of wading birds; and significant natural habitats.

AVIAN DATA: ____ Bird diversity for all sites combined is ____ native species. [Is a bird list available for any site?].

City of West Palm Beach Water Catchment Area:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	Apr 1999	600 pairs	4% (B)
Snowy Egret	Apr 1999	300 pairs	(B)
White Ibis	Apr 1999	600 pairs	3% (B)
Wood Stork	Apr 1999	300 pairs	5% (B)
Wading birds	Apr 1999	>2700 pairs	(B)
Snail Kite	12 Jun 1985	372 birds	37% (N)
	May 1989	212 birds	21% (N)
	1991	11 nests	2% (B)

Wading bird data from [where? not in South Florida Wading Bird Report]; Snail Kite data from +Rumbold and Mihalik (1994)

J.W. Corbett Wildlife Management Area

SPECIES	DATES	NUMBERS	COMMENTS
Red-cockaded Woodpecker	1999	8 clusters	<1% (R)

Data from the +USFWS (2000)

Jonathan Dickinson State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Florida Scrub-Jay	1999	25–30 groups	<1% (R)

Data provided by Hank Smith (Florida Division of Recreation and Parks)

Palm Beach County Solid Waste Authority:

SPECIES	DATES	NUMBERS	COMMENTS
Anhinga	9 May 2000	330 nests	(B)
White Ibis	9 May 2000	962 nests	5% (B)
Wood Stork	9 May 2000	172 nests	3% (B)
Wading birds	9 May 2000	2024 nests	(B)

Data from +Mihalik and Sandt (2000)

All sites combined:

SPECIES	DATES	NUMBERS	COMMENTS
Bald Eagle	1998–1999 and 1999–2000	12 nests	1% (B); nests distributed as follows: Dupuis Reserve (7), Corbett Wildlife Management Area (3), Jonathan Dickinson State Park (1), and the City of West Palm Beach Water Catchment Area (1)

Bald Eagle GIS database provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: ____ The Loxahatchee Greenways Natural Resource Task Force is working to connect the remaining natural areas within the Loxahatchee River watershed.

THREATS: ____

CONSERVATION ISSUES: ____

NOMINATED BY: Bill Pranty (Audubon of Florida) and ____

REVIEWED BY: ____

REFERENCES: +Rumbold, D.G., and M.B. Mihalik. 1994. Snail Kite use of a drought-related habitat and communal roost in West Palm Beach, Florida: 1987–1991. *Florida Field Naturalist* 22: 29–38. • +Mihalik, M.B., and T. Sandt. 2000. Regional nesting report: Solid Waste Authority of Palm Beach County. Page 11 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +USFWS. 2000. Technical/agency draft revised recovery plan for the Red-cockaded Woodpecker (*Picoides borealis*). U.S. Fish and Wildlife Service. Atlanta, GA.

WEBSITE: <<http://www.dep.state.fl.us/parks/district5/jonathandickinson>>

NORTHERN EVERGLADES

Arthur R. Marshall Loxahatchee National Wildlife Refuge (145,787 acres; 58,314 ha), **East Coast Buffer** (15,164 acres; 6065 ha), **Everglades Buffer Strip North** (1155 acres; 462 ha), **Everglades and Francis S. Taylor Wildlife Management Area** (671,831 acres; 268,732 ha), **Holey Land Wildlife Management Area** (35,350 acres; 14,140 ha), **Rotenberger Wildlife Management Area** (27,810 acres; 11,124 ha), and **Talisman property** (51,210 acres; 20,484 ha). Private lands are sought for public acquisition through the **East Everglades CARL–FF Project** (104,615 acres unacquired; 41,846 ha) and **Stormwater Treatment Areas SOR project** (47,630 acres; 19,052 ha, with 45,519 acres acquired; 18,207 ha).

Broward, Miami-Dade, and Palm Beach counties

1,100,552 acres (440,220 ha), with 993,916 acres (397,566 ha) acquired

[This IBA needs additional information]

LOCATION: much of southern and western Palm Beach County, central and western Broward County, and northwestern Miami-Dade County, from the Everglades Agricultural area south to Everglades National Park. Contiguous with the Everglades National Park IBA to the south and the Big Cypress Swamp Watershed IBA to the west. Near the Loxahatchee River and Slough IBA to the north.

DESCRIPTION: a vast area of Everglades marsh and agricultural lands part of Everglades restoration north of, and contiguous with, Everglades National Park. Most of the marsh portions of this IBA are accessible only via airboat. Many of the sites are State-owned Water Conservation Areas that are managed by the Florida Fish and Wildlife Conservation Commission as Wildlife Management Areas. Water Conservation Area 1 is leased to the Federal Government as Arthur R. Marshall Loxahatchee National Wildlife Refuge, and receives 305,000 recreationists and ____ hunters annually.

OWNERSHIP: Florida Division of Wildlife (Holey Land Wildlife Management Area and Rotenberger Wildlife Management Area), South Florida Water Management District (all other publicly owned sites; Everglades and Taylor Wildlife Management Area is managed by Florida Division of Wildlife, and Loxahatchee National Wildlife Refuge is managed by U.S. Fish and Wildlife Service), and private owners (remaining acreage of the East Everglades CARL–FF Project and the Stormwater Treatment Areas SOR Project).

HABITATS: **Arthur R. Marshall Loxahatchee National Wildlife Refuge:** *wet prairie (56,478 acres; 22,591 ha), *sawgrass marsh (28,042 acres; 11,216 ha), *tree islands (21,915 acres; 8766 ha), cattail marshes (5726 acres; 2290 ha), cypress swamp (400 acres; 160 ha), open water (282 acres; 112 ha), and sloughs (272 acres; 108 ha). [need information for the other sites]

LAND USE: *conservation, *recreation, *water storage and supply

IBA CATEGORIES: significant populations of Endangered, Special Concern, and FCREPA species; significant numbers of wading birds; significant natural habitats; [and long-term research?]

AVIAN DATA: Bird diversity of all sites combined is ____ native species. [Is a bird list available for the other WCAs?].

Arthur R. Marshall Loxahatchee National Wildlife Refuge:

SPECIES	DATES	NUMBERS	COMMENTS
Great Egret	1997–2000	mean of 979 nests (range of 516–2037)	mean of 6% (range of 3–13%) (B)
Snowy Egret	1997–2000	mean of 154 nests (range of 15–470)	(B)
Little Blue Heron	1997–2000	mean of 1124 nests (range of 557–1592)	mean of 15% (range of 9–26%) (B)
Tricolored Heron	1997–2000	mean of 1124 nests (range of 147–489)	(B)
White Ibis	1997–2000	mean of 2167 nests (range of 873–5780)	mean of 12% (range of 5–33%) (B)
Wading birds	1997–2000	mean of 5690 nests (range of 2064–11,416)	(B)
Snail Kite	1967–1980	mean of 11 birds (range of 0–45)	up to 44% (1970) of then-current numbers (R)
Overall diversity	Sep 1998 list	252 natives 6 exotics	

Kite data from +Sykes (1983); 1997 data from +Bailey and Jewell (1997), 1998 data from +Bailey et al. (1998), 1999 data from +Thomas et al. (1999), 2000 data from +Thomas et al. (2000)

Water Conservation Areas 2 and 3:

SPECIES	DATES	NUMBERS	COMMENTS
Anhinga	1997–2000	mean of 1095 nests (range of 318–2181)	(B)
Great Egret	1997–2000	mean of 3179 nests (range of 2608–4373)	mean of 20% (range of 17–29%)
Snowy Egret	1997–2000	mean of 904 nests (226–2388)	(B)
Little Blue Heron	1997–2000	mean of 634 nests (range of 209–1311)	mean of 8% (range of 3–21%)
Tricolored Heron	1997–2000	mean of 984 nests (range of 629–1278)	(B)
White Ibis	1997–2000	mean of 7070 nests (range of 535–21,117)	mean of 40% (range of 3–“123”%) (B)
Roseate Spoonbill	1997–2000	mean of 21 nests (range of 10–47)	mean of 2% (range of 1–4%) (B)
Wood Stork	1997–2000	mean of 213 nests (0–500)	mean of 3% (range of 0–9%) (B)
Wading birds	1997–2000	mean of 14,246 nests (range of 6241–29,728)	
Snail Kite	1975–1980	mean of 129 birds (range of 50–421)	up to 80% of then-current numbers (R)

Kite data from +Sykes (1983), 1997 data from +Frederick and Battaglia (1997), 1998 data from +Frederick and Fontaine (1998), 2000 data from +Frederick et al. (2000)

OTHER RESOURCES: ____ Arthur R. Marshall Loxahatchee National Wildlife Refuge represents the last remaining parcel of the Northern Everglades system and contains a 400 acre (160 ha) remnant cypress swamp. It also supports 25 species of dragonflies,

THREATS: ____ [exotic plants, water mismanagement, etc.]

CONSERVATION ISSUES: In 1999, some Florida Legislators proposed breaking the lease of Arthur R. Marshall Loxahatchee National Wildlife Refuge with the Federal Government and selling the Refuge to sugar cane and other agricultural interests (!). Fortunately, this appalling legislation failed to pass.

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCES: +Bailey, M.[M.], and S.D. Jewell. 1997. Regional nesting report: A.R.M. Loxahatchee National Wildlife Refuge. Pages 6–7 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Bailey, M.M, S.D. Jewell, and W.G. Thomas. 1998. Regional nesting report: A.R.M. Loxahatchee National Wildlife Refuge. Page 9 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Frederick, P, and D. Battaglia. 1997. Regional nesting reports: Water Conservation Areas 2 and 3. Pages 2–3 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Frederick, P, and P. Fontaine. 1998. Regional nesting reports: Water Conservation Areas 2 and 3. Pages 3–5 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Frederick, P, M. Ruane, and B. Hylton. 2000. Regional nesting reports: Water Conservation Areas 2 and 3. Pages 4–5 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Sykes, P.W., Jr. 1983. Snail Kite use of the freshwater marshes of South Florida. *Florida Field Naturalist* 11: 73–88. • +Thomas, B., L. Brandt, and M.[M]. Bailey. 1999. Regional nesting report: A.R.M. Loxahatchee National Wildlife Refuge. Pages 5–6 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL. • +Thomas, B., M.[M]. Bailey, and L. Brandt. 2000. Regional nesting report: A.R.M. Loxahatchee National Wildlife Refuge. Pages 6–7 in South Florida wading bird report (D.E. Gawlik, editor). South Florida Water Management District. West Palm Beach, FL.

WEBSITES: <<http://loxahatchee.fws.gov>>,

<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/loxahatc.htm>>

PINE ISLAND NATIONAL WILDLIFE REFUGE

Lee County

602 acres (240 ha) of uplands

LOCATION: in Pine Island Sound in northwestern Lee County

DESCRIPTION: 17 small keys between Cayo Costa and Pine Island. Four of the islands (Broken Island, Hemp Key, Pine Island Bird Key, and Useppa Bird Key) support or have supported colonial water bird colonies.

OWNERSHIP: U.S. Fish and Wildlife Service (all islands except Hemp Key) and private owners (Hemp Key)

HABITATS: *mangrove forest, tropical hammock, estuarine

LAND USE: *conservation, recreation, private (Hemp Key)

IBA CATEGORIES: significant populations of Special Concern species; significant numbers of breeding wading birds; and significant natural habitats

AVIAN DATA: islands in the Refuge support significant breeding populations of colonial water birds.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	May 1986	848 pairs	(R)
	20 Jun 1996	682 pairs	7% (R)
Snowy Egret	May 1986	145 pairs	(R)
	29 Jun 1996	138 pairs	(R)
Little Blue Heron	May 1986	40 pairs	(R)
	29 Jun 1996	96 pairs	1% (R)
Tricolored Heron	May 1986	280 pairs	(R)
	29 Jun 1996	266 pairs	(R)
Reddish Egret	May 1986	7 pairs	(R)
	29 Jun 1996	13 pairs	3% (R)
White Ibis	May 1986	558 pairs	(R)
	29 Jun 1996	520 pairs	3% (R)
Wading birds	May 1986	2034 pairs	(B)
	20 Jun 1996	1779 pairs	(B)

Data provided by Rich Paul (Audubon of Florida)

OTHER RESOURCES: Hemp Key contains an Indian mound

THREATS: monofilament fishing line, raccoons

CONSERVATION ISSUES: except for Hemp Key, all current rookery islands are posted against human intrusion. • Monofilament fishing line and raccoons should be removed as necessary.

NOMINATED BY: Bill Pranty and Rich Paul (Audubon of Florida)

ROOKERY BAY NATIONAL ESTUARINE RESEARCH RESERVE

Collier County

110,000 acres (44,000 ha) – there is some boundary overlap with Ten Thousand Islands National Wildlife Refuge

LOCATION: in southwestern Collier County, from south of Naples, surrounding Marco Island, and extending east to just west of Chokoloskee. The Reserve boundary includes submerged portions of Ten Thousand Island National Wildlife Refuge, which is being maintained as a separate IBA. This IBA is contiguous with the Everglades National Park IBA to the east and the Big Cypress Ecosystem IBA to the north.

DESCRIPTION: a large area of saline and wetland habitats protecting significant coastal habitats in the region. The Reserve includes the Rookery Bay Colony, which are two small keys designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area. Briggs Nature Center is part of the Research Reserve. The Reserve receives an estimated 10,000 recreationists annually.

OWNERSHIP: Florida Office of Coastal and Aquatic Managed Areas; parts are co-managed with the U.S. Fish and Wildlife Service. Briggs Nature Center is run by The Conservancy.

HABITATS: *slash pine flatwoods, *temperate hammock, *mangrove forest 36,030 acres; 14,412 ha), *tidal marsh, *estuarine, *open water, tropical hammock, xeric oak scrub, cypress swamp, freshwater marsh, cattail marsh, sawgrass marsh, riverine, lacustrine, coastal strand, seagrass beds

LAND USE: *conservation, recreation, environmental education

IBA CATEGORIES: significant populations of Threatened and FCREPA species; significant numbers of wading birds and larids; significant natural habitats; long-term research

AVIAN DATA: the Reserve supports significant populations of wading birds, shorebirds, and larids (especially at Cape Romano), and probably support upland species such as Mangrove Cuckoos, Black-whiskered Vireos, and “Florida” Prairie Warblers (e.g., see the Ten Thousand Islands National Wildlife Refuge IBA, pages 250–251). A small patch of xeric oak scrub that was never known to be occupied naturally by Florida Scrub-Jays has served as a translocation experiment since 1989. This population, which numbers two pairs, has required additional transplanted birds from Archbold Biological Station to be maintained. Ted Below has conducted bi-weekly dusk roost counts of the Rookery Bay Colony islands since 1977.

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	1977–2002	mean of 102 birds (range of 0–727)	(N); Rookery Bay Colony
	1982–2002	mean of 153 birds (range of 2–1072)	(N); Cape Romano
Great Egret	1977–2002	mean of 98 birds (range of 0–519)	(N); Rookery Bay Colony
Snowy Egret	1977–2002	mean of 206 birds (range of 0–727)	(N); Rookery Bay Colony
	1984–2002	mean of 70 pairs (range of 1–202)	(B); Rookery Bay Colony
Little Blue Heron	1977–2002	mean of 155 birds (range of 0–468)	(N); Rookery Bay Colony
Tricolored Heron	1977–2002	mean of 115 birds (range of 0–979)	(N); Rookery Bay Colony
	1984–2002	mean of 78 pairs (range of 10–176)	(B); Rookery Bay Colony
White Ibis	1977–2002	mean of 920 birds (range of 0–2543 birds)	(N); Rookery Bay Colony
Glossy Ibis	1998–2002	mean of 90 birds	(N); Rookery Bay Colony

Wading birds	1977–2002	(range of 0–319) mean of 2000 birds (range of 89–4455 birds	(N); Rookery Bay Colony
Osprey	1994–2001	mean of 33 pairs (range of 22–40 pairs)	range of 2% (B); Reserve-wide survey
American Oystercatcher	1982–2002	mean of 49 birds (range of 0–156)	(N); Cape Romano
Snowy Plover	summer 2001 winter 2001–200 13 May 2002	2 pairs 12 birds 3 pairs	1% (R) (N) 1% (R);
Wilson's Plover	1974–2002 13–14 May 2002	mean of 5 birds (range of 0–57) 5 pairs	(N); Rookery Bay–Big Marco Pass 2% (B); Key Island and Second Chance Island
Red Knot	1974–2002	mean of 94 birds (range of 0–1211)	(N); Rookery Bay–Big Marco Pass
Shorebirds	1982–2002	mean of 5081 birds (range of 173–15,854 birds)	(N); Cape Romano
Least Tern	1999–2002 1974–2002	mean of 359 pairs (range of 166–566) mean of 61 birds (range of 0–1170)	mean of 8% (range of 4–14%; B); Second Chance Island (N); Rookery Bay–Big Marco Pass
Royal Tern	1982–2002	mean of 787 birds (range of 23–3812)	(N); Cape Romano
Sandwich Tern	1982–2002	mean of 284 birds (range of 0–4767)	(N); Cape Romano
Terns and skimmers	1982–2002	mean of 1071 birds (range 23–8579)	(N); Cape Romano
Black Skimmer	1982–2002	mean of 71 birds (range of 0–412)	(N); Cape Romano
Long-term research	1974–2002 1977–2002 1982–2002 1984–2002		(N); 824 survey of Rookery Bay– Big Marco Pass (N); 722 surveys of Rookery Bay Colony (N); 207 surveys of Cape Romano (B); 18 annual censuses of Rookery Bay Colony
Overall diversity	May 2002 list	224 natives 4 exotics	

All long-term data provided by Ted Below (Audubon of Florida); other data provided by Beverly Anderson (Florida Office of Coastal and Aquatic Managed Areas) and Ricardo Zambrano (Florida Fish and Wildlife Conservation Commission)

OTHER RESOURCES: Along with Everglades National Park and Ten Thousand Islands National Wildlife Refuge, Rookery Bay National Estuarine Research Reserve is part of the one of the most significant and pristine mangrove ecosystems in the U.S. • The Florida Department of Environmental Protection has designated all tidal waters within the Reserve as Outstanding Florida Waters. • Other listed species supported by the Reserve include ♦ golden leather fern (*Acrostichum aureum*), ♦ clamshell orchid (*Prosthechea cochleata*), ♦ Florida thatch palm (*Thrinax radiata*), ♦ Florida tree snail (*Liguus fasciatus*), sea turtles, gopher tortoise, ♦ mastiff bat (*Eumops glaucinus*), and Florida manatee. • Calusa Indians inhabited the area in the 1600s, and numerous shell mounds are still present. The Reserve also contains significant archaeological material from six post Civil War homesteads.

THREATS: *offsite development, *human disturbance, *exotic plants, altered hydrology, runoff, feral hogs, monofilament fishing line

CONSERVATION ISSUES: Rookery Bay National Estuarine Research Reserve: Increasing human development in the Naples area is creating additional human disturbance problems within the Reserve, especially areas closest to Marco Island. Efforts are underway to minimize disturbance through the construction of trails and boardwalks, informational signage, and public workshops. The larid colony at Cape Romano is closed to public access, posted, and monitored weekly. • Long-term monitoring stations assess water quality from offsite developments and agricultural areas. • Reserve staff and other agencies are pursuing acquisition of private inholdings. • Large-scale removal programs for exotic plants, especially Australian-pine, Brazilian pepper, and ♦latherleaf (*Colubrina asiatica*), are underway. • Native habitats are prescribed burned. **Rookery Bay Colony Islands:** Wading birds are disturbed by boaters and recreational fishermen, and the latter often leave monofilament fishing line in the mangroves. • Although the islands are a designated Critical Wildlife Area, there is no known management plan.

NOMINATED BY: Beverly Anderson (Florida Office of Coastal and Aquatic Managed Areas) and Ted Below (Audubon of Florida)

SANIBEL LIGHTHOUSE PARK

Lee County
5 acres (2 ha)

LOCATION: in southwestern Lee County, at the extreme eastern end of Sanibel Island

DESCRIPTION: a small recreational and historical park

OWNERSHIP: City of Sanibel Parks and Recreation

HABITATS: *tropical hammock, mangrove forest, Australian-pine forest, artificial

LAND USE: *recreation, conservation

IBA CATEGORIES: significant numbers of Neotropical migrants; and significant diversity of wood-warblers

AVIAN DATA: Though small, the Park has attracted large numbers of Neotropical migrants, especially after storms.

SPECIES	DATES	NUMBERS	COMMENTS
Common Nighthawk	16 Sep 2000	1000 birds	(M)
Chestnut-sided Warbler	23 Apr–3 May 2000	12 birds	(M)
Blackburnian Warbler	16–17 Sep 2000	>100 birds	(M)
Wood-warbler diversity		33 species	(M)
Overall diversity		___ natives ___ exotics	

Data provided by Charlie Ewell (Florida Ornithological Society)

OTHER RESOURCES: The Sanibel Lighthouse was built in 1884 and is the Island’s oldest standing structure.

THREATS: *development, human disturbance, exotic plants

CONSERVATION ISSUES: [development, exotic plants, human disturbance]

NOMINATED BY: Charlie Ewell (Florida Ornithological Society)

SOUTHERN ATLANTIC MIGRANT STOPOVER

Hugh Taylor Birch State Park (180 acres; 72 ha), **John U. Lloyd Beach State Park** (253 acres; 101 ha), and **Spanish River Park** (94 acres; 37 ha)

Broward and Palm Beach counties

527 acres (210 ha)

LOCATION: various; all three sites are on barrier islands fronting the Atlantic Ocean. **Spanish River Park** is located near Boca Raton in Palm Beach County, and extends west to the Intracoastal Waterway. **Hugh Taylor Birch State Park** is immediately east of downtown Fort Lauderdale in Broward County, while **John U. Lloyd Beach State Park** is about 5 miles (8 km) to the south.

DESCRIPTION: all sites are small coastal parks in a massively urbanized region of Florida. These small habitat oases offer perhaps the only significant coastal stopover habitats for Neotropical migrants in Broward and Palm Beach counties. The parks are heavily infested with exotic species, which actively are being removed at Spanish River Park. Annual visitation of the parks are: 265,000 for Birch, 600,000 for Lloyd, and 17,500 for Spanish River.

OWNERSHIP: Florida Division of Recreation and Parks (Hugh Taylor Birch State Park and John U. Lloyd Beach State Park), City of Boca Raton (Spanish River Park)

HABITATS: **Hugh Taylor Birch State Park:** *tropical hammock, *mangrove forest, *freshwater marsh, *coastal strand, fields, artificial. **John U. Lloyd Beach State Park:** *mangrove forest, coastal strand, tropical hammock, fields, artificial. **Spanish River Park:** *tropical hammock, mangrove forest, coastal strand, artificial

LAND USE: **Hugh Taylor Birch State Park:** *recreation, conservation, **John U. Lloyd Beach State Park:** *recreation, conservation, **Spanish River Park:** *conservation, *recreation

IBA CATEGORIES: significant numbers and diversity of Neotropical migrants; and significant natural habitats.

AVIAN DATA: All sites are used extensively by Neotropical migrants in spring and fall, and some of these species winter in small numbers. The parks also attract various West Indian landbirds (i.e., Ruddy Quail-Dove, La Sagra's Flycatcher, Cuban Pewee, Bahama Mockingbird, and Western Spindalis); the Bahamas are as few as 65 miles (104 km) away. The beach at Lloyd State Park is used by shorebirds and larids. Bird diversity for all sites combined is 241 native and 9 exotic species.

Hugh Taylor Birch State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Red-eyed Vireo	18 Sep 2000	>100 birds	(M)
Northern Parula	18 Sep 2000	>50 birds	(M)
Blackpoll Warbler	25 Apr 2000	>200 birds	(M)
Black-throated Blue Warbler	25 Apr 2000	>75 birds	(M)
Cape May Warbler	25 Apr 2000	>75 birds	(M)
Ovenbird	18 Sep 2000	>50 birds	(M)
American Redstart	25 Apr 2000	>100 birds	(M)
Common Yellowthroat	25 Apr 2000	>250 birds	(M)
Wood-warbler diversity	Mar 2000 list	37 species	(M)
Overall diversity	Mar 2000 list	207 natives 9 exotics	

Observations of Wally George published in *Florida Field Naturalist*, diversity data from the park list

John U. Lloyd Beach State Park:

SPECIES	DATES	NUMBERS	COMMENTS
Overall diversity		156 natives 7 exotics	

List compiled by Susan Epps, with contributions by Jocie Baker

Spanish River Park:

SPECIES	DATES	NUMBERS	COMMENTS
Black-and-white Warbler	17 Oct 1995	90 birds	(M)
Worm-eating Warbler	6 Apr 1995	20 birds	(M)
Ovenbird	5 Sep 1993	75 birds	(M)
Vireo diversity		8 species	(M)
Wood-warbler diversity		38 species	(M)
Overall diversity		182 natives 3 exotics	

All data supplied by Brian Hope, much of it published in *Florida Field Naturalist*.

OTHER RESOURCES: **Hugh Taylor Birch State Park** contains a rare coastal dune–lake community with several listed plant species. • **Hugh Taylor Birch's** former home now houses the park visitor center • **John U. Lloyd Beach State Park** represents one of the last areas in Broward County with native coastal habitats. The beach is important for nesting sea turtles • **Spanish River Park** supports some of the only remaining coastal strand and tropical hammock habitats along the barrier island in Palm Beach County.

THREATS: **Hugh Taylor Birch State Park:** *offsite development, *exotic plants, *feral cats, habitat succession, runoff, water quality • **John U. Lloyd Beach State Park:** *offsite development, *human disturbance, *exotic plants, habitat succession, erosion • **Spanish River Park:** *exotic plants

CONSERVATION ISSUES: **Hugh Taylor Birch State Park:** Exotic plants are feral cats are removed • A 40-acre (16-ha) mangrove restoration–enhancement project began in January 2001; intense coastal development has removed most of the mangrove forests that previously occurred in Palm Beach County. Storm-water runoff affecting water quality is a minor concern • **John U. Lloyd Beach State Park:** Broward County proposes to “claim” the northern third of the park to allow for the expansion of Port Everglades to increase cruise-ship tourism, an attempt strongly opposed by the State and Audubon. • The county also wants to add 250 feet (75 m) of sand to the beach, which is expected to severely impact the first reef immediately outward of the beach. • Over 90% of the park contains exotic vegetation, mostly Australian-pines and Brazilian pepper. In fall 1999, Australian-pines were removed from the beach, which resulted in rapid recruitment of native vegetation. Brazilian pepper is controlled as time allows, but control efforts are insufficient. • **Spanish River Park:** Parts of the park are infested with Brazilian pepper and Australian-pines. Some areas have already been cleared of exotics and replanted with native tropical hardwoods species. The program is continuing. • Future modifications to the park for maintenance or recreational purposes should be designed for maximum compatibility with the park's natural resources. A management plan has been created.

NOMINATED BY: **Hugh Taylor Birch State Park:** Jim Higgins (Florida Division of Recreation and Parks), **John U. Lloyd Beach State Park:** Susan Epps (____), **Spanish River Park:** Steve Bass (Gumbo Limbo Nature Center)

REVIEWED BY: Jocie Baker and Wally George

WEBSITE: <<http://www.dep.state.fl.us/parks/district5/johnulloydbeach>>, <<http://www.dep.state.fl.us/parks/district5/hughtaylorbirch>>

TEN THOUSAND ISLANDS NATIONAL WILDLIFE REFUGE

Collier County
35,000 acres (14,000 ha)

LOCATION: in southwestern Collier County approximately 20 miles (32 km) southeast of Naples, from U.S. Highway 41 south to the Gulf of Mexico. The western boundary is County Road 92 (except for a small parcel west of this road) and the eastern boundary is just west of Faka Union Canal. The Refuge surrounds Collier–Seminole State Park on three sides, overlays a portion of Cape Romano–Ten Thousand Islands State Aquatic Preserve, and is just west of Everglades National Park. Contiguous with the Big Cypress Swamp Ecosystem IBA to the north and the Rookery Bay National Estuarine Research Reserve to the west, and near the Everglades National Park IBA to the east and southeast.

DESCRIPTION: Encompassing the northern Ten Thousand Islands region of southwest Florida, the Refuge was established in 1996 to protect its unique subtropical estuarine ecosystem and its wildlife resources.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *mangrove forest, *tidal marsh, *estuarine, tropical hammock, freshwater marsh, cattail marsh, sawgrass marsh, riverine, lacustrine, coastal strand

LAND USE: *conservation, recreation, hunting

IBA CATEGORIES: significant populations of Threatened, Special Concern, and FCREPA species; significant numbers of wading birds; complete diversity of mangrove forest species; and significant natural habitats

AVIAN DATA: The Refuge supports very large numbers of wading birds, and undoubtedly significant numbers of mangrove-breeding species. “Cuban” Yellow Warblers reach their northwestern-most range at the Refuge.

SPECIES	DATES	NUMBERS	COMMENTS
Snowy Egret	16 Sep 1999	636 birds	(N)
Tricolored Heron	6 Aug 2000	793 birds	(N)
White Ibis	Jun–Sep 2000	up to 8242 birds	20% (N)
Wading birds	Aug 2000	10,224 birds	(N)
Least Tern	summer 2000	>125 birds	1% (N)
Royal Tern	5 May 2000	190 birds	1% (N)
Mangrove Cuckoo	7–26 May 2000	64 birds	(B)
Black-whiskered Vireo	7–26 May 2000	103 birds	(B)
“Florida” Prairie Warbler	7–26 May 2000	53 birds	(B)
Overall diversity	since 1996	187 natives 5 exotics	

Data provided by Terry Doyle (U.S. Fish and Wildlife Service)

OTHER RESOURCES: The Refuge is part of a larger Ten Thousand Islands system, which is one of the largest and most pristine mangrove systems in the Western Hemisphere. +Odum and McIvor (1990) refer to the region as “part of the most significant wilderness area” in Florida. The Refuge supports several Endangered and Threatened species, including the Florida manatee. • The Calusa Indians were known to inhabit the region in the 17th century, and were present when the Spaniards explored the area. Indian artifacts have been found throughout the Refuge, primarily in the hardwood hammocks.

THREATS: *altered hydrology, exotic plants

CONSERVATION ISSUES: Perhaps the most significant short- and long-term impact to the Refuge is the South Golden Gate Estates (SGGE) Restoration Project. The SGGE is an area of about 60,000 acres (24,000 ha) that is part of the bankrupt Gulf of America Corporation's (GAC) massive planned

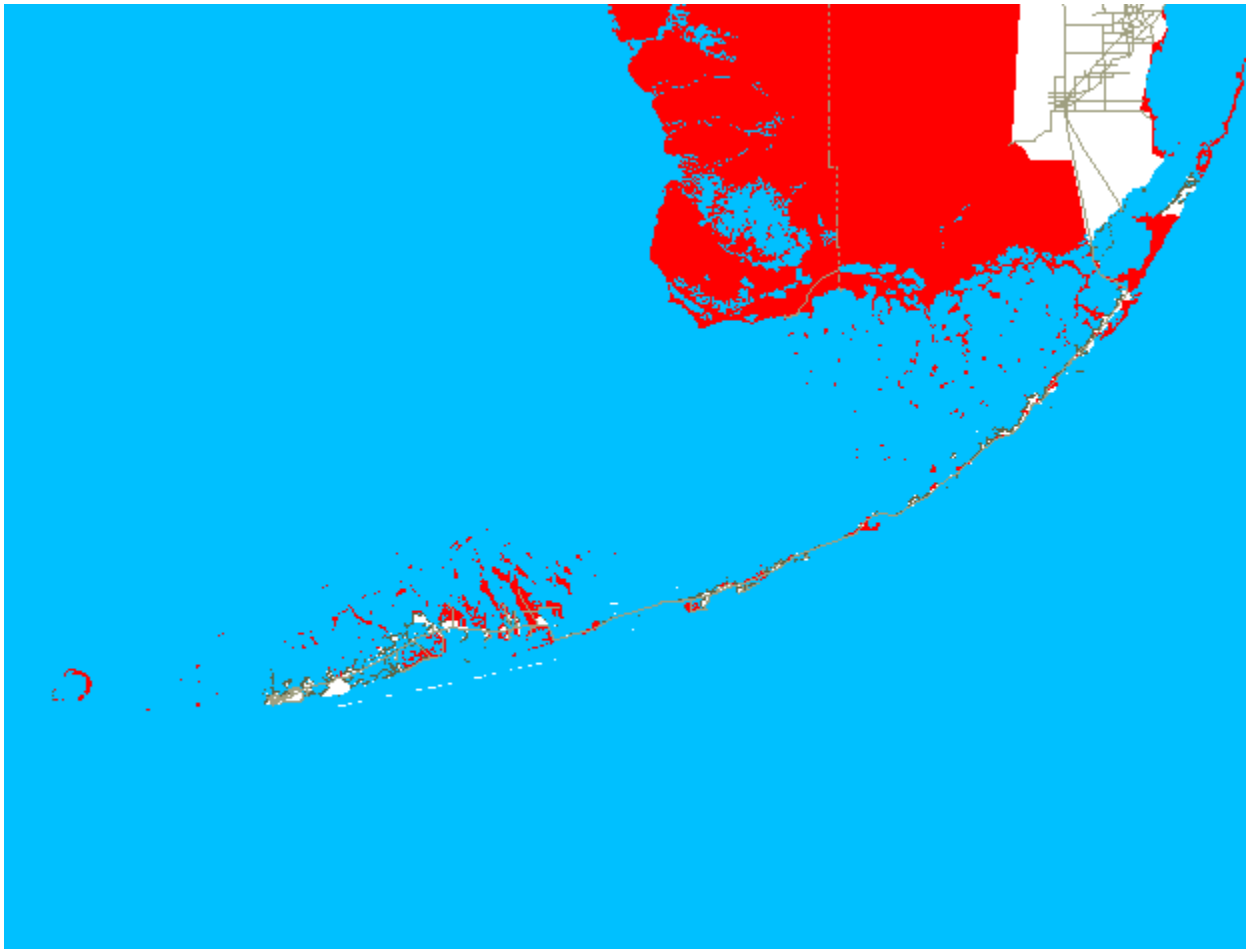
development. From 1968 through 1971, GAC excavated a series of canals that drastically drained the area and changed its ecology. Prior to development, the area was characterized by seasonal flooding and broad, slow-moving sheet flow that served as the headwaters of the Ten Thousand Islands system. Today, 40 miles (64 km) of canals intercept large volumes of surface and groundwater flow and quickly divert them into Faka Union Bay, thus over-draining the area and damaging the ecology of the bay. The State now is buying back hundreds of 5-, 10-, and 20-acre (2-, 4-, and 8-ha) lots to create Picayune Strand State Forest. The South Florida Water Management District's "Hydrologic Restoration of Southern Golden Gate Estates Conceptual Plan" proposes to restore the hydrology and sheet water flow to the SGGE area by blocking canals, removing roads, and pumping water out of canals. The plan cannot begin all the private lots are purchased or condemned. • Several invasive exotic plants occur on the Refuge, including Brazilian pepper, Australian-pine, and latherleaf. They are controlled as needed. • A variety of recreational and commercial uses (e.g., commercial and sport fishing, crabbing, and waterfowl hunting) occur on the Refuge, which may create excessive human disturbance. Ecotourism includes canoe camping trips, boat cruises, and shelling trips. • Ten Thousand Islands National Wildlife Refuge has an approved Comprehensive Conservation Plan that provides the framework for management for the next 15 years. Included within the Plan are several proposed reductions to address some of the above concerns.

NOMINATED BY: Terry Doyle (U.S. Fish and Wildlife Service)

REFERENCE: +Odum, W.E., and C.C. McIvor. 1990. Mangroves. Pages 517–548 in *Ecosystems of Florida* (R.L. Myers and J.J. Ewel, editors). University of Central Florida Press. Orlando, FL.

WEBSITE: <<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/tenthou.htm>>

FLORIDA KEYS



DRY TORTUGAS NATIONAL PARK

Monroe County

70 land acres (28 ha) and >64,600 marine acres (>25,840 ha)

LOCATION: in the Gulf of Mexico in far western Monroe County, about 70 miles (112 km) west of Key West.

DESCRIPTION: composed of seven small coral and sand keys between the Gulf of Mexico and the Straits of Florida, Dry Tortugas National Park is one of Florida's treasures. The keys were discovered in 1513 by Juan Ponce de Leon and named after the abundance of sea turtles ("Las Tortugas") found nesting there; the "Dry" was added by subsequent mariners to note the lack of fresh water. The Tortugas consist of Bush, East, Garden, Hospital, Loggerhead, Long, and Middle keys. Construction of Fort Jefferson, the largest fort along the Gulf coast, was begun on Garden Key in 1846 and abandoned in 1866 before its completion. Loggerhead Key contains a Coast Guard station and lighthouse. Hospital Key was the site of a temporary hospital during a Yellow Fever outbreak in 1867 but is now a small sand bar of only a few acres (ha). Only Garden Key and Loggerhead Key are accessible to humans; the five other keys are undisturbed. The National Park includes 100 square miles (256 square km) of ocean surrounding the keys. Commercial fishing and the use of jet skis are prohibited within the boundaries of the park.

OWNERSHIP: U.S. National Park Service

HABITATS: *mangrove forest, *coastal strand, *artificial (fort and parade grounds), tropical hammock. East, Hospital, and Middle keys are tiny sand bars; Long Key is predominantly mangrove forest. Bush Key consists of low-growing vegetation, with mangroves along parts of the shoreline. Garden Key consists of short, grassy areas with numerous ♦ coconut palms (*Cocos nucifera*), and tropical hardwoods such as gumbo-limbo, in addition to Fort Jefferson, which occupies most of the island. Until recently, Loggerhead Key consisted primarily of a dense forest of Australian-pines, but these were removed in the past few years. Loggerhead Key now is covered with cactus, agave, numerous young *Casuarina*, and scattered coconut palms and ♦ large geigertrees (*Cordia sebestena*).

LAND USE: *conservation, recreation.

IBA CATEGORIES: significant populations of Special Concern, FCREPA, and IBA species; significant numbers of larids; significant numbers and diversity of Neotropical migrants; significant overall diversity; significant natural habitats; and long-term research

AVIAN DATA: The keys attract numerous Neotropical migrant species in spring and fall, and have hosted many Caribbean vagrants such as White-tailed Tropicbird, Red-footed Booby, Black Noddy, Ruddy Quail-Dove, Bahama Mockingbird, and Yellow-faced Grassquit. The keys are critical for nesting Sooty Terns and Brown Noddies, the only regular colony for each species within the continental United States. In 1988, the Marquesas Keys colony of Magnificent Frigatebirds began moving to Long Key, and by 1990, all birds were nesting at the Tortugas. In 1984, Masked Boobies began nesting on Hospital Key, and the population had increased to 19 pairs in 1998. The Tortugas are the only known nesting site of Magnificent Frigatebirds in the United States, and of Masked Boobies in the continental United States. Raptors previously were common at Loggerhead Key, preying on landbirds in the Australian-pine forest. With the trees gone, raptors and landbirds are less frequently seen. An estimated **500,000** Sooty Terns have been banded at the Tortugas since the early 1950s by William B. Robertson, Jr. and collaborators.

SPECIES	DATES	NUMBERS	COMMENTS
Masked Booby	12 Apr 1995	60 birds	100% (B)
	1998	19 pairs	100% (B)
Brown Booby	23 Apr 1997	36 birds	(N)
Magnificent Frigatebird	May 2000	100 pairs	100% (B)
Sooty Tern	1998	20,000 pairs	100% (B)
Brown Noddy	1998	>1000 pairs	100% (B)
Yellow-billed Cuckoo	2–3 May 1999	>200 birds	(M)
Ruby-throated Hummingbird	8–9 Apr 1994	200 birds	Florida record high count (M)
Blackpoll Warbler	15–18 May 1998	100s of birds	(M)
Northern Waterthrush	28 Apr 1995	45 birds	(M)
Connecticut Warbler	15–18 May 1998	>30 birds	(M)
Kentucky Warbler	8 Apr 1994	>30 birds	(M)
Hooded Warbler	8 Apr 1994	>200 birds	(M)
Orchard Oriole	8 Apr 1994	>50 birds	(M)
Long-term research	Since the 1950s		An estimated 500,000 Sooty Terns have been banded by the late Bill Robertson and collaborators
Overall diversity		303 natives 5 exotics	The fifth most diverse IBA in Florida

Masked Booby and tern breeding data provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission), all other data from observations by Wes Biggs, Dave Goodwin, Kevin Karlson, Bill Pranty, Dale Rosselet, Glen Woolfenden, and others published in *Florida Field Naturalist*.

OTHER RESOURCES: Most of Garden Key's 16 acres (6.4 ha) consist of Fort Jefferson, the largest fort east of the Mississippi River. Fort Jefferson is three stories tall, with walls eight feet (2.4 m) thick, and was constructed of over 16 million bricks. A lighthouse built on Loggerhead Key in 1858 remains in use.

THREATS: human disturbance, exotic plants

CONSERVATION ISSUES: Based on oil present on feathers of Sooty Terns nesting at Bush Key, it appears that oil spills from distant areas such as Louisiana and the Campeche Bank, Mexico reach the Tortugas in “biologically significant amounts” +(Robertson and Robertson 1996). • Visitation to the islands has quadrupled since 1984, from 18,000 recreationists to 72,000, and most of this occurs between March and July. During these five months, an estimated 245 people arrive at Garden Key daily. Development of a visitor use plan is in preparation to avoid overuse of the park by tourists. • Former (?) low altitude flights by U.S. Navy aircraft caused disturbance of the tern colonies.

NOMINATED BY: Oron Bass, Jr. (U.S. National Park Service)

REFERENCE: +Robertson, W.B., Jr., and M.J. Robertson. 1996. Sooty Tern (*Sterna fuscata*). Pages 514–531 in *Rare and Endangered Biota of Florida, Volume 5, Birds* (J.A. Rodgers, Jr., H.W. Kale, II, and H.T. Smith, editors). University Press of Florida. Gainesville, FL.

WEBSITE: <<http://www.nps.gov/drto>>

FLORIDA KEYS HAMMOCKS

Bahia Honda State Park (491 acres; 196 ha), **Crocodile Lake National Wildlife Refuge** (6686 acres; 2674 ha), **Curry Hammock State Park** (1218 acres; 487 ha), **John Pennekamp Coral Reef State Park** (2350 upland acres [940 ha]), **Key Largo Hammock State Botanical Site** (2339 acres; 935 ha), **Long Key State Recreation Area** (1083 acres; 433 ha), and **National Key Deer Refuge** (8649 acres; 3459 ha). Sites targeted for public acquisition through the **Florida Keys Ecosystem CARL–FF Project** (8566 acres [3426 ha], 2531 acres [1012 ha] acquired, with some now known as **Florida Keys Wildlife and Environmental Areas** [621 acres; 248 ha]) are: Big Torch Key, Cudjoe Key, Dove Creek Hammock, Grassy Key, Green Turtle Hammock, Key Largo Narrows Hammock, Lake San Pedro Hammock, Largo Sound Hammock, Little Knockemdown Key, Little Torch Key, Lower Matecumbe Hammock, Middle Torch Key, Newport, North Creek Hammock, North Layton Hammock, Pennekamp North Hammock, Point Charles Hammock, Ramrod Key, Snake Creek Hammock, Stirrup Key Hammock, Sugarloaf Key, Summerland Key, Tavernier Creek Hammock, Teatable Hammock, Vaca Cut, and Wahoo Key. **Boot Key** (650 acres; 260 ha) is not currently sought for public acquisition, but this option should be pursued.

Monroe County

32,032 acres (12,812 ha), with 25,347 acres (10,138 ha) acquired

[[This IBA needs additional information](#)]

LOCATION: in southern Monroe County, along the Mainline Keys (those traversed by U.S. Highway 1), extending 100 miles (160 km) from Key Largo southwest to Saddlebunch Key. Adjacent to the Everglades National Park and Biscayne Bay IBAs to the north.

DESCRIPTION: _____ This IBA includes virtually all large fragments of tropical hammock remaining on the Mainline Keys. These sites were nominated as a single unit, so specific information for most sites is not available. Visitation to the sites are as follows: _____

OWNERSHIP: U.S. Fish and Wildlife Service (Crocodile Lake National Wildlife Refuge), Florida Division of Recreation and Parks (Key Largo Hammock State Botanical Site, Curry Hammock State Park, John Pennekamp Coral Reef State Park, and Long Key State Recreation Area), Florida Division of Wildlife (Florida Keys Wildlife and Environmental Areas), and private owners (remaining acreage of the Florida Keys Ecosystem CARL–FF Project, and Boot Key)

HABITATS: *tropical hammock, *mangrove forest, tidal marsh, coastal strand, estuarine, artificial

LAND USE: *conservation, *private property

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers and diversity of raptors and Neotropical migrants; complete diversity of mangrove forest and tropical hardwood species; and significant natural habitats

AVIAN DATA: These hammocks are essential for the survival of White-crowned Pigeons in the United States, which nest on islands in Florida Bay but forage on the Mainline Keys. The hammocks are also significant stopover areas for Neotropical migrants, and the hammocks and mangrove forests are breeding habitat for several other primarily West Indian birds restricted in North America to extreme southern Florida (e.g., Mangrove Cuckoo, Gray Kingbird, Black-whiskered Vireo, “Florida” Prairie Warbler, and “Cuban” Yellow Warbler). Bird diversity for all sites combined is at least 143 native species. [[Is a bird list available for any site?](#)].

Boot Key (single-day counts in mid-Oct):

SPECIES	DATES	NUMBERS	COMMENTS
Sharp-shinned Hawk	1989–1994	mean of 329 birds (range of 66–993)	(M)
Broad-winged Hawk	1989–1994	mean of 193 birds (range of 66–415)	(M)
American Kestrel	1989–1994	mean of 75 birds (range of 39–159)	(M)
Merlin	1989–1994	mean of 31 birds (range of 15–44)	(M)
Peregrine Falcon	1989–1994	mean of 106 birds (range of 45–190)	mean of 5% (M)
Cliff Swallow	9 Oct 1993	750 birds	Florida record high count (M)
Raptors (numbers)	1989–1994	mean of 795 birds (range of 329–1808)	(M)
Raptors (diversity)	1989–1994	mean of 9 species (range of 7–13)	

Raptor data provided by Wayne Hoffman (formerly National Audubon Society) and published in +Pranty (1996a); see also +Hoffman and Darrow (1992); swallow observation by Wayne Hoffman, P. William Smith, and Bill Pranty et al., published in *Florida Field Naturalist*.

Curry Hammock State Park (seasonal counts of southbound birds 14 Sep–30 Oct 1999, 15 Sep–13 Nov 2000, and 15 Sep–13 Nov 2001):

SPECIES	DATES	NUMBERS	COMMENTS
Osprey	1999–2001	mean of 1004 birds (range of 983–1093)	(M)
Northern Harrier	1999–2001	mean of 685 birds (range of 527–786)	(M)
Sharp-shinned Hawk	1999–2001	mean of 4328 birds (range of 3697–4741)	(M)
Cooper’s Hawk	1999–2001	mean of 533 birds (range of 335–839)	(M)
Broad-winged Hawk	1999–2001	mean of 3268 birds (range of 2984–3535)	(M)
Short-tailed Hawk	1999–2001	mean of 27 birds (range of 16–38)	mean of 5% (M)
American Kestrel	1999–2001	mean of 3666 birds (range of 3029–4338)	(M)
Merlin	1999–2001	mean of 646 birds (range of 522–834)	(M)
Peregrine Falcon	1999–2001	mean of 1623 birds (range of 1432–1894)	mean of 81% (M)
Raptor (numbers)	1999–2001	mean of 16,094 birds (range of 15,804–16,553)	(M)
Raptors (diversity)	1999–2001	15 species annually, with 8 of these represented by >500 individuals each	

Data provided by Casey Lott (Hawkwatch International and Audubon of Florida); see also +Davidow (2001)

General data applicable to most sites:

SPECIES	DATES	NUMBERS	COMMENTS
White-crowned Pigeon	Annual	common	(R)
Mangrove Cuckoo	Annual	uncommon	(R)
Gray Kingbird	Annual	common	(B)
Black-whiskered Vireo	Annual	uncommon	(B)
“Cuban” Yellow Warbler	Annual	uncommon	(R)
“Florida” Prairie Warbler	Annual	uncommon	(R)
Overall diversity	_____ list	143 natives 1 exotic	

Data provided by Rick Sawicki (formerly of Audubon of Florida)

OTHER RESOURCES: The floral diversity of tropical hammocks of the Florida Keys far surpasses that of any other forests in the continental United States. • The Florida Keys are a designated Area of Critical State Concern. This IBA includes habitats for at least 24 species of rare vascular plants and 29 rare animals. Endemic mammals include the ♦"Key Largo" cotton mouse (*Peromyscus gossypinus allapaticola*) and ♦"Key Largo" woodrat (*Neotoma floridana smalli*). • Many archaeological and historical sites are known from the area, such as Indian burial mounds and middens, and 19th century settlements. • The Florida coral reef outward of the Keys is the third largest barrier reef system in the world. It supports thousands of species, including 1200 mollusks, over 450 fishes, 450 marine worms, and 100 corals +(Jaap and Hallock 1990).

THREATS: *development, human disturbance, exotic plants

CONSERVATION ISSUES: The unique tropical hardwood hammocks and pine rocklands of the Florida Keys—forests composed primarily of West Indian vegetation—shelter several extremely rare animals, but are being lost at a rapid rate due to development. If acquired completely, sites of the Florida Keys Ecosystem CARL–FF Project, together with existing conservation areas, will protect all significant, unprotected hardwood hammocks remaining in the Keys, as well as populations of several rare plants and animals. • Acquisition of the CARL–FF sites also will protect the coral reefs surrounding the Keys. • Management will be phased in and will involve mainly removing exotic plants, preventing further habitat fragmentation, removing trash and debris, posting and some fencing of the sites, and establishing some basic visitor amenities at selected sites.

Based on the clear importance of Boot Key to raptors, and its habitat significance, efforts should be undertaken to publicly acquire the site.

NOMINATED BY: Bill Pranty and Rick Sawicki (Audubon of Florida)

REFERENCES: +Davidow, B. 2001. Falcons of the Florida Keys. *Living Bird* 20: 32–38. • +Hoffman, W, and H. Darrow. 1992. Migration of diurnal raptors from the Florida Keys into the West Indies. Hawk Migration Association of North America Migration Studies, October 1992. • +Jaap, W.C., and P. Hallock. 1990. Coral Reefs. Pages 574–616 in *Ecosystem of Florida* (R.L. Myers and J.J. Ewel, editors). University of Central Florida Press. Orlando, FL. • +Pranty, B. 1996a. *A Birder's Guide to Florida*. Fourth edition. American Birding Association. Colorado Springs, CO.

WEBSITES: <<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/flkeys.htm>>, <<http://www.dep.state.fl.us/parks/district5/bahiahonda>>, <<http://www.dep.state.fl.us/parks/district5/johnpennekamp>>, <<http://www.dep.state.fl.us/parks/district5/longkey>>, <http://www.islandbase.com/kl-hammock/hammock_photos.htm>

GREAT WHITE HERON NATIONAL WILDLIFE REFUGE

Monroe County

192,584 acres (77,033 ha), with 6297 acres (2815 ha) of uplands

LOCATION: in southwestern Monroe County, north of U.S. Highway 1 in the Lower Keys, extending about 40 miles (64 km) east to west (from Marathon to Key West). Nearly one-third of the Refuge is designated as Wilderness, and the entire Refuge is accessible only by boat. Just east of the Key West National Wildlife Refuge IBA to the west, and contiguous with parts of the Florida Keys Hammocks IBA to the east and south.

DESCRIPTION: dozens of small keys in the Gulf of Mexico, north of the Mainline Keys. Together with Key West National Wildlife Refuge, this IBA includes all remaining offshore, raccoon-free islands in the Lower Keys available as breeding, foraging, and roosting sites for wading birds and other species. Visitation is estimated at 12,000 recreationists annually.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *marine, *mangrove forest, coastal strand

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Threatened and FCREPA species; and significant natural habitats

AVIAN DATA: This IBA supports extremely significant populations of “Great White” Herons and White-crowned Pigeons, and probably other species as well. The Refuge probably is much more important than is indicated by the limited data below.

SPECIES	DATES	NUMBERS	COMMENTS
“Great White” Heron	1999–2000	202 nests	22% (B)
	2000–2001	147 nests	16% (B)
White-crowned Pigeon	Jun–Jul 2001	1608 pairs	18% (B)

Data provided by Tom Wilmers (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Sea turtles nest of the sandy beaches of some of the keys. • The islands are surrounded by 300 square miles (768 square km) of shallow marine habitats such as sand flats, seagrass “meadows,” and patch coral reefs.

THREATS: [will need to get this information from Tom], *sea-level rise

CONSERVATION ISSUES: The Refuge has no dedicated personnel; it is managed as a satellite of National Key Deer Refuge. • Management activities include mechanical and chemical control of exotic plants, wildlife monitoring, and law enforcement.

NOMINATED BY: Tom Wilmers (U.S. Fish and Wildlife Service)

WEBSITE: <<http://southeast.fws.gov/GreatWhiteHeron/index.html>>

KEY WEST NATIONAL WILDLIFE REFUGE

Monroe County

208,308 acres (83,323 ha), of which 2109 acres (843 ha) are uplands

LOCATION: in far southwestern Monroe County, in the Straits of Florida 0.5–31 miles (0.8–50 km) west of Key West

DESCRIPTION: Several mangrove keys west of Key West, including the Marquesas Keys. The entire Refuge is designated as Federal Wilderness and the marine portions are managed with the State. One key (Ballast Key) is privately owned. The Refuge receives about 10,000 recreationists annually, many of whom trespass.

OWNERSHIP: U.S. Fish and Wildlife Service, private (Ballast Key)

HABITATS: *mangrove forest, tropical hardwood hammock, tidal marsh, coastal strand, “non-tidal wash flats”

LAND USE: *conservation (Federal Wilderness), recreation, private

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, FCREPA, and IBA species; complete diversity of mangrove forests species; and significant natural habitats

AVIAN DATA: the Refuge supports large numbers of breeding “Great White” Herons and White-crowned Pigeons, contains the most important site in the Keys for wintering Piping Plovers, and supports several other groups of birds such as wading birds, shorebirds, raptors, and landbirds. The Marquesas Keys formerly supported the only breeding colony of Magnificent Frigatebirds in the continental United States, but disturbance from low-flying Navy aircraft caused the birds to move to Dry Tortugas National Park (frigatebirds still roost within the Refuge). [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	7 Jan 2001	600 birds	(N)
Magnificent Frigatebird	Jun–Aug 2000	800 birds	16% (N); all roosts combined
“Great White” Heron	Oct 1999–Feb 2000	peak of 265 nests	31% (B)
Little Blue Heron	17 Apr 2000	175 pairs	2% (B)
Reddish Egret	16 Apr 1992	15 birds	1% (N)
Osprey	1989–1991	peak of 120 nests	7% (B)
Short-tailed Hawk	single day in Nov 1996	6 birds	1% (W); Boca Grande Key
Merlin	single day in Oct 1997	43 birds	(M)
Peregrine Falcon	single day in Oct 1996	70 birds	3% (M)
Piping Plover	20 Feb 1998	29 birds	5% (W)
Laughing Gull	Jun 1996	200 nests	1% (B); Horseshoe Key
Royal Tern	Oct 1996	450 birds	(N)
Sandwich Tern	Jul 1995	60 birds	6% (N)
Least Tern	Jul 1999	525 birds	5% (N)
White-crowned Pigeon	May–Aug 2001	>2000 nesting pairs	>20% (B); 7 keys surveyed, with >1200 pairs on Barrocouta Key
Mangrove Cuckoo	1985–2001	Uncommon	(R)
“Cuban” Yellow Warbler	May–Aug 2001	Uncommon	(R)
Overall diversity	_____ list	_____ natives	
		_____ exotics	

All data provided by Tom Wilmers (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Boca Grande Key and the Marquesas Keys contain tropical hardwood hammocks that support several rare plants [such as _____].

THREATS: *human disturbance, *sea-level rise, exotic plants

CONSERVATION ISSUES: Although the keys are designated as Wilderness, beaches on the keys attracts many recreationists, some of whom ignore restrictions designed to protect roosting birds. Disturbance to shorebirds at Woman Key is a particular concern, as that key is the most important site in the Florida Keys for populations of wintering Piping Plovers. Trespass of closed areas on Boca Grande Key is “blatant.” Law enforcement has helped curtail illegal trespass but the remoteness of the Refuge confounds enforcement. • Erosion of beaches from boat wakes and storms is a problem, and will be confounded by rising sea-levels. • Exotic plants, especially latherleaf and Brazilian pepper, are threats, but eradication efforts since 1987 have largely been successful. • Unpermitted commercial use of the Wilderness Area has been a recurring problem; this issue will be written into a Comprehensive Conservation Plan in 2002.

Ballast Key, an important island for roosting shorebirds and larids, is privately owned and currently for sale. Attempts to publicly acquire the key should be undertaken immediately.

NOMINATED BY: Tom Wilmers (U.S. Fish and Wildlife Service)

WEBSITE: <<http://southeast.fws.gov/KeyWest/index.html>>

PELICAN SHOAL

Monroe County
 <0.5 acre (<0.2 ha)

LOCATION: in the Straits of Florida in extreme southern Monroe County, about 5 miles (8 km) south-southeast of Boca Chica Key.

DESCRIPTION: a tiny rubble islet in the coral reef outward of the mainline Florida Keys. Pelican Shoal is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area.

OWNERSHIP: State of Florida

HABITAT: *coral rubble islet

LAND USE: *conservation, recreation?

IBA CATEGORIES: significant populations of Threatened species; and significant numbers of larids

AVIAN DATA: Pelican Shoal supports the only native-substrate breeding colony of Roseate Terns in Florida, and is the site of North America's first (and only) Bridled Tern breeding colony. No bird list is available.

SPECIES	DATES	NUMBERS	COMMENTS
Roseate Tern	1998–2000	mean of 256 nests (range of 162–317)	mean of 79% (range of 50–97%); (B)
Bridled Tern	1998–2000	mean of 3 nests (range of 1–5)	100%; (B)

Data of Ricardo Zimbrano and Lara Coburn, compiled by Jeff Gore and Gary Sprandel (all of the Florida Fish and Wildlife Conservation Commission).

OTHER RESOURCES: none known

THREATS: human disturbance, erosion

CONSERVATION ISSUES: In 1987, Bridled and Roseate terns were discovered nesting on the shoal, but the following year, no birds nested. Evidence of “extensive human disturbance” was found, including fire pits, shell casings, and shotgun shells +(Hoffman et al. 1993). In 1989, the shoal was posted, and was declared a Critical Wildlife Area in 1990. Human entry is forbidden during the nesting season (1 April–1 September).

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCE: +Hoffman, W., A. Sprunt IV, P. Kalla, and M. Robson. 1993. Bridled Tern breeding record in the United States. *American Birds* 47: 379–381.

WEBSITE: <http://www.fknms.nos.noaa.gov/research_monitoring/pelican_shoal.html>

APPENDIX 1: Sites not accepted as IBAs

Of the 138 sites formally nominated as Important Bird Areas in Florida, 11 (11%) were not accepted. Five of these (not described here) were rejected because they did not support a significant population of any listed bird, or a significant diversity of species. Other sites were rejected because no avian data accompanied the nomination form; these sites often were recent state acquisitions that had not yet been subject to detailed survey. At least two of these sites (listed below) seem to be good candidates as potential IBAs if significant avian data can be gathered. **Members of Audubon and Florida Ornithological Society should target these sites and assist with gathering the necessary data that may allow future designation as IBAs.**

Three other sites nominated as potential IBAs were not accepted due to conservation issues. The Belle Glade Agricultural Fields nomination is described below, while the other two sites will be only briefly described here. One site was a 445-acre (178-ha) wetlands mitigation bank. One member of the IBA Executive Committee felt that designating a mitigation bank as an IBA might encourage continued loss of natural wetlands in the region. The other site was a 95-acre (38-ha) beachfront park that receives over 3 million recreationists annually. This park supported a colony of 285 pairs of Black Skimmers in 1999 (17% of the statewide total), but no birds bred in 2000 or 2001. Although the nesting area was roped off, human and dog intrusion was severe, and may have contributed to the abandonment of the colony. Thus, the Committee chose to not include this park as an IBA.

ANDREWS WILDLIFE MANAGEMENT AREA (3501 acres [1400 ha]; Levy County) contains one of the largest remaining tracts of old-growth temperate hammock in Florida. It fronts the Suwannee River and is less than 7 miles (11 km) north of the Big Bend Ecosystem IBA. Bird diversity, of 73 native species, probably can be increased considerably with surveys targeting Neotropical migrants and other species. **OWNERSHIP:** Florida Division of Wildlife.

BELLE GLADE AGRICULTURAL FIELDS (at least several hundred acres [>200 ha?]; Palm Beach County) consist of former Everglades marshland in the Everglades Agricultural Area southeast of Lake Okeechobee converted to private farmland, to which birders have access. When the fields are flooded from late summer through early fall, they support thousands of wading birds and shorebirds. Between 24 July and 10 September 1977, it was estimated that over **120,000 shorebirds** used 2000 acres (800 ha) of flooded fields, including **58,706** shorebirds on the latter date. Some of the daily counts were amazing: 2480 Wood Storks, 22,500 Lesser Yellowlegs, 12,450 Least Sandpipers and 10,900 other “peeps,” and 4800 Short-billed Dowitchers +(Sykes and Hunter 1978). In fall 2000, daily counts of wading birds included 3000 Great Egrets, 915 Snowy Egrets, and **418** Roseate Spoonbills. **OWNERSHIP:** private.

This was a unique case for the IBA Executive Committee. On the one hand, the site may be the most important and predictable inland site in Florida for migrant shorebirds, and some of the daily shorebird counts are record-high counts for Florida. (**According to criteria of the Western Hemisphere Shorebird Reserve Network, the Belle Glade vegetable fields are an internationally significant shorebird stopover site!**) However, unlike recently acquired farmland at Lake Apopka and Emerald Marsh—both IBAs—the Belle Glade farmland remains in private ownership and is managed solely for agriculture. The fields are flooded to prevent subsidence of the muck soil, and to kill nematodes, which feed on the roots of plants. Wading bird, waterfowl, and shorebird use of the fields is a coincidental artifact of the schedule of flooding the fields, rather any attempt to create shorebird habitats. Furthermore, the Committee was worried about the potential impacts of continued pesticide use on birds that forage in the fields. Therefore, this site was not accepted as an IBA.

REFERENCE: +Sykes, P.W., and G.S. Hunter. 1978. Bird use of flooded agricultural fields during summer and early fall and some recommendations for management. *Florida Field Naturalist* 6: 36–43.

Large areas of the Everglades Agricultural Area are being purchased to be converted to water storage areas as part of Everglades restoration, and perhaps some type of shallow-water management could be devised during summer and fall to benefit foraging wading birds and larids, and especially migratory shorebirds.

ETONIAH CREEK STATE FOREST (9221 acres [3688 ha] acquired, with about 40,000 additional acres [16,000 ha] sought for acquisition; Clay and Putnam counties). The State Forest is a large area of disturbed pine flatwoods and fire-suppressed sandhills and oak scrub habitats in north-central Florida. If acquired in its entirety, it would add over 100 square miles (256 square km) of habitats contiguous with Ocala National Forest to the south. One group of Florida Scrub-Jays was known to occur within the Project area (Putnam #1 in +Cox 1987, Putnam #4 in +Pranty 1996b), but this group has been extirpated for at least 10 years. However, many patches of xeric oak scrub apparently still remain, which could possibly be managed for the re-introduction of a viable population of scrub-jays into Putnam County. The sandhill community in the forest is badly fire-suppressed and invaded by sand pines. The Forest Service is in the process of restoring frequent fires to the sandhills, is removing sand pines in sandhills, and is removing some slash pines in order to restore longleaf pine. The Forest contains pockets of faunal refugia, such as a ♦ white cedar (*Tabebuia heterophylla*) swamp along Deep Creek, which is believed to be several hundred miles (and km) from the nearest known populations in the Panhandle and north of Florida. ♦ Etoniah false rosemary (*Conradina etonia*), a Federally Endangered species described near Florahome in 1990, was found in the Forest in 1997 +(Kral and McCartney 1991). The Etoniah–Cross Florida Greenway CARL–FF Project is deemed important for the continued survival of black bears in the region. Cultural resources include the Holloway Homestead and the Mount Hebron Cemetery. Eight archaeological sites are known within the CARL–FF Project area. **OWNERSHIP:** Florida Division of Forestry (Etoniah Creek State Forest) and private owners (remaining acreage of the Etoniah–Cross Florida Greenway CARL–FF Project).

REFERENCES: +Cox, J.A. 1987. *Status and Distribution of the Florida Scrub Jay*. Florida Ornithological Society Special Publication Number 3. Gainesville, FL. • +Kral, R. and R. B. McCartney. 1991. A new species of *Conradina* [Lamiaceae] from northeastern peninsular Florida. *Sida* 14: 391–398. • +Pranty, B. 1996b. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL.

APPENDIX 2:

Conservation lands in Florida at least 10,000 acres (4000 ha) in size +(Jue et al. 2001) that were never nominated as potential IBAs

APALACHICOLA RIVER (95,638 acres; 38,255 ha—Franklin, Gulf, and Liberty counties), composed of **Apalachicola River Water Management Area** (35,506 acres; 14,202 ha) and **Apalachicola River Wildlife and Environmental Area** (60,132 acres; 24,052 ha). **Ownership:** Florida Division of Wildlife (Apalachicola River Wildlife and Environmental Area) and Northwest Florida Water Management District (Apalachicola River Water Management Area). [*These sites are contiguous with the Apalachicola and Tates Hell Forests IBA to the east*]. [Why didn't we include these into the Apalachicola and Tates Hell Forests?]

AUCILLA RIVER (32,236 acres; 12,894 ha—Jefferson, Madison, and Taylor counties), composed of **Aucilla Conservation Area** (38 acres; 15 ha), **Aucilla Wildlife Management Area** (23,028 acres; 9211 ha), and **Middle Aucilla Conservation Area** (9170 acres; 3668 ha). These sites protect nearly half of the Aucilla River in Florida and are contiguous with St. Marks National Wildlife Refuge to the west. **Ownership:** Florida Division of Wildlife (Aucilla Wildlife Management Area) and Suwannee River Water Management District (Aucilla Conservation Area and Middle Aucilla Conservation Area)

BENTON CONSERVATION AREA (15,918 acres; 6367 ha—Columbia County). **Ownership:** Suwannee River Water Management District.

CARAVELLE RANCH WILDLIFE MANAGEMENT AREA (13,383 acres; 5353 ha—Marion and Putnam counties). **Ownership:** St. Johns River Water Management District, and the Florida Office of Greenways and Trails; managed by the Florida Division of Wildlife).

CHOCTAWHATCHEE RIVER (56,204 acres; 22,481 ha—Bay, Holmes, Walton, and Washington counties), composed of **Choctawhatchee River Delta Preserve** (2760 acres; 1104 ha) and **Choctawhatchee River Water Management Area** (53,444 acres; 21,377 ha). This site protects *virtually the entire Choctawhatchee River floodplain in Florida*, from the Alabama state line to Choctawhatchee bay, a distance of over 58 miles (93 km). **Ownership:** Northwest Florida Water Management District (Choctawhatchee River Water Management Area) and The Nature Conservancy (Choctawhatchee River Delta Preserve).

CONE RANCH (14,230 acres; 5692 ha—Hillsborough County). **Ownership:** Hillsborough County.

CROSS FLORIDA GREENWAY STATE RECREATION AND CONSERVATION AREA (81,289 acres; 32,515 ha—Citrus, Levy, Marion, and Putnam counties). **Ownership:** U.S. Army Corps of Engineers and Florida Office of Greenways and Trails. *Part of this site is within the Citrus County Spoil Islands and Withlacoochee–Panasoffkee–Big Scrub IBAs.*

DUETTE PARK (22,000 acres; 8800 ha—Manatee County). **Ownership:** Manatee County. *A disturbed area of former tomato farmland regenerating as wax myrtle “prairies,” slash pine plantations (with a severe infestation of cogongrass), with some overgrown scrub and riparian forests. Duette Park serves as a wellfield for Manatee County.*

ECONFINA CREEK WATER MANAGEMENT AREA (37,455 acres; 14,982 ha—Bay, Jackson, and Washington counties). **Ownership:** Northwest Florida Water Management District.

HATCHBEND CONSERVATION AREA (11,109 acres; 4443 ha—Dixie and Lafayette counties). **Ownership:** Suwannee River Water Management District (943 acres) and private owners (10,166 acres; 4066 ha); perpetual conservation easement monitored by Suwannee River Water Management District.

HEART ISLAND CONSERVATION AREA (11,025 acres; 4410 ha—Volusia County) barely contiguous with the Ocala National Forest–Lake George IBA to the west. **Ownership:** St. Johns River Water Management District.

LAKE TALQUIN STATE FOREST (16,326 acres; 6530 ha—Gadsden and Leon counties) contiguous with the Apalachicola and Tates Hell Forests IBA to the south. **Ownership:** Florida Division of Forestry.

LOWER ESCAMBIA RIVER WATER MANAGEMENT AREA (34,383 acres; 13,753 ha—Escambia and Santa Rosa counties). This site protects *virtually the entire Escambia River floodplain in Florida*, from the Alabama state line to Escambia Bay, a distance of over 40 miles (65 km). **Ownership:** Northwest Florida Water Management District.

LOWER HILLSBOROUGH FLOOD DETENTION AREA (15,964 acres; 6385 ha—Hillsborough County). **Ownership:** Southwest Florida Water Management District.

OKALOACOOCHEE SLOUGH (34,962 acres; 13,984 ha—Collier and Hendry counties), composed of **Okaloacoochee Slough State Forest** (32,039 acres; 12,815) and **Okaloacoochee Slough Wildlife Management Area** (2923 acres; 1169 ha). **Ownership:** South Florida Water Management District, managed by Florida Division of Forestry (**Okaloacoochee Slough State Forest**) and Florida Division of Wildlife (**Okaloacoochee Slough Wildlife Management Area**).

POINT WASHINGTON STATE FOREST (15,101 acres; 6040 ha—Walton County). **Ownership:** Florida Division of Forestry. *Adjacent to the Walton County Beaches IBA to the south.*

RAIFORD WILDLIFE MANAGEMENT AREA (16,200 acres; 6480 ha—Bradford and Union counties). **Ownership:** Florida Department of Corrections, managed by Florida Division of Wildlife.

STEINHATCHEE CONSERVATION AREA (53,275 acres; 21,310 ha—Dixie, Lafayette, and Taylor counties). **Ownership:** Suwannee River Water Management District (26,705 acres; 10,682 ha) and private owners (26,570 acres; 10,628 ha); perpetual conservation easement monitored by Suwannee River Water Management District.

TIGER BAY STATE FOREST (23,431 acres; 9372 ha—Volusia County). **Ownership:** Florida Division of Forestry and St. Johns River Water Management District.

TWIN RIVERS STATE FOREST (14,774 acres; 5909 ha—Hamilton, Madison, and Suwannee counties). **Ownership:** Florida Division of Forestry and Suwannee River Water Management District.

TYNDALL AIR FORCE BASE (14,500 acres; 5800 ha—Bay County). **Ownership:** U.S. Air Force. *Part of Tyndall Air Force Base is included within the Bay County Barrier Islands IBA.*

UPPER AUCILLA CONSERVATION AREA (10,615 acres; 6566 ha—Jefferson and Madison counties). **Ownership:** Suwannee River Water Management District (1439 acres) and private owners (9176 acres; 3670 ha); perpetual conservation easement monitored by Suwannee River Water Management District.

UPPER HILLSBOROUGH SOR TRACT (10,928 acres; 4371 ha—Hillsborough, Pasco, and Polk counties). **Ownership:** Southwest Florida Water Management District.

UPPER LAKES BASIN WATERSHED (12,545 acres; 5018 ha—Osceola and Polk counties). **Ownership:** South Florida Water Management District.

YELLOW RIVER WATER MANAGEMENT AREA (16,271 acres; 6508 ha—Okaloosa and Santa Rosa counties). **Ownership:** Northwest Florida Water Management District.

APPENDIX 3:
English and Latin names of species mentioned in the text

Plants: [in what order should these be placed?]

(xx) page number where first mentioned [for internal review only; these will not be published]

*Nomenclature verified from <<http://www.plantatlas.usf.edu>>, 7 Mar and 3 Apr 2002.

- (21) *longleaf pine (*Pinus palustris*)
- (21) *slash pine (*Pinus elliottii*)
- (21) *pond pine (*Pinus serotina*)
- (21) *saw palmetto (*Serenoa repens*)
- (21) *threeawn (wiregrasses) (*Aristida* spp.)
- (21) *gallberry (*Ilex glabra*)
- (21) *"South Florida" slash pine (*P. elliottii* var. *densa*)
- (22) *turkey oak (*Quercus laevis*)
- (22) *bluejack oak (*Quercus incana*)
- (22) *scrub hickory (*Carya floridana*)
- (22) *live oak (*Quercus virginiana*)
- (22) *laurel oak (*Quercus laurifolia*)
- (22) *cabbage palm (*Sabal palmetto*)
- (22) *gumbo-limbo (*Bursera simaruba*)
- (22) *pigeon plum (*Coccoloba diversifolia*)
- (22) *false tamarind (*Lysiloma latisiliquum*)
- (22) *false mastic (*Sideroxylon foetidissimum*)
- (22) *strangler fig (*Ficus aurea*).
- (23) *scrub oak (*Quercus inopina*)
- (23) *sand live oak (*Quercus geminata*)
- (22) *Florida torreya (*Torreya taxifolia*)
- (22) *Florida yew (*Taxus floridana*)
- (23) *myrtle oak (*Quercus myrtifolia*)
- (23) *Chapman's oak (*Quercus chapmanii*)
- (23) *Florida rosemary (*Ceratiola ericoides*)
- (23) *sand pine (*Pinus clausa*)
- (24) *fetterbush (*Lyonia lucida*)
- (24) *staggerbushes (*Lyonia ferruginea* and *Lyonia fructosa*)
- (24) *blueberry (*Vaccinium* spp.)
- (24) *wax myrtle (*Myrica cerifera*)
- (24) *bahia grass (*Paspalum notatum*)
- (24) *bald-cypress (*Taxodium distichum*)
- (24) *pond-cypress (*Taxodium ascendens*)
- (24) *blackgum (*Nyssa sylvatica*)
- (24) *hickory (*Carya* spp.)
- (24) *red maple (*Acer rubrum*)
- (24) *loblolly bay (*Gordonia lasianthus*)
- (24) *sweetbay (*Magnolia virginiana*)
- (24) *swamp bay (*Persea palustris*)
- (24) *red mangrove (*Rhizophora mangle*)
- (24) *black mangrove (*Avicennia germinans*)
- (24) *white mangrove (*Laguncularia racemosa*)

- (25) *pickerelweed (*Pontedaria cordata*)
- (25) *arrowhead (*Sagittaria* spp.)
- (25) *cattail (*Typha* spp.)
- (25) *Jamaica swamp sawgrass (*Cladium jamaicense*)
- (25) *needle rush (*Juncus roemerianus*)
- (25) *smooth cordgrass (*Spartina alterniflora*)
- (26) *seaoats (*Uniola paniculata*)
- (41) *puncttree (*Melaleuca quinquenervia*)
- (41) *Brazilian pepper (*Schinus terebinthifolius*)
- (41) *Australian-pine (*Casuarina* spp.)
- (41) *Japanese climbing fern (*Lygodium japonicum*)
- (41) *common water-hyacinth (*Eichhornia crassipes*)
- (52) *whitetop pitcherplant (*Sarracenia leucophylla*)
- (52) *Panhandle lily (*Lilium iridollae*)
- (52) *dwarf witchalder (*Fothergilla gardenii*)
- (55) *Chinese tallowtree (*Sapium sebiferum*)
- (55) *cogongrass (*Imperata cylindrica*)
- (73) *shortleaf pine (*Pinus echinata*)
- (97) “Ichetucknee ladies’-tresses” (*Spiranthes odorata* X *S. ovalis*)
- (97) *wakerobin (*Trillium* spp.)
- (97) *King Solomon’s seal (*Polygonatum biflorum*)
- (97) *Florida willow (*Salix floridana*)
- (111) *boxelder (*Acer negundo*)
- (111) *wild taro (*Colocasia esculenta*)
- (112) *tropical soda apple (*Solanum viarum*)
- (112) *Chinaberrytree (*Melia azedarach*)
- (112) *tungoil tree (*Aleurites fordii*)
- (112) *black mimosa (*Mimosa pigra*)
- (116) *Florida jointweed (*Polygonella basiramia*)
- (116) *sweetscented pigeonwings (*Clitoria fragrans*)
- (131) *air-potato (*Dioscorea bulbifera*)
- (131) *skunkvine (*Paederia foetida*)
- (156) *white leadtree (*Leucaena leucocephala*)
- (156) *carrotwood (*Cupaniopsis anacardioides*)
- (159) *garberia (*Garberia heterophylla*)
- (159) *Catesby's lily (*Lilium catesbaei*)
- (159) *cutthroatgrass (*Panicum abscissum*)
- (159) *yellow-flowered butterwort (*Pinguicula lutea*)
- (159) *giant orchid (*Pteroglossapsis ecristata*)
- (159) *common wild pine (*Tillandsia fasciculata*)
- (159) *Atamasco lily (*Zephyranthus atamasco*)
- (168) *hydrilla (*Hydrilla vericillata*)
- (175) *pigmy fringetree (*Chionanthus pygmaeus*)
- (175) *Carter's pinelandcress (*Warea carteri*)
- (175) *Avon Park harebells (*Crotalaria avonensis*)
- (175) *Christman’s mint (*Dicerandra christmanii*)
- (175) *wedgeleaf eryngo (*Eryngium cunefolium*)
- (175) *Highlands scrub St. John’s-wort (*Hypericum cumulicola*)
- (175) *scrub blazing-star (*Liatris ohlingerae*)
- (175) *Florida jujube (*Ziziphus celata*)
- (180) *castorbean (*Ricinus communis*)

- (184) *West Indian bristlegrass (*Setaria setosa*)
- (185) *beach creeper (*Ernodea littoralis*)
- (185) *inkberry (*Scaevola plumieri*)
- (187) *bulrush (*Scirpus* spp.)
- (189) *St. Augustinegrass (*Stenotaphrum secundatum*)
- (189) *rosary pea (*Abrus precatorius*)
- (210) *camphortree (*Cinnamomum camphora*)
- (217) *pretty false pawpaw (*Deeringothamnus rugelii* var. *pulchellus*)
- (231) *eucalyptus (*Eucalyptus* spp.)
- (232) *Edison's St. John's-wort (*Hypericum edisonianum*)
- (232) *nodding pinweed (*Lechea cernua*)
- (236) *Okeechobee gourd (*Cucurbita okeechobeensis*)
- (246) *golden leather fern (*Acrostichum aureum*)
- (246) *clamshell orchid (*Prosthechea cochleata*)
- (246) *Florida thatch palm (*Thrinax radiata*)
- (247) *latherleaf (*Colubrina asiatica*)
- (254) *coconut palm (*Cocos nucifera*)
- (254) *largeleaf geigertree (*Cordia sebestena*)
- (264) *white cedar (*Tabebuia heterophylla*)
- (264) *Etoniah false rosemary (*Conradina etonia*)

Non-avian animals: [put in taxonomic sequence]

- (20) Florida manatee (*Trichechus manatus latirostris*); endemic subspecies of West Indian Manatee
- (20) Florida panther (*Felis concolor coryi*); southeastern United States subspecies of the widespread mountain lion (or cougar), now extirpated except for a small but increasing population in southern Florida. Now estimated at 80 individuals, the Florida panther's survival depends upon the State governments' ability (and willingness) to regulate land use of a vast area southwest of Lake Okeechobee and north of Big Cypress National Preserve. Public acquisition of this area has begun, but it remains to be seen whether a sufficient amount of habitat can be preserved.
- (23) Florida scrub lizard (*Sceloporus woodi*)
- (23) sand skink (*Neoseps reynoldsi*)
- (23) Florida mouse (*Peromyscus floridanus*)
- (40) feral cat (*Felis domesticus*)
- (40) feral hog (*Sus scrofa*)
- (40) feral dog (*Canis domesticus*)
- (51) "Choctawhatchee" beach mouse (*Peromyscus polionotus allophrys*)
- (51) "St. Andrews" beach mouse (*Peromyscus polionotus peninsularis*)
- (52) pine barrens treefrog (*Hyla andersonii*)
- (52) gopher tortoise (*Gopherus polyphemus*)
- (52) "Sherman's" fox squirrel (*Sciurus niger shermani*)
- (54) bog frog (*Rana okaloosae*)
- (54) Okaloosa darter (*Etheostoma okaloosae*)
- (54) black bear (*Ursus americanus*)
- (54) green turtle (*Chelonia mydas*)
- (54) loggerhead sea turtle (*Caretta caretta*)
- (59) leatherback turtle (*Dermochelys coriacea*)
- (70) red wolf (*Canis rufus*)
- (71) sambar deer (*Cervus unicolor*)
- (86) indigo snake (*Drymarchon corais*)
- (86) gopher frog (*Rana capito*)
- (92) "Anastasia Island" beach mouse (*Peromyscus polionotus phasma*)
- (97) Ichetucknee silt-snail (*Cincinnatia mica*)
- (97) mountain mullet (*Agonostomus monticola*)
- (97) short-tailed snake (*Stilosoma extenuatum*)
- (97) pine snake (*Pituophis melanoleucus*)
- (109) flatwoods salamander (*Ambystoma cingulatum*)
- (112) underwing moth (*Catocala* spp.)
- (125) "Southeastern" beach mouse (*Peromyscus polionotus niveiventris*)
- (144) big-eared bat (*Plecotus rafinesquii*)
- (144) ruddy daggerwing (*Marpesia petreus*)
- (146) American alligator (*Alligator mississippiensis*)
- (180) box turtle (*Terrapene carolina*)
- (209) Wekiwa Springs hydrobe snail (*Aphaestracon monas*)
- (209) Wekiwa siltsnail (*Cincinnatia wekiwae*)
- (224) American crocodile (*Crocodylus acutus*)
- (224) Schaus' swallowtail butterfly (*Papilio aristodemus*)
- (246) Florida tree snail (*Liguus fasciatus*)
- (246) mastiff bat (*Eumops glaucinus*)
- (257) "Key Largo" cotton mouse (*Peromyscus gossypinus allapaticola*)
- (257) "Key Largo" woodrat (*Neotoma floridana smalli*)

Birds:

Common Loon (*Gavia immer*)
Pied-billed Grebe (*Podilymbus podiceps*)
Masked Booby (*Sula dactylatra*)
Brown Booby (*Sula leucogaster*)
American White Pelican (*Pelecanus erythrorhynchos*)
Brown Pelican (*Pelecanus occidentalis*)
Double-crested Cormorant (*Phalacrocorax auritus*)
Anhinga (*Anhinga anhinga*)
Magnificent Frigatebird (*Fregata magnificens*)
Least Bittern (*Ixobrychus exilis*)
Great Blue Heron (*Ardea herodias*)
Great Egret (*Ardea alba*)
Snowy Egret (*Egretta thula*)
Little Blue Heron (*Egretta caerulea*)
Tricolored Heron (*Egretta tricolor*)
Reddish Egret (*Egretta rufescens*)
Cattle Egret (*Bubulcus ibis*)
Black-crowned Night-Heron (*Nycticorax nycticorax*)
Yellow-crowned Night-Heron (*Nyctanassa violacea*)
White Ibis (*Eudocimus albus*)
Scarlet Ibis (*Eudocimus ruber*)
Glossy Ibis (*Plegadis falcinellus*)
Roseate Spoonbill (*Ajaia ajaja*)
Wood Stork (*Mycteria americana*)
Canada Goose (*Branta canadensis*)
Wood Duck (*Aix sponsa*)
American Wigeon (*Anas americana*)
Mallard (*Anas platyrhynchos*)
Mottled Duck (*Anas fulvigula*)
Blue-winged Teal (*Anas discors*)
Northern Pintail (*Anas acuta*)
Green-winged Teal (*Anas crecca*)
Redhead (*Aythya americana*)
Ring-necked Duck (*Aythya collaris*)
Lesser Scaup (*Aythya affinis*)
Osprey (*Pandion haliaetus*)
Swallow-tailed Kite (*Elanoides forficatus*)
White-tailed Kite (*Elanus leucurus*)
Snail Kite (*Rostrhamus sociabilis*)
Bald Eagle (*Haliaeetus leucocephalus*)
Northern Harrier (*Circus cyaneus*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperii*)
Red-shouldered Hawk (*Buteo lineatus*)
Broad-winged Hawk (*Buteo platypterus*)
Short-tailed Hawk (*Buteo brachyurus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Crested Caracara (*Caracara plancus*)
American Kestrel (*Falco sparverius*)

“Southeastern” American Kestrel (*Falco sparverius paulus*)
Merlin (*Falco columbarius*)
Prairie Falcon (*Falco mexicanus*)
Peregrine Falcon (*Falco peregrinus*)
Wild Turkey (*Meleagris gallopavo*)
Northern Bobwhite (*Colinus virginianus*)
Yellow Rail (*Coturnicops noveboracensis*)
Black Rail (*Laterallus jamaicensis*)
Clapper Rail (*Rallus longirostris*)
King Rail (*Rallus elegans*)
Purple Gallinule (*Porphyryla martinica*)
Common Moorhen (*Gallinula chloropus*)
American Coot (*Fulica americana*)
Limpkin (*Aramus guarauna*)
“Greater” Sandhill Crane (*Grus canadensis tabida*)
“Florida” Sandhill Crane (*Grus canadensis pratensis*)
Black-bellied Plover (*Pluvialis squatarola*)
Snowy Plover (*Charadrius alexandrinus*)
Wilson’s Plover (*Charadrius wilsonia*)
Semipalmated Plover (*Charadrius semipalmatus*)
Piping Plover (*Charadrius melodus*)
American Oystercatcher (*Haematopus palliatus*)
Black-necked Stilt (*Himantopus mexicanus*)
American Avocet (*Recurvirostra americana*)
Greater Yellowlegs (*Tringa melanoleuca*)
Lesser Yellowlegs (*Tringa flavipes*)
Willet (*Catoptrophorus semipalmatus*)
Whimbrel (*Numenius phaeopus*)
Marbled Godwit (*Limosa fedoa*)
Ruddy Turnstone (*Arenaria interpres*)
Red Knot (*Calidris canutus*)
Semipalmated Sandpiper (*Calidris pusilla*)
Western Sandpiper (*Calidris mauri*)
Least Sandpiper (*Calidris minutilla*)
White-rumped Sandpiper (*Calidris fuscicollis*)
Dunlin (*Calidris alpina*)
Stilt Sandpiper (*Calidris himantopus*)
Short-billed Dowitcher (*Limnodromus griseus*)
Long-billed Dowitcher (*Limnodromus scolopaceus*)
Common Snipe (*Gallinago gallinago*)
Laughing Gull (*Larus atricilla*)
Gull-billed Tern (*Sterna nilotica*)
Caspian Tern (*Sterna caspia*)
Royal Tern (*Sterna maxima*)
Sandwich Tern (*Sterna sandvicensis*)
Roseate Tern (*Sterna dougallii*)
Common Tern (*Sterna hirundo*)
Least Tern (*Sterna antillarum*)
Bridled Tern (*Sterna anaethetus*)
Sooty Tern (*Sterna fuscata*)
Black Tern (*Chlidonias niger*)

Brown Noddy (*Anous stolidus*)
Black Skimmer (*Rynchops niger*)
White-crowned Pigeon (*Columba leucocephala*)
Ringed Turtle-Dove (*Streptopelia “risoria”*)
Eurasian Collared-Dove (*Streptopelia decaocto*)
White-winged Dove (*Zenaida asiatica*)
Zenaida Dove (*Zenaida aurita*)
Mourning Dove (*Zenaida macroura*)
Passenger Pigeon (*Ectopistes migratorius*)
Common Ground-Dove (*Columbina passerina*)
Carolina Parakeet (*Conuropsis carolinensis*)
Yellow-billed Cuckoo (*Coccyzus americanus*)
Mangrove Cuckoo (*Coccyzus minor*)
Eastern Screech-Owl (*Otus asio*)
Great Horned Owl (*Bubo virginianus*)
Burrowing Owl (*Athene cunicularia*)
Barred Owl (*Strix varia*)
Common Nighthawk (*Chordeiles minor*)
Common Poorwill (*Phalaenoptilus nuttalli*)
Chimney Swift (*Chaetura pelagica*)
Ruby-throated Hummingbird (*Archilochus colubris*)
Cuban Emerald (*Chlorostilbon ricordii*)
Red-headed Woodpecker (*Melanerpes erythrocephalus*)
Red-bellied Woodpecker (*Melanerpes carolinus*)
Downy Woodpecker (*Picoides pubescens*)
Hairy Woodpecker (*Picoides villosus*)
Red-cockaded Woodpecker (*Picoides borealis*)
Northern Flicker (*Colaptes auratus*)
Pileated Woodpecker (*Dryocopus pileatus*)
Ivory-billed Woodpecker (*Campephilus principalis*)
Eastern Wood-Pewee (*Contopus virens*)
Cuban Pewee (*Contopus caribaeus*)
Eastern Phoebe (*Sayornis phoebe*)
Great Crested Flycatcher (*Myiarchus crinitus*)
La Sagra’s Flycatcher (*Myiarchus sagrae*)
Tropical Kingbird (*Tyrannus melancholicus*)
Couch’s Kingbird (*Tyrannus couchii*)
Western Kingbird (*Tyrannus verticalis*)
Eastern Kingbird (*Tyrannus tyrannus*)
Gray Kingbird (*Tyrannus dominicensis*)
Loggerhead Shrike (*Lanius ludovicianus*)
Black-capped Vireo (*Vireo atricapillus*)
White-eyed Vireo (*Vireo griseus*)
Thick-billed Vireo (*Vireo crassirostris*)
“Least” Bell’s Vireo (*Vireo bellii pusillus*)
Red-eyed Vireo (*Vireo olivaceus*)
Black-whiskered Vireo (*Vireo altiloquus*)
Blue Jay (*Cyanocitta cristata*)
Florida Scrub-Jay (*Aphelocoma coerulescens*)
American Crow (*Corvus brachyrhynchos*)
Fish Crow (*Corvus ossifragus*)

Purple Martin (*Progne subis*)
Tree Swallow (*Tachycineta bicolor*)
Bank Swallow (*Riparia riparia*)
Cliff Swallow (*Petrochelidon pyrrhonota*)
Barn Swallow (*Hirundo rustica*)
Carolina Chickadee (*Poecile carolinensis*)
White-breasted Nuthatch (*Sitta carolinensis*)
Brown-headed Nuthatch (*Sitta pusilla*)
Carolina Wren (*Thryothorus ludovicianus*)
House Wren (*Troglodytes aedon*)
Sedge Wren (*Cistothorus platensis*)
Marsh Wren (*Cistothorus palustris*)
“Marian's” Marsh Wren (*Cistothorus palustris marianae*)
“Worthington's” Marsh Wren (*Cistothorus palustris griseus*)
Ruby-crowned Kinglet (*Regulus calendula*)
Blue-gray Gnatcatcher (*Poliopitila caerulea*)
Eastern Bluebird (*Sialia sialis*)
Veery (*Catharus fuscescens*)
Gray-cheeked Thrush (*Catharus minimus*)
Swainson's Thrush (*Catharus ustulatus*)
Hermit Thrush (*Catharus guttatus*)
Wood Thrush (*Hylocichla mustelina*)
Gray Catbird (*Dumetella carolinensis*)
Northern Mockingbird (*Mimus polyglottos*)
European Starling (*Sturnus vulgaris*)
Bachman's Warbler (*Vermivora bachmanii*)
Blue-winged Warbler (*Vermivora pinus*)
Tennessee Warbler (*Vermivora peregrina*)
Northern Parula (*Parula americana*)
Yellow Warbler (*Dendroica petechia*)
“Cuban” Yellow Warbler (*Dendroica petechia gundlachii*)
Chestnut-sided Warbler (*Dendroica pensylvanica*)
Magnolia Warbler (*Dendroica magnolia*)
Cape May Warbler (*Dendroica tigrina*)
Black-throated Blue Warbler (*Dendroica caerulescens*)
Yellow-rumped Warbler (*Dendroica coronata*)
Black-throated Green Warbler (*Dendroica virens*)
Blackburnian Warbler (*Dendroica fusca*)
Yellow-throated Warbler (*Dendroica dominica*)
Olive-capped Warbler (*Dendroica pityophila*)
Pine Warbler (*Dendroica pinus*)
Kirtland's Warbler (*Dendroica kirtlandii*)
Prairie Warbler (*Dendroica discolor*)
“Florida” Prairie Warbler (*Dendroica discolor paludicola*)
Palm Warbler (*Dendroica palmarum*)
Bay-breasted Warbler (*Dendroica castanea*)
Blackpoll Warbler (*Dendroica striata*)
Black-and-white Warbler (*Mniotilta varia*)
American Redstart (*Setophaga ruticilla*)
Prothonotary Warbler (*Protonotaria citrea*)
Worm-eating Warbler (*Helmitheros vermivorus*)

Ovenbird (*Seiurus aurocapillus*)
Northern Waterthrush (*Seiurus noveboracensis*)
Kentucky Warbler (*Oporornis formosus*)
Connecticut Warbler (*Oporornis agilis*)
Common Yellowthroat (*Geothlypis trichas*)
Bahama Yellowthroat (*Geothlypis rostrata*)
Hooded Warbler (*Wilsonia citrina*)
Western Spindalis (*Spindalis zena*)
Summer Tanager (*Piranga rubra*)
Scarlet Tanager (*Piranga olivacea*)
Eastern Towhee (*Pipilo erythrophthalmus*)
Bachman's Sparrow (*Aimophila aestivalis*)
Savannah Sparrow (*Passerculus sandwichensis*)
Grasshopper Sparrow (*Ammodramus savannarum*)
"Florida" Grasshopper Sparrow (*Ammodramus savannarum floridanus*)
Henslow's Sparrow (*Ammodramus henslowii*)
Le Conte's Sparrow (*Ammodramus leconteii*)
Seaside Sparrow (*Ammodramus maritimus*)
"Cape Sable" Seaside Sparrow (*Ammodramus maritimus mirabilis*)
"Dusky" Seaside Sparrow (*Ammodramus maritimus nigrescens*)
"MacGillivray's" Seaside Sparrow (*Ammodramus maritimus macgillivrayi*)
"Scott's" Seaside Sparrow (*Ammodramus maritimus scottii*)
Swamp Sparrow (*Melospiza georgiana*)
Northern Cardinal (*Cardinalis cardinalis*)
Rose-breasted Grosbeak (*Pheucticus ludovicianus*)
Blue Grosbeak (*Guiraca caerulea*)
Indigo Bunting (*Passerina cyanea*)
Painted Bunting (*Passerina ciris*)
Dickcissel (*Spiza americana*)
Bobolink (*Dolichonyx oryzivorus*)
Eastern Meadowlark (*Sturnella magna*)
Common Grackle (*Quiscalus quiscula*)
Boat-tailed Grackle (*Quiscalus major*)
Shiny Cowbird (*Molothrus bonariensis*)
Brown-headed Cowbird (*Molothrus ater*)
Orchard Oriole (*Icterus spurius*)
Baltimore Oriole (*Icterus galbula*)
Bullock's Oriole (*Icterus bullockii*)
Common Redpoll (*Carduelis flammea*)
House Sparrow (*Passer domesticus*)

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