



U.S. Fish and Wildlife Service

Restoring America's Everglades-Recovering Multiple Species

Picayune Strand Restoration Project in Southwest Florida A Landscape Perspective

Kim Dryden U.S. Fish and Wildlife Service Naples, FL

*Endangered Fauna
Habitat Restoration
Sub-Tropical Estuaries*



*Rescuing an Endangered
Ecosystem*

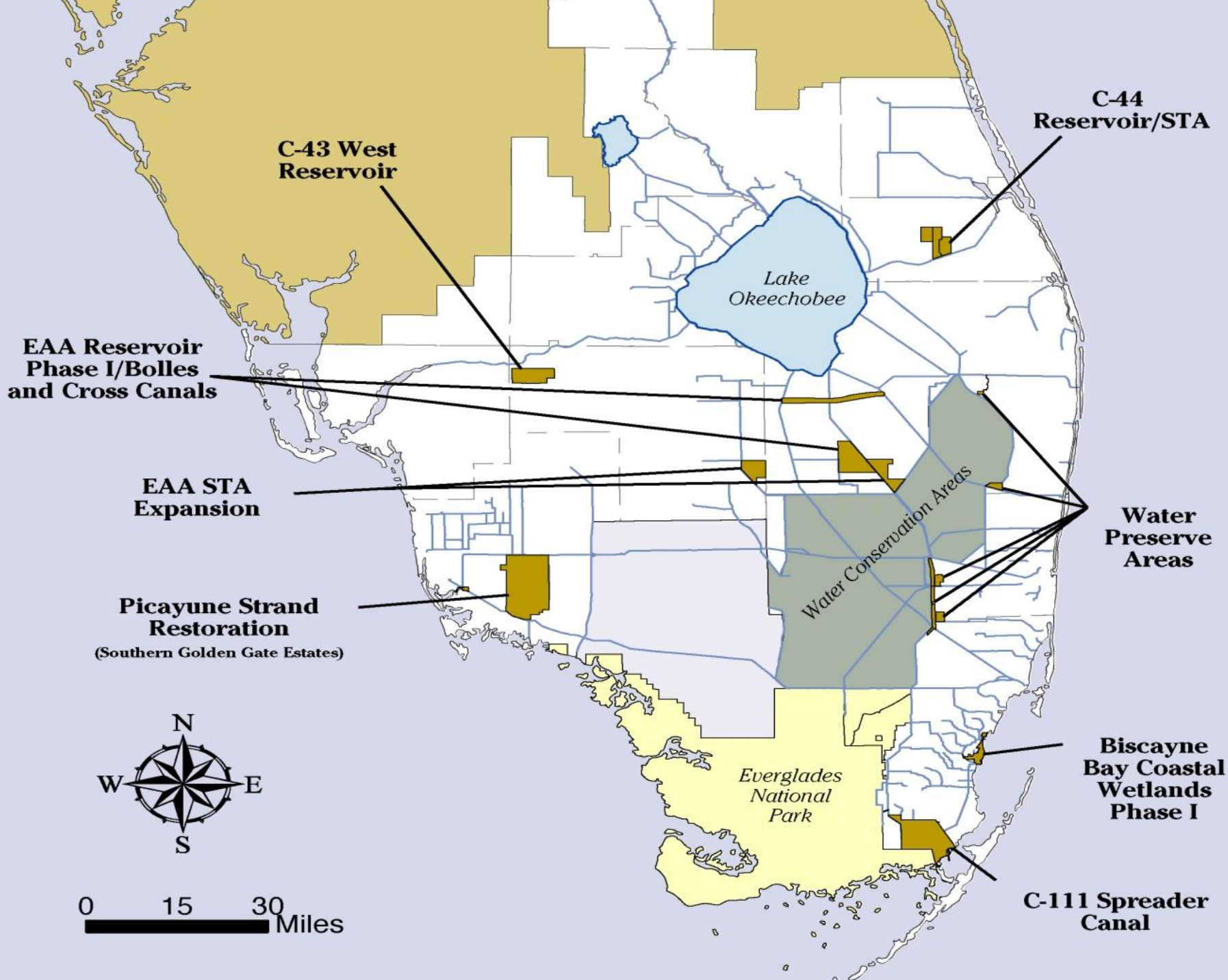
Comprehensive Everglades Restoration Plan

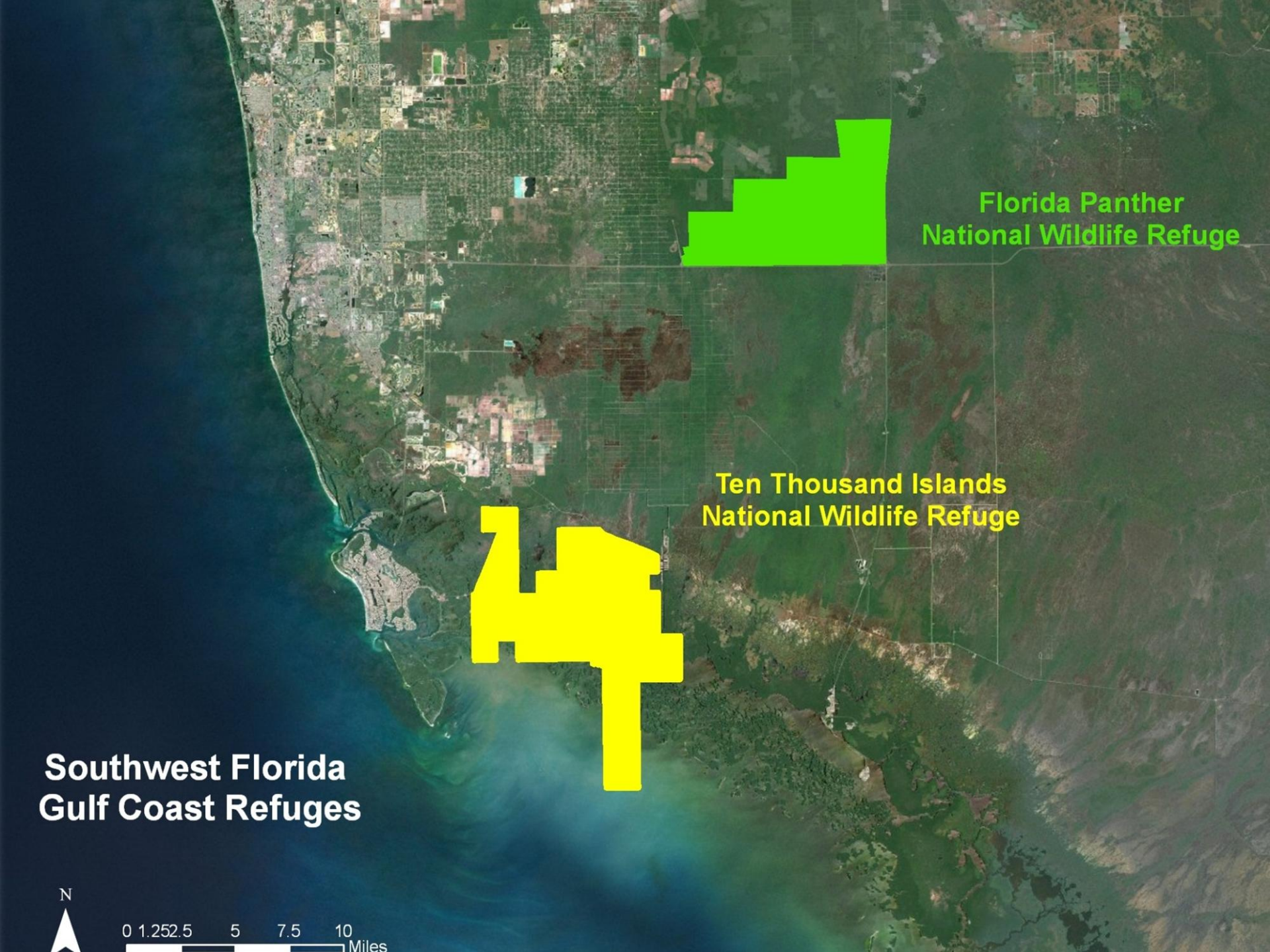


CERP



*Restoring America's
Everglades*





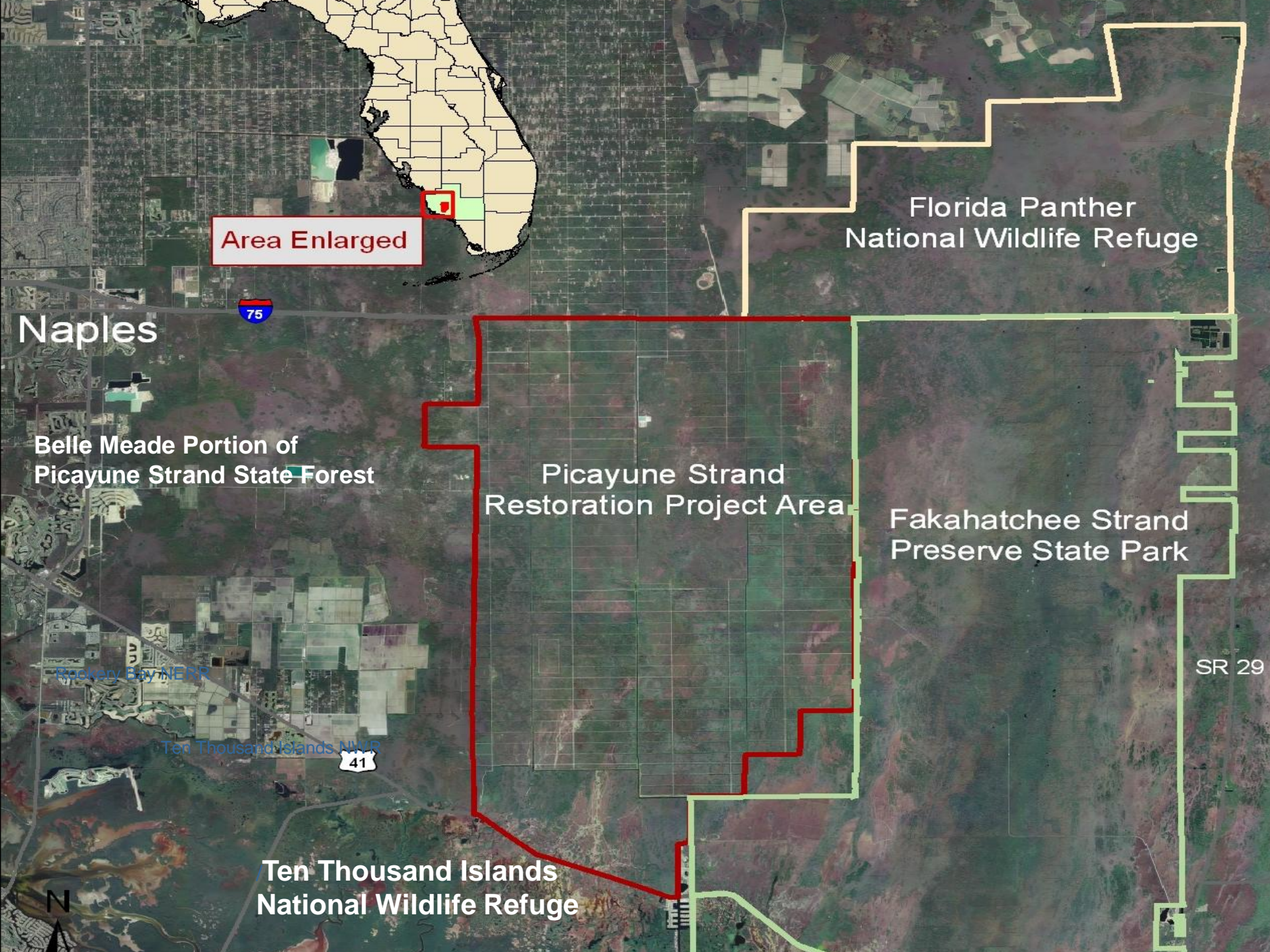
**Florida Panther
National Wildlife Refuge**

**Ten Thousand Islands
National Wildlife Refuge**

**Southwest Florida
Gulf Coast Refuges**

N

0 1.25 2.5 5 7.5 10 Miles



Area Enlarged

Florida Panther
National Wildlife Refuge

Naples



Belle Meade Portion of
Picayune Strand State Forest

Picayune Strand
Restoration Project Area

Fakahatchee Strand
Preserve State Park

Rocky Bay NERR

Ten Thousand Islands NWR



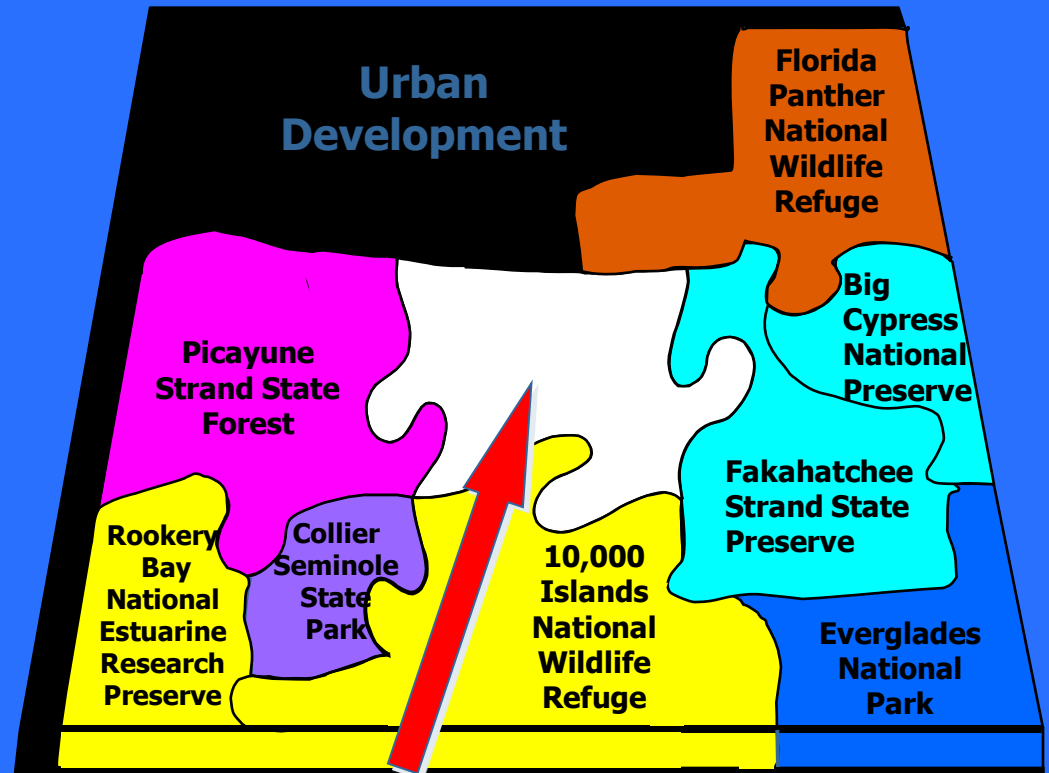
SR 29

Ten Thousand Islands
National Wildlife Refuge

N

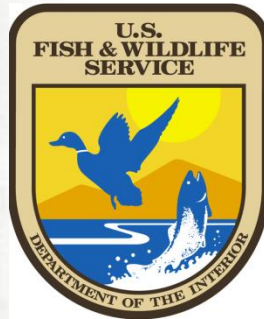
Picayune Strand Restoration Project

Connectivity to
Over 2 1/2 Million
Acres of
Contiguous
South Florida
Public Lands

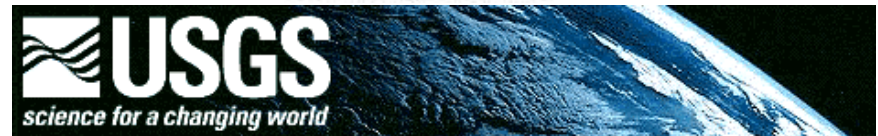


Cooperators

Federal State Local Universities Private



US Army Corps
of Engineers



Land Acquisition and Management Farm Bill 3



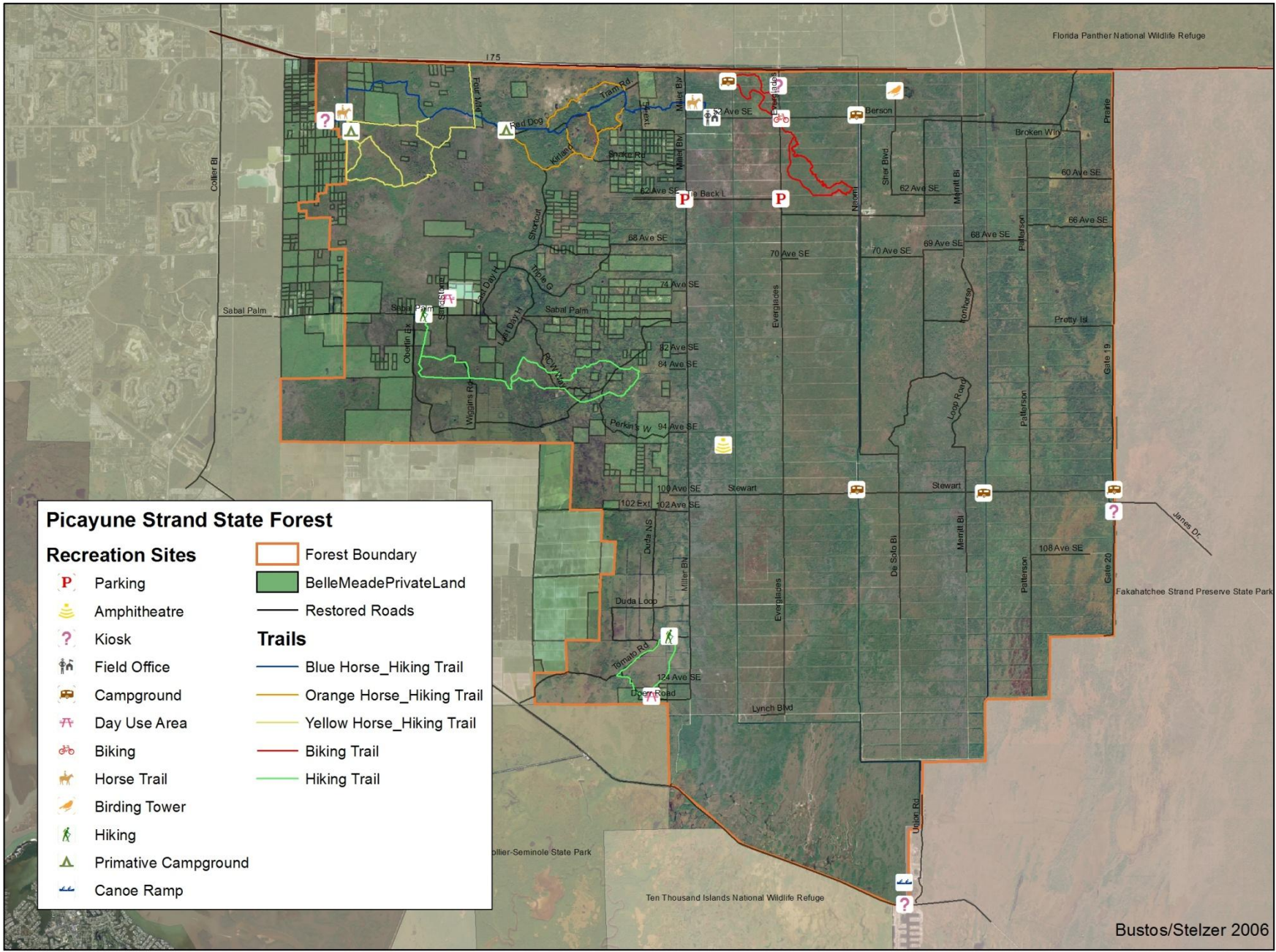
\$38 Million Department of the Interior Funds

Prescribed Fire

Exotic Plant and Animal control

Recreation

Cabbage Palm/Timber Harvest



Florida Panther National Wildlife Refuge

175

Picayune Strand State Forest

Recreation Sites

- Parking
- Amphitheatre
- Kiosk
- Field Office
- Campground
- Day Use Area
- Biking
- Horse Trail
- Birding Tower
- Hiking
- Primitive Campground
- Canoe Ramp

- Forest Boundary
- BelleMeadePrivateLand
- Restored Roads

Trails

- Blue Horse_Hiking Trail
- Orange Horse_Hiking Trail
- Yellow Horse_Hiking Trail
- Biking Trail
- Hiking Trail

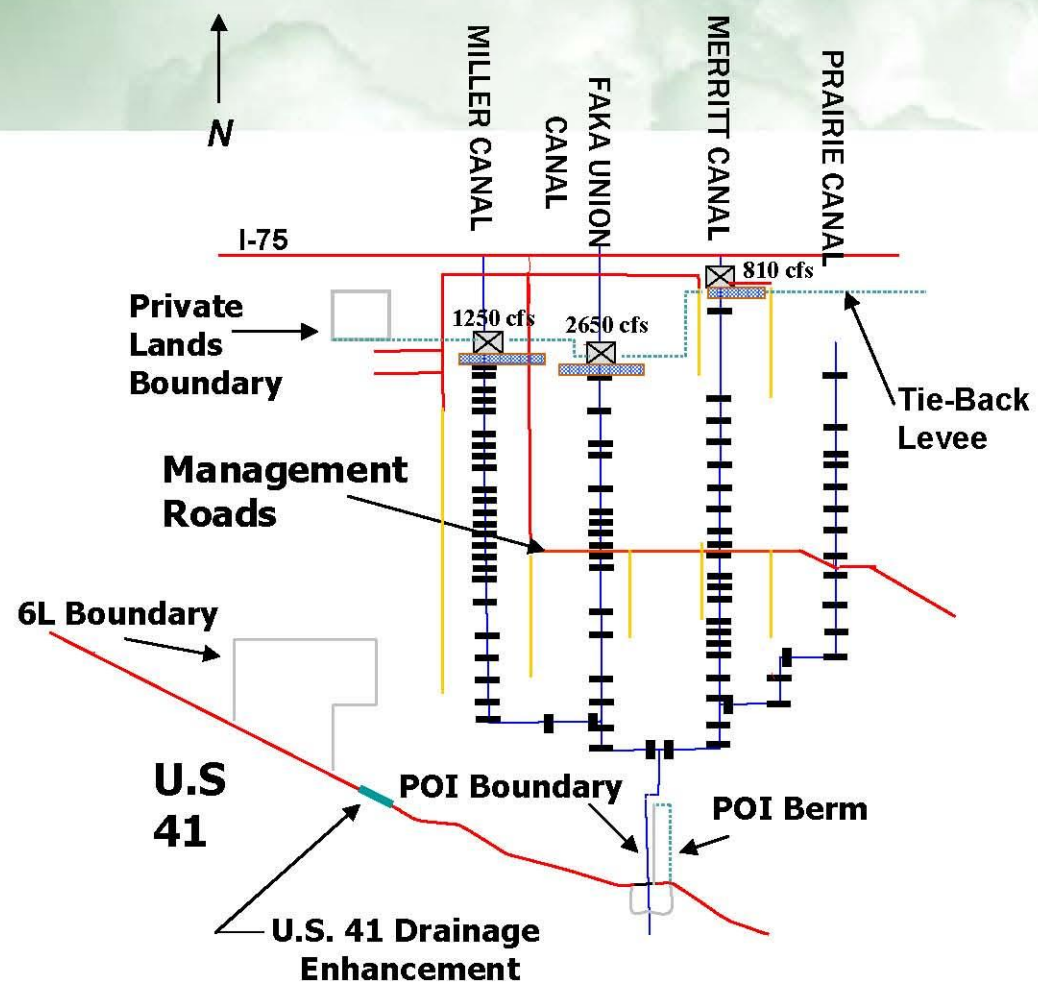


Florida Division of Forestry








Bustos/Stelzer 2006



Restoration Plan



ELEMENTS

-  **3 Spreader Canals**
-  **3 Pump Stations**
-  **Canal Plugs**
-  **Primary All Weather Roads**
-  **Secondary Roads**
-  **Private Lands Boundaries**
-  **Berm**











STOP

STOP

STOP

STOP









A black bear is climbing a large tree trunk on the left side of the image. The bear is positioned vertically, with its head near the top and its body extending downwards. The tree trunk is light-colored with a rough, textured bark. The background is a soft-focus forest with green foliage and sunlight filtering through the trees.

Fish and Wildlife Coordination Act of 1958

48 Stat 401;16 U.S.C. 661 et seq.

Fish and Wildlife Conservation is an *Equal* Consideration in Federal Decisions Affecting Water Bodies

Requires that Federal Agencies Consult with U.S. Fish and Wildlife Service and State Conservation Agencies

Authorizes Action Agencies to Implement Acceptable Recommendations





Species Listed by the Florida Fish and Wildlife Conservation Commission as Threatened (T), Endangered (E), or of Special Concern (SSC), Excluding Federally Listed Species.

Common name	Species Name	Status
BIRDS		
Southeastern snowy plover	<i>Charadrius alexandrinus tenuistrostris</i>	T
Tricolored heron	<i>Egretta tricolor</i>	SSC
White ibis	<i>Eudocimus albus</i>	SSC
White-crowned pigeon	<i>Columba leucocephala</i>	T
MAMMALS		
Big Cypress fox squirrel	<i>Sciurus niger avicennia</i>	T
Everglades mink	<i>Mustela vison evergladensis</i>	T
Florida black bear	<i>Ursus americanus floridanus</i>	T
MOLLUSCS		
Florida tree snail	<i>Liguus fasciatus</i>	SSC

Species listed by the Florida Fish and Wildlife Conservation Commission as Threatened (T), Endangered (E), or of Special Concern (SSC), Excluding Federally Listed Species

Common Name	Species Name	Status
REPTILES		
American alligator	<i>Alligator mississippiensis</i>	SSC
Gopher tortoise	<i>Gopherus polyphemus</i>	SSC
AMPHIBIANS		
Gopher frog	<i>Rana capito</i>	SSC
BIRDS		
American oystercatcher	<i>Haematopus palliatus</i>	SSC
Black skimmer	<i>Rynchops niger</i>	SSC
Brown pelican	<i>Pelecanus occidentalis</i>	SSC
Burrowing owl	<i>Speotyto cunicularia</i>	SSC
Florida sandhill crane	<i>Grus canadensis pratensis</i>	T
Least tern	<i>Sterna antillarum</i>	T
Limpkin	<i>Aramus guarauna</i>	SSC
Little blue heron	<i>Egretta caerulea</i>	SSC
Peregrine falcon	<i>Falco peregrinus</i>	E
Reddish egret	<i>Egretta rufescens</i>	SSC
Roseate spoonbill	<i>Ajaia ajaja</i>	SSC
Snowy egret	<i>Egretta thula</i>	SSC



27 20:50





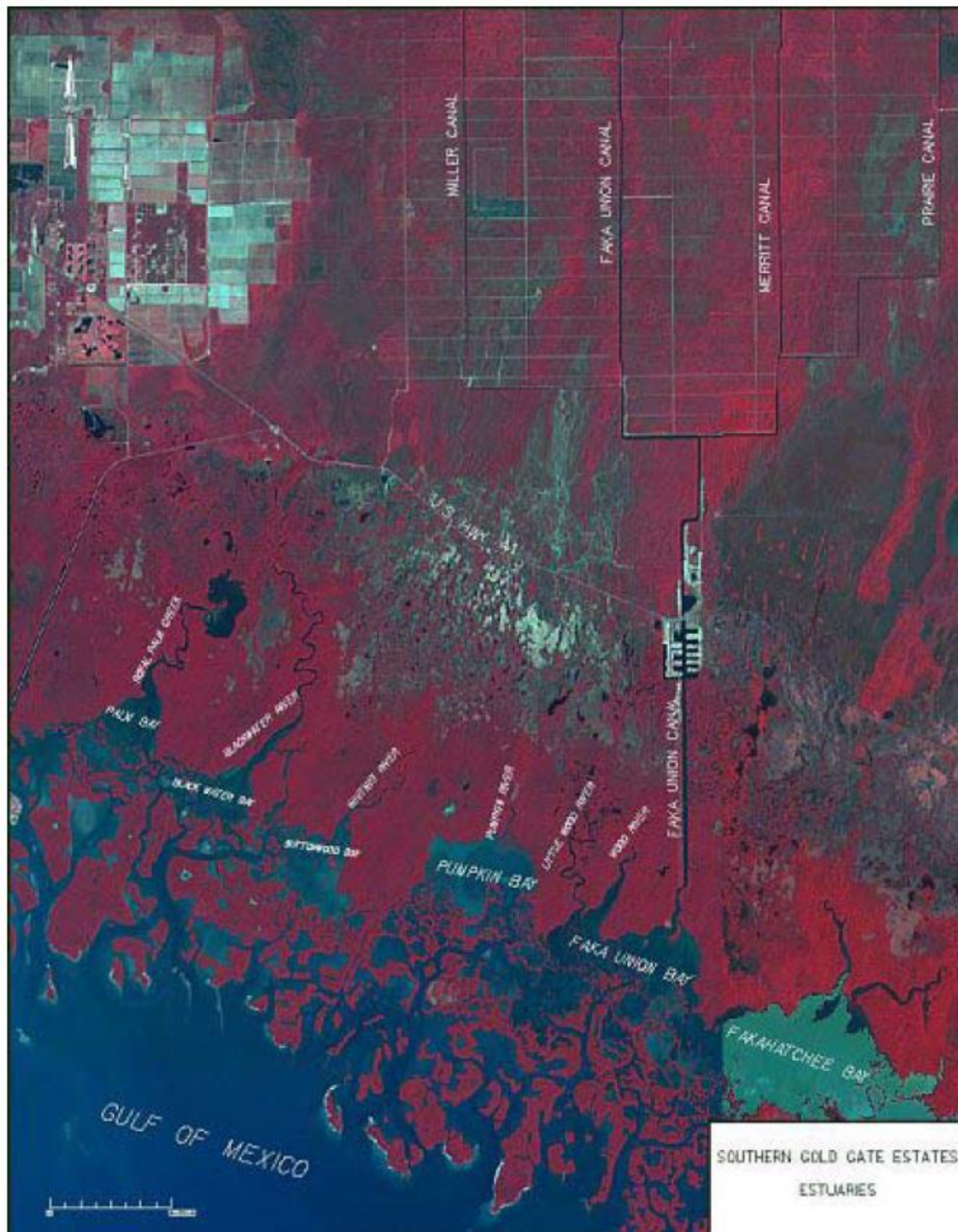
Affected Estuaries

Ten Thousand Islands
National Wildlife Refuge
(USFWS)

Rookery Bay/Cape
Romano Aquatic
Preserve (FDEP) and
National Estuarine
Research Reserve
(NERR-NOAA)

Everglades National
Park (NPS)

Florida Keys.....









Endangered Species Act of 1973

87 Stat. 884; 16 U.S.C. 1531 et seq.

- **Section 7 - Federal Agency Consultation**
 - 7. (a) (1) **Requires Federal Agencies to Use Authority to Conserve Listed Species**
 - 7. (a) (2) **Jeopardy/Adverse Modification of Critical Habitat**
- **Section 4 - Listing and Recovery**
- **Section 9 - Prohibited Acts**
- **Section 10 - Exceptions (Habitat Conservation Plans)**

Federally Listed Threatened (T) or Endangered (E) Fish and Wildlife Species Known or Expected to Occur Within the PSRP Area

• **Common Name** **Species Name** **Status**

REPTILES

American crocodile *Crocodylus acutus* E

Eastern indigo snake *Drymarchon corais couperi* T

Loggerhead sea turtle *Caretta caretta* T

Kemp's ridley sea turtle *Lepidochelys kemp* E

Atlantic green sea turtle *Chelonia mydas mydas* E

BIRDS

Red-cockaded woodpecker *Picoides borealis* E

Wood stork *Mycteria americana* E

Everglade Snail kite *Rostrhamus sociabilis plumbeus* E

Bald eagle *Haliaeetus leucocephalus* T

MAMMALS

Florida panther *Puma concolor coryi* E

West Indian manatee *Trichechus manatus* E

Fish species listed as endangered (E) or candidate (C) fish species regulated by the National Marine Fisheries Service (NOAA Fisheries) include:

Smalltooth Sawfish *Pristis pectinata* E

Goliath grouper *Epinephelus itajara* C

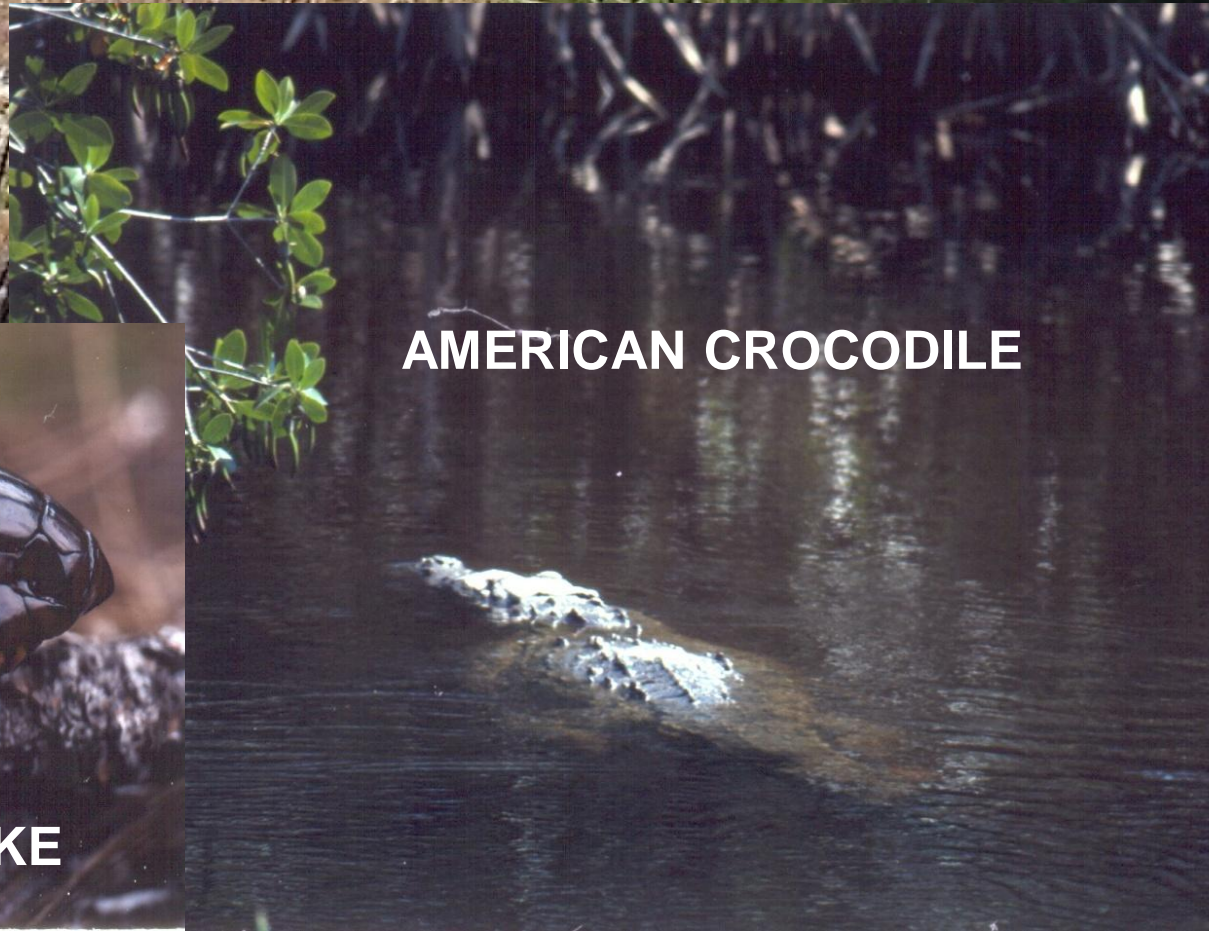
Mangrove rivulus *Rivulus marmoratus* C

Sand tiger shark *Odontaspis taurus* C

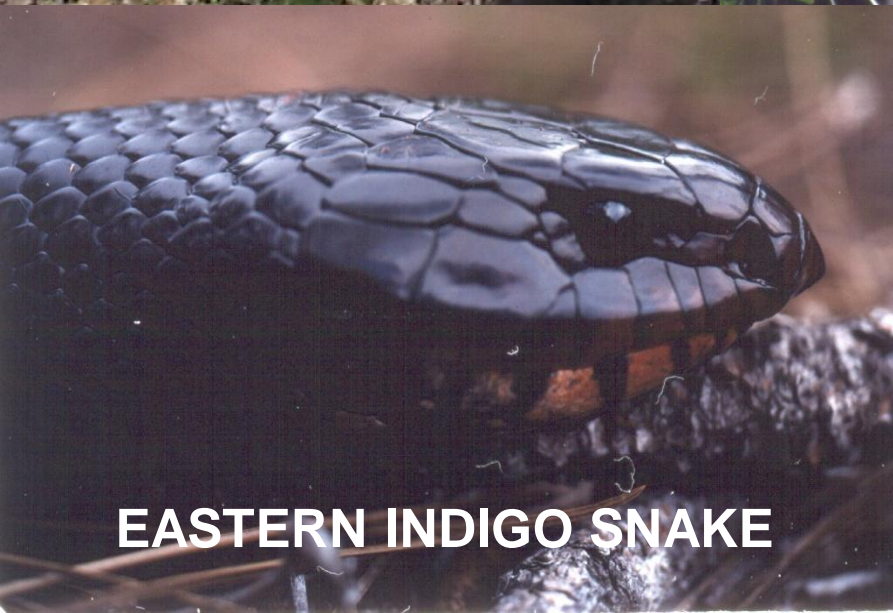
AMERICAN BALD EAGLE



AMERICAN CROCODILE

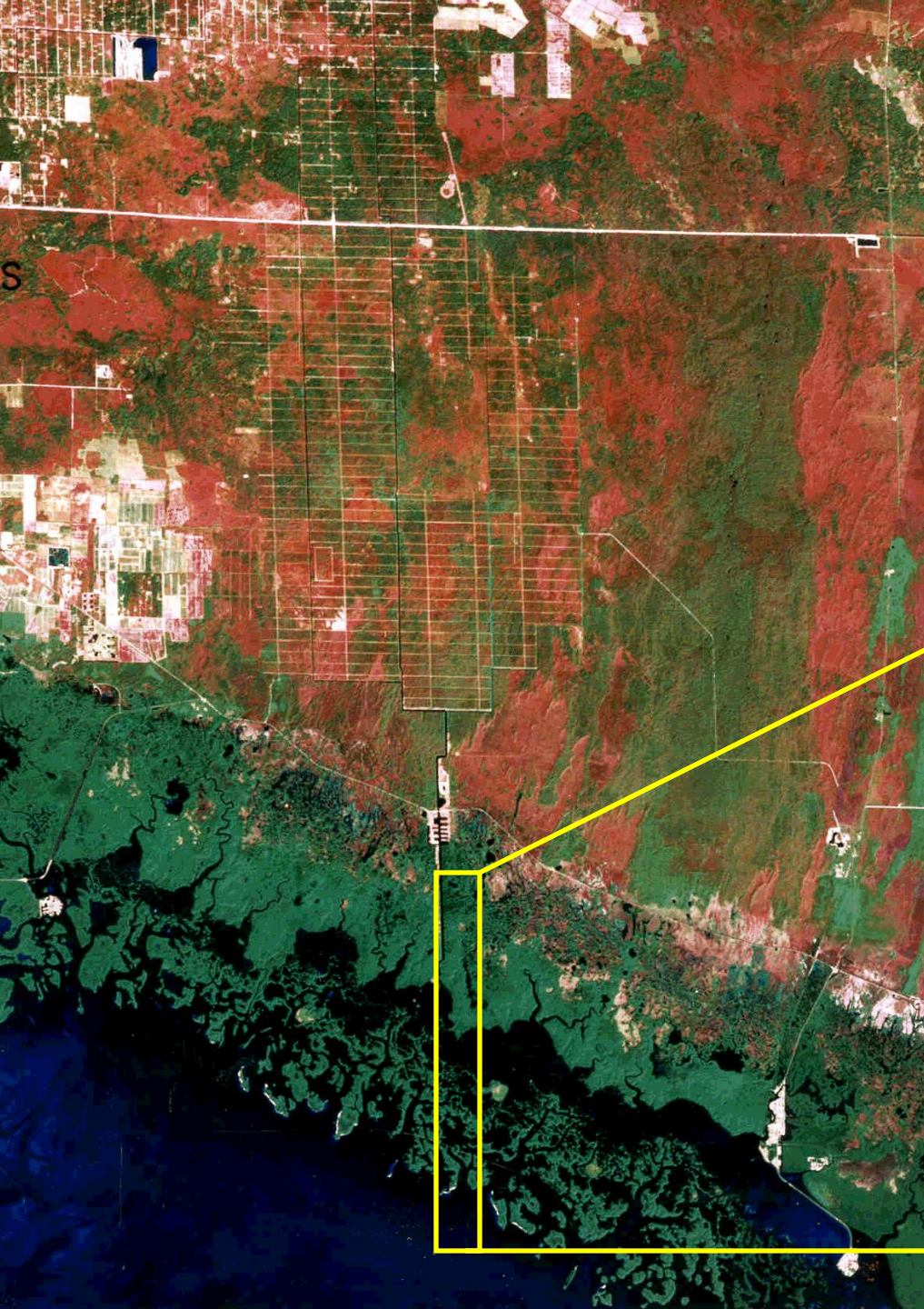


EASTERN INDIGO SNAKE





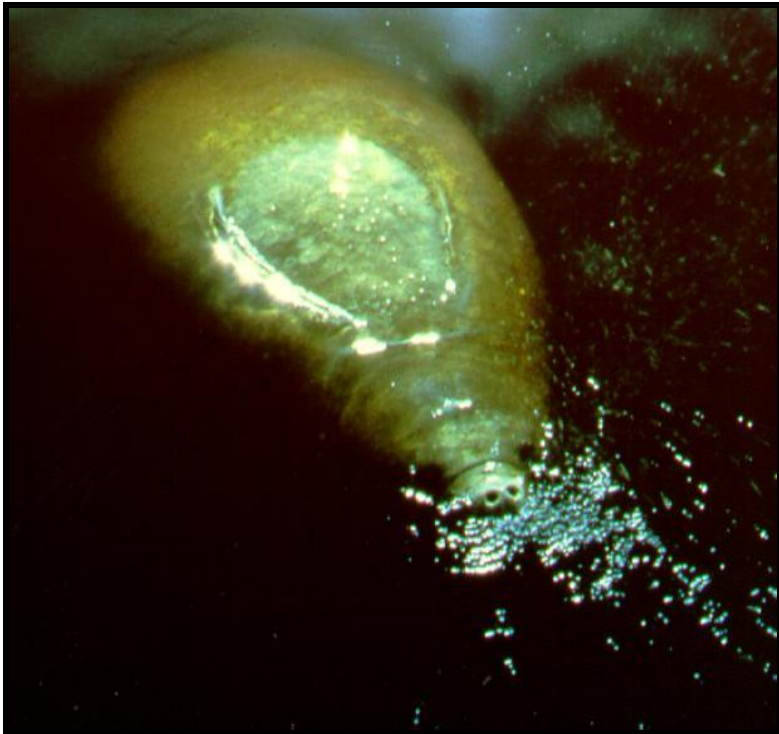




Port of the Islands

Passive Thermal Refuge

**Primary Manatee Over-
Wintering Site in the Ten
Thousand Islands**





05-06 Stork Foraging Locations Southwest Florida

- Legend**
-  Corkscrew WOST Colony
 -  County_boundaries
 -  Foraging_study_boundary
 -  CSS_Core_Foraging_Area
 -  06forageDISTtoColony1



0 3.75 7.5 15 Miles

WGS 1984 UTM Zone 17N
Created by: Audubon of Florida
J. Laurisen









Questions?