Biological Assessment

Proposed Regional General Permit and Ecosystem Management Agreement II Project

Bay County, Florida

April 20, 2011

Exhibit 20

Prepared by:
Florida Environmental & Land Services, Inc.
221-4 Delta Court
Tallahassee, Florida 32303
(850) 385-6255 Phone
(850) 385-6355 Fax
Contact Person: Elva Peppers

Table of Contents

1.0 INTRODUCTION

1.1 Definitions

1.2 Objectives

1.3 Federally Listed and Other Protected Species Considered in this Document

1.4 Critical Habitat

1.5 Consultation to Date

2.0 PROPOSED ACTION

2.1 Purpose of Proposed Action

2.2 Location of Proposed Action

2.3 Description of the Proposed Action

2.4 Existing Environment

2.5 Anticipated Timeline of the Proposed Action

3.0 SPECIES ACCOUNTS AND HABITAT STATUS

3.1 Federally Listed and Other Protected Animal Species

Atlantic Green Turtle (*Chelonia mydas*)

Atlantic Loggerhead Sea Turtle (*Caretta caretta*)

Bald Eagle (*Haliaeetus leucocephalus*)

Choctaw Bean (*Villosa choctawensis*)

Choctawhatchee Beach Mouse (*Peromyscus poliontus allophrys*)

Eastern Indigo Snake (*Drymarchon corais couperi*)

Fuzzy Pigtoe (*Pleurobema strodeanum*)

Gulf Moccasinshell Mussel (*Medionidus penicillatus*)

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)

Hawksbill Sea Turtle (*Eretmochelys imbricata*)

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)

Leatherback Sea Turtle (*Dermochelys coriacea*)

Oval Pigtoe Mussel (*Pleurobema pyriforme*)

Piping Plover (*Charadrius melodus*)

Red-cockaded Woodpecker (*Picoides borealis*)

Red Knot (*Calidris canutus*)

Reticulated Flatwoods Salamander (*Ambystoma bishopi*)
Southern Kidneyshell (*Ptychobranchus jonesi)*
Southern Sandshell (*Hamiota australis)*
St. Andrew Beach Mouse (*Peromyscus polionotus peninsularis*)
Tapered Pigtoe (*Fusconaia burkei*)
West Indian Manatee (*Trichechus manatus latirostris*)
Wood Stork (*Mycteria americana*)
3.2 Federally Listed Plant Species
Crystal Lake Nailwort (*Paronychia chartacea ssp. minima*)
Florida Skullcap (*Scutellaria floridana*)
Godfrey's Butterwort (*Pinguicula ionantha*)
Harper's Beauty (*Harperocallis flava*)
Telephus Spurge (*Euphorbia telephioides*)
White Birds-in-a-Nest (*Macbridea alba*)
4.0 VOLUNTARY CONSERVATION MEASURES
4.1 Bald Eagle
4.2 Eastern Indigo Snake
4.3 Reticulated Flatwoods Salamander
5.0 CONCLUSION AND DETERMINATION OF EFFECT
6.0 CUMULATIVE EFFECTS (STATE AND PRIVATE ACTIONS)
7.0 ESTIMATED INCIDENTAL TAKE
8.0 LITERATURE CITED
9.0 LIST OF CONTACTS/CONTRIBUTORS/PREPARERS

Tables

1.0 Federally Listed and Other Protected Plant and Animal Species that Could Occur within the Action Area
1.1 Potential of Each Federally Listed and Other Protected Animal and Plant Species to Occur within the Action Area and Determination of Effect

Appendix 1 - Flatwoods Salamander Habitat Description and Evaluation Form

Figures

1 Location of the Proposed Action Area, Bay and Washington Counties, Florida

2 Location Map for Project Area

3 Wetlands and Uplands within the Project Area, Bay County

4 Recorded Observations of Federally Listed and Other Protected Species and/or Signs of Species within and near the Action Area, Bay and Washington Counties, Florida

5 Location of the 97 Ponds Determined to have Potential Reticulated Flatwoods Salamander Habitat

6 Ponds Sampled for the Presence of the Reticulated Flatwoods Salamander

7a Eagle Nest Buffer Zones within the Project Area

7b Eagle Nest Buffer Zones within the Project Area

8 Boundary of the WBAS, DSAP , RGP SAJ-86 and the Proposed RGP-SAJ-105 Project Area

9 Location of Access Points (Docks and Piers)

10a RGP Plant Survey Locations (1 of 3)

10b RGP Plant Survey Locations (2 of 3)

10c RGP Plant Survey Locations (3 of 3)

Acronyms

AFB	U.S. Air Force Base
ANF	Apalachicola National Forest
BA	Biological Assessment
DSAP	Detailed Specific Area Plans
EMA	Environmental Management Agreement
EO	Element Occurrence
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FMRI	Florida Marine Research Institute
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information Systems
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
NWI	USFWS National Wetlands Inventory
RCW	Red-cockaded Woodpecker
RGP	Regional General Permit
SHCA	Strategic Habitat Conservation Areas
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

USFWS	U.S. Fish and Wildlife Service
WBAS	West Bay Area Sector
WBASP	West Bay Area Sector Plan
WBPA	West Bay Preservation Area

1.0 INTRODUCTION

The purpose of this Biological Assessment (BA) is to review an area of approximately 44,501 acres located in Bay County and associated with the potential issuance of a Regional General Permit SAJ 105 (RGP) by the U.S. Army Corps of Engineers (USACE), in order to determine if and how the issuance of the RGP will affect Federally listed species, candidate species and other protected species that may occur within the Action Area. Figure 1 shows the location of the Action Area. Figure 2 shows the Project Area. This BA has been prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)) and applicable regulations and is meant to assist in the determination of whether formal consultation with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act of 1973 is required.

1.1 *Definitions*

The following terms will be used throughout this document:

"Action Area"	All the areas that are to be affected directly or indirectly by the Federal Agency Action, and in this circumstance consists of the Project Area and the adjacent, downstream water bodies including West Bay. The Action Area also includes the Crooked Creek Basin and a portion of Pine Log Creek.
"Applicant"	The St. Joe Company and others who would use the SAJ 105 permit.
"Candidate"	According to February 28, 1996 Federal Register, page 7597, a candidate species are "those species for which the Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list but issuance of the proposed rule is precluded."
"Conservation Units"	Areas of high quality habitat and landscape function within the Project Area, which will be preserved with development severely restricted so as to enhance, conserve and restore habitat and ecosystem functions.
"Listed Species"	Federally listed threatened or endangered species.
"Project Area"	The approximate 44,501 acre area which is subject to the proposed RGP, but *not* including adjacent downstream water bodies including West Bay.
"Proposed Action"	The proposed issuance of the RGP.

1.2 *Objectives*

The objectives of this BA are to:

- Document all federally listed species, candidate, other listed species and USFWS-designated critical habitat that occur within the Action Area.

- Identify the Proposed Action activities that have the potential to impact, either beneficially or adversely, the documented listed species, satisfying Section 7(a) (2).
- Determine and quantify, to the extent possible, what effects the activities would likely have on the listed species.
- Assess conservation measures and strategies appropriate and necessary for the avoidance and minimization of impacts.

1.3 *Federally Listed, Candidate and Other Protected Species Considered in this Document*

The list of federally listed, candidate and other protected species that were reviewed as part of this BA and are known or suspected to occur in Bay County were obtained from the USFWS (2010) and were considered to have potential to occur within the Action Area (Figure 1).

Animals	**Plants**
Atlantic Green Turtle	Crystal Lake Nailwort
Leatherback Sea Turtle	Florida Skullcap
Atlantic Loggerhead Sea Turtle	Godfrey's Butterwort
Bald Eagle	Telephus Spurge
Oval Pigtoe Mussel	White Birds-In-A-Nest
Piping Plover	Harper's Beauty
Choctawhatchee Beach Mouse	
Eastern Indigo Snake	
Red Knot	
St. Andrews Beach Mouse	
Gulf Moccasinshell Mussel	
Red-cockaded Woodpecker	
Gulf Sturgeon	
Wood Stork	
Hawksbill Sea Turtle	
West Indian Manatee	
Kemp's Ridley Sea Turtle	
Reticulated Flatwoods Salamander	
Southern Sandshell	
Fuzzy Pigtoe	
Choctaw Bean	
Tapered Pigtoe	
Southern Kidneyshell	

Table 1.0 presents additional information about these federally protected animals and plants. Table 1.1 presents the rationale for whether each federally listed species is considered likely to occur within the Action Area and the determination of effects of the Proposed Action on each species.

The USFWS website (http://endangered.fws.gov/); USFWS Recovery Plans and Habitat Management Guidelines; 2007 infrared aerial photography; historical aerial photography (1952); and several databases were reviewed for indications of listed species occurrences and associated suitable habitat. Data sets included:

- FNAI element occurrences (EO)
- FWC manatee mortality data
- Florida Marine Research Institute (FMRI) sea turtle nesting beaches
- FMRI data on seagrasses
- FWC Prioritized Strategic Habitat Conservation Areas (SHCAs)
- FWC Wildlife Observations, including bald eagles nests.
- Florida Department of Environmental Protection (FDEP) Aquatic Preserves
- USFWS National Wetlands Inventory (NWI) wetlands, including estuarine systems
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils
- NRCS ecological communities, based on soil types (NRCS 1989)
- St. Joe Timberland Company timber data
- USFWS Critical Habitat Portal

Table 1.0 Federally Listed and Other Protected Animal and Plant Species that May Occur within the Action Area

Common Name	Scientific Name	Federal Status	Habitat
Animals			
Atlantic Green Turtle	*Chelonia mydas mydas*	LE	Marine coastal and oceanic waters; nest on coastal sand beaches, near dune line. Known to forage in West Bay.
Atlantic Loggerhead Sea Turtle	*Caretta caretta*	LT	Marine coastal and oceanic waters; nest on coastal sand beaches, near dune line.
Bald Eagle	*Haliaeetus leucocephalus*	NA	Areas close to coastal areas, bays, rivers, lakes, or other bodies of water that provide food sources. Nests in tall trees that provide clear views of surrounding areas.
Choctaw Bean	*Villosa choctawensis*	C	Small to large creeks and rivers with moderate current over sand to silty sand substrates.
Choctawhatchee Beach Mouse	*Peromyscus polionotus*	LE	Primary and secondary dunes with moderate cover of grasses and forbs.
Eastern Indigo Snake	*Drymarchon corais couperi*	LT	In northern part of range, often winters in gopher tortoise burrows in sandy uplands and forages in more hydric habitats. Requires large tracts to survive.
Fuzzy pigtoe	*Pleurobema strodeanum*	C	Small to large creeks and rivers with moderate current over sand and sand with some silt.
Gulf Moccasinshell Mussel	*Medionidas penicillatus*	LE	Medium-sized creeks to large rivers with sand, muddy sand, and gravel substrates and slow to moderate currents; occasional in backwater areas with no current.
Gulf Sturgeon	*Acipenser oxyrinchus desoti*	LT	Forages in the Gulf of Mexico and major panhandle rivers eastward to the Suwannee River. Non-breeding animals observed in Tampa Bay and Charlotte Harbor and as far south as Florida Bay.
Hawksbill Sea Turtle	*Eretmochelys imbricata*	LE	Marine coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves. Nests on sandy beaches, often in vegetation.
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	LE	Marine coastal waters, usually with sand or mud bottoms; nests on sandy beaches, but rarely in Florida. Juveniles frequent bays, inlets, and lagoons.
Leatherback Sea Turtle	*Dermochelys coriacea*	LE	Oceanic waters; nests on coastal sand beaches. Rarely seen in coastal waters except as hatchlings dispersing from nesting beaches and as adult females approaching the beach to nest.
Oval Pigtoe Mussel	*Pleurobema pyriforme*	LE	Medium-sized creeks to small rivers, usually with slow to moderate current and clean substrates of silty sand to sand-gravel mix.

Table 1.0 Continued. Federally Listed and Other Protected Animal and Plant Species that May Occur within the Action Area

Common Name	Scientific Name	Federal Status	Habitat
Piping Plover	*Charadrius melodus*	LT	Found on open, sandy beaches and on tidal mudflats and sandflats along both coasts. Winters on both Gulf and Atlantic coasts. Although more common on the Gulf Coast.
Red-Cockaded Woodpecker	*Picoides borealis*	LE	Open, mature pine woodlands that have diverse grass, forbs, and shrub species. Primarily longleaf in north Florida.
Red Knot	*Calidris canutus*	C	Winters along Gulf Coast primarily in intertidal, marine habitats, especially near coastal inlets, estuaries, and bays.
Reticulated Flatwoods Salamander	*Ambystoma bishopi*	LE	West of the Apalachicola-Flint Rivers within mesic longleaf pine -wiregrass flatwoods and savannas, breeding in isolated open ephemeral ponds.
Southern Kidneyshell	*Ptychobranchus jonesi*	C	Typically found in medium creeks to medium rivers in firm sand substrates with slow to moderate current. A recent survey in the Choctawhatchee basin in Alabama found its preferred habitat to be stable substrates near bedrock outcroppings.
Southern Sandshell	*Hamiota australis*	C	Small creeks and rivers in stable substrates of sand or mixtures of sand and fine gravel, with slow to moderate current.
St. Andrews Beach Mouse	*Peromyscus polionotus peninsularis*	LE	Primary and secondary dunes with moderate cover of grasses and forbs.
West Indian Manatee	*Trichechus manatus latirostris*	LE	Coastal waters, bays, rivers, and occasionally lakes in any coastal or estuarine waters during warmer months. Restricted to springs and warm-water areas in winter.
Tapered Pigtoe	*Fusconaia burkei*	C	Small to medium rivers in stable substrates of sand, small gravel, or sandy mud, with slow to moderate current.
Wood Stork	*Mycteria americana*	LE	Nests colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, mangroves and in artificial habitats. Forages in shallow water in freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches.
Plants			
Crystal Lake Nailwort	*Paronychia chartacea ssp. minima*	LT	Sandy openings around sandhill upland lakes, karst ponds and disturbed sandy uplands such as sand pine plantation. Late summer.
Florida Skullcap	*Scutellaria floridana*	LT	Wet pine flatwoods; margins of cypress stands; seepage slopes; transition zones between flatwoods and wetlands. April-July
Godfrey's Butterwort	*Pinguicula ionantha*	LT	Seepage bogs. Edges of cypress stringers in flatwoods, roadside ditches, and in depressions in wet flatwoods and wetland prairies; sometimes in standing water. Feb-April
Harper's Beauty	*Harperocallis flava*	LE	Sunny, wet, acidic habitats, including wet prairies, seepage slopes, pitcherplant bogs and roadside ditches. Flowers May-July
Telephus Spurge	*Euphorbia telephioides*	LT	Longleaf pine-wiregrass flatwoods and savannas; dry to mesic pine-scrub oak stands. Flowers April-August
White Birds-in a-Nest	*Macbridea alba*	LT	Wet to mesic pine flatwoods, wet savannas, seepage slopes and roadsides. Flowers June-July

Table 1.1. Potential of Each Federally Listed and Other Protected Animal and Plant Species to Occur within the Action Area and Determination of Effect.

Common Name	Scientific Name	Federal Status	Potential of Occurring within Action Area	Determination of Effect
Animals				
Atlantic Green Turtle	*Chelonia mydas mydas*	LE	Medium; Foraging habitat within the Project Area; minimal nesting habitat within Action Area.	No effect
Atlantic Loggerhead Sea Turtle	*Caretta caretta*	LT	Low; Foraging habitat south of Project Area; minimal nesting habitat within Action Area.	No effect
Bald Eagle	*Haliaeetus leucocephalus*	MBTA/ BGEPA	Confirmed; Known active nest within and known active in vicinity of Project Area.	NA
Choctaw Bean	*Villosa choctawensis*	C	Negligible. Known from the Escambia, Yellow, and Choctawhatchee River drainages in Alabama and Florida, and not within the Action Area.	No effect
Choctawhatchee Beach Mouse	*Peromyscus polionotus allophrys*	LE	Negligible; Known population west of Project Area, but inappropriate habitat exists in Project Area.	No effect
Eastern Indigo Snake	*Drymarchon corais couperi*	LT	Low. Although suitable habitat is interspersed throughout the Project Area, there are limiting factors to the habitat available.	May affect, not likely to adversely affect
Fuzzy Pigtoe	Pleurobema strodeanum		Negligible. Endemic to the Escambia and Choctawhatchee River drainages in Alabama and Florida, and to the Yellow River drainage in Alabama. No known occurrences within the Action Area.	No effect
Gulf Moccasinshell Mussel	*Medionidas penicillatus*	LE	Negligible. Historically distributed within the Flint-Chattahoochee-Apalachicola River systems, now primarily found in Chipola and Ecofina Rivers (in Florida).	No effect
Gulf Sturgeon	*Acipenser oxyrinchus desoti*	LT	Moderate. No designated critical habitat occurs within the Action Area.	No effect
Hawksbill Sea Turtle	*Eretmochelys imbricata*	LE	Negligible. No confirmed nesting with the Project Area. Range appears to be outside Action Area but could enter the bay.	No effect
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	LE	Low. Potential suitable foraging habitat in West Bay, adjacent to Action Area Not known to occur in Bay.	No effect
Leatherback Sea Turtle	*Dermochelys coriacea*	LE	Negligible. Possible roaming activities behavior adjacent to Action Area. Minimal nesting and no foraging habitat within Action Area.	No effect
Oval Pigtoe Mussel	*Pleurobema pyriforme*	LE	Negligible. Potential habitat appears low. Range is outside Action Area.	No effect
Piping Plover	*Charadrius melodus*	LT	Low. Confirmed observations on beaches south and outside of Project Area but within Action Area.	May affect, not likely to adversely affect

Table 1.1 Continued. Potential of Each Federally Listed Animal and Plant Species that Could Occur within the Action Area and Determination of Effect.

Common Name	Scientific Name	Federal Status	Potential of Occurring within Action Area	Determination of Effect
Animals				
Red-Cockaded Woodpecker	*Picoides borealis*	LE	Negligible. Suitable habitat not located within the Project Area.	May affect, not likely to adversely affect
Red Knot	*Calidris canutus*	C	Negligible. No confirmed observations or nesting with the Project Area. Range appears to be outside Action Area.	No effect
Reticulated Flatwoods Salamander	*Ambystoma bishopi*	LE	Negligible. No confirmed observations or likely habitat within the Project Area due to disturbance within its habitat.	May affect, not likely to adversely affect
Southern Kidneyshell	*Ptychobranchus jonesi*	C	Negligible. Endemic to the Escambia, Choctawhatchee, and Yellow River drainages in Alabama and Florida. No known occurances in Action Area.	No effect
Southern Sandshell	*Hamiota australis*	C	Negligible. Endemic to the Escambia River drainage in Alabama, and the Yellow and Choctawhatchee River drainages in Alabama and Florida. No known occurrences in Action Area.	No effect
St. Andrews Beach Mouse	*Peromyscus polionotus peninsularis*	LE	Negligible. No confirmed observations or nesting with the Project Area. Range appears to be outside Action Area.	No effect
Tapered Pigtoe	*Fusconaia burkei*	C	Low. Known from the Choctawhatchee River drainage in Alabama and Florida. Recently found in Pine Log Creek in Washington and Bay Counties outside the Action Area.	No effect
West Indian Manatee	*Trichechus manatus latirostris*	LE	Moderate. Suitable habitat within Action Area and Action Area is within range of species.	No effect
Wood Stork	*Mycteria americana*	LE	Low. No recorded observations within Project Area and may be outside the species range. Potentially suitable habitat interspersed throughout the Project Area.	No effect
Plants				
Crystal Lake Nailwort	*Paronychia chartacea ssp. minima*	LT	Moderate. Limited suitable habitat within the Project Area within disturbed sandy uplands.	May affect, not likely to adversely affect
Florida Skullcap	*Scutellaria floridana*	LT	Moderate. Known occurrences east of Action Area. Potential habitat interspersed throughout Project Area.	May affect, not likely to adversely affect

Godfrey's Butterwort	*Pinguicula ionantha*	LT	High. The Action Area is within range and the Project Area interspersed with potential habitat.	May affect, not likely to adversely affect
Harper's Beauty	*Harperocallis flava*	LE	Low. No confirmed observations and known range is outside the Action Area.	May affect, not likely to adversely affect
Telephus Spurge	*Euphorbia telephoides*	LT	Low. Has been confirmed adjacent to the Action Area. No identified suitable habitat.	May affect, not likely to adversely affect
White Birds-in a-Nest	*Macbridea alba*	LT	Moderate. Known occurrences east of Action Area. Potential habitat interspersed within the Project Area.	May affect, not likely to adversely affect

Key:

LE-Endangered: species in danger of extinction throughout all or a significant portion of its range.
LT-Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
C-Candidate for listing under the Endangered Species Act
MBTA/BGEPA-Protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

1.4 *Critical Habitat*

There is no USFWS designated critical habitat within the Project Area or within the Action Area. The Action Area and Project Area are shown in Figure 1.

1.5 Discussions to Date

Summary of BA / BO discussion includes:

April 14th, 2009–Gail Carmody, USFWS, discussed the potential flatwoods salamander Action Area.

June 9, 2009–Gail Carmody recommended at least three facilitated public forum meetings to gather input.

December 8, 2009–Gail Carmody and Ted Martin led general discussion on the potential Action Area for the BO.

January 12, 2010–Significant discussion with USFWS.

February 9, 2010–Significant discussion with USFWS.

February 11, 2010- Site visit with the USFWS.

April 13, 2010–General discussion with USFWS concerning the species to include in the document. Directed by USFWS to use species list from their website.

June 22, 2010-Data concerning recent report of the Eastern Indigo Snake on Pine Log State Forest requested and provided by John Himes, FWC.

August 23, 2010-First Draft of BA forwarded to the USFWS and USACE for review prior to August 26th meeting.

August 26, 2010-Review draft BA with USFWS, NMFS, USACOE, St Joe Company, and FWC.

August 31, 2010- Data concerning the recent surveys for the Piping Plover at the Marifarms site requested and provided by Jeff Gore, FWC.

September 14, 2010-Discussions with Ted Martin with the USFWS.

September 14, 2010-Discussions with Don Imm with the USFWS primarily concerning protected plants.

September 17, 2010- Telephus spurge and other protected plant survey requirements forwarded by USFWS.

October 6, 2010- Review of the proposed Telephus spurge survey methodology by the USFWS.

October 22, 2010-Site visit with Dr. Vivian Negron-Ortiz, USFWS.

November 4, 2010- Submittal of the Telephus Spurge and other protected plants survey report to the USFWS.

November 29, 2010- Copy of second draft of BA emailed to USFWS for review prior to the December 3rd meeting.

November 30, 2010- Copy of second draft of BA emailed to USACE for review prior to the December 3rd meeting.

December 3, 2010- Meeting to review second draft BA with USFWS, USACE and St Joe Company.

December 7, 2010- Copy of second draft of BA emailed to Ted Hoehn with FWC for his review and comments.

December 17, 2010- Discussion with Ted Hoehn with FWC concerning agency comments to the second draft of the BA.

January 11, 2011- Meeting and discussion of effect determinations for sea turtles, gulf sturgeon, and manatee with USACE, FWC, USFWS and St. Joe Company.

February 8, 2011 – Meeting to discuss the addition of Candidate mussel species, wood stork data and other changes to the draft BA with St Joe Company, USFWS, and USACE.

February 8, 10, 11, 22 and 28, 2011- Email and phone discussions with Sandra Pursifull with the USFWS concerning the Candidate mussel species.

2.0 PROPOSED ACTION

2.1 *Purpose of the Proposed Action*

Within the Action Area is an innovative land use overlay, known as the West Bay Area Sector Plan (WBASP). The WBASP identifies potential development and conservation areas within the approximately 75,000-acre West Bay Area Sector (WBAS), which is located in northwestern Bay County. The process to develop the WBASP was initiated by Bay County, The St. Joe Company, the Panama City- Bay County Airport and Industrial District, and the Florida Department of Community Affairs in 2000. Development of the plan included numerous public meetings and extensive public input. The WSABP was adopted by the Bay County Commission in December 2002. The WBASP encourages large-scale, long-term land use planning. A significant portion of the WBAS is to be preserved for conservation purposes. The conservation set-aside areas are indentified in the WBASP as the West Bay Preservation Area (WBPA), and total approximately 40,000 acres.

Two Detailed Specific Area Plans (DSAPs) have been adopted by Bay County under the WBASP. The Airport DSAP includes approximately 4,000 acres for the newly relocated Panama City-Bay County

International Airport (now known as Northwest Florida Beaches International Airport), which serves Bay and surrounding counties. Associated with the new airport, but outside of the Airport DSAP, are approximately 10,000 acres of land within the WBAS, which have been placed under conservation easements and are undergoing ecological restoration, as mitigation for the new airport. The West Bay DSAP is approximately 16,500 acres in area and allows various uses including residential, commercial, light industrial, and conservation. See Figure 8 for the location of the WBAS and DSAPs.

The Project Area consists of the portions of the WBAS outside of areas that are already the subject of Corps individual permits (Panama City – Bay County International Airport and Industrial District and its mitigation areas, Department of the Army Permit # SAJ-2001-5264(IP-GAH); and Crooked Creek RiverCamps – St. Joe Land Company, Department of the Army Permit #SAJ-2002-00623), or covered by the Corps's RGP SAJ-86 (WBAS south of the Intracoastal Waterway). See Figure 8 for the location of the area covered by RGP SAJ-86 and the Project Area (RGP SAJ-105) in relation to the WBAS and DSAPs. Approximately 44,500 acres of the approximately 75,000 acres within the WBAS would be within the area of the proposed RGP. Approximately 97% of the Project Area is owned by The St. Joe Company with the remaining 3% under numerous other ownerships.

The proposed RGP is being cooperatively developed by an interagency team of senior staff representatives from USACE, FDEP, USFWS, FWC, and The St. Joe Company to address on a watershed and landscape scale, existing and anticipated development pressures within the Project Area. This effort is similar to that which was done for RGP SAJ-86. The goal is to build on the WBASP to further reduce impacts to the environment, and in particular the aquatic environment, by managing growth on a landscape scale and by protecting areas of regional ecological and cultural significance within the Project Area. The proposed RGP would not only function as an area-wide conservation plan, but would also provide improved predictability and efficiency of the federal wetland permitting program within the Project Area.

In accordance with the goal of watershed-level planning, five conservation units were identified within the area of the proposed RGP (see Figure 2). These five conservation units total 18,381 acres of uplands and wetlands and encompass two major drainages, Crooked Creek and Burnt Mill Creek, and their associated tributaries. The conservation units would overlap the areas identified as the WBPA by the WBASP within the Project Area. The highest quality wetland and upland habitats of the West Bay watershed within the Project Area are located within these conservation units. The conservation units create a continuous corridor of natural areas through the RGP area. The conservation units would be preserved with development severely restricted, and could be managed to enhance conservation, habitat restoration, and ecological functions. All lands within the conservation units, whether uplands or wetlands, would be protected.

Conservation Units

In accordance with the goal of watershed-level planning, five conservation units were identified within the area of the proposed RGP (see Figure 2). These five conservation units total 18,381 acres of uplands and wetlands and encompass two major drainages, Crooked Creek and Burnt Mill Creek, and their associated tributaries. As noted above, the large-scale, long-term planning of the West Bay Sector included the identification of special areas suitable for conservation and preservation and identified as the West Bay Preservation Area. Bay County described these areas in their Visioning Statement as

areas that "will protect ecological systems and provide connectivity to West Bay" and that will "link wildlife habitat and environmental resources through interconnected corridors."

A survey conducted by The Nature Conservancy stated:

> "The chance to protect the diverse ecosystem represented by the WBPA is a rare opportunity to conserve direct bay/estuarine frontage consisting of some 33 miles of almost unaltered shoreline, as well as ca. 44 miles of creek and tributary frontage/buffer lands. Protection of the WBPA would preserve virtually the entire coastal portion encompassing a near-pristine, and within Florida's panhandle a unique, estuarine ecosystem. Few opportunities with the significance of protecting a substantial portion of a self-contained watershed and the estuary it helps feed have ever been made available by a single owner."
>
> "..it has been shown through this report that the WBPA encompasses many areas of good to high quality natural communities supporting significant biological diversity – including rare species – and wildlife habitat. Because the block of lands that constitute the WBPA are envisioned to form a significant and undeveloped landscape and environmental buffer surrounding West Bay, as well as a completely interconnected system of buffer lands and other habitats associated with a substantial portion of its watershed, it is the opinion of The Nature Conservancy that the conservation, restoration/enhancement and management of this ecosystem will provide considerable ecological protection to the rich natural resources of the region."

Inclusion of these Conservation Unit areas within the RGP builds upon the measures taken by Bay County and further enhances the preservation principles of the West Bay Sector Plan. High quality wetland and upland habitats of the West Bay watershed within the Project Area are located within these conservation units. The conservation units create a continuous corridor of natural areas throughout the RGP area.

The conservation units are divided between Type I Conservation Units and Type II Conservation Units. Type I Conservation Units are considered to have higher quality habitat and function than the Type II Conservation Units. The allowed uses within Type I Conservation Units are significantly restricted. Within these units no development is allowed. Passive uses that are not detrimental to the ecological quality of the unit such as hunting, fishing, hiking, and biking will be allowed. The allowed uses within Type II Conservation Units are somewhat broader. In addition to the uses allowed in Type I units, road and bridge crossings (subject to conditions that will minimize their impact) necessary to support development outside of the Conservation Units and certain recreational activities that can be considered more active than those allowed in Type I Conservation Units, such as boat ramps, fishing piers, parks, picnic areas, pavilions, playgrounds, and other similar facilities will be allowed. Within the conservation units, traditional silviculture activities will be prohibited and will be replaced with activities consistent with a forestry management plan that is approved by all agencies reviewing the RGP or the EMA and prior to final approval of those documents. The primary forest management objective within the Conservation Units is to prescribe management activities that will restore and enhance the vegetative communities and function of historic ecosystems (St Joe Timberland Company 2010). The forestry management plan is expected to enhance the conservation units and provide for

additional habitat for both common and protected species. In addition, the conservation units may be further managed and enhanced as a result of permit mitigation requirements or by governmental or non-profit/natural resource management entities who acquire such areas.

Stormwater Management/Sediment and Erosion Control Measures

The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet Outstanding Florida Water standards as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

2.2 *Location of the Proposed Action*

The proposed 44,501 acre Proposed Action is located in Bay County, north of West Bay and south of State Road 20, extending from State Road 77 to State Road 79. The Section, Township Range of the Project Area are: T1S R14W S32; T1S R15W S15-23, 25-36; T1S R16W S13-15, 22-29, 32-36; T2S R14W S5-8, 16-21, 30; T2S R15W S1-13, 16-22, 24-26, 29, 30, 35;T2S R16W S1-5, 8-17, 20-28; and T3S R15W S1, 2, 11, 12. The location of the Project Area is shown as Figure 2.

2.3 *Description of the Proposed Action*

The Proposed Action is the issuance of a Department of the Army RGP pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Approval of the RGP would allow discharge of dredge and fill material into non-tidal waters of the United States for the construction of residential, commercial, recreational and institutional projects within the Project Area, including building foundations, building pads, and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but would not be limited to, roads, parking lots, garages, yards utility lines, and stormwater management facilities. Residential developments would include multiple and single unit developments. Examples of commercial developments include retail stores, light industrial facilities (which means business activity such as commercial distribution, assembly or manufacturing processes with no primary use of raw materials), manufacturing facilities, research facilities, warehouses, distribution facilities, restaurants, business parks, and shopping centers. Examples of recreational facilities include playgrounds, playing fields, golf courses, hiking trails, bike paths, horse paths, stables, nature centers and campgrounds. Examples of institutional developments include schools, fire stations government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship.

The proposed RGP is limited to non-navigable and non-tidal waters, including wetlands. For projects authorized under the RGP, the only impacts that would be authorized within wetlands designated as unconverted wetlands, would be for necessary, minimized road crossings. The existing wetlands and uplands within the Project Area are shown in Figure 3. No more than 15% of converted wetlands outside of the Conservation Units and within each of the six sub-watersheds (USGS Level VI, 12-digit) would be impacted for residential, commercial, recreational, and institutional projects on a per

individual project basis with the remaining 85% of converted wetlands preserved through placement under a conservation easement. Mitigation would include minimization of wetland impacts as described above, preservation of the six conservation units totaling approximately 18,381 acres, and compensatory mitigation through the use of: 1) mitigation banks 2) compensatory mitigation projects within conservation units, or 3) compensatory mitigation projects within the individual project site.

The conservation units will be made subject to conservation easements as the RGP area is developed, or sooner to the extent that conservation units are purchased by governmental entities or non-profit conservation/natural resource management entities, or to the extent they are set aside for wetland or habitat mitigation. These conservation units could be managed to enhance and preserve their ecological functions. Within the conservation units, traditional silviculture activities will be prohibited and will be replaced with activities consistent with an approved forestry management plan. The conservation units also would provide valuable refuges to wildlife through corridors connecting the Project Area to offsite state and federally managed protected lands. Maintenance of the ecological and hydrological integrity of the conservation units would be factored into the design of any surrounding development projects.

2.4 *Existing Environment and Anticipated Future Projects*

The majority of the RGP area has been managed as pine plantation. Silvicultural practices include logging of historical communities, construction of logging roads, bedding and row planting of pines. Strands, sloughs and creeks, and depressional wetlands are located throughout the parcel. Historical aerial photography indicates that much of the Project Area consisted of deeper sloughs, larger swamps, hydric and mesic flatwoods, sandhills and upland scrub communities. However, due to extensive silviculture practices, there are only small, non contiguous areas of non-planted uplands. The wetland communities have also been impacted by intense logging and timber management practices within the edges of deep wetlands and throughout hydric pine flatwoods. These impacts have greatly reduced the potential for federally protected species to occur within the Project Area. The existing wetlands and uplands within the Project Area are shown in Figure 3.

Recent changes within the Action area include the development of the Northwest Florida Beaches International Airport. The airport is built on approximately 1300 acres of a 4000 acre site that is not located within the Project Area, but is surrounded by the Project Area. The airport was the subject of an Environmental Impact Statement prepared by the Federal Aviation Administration (FAA) as the lead Federal agency, and the Corps as a cooperating agency. Prior to issuance of Corps permit SAJ-2001-05264, the FAA submitted a BA to the USFWS on August 30, 2005. The Action Area assessed for the airport project encompassed the 4,000 acres within the boundaries of the airport site, 37 acres for the access road to the airport, and 9,718 acres within the boundaries of the mitigation parcels. In response to the BA, the USFWS issued a Biological Opinion on October 3, 2005 that addressed incidental take for the Reticulated Flatwoods Salamander (*Ambystoma bishopi*).

Other recent changes within the Action Area include a small residential subdivision totaling approximately 32 acres with 15 lots is located within the Project Area and a 1500-acre residential subdivision known as RiverCamps located directly south of the Project Area. Breakfast Point Mitigation Bank, which totals 5,031 acres, is located to the south of the Project Area in Bay County and Devil's Swamp Mitigation Bank, which totals 3,049 acres, is located to the southwest of the Project Area in Walton County.

The VentureCrossings Enterprise Centre (VentureCrossings) is a planned office, retail, hotel and industrial development located on approximately 1,000 acres just south of the Northwest Florida Beaches International Airport. Projects that are currently under construction within VentureCrossings include a ±300 space covered airport parking facility, located near the intersection of West Bay Parkway and the airport property and the St Joe Company headquarters office building. This office building is a +35,000 square foot building that will be located on a 4 acre site on the southwest side of the intersection of West Bay Parkway and VentureCrossings Boulevard. Projects within VentureCrossings have been designed to incorporate the requirements of the proposed RGP.

The proposed construction of West Bay Parkway (Segment 2) by the Florida Department of Transportation is an anticipated future project within the Project Area. The purposes of this project are to provide access from the coastal areas of South Walton County to the Northwest Florida Beaches International Airport, to provide an alternate hurricane evacuation route for residents of coastal Walton County, and to avoid adding to future congestion on SR 30/SR 30A (US 98) by diverting through traffic around Panama City Beach and Panama City. Preliminary proposed routes for this project include roughly 100 acres of wetland impact. The wetland impacts associated with this anticipated project would either be evaluated directly under the proposed RGP or would be evaluated as an Individual Permit using the proposed RGP as a watershed plan.

Other features within the Action Area include Burnt Mill Creek, Crooked Creek, Doyle Bayou, Pigeon Creek, Kelly Branch, Little Crooked Creek and a small portion of Pine Log Creek. Court Martial Lake and White Western Lake are located northeast of the Project Area. There are several residential developments along the waterfront areas, particularly along Brunt Mill Creek and White Western Lake.

Regional General Permit Area

The majority of the 44,501 acre RGP area, which includes the Conservation Units, is currently undeveloped and is primarily used for timber production. Based upon historic aerial photography and historic ranges of populations, it is presumed that the Project Area was historically much more suitable to support the protected and sensitive species which are described further in this report.

The RGP area includes 6 drainage subwatersheds that ultimately discharge into West Bay. Out of those 6 subwatersheds, five have designated Conservation Unit acreages. The land cover types include pine plantation, upland coniferous forest, mixed forested wetlands, and mixed hardwood-pine wetlands.

Conservation Units

The Conservation Units total 18,381 acres and help create a wildlife corridor from Pine Log State Forest in the northwest through the Project Area and connecting to the open waters of West Bay. The development of the West Bay Sector Plan included the identification of special areas suitable for conservation and preservation which were identified as the West Bay Preservation Area. These units were described by the Bay County Vision Statement for the West Bay Area Sector Plan as they "will protect ecological systems and provide connectivity to West Bay. These ecological systems will link wildlife habitat and environmental resources through interconnected corridors." A survey conducted by The Nature Conservancy of the Conservation Units (at that time they were called the *West Bay Preservation Area [WBPA]*) found 16 distinct community types within these areas; Wet Flatwoods, Coastal Flatwoods, Mesic Flatwoods, Scrubby Flatwoods, Sandhill, Xeric Hammock, Upland Mixed Forest, Maritime Hammock, Wet Prairie/Seepage Slope, Dome Swamp, Baygall, Floodplain/Creek

Swamp, Blackwater/Seepage Stream, Estuarine Tidal Marsh, and Salt Flats." Additional community types within the Project Area include upland and wetland coniferous plantations (stands of various ages), inland ponds and sloughs, major bodies of water (West Bay) and titi swamps. Furthermore the report states;

> "The chance to protect the diverse ecosystem represented by the WBPA is a rare opportunity to conserve direct bay/estuarine frontage consisting of some 33 miles of almost unaltered shoreline, as well as ca. 44 miles of creek and tributary frontage/buffer lands. Protection of the WBPA would preserve virtually the entire coastal portion encompassing a near-pristine, and within Florida's panhandle a unique, estuarine ecosystem. Few opportunities with the significance of protecting a substantial portion of a self-contained watershed and the estuary it helps feed have ever been made available by a single owner."
>
> "..it has been shown through this report that the WBPA encompasses many areas of good to high quality natural communities supporting significant biological diversity – including rare species – and wildlife habitat. Because the block of lands that constitute the WBPA are envisioned to form a significant and undeveloped landscape and environmental buffer surrounding West Bay, as well as a completely interconnected system of buffer lands and other habitats associated with a substantial portion of its watershed, it is the opinion of The Nature Conservancy that the conservation, restoration/enhancement and management of this ecosystem will provide considerable ecological protection to the rich natural resources of the region."

2.5 *Anticipated Timeline of the Proposed Action*

The RGP would be valid for 5 years from the date of issuance and it may be reissued for 5 year periods until the full build out within the Project Area is reached. The first projects within the Project Area are expected to occur in 2011. Preservation of lands through the Conservation Units would occur annually based on individual project approvals (IPAs).

3.0 SPECIES ACCOUNTS AND HABITAT STATUS

Twenty-three federally listed or otherwise protected animal species and six federally listed plant species may potentially occur within the Action Area. Several databases and resources were researched to determine if any federally listed or protected species had been documented within the Action Area. Table 1.0 lists the species that may occur within the Action Area and the type of habitat each species occurs in. Table 1.1 provides the determination of the effect of the Proposed Action on each species and the rationale. A graphic depiction of the location of observations of these species within the Action Area is shown on Figure 4. Each species is discussed below.

During field surveys, the only protected species that was observed within the Project Area was the bald eagle. An eaglet was observed in the nest. The nest has been documented by FWC and designated as BA014. The location of documented and observed eagles' nests and a buffer of up to 660 feet are shown in Figures 7a and 7b.

3.1 Federally Listed Animal Species

Atlantic Green Turtle (*Chelonia mydas*)

Breeding populations of the Atlantic green turtle in Florida and along the Pacific Coast of Mexico were listed as endangered in 1978 under the United States Endangered Species Act (ESA) of 1973. The status also applies to eggs as well as turtles. According to the USFWS, all other populations are listed as threatened. The distribution of the green turtle is worldwide in tropical and sub-tropical waters.

There has been confirmed nesting activity along the Gulf Coast including the beaches of Bay County and surrounding counties. However, FWC (2009) did not report any green turtle nests in Bay County from 2005-2009. The majority of the confirmed green turtle nests are concentrated along the southeast coast of Florida (FWC 2009a).

Populations in Action Area

The Action Area touches the coastal beach in its extreme southwest corner, this is the only potential nesting habitat located within the Action Area. There is no nesting habitat within the Project Area. Juvenile turtles utilize the shallow areas of the near shore Gulf of Mexico and the shallow protected areas of West Bay to forage on seagrasses and algae (Thompson 2010).

Species Habitat Requirements

Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. Hatchlings have been observed to seek refuge and food in *Sargassum* rafts (USFWS 2009a).

Habitat Conditions within the Action Area

There is negligible nesting habitat within the Action Area and no nesting habitat within the Project Area. Several species of seagrasses have been documented in West Bay which may provide foraging opportunities for green turtles. There is suitable foraging habitat for the green sea turtle within the Project Area and within the Action Area.

Effects of the Proposed Action

A **"no effect"** determination was made for the Atlantic green turtle. Although several potential water access points have been established within the Action Area and adjacent to West Bay, the RGP will not permit any direct impacts which could affect seagrasses, a foraging resource for the turtle. Construction of docks, boat lifts, or other structures that could affect foraging resources in West Bay would require separate authorization including species effects evaluation and determination from the Corps.

Indirect effects due to development, such as stormwater runoff and subsequent water quality degradation have the potential to affect seagrass populations in water bodies within the Action Area. As a result, changes to seagrass populations may impact foraging resources. However, all areas that are adjacent to West Bay (where the seagrasses are located) are proposed as Conservation Units which will protect water quality associated with development in the surrounding area and all new development would be subject to the FDEP stormwater treatment permitting requirements and therefore if permitted,

are presumed to meet State Water Quality Certification. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Nesting habitat within the Action Area is limited to the extreme southwest corner of the Action Area. No Project Area related development will directly or indirectly impact this portion of the coastal beach therefore no impacts to nesting habitat are expected.

Atlantic Loggerhead Sea Turtle (*Caretta caretta*)

Overall Range and Population Status

The Endangered Species Act listed the loggerhead sea turtle as threatened in July of 1978. Loggerheads are circumglobal, occurring throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. Loggerheads are the most abundant species of sea turtle found in U.S. coastal waters. In Florida, nesting occurs along the entire Atlantic coast, in the Keys and along the Gulf coast, from Pinellas County south and Franklin County west, with the greatest numbers from Brevard to Broward counties (Hipes et al. 2000). Nesting activity has been confirmed on many beaches in Bay County, including Panama City Beach, Tyndall AFB, Mexico Beach and St. Andrews State Park. From 2005-2009 a total of 447 loggerhead sea turtle nests were recorded in Bay County and a total of 102 nests were recorded in 2009 (FWC 2009a).

Populations in Action Area

The Action Area touches the coastal beach in its extreme southwest corner, this is the only potential nesting habitat located within the Action Area. There is no nesting habitat within the Project Area. Juvenile turtles typically do not enter the near shore areas until they are seven years of age or older and adults typically do not enter habitat such as West Bay for foraging. They utilize the shallow area of the near shore Gulf of Mexico as foraging habitat. Therefore, it is determined that there is no suitable foraging habitat known to be used by the loggerhead sea turtle located within the Action Area.

Species Habitat Requirements

Loggerheads occupy three different ecosystems during their lives: the terrestrial zone, the oceanic zone, and the inland coastal waters zone (neritic zone). Loggerheads nest on high energy ocean beaches. As juveniles they swim offshore to areas where the surface waters converge and where accumulations of *Sargassum* are found. In the southeast U.S. those areas are located between the Gulf Stream and the southeast U.S. coast, and between the Loop Current and the Gulf Coast of Florida. Oceanic juveniles migrate to near shore coastal areas and continue maturing until adulthood. In addition to providing critically important habitat for juveniles, the neritic zone also provides crucial foraging habitat and migratory habitat for adult loggerheads (Conant et al 2009).

Habitat Conditions within the Action Area

There is negligible nesting habitat within the Action Area and no nesting habitat within the Project Area. Several species of seagrasses have been documented in West Bay and may provide foraging resources for loggerhead turtles.

Effect of the Proposed Action

A **"no effect"** determination was made for the loggerhead sea turtle. Although several potential water access points have been established within the Action Area and adjacent to West Bay, the RGP will not permit any direct impacts which could affect seagrasses, a foraging resource for the turtle. Construction of docks, boat lifts, or other structures that could affect foraging resources in West Bay would require separate authorization including species effects evaluation and determination from the Corps.

Indirect effects due to development, such as stormwater runoff and subsequent water quality degradation, have the potential to affect seagrass populations in water bodies within the Action Area. As a result, changes to seagrass populations may impact foraging resources. However, all areas that are adjacent to West Bay (where the seagrasses are located) are proposed as Conservation Units which will protect water quality associated with development in the surrounding area. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Nesting habitat within the Action Area is limited to the extreme southwest corner of the Action Area. No Project Area related development will directly or indirectly impact this portion of the coastal beach therefore no impacts to nesting habitat are expected.

Bald Eagle (*Haliaeetus leucocephalus*)

Overall Range and Population Status

The bald eagle was listed on the first federal endangered species list, issued in 1967, and reclassified to threatened in August 1995. In 1999, the process was initiated to delist it. The FWC included the bald eagle on its first endangered species list, issued in 1972, but reclassified it as threatened in 1974. The FWC approved to remove eagle from the state list of threatened species on April 9, 2008. On June 28, 2007 the Interior Department took the American bald eagle off the Federal List of Endangered and Threatened Wildlife and Plants. The bald eagle is still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

The southeastern bald eagle ranges from south Florida north to North Carolina and west to Tennessee and Texas. Florida has the largest breeding population of any state outside Alaska. The majority of the nesting eagles occur in central and south Florida, along the Gulf coast north of Tampa, and Florida Bay and the southwest peninsula area.

Population in the Action Area

Three eagle's nests have been documented within the Project Area (BA007, BA014 and BA016). An eaglet was observed in nest BA014 during recent field surveys. FWC reported activity in BA007 in 2007. FWC reported an active nest (BA016) within the vicinity of BA014 in 2006, but a nest has not been observed since that time. Additional nests are recorded throughout Bay County along water bodies and waterways. The locations of the nests are shown on Figures 4, and 7a and 7b.

Species Habitat Requirements

Throughout their range, bald eagles use forested habitats for nesting and roosting, and expanses of shallow fresh or salt water for foraging. Nesting habitat generally consists of densely forested areas of mature trees that are isolated from human disturbance. Daytime roosts are generally in "super canopy" trees which are very large trees which will poke above most trees in the forest and are adjacent to shorelines, and are typically located away from human disturbance. Communal roosts, which are rare in Florida, are normally located within three miles of water. The quality of foraging habitat is characterized by the diversity, abundance, and vulnerability of eagle prey, the structure of the aquatic habitat (such as the presence of shallow water), and the extent of human disturbance (Buehler 2000). The nesting season extends from October through mid May.

Major threats include habitat loss because of development and commercial timber harvest, pollutants and decreasing food supply are also of concern (Wood 1989).

Habitat Conditions within the Action Area

Potential habitat is present within the Project Area, particularly within the area that borders West Bay and Burnt Mill Creek. These areas provide large trees for nesting with clear views to water that provide foraging habitat.

Effects of the Proposed Action

The habitats most suitable for the bald eagle within the Project Area are primarily located within the proposed Conservation Units. These areas include the lands bordering West Bay, Pigeon Creek, Crooked Creek and Burnt Mill Creek. The Proposed Action may provide indirect beneficial effects by protecting water quality from degradation associated with development around these water bodies, which protects bald eagle food sources in these water bodies. Appropriate habitat for nesting also exists in the Conservation Units.

Choctaw Bean (*Villosa choctawensis*)

Overall Range and Population Status

The Choctaw bean was listed as a Candidate for protection under the ESA in 2004. The Choctaw bean is a small freshwater mussel known from the Escambia, Yellow, and Choctawhatchee River drainages of Alabama and Florida (Williams et al. 2008). The Choctaw bean persists in most of its historical range, however its populations are fragmented and its numbers are low, particularly in the Escambia and Yellow River drainages. The number of locations in the Escambia River drainage known to support the species has declined from a total of 13 to 6 currently. The numbers of individuals found have also decreased. In the Choctawhatchee River drainage, the Choctaw bean continues to persist in most areas but has declined in the Yellow River drainage. It has been recorded in 40 locations throughout the

drainage, 34 of which are recent occurrences. Its status was assessed on 1975 (Heard) which found the Choctaw bean was formerly abundant in the main channel of the Choctawhatchee River in Florida, but has become quite rare.

Population in the Action Area
The Choctaw bean most likely does not occur in the Action Area as the Action Area is outside its known current and historical range. There are no recorded observations within the Action Area.

Species Habitat Requirements
Very little is known about the habitat requirements or life history of the Choctaw bean. It is found in large creeks and small rivers in stable substrates of silty sand to sandy clay with moderate current.

Habitat Conditions within the Action Area
None of the water bodies in which the Choctaw bean mussel is endemic occur within the Action Area.

Effects of the Proposed Action
The Proposed Action is determined to have **"no effect"** on the Choctaw bean mussel since potential habitat is not present.

Choctawhatchee Beach Mouse (*Peromyscus poliontus allophrys*)

Overall Range and Population Status
The Choctawhatchee beach mouse was listed as endangered in June of 1985. The designated critical habitat is 12.6 miles of coast in Walton and Bay Counties, including Grayton Beach State Recreation Area and Topsail Hill Preserve in Walton County, Shell Island and the mainland section of St. Andrews State Recreation Area in Bay County. The major threat to their population includes loss of habitat due to development and hurricanes and predation from native and non-native animals, such as cats (USFWS 2007).

Population in the Action Area
There are no recorded observations of this species within the Action Area. No nesting or foraging habitat is within the Action Area.

Species Habitat Requirements
The Choctawhatchee beach mouse inhabits primary, secondary and occasionally tertiary sand dunes with a moderate cover of grasses and forbs. This species finds refuge in adjacent sand live oak communities during and following hurricanes. They feed primarily on seeds of beach plants and insects.

Habitat Conditions within the Action Area
There is no nesting or foraging habitat within the Action Area.

Effects of the Proposed Action
A **"no effect"** determination was made for the Choctawhatchee beach mouse. The Proposed Action will not have a direct effect on species that utilize coastal beach habitat. Indirect effects due to development, such as stormwater runoff and subsequent water quality degradation may have the

potential to affect coastal dune vegetative communities. The areas within the Project Area closest to appropriate habitat for this species have been established as Conservation Units and should reduce or eliminate indirect impacts to water quality and runoff associated with development in the surrounding area.

Eastern Indigo Snake (*Drymarchon corais couperi*)

Overall Range and Population Status

The Eastern indigo snake was listed as threatened by Federal government in January of 1978. Historically, the Indigo Snake ranged from southern South Carolina to southeastern Mississippi. However, most, if not all, existing viable populations occur in Florida and Georgia. In Florida, the distribution is statewide with confirmed occurrences in every county, but with denser populations occurring within south Florida.

Population in Action Area

There has been one recorded observation of an Eastern indigo snake adjacent to the Project Area within Pine Log State Forest in June 2008. In addition, several observations were recorded in 1978 through 1982 by Paul Moler north and northeast of the Action Area in northeastern Bay County and southern Washington County (Wilson Miller, Inc. 2003). FNAI recorded an occurrence in 1974 east of Hwy 77, which borders the Project Area.

Species Habitat Requirements

The indigo snake occurs throughout a broad range of habitats, including sandhills/scrub to wet prairies and swamps, but appears to prefer sandhill habitat in close association with gopher tortoise burrows in north Florida. The indigo snake requires very large tracts to survive, which range from 45 to 250 acres or more. In northern Florida the snake actively forages, takes refuge and overwinters in gopher tortoise burrows (Hipes et al 2000).

Habitat Conditions within the Action Area

The effects of persistent silvicultural activities have greatly reduced the potentially suitable habitat within the Action Area. Such activities include clear cutting, soil compaction, rutting, bedding, dense shading of planted pine forests which reduces herbaceous ground cover and fire suppression. Gopher tortoise burrows were observed along some roadsides within sandhill/scrub habitat during field surveys within the Project Area. The thickly planted pine plantations reduce the suitability of habitat for the gopher tortoise due to shading and subsequently the likelihood that eastern indigo snakes are present.

Effects of the Proposed Action

There is potential for the indigo snake to utilize the Project Area and there is evidence that the snake has potentially occupied lands in the vicinity of the Project Area, therefore, a **"may affect but not likely to adversely affect"** determination was made for the snake.

The Conservation Units within the Project Area may provide direct benefits to the indigo snake habitat by protecting large areas of existing suitable habitat. Indirect benefits may also include watershed planning and growth management. Within the Project Area, direct negative effects to potential habitat may occur in association with fragmentation of habitat due to road construction and destruction of

upland habitat. Indirect effects also may include increased road kill, increased human access, deliberate killing and increased collection for the pet trade.

Fuzzy Pigtoe (*Pleurobema strodeanum*)

Overall Range and Population Status

The fuzzy pigtoe was listed as a Candidate for protection under the ESA in 2004. The fuzzy pigtoe is endemic to the Escambia and Choctawhatchee River drainages in Alabama and Florida, and to the Yellow River drainage in Alabama (Williams *et al.* 2008). Within the Escambia drainage, the number of locations that support fuzzy pigtoe populations has declined from 37 to 18 currently. It was not found at 4 recently surveyed locations on the main channel; however, 13 historical sites in the drainage have not been examined recently, and cannot be evaluated. The fuzzy pigtoe is exceedingly rare in the Yellow River drainage and is known from only four localities in the Yellow drainage. A single individual collected in 2010 in Florida, is the only recent record of the species in the drainage. Its range in the Yellow drainage has declined, and the species may no longer occur in the Alabama portions of its range. In the Choctawhatchee River drainage, the number of locations that support fuzzy pigtoe populations have declined from 61 to 54 currently. Although the species still occurs in much of its historic range in the drainage, it may be extirpated from localized areas. It appears sensitive to degradation, as once abundant populations have disappeared.

Population in the Action Area

The fuzzy pigtoe most likely does not occur in the Action Area as the Action Area is outside its known current and historical range. There are no recorded observations within the Action Area.

Species Habitat Requirements

The fuzzy pigtoe is found in medium sized creeks and rivers in stable substrates of sand and silty sand with slow to moderate current.

Habitat Conditions within the Action Area

None of the water bodies in which the fuzzy pigtoe mussel is endemic occur within the Action Area.

Effects of the Proposed Action

The Proposed Action is determined to have **"no effect"** on the fuzzy pigtoe mussel since potential habitat is not present.

Gulf Moccasinshell Mussel (*Medionidus penicillatus*)

Overall Range and Population Status

The Gulf moccasinshell mussel was listed as endangered in March of 1998. Historically, Gulf moccasinshells were found within the Apalachicola-Chattahoochee-Flint river system of Georgia, Florida and Alabama. However, today the Gulf Moccasinshell is only found at a few sites within Georgia and Florida, including a number of sites within the Flint and Chattahoochee Rivers of Georgia. Recent surveys suggest that the mussel is likely extirpated in Alabama. In Florida, the distribution is believed to be confined to the Chipola River and Econfina Creek in Bay County.

Populations in Action Area
The Gulf moccasinshell most likely does not occur in the Action Area as the Action Area is outside its known current and historical range.

Species Habitat Requirements
The Gulf moccasinshell inhabits medium-sized creeks to large rivers with sand, muddy sand, and gravel substrates and slow to moderate currents. They may occasionally occur in backwater areas with no current (Hipes et al. 2000).

Habitat Conditions within the Action Area
None of the water bodies in which the Gulf moccasinshell mussel is endemic occur within the Action Area.

Effects of the Proposed Action
The Proposed action is determined to **"no effect"** on the Gulf moccasinshell mussel since potential habitat is not present.

Gulf Sturgeon (*Acipenser oxyrinchus desoti*)

Overall Range and Population Status
The Gulf Sturgeon was listed as a threatened species under the ESA in September of 1991. Critical habitat was designated March in 1993. Choctawhatchee Bay and surrounding areas, as well as the nearshore areas of the Gulf of Mexico have been designated as critical habitat. Gulf sturgeons are found in river systems from Louisiana to Florida, in nearshore bays and estuaries and in the Gulf of Mexico. Critical habitat was designated in 2003 and includes the nearshore of the Gulf of Mexico and Choctawhatchee Bay. In Florida reproducing populations are distributed in the Gulf of Mexico and major panhandle rivers eastward to the Suwannee River. Non-breeding animals have been observed in Tampa Bay and Charlotte Harbor (Hipes et al. 2000).

Populations in the Action Area
It has been documented that the Gulf sturgeon overwinters in Choctawhatchee Bay which is approximately 12 miles to the west of the Project Area. Gulf sturgeons are known to be transient species within the southern portions of West Bay, which is at the southern end of the Action Area. There is no critical habitat located within the Action Area.

Species Habitat Requirements
Gulf sturgeons are anadromous. Adults spawn in freshwater and migrate into marine waters in the fall to forage and overwinter. Juveniles stay in the river for about the first 2-3 years and return to their natal stream to spawn. Riverine habitats where the healthiest populations of Gulf sturgeon are found include long, spring-fed, free-flowing rivers, typically with steep banks, a hard bottom, and an average water temperature of 60-72° F. Gulf sturgeon initiate movement up to the rivers between February and April and migrate back out to the Gulf of Mexico between September and November. Adults feed on mollusks as well as polychaetes, shrimp, isopods, amphipods, and small benthic fishes. Juveniles feed on benthic crustaceans and insect larvae within the rivers (NOAA n.d). Threats to the Gulf sturgeon include fishing pressures and spawning habitat loss through construction of dams, dredging and inputs of industrial pollutants especially within spawning areas.

Habitat Conditions within the Action Area

Gulf sturgeons overwinter in Choctawhatchee Bay, which is 12 miles west of the Project Area. Choctawhatchee Bay has been designated as critical habitat for the Gulf Sturgeon. Gulf sturgeons are known to be transient species within the southern portions of West Bay, however there is no suitable riverine habitat within the Action Area for spawning.

Effects of the Proposed Action

A **"no effect"** determination was made for the Gulf sturgeon. The Proposed Action is not likely to affect the Gulf sturgeon since its habitat is a significant distance away from the Project Area. The potential projects within or near the waters of West Bay that are located within the Project Area such as dock or pier construction at four access points and upland development, are not likely to impact resources necessary for the survival of the Gulf sturgeon. Water quality within the bay will be protected through the establishment of Conservation Units adjacent to waterways. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Hawksbill Sea turtle (*Eretmochelus imbricata*)

Overall Range and Population Status

The hawksbill sea turtle was listed as endangered throughout their entire range in June of 1970. The hawksbill is found in tropical and subtropical regions of the Atlantic, Pacific, and Indian Oceans. The species is widely distributed in the Caribbean Sea and western Atlantic Ocean. In Florida, the hawksbill occurs primarily in the southern half of Florida, mostly in the Florida Keys and reefs along the southeastern peninsular coast. Nesting is infrequent but has been confirmed from Volusia County to the Marquesas (NMFS 1998).

Populations in Action Area

No hawksbill turtles have been observed in the Action Area. Since they are migratory and free roaming, they may possibly swim into West Bay, Choctawhatchee Bay or the nearshore areas of the Gulf of Mexico. The Action Area touches the coastal beach in its extreme southwest corner, this is the only potential nesting habitat located within the Action Area, however this species is not known to nest in Bay County. There is no nesting habitat within the Project Area.

Species Habitat Requirements

Hawksbills frequent rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. They are seldom seen in water deeper than 65 feet. Hatchlings are often found floating in masses of sea plants, and nesting may occur on almost any undisturbed deep-sand beach in the tropics. Adult females are able to climb over reefs and rocks to nest in beach vegetation (NMFS 1998).

Habitat Conditions within the Action Area

There is no nesting habitat within the Action Area. Hawksbills may forage in the nearshore areas of the Gulf of Mexico, however they have not been observed within the Action Area.

Effects of Proposed Action

The Proposed Action is determined to have **"no effect"** on the Hawksbill sea turtle, since the species is not known to occur within the Action Area. Although several potential water access points have been established within the Action Area and adjacent to West Bay, the RGP will not permit any direct impacts which could affect habitat or foraging resources for the turtle. Construction of docks, boat lifts, or other structures that could affect habitat or foraging resources in West Bay would require separate authorization including species effects evaluation and determination from the Corps. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)

Overall Range and Population Status

The Kemp's ridley was listed as endangered in December of 1970 under the Endangered Species Conservation Act, then the ESA of 1973. No critical habitat has been designated. The Kemp's ridley is the most seriously endangered of the sea turtles. Its numbers have precipitously declined since 1947, when over 40,000 nesting females were estimated in a single arribada. The nesting population produced a low of 702 nests in 1985; however, since the mid-1980's, the number of nests laid in a season has been increasing primarily due to nest protection efforts and implementation of regulations requiring the use of turtle excluder devices in commercial fishing trawls. During the 1999 and 2000 nesting seasons, more than 3,600 nests and 6,000 nests, respectively, were found on the Mexico nesting beaches (NOAA n.d.).

The range of the Kemp's Ridley includes the Gulf coasts of Mexico and the U.S., and the Atlantic coast of North America as far north as Nova Scotia and Newfoundland. Most Kemp's ridleys nest on the coastal beaches of Mexico, although a very small number of Kemp's ridleys nest consistently at Padre Island National Seashore, Texas. Hatchlings, after leaving the nesting beach, are believed to become entrained in eddies within the Gulf of Mexico, where they are dispersed within the Gulf and Atlantic by oceanic surface currents. As they mature, they enter coastal shallow water habitats.

It is thought that the Kemp's Ridley did not historically nest in Florida, but eight nests have been recorded since 1989, primarily in the southwestern portion of the state (Hipes et al. 2000).

Population in Action Area
Juveniles may utilize the shallow areas of the inshore Gulf of Mexico as feeding ground and may utilize West Bay to forage. No nesting habitat occurs within the Action Area. There have been no documented occurrences within the Action Area.

Species Habitat Requirements
Adults utilize marine coastal waters statewide, usually with sand or mud bottoms. Juveniles frequent utilize bays, inlets, and lagoons.

Habitat Conditions within the Action Area
No nesting habitat occurs within the Action Area. The diet of the Kemp's Ridley is primarily crustaceans, jellyfish and seagrasses. Several seagrass species are present in West Bay and may provide foraging habitat for Kemp's Ridleys, however they are not known to enter into the Bay.

Effects of the Proposed Action
A **"no effect"** determination was made for the Kemp's ridley turtle since the Proposed Action is not anticipated to affect this species or its habitat because the Action Area contains no nesting habitat and is not known to be utilized by the Kemp's Ridley as foraging habitat. Furthermore, although several potential water access points have been established within the Action Area and adjacent to West Bay, the RGP will not permit any direct impacts which could affect habitat or foraging resources for the turtle. Construction of docks, boat lifts, or other structures that could potentially affect habitat or foraging resources in West Bay would require separate authorization including species effects evaluation and determination from the Corps.

Indirect effects due to development, such as stormwater runoff and subsequent water quality degradation, have the potential to affect seagrass populations in water bodies within the Action Area. As a result, changes to seagrass populations may impact potential foraging resources. However, all areas that are adjacent to West Bay (where the seagrasses are located) are proposed as Conservation Units which will protect water quality associated with development in the surrounding area. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Leatherback Sea Turtle (*Dermochelys coriacea*)

Overall Range and Population Status
The leatherback sea turtle was listed as endangered worldwide in June of 1970. Critical habitat has been designated in the U.S. Virgin Islands. The leatherback turtle is distributed worldwide in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans. It is also found in small numbers as far north as British Columbia, Newfoundland, and the British Isles, and as far south as Australia, Cape of Good Hope, and Argentina. Nesting populations have declined over the last two decades along the

Pacific coasts of Mexico and Costa Rica. The Mexican leatherback nesting population, once considered to be the world's largest leatherback nesting population (65 percent of worldwide population), is now less than one percent of its estimated size in 1980. The largest nesting populations now occur in the western Atlantic in French Guiana and Colombia, and in the western Pacific in West Papua and Indonesia. In the United States, small nesting populations occur on the Florida east coast, Sandy Point, U.S. Virgin Islands and Puerto Rico (NMFS 1992). In Florida, the entire coastline provides nesting habitat, with nesting known within every Atlantic coastal county and counties in the panhandle. In 2004, four leatherback nests were recorded in Bay County but none were recorded in 2009 (FWS 2009).

Population in Action Area

Leatherback turtles have been observed within the Action Area in the nearshore areas of the Gulf of Mexico. Leatherbacks are migratory animals that may occasionally wander into West Bay, however are not known to occur often within the Bay.

Species Habitat Requirements

The leatherback is the most pelagic of the sea turtles. Adult females require sandy nesting beaches backed with vegetation and sloped sufficiently so the crawl to dry sand is not too far. The preferred beaches have proximity to deep water and generally rough seas. They feed primarily on jellyfish.

Habitat Conditions with the Action Area

Leatherbacks only rarely nest on Florida beaches and a small amount of nesting habitat is located within the Action Area. Foraging habitat may occur in the nearshore areas of the Gulf of Mexico, but not within the Action Area.

Effects of the Proposed Action

The Proposed Action is determined to have **"no effect"** on the leatherback sea turtle because there is negligible nesting and no foraging habitat within the Action Area. The species is not likely to be present within the Action Area because it is unlikely to be found in bays. Furthermore, although several potential water access points have been established within the Action Area and adjacent to West Bay, the RGP will not permit any direct in-water impacts within the bays that could affect the turtle. Construction of docks, boat lifts, or other structures that could potentially affect the species in West Bay would require separate authorization including species effects evaluation and determination from the Corps.

Nesting habitat within the Action Area is limited to the extreme southwest corner of the Action Area. Project Area related development is not expected to indirectly impact this portion of the coastal beach therefore no impacts to nesting habitat are expected.

Oval Pigtoe Mussel (*Pleurobema pyriforme*)

Overall Range and Population Status.

The oval pigtoe mussel was listed as endangered in March of 1998. Historically, the oval pigtoe was found within the Apalachicola-Chattahoochee-Flint river system of Georgia and Florida and Alabama. However, today the oval pigtoe is only found at a few sites within Georgia and Florida, including a number of sites within the Flint and Chattahoochee Rivers of Georgia. In Florida, the distribution is

believed to be confined to the Chipola, Ochlocknee and Suwannee river systems and Econfina Creek (Bay County).

Populations in Action Area
The oval pigtoe mussel most likely does not occur in the Action Area as the Action Area is outside its known current range.

Species Habitat Requirements
The oval pigtoe mussel inhabits medium-sized creeks to small rivers with slow to moderate current and clean substrates of silty sand to sand-gravel mix (Hipes et al. 2000).

Habitat Conditions within the Action Area
None of the water bodies in which the oval pigtoe mussel is endemic occur within the Action Area.

Effects of the Proposed Action
The Proposed Action is determined to have **"no effect"** on the oval pigtoe mussel since potential habitat is not present.

Piping Plover (*Charadrius melodus*)

Overall Range and Population Status.
The Atlantic Coast population of piping plovers was listed as threatened in January of 1986. In July of 2000 critical habitat was designated for the wintering populations outside of the Action Area. The populations of the Northern Great Plains were listed as threatened and the Great Lakes population was listed as endangered. The piping plover breeds on coastal beaches from Newfoundland and southeastern Quebec to North Carolina. These birds winter primarily on the Atlantic Coast from North Carolina to Florida, although some migrate to the Bahamas and West Indies (USFWS 2010a). In Florida the piping plover winters on both Gulf and Atlantic coasts, although it is much more commonly found on the Gulf Coast. Wintering habitat occurs along beaches from Perdido Key in Escambia County to Dog Island in Franklin County (Hipes et al. 2000).

Populations in Action Area
Occurrences of the piping plover have been documented in the Action Area, within a site known as the Marifarms Site, on the south side of West Bay (Sprandel 1997).

Species Habitat Requirements
The piping plover's wintering habitat is found on open sandy beaches and on tidal mudflats and sandflats along both coasts.

Habitat Conditions within the Action Area
There is no designated critical habitat within the Action Area. Potential wintering habitat may occur along the tidal flats of West Bay which is within the Action Area.

Effects of the Proposed Action
A **"may affect, not likely to adversely affect"** determination was made for the piping plover because the Proposed Action is not expected to affect its wintering habitat.

Indirect effects associated with development, such as stormwater runoff and subsequent water quality degradation, may have the potential of affecting wintering habitat of the piping plover. However, all development within the Project Area will be subject to State stormwater permitting design and treatment and in addition, all areas that are adjacent to West Bay (where the potential wintering habitat is located) are proposed as Conservation Units which will protect the shoreline area. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet Outstanding Florida Water treatment volume standards as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection of water quality, which will benefit species within the Project Area and Action Area.

Red-Cockaded Woodpecker (*Picoides borealis*)

Overall Range and Population Status

The red-cockaded woodpecker (RCW) was listed as endangered in 1970. The FWC listed the bird as threatened in 1974, endangered in 1975 and reclassified it again as threatened in 1979. In September of 2003, the FWC downlisted the bird to a species of special concern.

This bird's range is closely tied to the distribution of southern pines. Historically, the red-cockaded woodpecker occurred from East Texas and Oklahoma, to Florida, and North to New Jersey. The present distribution is similar, except that the species has been extirpated from Missouri, Maryland, and New Jersey. The remaining populations are fragmented into isolated, island populations. The current population level is estimated at 4,500 groups with 10,000 to 12,000 birds (USFWS 2010b). In Florida, it is estimated that 75 percent of the statewide breeding population occurs in the panhandle. The Apalachicola National Forest has the largest population in the species' entire remaining range and is the only recovered population (Wilson Miller 2003).

Populations in Action Area

One known location of a cavity tree was identified in 1978 within the Action Area (Figure 4). However, the location of the tree or suitable habitat within the area was not observed during recent field surveys. No other cavity trees or clusters were observed within the Project Area.

Species Habitat Requirements

The red-cockaded woodpecker inhabits open, mature pine forests that are frequently maintained by fire and provide an open midstory and diverse grass and forbs understory. The bird excavates cavities and nests exclusively in living pine trees, preferably longleaf pines but will nest in other species of pines, typically 60 to 80 years or older. Home ranges in northern Florida range from 300 to 350 acres (Hipes et al. 2000).

Habitat Conditions with the Action Area

The vegetative community within the Action Area is primarily planted slash or sand pine, therefore the potential for nesting or foraging habitat is poor. Habitat conditions within the Action Area are

inadequate to support active clusters or red-cockaded woodpeckers. Some large pines are sporadically located throughout the pine plantations and along the on-site waterways and small areas of sandhill communities. The sporadic mature longleaf pines with wiregrass understory that occur within the sandhills within the Project Area may provide fair to poor habitat.

Silviculture activities such as elimination of mature pine trees, maintenance of high density pine plantations, destruction of the herbaceous groundcover, soil disturbances from logging and planting, rutting and fire suppression have impacted the potential for appropriate habitat for the RCW. The closest known population occurs approximately 30 miles SE of the area, which falls outside the range of cluster foraging activity.

Effects of the Proposed Action

A **"may affect, not likely to adversely affect"** determination was made for the RCW because there may be suitable within the Action Area but there is no suitable habitat known to be within the Project Area.

The RCW may be directly and indirectly benefited by the Proposed Action. Protection of the Conservation Units will protect potential nesting and foraging habitat for the RCW. Timber management prescriptions at Devil's Swamp Mitigation Bank, Breakfast Point Mitigation Bank and Pine Log State Forest are conducive to generating the forest species composition, age and structure necessary for suitable habitat for RCWs. These areas may provide suitable habitat for natural or assisted RCW colonization of these sites within 50 years.

Red Knot (*Calidris canutus*)

Overall Range and Population Status

The red knot was listed as a candidate for protection under the ESA in September of 2006. The red knot, a member of the sandpiper family, breeds in the Arctic tundra in summer and then migrates south for the winter. The "rufa" subspecies breeds specifically in the central Canadian Arctic and winters in Tierra del Fuego in South America. Florida also hosts a population of wintering red knots. However, it is not known where in the Arctic, Florida's birds go to breed or whether the group wintering in Florida is genetically different from other subspecies. During its migration, the red knot has stopover areas where it forages primarily on horseshoe crab eggs. The red knot population declined drastically when populations of horseshoe crabs dropped in the 1990's, particularly in Delaware Bay. In Florida, the red knot utilizes the southwestern coast as a "stopover" location during migration.

Population in the Action Area

There are no recorded observations of this species within the Action Area. No habitat is located within the Action Area.

Species Habitat Requirements

The red knot migrates great distances and breeds on the mainland and islands of the Arctic and migrates to southern tip of South America. During this migration, the red knot has several "stopover" locations, such as the Delaware Bay area to forage on resources.

Habitat Conditions within the Action Area
There is no nesting or foraging habitat within the Action Area.

Effects of the Proposed Action
A **"no effect"** determination was made for the red knot because appropriate habitat does not exist in the Action Area.

Reticulated Flatwoods Salamander (*Ambystoma bishopi*)

Overall Range and Population Status
Surveys completed since 1990 indicate that 22 populations are known from across the historical range, with 2 in Georgia and the remainder in Florida (none known extant in Alabama) (USFWS 2005, Pauly et al.2007). Secretive habits of adults make population estimates difficult. Total adult population size presumably is at least 1,000, but actual number is unknown. During extensive surveys of historical (pre-1990) breeding ponds, researchers recorded the species at only a small minority of formerly inhabited sites. Currently, the species presumably is declining in concert with continued loss of remaining intact pine flatwoods community (particularly degradation of groundcover). The rate of decline is unknown.

Species Description
The flatwoods salamander is a slender, small-headed mole salamander that is seldom greater than 5 inches in length. Adult dorsal color ranges from black to chocolate-black with highly variable, fine, light gray lines forming a net-like or cross-banded pattern across the back. Undersurface is plain gray to black with a few creamy or pearly gray blotches or spots. Flatwoods salamander larvae are long and slender, broad-headed and bushy-gilled, with white bellies and striped sides.

Flatwoods salamanders are known to occur in isolated populations across the lower southeastern Coastal Plain, with the majority of the remaining known populations located in Florida. In 2007 the species was split into two separate species, the reticulated flatwoods salamander (*A. bishopi*) and the frosted flatwoods salamander (*A. cingulatum*). *A. bishopi* occurs west of the Apalachicola River; *A. cingulatum* is east of this same river. Habitat needs for both species are similar.

Adult and sub-adult flatwoods salamanders live in underground burrows. Adult flatwoods salamanders move above ground to their breeding sites during rainy weather associated with cold fronts during October thru December. Typical breeding sites are isolated pond cypress (*Taxodium ascendens*), swamp tupelo (*Nyssa sylvatica var. biflora*) or slash pine (*Pinus elliotti*) dominated depressions that dry completely during the summer. They are generally shallow, relatively small and have a marsh-like appearance with sedges often growing throughout. Wiregrass (*Aristida stricta*), panic grasses (*Panicum spp.*) and other herbaceous species are normally concentrated in the shallow water edge or ecotone. After breeding, adult salamanders leave the pond. The larvae remain in the pond until March or April and leave before the pond dries up.

Population in Action Area
The action area is privately owned and has been intensively managed for silviculture for many years. Almost all uplands were converted to pine plantations with site preparation that included clear cutting, roller chopping, herbicide application and bedding.

The USFWS reports 4,453 acres of critical habitat for the reticulated flatwoods salamander within its known range. There is one documented occurrence of flatwoods salamanders in nearby Washington County in Pine Log State Forest and one record in Walton County. The Walton County record is for one individual at one location in Point Washington State Forest, which is located more than 11 miles from the Action Area. The documented occurrence on the State Forest is approximately 5 miles from the center of the Action Area.

Any potential historic habitat for the flatwoods salamander has been severely degraded by silviculture. However an intensive survey was conducted by Joe McGlincy, wildlife biologist with The Wildlife Company. Potential flatwoods salamander habitat within the Project Area was found to be extremely limited. Field surveys revealed only 11 ponds that could be considered remotely potential, but not verified flatwoods salamander habitat within the Project Area. Of these 11, four have low-moderate, eight have moderate and three moderate-high potential as determined by Joe McGlincy. Given this breakdown, the lack of appropriate upland habitat structure and the distance from known populations, only the three moderate-high ponds are considered in this evaluation of potential effects.

Methods

Flatwoods salamander habitat was evaluated using a three phase process developed by HDR, Inc. U.S. Fish & Wildlife Service, Florida Wildlife Commission and Florida Department of Transportation to evaluate potential habitats surrounding the widening of US Highway 98 project. This method uses a scoring system to evaluate the quality of potential breeding ponds.

Phase I Evaluation. The potential breeding site must be underlain by hydric soils as designated in the county's Soil Conservation Service soil survey. It must also have been identified as a wetland according to the National Wetland Inventory mapping or the Florida Land Use, Cover and Form Classification System. Careful examination of aerial photography and maps provided by St. Joe of the entire Action Area was done to locate small wetlands not captured by soil surveys or wetland mapping. Potential sites were depressional wetlands hydrologically isolated from other wetlands. These sites were dominated by pond cypress, swamp tupelo, and/or slash pine, or a shrub swamp dominated by titi (*Cyrilla racemiflora)*, Chapman's St. Johns-wort (*Hypericum chapmanii)* or myrtle-leaved holly *(Ilex myrtifolia)*. Wetlands not meeting the above criteria are not suitable habitat for the flatwoods salamander and were eliminated during the initial screening.

Phase II Evaluation. Following the office analysis, a field review was conducted to verify the results of the Phase I evaluation and determine which ponds were of good enough quality to merit sampling for salamander larvae. Each pond was visited and scored according to the following methodology.

Flatwoods salamander habitat consists of three components: (1) breeding pond, (2) graminaceous ecotone, and (3) surrounding pine-dominated terrestrial habitat. Although the limits of the pond and ecotone are readily recognizable, the limits of the surrounding terrestrial habitat are not. For evaluation purposes, this model defines the terrestrial habitat as those uplands within a 538-foot radius of the pond-ecotone margin. Each of the three habitat components is assigned a score from 0-3 (from "no" habitat to "high quality" habitat) for a total score between 0 and 9. A "metapopulation bonus" (designated by an asterisk) is ascribed to the site if it forms part of a "high quality habitat nexus," which is presumed to support a metapopulation of flatwoods salamanders. This nexus is defined herein as a cluster of three or more ponds, each with a habitat rank equaling or greater than low-moderate potential

(as defined below), which are located within 1.1 miles (1.7 kilometers) of each other, and situated within a mosaic of moderate to high quality pine-dominated uplands. An example of the data scoring sheet is in Appendix 1.

Phase III Evaluation. Following field visits and scoring for each pond selected in Phase I, those ponds that scored 5 (moderate potential) or higher were sampled for flatwoods salamander larvae. During each visit, the investigators swept a nylon dip net (4 mm mesh, 41 cm wide) through submerged vegetation approximately 125 times or until all areas of submerged vegetation had been sampled. The contents of each sweep were examined visually for salamander larvae, other vertebrates and invertebrates.

Results

Phase I evaluations resulted in 97 potential sites being identified within the action area (Figure 5). Four additional sites identified during Phase I were eliminated upon re-examination prior to Phase II because they did not meet the criteria. Upon field evaluation during Phase II, eight sites were eliminated from consideration because they were not depressional wetlands. Seventy-four ponds ranked low, four ponds rank low-moderate, eight ponds ranked moderate and three ponds ranked moderate-high. Photographs of most ponds are in Appendix 1.

The 11 ponds that ranked moderate or better were dip net sampled (Figure 6). The first sampling was conducted on Feb. 11 and 23, 2010, the second sampling was completed on March 18, 2010. Water levels were adequate for both samples. No flatwoods salamander larvae were found. Other specimens captured included mole salamander larvae, cricket frogs, crayfish, various tadpoles including leopard frogs, cricket frogs, ornate chorus frogs and bronze frogs, water moccasin, and several invertebrates including dragon fly larvae and other aquatic insects.

Based on the field surveys, McGlincy made the following findings:

- The 11 ponds ranked moderate or better were dip net sampled. The first sampling was conducted on February 11 and 23, 2010 and the second sampling was completed on March 18, 2010. Sampling of the 11 ponds during the peak times to find larvae and with adequate water conditions did not reveal any flatwoods salamander larvae.

- No critical habitat has been designated for flatwoods salamanders within the action area.

- There were no previously known flatwoods salamander breeding ponds within the action area nor did the area wide survey locate any breeding ponds. The uplands within the action area are being managed intensively for silviculture. The margins of most ponds have developed a thick titi/myrtle-leaved holly midstory canopy that shades out graminaceous ecotone preferred by flatwoods salamanders. The vast majority of the ponds visited were in this condition. Where any ecotone was present it was usually patchy and disturbed.

- Only ponds 74, 83 and 101 have moderate-high potential but still lack the appropriate upland habitat structure. Pond 74 is located within the AG/Timber land use overlay for the Sector, pond 83 is located within the Business Center land use overlay for the Sector and pond 101 is located within the West Bay Preservation Area land use overlay for the Sector.

- Based on the results and the condition of habitat throughout the action area it is expected that any project activity within the GPEMA action area will have no effect on reticulated salamanders.

Discussion

There were no previously known flatwoods salamander breeding ponds within the action area nor did our investigation locate any breeding ponds. The most proximal critical habitat occurs 5 miles NW of the action area. The uplands within the action area are being managed intensively for silviculture which includes the preclusion of fire. This has allowed the margins of most ponds to develop a thick titi/myrtle-leaved holly midstory canopy that shades out the graminaceous ecotone preferred by flatwoods salamanders. The vast majority of the ponds visited were in this condition. Where an ecotone was present, it was usually patchy and disturbed.

Only 11 of the 97 wetlands surveyed within the 44,501 acre Project Area ranked as either moderate to moderately good habitat for flatwoods salamanders. Sampling of these ponds during the peak times to find larvae and with adequate water conditions did not reveal any flatwoods salamander larvae. Based on these results and the condition of habitat throughout the activity area it is expected that any project activity within the GPEMA 2 action area is not likely to have any negative effect on flatwoods salamanders.

None of the ponds are considered in excellent condition for flatwoods salamanders. The Project Area is almost entirely in planted pine and thus generally provides poor to nonexistent conditions. Pine planting activities have severely altered almost all the essential mesic habitat surrounding breeding ponds. Silviculture-associated activities in these habitats that are detrimental to the flatwoods salamander include soil mixing, rutting, compaction, and bedding; dense shading which reduces herbaceous ground cover; clear cutting which reduces ambient moisture; and fire suppression.

Ponds and surrounding habitat in the Project Area have been affected by silvicultural activities, drought and fire suppression. In some cases, especially following drought years, pines may have been planted into the pond edges and other ponds may have completely dried due to drought and increased evapotranspiration due to pine trees. Fire suppression also has resulted in increased canopy and shrub cover within ponds, which shades out the graminaceous ground cover with the pond proper.

Effects of the Proposed Action

The Proposed action is determined that it **"may affect, not likely to adversely affect"** the reticulated flatwoods salamander.

This conclusion is supported by the analysis set forth above. Additional factors which support this conclusion are the actual land uses which are applicable to the pond areas and the fact that the conditions allowed substantial testing for the actual present of reticulated flatwoods salamanders within the Action Area.

Pond 74 is located in the AG/Timber portion of the Sector. Historic use of the area within the 1476 foot buffer will continue as it has under BMP silviculture operations, with the exception of a minor portion, 6.7 acres within the Little Burnt Mill Creek Conservation Unit. None of the upland habitat was considered suitable (McGlincy, 2010).

Pond 83 is located within the Business Center portion of the Sector, southeast of the future crosswind runway boundary of the existing Northwest Florida Beaches International Airport. Within the 1476 foot buffer are 39.3 acres included in the Burnt Mill Creek-Doyle Bayou Frontal Conservation Unit. One hundred and three acres are included in the Business Center land use designated by the DSAP. None of the upland habitat was considered suitable (McGlincy, 2010).

Pond 101 is located almost entirely within the Burnt Mill Creek-Doyle Bayou Frontal Conservation Unit. A small portion in the northern quadrant is located within the mitigation lands associated with the airport. None of the upland habitat was considered suitable (McGlincy, 2010).

Previous studies of reticulated flatwoods salamander presence in areas adjacent to the Action Area have been constrained. Dip net surveys were not possible for most ponds assessed during the flatwoods salamander surveys necessary for the Biological Assessment completed for RGP-SAJ86, due to drought conditions. Likewise, during the surveys for flatwoods salamanders as part of SAJ-2001-5264(IP-GAH), pond conditions were not ideal. Pond conditions during the recent survey efforts for the current proposed GP were considered by all knowledgeable authorities (FWC, USFWS, and McGlincy) to be the best surveying conditions in years. This allowed for a complete assessment under ideal conditions. This fact along with the silviculture use of the adjoining uplands, the lack of any significant high quality ecotone at any of the ponds, supports the determination that the salamander is not likely to be present. In addition, the majority of the wetlands are located within the Conservation Units where development will be severely restricted.

Flatwoods Salamander Habitat Component Scoring Guidance

Pond (0 – 3 points)

0 ***No pond*** (pond destroyed – filled or drained)

1 ***Low quality pond***

- dense overstory and/or midstory (combined for greater than 70% crown closure)
- extremely sparse of marginally desirable ground cover (i.e., low species diversity, limited occurrence of tufted or linear growth-form herbaceous species, and/or significant cover, greater than25%, of weedy and/or exotic species)
- modified hydrology such that it no longer appears to undergo seasonal inundation.

2 ***Moderate quality pond***

- Somewhat open overstory/midstory (31 to 70% crown closure) with sparse desirable, primarily graminaceous ground cover (i.e., moderate species diversity, significant occurrence of tufted or linear growth-form herbaceous species, and limited, 10 – 25% occurrence of weedy and/or exotic species)
- Hydrology indicative of seasonal inundation

3 ***High quality pond***

- Open overstory and midstory canopy (less than 31% crown closure) with abundant, diverse desirable graminaceous ground cover (i.e., high species diversity, significant occurrence of tufted or linear growth-form herbaceous species, and limited occurrence, less than 10% of weedy and/or exotic species)
- Hydrology indicative of seasonal inundation, less than one meter in depth

Ecotone (0 – 3 points)

0 ***No ecotone***

1 ***Low quality ecotone***

- Disturbed (exotic species dominated)
- Narrow
- Patchy graminaceous

2 ***Moderate quality ecotone***

- Moderately open mesic-hydric graminaceous ecotone with moderately diverse desirable wiregrass and other graminaceous species adjacent to pond

3 ***High quality ecotone***

- Open, broad, mesic-hydric graminaceous ecotone characterized by diverse and desirable species which surrounds the majority of the pond perimeter

Upland (0 – 3 points)

0 ***No suitable upland habitat***

1 ***Low quality upland***

- Slash or sand pine plantation where the wiregrass has been nearly eliminated

2 ***Moderate quality upland***

- Slash or sand pine plantation with relatively intact wiregrass ground cover

3 ***High quality upland***

- Second-growth longleaf and/or slash pine-dominated flatwoods or savanna with a nearly undisturbed wiregrass groundcover

St. Andrews Beach Mouse (*Peromyscus polionotus peninsularis*)

Overall Range and Population Range

The St. Andrews beach mouse was listed as endangered in December of 2008. Critical habitat along the St. Joseph peninsula and other nearby areas was designated in November of 2006. The St. Andrews beach mouse historically occurred from the eastern entrance of St. Andrews Bay, in Bay County, to St. Joseph Peninsula in Gulf County. It is now only known to occur from the north end of St. Joseph Peninsula to eastern Bay County. Major threats to their population include loss of habitat due to development, destruction of habitat due to hurricanes, and predation from native and non-native animals, such as cats (USFWS 2009b).

Population in the Action Area

There are no recorded observations of this species within the Action Area. No nesting or foraging habitat is within the Action Area.

Species Habitat Requirements

The St. Andrews beach mouse inhabits primary, secondary and occasionally tertiary sand dunes with a moderate cover of grasses and forbs. This species finds refuge in adjacent coastal palmetto flats and scrub during and following hurricanes. They feed primarily on seeds of beach plants and insects.

Habitat Conditions within the Action Area
There is no nesting or foraging habitat within the Action Area. The designated critical habitat is located approximately 9 miles from the Project Area.

Effects of the Proposed Action
A **"no effect"** determination was made for the St. Andrews beach mouse because of the lack of suitable habitat within the Action Area.

The areas within the Project Area closest to appropriate habitat for this species will be established as Conservation Units and should reduce or eliminate indirect impacts to water quality and runoff associated with development in the surrounding area.

Southern Kidneyshell (*Ptychobranchus jonesi)*

Overall Range and Population Status
The southern kidneyshell was listed as a Candidate for protection under the ESA in 2004. The southern kidneyshell is a medium-sized freshwater mussel historically known from the Escambia and Choctawhatchee river drainages in Alabama and Florida, and the Yellow River drainage in Alabama (Williams *et al* 2008). The southern kidneyshell is currently known only from the Choctawhatchee drainage. A recent survey where one fresh dead individual was found has led to the expansion of its range to include Holmes Creek in Washington County. Since 1995, the southern kidneyshell has been detected at only 10 locations within the Choctawhatchee River drainage. This species appears to have been common historically but it is currently considered one of the most imperiled species in the United States (Blalock-Herod *et al.* 2005; Williams *et al.* 2008). A 2006-2007 status survey in the Alabama portions of the Choctawhatchee basin found that the southern kidneyshell was extremely rare.

Population in the Action Area
The kidneyshell most likely does not occur in the Action Area as the Action Area is outside its known current and historical range. There are no recorded observations within the Action Area.

Species Habitat Requirements
Very little is known about the habitat requirements or life history of the southern kidneyshell. It is typically found in medium creeks to medium rivers in firm sand substrates with slow to moderate current. A recent status survey in the Choctawhatchee basin in Alabama found its preferred habitat to be stable substrates near bedrock outcroppings.

Habitat Conditions within the Action Area
None of the water bodies in which the southern kidneyshell mussel is endemic occur within the Action Area.

Effects of the Proposed Action
The Proposed Action is determined to have **"no effect"** on the southern kidneyshell mussel since potential habitat is not present.

Southern Sandshell *(Hamiota australis)*

Overall Range and Population Status

The southern sandshell was listed as a Candidate for protection under the ESA in 2004. The southern sandshell is a medium-sized freshwater mussel known from the Escambia River drainage in Alabama, and the Yellow and Choctawhatchee River drainages in Alabama and Florida. The southern sandshell persists in its historical range, however its range has been fragmented and numbers appear to be declining (Williams *et al.* 2008). The number of locations in the Escambia drainage known to support the species has declined. It is known from a total of 9 locations, however only 3 are recent occurrences. A total of 4 individuals (live and shell material) have been collected in the Escambia drainage since 1995. In the Yellow River drainage, the number of locations known to support southern sandshell populations has declined from a total of 15 to 10 currently. The number of locations known to support the species in the Choctawhatchee River drainage has declined from 44 to 25 currently; and it may be extirpated from central portions of the Choctawhatchee River main channel and from some of its tributaries. The species appears to be sensitive to degradation.

Population in the Action Area

The southern sandshell most likely does not occur in the Action Area as the Action Area is outside its known current and historical range. There are no recorded observations within the Action Area.

Species Habitat Requirements

The southern sandshell is typically found in small creeks and rivers in stable substrates of sand or mixtures of sand and fine gravel, with slow to moderate current.

Habitat Conditions within the Action Area

None of the water bodies in which the southern sandshell mussel is endemic occur within the Action Area.

Effects of the Proposed Action

The Proposed Action is determined to have **"no effect"** on the southern sandshell mussel since potential habitat is not present.

Tapered Pigtoe (*Fusconaia burkei*)

Overall Range and Population Status

The tapered pigtoe was listed as a Candidate for protection under the ESA in 2004. The tapered pigtoe is a small to medium-sized mussel endemic to the Choctawhatchee river drainage in Alabama and Florida. The tapered pigtoe appears to be absent from portions of its historical range and is found only in isolated locations (Blalock-Herod, 2005). The species is known from a total of 60 locations within the Choctawhatchee River drainage. It was not detected at 11 historical sites examined during recent status surveys (9 additional historic locations were not examined). Many of those historical occurrences are in the middle section of the drainage, and the species appears to be declining in that portion of its range The tapered pigtoe continues to persist in isolated locations, mainly in the Choctawhatchee River main channel in Florida and in the headwaters in Alabama.

Population in the Action Area
The tapered pigtoe most likely does not occur in the Action Area as the Action Area is outside its known current and historical range. There are no recorded observations within the Action Area.

Species Habitat Requirements
The tapered pigtoe is typically found in small creeks and rivers in stable substrates of sand or mixtures of sand and fine gravel, with slow to moderate current.

Habitat Conditions within the Action Area
None of the historical water bodies in which the tapered pigtoe mussel is endemic occur within the Action Area. However, recent surveys have found the tapered pigtoe in other areas of Florida, including Pine Log Creek. Pine Log Creek is downstream from the Crooked Creek drainage which is located within the Project Area (Pursifull 2011).

Effects of the Proposed Action
The Proposed Action is determined to have **"no effect"** on the tapered pigtoe mussel since potential habitat is not present. Furthermore, the RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

West Indian Manatee (*Trichechus manatus latirostris*)

Overall Range and Population Status
The manatee was listed as endangered in 1967 under the Endangered Species Preservation Act of 1966, which was later replaced by the ESA of 1973. Critical habitat was designated and then revised in October of 2000. The manatee occurs throughout tropical and sub-tropical regions of the eastern Atlantic Ocean, Gulf of Mexico and Caribbean. In Florida, manatees are most common in peninsular Florida during winter months but are increasingly sighted in areas of the panhandle within protected warmer waters.

Population in the Action Area
Manatees may occasionally occur in West Bay, Choctawhatchee Bay, and the Gulf of Mexico. Manatee use of these areas is most likely seasonal as they are susceptible to cold stress during the winters in the Florida panhandle.

Species Habitat Requirements
Manatees inhabit coastal water, bays, rivers and occasionally lakes. They are susceptible to cold stress and migrate to warm water during the winter months (Hipes 2000). They forage primarily on submerged vegetation. In estuaries and coastal marine areas, manatees feed on a variety of seagrasses.

Habitat Conditions within the Action Area

Seagrasses occur in West Bay which is within the Action Area. It is possible that manatees forage in West Bay during the summer months.

Effects of the Proposed Action

A **"no effect"** determination was made for the West Indian manatee. Although several potential water access points have been established within the Action Area and adjacent to West Bay, the proposed RGP does not authorize the construction of docks, boat lifts, or other regulated structures or activities in navigable waters that could affect the manatee. Such activities would require separate authorization from the Corps, and would include a project-specific effects evaluation and determination by the Corps using "The Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida October 2008."

Indirect effects due to development, such as stormwater runoff and subsequent water quality degradation, have the potential to affect seagrass populations in water bodies within the Action Area. However, for this RGP, all areas that are adjacent to West Bay (where the seagrasses are located) are proposed as Conservation Units, which will ensure that only limited development occurs adjacent to the water bodies, and will provide water quality enhancement buffers between permitted upstream development and the water bodies. The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet the Outstanding Florida Water stormwater treatment volume requirements as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Wood Stork (*Mycteria americana*)

Overall Range and Population Status

All breeding populations of wood storks were listed as endangered in 1984. The current population of adult birds is difficult to estimate, since individuals may not nest every year. Presently, the wood stork breeding population is believed to be greater than 8,000 nesting pairs (16,000 breeding adults). Nesting has been restricted to Florida, Georgia, and South Carolina, however they may have formerly bred in most of the southeastern United States and Texas. A second distinct, non-endangered population of wood storks breeds from Mexico to northern Argentina. Storks from both populations move northward after breeding, with birds from the southeastern United States population moving as far north as North Carolina on the Atlantic coast and into Alabama and eastern Mississippi along the Gulf coast, and storks from Mexico moving up into Texas and Louisiana and as far north as Arkansas and Tennessee along the Mississippi River Valley. There have been occasional sightings in all States along and east of the Mississippi River, and sporadic sightings in some States west of the Mississippi and in Ontario. In Florida, the woodstork is locally rare to abundant in the peninsula and Big Bend, but generally rare in the panhandle and the Florida Keys. Four colonies are located within the eastern panhandle in Leon County (Hipes et al. 2000).

Populations in Action Area

No wood storks have been documented or observed within the Action Area, however, they may utilize the wetlands within the Project Area for foraging.

Species Habitat Requirements

Wood storks inhabit freshwater and estuarine wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels. They feed on small fish, particularly topminnows and sunfish. Roosting sites include cypress swamps, mixed hardwood swamps, sloughs and mangroves.

Habitat Conditions within the Project Area

The closest known breeding site is approximately 50 miles to the east and well outside of the Project Area, therefore no nesting habitat will be affected by the Proposed Action. Sightings of wood storks within this area of the panhandle are rare, and its location precludes forage by individuals using the closest breeding site. Many wetlands within the Project Area have been impacted by silvicultural practices, thus reducing the potential for appropriate foraging habitat.

Effects of the Proposed Action

It was determined that the Proposed Action will have a **"no effect"** on the wood stork because foraging habitat is low and the Action Area is outside of the wood stork's breeding range.

3.2 Federally Listed Plant Species

There are six federally listed plant species that could occur within the Project Area. Data of previously recorded occurrences were reviewed within and in the vicinity of the Project Area. No Federally protected species were identified within the Project Area. The Crystal Lake nailwort was reported by FNAI in two locations to the northeast of the Project Area in 1990 and 2001. Godfrey's butterwort was reported by FNAI in a location to the southeast of the Project Area in 1998.

Crystal Lake Nailwort (*Paronychia chartacea* ssp. *minima*)

Overall Range and Population Status

The Crystal Lake nailwort was listed as threatened in 1987. This species is endemic to Bay and Washington counties, Florida. Isolated populations of this species have also been observed in Lake, Highlands, Osceola, Orange and Polk Counties. Only 13 populations of this subspecies are known, which are mostly located on private lands (Chafin 2000; Weekley, et al 2009).

Populations in Action Area

There are no recorded or observed occurrences within the Project Area. Potentially suitable habitat around karst ponds was not observed within the Project Area. Potentially suitable habitat within disturbed sandy uplands is present within the Project Area.

Species Habitat Requirements

Crystal Lake nailwort inhabits sandy openings around sandhill upland lakes and karst ponds (Chafin 2000). Recently, a population has been documented as occurring within a former planted sand pine upland that is undergoing restoration efforts to return it to a longleaf pine and wiregrass sandhill (Weekley, et al, 2009).

Habitat Conditions within the Project Area

Although sandy openings were found sporadically throughout the sandhill communities that were recently timbered and in the southwestern portion (adjacent the Intracoastal Waterway and West Bay) of the Project Area, the Crystal Lake nailwort typically inhabits sandy openings around sandhill upland lakes and karst ponds. No karst ponds with sandy margins or upland sandhill ponds were observed within the Project Area (FELSI, 2010). Limited suitable habitat within sandy uplands does exist within the Project Area.

Effects of Proposed Action

A determination of **"may affect, not likely to adversely affect"** was made for this species due to the limited potential habitat. The Conservation Units will provide protection for many wetlands within the Project Area and may improve habitat for the Crystal Lake nailwort over time.

Florida Skullcap (*Scutellaria floridana*)

Overall Range and Population Status

The Florida skullcap was listed as threatened in May of 1992. This species is endemic to the Florida panhandle and has been documented in Bay, Gulf, Franklin and Liberty counties, Florida. In Bay County, a population of 550+ plants was recorded in 2008 at Lathrop Bayou in East Bay. With the implementation of management, more than 2000 plants were recorded in 2009 (USFWS 2009c).

Populations in Action Area

Although this species was not observed within the Project Area, suitable habitat may exist along the edges of cypress domes and wet pine flatwoods. It should also be noted that this species has been documented at only one site in Bay County, more than 30 miles from the Project Area. It is not likely to occur within the Action Area (Johnson, 2010).

Species Habitat Requirements

The primary habitat of the Florida skullcap is wet pine flatwoods and prairies, within the grassy seepage bog communities at the edge of forested or shrubby wetlands, a habitat that is a fire-dependent community. It is also found in the ecotones between mesic flatwoods and swamps or margins of wetland habitats, and somewhat disturbed wetland savanna. Florida skullcap can be found growing in full sun or light shade, and in low nutrient, acidic or sandy soil (USFWS 1994, Jenkins et al. 2007). It is not known to occur within areas that are actively managed as pine plantations.

Habitat Conditions within the Action Area

Silviculture activities in the Project Area that likely impact potential habitat for this species includes draining wetlands, dense shading from planted pine, fire suppression, soil bedding and soil compaction. Surveys confirmed that suitable habitat is not likely to occur within the Action Area (FELSI, 2010).

Effects of the Proposed Action

Due to the intensity of silviculture management within the Project Area, it has been determined that the Proposed Action **"may affect but not likely to adversely affect"** the Florida skullcap. Direct and

indirect beneficial effects to potential Florida skullcap habitat may be realized through protection of the Conservation Units and high quality wetlands. Suitable habitat may become available, thus potentially allowing the Florida skullcap to propagate within the Project Area.

Godfrey's Butterwort (*Pinguicula ionantha*)

Overall Range and Population Status

Godfrey's butterwort was listed as threatened in July of 1993. This plant is endemic and occurs in Bay, Franklin, Gulf, Liberty, Wakulla and Calhoun counties. The geographic range includes the panhandle between Tallahassee and Panama City. This species is locally abundant in Franklin County and the Apalachicola National Forest has more than half of the 65 documented populations (Chafin 2000). Five existing populations are known to occur in Bay County, east of the Action Area. Four previously documented populations have been extirpated (USFWS 2009d).

Populations in Action Area

No observations of this species have been recorded within the Action Area, however potentially suitable habitat exists within the Project Area, particularly within roadside ditches and depressional wetlands found within the Project Area (FELSI, 2010).

Species Habitat Requirements

This species occurs in herbaceous or seepage bogs, ditches, and depressions in grassy pine flatwoods and savannas. It can also occur in open peat or sandy peat in very wet areas, in shallow standing water or sometimes even submerged.

Habitat Conditions within the Project Area

Silviculture activities have impacted potential habitat for this species. These impacts include draining wetlands, dense shading from planted pine, fire suppression, bedding and soil compaction. However, appropriate habitat exists along the margins of small, depressional wetlands and transitional zones between the planted pines and depressional wetlands. This species may also occur within the roadside ditches present throughout the Project Area.

Effects of the Proposed Action

Due to the intensity of silviculture management within the Project Area, it has been determined that the Proposed Action **"may affect but not likely to adversely affect"** Godfrey's butterwort. Direct and indirect beneficial effects to potential habitat may be realized through protection of the Conservation Units and high quality wetlands. Suitable habitat may become available, thus potentially allowing Godfrey's butterwort to propagate within the Project Area.

Potentially suitable habitat may also be negatively affected by road construction, road improvements, and other development. Road right-of-ways, including ditches, will also be affected during road paving, widening or other alterations.

Harper's Beauty (*Harpocallis flava*)

Overall Range and Population Status

Harper's Beauty was listed as endangered in November 1979. No critical habitat has been designated for this species. This plant is endemic to Franklin, Liberty and Bay Counties of the Florida panhandle.

Approximately seventeen populations have been recorded within the Apalachicola National Forest in Franklin and Liberty Counties. Two populations have been recorded in Bay County, both are located on private lands

Populations in Action Area

There is no record of any populations occurring within the Action Area or the Project Area. A population of Harper's Beauty was recorded in 2003, more than 80 miles from the Action Area (USFWS 2008b). This population has been reduced by 61% from 2003 to 2007. A closer population has been documented approximately 10.4 miles to the southeast, also on private lands near Callaway Creek (St Joe Company 2010).

Species Habitat Requirements

The habitat for Harper's Beauty is associated with soils that are hydric, high in peat and sand and highly acidic. It occurs in herb bogs, wet prairies, seep slopes, transitional zones (into shrub zones) and in roadside ditches.

Habitat Conditions within the Project Area

Suitable habitat for Harper's Beauty within the Project may occur within the roadside ditches and along the margins of ephemeral ponds that occur within the planted pines. Silviculture activities have impacted potential habitat for this species. These impacts include draining wetlands, dense shading from planted pine, fire suppression, bedding and soil compaction. However, appropriate habitat exists along the margins of small, depressional wetlands and transitional zones between the planted pines and depressional wetlands (FELSI, 2010). This species may also occur within the roadside ditches present throughout the Project Area.

Effects of the Proposed Action

Due to the intensity of silviculture management within the Project Area, it has been determined that the Proposed Action **"may affect but not likely to adversely affect"** Harper's Beauty. Direct and indirect beneficial effects to potential habitat may be realized through protection of the Conservation Units and high quality wetlands. Suitable habitat may become available, thus potentially allowing Harper's Beauty to propagate within the Project Area.

Potentially suitable habitat may also be negatively affected by road construction, road improvements, and other development. Road right-of-ways, including ditches, will also be affected during road paving, widening or other alterations.

Telephus Spurge (*Euphorbia telephioides*)

Overall Range and Population Status

The Telephus spurge was listed as threatened in June 1992. No critical habitat has been designated. This plant is restricted to the Florida panhandle, specifically to coastal Bay, Franklin and Gulf counties. All known occurrences of Telephus spurge are on sites within 4 miles of the Gulf of Mexico. A few populations are protected on St. Joseph State Buffer Preserve; however, most occurrences are on private timberlands and utility right-of-ways (Chafin 2000).

Populations in Action Area

Five surveys conducted in four Bay County locations between 1988 and 2007 indicated the presence of more than 18,650+ plants (USFWS 2008). Some of these surveyed locations have been impacted by development or mowing. The population at Breakfast Point Mitigation Bank, south of the Action Area, has increased significantly since the inception of management practices in 2005 (USFWS 2008).

Prior to conducting on-site surveys of the telephus spurge, aerial photographs, the NRCS Bay County Soil Survey and FLUCCS code maps were used to identify suitable habitat within the Project Area. FELSI obtained the GIS data from Florida Natural Areas Inventory for the known locations of the telephus spurge within Bay and Gulf counties. Those locations were overlaid on a soils map to identify the soil types preferred by the plant. The identified soils include Leon, Pottsburg, and Mandarin sand and Pickney fine sand soil types.

Within the mapped soil areas, appropriate FLUCCS (Florida Land Use Cover and Forms Classification System, FDOT 1999) codes and areas that appeared to have an open canopy from aerial photo interpretation were also mapped. The FLUCCS types that were mapped included Upland Coniferous Forests, Pine Flatwoods, Longleaf Pine-Xeric Oak, Pine-Mesic Oak, Mixed Pine, Other Pines, Xeric Oak, Sand Live Oak, Upland Scrub, Pine and Hardwoods, Coniferous Plantations and Sand Other Than Beaches. Subsequently areas that were identified on the 2010 aerial as having thick, closed canopy were eliminated from the survey and areas that appeared to have sandy soils with an open canopy were added to the survey areas.

LIDAR contour data of the Project Area was also reviewed to determine the location of slope habitat with an open canopy. Any areas that appeared to exhibit moderate habitat were inspected for habitat suitability and individuals by meandering pedestrian surveys over 30% of the community. Prior to commencement of the field surveys, the entire field team visited a known population of telephus spurge at the Breakfast Point Mitigation Bank in south Bay County.

Areas that exhibited high quality habitat were inspected for habitat suitability and individuals by meandering pedestrian habitats over approximately 50-80% of the community. Road shoulder surveys along all roads traveled were conducted from the vehicles traveling slowly enough to allow a thorough visual inspection. Data such as the community description, photos and GPS points, were recorded at each area that was inspected. These points are shown on Figures 10a, 10b and 10c within this submittal and within. the Plant Survey for the Biological Assessment for the Proposed Regional General Permit and Ecosystem Management Agreement II Project in Bay County, Florida (PSR) (FELSI, 2010). A general description for the potential for each habitat is listed below. The quality of the habitat was designated prior to onsite surveys. These areas are shown in Table 1 under the Results section of the PSR (FELSI, 2010)

- Low potential-Areas that were deemed too thick with understory, closed or semi-closed canopy and inappropriate vegetative community. These areas were not inspected using meandering pedestrian surveys. A small portion of the community was visually inspected from the roadside or very limited pedestrian survey.
- Moderate potential-Areas that exhibited an open understory in areas, with an open or semi open canopy with some evidence of sandy soils. Often portions of the area exhibited the appropriate

vegetative community. Approximately 30-40% of these areas were visually surveyed by conducting meandering pedestrian transects.

- High Potential-These areas exhibited appropriate vegetative community, sandy soils and an open canopy. Approximately 50-80% of these areas were visually surveyed by conducting meandering pedestrian transects.

Surveys were conducted within the Project Area on October 18-22nd, 2010 and no observations of the Telephus spurge were recorded within the Project Area (FELSI, 2010).

Species Habitat Requirements

The telephus spurge is restricted to the Florida panhandle, specifically to coastal Bay, Franklin and Gulf counties. All known occurrences of telephus spurge are on sites within 4 miles of the Gulf of Mexico. A few populations are protected on the St. Joseph State Buffer Preserve; however, most occurrences are on private timberlands and utility right-of-ways. Historically, the habitat of telephus spurge was described as being associated with scrubby oaks on low sand ridges near the coast. It is now known to occur in a wider range of habitats. It has been reported from xeric to mesic pine flatwoods and in scrubby pinelands dominated by wiregrass and/or slash or longleaf pine. In general, the plants thrive on sandy, acidic soil, with no litter and low organic and moisture content.

Habitat Conditions within the Project Area

Management of the pine plantations has been focused on maximum yields for the silviculture operation, which, in several aspects, is contrary to the management requirements of the telephus spurge. The habitat for the telephus spurge within the Project Area has been determined to be poor. No specific moderate or high quality habitat was identified within the Project Area boundaries during the field surveys. The poor quality of the habitat was confirmed during a site visit by a USFWS representative, Dr. Vivian Negron-Ortiz, on October 22, 2010. Reasons for the lack of suitable habitat and the plant itself, include the lack of resource management, the distance from the coast, lack of fire, closed canopy, long term and intensive disturbance, thick understory, thick leaf litter and lack of suitable sandy soils.

Effects of the Proposed Action

A **"may affect, not likely to adversely affect"** determination was made for Telephus spurge, due to the Project Area's close proximity to previously documented populations and potential for suitable habitat within the Project Area. During surveys only low quality habitat was observed in the Project Area.

Direct and indirect beneficial effects to potential habitat may be realized through protection of the Conservation Units and high quality wetlands. Suitable habitat may become available, thus potentially allowing telephus spurge to propagate within the Project Area.

White Birds-in-a-Nest (*Macbridea alba*)

Overall Range and Population Status

This species was listed as threatened in June of 1992. This plant is endemic to the Florida panhandle and occurs in Bay, Gulf, Franklin and Liberty counties. Surveys conducted in Bay County from 1991 to 2008 indicated the presence of this plant. Most occurrences were documented in the Apalachicola National Forest (FNAI).

Populations in Action Area

This species has not been observed within the Project Area. Documented occurrences of this species have been made in Bay County, east of the Project Area. Within the Project Area, potentially suitable habitat for white birds-in-a-nest may occur in recently timbered areas, roadside ditches or along the edges of pine plantations.

Species Habitat Requirements

In general, plants are found in wet to mesic pine flatwoods, associated roadsides, wet savannas, seepage slopes, and ecotones between pine flatwoods and titi swamps (USFWS 2009e). There are small populations in ANF that occur on, or along, sandhill ecotones (Chafin 2000).

Habitat Conditions within the Project Area

Silviculture activities have impacted potential habitat for this species. These impacts include draining wetlands, dense shading from planted pine, fire suppression, bedding and soil compaction. However, appropriate habitat exists along the margins of small, depressional wetlands and transitional zones between the planted pines and depressional wetlands. This species may also occur within the roadside ditches, recently cleared pine areas, or edges of planted pine present throughout the Project Area.

Effects of the Proposed Action

A **"may affect, not likely to adversely affect"** determination was made for white birds-in-a-nest, due to the Project Area's close proximity to previously documented populations and potential for suitable habitat within the Project Area.

Direct and indirect beneficial effects associated within the Proposed Action on suitable habitat include the preservation within the Conservation Units. Potentially suitable habitat may be negatively affected by road construction and loss of potential habitat due to development within the Project Area, outside the Conservation Units.

4.0 VOLUNTARY CONSERVATION MEASURES

4.1 Bald Eagle

In order to avoid potential impacts to the bald eagle nests located within the Project Area or Action Area, certain measures will be implemented as dictated within the National Bald Eagle Management Guidelines document produced in 2007 by the USFWS. The currently documented eagle nest locations can be found within the Conservation Units or outside the Project Area.

In general, the nests and alternate nests should be protected from loud or otherwise disruptive activities during the nesting season from October to May. This can be accomplished by implementing distance buffers, maintaining natural areas around nests and avoiding certain activities altogether during the nesting season. The USFWS guidelines specifically dictate the types of buffers recommended for different types of activities generally within 660 feet of the nest tree during nesting season. Please refer to Figures 6a and 6b for a depiction of example buffer zones around the known eagle nests within the Project Area.

Specific conditions as recommended through the guidelines or in consultation with USFWS pertaining to each nest or alternate nest and each proposed activity will be adhered to. The nests are located in relatively close proximity to human activities including roadways, water related activities and hunting and therefore the eagles are presumed to be acclimated to those activities. Construction activities within a 330 to 660' buffer will be limited to the non breeding season. Timber harvest and management activities will also have restrictions including the avoidance of removal of overstory trees within 330' of the nest tree, avoidance of a timber harvest within 660' of the nest tree during breeding season, restriction on selective thinning and prescribed burning to periods outside the breeding season, and prohibition of the location of log transfer stations within 330' of a nest tree. In addition, disruptive activities such as off road vehicle use and other loud noises will be restricted within 330' of a nest tree during the breeding season.

4.2 Eastern Indigo Snake

Measures to protect the eastern indigo snake from harm will be implemented within the Project Area. The indigo snake is known to occupy gopher tortoise burrows, a State of Florida protected species. Through protection of gopher tortoise burrows through the State regulations, some habitat and refugia for the indigo snake will also be protected. Through the Conservation Units approximately 19,365 acres of wetlands and uplands will be protected from development, thus providing a large quantity of potentially suitable habitat for the indigo snake. If indigo snakes are found to be present within the Conservation Units, management of the forests could potentially directly or indirectly positively affect the population. Management techniques could include prescribed fire, timber thinning and protection from anthropogenic disturbances.

During construction activities, placards and posters containing information to educate the construction workers of the potential presence of the eastern indigo snake will be placed within the construction area. Instructions will also be given to inform the crews that if indigo snakes are observed in a construction area, all work must stop until the snake leaves the area on its own, to notify the appropriate agency office and to report any live or dead observations of indigo snakes or large snake skins that are found within the area.

4.3 Reticulated Flatwoods Salamander

Three ponds were identified as having moderate to high quality habitat for the reticulated flatwoods salamander. None of the ponds were considered to have ideal conditions to support the flatwoods salamander. These ponds are identified as numbers 74, 83 and 101 and their locations are depicted on Figure 6. Sampling was conducted twice during 2010 during very favorable conditions and no larvae or adults were observed. In order to provide assurance that the salamander does not occur within these ponds, two years of sampling with no individuals being found is required to prove that the flatwoods salamander does not inhabit these ponds. The sampling, using approved sampling methods, will have to be conducted during favorable sampling conditions (i.e. adequate water and time of year). The sampling events must occur within 5 years of each other.

If salamanders are determined to be present or until it is determined that they are not present, primary and secondary buffer zones will be established according to the USFWS "Recommended Timber

Management Practices for the Flatwoods Salamander" informational sheet and the FWC's management plan for the flatwoods salamander (FWC 2001). These recommendations include establishing a primary zone of 538 feet, which allows for a selective harvest during dry periods on a 10 year interval and a secondary zone which extends to 1476 feet from the pond's edge and allows for a mix of clearcutting and selective harvest during dry periods on ten year intervals (see Figure 11). Additional restrictions include maintaining minimum basal areas within those zones, restrictions on soil disturbance and limited use of chemicals. If salamanders are determined not to be present, primary and secondary buffer zones will not be established.

5.0 CONCLUSION AND DETERMINATION OF EFFECT

Based on existing habitat within the Project and Action Areas, the results of on-site surveys for listed species performed for the purpose of preparation of this report, and the results of observations previously recorded within the vicinity of the Project and Action Areas by USFWS, FWC, and FNAI, it has been determined that the Proposed Action will have no effect on eighteen listed or candidate species and may affect but is not likely to adversely affect ten listed species (bald eagle not included). The effect determinations are provided below:

"No effect"	**"May affect, not likely to adversely affect"**	**"May affect, likely to adversely affect"**
Atlantic green turtle	Crystal lake nailwort	None
Atlantic loggerhead	Eastern indigo snake	
Choctaw Bean	Florida skullcap	
Choctawhatchee beach mouse	Godfrey's butterwort	
Fuzzy Pigtoe	Harper's Beauty	
Gulf moccasinshell mussel	Piping plover	
Gulf sturgeon	Red-cockaded woodpecker	
Hawksbill sea turtle	Reticulated flatwoods salamander	
Kemp's ridley	Telephus spurge	
Leatherback sea turtle	White-birds-in-a-nest	
Oval pigtoe mussel		
Red Knot		
St. Andrews beach mouse		
Southern Kidneyshell		
Southern Sandshell		
Tapered Pigtoe		
West Indian manatee		
Wood stork		

The primary benefit of the watershed-level planning and growth management that is proposed in the RGP includes planned and thoughtful development, which will provide an upfront regional approach to resource protection, while allowing development within suitable areas. This approach will limit or eliminate small project impact, development and mitigation projects that are typically permitted on a case-by-case basis. These permits could include Federal and State wetland and stormwater permits and protected species impact or relocation permits.

Through this landscape-level planning, important decisions concerning the protection of natural resources including uplands, waterfront property, important or potential protected species habitat, wetlands and waterbodies can be made prior to any piecemeal impacts occur. This approach will offer protection to areas that would otherwise not be captured by current natural resource regulations and it will expand the protection to regulated natural resources by providing corridors, protection of entire wetland systems, and will allow greater protection of water quality within the Project Area and Action Area.

The implementation of protection through Conservation Units I and II adds protection of the sensitive downstream environment of West Bay. West Bay is an important nursery and foraging area for many fish, invertebrates, and vertebrates including protected species. It is especially sensitive to increases in stormwater runoff from development, which could have a detrimental effect on the seagrasses, an important forage resource for many species. Within Type I Conservation Units no development is allowed. Passive uses that are not detrimental to the ecological quality of the unit such as hunting, fishing, hiking, and biking will be allowed. The allowed uses within Type II Conservation Units include those uses allowed in Type I units, road and bridge crossings (subject to conditions that will minimize their impact) necessary to support development outside of the Conservation Units and certain recreational activities that can be considered more active than those allowed in Type I Conservation Units, such as boat ramps, fishing piers, parks, picnic areas, pavilions, playgrounds, and other similar facilities will be allowed. Within the conservation units, traditional silviculture activities will be prohibited and will be replaced with activities consistent with a forestry management plan that is approved by all agencies reviewing the RGP or the EMA and prior to final approval of those documents. The primary forest management objective within the Conservation Units is to prescribe management activities that will restore and enhance the vegetative communities and function of historic ecosystems (St Joe Timberland Company 2010). The forestry management plan is expected to enhance the conservation units and provide for additional habitat for both common and protected species. In addition, the conservation units may be further managed and enhanced as a result of permit mitigation requirements or by governmental or non-profit/natural resource management entities who acquire such areas.

The RGP will require that all surface water management systems and sediment erosion control measures for all projects authorized by the RGP comply with Chapter 62-346 F.A.C. and Applicant's Handbooks, Volumes 1 and 2. In addition to these state regulatory requirements, the RGP will also require that all projects be developed to meet Outstanding Florida Water standards as set forth in Chapter 62-302.700 F.A.C. and will require heightened sediment and erosion control measures as outlined in a plan specific to the RGP. These measures will exceed applicable regulations and will provide greater assurances for protection for water quality, which will benefit species within the Project Area and Action Area.

Five of the six protected plant species that could occur within the Project Area occur within wetlands. These species are sensitive to silvicultural activities and have therefore are not likely to have suitable habitat. Through the Conservation Unit and wetland buffer approach, the possibility for suitable habitat for these species is improved significantly.

The "no action" alternative does not provide a better alternative to the Proposed Action because it does not provide protections for sensitive and non-sensitive areas. Development within the Project Area will

eventually occur over time and will cause impacts to wetlands, uplands and protected species. Silvicultural activities would continue to occur until development needs allowed conversion to a higher use. Development of sensitive shoreline habitats, especially uplands, would possibly occur first. The Proposed Action dictates that these highly developable lands would be included within the Conservation Units, thus making them available for utilization by protected species such as the bald eagle, eastern indigo snake or telephus spurge.

The Proposed Action is not expected to take any species or cause impacts to critical habitat.

6.0 CUMULATIVE EFFECTS (State and Private Actions)

Cumulative effects of the Proposed Action include the effects of future State, tribal, local government, and private actions that are reasonably certain to occur in the vicinity of the Project Area as a result of the Proposed Action. It is likely that development would continue to occur especially within the areas to the south of the Project Area.

The proposed Action exceeds the usual requirements for development approvals in terms of stormwater management, conservation land set asides, and Conservation Unit improvements resulting from the implementation of the forestry plan, and minimization of impacts. Cumulative watershed impacts are difficult to address in the context of project by project review in the absence of a watershed-based permitting mechanism such as the proposed Action. The Proposed Action would address cumulative impacts through impact caps and conservation units. By protecting the highest quality ecological features within the watershed, creating significant wildlife corridors and core habitats, protecting major and minor stream systems, and providing specific limits to wetland impacts, the Proposed Action sufficiently addresses cumulative impacts within the Project Area and vicinity. It does so by establishing conservation components of the landscape up front prior to development and creates an environmental framework to guide development. The final state of the landscape can be conceptualized because of the caps and conservation units. When fully implemented, the RGP will result in the preservation of nearly seventy percent of the Project Area with approximately thirty percent available for economic development. In contrast, watershed final build-out impacts are difficult to determine and linkages for preservation and wildlife corridors cannot be guaranteed in the context of project by project review.

The proposed environmental framework of the proposed RGP would extend the ecological benefits to the vicinity. The Conservation Units form a linkage between State Lands such as Pine Log State Forest and the Northwest Florida Water Management District lands of the Econfina Creek watershed. These substantial public landholdings will limit cumulative impacts in the vicinity of the Project Area.

7.0 ESTIMATED INCIDENTAL TAKE

It is not anticipated that the Proposed Action will result in the incidental take of any protected species.

8.0 LITERATURE CITED

Blalock–Herod, H.N., J.J. Herod, J.D. Williams, B.N. Wilson, and S.W. McGregor. 2005. A historical and current perspective of the freshwater mussel fauna (Bivalvia: Unionidae) from the Choctawhatchee River drainage in Alabama and Florida. 26 pp.

Buehler, D. A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). In *The Birds of North America*, No. 506 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Chafin, L.G. 2000. *Field Guide to the Rare Plants of Florida*. Florida Natural Areas Inventory, Tallahassee, Florida.

Conant, T.A., P.H. Dutton, T. Eguchi, S.P. Epperly, CC Fahy, M.H. Godfrey, S.L. MacPherson, E.E. Possardt, B.A Schroeder, J.A. Seminoff, M.L. Snover, C.M. Upite, and B.E. Witherington. 2009. Loggerhead sea turtle (*Caretta caretta*) 2009 status review under the US. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service, August 2009. 222 pages.

Florida Environmental and Land Services, Inc. (FELSI) 2010. Plant Survey for the Biological Assessment for the Proposed Regional General Permit and Ecosystem Management Agreement II Project in Bay County, Florida. Report prepared in conjunction with the Biological Assessment (BA) and for the United States Fish and Wildlife Service (USFWS) as part of the assessment required for the US Army Corps of Engineers' proposed Regional General Permit SAJ 105 (RGP). 6 pp.

Florida Fish and Wildlife Conservation Commission. (FWC) 2001. Management Plan, Flatwoods Salamander, Ambystoma cingulatum. February 2001. 32 pages.

Florida Fish and Wildlife Conservation Commission. (FWC) 2008. News Release. FWC Leads the Way in Studying the Red Knot. Website: http://myfwc.com/newsroom/08/statewide/News_08_X_RedKnot.htm. June 7, 2010.

Florida Fish and Wildlife Conservation Commission. 2009 Fish and Wildlife Research Institute. website: http://research.myfwc.com/features/view_article.asp?id=2411. June 7, 2010.

Florida Fish and Wildlife Conservation Commission. n.d. website: http://www.myfwc.com/eagle/eaglenests/nestlocator.aspx June 7, 2010.

Florida Fish and Wildlife Conservation Commission n.d. website:http://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/Hawksbill-Sea-Turtle.htm June 7, 2010.

Heard, W. H. 1975. Determination of the endangered status of freshwater clams of the Gulf and Southeastern United States. Terminal Report for the Office of Endangered Species, Bureau of Sport Fisheries and Wildlife, U.S. Department of the Interior (Contract 14-16-000-8905).

Himes, John, PhD. 2010. Personal communication. Electronic mail message to Elva Peppers. August 20, 2010. Florida Fish and Wildlife Conservation Commission, northwest regional biologist, 3911 Highway 2321, Panama City, Florida 32409-1658, (850) 265-3676, John.Himes@MyFWC.com.

Hipes, D., D.R. Jackson, K. NeSmith, D. Printiss, and K. Brandt.2000. Field Guide to the Rare Animals of Florida. Florida Natural Area Inventory, Tallahassee.

Johnson, Ann. 2010. Personal communication. Electronic mail message to Amy Jenkins at FNAI. June 4, 2010.

McGlincy, Joe. 2010. Biological Assessment for Flatwoods Salamanders GPEMA2 Area (General Permit/Ecosystem Management Agreement). Southern Forestry Consultants, Inc., The Wildlife Company, 305 W. Shotwell Street, Bainbridge, GA 39819, (229) 246-5785.

Pauly, G.B., O. Piskurek, and H.B. Shaffer (2007) Phylogeographic concordance in the southeastern United States: the flatwoods salamander, *Ambystoma cingulatum,* as a test case. *Molecular Ecology,* **16**, 415–429.

Pursifull, Sandra. Personal communication.. Ecologist, Freshwater Mussel Recovery, United States Fish and Wildlife Service. February 8, 10, 11, 22 and 28, 2011. 1601 Balboa Avenue, Panama City, FL 32405,(850) 769-0552 ext 240.

Sprandel, G.L., J.A. Gore, and D.T. Cobb. 1997. Winter Shorebird Survey. Florida Game and Freshwater Fish Comm. Final Pref. Rep. Tallahassee. 162 pp. + vi.

St Joe Company 2010. Map of location of the Harper's Beauty locations at Callaway Creek on St Joe property.

St. Joe Timberland Company. 2003. *Principles for Forest and Wildlife Management of Conservation Units within the Regional General Permit and Ecosystem Management Agreement* for Bay and Walton Counties, Florida.

St. Joe Timberland Company. 2010. *Principles for Forest and Wildlife Management of Conservation Units within the West Bay Ecosystem Management Agreement and RGP - SAJ 105* in Bay County, Florida.

U.S Fish and Wildlife Service (USFWS) 1994. Recovery plan for Four Plants of the Lower Apalachicola Region, Florida: *Euphorbia telephioides* (Telephus spurge), *Macbridea alba* (white birds-in-a-nest), *Pinguicula ionantha* (Godfrey's butterwort), and *Scutellaria floridana* (Florida skullcap). Atlanta, Georgia. 32 pp.

U.S. Fish and Wildlife Service. 2007. Choctawhatchee Beach Mouse (*Peromyscus poliontus allophrys*) 5-Year Review: Summary and Evaluation. USFWS, Panama City, FL. 23 pages.

U.S. Fish and Wildlife Service (USFWS) 2008. *Euphorbia telephioides* (Telephus Spurge) 5-Year Review: Summary and Evaluation. USFWS, Panama City, FL. 25 pages.

U.S. Fish and Wildlife Service (USFWS) 2009a. Green Turtle Fact Sheet. website: http://www.fws.gov/northflorida/seaturtles/turtle%20factsheets/green-sea-turtle.htm

U.S. Fish and Wildlife Service. 2009b. St. Andrews Beach Mouse 5-Year Review-Summary and Evaluation. USFWS Panama City, Florida. 28 pages.

U.S. Fish and Wildlife Service. 2009c. *Scutellaria floridana* (Florida Skullcap) 5-Year Review-Summary and Evaluation. USFWS Panama City, Florida. 18 pages.

U.S. Fish and Wildlife Service. 2009d. *Pinguicula ionantha* (Godfrey's Butterwort) 5-Year Review-Summary and Evaluation. USFWS Panama City, Florida. 24 pages.

U.S. Fish and Wildlife Service. 2009e. *Macbridea alba* (White Birds-in-a-nest) 5-Year Review-Summary and Evaluation. USFWS Panama City, Florida. 20 pages.

U.S. Fish and Wildlife Service. 2003 Species Account-Woodstork. website: http://www.fws.gov/northflorida/Species-Accounts/Wood-stork-2005.htm. June 7, 2010.

U.S. Fish and Wildlife Service. 2010a. Website: http://www.fws.gov/northeast/pipingplover/ June 8, 2010.

U.S. Fish and Wildlife Service. 2010b. Red Cockaded Recovery. Website: http://www.fws.gov/rcwrecovery/rcw.html. June 7, 2010.

U.S. Fish and Wildlife Service. 2010c. Critical Habitat Portal. Website:http://criticalhabitat.fws.gov

USFWS 2010c. Species Reports. Species Listed in Florida based on published historic Range and Population.website:http://www.fws.gov/ecos/ajax/tess_public/pub/stateListingIndividual.jsp?state=FL/status=listed.

National Oceanic and Atmospheric Administration (NOAA) n.d. The Gulf Sturgeon. website: http://www.nmfs.noaa.gov/pr/species/fish/gulfsturgeon.htm June 7, 2010.

National Marine Fisheries Service and U.S. Fish and Wildlife Service. (NMFS).1998. Recovery Plan for U.S. Pacific Population of the Hawksbill Turtle (*Eretmochelys imbricata*). National Fisheries Service, Silver Spring, MD.

National Marine Fisheries Services and USFWS. 1992 Recovery Plan for Leatherback Turtles in the U.S. Carribean, Atlantic, and Gulf of Mexico. National Marine Fisheries Service, Washington D.C.

National Oceanic and Atmospheric Administration. n.d. Kemps Ridley Turtle. website: http://www.nmfs.noaa.gov/pr/species/turtles/kempsridley.htm June 7, 2010.

Weekley, C.W. et al. 2009. Demographic Monitoring of Paronychia chartacea ssp. Minima, a Federally Threatened Annual Herb, at Econfina Creek Wildlife Management Area [abstract].

Williams, J.D., Garner, J.T., and Bogan, A.E. 2008. Freshwater mussels of Alabama and the Mobile Basin in Georgia, Mississippi & Tennessee. The University of Alabama Press; Tuscaloosa, Alabama.

Wilson Miller Inc. 2003. Biological Assessment-Proposed West Bay to East Walton Regional General Permit and Ecosystem Management Agreement. 76 pages.

Wood, P. B., T. C. Edwards, and M. W. Collopy. 1989. Characteristics of Bald Eagle nesting habitat in Florida. J. Wildlife Management 53: 441–449.

9.0 LIST OF PREPARERS

Florida Environmental and Land Services, Inc.
221-4 Delta Court, Tallahassee, FL 323303
(850) 385-6255

- Elva Peppers, Project Director
- Anna Wickman, Senior Biologist
- Mike Langston, Project Assistant
- Chris Smith, GIS, Project Assistant

The St Joe Company
133 S WaterSound Parkway
WaterSound, FL 32413
(850) 231-6437

- Thomas Estes, Director Environmental Permitting and Conservation

Southern Forestry Consultants, Inc.
The Wildlife Company
305 W. Shotwell Street
Bainbridge, GA 39819
(229) 246-5785

- Joe McGlincy, Wildlife Biologist

FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

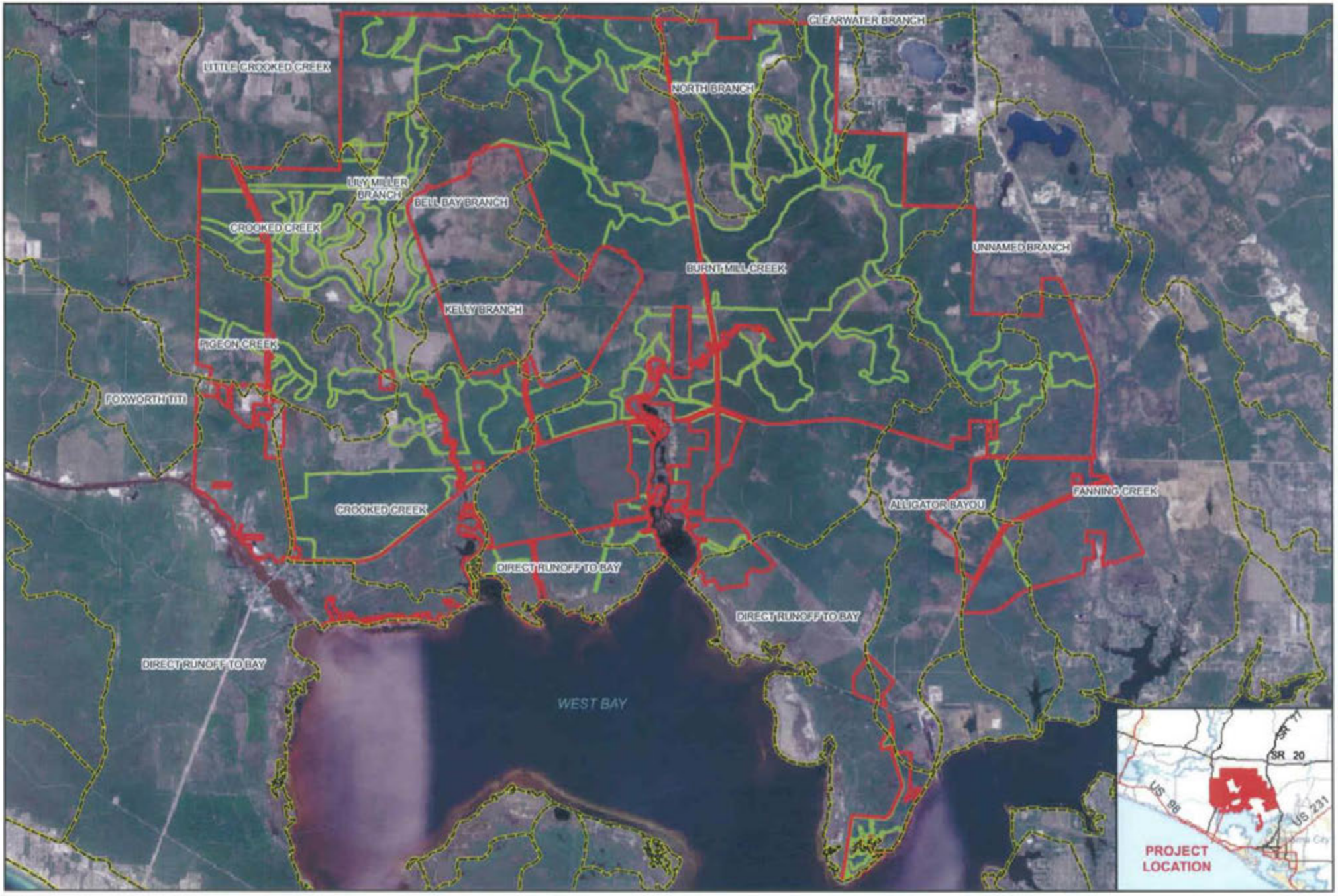
TITLE: **FIGURE 1 - LOCATION MAP FOR ACTION AREA BAY/WASHINGTON COUNTIES**

DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-23-2011	CPS	EP	10-0932

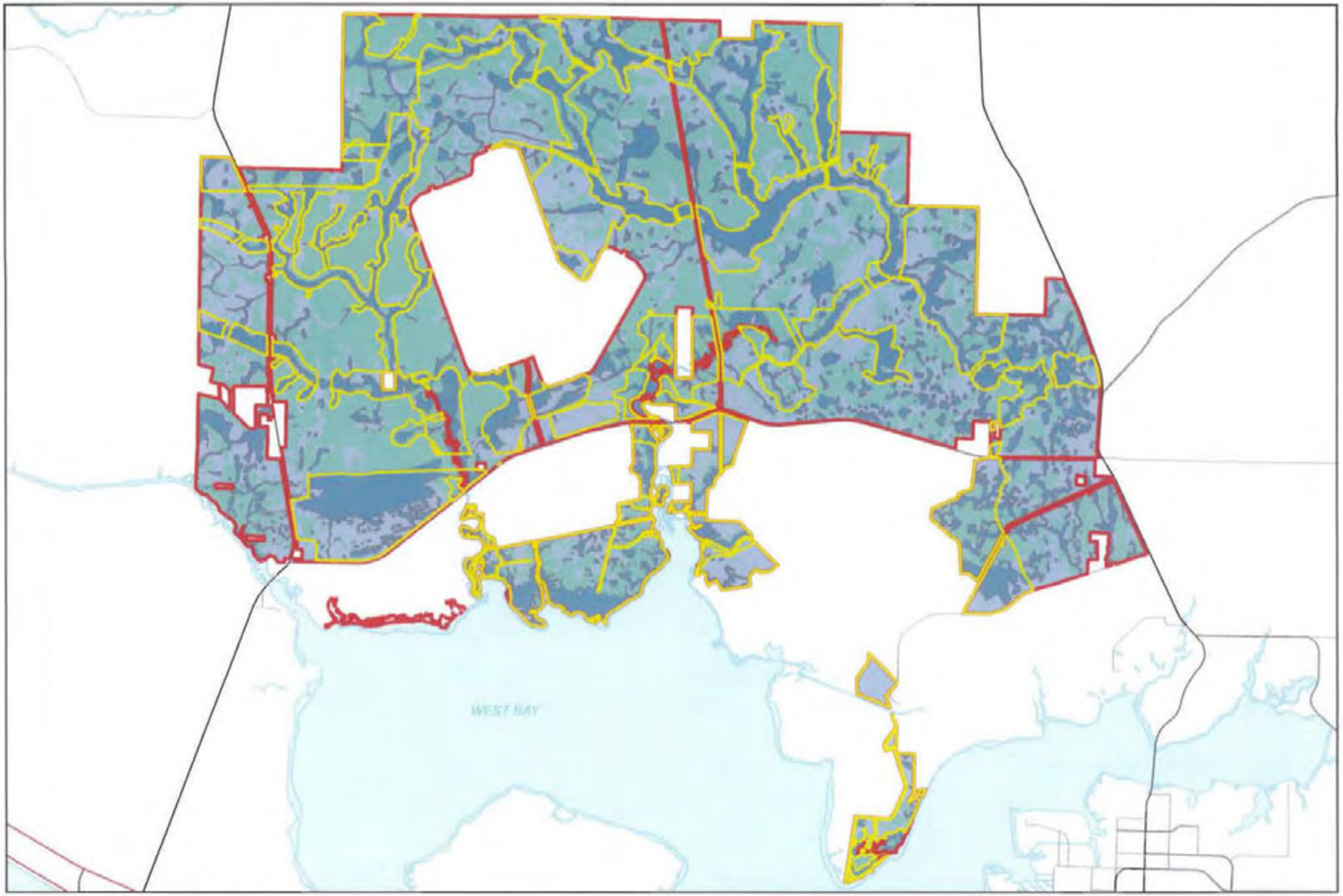
PROJECT AREA
ACTION AREA 021811

N

1:150,000



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC. 221-4 DELTA COURT TALLAHASSEE, FL 32303 (850) 385-6255 (850) 385-6355 (FAX)	PROJECT: **BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY** **BAY COUNTY, FLORIDA**	TITLE: **FIGURE 2 - LOCATION MAP FOR PROJECT AREA BAY COUNTY**				SUBWATERSHED PROJECT AREA CONSERVATION UNITS (Type 1 & 2)	N 1:110,000 0 0.25 0.5 1 Miles
		DATE: FEB-28-2011	BY: CPS	CHECK: EP	FELSI PROJECT # **10-0932**		



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

TITLE:

FIGURE 3- WETLANDS AND UPLANDS WITHIN THE PROJECT AREA

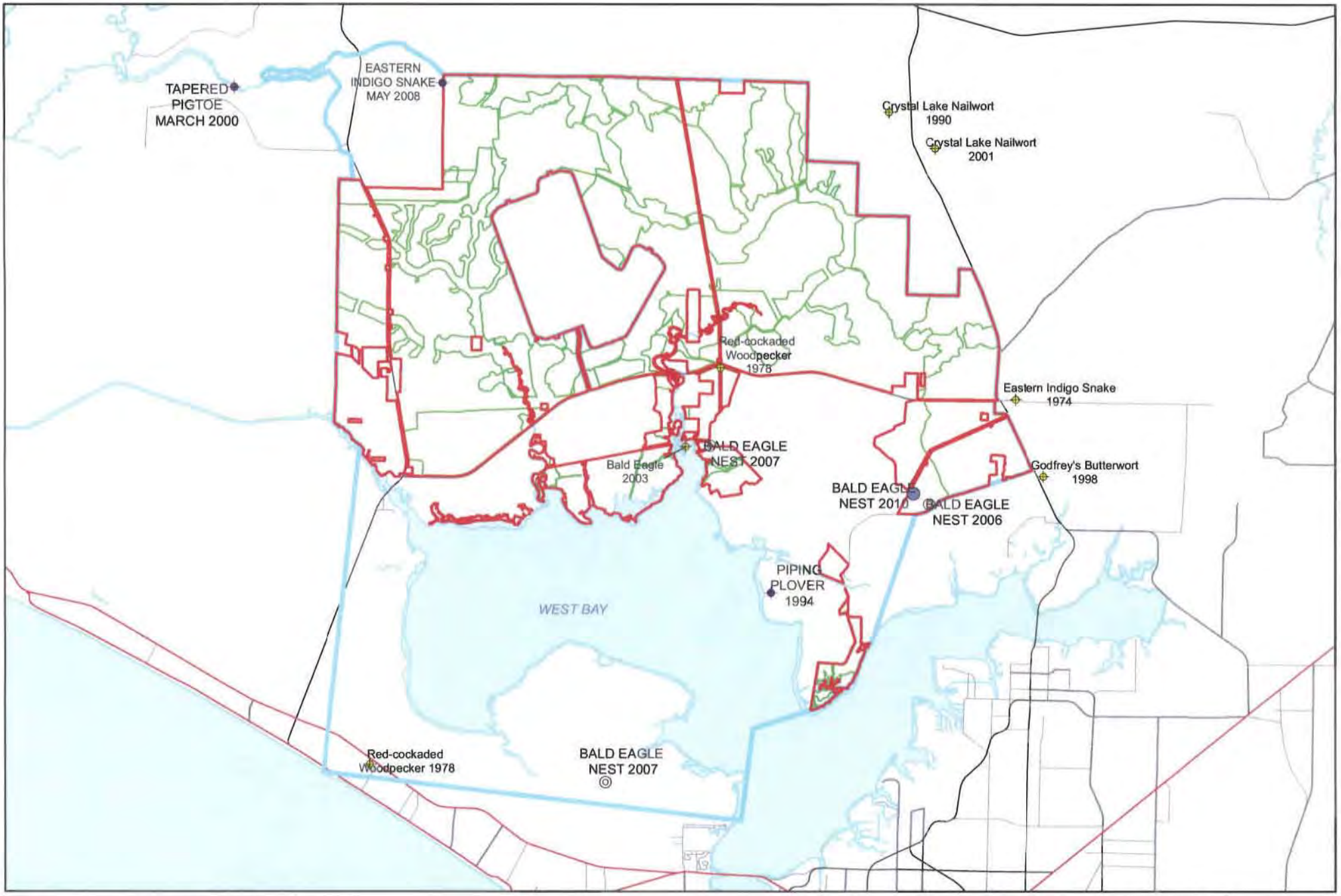
DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-28-2011	CPS	EP	10-0932

- PROJECT AREA
- CONSERVATION UNITS (Type 1 & 2)
- UPLAND
- WETLAND - CONVERTED
- WETLAND - UNCONVERTED

N

1:110,000

0 0.25 0.5 1 Miles



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

TITLE: **FIGURE 4 - RECORDED OBSERVATIONS OF FEDERALLY LISTED SPECIES AND/OR SIGNS OF SPECIES WITHIN AND NEAR THE ACTION AREA. BAY/WASHINGTON COUNTIES, FLORIDA**

DATE:	BY:	CHECK:	FELSI PROJECT #
MAR-4-2011	CPS	EP	10-0932

- CONSERVATION UNITS (Type 1 & 2)
- ACTION AREA 021811
- FNAI ELEMENT OCCURRENCES
- FWC EAGLE NEST LOCATIONS
- FELSI FIELD SURVEY DATA
- PROJECT AREA
- FWC FIELD SURVEY DATA

N

1:150,000

0 0.3 0.6 1.2 Miles

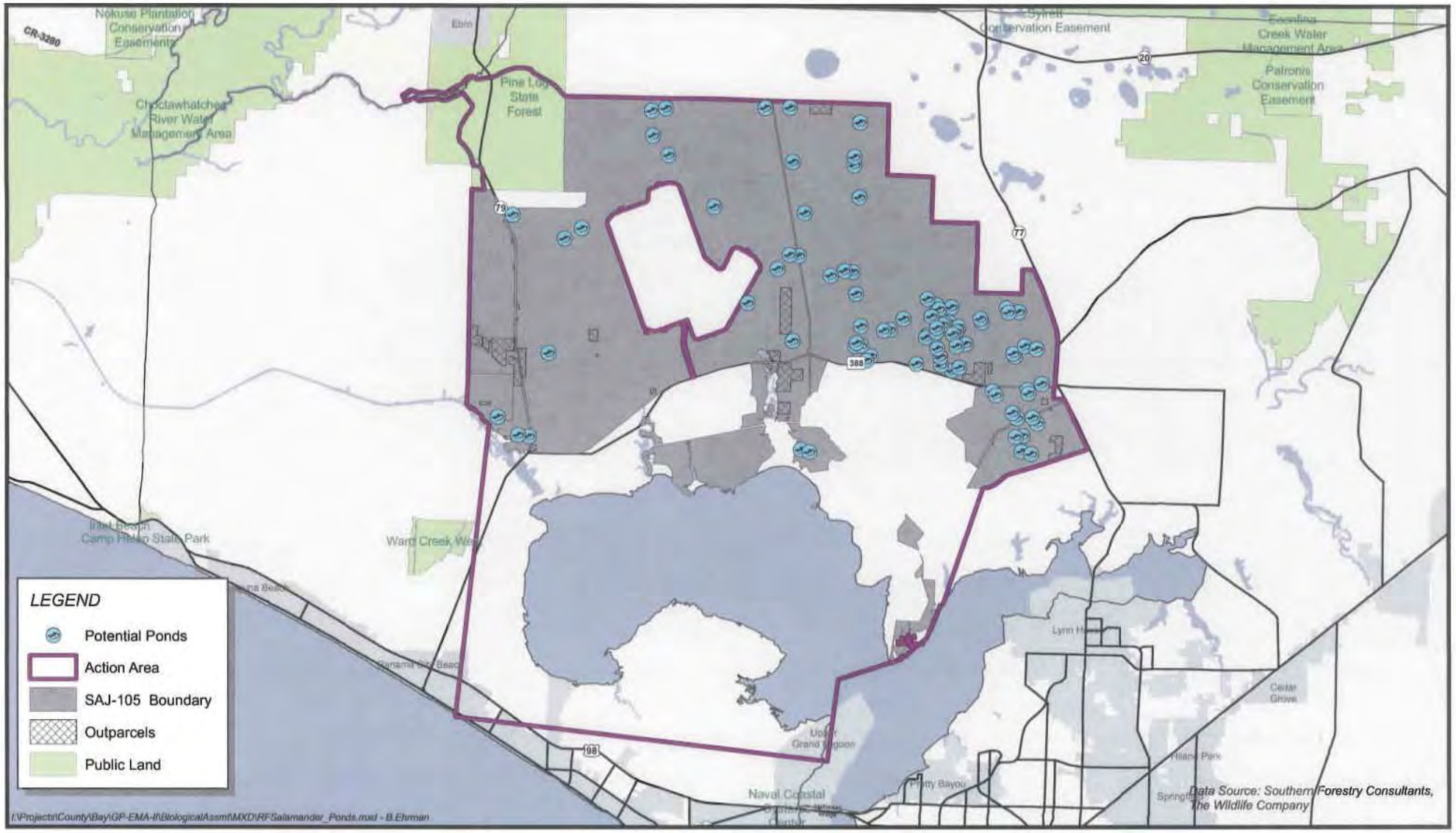


FIGURE 5: POTENTIAL PONDS RETICULATED FLATWOODS SALAMANDER

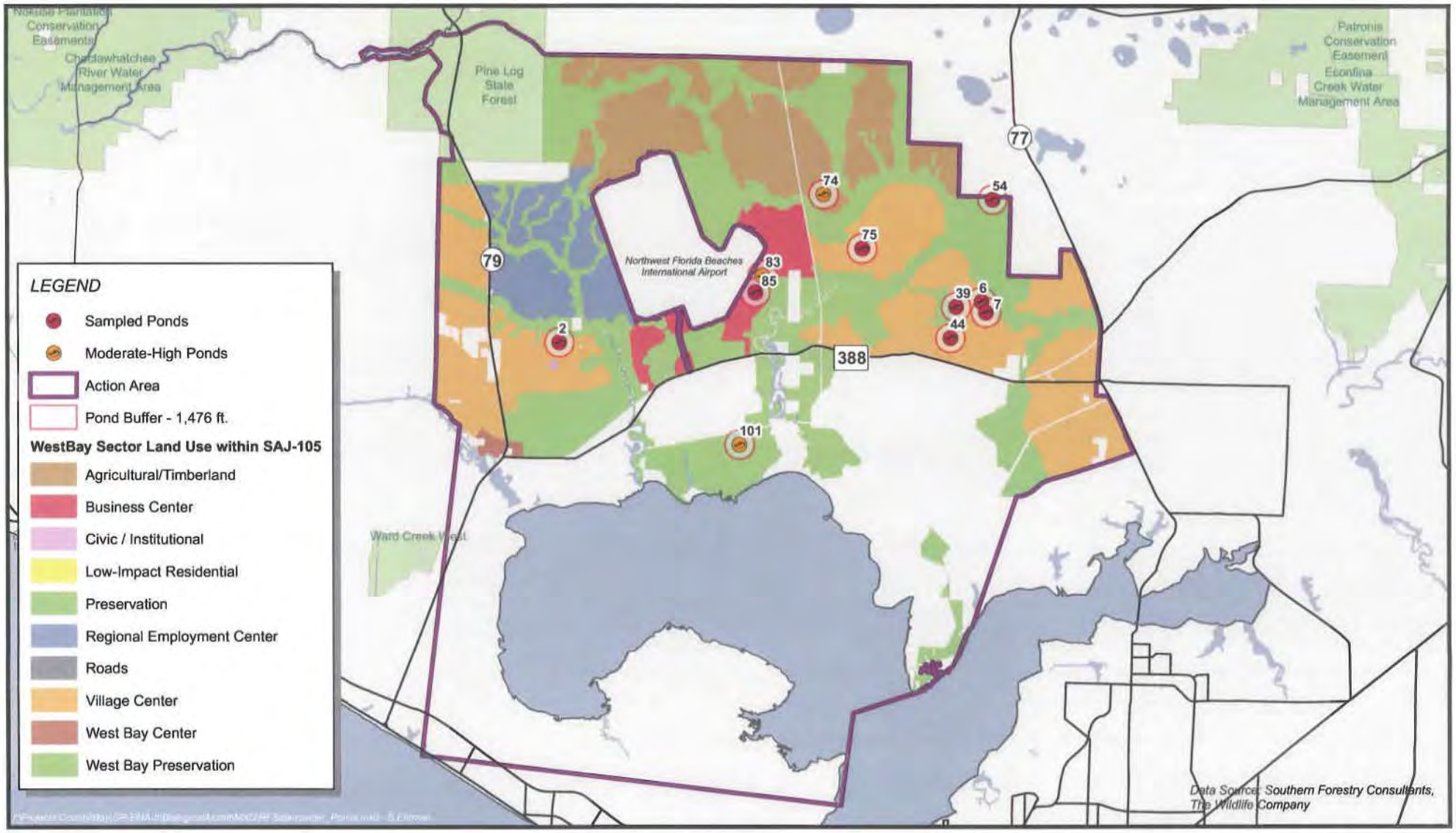
BAY COUNTY, FL

MARCH, 2011

0 7,000 14,000 28,000 Feet

1 INCH = 1.92 MILES

1:121,898



N
W E
S

FIGURE 6: SAMPLED PONDS, MODERATE-HIGH PONDS RETICULATED FLATWOODS SALAMANDER

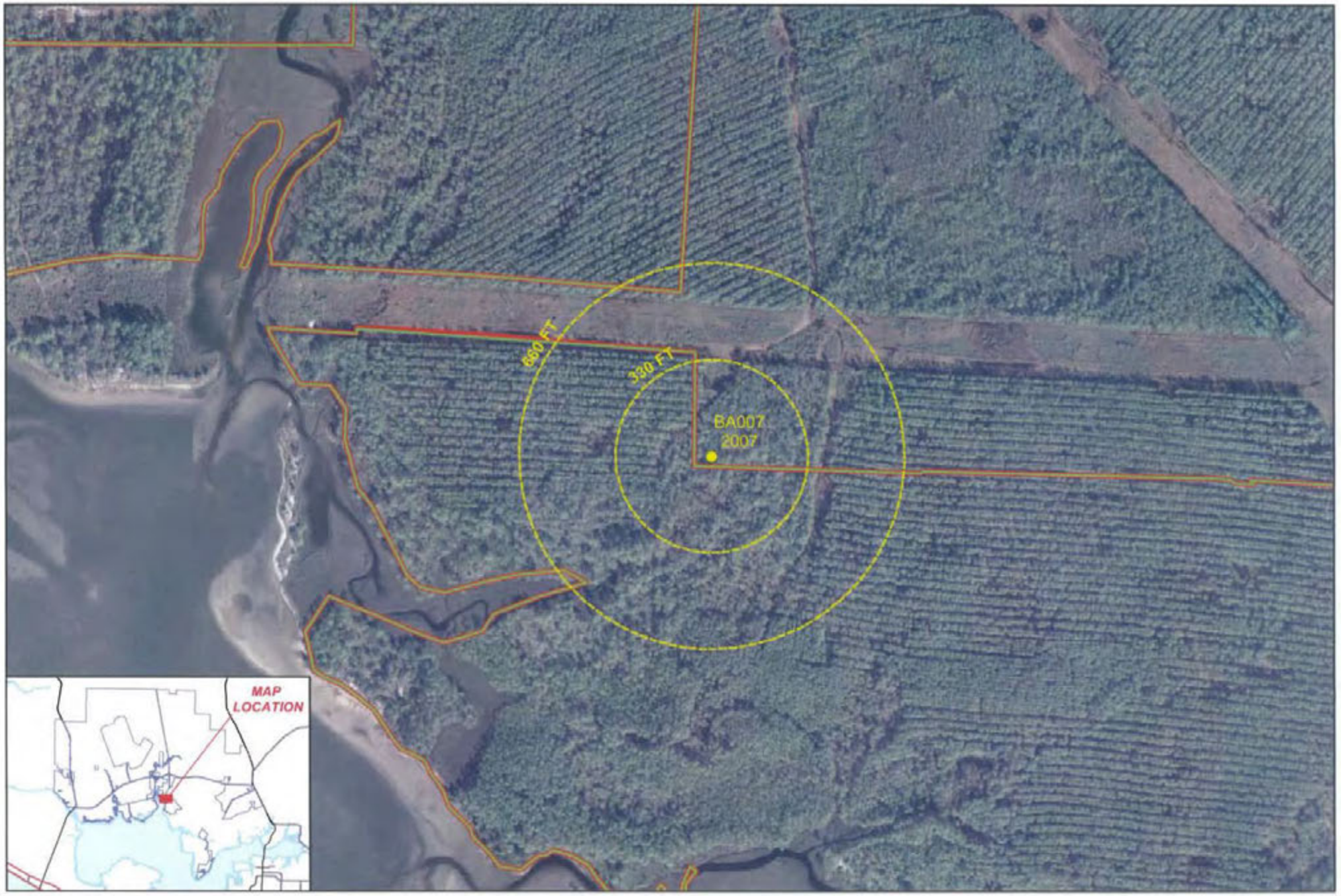
BAY COUNTY, FL

MARCH, 2011

0 5,000 10,000 20,000 Feet

1 INCH = 1.7 MILES

1:108,000



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

TITLE: **FIGURE 7 A EAGLE NEST BUFFER ZONES WITHIN THE PROJECT AREA**

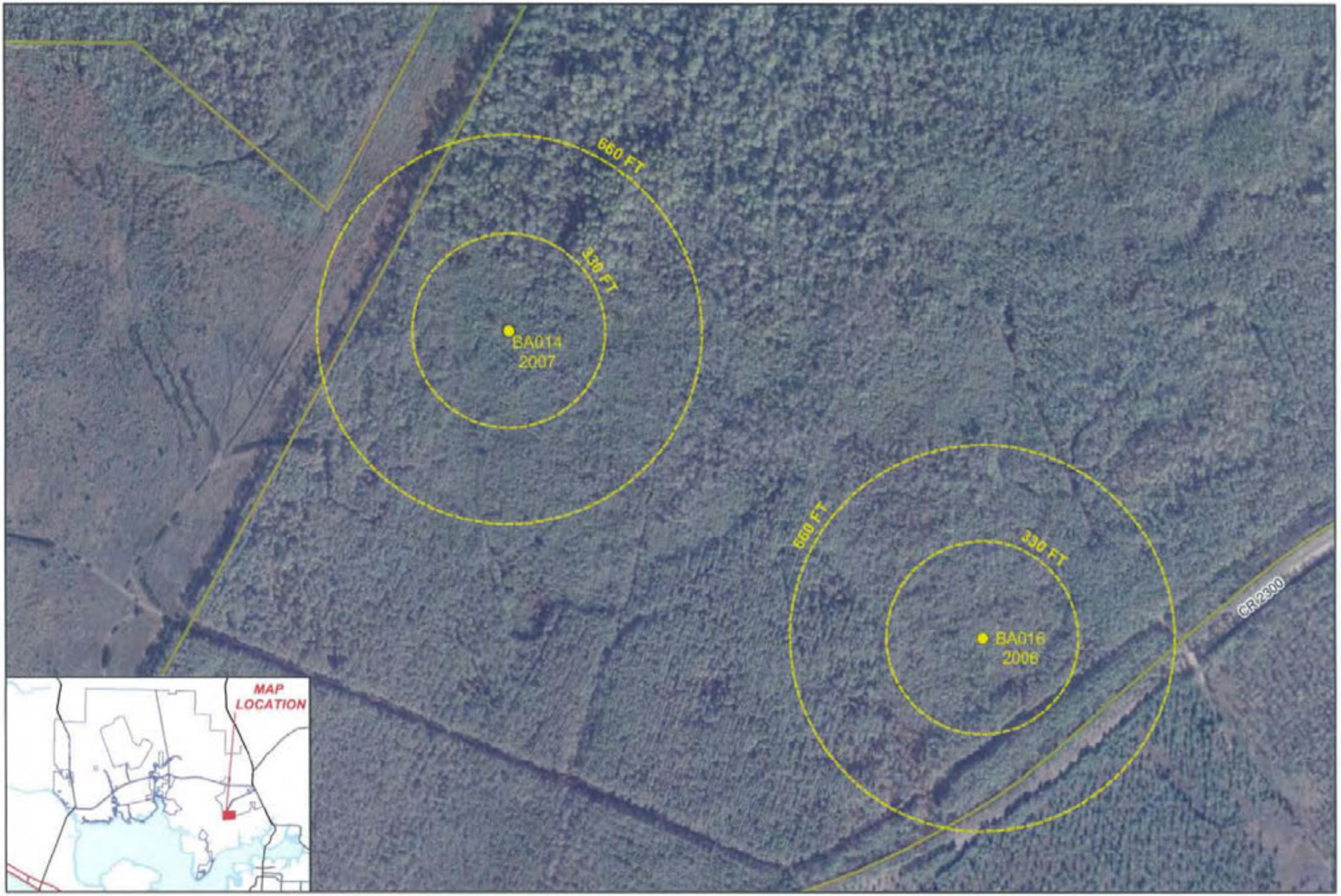
DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-28-2011	CPS	EP	10-0932

- PROJECT AREA
- CONSERVATION UNITS
- FELSI FIELD SURVEY DATA
- FFWCC EAGLE NEST LOCATIONS
- EAGLE NEST BUFFER LINES

N

1:5,000

0 125 250
Feet



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

TITLE: **FIGURE 7 B EAGLE NEST BUFFER ZONES WITHIN THE PROJECT AREA**

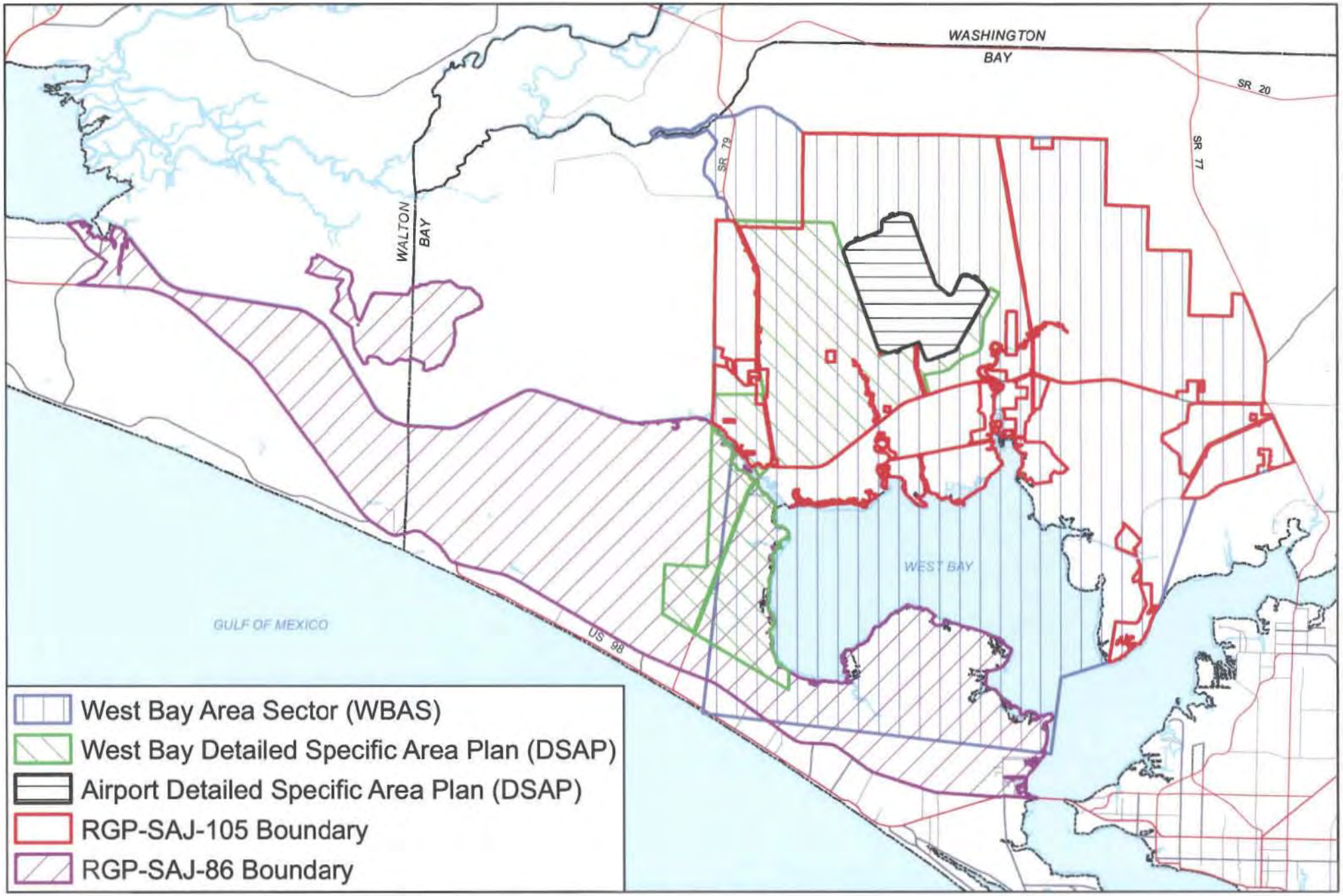
DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-28-2011	CPS	EP	10-0932

- PROJECT AREA
- CONSERVATION UNITS
- FELSI FIELD SURVEY DATA
- FFWCC EAGLE NEST LOCATIONS
- EAGLE NEST BUFFER LINES

N

1:5,000

0 125 250 Feet



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.
221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:
BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY
BAY COUNTY, FLORIDA

TITLE: **FIGURE 8 - Boundary of the WBAS, DSAP, Airport DSAP, RGP-SAJ-86 and the Proposed RGP-SAJ-105 Project Area.**

DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-28-2011	CPS	EP	10-0932

County Boundaries
Water Bodies
Major Roads
Local Roads

N
1:180,000

SAJ-105 POTENTIAL WATER ACCESS

FIGURE 9

LOCATION OF ACCESS POINTS (DOCKS & PIERS)

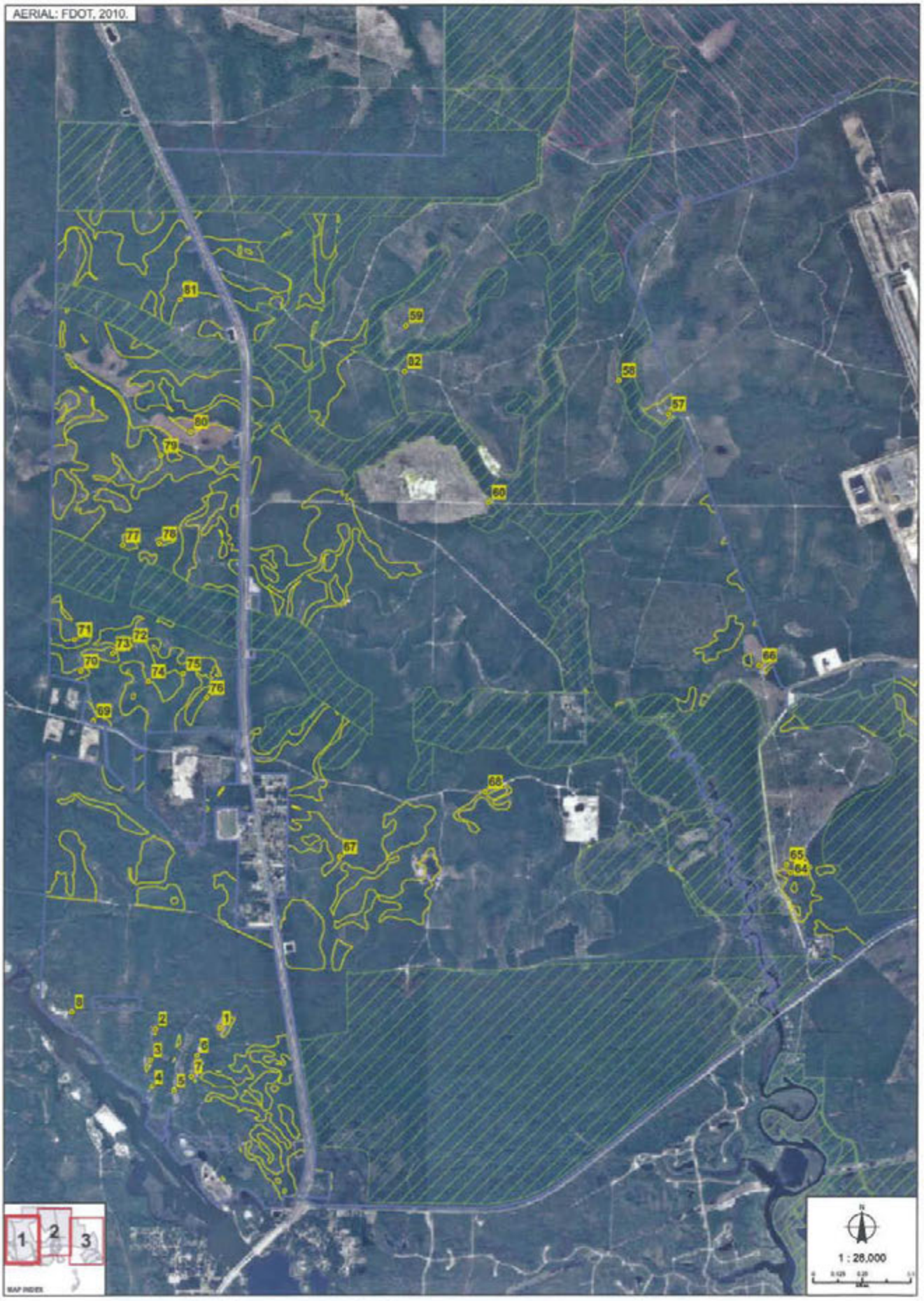
MARCH, 2011

0 1 2 3 4 5

MILES

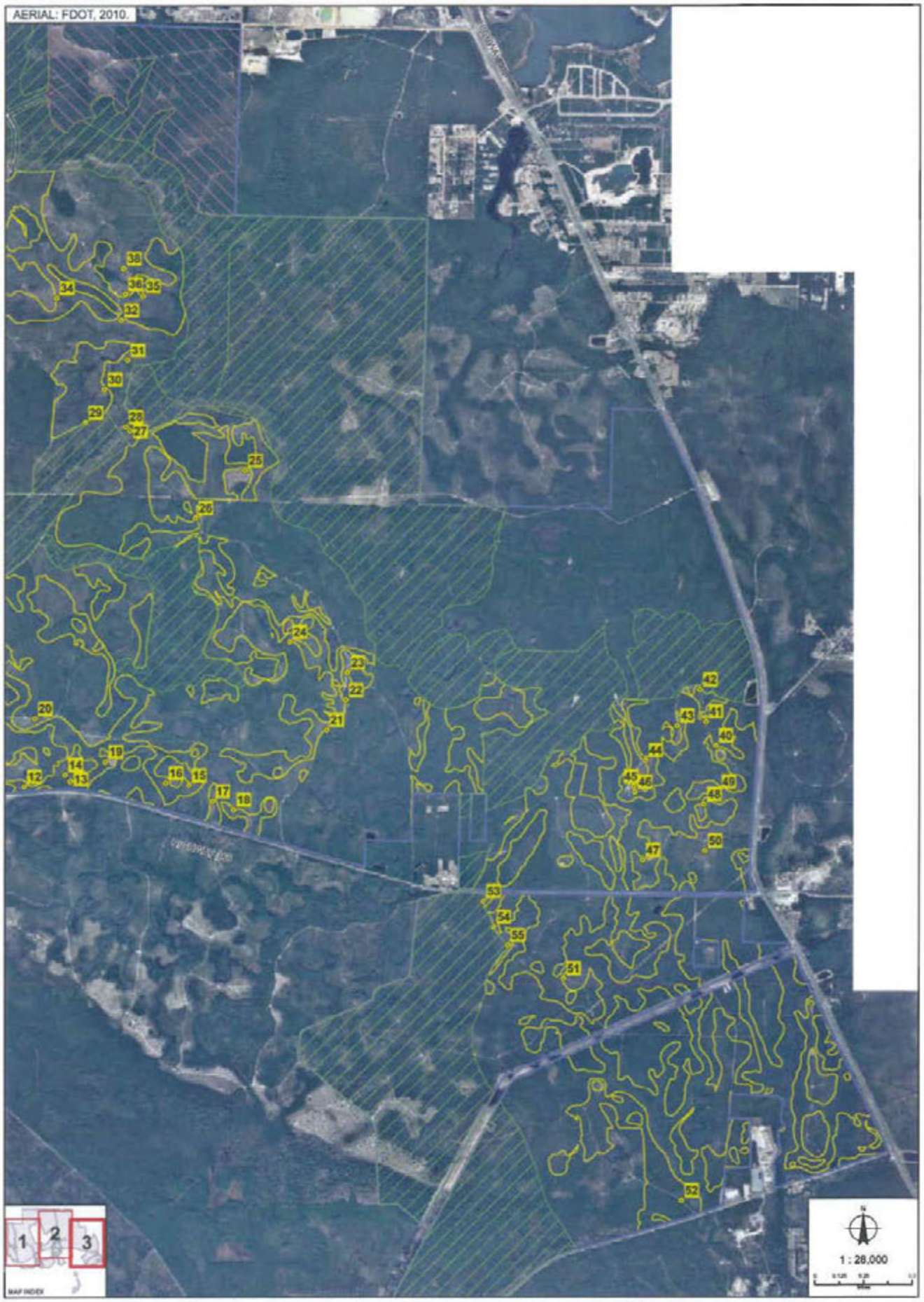
1 INCH = 1.66 MILES

1:105,000

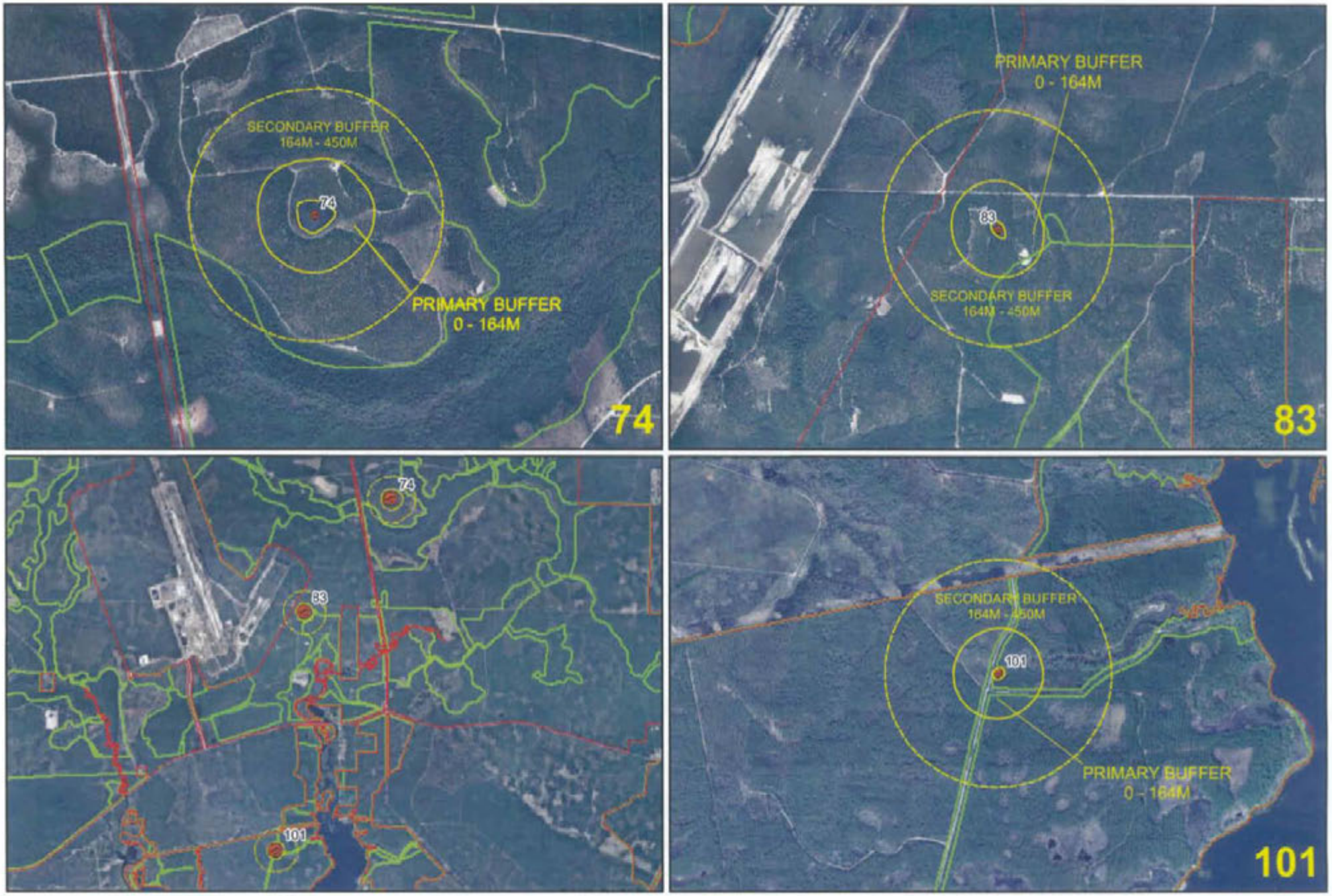


FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC. 221-4 DELTA COURT TALLAHASSEE, FL 32303 (850) 385-6255 (850) 385-6355 (FAX)	PROJECT: RGP AREA PLANT SURVEY BAY COUNTY, FLORIDA	TITLE: Figure 10 A				PROJECT BOUNDARY Agricultural/Timberland Conservation Units (Type 1 & 2) SUITABLE SOILS/FLUCCS CODES
		DATE: FEB-28-2011	BY: CPS	CHECK: EP	FELSI PROJECT # 10-0936	

FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC. 221-4 DELTA COURT TALLAHASSEE, FL 32303 (850) 385-6255 (850) 385-6355 (FAX)	PROJECT: RGP AREA PLANT SURVEY BAY COUNTY, FLORIDA	TITLE: Figure 10 B				PROJECT BOUNDARY Agricultural/Timberland Conservation Units (Type 1 & 2) SUITABLE SOILS/FLUCCS CODES
		DATE: FEB-28-2011	BY: CPS	CHECK: EP	FELSI PROJECT # 10-0936	



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC. 221-4 DELTA COURT TALLAHASSEE, FL 32303 (850) 385-6255 (850) 385-6355 (FAX)	PROJECT: RGP AREA PLANT SURVEY BAY COUNTY, FLORIDA	TITLE: Figure 10 C				PROJECT BOUNDARY Agricultural/Timberland Conservation Units (Type 1 & 2) SUITABLE SOILS/FLUCCS CODES
		DATE: FEB-28-2011	BY: CPS	CHECK: EP	FELSI PROJECT # 10-0936	



FLORIDA ENVIRONMENTAL AND LAND SERVICES, INC.

221-4 DELTA COURT
TALLAHASSEE, FL 32303
(850) 385-6255 (850) 385-6355 (FAX)

PROJECT:

BIOLOGICAL ASSESSMENT FOR RGP EMA II IN BAY COUNTY

BAY COUNTY, FLORIDA

TITLE: **FIGURE 11**
FLATWOODS SALAMANDER BUFFER ZONES WITHIN THE PROJECT AREA

DATE:	BY:	CHECK:	FELSI PROJECT #
FEB-28-2011	CPS	EP	10-0932

- PROJECT AREA
- FLATWOODS SALAMANDER HABITAT
- BUFFER LINES
- CONSERVATION_UNITS_022811

N

0 0.5 1
Miles