Yellow River Marsh Aquatic Preserve

Management Plan

Florida Department of Environmental Protection
Florida Coastal Office
3900 Commonwealth Blvd., MS #235, Tallahassee, FL 32399
www.aquaticpreserves.org

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March 2017

Majestic trees reveal hidden uplands between the fingers of marsh and water.

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The river's edge along a bend in Yellow River Marsh Aquatic Preserve.

Mission Statement

The Florida Coastal Office's mission statement is: Conserving and restoring Florida's coastal and aquatic resources for the benefit of people and the environment.

The four long-term goals of the Florida Coastal Office's Aquatic Preserve Program are to:

1. protect and enhance the ecological integrity of the aquatic preserves;
2. restore areas to their natural condition;
3. encourage sustainable use and foster active stewardship by engaging local communities in the protection of aquatic preserves; and
4. improve management effectiveness through a process based on sound science, consistent evaluation, and continual reassessment.

Executive Summary

Yellow River Marsh Aquatic Preserve Management Plan	
Lead Agency	Florida Department of Environmental Protection's (DEP) Florida Coastal Office (FCO)
Common Name of Property	Yellow River Marsh Aquatic Preserve
Location	Santa Rosa County, Florida
Acreage Total	10,718 acres
Acreage Breakdown According to Florida Natural Areas Inventory (FNAI) Natural Community Type	
FNAI Natural Communities	*Acreage according to GIS*
Salt Marsh	1,046
Floodplain Swamp	1,553
Estuarine Unconsolidated Substrate	7,283
Mollusk Reef	NA
Blackwater Stream	461
Floodplain Marsh	18
Wet Prairie	29
Wet Flatwoods	135
Seagrass Beds	166
Ruderal	26
Total Acreage:	(This number may not match the "Acreage Total" above due to rounding.) 10,716 acres

Management Agency:	DEP's FCO
Designation:	Aquatic Preserve
Unique Features:	The Yellow River flows into the aquatic preserve and is considered one of the swiftest rivers in Florida. The span of the river goes through two states (Alabama and Florida) and extends for 118 miles before opening up into East Bay. Most of Yellow River Marsh Aquatic Preserve landward boundaries are state and federal owned and managed lands. In addition to its designation as an aquatic preserve, it is also considered to be an Outstanding Florida Water (OFW).
Archaeological/ Historical Sites:	There are twenty archaeological and historical sites within the aquatic preserve that have been identified by the Division of Historical Resources, and many in close proximity as well. These sites range from shipwrecks, burial sites, camp grounds and shell middens. Some of these sites and artifacts surveyed date to Archaic (8500 B.C-1000 B.C.), Prehistoric (Weeden Island A.D. 450-1000), to 19th and 20th Century American (1821-present).
Management Needs	
Ecosystem Science	With the multitude of ecosystems and ranges that encompass this aquatic preserve boundary, special consideration should be given on how each part works together as a whole in the system. The aquatic preserve is not only influenced by the integral Yellow River, but also from alternate river systems and tidal flow from the south. Through management and assessment of how all these systems work together we can address the overall needs, including water quality, shoreline erosion and decrease of vital habitat back to historical conditions for future generations.
Resource Management	Key environmental impacts to the aquatic preserve have been identified as sedimentation, decreased water quality, storm water runoff and invasive/exotic flora and fauna. Through upland collaboration between states, counties and community, many factors will have to be implemented
Education and Outreach	Education and outreach efforts for Yellow River Marsh Aquatic Preserve include workshops, conferences, symposiums and research throughout the region. Public talks at school groups, garden clubs, nonprofit organizations as well as facility tours are often given to educate the community about the program and ongoing management, education and restoration efforts. Through formal program with other locals, like Bringing Back the Bayous, Grasses In Classes, Bay Days, coastal cleanups and project tours, we can raise awareness to citizens on water quality, invasive/exotic control, habitat concerns and restoration, as well as many other topics of interest to the community.

Public Use	There are five paved boat ramps, of which three require a fee. There are also many public and private ramps lying within close proximity to the aquatic preserve. All facilities are either privately owned or owned by the county. These are all well maintained and lightly used. Adjacent launches are more frequently used due to their protected nature and proximity to calmer conditions for motorized recreational activities such as tubing and fishing.
Public Involvement:	Public support is vital to the success of conservation programs. The goal is to foster understanding of the problems facing these fragile ecosystems and the steps needed to adequately manage this important habitat. Yellow River Marsh Aquatic Preserve held public and advisory committee meetings in Milton, Florida on May 23 and 24, 2016 to receive public input on the draft management plan. An additional public meeting was held in Tallahassee February 17, 2017 when the Acquisition and Restoration Council reviewed the management plan.

Coastal Zone Management Issues

Yellow River Marsh Aquatic Preserve (YRMAP) is substantially protected by public lands. The only developed residential areas are the western boundary. Because new residents may not be familiar with the intrinsic value of the aquatic preserve's resources, and the need for low-impact use, education and awareness will be especially important. Coordination with local, state and federal managing agencies will provide the largest impact to YRMAP.

As tourism in Florida continues to increase along with the residential population, the demands on natural resources in Florida are increasing. YRMAP is affected by activities in both Alabama and Florida, as the Yellow and Blackwater rivers and their tributaries feed this estuary. The diverse land use, increased development and agriculture throughout both states affect this watershed. Coastal and watershed activities have the ability to affect water quality and submerged resources in both positive and negative ways. Aquatic preserve staff work to encourage positive change and limit any activities that would be detrimental to the aquatic preserve. Long-term monitoring of water quality, species, and habitat provides the data necessary for staff to evaluate the status and trends in the system. Public involvement in aquatic preserve management is encouraged through the Citizen Support Organization, Ecosystem Restoration Support Organization, and public presentations and events, and volunteer programs. The public are encouraged to enjoy the natural resources that the aquatic preserve has to offer, while maintaining its condition for the benefit of future generations.

Goals

Better resource inventories and spatial data management/analysis techniques will increase efficiency and effectiveness of management activities in the aquatic preserve. Active removal of non-native invasive species and stabilization of eroding shorelines are land-based activities that will also affect the aquatic habitats. Partnerships and public engagement will be key to addressing the issues defined in this plan.

The management goals and associated strategies outlined in this document provide an action plan over the course of the next decade that will be used to address the challenges mentioned above. Due to limited resources and the overlap of jurisdictional boundaries, success will depend on partnerships formed with private, local, regional, state, and federal organizations and agencies. Partnerships will be formed to promote the maintenance or improvement of the quality of water reaching the aquatic preserve to meet the needs of the natural resources. Routine assessment of water quality status is required to document change over time. Resource management goals that will improve water quality include hydrologic restoration, shoreline buffer implementation and creation of oyster reef habitat. Documentation of natural resource location and extent will allow managers to evaluate the success of large-scale watershed restoration projects. Maintenance of a safe environment for fish, wildlife, and user groups, and the promotion of low-impact recreational opportunities and good stewardship are also important goals that will be addressed by aquatic preserve staff. Prioritizing issues, objectives and strategies will lead to a cohesive management program and the long-term conservation of the natural system.

FCO/Trustees Approval

FCO Approval: Nov. 14, 2016 **ARC approval:** Feb. 17, 2017 **Trustees approval:** Apr. 11, 2017

Comments:

Acronym List

Abbreviation	Meaning
AFB	Air Force Base
DEP	Florida Department of Environmental Protection
DNR	Florida Department of Natural Resources
EPA	Environmental Protection Agency
ERSO	Ecosystem Restoration Support Organization
ESA	Endangered Species Act
F.A.C.	Florida Administrative Code
FCO	Florida Coastal Office
FFY	Florida Friendly Yards
FNAI	Florida Natural Areas Inventory
F.S.	Florida Statutes
FTE	Full Time Equivalent
FWC	Florida Fish and Wildlife Conservation Commission
G	Global
GSMFC	Gulf States Marine Fisheries Commission
NERR	National Estuarine Research Reserve
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NWFLAP	Northwest Florida Aquatic Preserves
NWFWMD	Northwest Florida Water Management District
OFW	Outstanding Florida Water
OPS	Other Personal Services
PBW	Pensacola Bay Watershed
S	State
SAV	Submerged Aquatic Vegetation
SWIM	Surface Water Improvement and Management
UF/IFAS	University of Florida/Institute of Food and Agricultural Sciences
USFWS	U.S. Fish and Wildlife Service
UWF	University of West Florida
YRMAP	Yellow River Marsh Aquatic Preserve

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An estuarine marsh in Yellow River Marsh Aquatic Preserve.

Part One

Basis for Management

Chapter One

Introduction

The Florida aquatic preserves are administered on behalf of the state by the Florida Department of Environmental Protection's (DEP) Florida Coastal Office (FCO) as part of a network that includes 41 aquatic preserves, three National Estuarine Research Reserves (NERRs), a National Marine Sanctuary, Coral Reef Conservation Program, Florida Coastal Management Program, Outer Continental Shelf Program, and Florida Oceans and Coastal Council (Map 1). This provides for a system of significant protections to ensure that our most popular and ecologically important underwater ecosystems are cared for in perpetuity. Each of these special places is managed with strategies based on local resources, issues and conditions.

Our expansive coastline and wealth of aquatic resources have defined Florida as a subtropical oasis, attracting millions of residents and visitors, and the businesses that serve them. Florida's submerged lands play important roles in maintaining good water quality, hosting a diversity of wildlife and habitats (including economically and ecologically valuable nursery areas), and supporting a treasured quality of life for all. In the 1960s, it became apparent that the ecosystems that had attracted so many people to Florida could not support rapid growth without science-based resource protection and management. To this end, state legislators provided extra protection for certain exceptional aquatic areas by designating them as aquatic preserves.

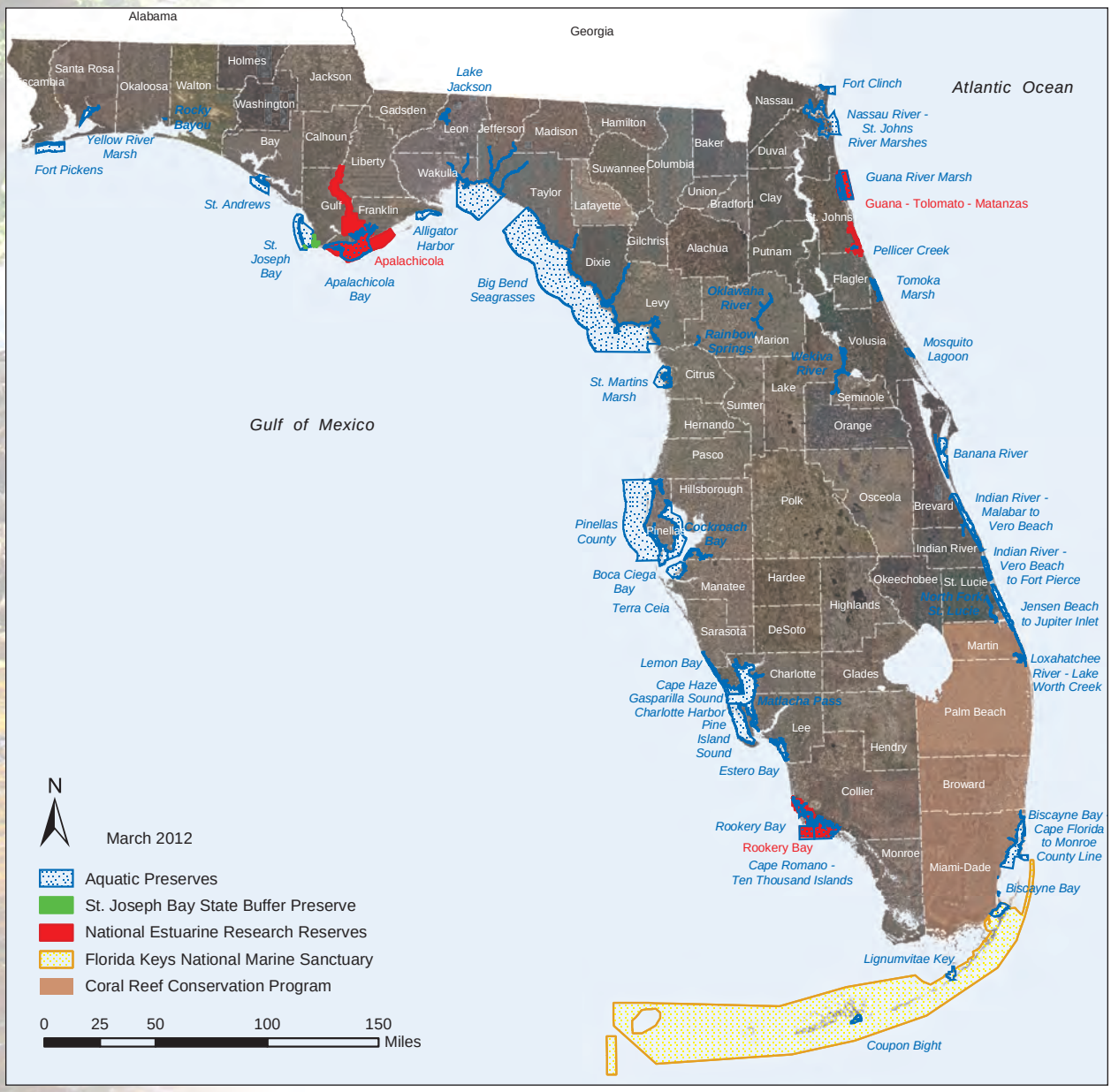
Title to submerged lands not conveyed to private landowners is held by the Board of Trustees of the Internal Improvement Trust Fund (the Trustees). The Governor and Cabinet, sitting as the Trustees, act as guardians for the people of the state of Florida (§253.03, Florida Statutes [F.S.]) and regulate the

use of these public lands. Through statute, the Trustees have the authority to adopt rules related to the management of sovereignty submerged lands (Florida Aquatic Preserve Act of 1975, §258.36, F.S.). A higher layer of protection is afforded to aquatic preserves including areas of sovereignty lands that have been "set aside forever as aquatic preserves or sanctuaries for the benefit of future generations" due to "exceptional biological, aesthetic, and scientific value" (Florida Aquatic Preserve Act of 1975, §258.36, F.S.).

This tradition of concern and protection of these exceptional areas continues, and now includes: the Rookery Bay NERR in Southwest Florida, designated in 1978; the Apalachicola NERR in Northwest Florida, designated in 1979; and the Guana Tolomato Matanzas NERR in Northeast Florida, designated in 1999. In addition, the Florida Oceans and Coastal Council was created in 2005 to develop Florida's ocean and coastal research priorities, and establish a statewide ocean research plan. The group also coordinates public and private ocean research for more effective coastal management. This dedication to the conservation of coastal and ocean resources is an investment in Florida's future.

*1.1 / **Management Plan Purpose and Scope***

With increasing development, recreation and economic pressures, our aquatic resources have the potential to be significantly impacted, either directly or indirectly. These potential impacts to resources can reduce the health and viability of the ecosystems that contain them, requiring active management to



Map 1 / Florida Coastal Office System

ensure the long-term health of the entire network. Effective management plans for the aquatic preserves are essential to address this goal and each site's own set of unique challenges. The purpose of these plans is to incorporate, evaluate and prioritize all relevant information about the site into a cohesive management strategy, allowing for appropriate access to the managed areas while protecting the long-term health of the ecosystems and their resources.

The mandate for developing aquatic preserve management plans is outlined in Section 18-20.013 and Subsection 18-18.013(2) of the Florida Administrative Code (F.A.C.). Management plan development and review begins with the collection of resource information from historical data, research and monitoring, and includes input from individual FCO managers and staff, area stakeholders, and members of the general public. The statistical data, public comment, and cooperating agency information is then used to identify management issues and threats affecting the present and future integrity of the site, its boundaries, and adjacent areas. This information is used in the development and review of the management plan, which is examined for consistency with the statutory authority and intent of the Aquatic Preserve Program. Each management plan is evaluated periodically and revised as necessary to allow for strategic improvements. Intended to be used by site managers and other agencies or private groups involved with maintaining the natural integrity of these resources, the plan includes scientific information about the existing conditions of the site and the management strategies developed to respond to those conditions.

To aid in the analysis and development of the management strategies for the site plans, four comprehensive management programs are identified. In each of these management programs, relevant information about the specific sites is described in an effort to create a comprehensive management plan. It is expected that the specific needs or issues are unique and vary at each location, but the four management programs will remain constant. These management programs are:

- Ecosystem Science
- Resource Management
- Education and Outreach
- Public Use

In addition, unique local and regional issues are identified, and goals, objectives and strategies are established to address these issues. Finally, the program and facility needs required to meet these goals as identified. These components are all key elements in an effective coastal management program and for achieving the mission of the sites.

This management plan is an update to the original, which was approved in 1991.

1.2 / ***Public Involvement***

FCO recognizes the importance of stakeholder participation and encourages their involvement in the management plan development process. FCO is also committed to meeting the requirements of the Sunshine Law (§286.011, F.S.):

- meetings of public boards or commissions must be open to the public;
- reasonable notice of such meetings must be given; and
- minutes of the meetings must be recorded.

Several key steps are to be taken during management plan development. First, staff compose a draft plan after gathering information of current and historic uses; resource, cultural and historic sites; and other valuable information regarding the property and surrounding area. Staff then organize an advisory committee comprised of key stakeholders and conduct, in conjunction with the advisory committee, public meetings to engage the stakeholders for feedback on the draft plan and the development of the final draft of the management plan. Additional public meetings are held when the plan is reviewed by the Acquisition and Restoration Council and the Trustees for approval. For additional information about the advisory committee and the public meetings refer to Appendix C - Public Involvement.

A distant view of what minimal urbanization can be found along the aquatic preserve coastline.

Chapter Two

The Florida Department of Environmental Protection's Florida Coastal Office

2.1 / ***Introduction***

The Florida Department of Environmental Protection (DEP) protects, conserves and manages Florida's natural resources and enforces the state's environmental laws. The DEP is the lead agency in state government for environmental management and stewardship and commands one of the broadest charges of all the state agencies, protecting Florida's air, water and land. The DEP is divided into three primary areas: Regulatory Programs, Land and Recreation, and Water Policy and Ecosystem Restoration. Florida's environmental priorities include restoring America's Everglades; improving air quality; restoring and protecting the water quality in our springs, lakes, rivers and coastal waters; conserving environmentally-sensitive lands; and providing citizens and visitors with recreational opportunities, now and in the future.

The Florida Coastal Office (FCO) is the unit within the DEP that manages more than four million acres of submerged lands and select coastal uplands. This includes 41 aquatic preserves, three National Estuarine Research Reserves (NERRs), the Florida Keys National Marine Sanctuary, Coral Reef Conservation Program, Florida Coastal Management Program, Outer Continental Shelf Program, and the Florida Oceans and Coastal Council. All are managed in cooperation with the National Oceanic and Atmospheric Administration (NOAA).

FCO manages sites in Florida for the conservation and protection of natural and historical resources and resource-based public use that is compatible with the conservation and protection of these lands. FCO is a strong supporter of the NERR system and its approach to coastal ecosystem management. Florida has

three designated NERR sites, each encompassing at least one aquatic preserve within its boundaries. Rookery Bay NERR includes Rookery Bay Aquatic Preserve and Cape Romano - Ten Thousand Islands Aquatic Preserve; Apalachicola NERR includes Apalachicola Bay Aquatic Preserve; and Guana Tolomato Matanzas NERR includes Guana River Marsh Aquatic Preserve and Pellicer Creek Aquatic Preserve. These aquatic preserves provide discrete areas designated for additional protection beyond that of the surrounding NERR and may afford a foundation for additional protective zoning in the future.

Each of the Florida NERR managers serves as a regional manager overseeing multiple other aquatic preserves in their region. This management structure advances FCO's ability to manage its sites as part of the larger statewide system.

2.2 / ***Management Authority***

Established by law, aquatic preserves are submerged lands of exceptional beauty that are to be maintained in their natural or existing conditions. The intent was to forever set aside submerged lands with exceptional biological, aesthetic, and scientific values as sanctuaries, called aquatic preserves, for the benefit of future generations.

The laws supporting aquatic preserve management are the direct result of the public's awareness of and interest in protecting Florida's aquatic environment. The extensive dredge and fill activities that occurred in the late 1960s spawned this widespread public concern. In 1966, the Board of Trustees of the Internal Improvement Trust Fund (Trustees) created the first aquatic preserve, Estero Bay, in Lee County.

In 1967, the Florida Legislature passed the Randall Act (Chapter 67-393, Laws of Florida), which established procedures regulating previously unrestricted dredge and fill activities on state-owned submerged lands. That same year, the Legislature provided the statutory authority (§253.03, Florida Statutes [F.S.]) for the Trustees to exercise proprietary control over state-owned lands. Also in 1967, government focus on protecting Florida's productive water bodies from degradation due to development led the Trustees to establish a moratorium on the sale of submerged lands to private interests. An Interagency Advisory Committee was created to develop strategies for the protection and management of state-owned submerged lands.

In 1968, the Florida Constitution was revised to declare in Article II, Section 7, the state's policy of conserving and protecting natural resources and areas of scenic beauty. That constitutional provision also established the authority for the Legislature to enact measures for the abatement of air and water pollution. Later that same year, the Interagency Advisory Committee issued a report recommending the establishment of 26 aquatic preserves.

The Trustees acted on this recommendation in 1969 by establishing 16 aquatic preserves and adopting a resolution for a statewide system of such preserves. In 1975 the state Legislature passed the Florida Aquatic Preserve Act of 1975 (Act) that was enacted as Chapter 75-172, Laws of Florida, and later became Chapter 258, Part II, F.S. This Act codified the already existing aquatic preserves and established standards and criteria for activities within those aquatic preserves. Additional aquatic preserves were individually adopted at subsequent times up through 1989.

In 1980, the Trustees adopted the first aquatic preserve rule, Chapter 18-18, Florida Administrative Code (F.A.C.), for the administration of the Biscayne Bay Aquatic Preserve. All other aquatic preserves are administered under Chapter 18-20, F.A.C., which was originally adopted in 1981. These rules apply standards and criteria for activities in the aquatic preserves, such as dredging, filling, building docks and other structures that are stricter than those of Chapter 18-21, F.A.C., which apply to all sovereignty lands in the state.

This plan is in compliance with the Conceptual State Lands Management Plan, adopted March 17, 1981 by the Board of Trustees of the Internal Improvement Trust Fund and represents balanced public utilization, specific agency statutory authority, and other legislative or executive constraints. The Conceptual State Lands Management Plan also provides essential guidance concerning the management of sovereignty lands and aquatic preserves and their important resources, including unique natural features, seagrasses, endangered species, and archaeological and historical resources.

Through delegation of authority from the Trustees, the DEP and FCO have proprietary authority to manage the sovereignty lands, the water column, spoil islands (which are merely deposits of sovereignty lands), and some of the natural islands and select coastal uplands to which the Trustees hold title.

Enforcement of state statutes and rules relating to criminal violations and non-criminal infractions rests with the Florida Fish and Wildlife Conservation Commission law enforcement and local law enforcement agencies. Enforcement of administrative remedies rests with FCO, the DEP Districts and Water Management Districts.

*2.3 / **Statutory Authority***

The fundamental laws providing management authority for the aquatic preserves are contained in Chapters 258 and 253, F.S. These statutes establish the proprietary role of the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund, as Trustees over all sovereignty lands. In addition, these statutes empower the Trustees to adopt and enforce rules and regulations for managing all sovereignty lands, including aquatic preserves. The Florida Aquatic Preserve Act was enacted by the Florida Legislature in 1975 and is codified in Chapter 258, F.S.

The legislative intent for establishing aquatic preserves is stated in Section 258.36, F.S.: "It is the intent of the Legislature that the state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as hereinafter described, be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations." This statement, along with the other applicable laws, provides a foundation for the management of aquatic preserves. Management will emphasize the preservation of natural conditions and will include lands that are specifically authorized for inclusion as part of an aquatic preserve.

Management responsibilities for aquatic preserves may be fulfilled directly by the Trustees or by staff of the DEP through delegation of authority. Other governmental bodies may also participate in the management of aquatic preserves under appropriate instruments of authority issued by the Trustees. FCO staff serves as the primary managers who implement provisions of the management plans and rules applicable to the aquatic preserves. FCO does not "regulate" the lands per se; rather, that is done primarily by the DEP Districts (in addition to the Water Management Districts) which grant regulatory permits. The Florida Department of Agriculture and Consumer Services through delegated authority from the Trustees, may issue proprietary authorizations for marine aquaculture within the aquatic preserves and regulates all aquaculture activities as authorized by Chapter 597, Florida Aquaculture Policy Act, F.S. Staff evaluates proposed uses or activities in the aquatic preserve and assesses the possible impacts on the natural resources. Project reviews are primarily evaluated in accordance with the criteria in the Act, Chapter 18-20, F.A.C., and this management plan.

FCO staff comments, along with comments of other agencies and the public are submitted to the appropriate permitting staff for consideration in their issuance of any delegated authorizations in aquatic preserves or in developing recommendations to be presented to the Trustees. This mechanism provides a basis for the Trustees to evaluate public interest and the merits of any project while also considering potential environmental impacts to the aquatic preserves. Any activity located on sovereignty lands requires a letter of consent, a lease, an easement, or other approval from the Trustees.

Many provisions of the Florida Statutes that empower non-FCO programs within DEP or other agencies may be important to the management of FCO sites. For example, Chapter 403, F.S., authorizes rules concerning the designation of "Outstanding Florida Waters" (OFWs), a program that provides aquatic preserves with additional regulatory protection. Chapter 379, F.S., regulates saltwater fisheries, and provides enforcement authority and powers for law enforcement officers. Additionally, it provides similar powers relating to wildlife conservation and management. The sheer number of statutes that affect aquatic preserve management prevents an exhaustive list of all such laws from being provided here.

*2.4 / **Administrative Rules***

Chapters 18-18, 18-20 and 18-21, F.A.C., are the three administrative rules directly applicable to the uses allowed in aquatic preserves specifically and sovereignty lands generally. These rules are intended to be cumulative, meaning that Chapter 18-21, F.A.C., should be read together with Chapter 18-18, F.A.C., or Chapter 18-20, F.A.C., to determine what activities are permissible within an aquatic preserve. If Chapter 18-18, F.A.C., or Chapter 18-20, F.A.C., are silent on an issue, Chapter 18-21, F.A.C., will control; if a conflict is perceived between the rules, the stricter standards of Chapter 18-18, F.A.C., or Chapter 18-20, F.A.C., supersede those of Chapter 18-21, F.A.C. Because Chapter 18-21, F.A.C. concerns all sovereignty lands, it is logical to discuss its provisions first.

Originally codified in 1982, Chapter 18-21, F.A.C., is meant "to aid in fulfilling the trust and fiduciary responsibilities of the Board of Trustees of the Internal Improvement Trust Fund for the administration, management and disposition of sovereignty lands; to insure maximum benefit and use of sovereignty lands for all the citizens of Florida; to manage, protect and enhance sovereignty lands so that the public may continue to enjoy traditional uses including, but not limited to, navigation, fishing and swimming; to manage and provide maximum protection for all sovereignty lands, especially those important to public drinking water supply, shellfish harvesting, public recreation, and fish and wildlife propagation

and management; to insure that all public and private activities on sovereignty lands which generate revenues or exclude traditional public uses provide just compensation for such privileges; and to aid in the implementation of the State Lands Management Plan."

To that end, Chapter 18-21, F.A.C., contains provisions on general management policies, forms of authorization for activities on sovereignty lands, and fees applicable for those activities. "Activity," in the context of the rule, includes "construction of docks, piers, boat ramps, boardwalks, mooring pilings, dredging of channels, filling, removal of logs, sand, silt, clay, gravel or shell, and the removal or planting of vegetation" (Rule 18-21.003, F.A.C.). To be authorized on sovereignty lands, activities must be not contrary to the public interest (Rule 18-21.004, F.A.C.).

Chapter 18-21, F.A.C., also sets policies on aquaculture, geophysical testing (using gravity, shock wave and other geological techniques to obtain data on oil, gas or other mineral resources), and special events related to boat shows and boat displays. Of particular importance to FCO site management, it additionally addresses spoil islands, preventing their development in most cases.

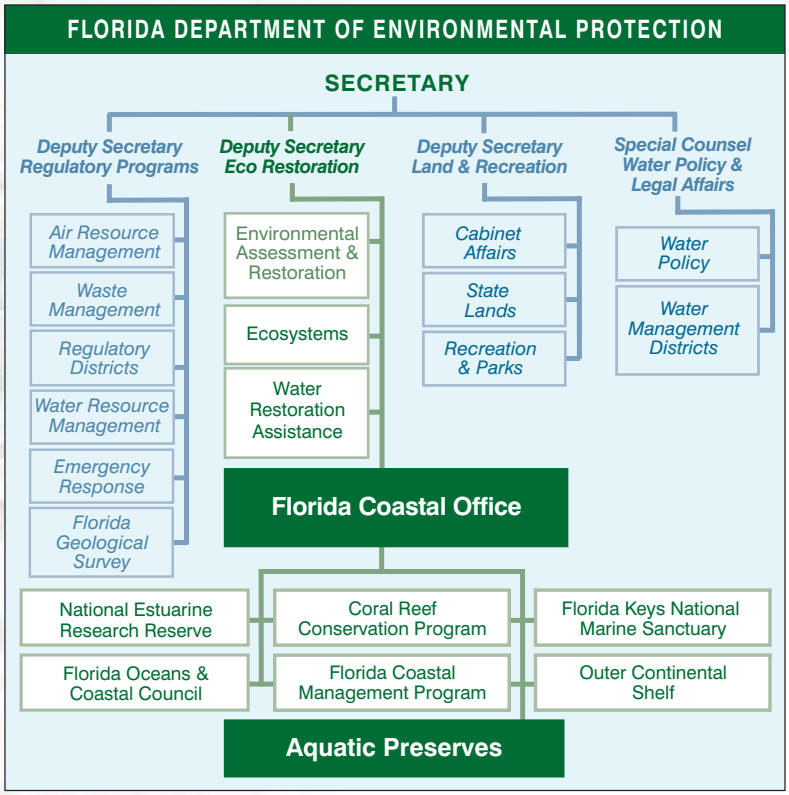


Figure 1 / State management structure.

Chapters 18-18 and 18-20, F.A.C., apply standards and criteria for activities in the aquatic preserves that are stricter than those of Chapter 18-21, F.A.C. Chapter 18-18, F.A.C., is specific to the Biscayne Bay Aquatic Preserve and is more extensively described in that site's management plan. Chapter 18-20, F.A.C., is applicable to all other aquatic preserves. It further restricts the type of activities for which authorizations may be granted for use of sovereignty lands and requires that structures that are authorized be limited to those necessary to conduct water dependent activities. Moreover, for certain activities to be authorized, "it must be demonstrated that no other reasonable alternative exists which would allow the proposed activity to be constructed or undertaken outside the preserve" (Paragraph 18-20.004(1)(g), F.A.C.).

Chapter 18-20, F.A.C., expands on the definition of "public interest" by outlining a balancing test that is to be used to determine whether benefits exceed costs in the evaluation of requests for sale, lease, or transfer of interest of sovereignty lands within an aquatic preserve. The rule also provides for the analysis of the cumulative impacts of a request in the context of prior, existing, and pending uses within the aquatic preserve, including both direct and indirect effects.

Chapter 18-20, F.A.C., directs management plans and resource inventories to be developed for every aquatic preserve. Further, the rule provides provisions specific to certain aquatic preserves and indicates the means by which the Trustees can establish new or expand existing aquatic preserves.

As with statutes, aquatic preserve management relies on the application of many other DEP and outside agency rules. Perhaps most notably, Chapter 62-302, F.A.C., concerns the classification of surface waters, including criteria for OFW, a designation that provides for the state's highest level of protection for water quality. All aquatic preserves contain OFW designations. No activity may be permitted within an OFW that degrades ambient water quality unless the activity is determined to be in the public interest. Once again, the list of other administrative rules that do not directly address FCO's responsibilities but do affect FCO-managed areas is so long as to be impractical to create within the context of this management plan.

Least tern walking along the sandy shore of Escribano Point.

Chapter Three

Yellow River Marsh Aquatic Preserve

3.1 / ***Historical Background***

The earliest settlers of Northwest Florida arrived around 12,000 years ago to a Florida that was much different than today. These setters, known as Paleoindians, inhabited a Gulf Coast with a sea level that was roughly 160 feet lower than the current level (Phillips & McKenzie, 1993). Being that the shoreline was further south, it is believed that many artifacts from Paleoindian cultures are buried beneath bays, floodplains, and other water features. The earliest recorded evidence of human settlements within the Pensacola Bay Watershed (PBW) has been linked to the Dalton culture. Artifacts from this culture of the Late Paleoindian period have been produced during exploratory studies of Santa Rosa and Escambia counties and are representative of a culture that engaged in a hunting and gathering economy. These early settlers of the watershed slowly transitioned from a nomadic culture to a more stationary lifestyle; dispersed settlements were replaced by base-satellite settlements. These new settlers of the Archaic and Gulf Formational periods were able to improve their hunting and gathering technology as well as establish political and economic systems that fostered inter-tribal trade. Long distance trade was bolstered by stationary settlement systems that were comprised of a larger base camp and many smaller satellite camps (Phillips & McKenzie, 1993).

The base-satellite settlement system became more sophisticated during the Woodland and Mississippian periods. The Woodland period is marked by a coastal subsistence base, and as such, the base camps from this time are primarily located along the coast; smaller satellite camps were often located along upland stream valleys. The Woodland presence in northwest Florida is represented by the Deptford, Santa Rosa, and Swift Creek cultures. Northwest Florida's ecotonal coast allowed members of the Deptford culture to have access to a varied supply base that included marine and terrestrial resources (Bense, 1992). Two Deptford sites have been excavated in the area around Yellow River Marsh Aquatic Preserve (YRMAP). Ceramics and intact artifacts have been discovered at a Woodland ring midden site known as Bernath Place, roughly 1.5 miles from YRMAP. The objects recovered from Bernath Place have radiocarbon dates ranging from 350 A.D. to 590 A.D. It is believed that this site served as a socio-political

base camp for the satellite camp sites (Phillips & McKenzie, 1993). The Woodland settlement pattern blurred into the Mississippian Stage in Northwest Florida because the coastal soils were not equipped to facilitate the agricultural advances of upland tribes during this period. American Indian presence within the watershed was irretrievably changed after European contact and by the mid-18th century the American Indians were practically gone (Phillips & McKenzie, 1993).

The earliest European influence on the PBW began with the Panfilo de Narvaez expedition in 1528. This Spanish exploration was documented in the narrative of Cabeca de Vaca. De Vaca's account provides the first historical description of Northwest Florida natives. Nineteen years later, in an effort to secure a position in the New World, Spain sent Tristan de Luna to establish a permanent colony. Shortly after landing, half of Luna's fleet was destroyed by a hurricane and many of Luna's colonists fell prey to disease. The colony was abandoned by 1561 (Worth, n.d.). While the exact location of Luna's settlement is unknown, underwater investigations performed by Roger Smith have produced evidence of a 16th century shipwreck that is believed to be one of Luna's vessels (Worth, 2010).

The failure of this colony kept the Spanish away for almost 150 years; they returned to the Pensacola area in 1698 after the French began to expand into Florida. Despite a few changes of hand, the PBW remained under Spanish authority for most of the next century. The Spanish colonists quickly came to realize the value of the PBW and logging began in the early 1700s. During the Second Spanish Colonial period (1781 – 1821), Santa Rosa County began to see heavy utilization, serving as a location for repairing ships and establishing water-powered mills (Phillips & McKenzie, 1993). The water-powered mills were very successful and lumber mills became a leading industry in the county. This industrial boom grew even stronger after Florida became American territory in 1821 (Worth, 2010). Studies have recorded 34 water-powered mill sites in the area. The steady economic growth of the area's lumber mill industry was eventually halted by poor resource conservation measures from Florida's lumbermen. As a result, the PBW area experienced a stagnant economy until WWII, when military installations helped revive development within the watershed (Phillips & McKenzie, 1993).

YRMAP was established on April 9th, 1970 under designation by the Florida legislature. The aquatic preserve benefited from additional protection when it was designated as an Outstanding Florida Water (OFW). The protection afforded to the aquatic preserve also benefits the local economy and residents; the aquatic preserve is enjoyed by both fishing and recreational enthusiasts.

*3.2 / **General Description***

International/National/State/Regional Significance

The Florida Legislature designated YRMAP as an Aquatic Preserve in 1970 for the primary purpose of protecting the areas biological resources and for maintaining these resources in an essentially natural condition (Department of Natural Resources [DNR], 1991). The aquatic preserve was included in the Aquatic Preserves Act of 1975 passed by the Florida Legislature and designated as an OFW in 1979 (Rule 62-302.700 (9), Florida Administrative Code [F.A.C.]). The Florida Department of Environmental Protection (DEP) affords the highest level of protection to these waters—activities or discharges proposed within an OFW must not lower ambient water quality and must be "clearly in the public interest" before the DEP issues a permit (DEP, 2011). The aquatic preserve was also selected as a Gulf Ecological Management Site for its ecological significance in the Gulf of Mexico Region. The Gulf Ecological Management Site Program is a partnership between U.S. Environmental Protection Agency's Gulf of Mexico Program, the Gulf of Mexico Foundation, and the five Gulf of Mexico states (Gulf of Mexico Foundation, n.d.). The 11,000 acres of state-owned submerged lands that make up YRMAP have experienced minimal agricultural and residential impact, making the aquatic preserve a true asset to the state of Florida.

YRMAP is a vital natural component of the PBW, as it provides clean water, valuable fish and wildlife habitat, and public recreation opportunities (DNR, 1991). More than 1,000 acres of salt and freshwater marshes and approximately 1,500 acres of forested wetlands provide water filtration from pollutants and natural flood control to surrounding populations. The freshwater fisheries of the Blackwater and Yellow rivers, located within the aquatic preserve, are some of the most biologically diverse in the state of Florida due to the minimally impacted marshes, seagrass beds, and forested wetlands (DNR, 1991). The Yellow River is considered a blackwater shifting sand stream, a rare type of river found in low areas where water is stained brown from tannins as it filters through wetlands that drain into the river's main stem (Impact Assessment Inc., 2005). One of the most productive biological communities in the world, tidal marsh, is also found in the aquatic preserve. YRMAP is an economically and ecologically valuable nursery area, as more than 75 percent of commercially important fish and shellfish species rely on estuaries like those in the aquatic preserve at some stage of their lives (National Oceanic and Atmospheric Administration

Seagulls on sand bar in salt marsh during low winter tides.

[NOAA], n.d.). A part of what was once considered the "redfish capital of the world" (Impact Assessment Inc., 2005), the aquatic preserve is a regional hotspot for recreational fishing.

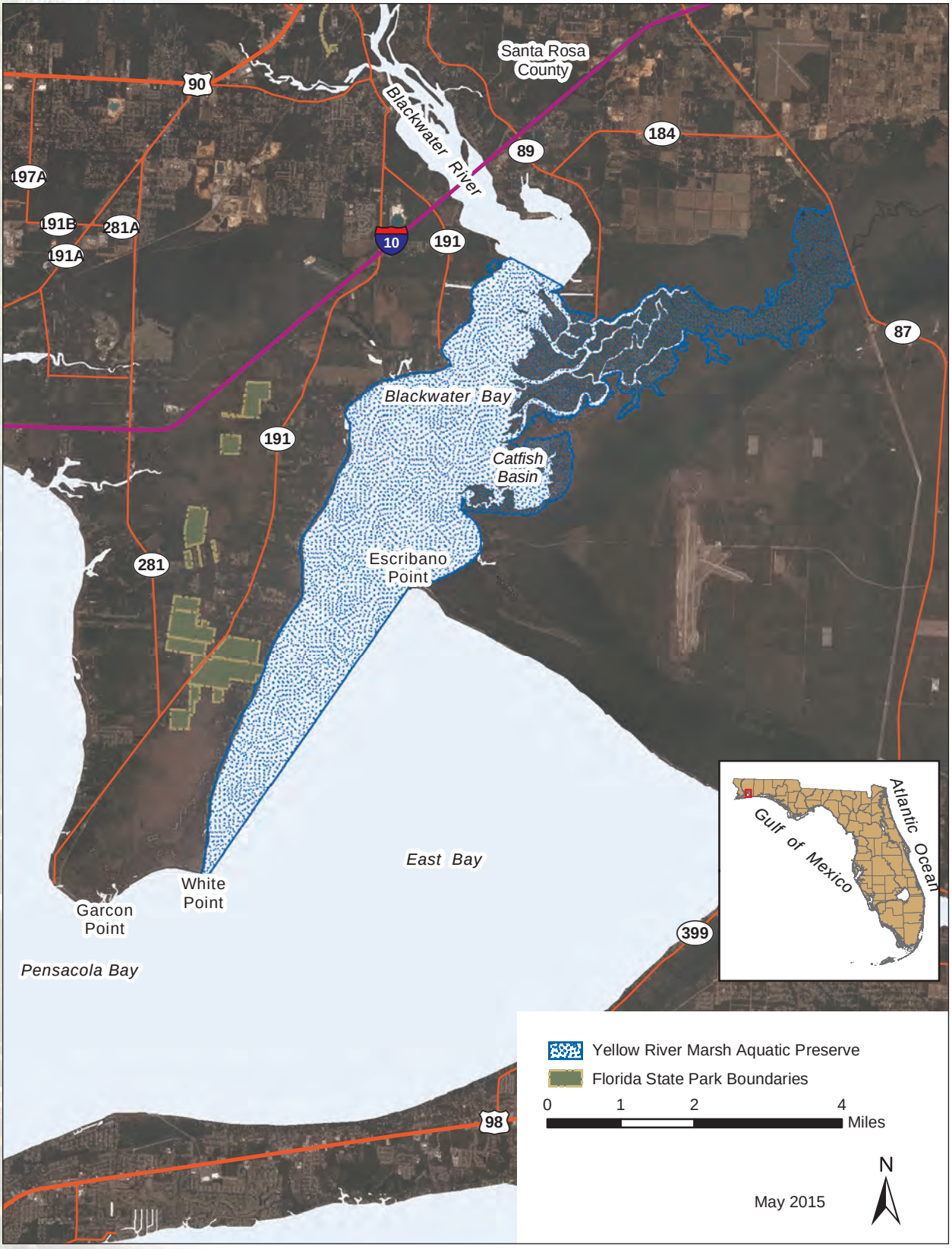
YRMAP contains all of the sovereign submerged state owned lands of the Yellow River, Blackwater Bay and East Bay, within the aquatic preserve boundary (DNR, 1991). Rare and imperiled natural communities such as maritime hammocks, sandhills, seagrass beds, and wet prairies are found within or adjacent to the aquatic preserve boundaries, and are managed by other state and federal agencies or private landowners, as well as YRMAP. The upland areas within the aquatic preserve boundary are designated primarily for military, residential, and agricultural uses (DNR, 1991). The publically owned Yellow River Marsh Preserve State Park, part of the Florida's Division of Recreation and Parks, is directly connected to YRMAP at the western side of the aquatic preserve. The largest landholding adjacent to the aquatic preserve is Eglin Air Force Base (AFB). The base is responsible for managing most of its lands, especially the low-lying wetlands designated as Eglin Wildlife Management Area.

Location/Boundaries

YRMAP is located in south-central Santa Rosa County in the western Florida Panhandle (Map 2). The aquatic preserve is part of the PBW and includes parts of Blackwater and East Bays, as well as the western portion of Yellow River. The aquatic preserve's boundary extends from Highway 87, west on the Yellow River and west to Bay Point on Blackwater Bay. From Bay Point, the aquatic preserve boundary stretches southward to White Point on East Bay, and then extends eastward to Escribano Point to the mouth of Blackwater Bay. From Escribano Point, the aquatic preserve boundary follows the shoreline north to Grassy Point and then extends inland to Highway 87 south of the Yellow River (Phillips & McKenzie, 1993).

Located northwest of YRMAP are the two closest population centers: the city of Milton, with a 2010 population of 8,826, and the village of Bagdad, with a 2010 population of 3,761 (U.S. Census Bureau, 2010). Milton is also the county seat of Santa Rosa County. There are several significant transportation routes in proximity of the aquatic preserve. Interstate 10 is located northwest of the aquatic preserve and is the only major interstate in the western Florida Panhandle. State Highway 87 is an important road for north and south travel in Santa Rosa County. The Highway 87 Bridge over the Yellow River was built in 1984 and has daily use of approximately 7,500 cars (The Ledger, 2013). State Road 281 (Avalon

Boulevard) runs north and south on the Garcon Point peninsula, eventually connecting Garcon Point to the city of Gulf Breeze via the Garcon Point Toll Bridge. Completed in 1999, the bridge offers passage over East Bay. County roads include County Road 191 (Garcon Point Road) and County Road 191C on Garcon Point peninsula, County Road 89 (Ward Basin Road), and County Road 184. Access points to the aquatic preserve include the Highway 87 Bridge, Ward Basin Road, and various community roads on Garcon Point peninsula.



Map 2 / Yellow River Marsh Aquatic Preserve.

Surrounding Population Data and Future Projected Changes

Santa Rosa County had an estimated population of 151,372 in 2010 (U.S. Census Bureau, 2010). Santa Rosa County and its neighboring counties have experienced significant growth during the past few decades, seeing a 63 percent increase in population since 1980. It's projected that the county will increase to a population of 237,300 people by 2040. This is not uncommon for Florida's coastal counties; it is estimated that more than 75 percent of the state's population resides in coastal communities. The city of Milton, Santa Rosa's county seat and largest incorporated city, had a 2010 population estimate of 8,826 people, while unincorporated areas of the county had an estimated population of 136,250 (U.S. Census Bureau, 2010).

In 2015, an estimated 2.6 percent of Santa Rosa's residents were employed in local, state, or federal government positions, which would include employment in the nearby military installations. Other major employment sectors include jobs within the leisure and hospitality field, the trade, transportation, and utilities field, and education and health services (Office of Economic and Demographic Research, 2015).

Current and future development patterns within the county could impact the health of the aquatic preserve. The Florida Natural Areas Inventory (FNAI) reported in early 2013 that 39 percent of Santa Rosa was conserved by way of public and private land management agencies. Land use adjacent to YRMAP, though, includes commercial, single family residential, rural single family residential, military and agricultural zoning in addition to conservation land use zoning. Rapid population growth and increasing infrastructure development near the aquatic preserve could result in increased storm water runoff and nutrient discharge, which would diminish the aquatic preserve's water quality (Santa Rosa County Division of Community Planning, Zoning, and Development, 2008).

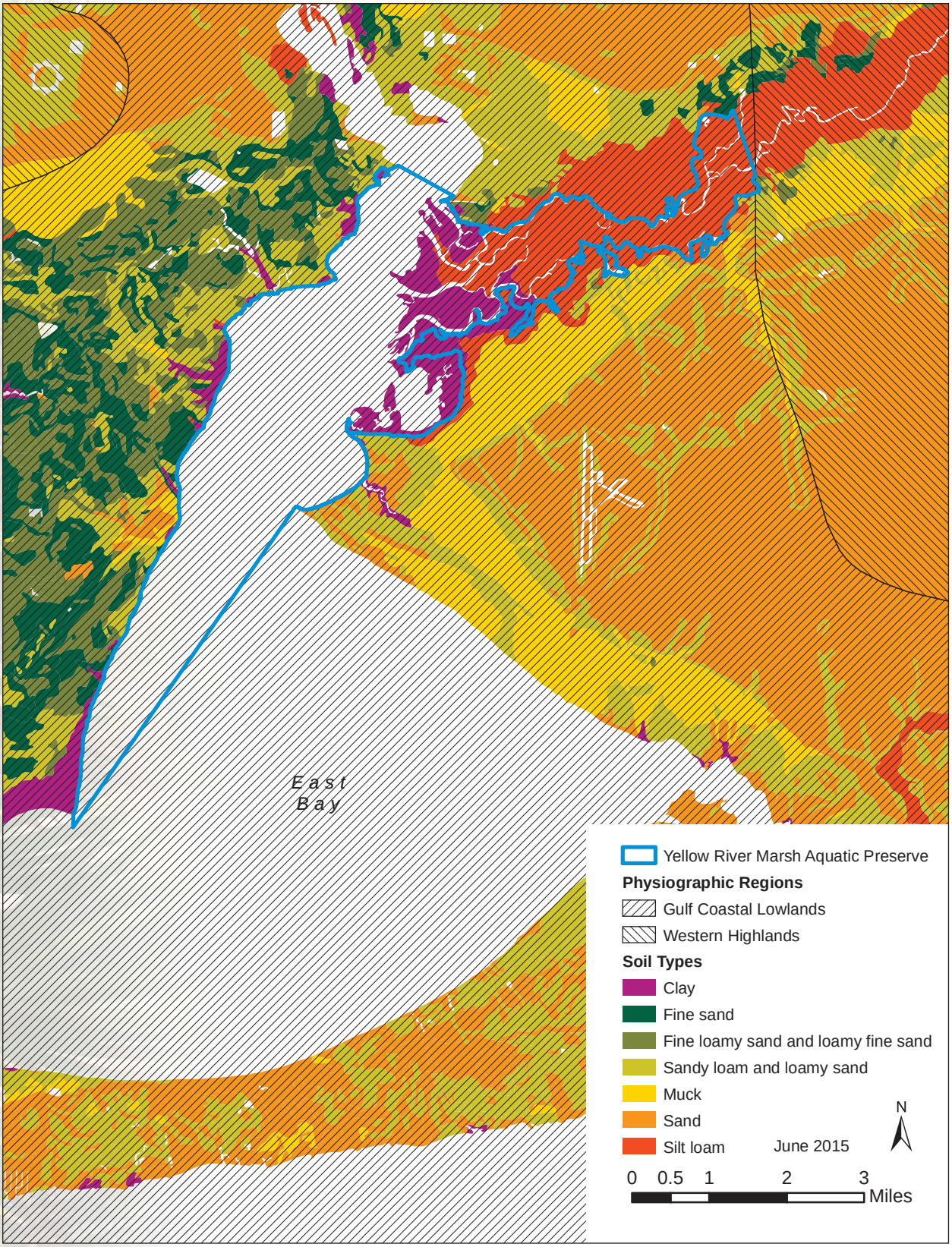
Topography and Geomorphology

Topography is the study of Earth's man-made and natural surface features, specifically relief, landforms, and the three dimensional aspects of terrain. Santa Rosa County is situated in the Northern Geomorphic Zone and is contained within the Coastal Plain Province, a major physiographic region of the United States that extends eastward from Texas and northward as far as New York. The coastal plain is underlain primarily by beds of sand, silt, limestone and clay that slope slightly seaward (Marsh, 1966). The Northern Geomorphic Zone is divided into two topographical subdivisions: the Western Highlands, which are found in the northern regions of the county and are characterized by rolling hills with sand and clay soils (White, 1970), and the Gulf Coastal Lowlands, which are found in the southern regions of the county and are characterized by relatively un-dissected and nearly level plains (Marsh, 1966). As part of the PBW, YRMAP is located within the Gulf Coastal Lowlands (Map 3) and has topographical features characterized by limited relief and very little slope (Phillips & McKenzie, 1993).

The most distinctive features of the topography of Santa Rosa County are the Pleistocene marine terraces along the Gulf Coast (Marsh, 1966). Geomorphologic processes have a significant influence on the formation of these step-like surfaces. Sea level changes associated with the repeated retreat and growth of continental glaciers characteristic of the Pleistocene Epoch shaped both the Gulf Coastal Lowlands and five ascending marine terraces found in the region (Healy, 1975; Rupert, 1994). Marine terraces run roughly parallel and are divided by wave-cut scarps. The marine terraces found in and around YRMAP are Silver Bluff (eight feet above sea level or less), Pamlico (8-25 feet above sea level), and Penholoway (42-70 feet above sea level). Wicomico (70-100 feet above sea level) and Sunderland/ Okefenokee (100-170 feet above sea level) are also present surrounding the aquatic preserve (Healy, 1975). Remnants of these terraces are preserved as upland plateaus, flat-topped hills, and low coastal plains (Marsh, 1966). These marine terraces and scarps may help control drainage within the aquatic preserve (Rupert & Arthur, 1990).

Major geomorphologic features of the areas surrounding the aquatic preserve are large sand deposits known as sandhills. Elevation descends from the sandhills (100+ feet above level) to the riverine and estuarine habitats of the aquatic preserve. Slight changes of elevation in low areas around rivers create patterns of inundation and hydrology that dictate vegetation composition and structure. The myriad of natural communities (see Natural Communities section below) found near the mouth of the Yellow River are a function of slight yet significant elevation changes. The processes inherent to a shifting sand blackwater stream such as the Yellow River also impact elevation and vegetation. Due to its location in lowlands and substrate comprised of sand and silt, the banks and riparian areas around the Yellow River are highly erodible and subject to relatively rapid change in structure, especially when disturbed. For example, removal of woody material from rivers may have an impact on bank structure and channel stability (Gordon, McMahon & Finlayson, 1994), and reduce habitat for native species (Ray, 1999).

YRMAP lies in the physiographic region known as the Gulf Coastal Lowlands, the low lying area including parts of southern Santa Rosa County (U.S. Department of Agriculture, 1980). This region consists of sedimentary rocks from the Mesozoic Era (250-66 million years ago) and Cenozoic Era (65 million years ago-present) (Scott et al., 2001). The coastal lowlands consist of relatively undissected, nearly level plains divided by coastal terraces which formed during the advance and retreat of the glaciers in the Pleistocene Epoch (Wolfe, Reidenauer, & Bruce, 1988).



Map 3 / Geology and soils of Yellow River Marsh Aquatic Preserve.

Santa Rosa County contains two surface geologic formations: the Pleistocene/Holocene Formation and the Pliocene Citronelle Formation. The most recent are Pleistocene (three million to 10,000 years ago) and Holocene Epoch (10,000 years ago to present) undifferentiated sediments. During these epochs, high energy streams deposited upland sediments of sand, clays, and gravel in alluvial fans which have coalesced on the coastal plain. These soft sandy deposits have been deeply eroded by streams which produced a relatively flat, yet highly dissected land surface (Phillips & McKenzie, 1993).

Underlying the Pleistocene/Holocene formation is the Citronelle Formation, which was deposited approximately five to three million years ago during the Pliocene epoch and is found from about 50 feet below sea level to 100 feet above sea level (Puri & Vernon, 1964). The Citronelle Formation is widespread in the Gulf Coastal Plain and consists primarily of sands and significant amounts of clay, silt, and gravel. Much of this formation is highly permeable and forms the sand and gravel aquifer, the primary aquifer used for human consumption in the region (Scott et al., 2001). Major tributaries of the Pensacola Bay System such as the Yellow and Blackwater rivers are incised into the sand and gravel aquifer and groundwater flow from the aquifer discharges to these tributaries and to the bay (Thorpe et al., 1997).

Hydrology and Watershed

YRMAP lies within the PBW, contained in the Blackwater Bay, which is fed by the Yellow River and the Blackwater River. Thirty percent of PBW lies in Florida (Map 4), covering the counties of Escambia, Santa Rosa, Okaloosa, and Walton; the rest of the 7,000 square mile watershed lies in Alabama (Thorpe et al., 1997). This watershed system discharges into the Gulf of Mexico.

The Yellow River extends 110 miles north from Blackwater Bay to its headwaters in Bullock County, Alabama with a drainage basin that covers 1,365 miles. The Yellow River has the highest elevation in Florida, making it the fastest flowing river in Florida. As a result, the Yellow River creates bluffs as high as 40 feet as it cuts through the highlands, carrying more sediment than any other Florida river of equivalent size (Compton et al., 2000). Tidal fluctuations have been detected up to 19 miles upstream. The Blackwater River extends 60 miles north of the bay and has a drainage area of approximately 860 square miles, originating in Covington County, Alabama (Thorpe et al., 1997). For the Blackwater River, tidal fluctuations have been observed as far as six miles upstream.

While the Pensacola Bay System has experienced issues with water quality since 1955, the Blackwater Bay portion has not seen the same anthropogenic degradation. However, Santa Rosa's coastal population growth is a concern for the Northwest Florida Water Management District (NWFWMD). NWFWMD is concerned that as the Santa Rosa population increases near large water features of the PBW that the Blackwater Bay would begin to experience water quality degradation due to storm water runoff, gray water, septic tank leachate and increases from wastewater treatment plant discharges (Thorpe et al., 1997). Additionally, this portion of the PBW is more susceptible to anthropogenic degradation because it is a lower energy system where there is a lack of significant circulation, potentially leading to these bays and bayous acting as sinks for surface runoff.

YRMAP lies on top of the surficial aquifer system, or the sand and gravel aquifer as it is called in the western Panhandle. The surficial aquifer system is the major source of groundwater for Walton County and is comprised of Pleistocene and Holocene Epoch undifferentiated sand, clay, gravel and silt. This aquifer is recharged by rainfall and flow generally follows a pattern from high to low topography, though rivers and streams tend to create a discharge boundary that may have a local effect on flow patterns (Pratt et al., 1996).

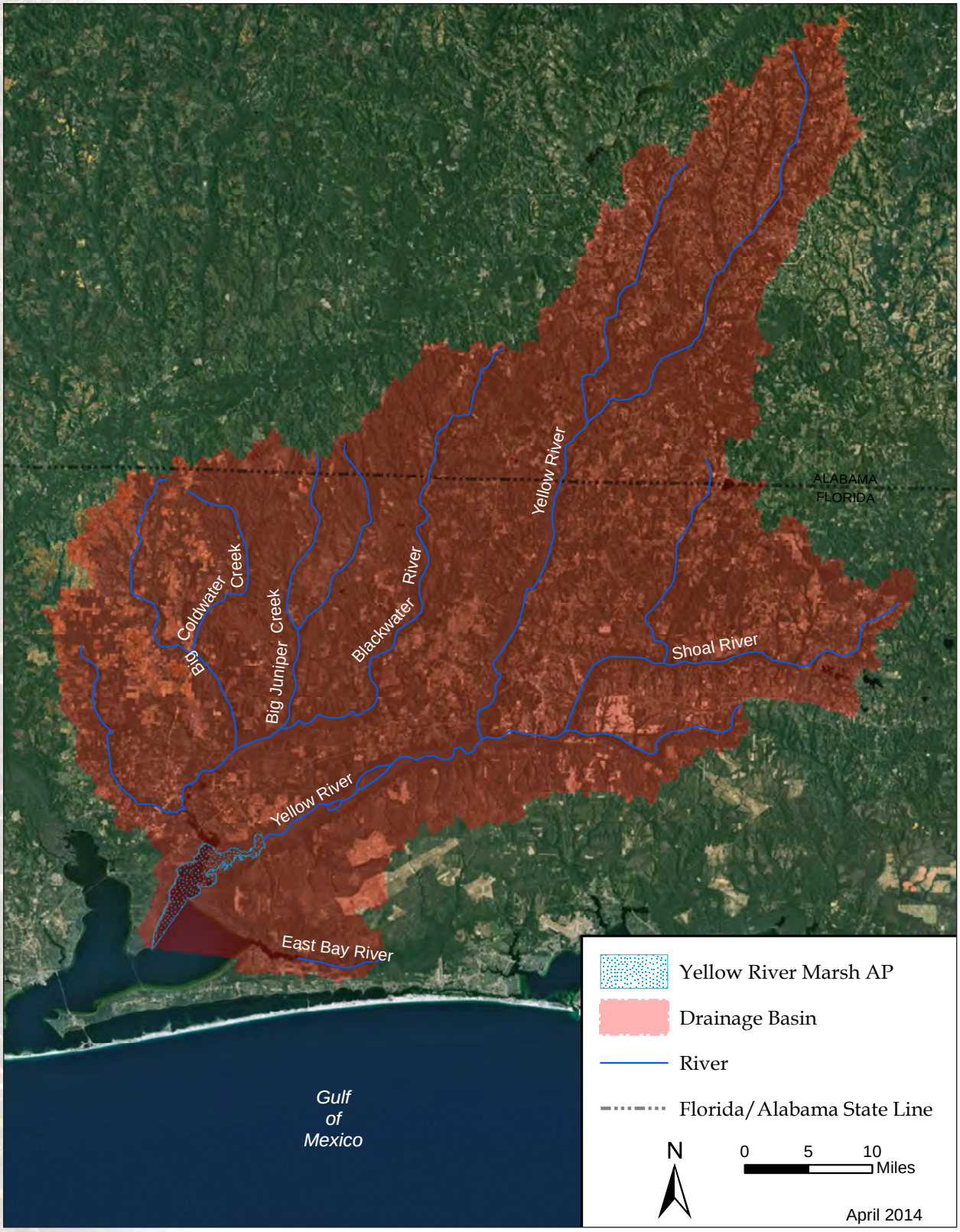
YRMAP and Blackwater River are both considered as an OFW. The aquatic preserve was designated as an OFW on March 1, 1979. The Yellow River is classified as a Class III waterway, or a water body which is designated for recreation, and propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Blackwater Bay and East Bay are both classified as Class II waterbodies, designated for the shellfish harvesting and propagation.

Climate

The year-round climate of northwest Florida and YRMAP is typical of the Northern Hemisphere's humid subtropical climate zone, with long, hot, humid summers, and relatively mild, short, wet winters. Humidity is relatively high (averaging 60 percent in the mornings and 85 percent in the afternoons), and winds are normally from the north/northwest in fall and winter and the south/southwest in spring and summer (NOAA, 2014). The average maximum temperature is 76.6°F and the average minimum temperature is 59.2°F. On average, the hottest months are June, July and August and the coolest months are December, January and February (NOAA, 2014).

Typically, there are two wet seasons in northwest Florida in which summer precipitation is driven by convection and winter precipitation is driven by fronts (Winsberg, 2003). Average annual total precipitation

is 65.27 inches and is comprised almost entirely of rainfall. Snow is uncommon, with an average annual rate of 0.1 inches (NOAA, 2014). The months with the highest average precipitation are June, July, August and September. The occurrence of an El Niño Southern Oscillation or La Niña event may have a significant impact on precipitation and temperature in northwest Florida: El Niño may result in 30-40 percent more precipitation and relatively cooler temperatures than the annual average for the winter season, and La Niña may result in a much drier spring and winter than the average. Additionally, the occurrence of an El Niño event suppresses damaging winter freezes and lessens the severity of the hurricane season (Winsberg, 2003).



Map 4 | Drainage basins of Yellow River Marsh Aquatic Preserve.

Tropical storms and hurricanes are both tropical low-pressure systems and are a constant threat and reality in northwest Florida. When the sustained wind velocity in a tropical system rises above 73 miles per hour, it is reclassified from a tropical storm to a hurricane (Winsberg, 2003). The hurricane season runs from May to November and is associated with the warming of Atlantic and Gulf of Mexico surface waters and warm, humid air masses. The impacts of tropical storm systems on the biological and physical processes of an inland water body can be significant. Sensitive natural communities within YRMAP such as seagrass beds, can be considerably altered by physical disturbance and changes in hydrology caused by tropical storm events. Short-term impacts include water level increases from ocean surge and upstream flooding, both of which result in significant changes in salinity (Dix, Phlips, & Gleeson, 2008; Edmiston et al., 2008; Paerl et al., 2001), temperature, dissolved oxygen, turbidity (Edmiston et al., 2008) and nitrogen levels (Dix et al., 2008; Paerl et al., 2001). Mid-term impacts may include algal blooms spurned by the increase of nitrogen (Mallin & Corbett, 2006; Paerl et al., 2001). Long term impacts may include loss of submerged, emergent and terrestrial vegetation and loss of oyster beds (Edmiston et al., 2008).

The impact of tropical systems on estuarine systems, which are disturbance regime systems in general, is highly variable depending on the characteristics of the storm and the site (Edmiston et al., 2008; Mallin & Corbett, 2006) and may in fact be quite similar to the impacts of normally occurring storm events, especially for short-term impacts (Edmiston et al., 2008; Hagy, Lehrter, & Murrell, 2006). This variability was apparent after Hurricane Ivan, the most recent significant storm in the region that hit the Gulf Coast centered around Gulf Shores, Alabama on September 16, 2004. This Category Three storm caused significant tree blow-downs and physical damage to human-built structures, ultimately resulting in nearly 9.5 billion dollars of insurance claims in Florida (Pensacola News Journal, 2005). While the physical disturbance caused by Hurricane Ivan within the Pensacola Bay system was large, the documented effects on freshwater inflow, phytoplankton biomass and hypoxia were within the range of normal variability (Hagy et al., 2006).

Natural Communities

The natural community classification system used in this plan was developed by the FNAI and DNR, now DEP, and updated in 2010. The community types are defined by a variety of factors, such as vegetation structure and composition, hydrology, fire regime, topography and soil type. The community types are named for the most characteristic biological or physical feature (FNAI, 2010). FNAI also assigns Global (G) and State (S) ranks to each natural community and species that FNAI tracks. These ranks reflect the status of the natural community or species worldwide (G) and in Florida (S). Lower numbers reflect a higher degree of imperilment (e.g., G1 represents the most imperiled natural communities worldwide, S1 represents the most imperiled natural communities in Florida).

These data are not always based on comprehensive or site-specific field surveys, and no additional fieldwork was conducted for purposes of producing this map (Map 5). The descriptions of the natural community types found on YRMAP have been adapted from the Guide to the Natural Communities of Florida (FNAI, 2010).

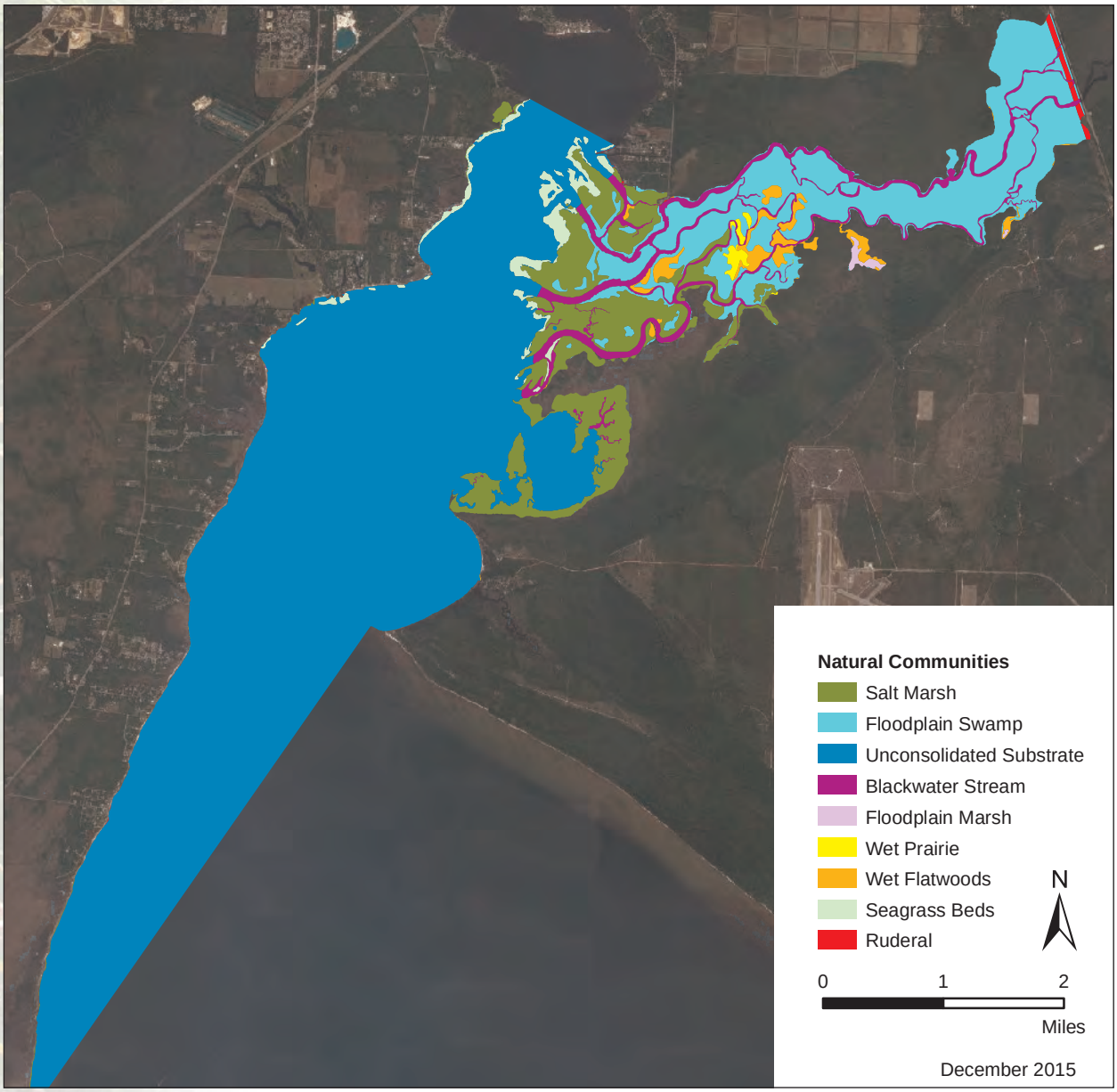
FNAI Natural Community Type	# Acres	% of Area	Federal Rank	State Rank	Comments
Estuarine Unconsolidated Substrate	7,283	68.0%	G5	S5	
Floodplain Swamp	1,553	14.5%	G4	S4	
Salt Marsh	1,046	9.8%	G4	S4	
Blackwater Stream	461	4.3%	G4	S2	
Seagrass Beds	166	1.5%	G2	S2	
Wet Flatwoods	135	1.3%	G4	S4	
Wet Prairie	29	0.3%	G2	S2	
Floodplain Marsh	18	0.2%	G3	S3	
Mollusk Reef	NA	NA	G3	S3	This community is unmapped in YRMAP, but has a minimal presence.
Ruderal	26	0.2%	NA	NA	Ruderal is not a natural community but includes developed and disturbed areas.
Total	10,717				

Table 1 / Summary of natural communities in Yellow River Marsh Aquatic Preserve.

Salt Marsh (synonyms: coastal wetlands, coastal marsh, tidal marsh, saltern, tidal marsh, tidal wetlands)

Salt marsh is a largely herbaceous coastal ecosystem that occurs at the interface of land and marine waters, wherever wave energy is low and mangrove density does not inhibit the growth of characteristic vegetation. Salt marsh communities are characterized by very gentle seaward slopes and are protected from large waves, either by the sloping topography of the shore, by a barrier island, or by location along a bay or estuary (FNAI, 2010). This community is at least occasionally inundated with salt water and consists of non-woody, salt-tolerant plants, which may exist in distinct zones dominated by a single species of grass or rush. In Florida, the extent and range of salt marsh is determined by the width of the intertidal zone, which depends on the slope of the shore and the tidal range (FNAI, 2010).

Two principal marsh plants, salt marsh cordgrass (*Spartina alterniflora*) and black needlerush (*Juncus roemerianus*), range throughout Florida and are found in YRMAP. Cordgrass is found where marsh is flooded almost daily and needlerush is found where the marsh is flooded less frequently. One rare plant, beaked spikerush (*Eleocharis rostellata*), and one rare reptile, the Gulf saltmarsh snake (*Nerodia clarkii clarkii*), are found in saltmarsh marsh in YRMAP. Key bird species found in salt marsh of YRMAP include the Louisiana seaside sparrow (*Ammodramus maritimus fisheri*), which depends on the marsh throughout its entire life cycle, and the marsh wren (*Cistothorus palustris*), which rely on the marsh for breeding grounds. Additional bird species that frequent YRMAP salt marsh habitat include the black rail (*Laterallus jamaicensis*), tricolor heron (*Egretta tricolor*), white ibis (*Eudocimus albus*) and little blue heron (*Egretta caerula*).



Map 5 / Yellow River Marsh Aquatic Preserve Florida Natural Areas Inventory natural communities.

Salt marsh is a dominant natural community in YRMAP. It can be found at the mouths of the Weaver and Yellow rivers as well as along Catfish Basin and the southern end of the Garcon Peninsula. This natural community has one of the highest rates of net primary production of the world's ecosystems, resulting in services valued by humans, such as sediment stabilization, storm protection, beauty, and wildlife (FNAI, 2010). The high production gives rise to terrestrial and marine food webs that support many fascinating animals, including some of commercial and recreational value (Myers & Ewel, 1990).

Floodplain Swamp (synonyms: river swamp, bottomland hardwoods, seasonally flooded basins or flats, river mouth swamp, other wetland forested mixed, etc.)

Floodplain swamp is a forested, permanently or frequently flooded community adjacent to stream and river channels and in depressions and oxbows within floodplains (FNAI, 2010). The canopy is generally dominated with trees such as bald cypress (*Taxodium distichum*) and tupelo (*Nyssa* spp.), and may contain other trees, to a lesser extent, that are able to withstand frequent inundation (e.g. water hickory [*Carya aquatica*], overcup oak [*Quercus lyrata*], red maple [*Acer rubrum*], green ash [*Fraxinus pennsylvanica*]). Floodplain swamp can often occur within a complex mixture of communities including alluvial forest, bottomland forest, and baygall. This produces a variable assemblage of canopy and subcanopy species, with less flood tolerant trees and shrubs found on small hummocks and ridges within the swamp.

Accumulated, rich organic debris is redistributed to other portions of the floodplain during floods and storm events, providing a vital source of nutrients to downriver ecosystems such as estuaries (FNAI, 2010).

Floodplain swamp communities provide important wildlife habitat, contribute to flood attenuation, and help protect the overall water quality of streams and rivers. Floodplain swamp and other wetland forested mixed areas in YRMAP are in good condition with little development or alterations. Several invasive species have been notated within or adjacent to YRMAP boundaries. Further cataloging and treatment of species will need to be performed.

Estuarine Unconsolidated Substrate (synonyms: beach, shore, mud flat, tidal flat, soft bottom, sand bar)

YRMAP is composed largely of estuarine unconsolidated substrate, some of the most widespread natural communities in the world (FNAI, 2010). Throughout Florida, estuarine unconsolidated substrate communities can vary in origin based on the surrounding plant material. Four kinds of unconsolidated substrate - mud, mud/sand, sand and shell - are found throughout the coastal regions of Florida and are present in YRMAP mainly in the composition of mud and mud/sand. Much of this unconsolidated substrate is attributed to sedimentation from rivers influencing the watershed. The condition of this natural community is good, but the sedimentation is an issue, particularly to other natural communities such as seagrass beds and mollusk reef. This sedimentation could be minimized with additional funding for paving of roads. The addition of shell to the system has been beneficial in recent years and will continue to provide suitable substrate for oyster growth.

Biological characteristics of estuarine communities include high productivity, high dominance, and low species diversity (Myers & Ewel, 1990). Estuarine subtidal zones are important feeding grounds for many bottom feeding fish in the aquatic preserve, such as spot (*Leiostomus xanthurus*), catfish, the federally threatened Gulf sturgeon (*Acipenser oxyrinchus desotoi*); and intertidal and supratidal estuarine zones are important feeding grounds for many shore birds and invertebrates.

Mollusk Reef (synonyms: oyster bar, oyster reef, oyster bed, oyster rock, oyster grounds, mussel reef, worm shell reef)

Mollusk reefs are faunal based communities characterized as expansive concentrations of sessile mollusks in intertidal and subtidal zones up to 40 feet in depth. In Florida, most are generally restricted to estuarine areas and are dominated by the American oyster (*Crassostrea virginica*). Within the collage of the substrate, numerous other sessile and benthic invertebrates live among, attached or within the community (FNAI, 2010). In YRMAP, the most common are oyster drills (*Urosalpinx* spp.), polychaetes (Polychaeta), barnacles (Cirripedia), bluecrab (*Callinectes sapidus)* and mud crab (Xanthidae). Many fish frequently occur near or feed among the mollusk reefs in and around YRMAP, such as gobies (Gobiidae), killifish (*Fundulus* spp.) and striped mullet (*Mugil cephalus*). Mollusk reefs that are exposed during low tides are frequented by a multitude of shorebirds, wading birds, raccoons (*Procyon lotor*), and other vertebrates.

Typically mollusk reefs occur in estuarine conditions with salinity ranges from 15 to 30 parts per thousand. and their absence in marine water is largely attributed to the many predators, parasites and diseases of oysters that occur in higher salinities (FNAI, 2010). Prolonged exposure to low salinities (less than two parts per thousand) is also known to be responsible for massive mortality of oyster reefs. Thus, significant

salinity fluctuations can be detrimental to the oyster reef communities. Once established, they can generally persist and often expand by building upon themselves. These reef-building mollusks require consolidated substrate for larval settlement, which is often limited in estuarine communities due to large amounts of silts, sands and muds deposited by rivers (FNAI, 2010).

The major threats to mollusk reefs continue to be pollution and substrate degradation. Mollusks are filter feeders and in addition to filtering food, they also filter and accumulate toxins from the water. Declining oyster and other mollusk reefs populations can be expected in coastal waters that are being dredged or are receiving chemicals mixed with rainwater runoff, or from drainage of untreated residential or industrial sewage systems (FNAI, 2010).

Sedimentation and other factors have led to a decline in oyster reef acreage in YRMAP. Once a highly productive community for YRMAP and surrounding waters, there is focus for oyster reef restoration in subtidal and intertidal areas to bring back to historical conditions. Currently this natural community has minimal presence in YRMAP. Several intertidal and subtidal oyster bed restoration projects have been implemented, and more are planned.

Blackwater Stream (synonyms: blackwater river, blackwater creek)

Blackwater streams are perennial or intermittent seasonal watercourses originating deep in sandy lowlands where extensive wetlands with organic soils function as reservoirs, collecting rainfall and discharging it slowly to the stream. The tea-colored waters of blackwater streams are laden with tannins, particulates, and dissolved organic matter and iron derived from drainage through swamps and marshes. They generally are acidic (pH = 4.0 - 6.0), but may become circumneutral or slightly alkaline during low-flow stages when influenced by alkaline groundwater. Water temperatures may fluctuate substantially and are generally correlated with seasonal fluctuations in air temperature. The dark-colored water reduces light penetration and, thus, inhibits photosynthesis and the growth of submerged aquatic plants. Emergent and floating aquatic vegetation may occur along shallower and slower moving sections, but their presence is often reduced because of typically steep banks and considerable seasonal fluctuations in water level (FNAI, 2010). Typical plants include smartweed, sedges, and grasses (Poaceae). Typical animals include chain pickerel (*Esox niger*), weed shiner (*Notropis texanus*), channel catfish (*Ictalurus punctatus*), mosquitofish (*Gambusia spp.*), redear sunfish (*Lepomis microlophus*), spotted sucker (*Minytrema melanops*), blackbanded darter (*Percina nigrofasciata*), bull frog (*Rana catesbeiana*), American alligator, alligator snapping turtle (*Macroclemys temminickii*), Florida softshell turtle (*Apalone ferox*), water snakes (*Natrix* spp.), and beaver (*Castor canadensis*).

Blackwater streams have sandy bottoms overlain by organics and frequently underlain by limestone. Limestone outcrops may also occur. Blackwater streams generally lack the continuous extensive floodplains and natural levees of alluvial streams. Instead, they typically have high, steep banks alternating with floodplain swamps. High banks confine water movement except during major floods. The absence of significant quantities of suspended sediments reduces their ability to construct natural levees (FNAI, 2010).

Blackwater streams are the most widely distributed and numerous riverine systems in the southeast coastal plain. Very few, however, have escaped major disturbances and alteration. Clearcutting of adjacent forested lands is one of the more devastating alterations for this community. Additionally, the limited buffering capacity of blackwater streams intensifies the detrimental impacts of agricultural and industrial effluents (FNAI, 2010). Due to its remote location, most of the upstream reaches of Blackwater River are near pristine and considered one of the purest sand-bottom rivers in the nation (DEP, n.d.). The conditions of this river make for great tubing, canoeing, kayaking and fishing.

Floodplain Marsh (synonyms: river marsh, freshwater marsh, freshwater tidal marsh)

Floodplain marsh is a wetland community occurring in river floodplains and dominated by herbaceous vegetation and/or shrubs. Generally, the vegetation gradient from high to low marsh occurs from the upland edge to the river edge, however, the high to low marsh vegetation patches may also be scattered throughout the marsh, which provides a diversity of habitats beneficial to wildlife (FNAI, 2010). Floodplain marshes are found along rivers and streams from just below the headwaters to the freshwater portions of tidally influenced river mouths. Most floodplain marshes are freshwater (salinity less than 0.5 parts per thousand); however, saltwater may influence marshes near the mouths of rivers (freshwater tidal marsh variant) (FNAI, 2010), such as the case in YRMAP.

Flat topography and slow drainage in the largest floodplain marshes create a prolonged inundation period from approximately 120 to 350 days per year with most of the marsh inundated more than 250 days (FNAI, 2010). Hydrologic alteration, such as ditching or damming, in these systems has sometimes dramatically reduced this hydroperiod. Flood pulses provide oxygenated water to the system and allow

small fish and larvae of larger game fish to utilize large portions of the vegetated marsh (FNAI, 2010). The continuous water fluctuations help create a patchwork of plant communities, and at times of low water, concentrate prey in small areas. These areas can be critical feeding sites for wading bird populations, snail kites, and bald eagles (FNAI, 2010). The state of this natural community in YRMAP is in good condition and receives adequate water fluctuation to maintain hydrology.

Wet Prairie (synonyms: sand marsh, savannah, coastal savannah, coastal prairie, pitcher plant prairie)

Wet prairie is an herbaceous community, typically dominated by dense wiregrass (*Aristida stricta* var. *beyrichiana*), found on continuously wet, but not inundated, soils (FNAI, 2010). Wet prairies in northern Florida are some of the most diverse communities in the United States, with an average of more than 20 species per square meter in some places and more than 100 total species in any given stand (FNAI, 2010).

An estimated fire return interval of two to three years and little soil disturbance are necessary to maintain wet prairies. In the absence of fire, shrubs and trees invade and shade out the herbaceous species. Small alterations to the soil surface in wet prairies can permanently alter the hydrology, causing major changes in species composition which may require expensive restoration to repair (FNAI, 2010). Wet prairie in YRMAP remains in good condition.

Wet Flatwoods (synonyms: low flatwoods, moist pine barren, hydric flatwoods, pond-pine flatwoods, pocosin, cabbage palm/pine savannah or flatwoods)

Wet flatwoods have a somewhat open canopy of scattered pine trees (*Pinus* spp.) with either a thick, shrubby understory and very sparse ground cover, or vice versa (FNAI, 2010). During the rainy season, water accumulates on the surface, inundating the flatwoods for one or more months per year. An estimated fire return interval of three to 10 years is needed to inhibit succession to a more hardwood dominated forest. The wet flatwoods of YRMAP are in mostly good condition with some of the more dense areas in current need of fire application. These areas have minimal acreage and much of the adjacent managed lands are also in need of fire. These locations may get added to the planned burn list from other management agencies.

American tapegrass during senescence in the marsh.

Seagrass Beds (synonyms: seagrass meadows, grass beds, grass flats)

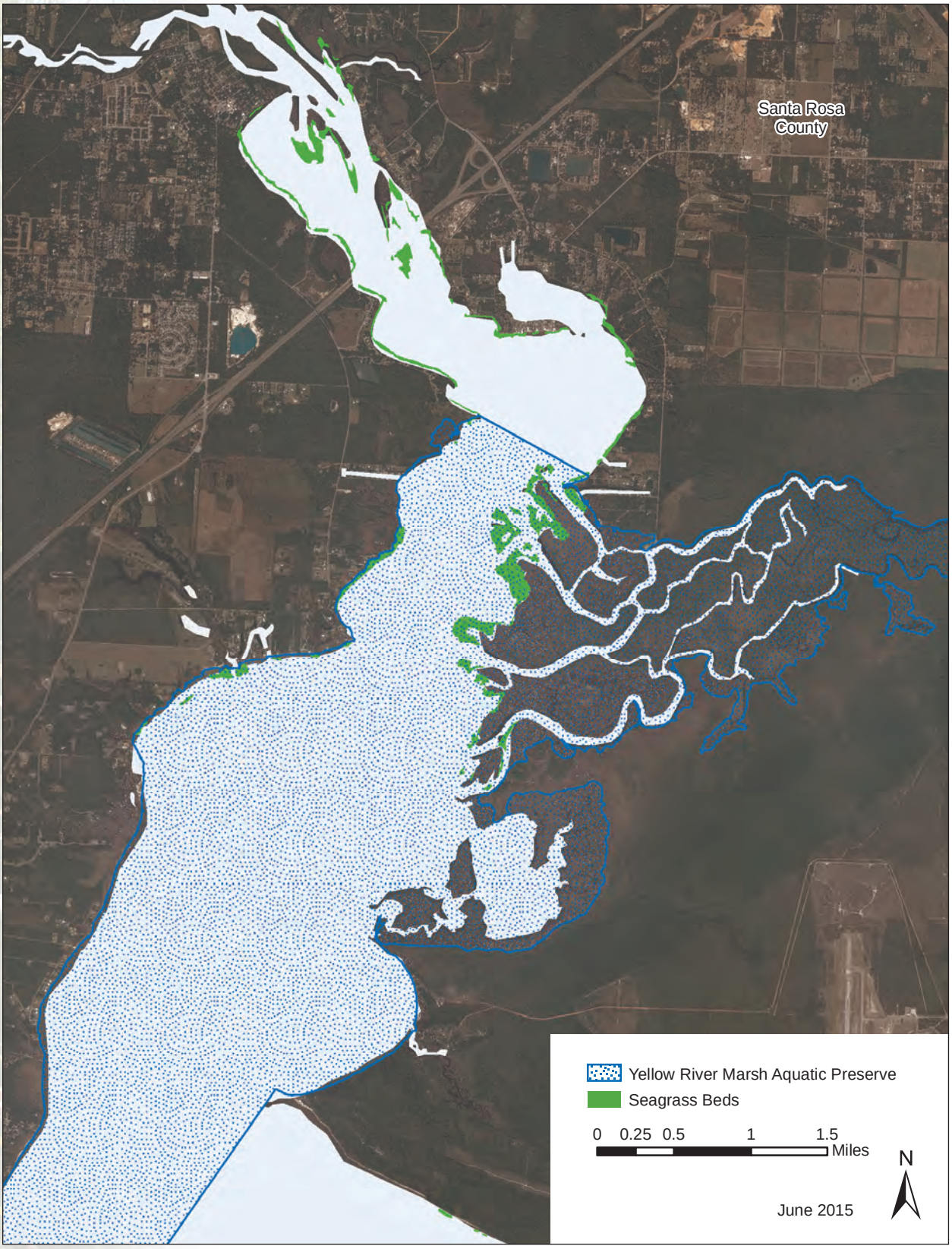
Estuarine seagrass beds are floral based natural communities typically characterized as extensive stands of vascular plants. This community occurs mostly in subtidal zones, in clear, coastal waters where wave energy is moderate. Seagrasses are not considered true grasses (FNAI, 2010). The species of seagrass that occurs in YRMAP is widgeon grass (*Ruppia maritima*). It can survive in a wide range of salinities giving it a broad aquatic distribution. Many of the bayous along the eastern boundary of YRMAP are abundant with widgeon grass and provide essential habitat to a variety of ecologically, recreationally, and commercially-important species.

Attached to the seagrass leaf blades are numerous species of epiphytic algae and invertebrates. Together, seagrass and their epiphytes serve as important food sources for turtles and many fish (FNAI, 2010). The dense seagrass also serve as shelter or nursery grounds for many invertebrates and fish, including polychaete worms, blue crab, and mullet.

Estuarine and marine seagrass beds most frequently occur on unconsolidated substrates of marl, muck or sand, although they may also occur on other unconsolidated substrates. The dense blanket of leaf

blades reduces the wave-energy on the bottom and promotes settling of suspended particulates. The settled particles become stabilized by the dense roots and rhizomes of the seagrasses. Thus, estuarine and marine seagrass beds are generally areas of soil accumulation (FNAI, 2010).

Water temperature, salinity, wave-energy, tidal activity, available light and light penetration are all factors that influence establishment and growth in seagrass beds. This community is also extremely vulnerable to human impacts, with many being destroyed from dredging and filling activities, sewage outfalls and



Map 6 / Seagrass beds of Yellow River Marsh Aquatic Preserve.

industrial waste. Additionally, seagrass beds are susceptible to damage from anchors, trawling and prop scarring from boat propellers (FNAI, 2010).

A similar type of submerged aquatic vegetation in YRMAP is tapegrass (*Vallisneria americana*). It is not a seagrass, as it is a freshwater plant. Due to the freshwater output from Yellow River, large patches of tapegrass can be seen in this mostly estuarine system (Map 6). The tapegrass in YRMAP is in good condition with excellent coverage, minimal prop scarring, and providing submerged stabilization around marsh habitat near the mouth of the Yellow River, as well as on the western boundary of the aquatic preserve.

Native Species

The diverse habitats found within YRMAP serve as a refuge for a wide variety of fauna and flora. More than two hundred bird species have been documented in the aquatic preserve. Representatives from the woodpecker (*Picidae*), New World sparrow (*Emberizidae*), and New World warbler (*Parulidae*) families are the most common. Fish in the aquatic preserve include potamodromous and diadromous species covering both marine and freshwater habitats (FWC, 2007). A complete survey of habitats and species within the aquatic preserve has not been completed; however, this plan addresses the need within the next ten years. For a complete list of documented native species, see Appendix B.4- Species Lists.

Listed Species

A variety of species listed by U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA) and species listed as threatened, endangered or of special concern in the state of Florida, are found or are likely to be found in YRMAP. Documented and potential species listed as endangered under the ESA include the red-cockaded woodpecker (*Picoides borealis*) and reticulated flatwoods salamander (*Ambystoma bishopi*). Species listed as threatened under the ESA include Gulf sturgeon, the indigo snake (*Drymarchon corais couperi*), and four species of mussel: Southern sandshell (*Hamiota australis*), Choctaw bean (*Villosa choctawensis*), narrow pigtoe (*Fusconaia escambia*), and fuzzy pigtoe (*Pleurobema strodeanum*). Descriptions of some of these species are found in the following paragraphs. There are several species that are listed by the state of Florida as well. Species listed as endangered in Florida include seven plants and one fish. Species listed as threatened in Florida include seven plants, two birds, one mammal, and two reptiles. For a complete list of listed species, please see Appendix B.4- Species Lists.

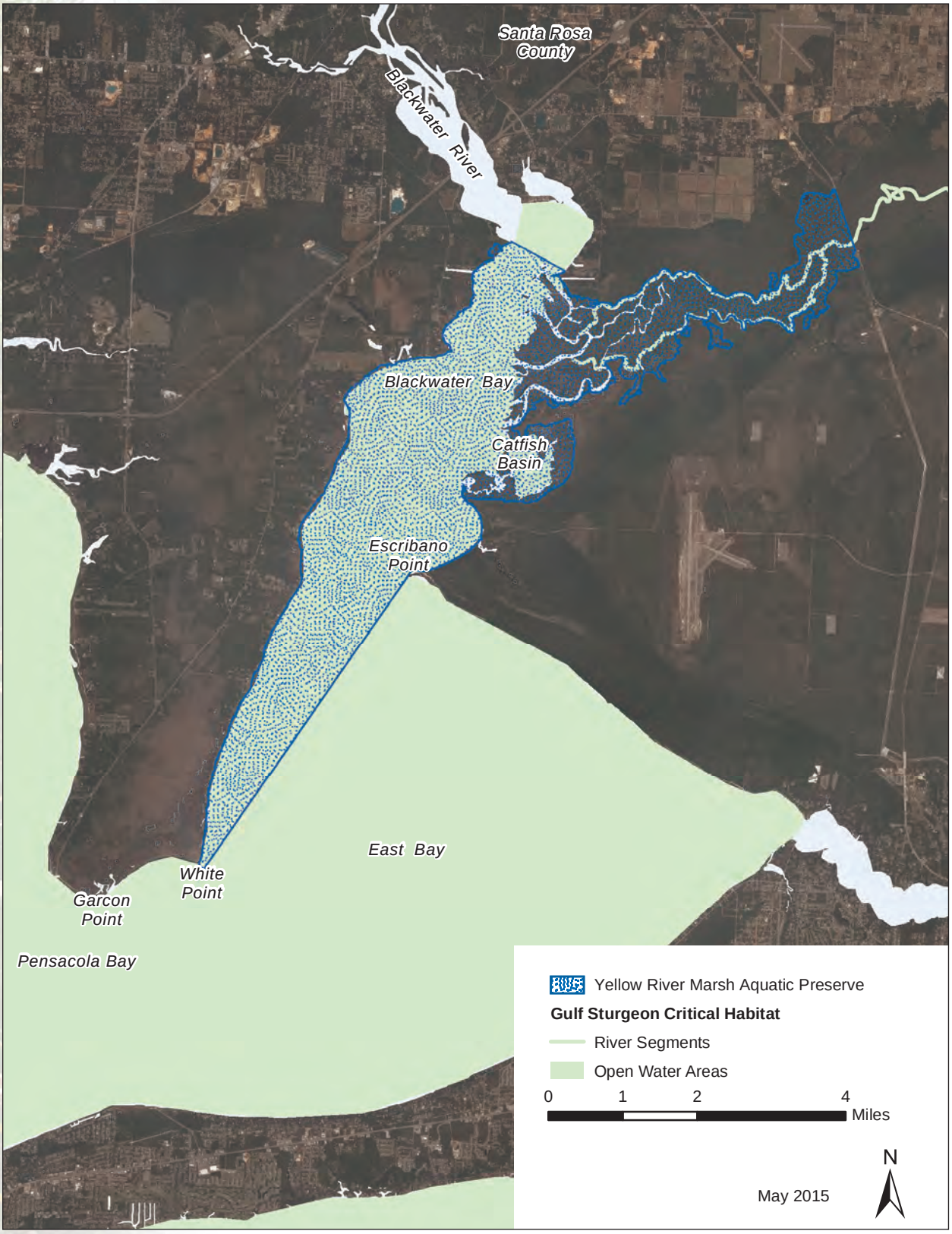
Gulf sturgeon is a subspecies of Atlantic sturgeon (*A. oxyrinchus*). USFWS listed the subspecies as threatened on September 30, 1991. Gulf sturgeon's range is limited to the eastern Gulf of Mexico from Lake Pontchartrain/Pearl River in Louisiana to the Suwannee River in Florida. Food sources for the anadromous subspecies include amphipods, lancelets, polychaetes, gastropods, shrimp, isopods, mollusks, and crustaceans (USFWS and Gulf States Marine Fisheries Commission [GSMFC], 1995). In Florida, seven rivers have been documented as spawning grounds for Gulf sturgeon, including the Yellow River (USFWS & National Marine Fisheries Service [NMFS], 2009). In 2000 and 2001, the Northwest Florida Aquatic Preserve Office documented Gulf sturgeon in the Yellow River (Craft, Russell, & Travis, 2001), and USFWS continues to monitor the species in the Yellow River (F. Paruaka, personal communication, April 13, 2010). In addition to riverine systems, Gulf sturgeon rely on seagrass beds and unconsolidated substrate natural communities (USFWS & GSMFC, 1995). Research suggests that river damming is a significant threat to the fish because it limits access to riverine spawning sites (USFWS & NMFS, 2009). Other threats include over-exploitation, incidental catch, dredging, removal of snags and lost habitat due to dredged material placement (USFWS & GSMFC, 1995; USFWS & NMFS, 2009). USFWS designated areas within and near the aquatic preserve as critical habitat for Gulf sturgeon (USFWS, 2003) (Map 7).

Red-cockaded woodpecker was listed as endangered in 1970 and received federal protection with the 1973 adoption of the ESA. Historically found throughout the Southeastern Coastal Plain, which stretches from Virginia south to Florida and west to Texas, red-cockaded woodpeckers became endangered due to habitat loss. Logging, fire suppression, exploitation of pine for resin, and inappropriate silviculture techniques are the primary causes of habitat loss for red-cockaded woodpeckers (USFWS, 2002). The species requires old growth longleaf pine (*Pinus palustris*) or loblolly pine (*P. taeda*) and, unlike all other woodpeckers, make cavities in live trees (USFWS, 2002). Adjacent Eglin AFB and nearby Blackwater River State Forest are host to important core populations of red-cockaded woodpeckers.

Invasive Non-native and/or Problem Species

Invasive non-native species are species that have been introduced to an area, naturalized, and are spreading on their own. Not all introduced species become invasive and the ones that do are

generally opportunistic, aggressive, and early colonizing species in their native range. In the United States, invasive non-native species are the second greatest threat to biodiversity after habitat loss and fragmentation (Stein, Kutner, & Adams, 2000). For example, invasive non-native plant species may interfere with natural community structure and ecosystem function processes such as hydrology and fire (Gordon, 1998). Some of the most invasive non-native species known in northwest Florida have been documented in the aquatic preserve, primarily on upland sites. Refer to Appendix B.4 for a comprehensive list(s) of reported or known non-native species.



Map 7 / Gulf Sturgeon Critical Habitat of Yellow River Marsh Aquatic Preserve.

Florida Exotic Pest Plant Council tracks and categorizes invasive non-native plants. Category I species are the most invasive and have been documented altering native plant communities, changing community structure, disturbing ecological functions or hybridizing with native species (Florida Exotic Pest Plant Council (n.d.). Category I species documented in the aquatic preserve or close to the boundaries include mimosa tree (*Aibizia julibrissin*), camphor tree (*Cinnamomum camphora*), cogongrass (*Imperata cylindrica*), Chinese privet (*Ligustrum sinense*), Japanese honeysuckle (*Lonicera japonica*), Peruvian primerosewillow (*Ludwigia peruviana*), Japanese climbing fern (*Lygodium japonicum*), torpedo grass (*Panicum repens*), and Chinese tallow (*Sapium sebiferum*). Florida Exotic Pest Plant Council Category II species are those that are increasing in number but have not yet altered native plant communities to the extent of Category I species. Category II species documented in and near the aquatic preserve include Guinea grass (*Panicum maximum*) and golden bamboo (*Phyllostachys aurea*).

There are several areas in the aquatic preserve that are of concern regarding the presence of invasive non-native species. In a recent survey, FNAI documented several areas where patches estimated to be no less than a tenth of an acre were dominated by cogongrass or Guinea grass. Infestations of cogongrass are of particular concern in natural areas because of its lack of habitat preference and the difficultly in its control. Cogongrass creates dense monocultures, alters fire behavior and has been dubbed “one of the world’s ten worst weeds” (Tu, 2002). Chinese tallow and Japanese climbing fern are also particularly pernicious weeds. Like cogongrass, Chinese tallow and Japanese climbing fern are non-selective in terms of habitat preference and will invade disturbed and undisturbed sites in both wetlands and uplands.

Invasive non-native animals documented in the aquatic preserve include two species of Asian clam (*Corbicula fluminea* and *C. manilensis*), nutria (*Myocastor coypus*), and feral hog (*Sus scrofa*). Of the documented invasive non-native animals in the aquatic preserve, feral hogs are among the most detrimental for a number of reasons. A significant threat to ecosystem function and native species, feral hogs prefer forested, remote wetlands. Feral hogs primarily feed on plant material, but are opportunistic and have been documented to consume native invertebrates and vertebrates (Giuliano, 2010). Wallowing behavior impacts water quality and disturbs native vegetation, allowing non-native plants such as Japanese climbing fern to establish in new areas (Giuliano, 2010).

Archaeological and Historical Resources

The Florida Division of Historical Resources has documented evidence of prehistoric cultures from Archaic (8500 - 1000 B.C.) to Mississippian (1000 - 1500 A.D.) within or adjacent to the aquatic preserve boundaries (personal communication) Spanish colonists associated with Luna may have explored the Santa Rosa County area in search of food and shelter, while they awaited rescue for two years after the September 1559 hurricane destroyed their settlement and sank the ships that were carrying their food supplies in Pensacola Bay (Personal communication, E. Benchley, May 27, 2015). Bense (1994) described the importance of estuarine resources to these groups, as displayed in excavated middens.

Spanish exploration of Florida began in A.D. 1513. The first attempt to colonize the region was staged from Mexico, during the 1559-1561 expedition of Tristán de Luna y Arellano, who hoped to forge through the mainland and establish a Spanish colony in what is now South Carolina (Worth, 2010). The expedition was thwarted when a hurricane hit Pensacola Bay in September 1559 and devastated most of the fleet and its food supplies. The survivors made attempts to settle in other areas, but eventually abandoned the Pensacola settlement and went to Cuba. Nearly a century later, after removing the French from what is now St. Augustine, the Spanish resettled Pensacola in 1698, marking the beginning of what is now referred to as the First Spanish period (Worth, 2010). The Spanish ruled until 1763, when the British gained control of Florida as a result of the Seven Years War. The British ruled until 1781, when Florida was given back to Spain. Florida remained a Spanish colony until July 17, 1821, when it was transferred to the United States.

During the early to mid-19th century, the town of Milton experienced an abundance of commercial activity. The abundant longleaf pine forests provided a source of income and industry, supported by the ease of using the Blackwater and Yellow rivers to facilitate the movement of timber to local mills, which produced products such as lumber, shingles, buckets, meal, flour, and cotton (West Florida Historic Preservation, Inc., n.d.).

Site ID	Site Name	Site Type
SR00753	Goat Bayou	Prehistoric midden(s)
SR00760	Shell Hammock	Prehistoric shell midden
SR01490	City of Tampa	Historic shipwreck
SR00124	Old Land Place	Historic burial(s)
SR00002	Escribano Point	Historic burial(s)
SR00075A	Bay PointT	Building remains (mill)
SR00168	Galvez Hammock	Prehistoric burial(s)
SR00224	Golden	No field investigation--record based on informant
SR00767	Robinson Point Wreck	Freshwater submerged site (shipwreck)
SR00779	Fundy Bayou	Prehistoric burial(s)
SR00781	Little Cat Basin	Prehistoric burial(s)
SR00931	BW3-1	
SR01017	Garcon Transect 4	Variable density scatter of artifacts
SR01189	Chumuckla Transect 2	Historic refuse / dump
SR01190	Chumuckla Transect 3	Variable density scatter of artifacts
SR01252	NN	Historic refuse / dump
SR01255	Faulk's Ferry Landing	Other
SR01654	X-698-P/Q	Campsite (prehistoric)
SR01695	X-697-C	Campsite (prehistoric)
SR02156	X-1199-A	Land-terrestrial

Table 2 | Archaeological resources of Yellow River Marsh Aquatic Preserve. (Data provided by DHR April 29, 2015.)

*3.4 / **Values***

The pristine YRMAP, in conjunction with adjacent conservation lands, supports a diverse ecosystem, benefiting both the natural habitat and economy of surrounding populations. YRMAP's natural coastal resources and recreational opportunities draw a variety of year-round nature enthusiasts with activities including boating, fishing, kayaking, hiking, and bird watching.

In 2011, recreational saltwater fishery was reported to have an economic impact of $7.6 billion for the state of Florida, and supported more than 109,000 jobs (FWC, n.d.a). During the same year, 1.6 million people purchased saltwater recreational licenses. This powerful economic benefit derived from sport fishing would not be possible without healthy, suitable habitats including clean rivers, bay, and estuaries to exist as breeding and nursery grounds for fisheries. It has been estimated that "90 to 98 percent of commercially and recreationally important Gulf of Mexico species of fish and shellfish are estuarine dependent at some point in their lives" (Thorpe et al., 1997).

Healthy coastal wetlands can also help mitigate the negative impacts of hurricanes, serving as horizontal levees to lessen storm surges. It is estimated that Florida's coastal resources provide $11 billion a year in storm protection services (The Nature Conservancy, 2009). Additionally, coastal estuaries act as filters for land runoff and help to replenish groundwater.

*3.5 / **Citizen Support Organization***

The Northwest Florida Aquatic Preserves office maintains a Citizen Support Organization, the Ecosystem Restoration Support Organization (ERSO). ERSO is a nonprofit organization, 501(c)(3) which was founded in 1999 by former restoration specialists and DEP employees. ERSO helps the Northwest Florida Aquatic Preserves office in grant funding opportunities as well as fund raising, ecotourism events and restoration project implementation. A statewide friends group for all aquatic preserves was recently created and YRMAP may also participate or receive support from this group.

*3.6 / **Adjacent Public Lands and Designated Resources***

YRMAP is located in Santa Rosa County, on the northwest coast of Florida. Contiguous public lands owned and managed by state and county agencies include the Choctawhatchee National Forest, Eglin AFB, Garcon Point Water Management Area, Yellow River Water Management Area, Escribano Point Wildlife Management Area and Yellow River Marsh Preserve State Park (Map 8).

The Choctawhatchee National Forest parcels are managed by the United States Department of Agriculture Forest Service. Two parcels totaling 218 acres are located adjacent to the southern parcel of Escribano Point Wildlife Management Area and Eglin AFB. The majority of Choctawhatchee National Forest was transferred to Department of Defense in 1940, yet small parcels such as those located near the aquatic preserve remain today under management of the Apalachicola National Forest.

Eglin AFB is managed by the Department of Defense and covers nearly half a million acres in Santa Rosa, Okaloosa, and Walton Counties. Natural communities on Eglin AFB include sandhill, slope forest, pine flatwoods and many others. The diversity and quality of natural communities on Eglin AFB serve as suitable habitat for more than 100 rare or listed plants and animals, including the federally endangered Okaloosa darter (*Etheostoma okaloosae)* (FWC, n.d.b). Eglin AFB also hosts the largest continuous section of old-growth longleaf pine forest in the world and within it the fourth largest population of red-cockaded woodpeckers (FWC, n.d.b). 2,300 acres of Eglin AFB fall within the aquatic preserve's boundaries. Eglin AFB also serves as an important recreation area for hunting, fishing, hiking, and biking, and contains numerous sections of the Florida Trail.

Escribano Point Wildlife Management Area is managed by FWC and comprises 4,057 acres. Several parcels make up this management area and natural communities include baygall, estuarine tidal marsh, floodplain forest, maritime hammock, basin swamp and scrubby flatwoods (FNAI, 2009). The northern parcel falls within the aquatic preserve boundary and the southern parcels are adjacent to Eglin AFB and Choctawhatchee National Forest.

Garcon Point Water Management Area is managed by NWFWMD. Its 3,245 acres harbor 13 listed native species, including numerous white-top pitcher plants (*Sarracenia leucophylla*), a carnivorous species only found in the Florida Panhandle. Nearly two miles of the aquatic preserve's western boundary on Garcon Point is shared with Garcon Point Water Management Area. The extensive wetlands of Garcon Point Water Management Area serve as a buffer for runoff and therefore play an important role in protecting the aquatic preserve's water quality. There are 2.7 miles of the Florida Trail and Great Florida Birding Trail on the property (NWFWMD, n.d.).

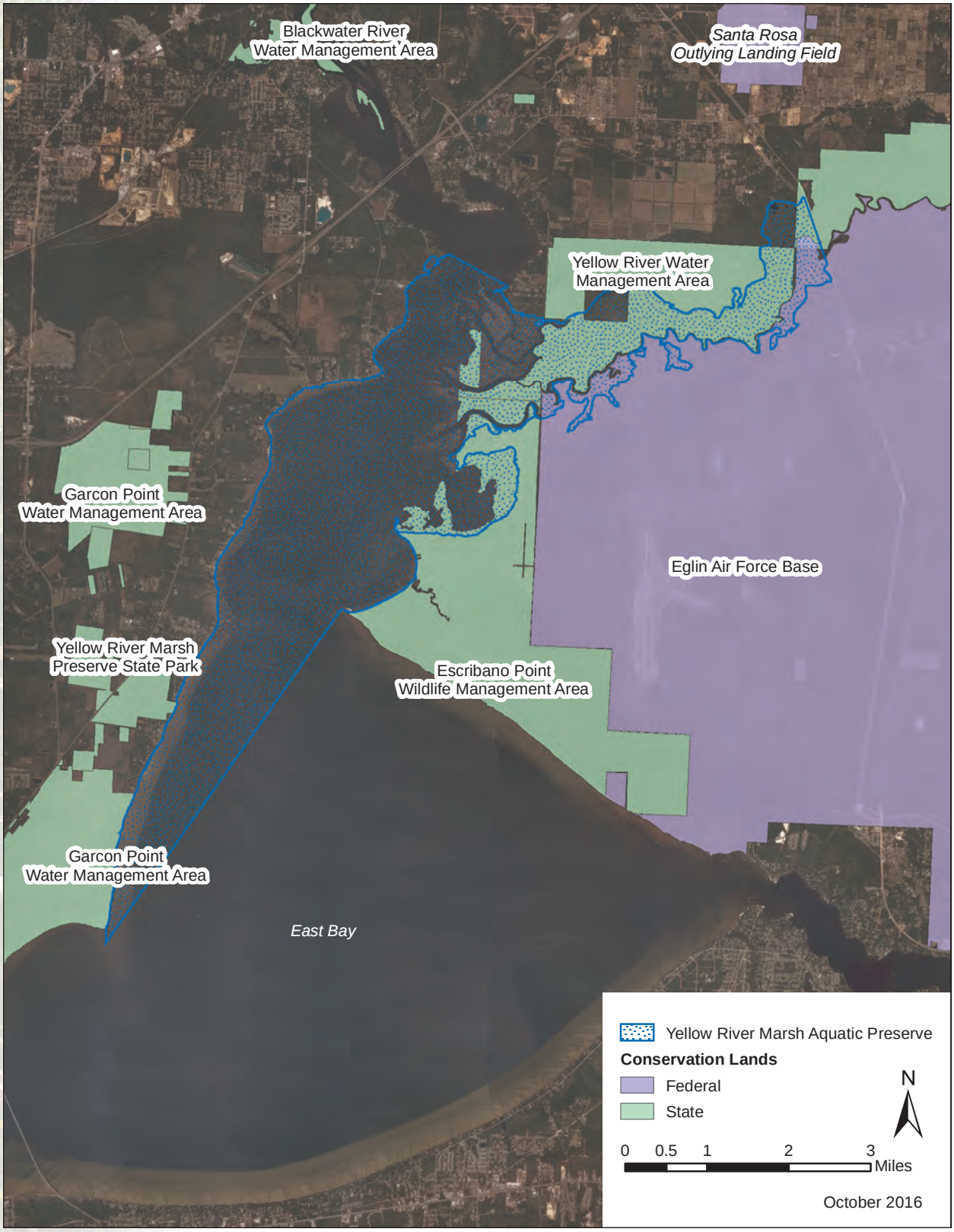
A good example of an estuarine marsh in Yellow River Marsh Aquatic Preserve.

Yellow River Water Management Area is managed by NWFWMD. It includes 19 miles of river frontage and more than 17,000 acres of riparian and floodplain forest habitat. The protected wetlands in this parcel aid in preserving good water quality in the aquatic preserve. The aquatic preserve shares approximately 17 miles and 1,400 acres of jurisdiction with NWFWMD (S. Brown, personal communication, October 30, 2015).

Yellow River Marsh Preserve State Park is managed by DEP - Division of Recreation and Parks. It encompasses more than 780 acres of rare wet prairie and mesic flatwoods natural communities and is host to nearly 20 rare plant and animal species (DEP, 2008). Yellow River Marsh Preserve State Park shares about 0.15 miles of boundary with the aquatic preserve on Garcon Point Peninsula.

3.7 / Surrounding Land Use

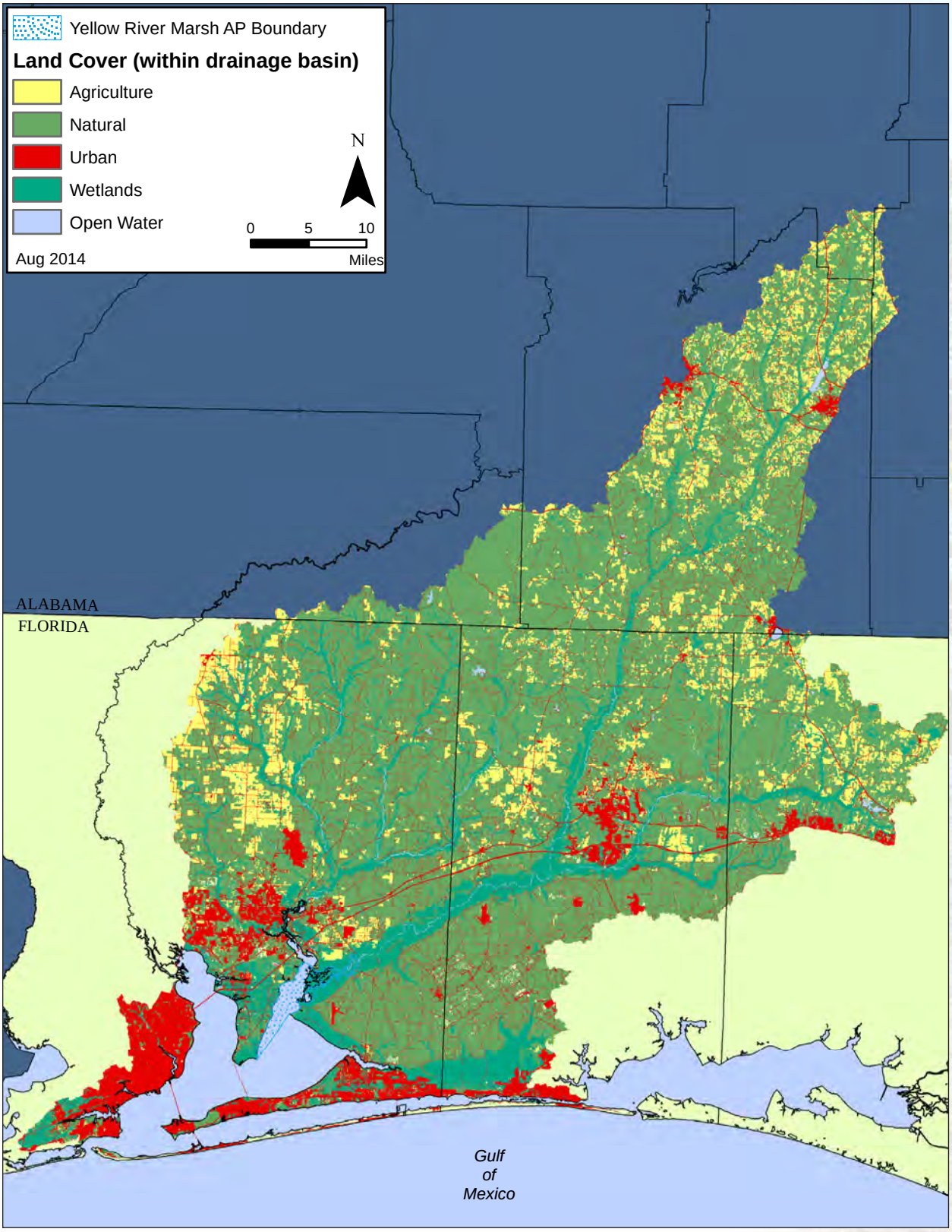
Water quality and habitat within the aquatic preserve are directly affected by surrounding land use within the drainage basin of the Florida and Alabama area (Map 9). Human activities have influenced YRMAP over the last 100 years, through erosion, sedimentation, wastewater discharges, stormwater, and other anthropogenic events altering aquatic preserve conditions. Past and future restoration projects, have and will address these needs. Some of the future plans for the surrounding land use issues include implementation of the Pensacola Bay System Surface Water Improvement and Management (SWIM) Plan



Map 8 / Conservation lands adjacent to Yellow River Marsh Aquatic Preserve.

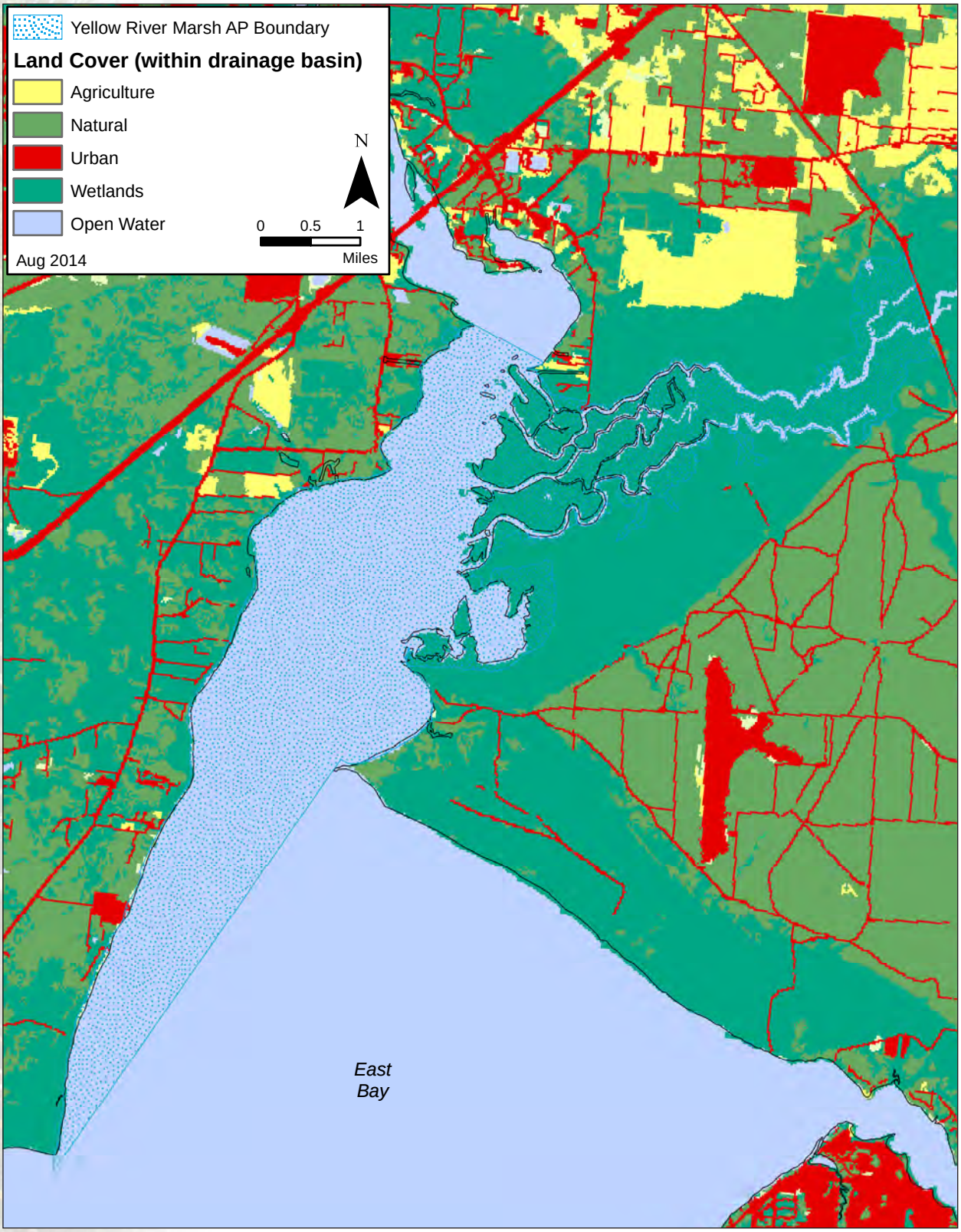
and incorporation of the Pensacola Bay System into the U.S. Environmental Protection Agency's National Estuary Program.

Santa Rosa's Comprehensive Plan 2008 - 2025 provides goals for future land use to ensure the protection of valuable natural resources (Goal 3.1). Some of the proposed projects include paving roads, converting septic to sewer, improving stormwater infrastructure, and establishing maximum density for commercial and residential activities which would minimize impacts to the surrounding waters (Santa Rosa County Division of Community Planning, Zoning, and Development, 2008).



Map 9 / Land use affecting Yellow River Marsh Aquatic Preserve.

With the majority of the surrounding lands being state and federally owned conservation lands, YRMAP is only minimally influenced by adjacent residential activities (Map 10). The primary residential properties along YRMAP boundaries are along the western shore, approximately three miles north of White Point to the northwest corner. Along the southeast and west sides of YRMAP, shoreline erosion is occurring. A shoreline restoration project was implemented along the state owned property (formerly the Yellow River Marsh State Buffer Preserve). Additionally, future restoration and enhancement projects will be implemented to slow erosion as well as enhance habitats and improve water quality along the White Point and Escribano Point areas.



Map 10 / Land use directly surrounding Yellow River Marsh Aquatic Preserve.

Escribano Point, which changes dramatically with the waves, is also a popular birding area as well as recreational area.

Part Two

Management Programs and Issues

Chapter Four

The Florida Coastal Office's Management Programs and Issues

The work performed by the Florida Coastal Office (FCO) is divided into components called management programs. In this management plan, all site operational activities are explained within the following four management programs: Ecosystem Science, Resource Management, Education and Outreach, and Public Use.

The hallmark of Florida's Aquatic Preserve Program is that each site's natural resource management efforts are in direct response to, and designed for unique local and regional issues. When issues are addressed by an aquatic preserve it allows for an integrated approach by the staff using principles of the Ecosystem Science, Resource Management, Education and Outreach, and Public Use Programs. This complete treatment of issues provides a mechanism through which the goals, objectives and strategies associated with an issue have a greater chance of being met. For instance, an aquatic preserve may address declines in water clarity by monitoring levels of turbidity and chlorophyll (Ecosystem Science - research), planting eroded shorelines with marsh vegetation (Resource Management - habitat restoration), creating a display or program on preventing water quality degradation (Education and Outreach), and offering training to municipal officials on retrofitting storm water facilities to increase levels of treatment (Education and Outreach).

Issue-based management is a means through which any number of partners may become involved with an aquatic preserve in addressing an issue. Because most aquatic preserves are endowed with very few staff, partnering is a necessity, and by bringing issues into a broad public consciousness partners who wish to be involved are able to do so. Involving partners in issue-based management ensures that a particular issue receives attention from angles that the aquatic preserve may not normally address.

This section will explore issues that impact the management of Yellow River Marsh Aquatic Preserve (YRMAP) directly, or are of significant local or regional importance that the aquatic preserve's participation in them may prove beneficial. While an issue may be the same from preserve to preserve, the goals, objectives and strategies employed to address the issue will likely vary depending on the

ecological and socioeconomic conditions present within and around a particular aquatic preserve's boundary. In this management plan, YRMAP will characterize each of its issues and delineate the unique goals, objectives and strategies that will set the framework for meeting the challenges presented by the issues. Beneficial projects, outside the current capacity of YRMAP's funding and staffing, are identified in Appendix D.4, in case opportunities become available to support those projects in the ten-year span of this management plan.

Each issue will have goals, objectives and strategies associated with it. Goals are broad statements of what the organization plans to do and/or enable in the future. They should address identified needs and advance the mission of the organization. Objectives are a specific statement of expected results that contribute to the associated goal, and strategies are the general means by which the associated objectives will be met. Appendix D.1 contains a table of all the goals, objectives and strategies associated with each issue.

4.1 / ***The Ecosystem Science Management Program***

The Ecosystem Science Management Program supports science-based management by providing resource mapping, modeling, monitoring, research and scientific oversight. The primary focus of this program is to support an integrated approach (research, education and stewardship) for adaptive management of each site's unique natural and cultural resources. FCO ensures that, when applicable, consistent techniques are used across sites to strengthen the state of Florida's ability to assess the relative condition of coastal resources. This enables decision-makers to more effectively prioritize restoration and resource protection goals. In addition, by using the scientific method to create baseline conditions of aquatic habitats, the Ecosystem Science Management Program allows for objective analyses of the changes occurring in the state's natural and cultural resources.

4.1.1 / ***Background of Ecosystem Science at Yellow River Marsh Aquatic Preserve***

Much of the background of ecosystem science at YRMAP, prior to current management, is unavailable due to programmatic closures in 2011. This section has been composed based on site knowledge gathered since the office reopened and current management's involvement with other agencies familiar with the area.

Continuous water quality sampling is now being conducted within YRMAP, measuring the parameters of turbidity, conductivity, salinity, temperature, dissolved oxygen, and pH. Additionally, salt marsh and oyster restoration were implemented off of the YRMAP shoreline in 2001. The marsh restoration area has done well, while the oyster restoration areas had flattened due to high wave energy at the site. Further monitoring is necessary. Additionally in 2013, ecodiscs were installed along approximately 1,000 feet of shoreline at the same location. The ecodisc assemblage is approximately six feet tall and imbedded with shell material. A combination of approximately 4,000 smooth cordgrass and saltmeadow cordgrass were installed. Northwest Florida Aquatic Preserves (NWFLAP) staff will continue the monitoring for the project.

In 2001, Gulf sturgeon migratory patterns and spawning habitats were studied and mapped in conjunction with a proposed dam on the Yellow River.

4.1.2 / ***Current Status of Ecosystem Science at Yellow River Marsh Aquatic Preserve***

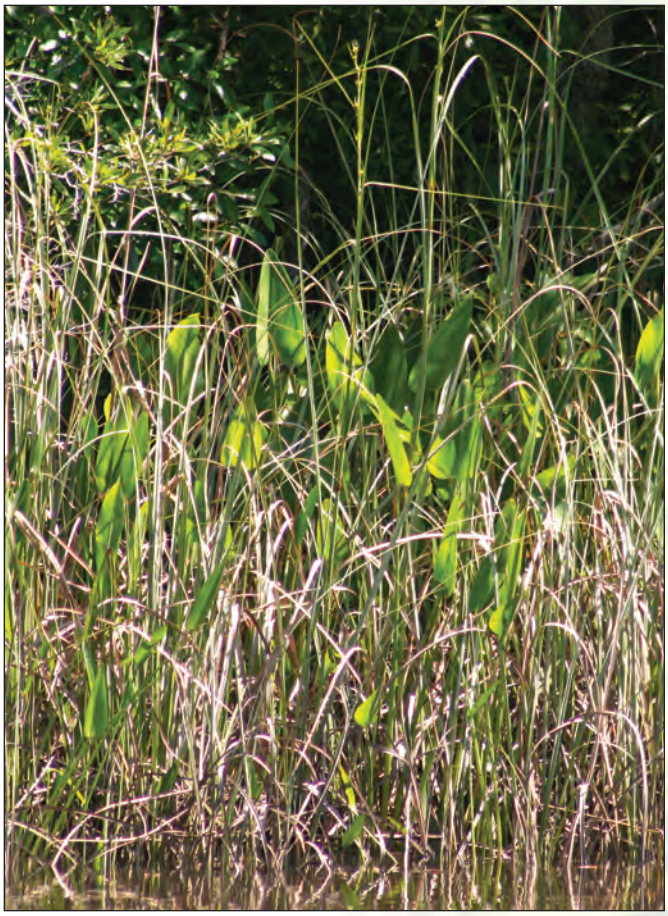
Ecosystem science activities in YRMAP are flourishing. Through upcoming years and recent local issues, collaboration on watershed activities and health are top priority among managers, stakeholders and the community. Through mapping and research the state is collaborating with other agencies and has begun sharing data on coastal habitat mapping for current and future use. This data set will allow agencies to better understand the distribution, and growth and decline of these habitats. YRMAP staff is often involved with research efforts at the college level as well as with county agencies. Continuous water quality sampling will occur at two locations in the aquatic preserve and all data will be shared. Due to office closures and equipment funding, sites have yet to be monitored.

4.1.3 / ***Ecosystem Science Issues***

Several of the biggest issues YRMAP is facing are water quality, sedimentation and habitat loss. Through septic to sewer conversion in the city of Milton, as well as increased awareness and education, great strides in improved water quality can be achieved. Santa Rosa County has pursued funding to aid in this process. These steps alone can be very beneficial.

Issue I: Water Quality

Improving degraded water quality in the Pensacola Bay Watershed (PBW) is a main priority for Escambia and Santa Rosa counties. Much of the decline in habitat throughout, including seagrass, can be attributed to a reduction in water quality from decreased light penetration. Researchers are considering seagrass for a proposed indicator of estuarine change (Biber, Paerl, Gallegos, & Kenworthy, 2004). The degradation in water quality can be attributed to several factors including point and non-point pollution sources impacting Blackwater and East bays. Several wastewater facilities discharge treated effluent into the system north of YRMAP. Additionally, the degraded septic tanks in nearby towns and within YRMAP vicinity ultimately affect the water quality. With an estimated 20 percent of the population utilizing septic systems, rising to 50 percent in rural areas (U.S. Environmental Protection Agency [EPA], 2008), it is likely that the YRMAP region is closer to the higher percentage. It is estimated that 10-20 percent of these septic systems fail each year and repairs are not always addressed in a timely manner (EPA, n.d.). Stormwater runoff is another factor currently being addressed by local agencies, and has recently been elevated to an issue of high importance. Severe flooding events in Escambia, Santa Rosa, and Okaloosa counties on April 29, 2014 overloaded current facilities and infrastructure. All of these practices discharge potential excess nitrogen and phosphorus into the estuarine system decreasing primary productivity. The EPA suggests a guideline of 10:1 ratio of concentrations of nitrogen to phosphorus, of which are often higher in the bayous of the PBW (EPA, 2005).



Pickerel weed is an indicator of freshwater marsh.

Goal One: Improve water quality in YRMAP as well as the surrounding waterbodies.

Objective One: Implement research, restoration and enhancement projects throughout YRMAP and adjacent bays (where needed and appropriate), that focus on improving water quality.

Integrated Strategies:

1. Continue to implement a continuous water quality monitoring program which collects pH, temperature, dissolved oxygen, salinity, conductivity, and turbidity, and add additional monitoring sites within YRMAP, adding additional information such as rain events to determine how these affect water quality.
   a. Performance Measure: Collect additional data for water quality report.
   b. Performance Measure: Coordinate with other organizations to obtain historical water quality data.
   c. Performance Measure: Upload water quality data collected for public use.
2. Promote research within YRMAP with the University of West Florida (UWF) and other institutions of higher education to promote a basin-wide approach on how regional impacts affect these systems.
   a. Performance Measure: Publish additional articles and publications throughout the region focusing on YRMAP and the PBW.
3. Use lessons from successful habitat restoration and enhancement projects to expand on how projects increase beneficial habitat and the anticipated time for improved water quality.
   a. Performance Measure: Compile annual monitoring data and generate a report on water quality improvements.
4. Work with the city of Milton and Santa Rosa County to promote cost incentives and education/ outreach to homeowners for septic to sewer conversion.
   a. Performance Measure: Track number of homeowners converting to sewer system.
5. Promote regional based efforts to adapt stormwater infrastructure to accommodate larger rain events.
   a. Performance Measure: Track number of meetings attended, number of attendees and adaptation of infrastructure to be quantified.

Issue II: Habitat Loss

Goal 1: Slow or stop the gradual estuarine habitat loss within YRMAP.

Objective 1: Address national, state and local concerns about habitat decline.

Integrated Strategies:

1. Determine ideal locations and implement habitat restoration and enhancement projects and partnerships within YRMAP. Ideal projects would include salt marsh, oyster, and seagrass projects.
   a. Performance Measure: Number of acres enhanced within YRMAP
2. Map benthic habitats in YRMAP.
   a. Performance Measure: A comprehensive mapping survey is completed for YRMAP.
3. In cooperation with FWC, develop an Imperiled Fish and Wildlife Species Management Strategy to address imperiled fish and turtle species and associated management prescriptions for their habitats; based on site-specific occurrence, population and sustainability data.
   a. Performance Measure: Comprehensive management strategy developed and implemented.

Ospreys are a common sight in and near the aquatic preserve.

4.2 / The Resource Management Program

The Resource Management Program addresses how FCO manages YRMAP and its resources. The primary concept of YRMAP Resource Management projects and activities are guided by FCO's mission statement: "Conserving and restoring Florida's coastal and aquatic resources for the benefit of people and the environment." FCO's sites accomplish resource management by physically conducting management activities on the resources for which they have direct management responsibility, and by influencing the activities of others within and adjacent to their managed areas and within their watershed. Watershed and adjacent area management activities, and the resultant changes in environmental conditions, affect the condition and management of the resources within their boundaries. FCO managed areas are especially sensitive to upstream activities affecting water quality and quantity. FCO works to ensure that the most effective and efficient techniques used in management activities are used consistently within our sites, throughout our program, and when possible, throughout the state. The strongly integrated Ecosystem Science, Education and Outreach and Public Use Programs, provide guidance and support to the Resource Management Program. These programs work together to provide direction to the various agencies that manage adjacent properties, our partners and our stakeholders. YRMAP also collaborates with these groups by reviewing various protected area management plans. The sound science provided by the Ecosystem Science Program is critical in the development of effective management projects and decisions. The nature and condition of natural and cultural resources within YRMAP are diverse. This section explains the history and current status of our Resource Management efforts.

4.2.1 / Background of Resource Management at Yellow River Marsh Aquatic Preserve

Much of the background of ecosystem science at YRMAP, prior to current management, is unavailable due to programmatic closures in 2011. This section has been composed based on site knowledge gathered since the office reopened and current management's involvement with other agencies familiar with the area.

The aquatic preserve also partnered with the Northwest Florida Chapter of The Nature Conservancy and Florida Fish & Wildlife Conservation Commission (FWC) to conduct species inventory of three species of concern – Gulf salt marsh snake, diamondback terrapin (*Malaclemys terrapin*), and saltmarsh topminnow (*Fundulus jenkinsi*).

4.2.2 / ***Current Status of Resource Management at Yellow River Marsh Aquatic Preserve***

The Resource Management of YRMAP, and the other two aquatic preserves within this region, is overseen by FCO, as well as the other three preserves within this region. Through working together with other management agencies and states, the resources within YRMAP can be maintained for future generations. Integration between resource management, ecosystem science, education and outreach, as well as collaboration with other organizations, optimizes the management of YRMAP. Staff often works with UWF, the Northwest Florida Water Management District (NWFWMD), University of Florida/Institute of Food and Agricultural Sciences Extension (UF/IFAS), Santa Rosa County Sea Grant extension agents, Escribano Point Wildlife Management Area, Yellow River Marsh Preserve State Park and Eglin Air Force Base, as well as others. Through strong management such as this, research, education and awareness are all top priorities among constituents.

A project to restore oyster reefs within the aquatic preserve using recycled or fossilized oyster shells will begin the spring of 2016. NWFLAP will partner with the UF/IFAS, Santa Rosa County Sea Grant office to monitor biological recruitment of the restored oyster reefs. Santa Rosa County school children will learn about the monitoring, learning scientific techniques and water quality criteria.

The listed threatened and endangered species for YRMAP and adjacent lands number more than 20. The known threatened and endangered species that utilize the area's submerged habitat are the Gulf sturgeon, southern sandshell, Choctaw bean, narrow pigtoe, fuzzy pigtoe, saltmarsh topminnow, blackmouth shiner (*Notropis melanostomus*), and bluenose shiner (*Pteronotropis welaka*).

There are numerous shorelines throughout YRMAP that have been impacted from storm activity and erosion. Many efforts have been undertaken to protect these shorelines, from installing salt marsh vegetation, the use of recycled or fossilized oyster shell to limestone encrusted concrete discs. The success of these will be determined over upcoming years with annual monitoring.

4.2.3 / ***Resource Management Issues***

Issue III: Sedimentation

Sedimentation, the depositing especially by mechanical means of matter suspended in a liquid, is another issue of YRMAP. Due to agricultural land use, unpaved roads, and heavy rain events, the turbidity in the water body is often heavy. The results of this make for poor habitat conditions, especially for seagrass due to low light penetration. A study by Lewis, Deveraux, and Borgeois (2008) has shown a dramatic decline in light penetration within the PBW. In addition to seagrass decline, overall habitat is declining, with emphasis on the Eastern oyster.

Goal 1: Decrease sedimentation from Yellow River and its tributaries, which ultimately affect the YRMAP and adjoining bays.

Objective 1: Work with local, state, and federal agencies, as well as land owners to measure and decrease sedimentation into Yellow River.

Integrated Strategies:

1. Coordinate with the Environmental Resource Permitting section of the Northwest District of the Florida Department of Environmental Protection (DEP) and consultants performing upland work, via applications, that could affect sedimentation within Yellow River and YRMAP.
   a. Performance Measure: Track number of permits, meetings, and site inspections.
2. Work with the Florida Department of Transportation to coordinate any roadway improvements along the Interstate 10 corridor and State Highway 87 to reduce and potentially mitigate current sedimentation loads into Yellow River.
   a. Performance Measure: Track number of meetings attended.
3. Promote the paving of earthen roads, when appropriate, in Santa Rosa County and adjoining managed areas.
   a. Performance Measure: Track the conversion of roads in linear feet.

The eroding sandy shore between Fundy Bayou and Escribano Point.

4. Measure changes in turbidity through continuous water quality monitoring. Take discrete samples to measure turbidity and total suspended solids. Use turbidity data from repeated water quality monitoring to determine decreased turbidity within the system.
   a. Performance Measure: Turbidity levels are regularly measured.
   b. Performance Measure: Turbidity levels decrease.
5. Coordinate with other organizations to include historical data.
   a. Performance Measure: Review completed surveys to help establish sedimentation baseline levels.
   b. Performance Measure: Use U.S. Department of Agriculture Natural Resources Conservation Service data to identify sedimentation issues.
6. Coordinate with DEP and Santa Rosa County on National Pollutant Discharge Elimination System (NPDES) permits.
   a. Performance Measure: Monitor new permits and work with compliance and enforcement to resolve pollutant issues.

Issue IV: Public Awareness and Coordination

Goal 1: Increase awareness on how upland management affects submerged resources.

Objective 1: Work with local, state, and federal agencies when upland management affects submerged resources.

Integrated Strategies:

1. Attend state land management meetings.
   a. Performance Measure: Track NWFLAP comments and suggestions in state land management plan updates.
2. Make recommendations for additional protective strategies.
   a. Performance Measure: Track additional strategies suggested by NWFLAP for local, state, and federal guidelines.

4.3 / The Education and Outreach Management Program

The Education and Outreach Management Program components are essential management tools used to increase public awareness and promote informed stewardship by local communities. Education programs include on and off-site education and training activities. These activities include: field studies for students and teachers; the development and distribution of media; the distribution of information at local events; the recruitment and management of volunteers; and, training workshops for local citizens and decision-makers. The design and implementation of education programs incorporates the strategic targeting of select audiences. These audiences include all ages and walks of life; however, each represents key stakeholders and decision-makers. These efforts by the Education and Outreach Program allow YRMAP to build and maintain relationships and convey knowledge to the community; invaluable components to successful management.

4.3.1 / Background of Education and Outreach at Yellow River Marsh Aquatic Preserve

Much of the background of education and outreach at YRMAP, prior to current management, is unavailable due to programmatic closures in 2011. This section has been composed based on site knowledge gathered since the office reopened and current management's involvement with other agencies familiar with the area.

4.3.2 / Current Status of Education and Outreach at Yellow River Marsh Aquatic Preserve

YRMAP (under NWFLAP management) has several formal education and outreach programs. Through education and outreach, there is a Grasses in Classes program where students are taught about the importance of marsh habitat and its effectiveness on, 1) water quality, 2) numerous habitat benefits, and 3) decreased sedimentation. Through the program, local schools take several plant species to tend to over the school year. They produce and divide them to in turn have a field day where they get to install the plants they grew for restoration purposes.

During the late winter to early spring, YRMAP also hosts alternative spring break groups. These groups dedicate their college or high school spring breaks and volunteer their time giving back to the environment. Throughout the school year and summer YRMAP also hosts numerous groups that want to learn about their environment, restoration and projects. Project GreenShores is a habitat restoration project which is managed by DEP and NWFLAP.

NWFLAP works with local organizations as well to coordinate and participate in outreach events such as Bay Days (Escambia and Santa Rosa counties), the Choctawhatchee Estuary Family Festival, Seagrass Awareness Celebration, and numerous coastal cleanups.

Education and outreach to the youth is very important, however focus is not restricted to the youth. NWFLAP conducts talks with senior learning classes through UWF, have participated in "Bringing Back the Bayous" with UF/IFAS Sea Grant to educate coastal property owners on best practices, and many other events as well.

4.3.3 / Education and Outreach Issues

Issue II: Habitat Loss (continued from Ecosystem Science)

Goal 1: Slow or stop the gradual estuarine habitat loss within YRMAP.

Objective 1: Address national, state, and local concerns about habitat decline.

Integrated Strategies (continued from Ecosystem Science):

4. Facilitate education and outreach on importance of estuarine ecosystem and habitat, for environmental, recreational, and commercial importance.
   a. Performance Measure: Track number of attendees at events.
5. Work with local community and stakeholders on suggested land use for coastal resilience and habitat preservation.
   a. Performance Measure: Track number of stakeholders reached.

Issue IV: Public Awareness and Coordination (continued from Resource Management)

Goal 1: Increase awareness on how upland management affects submerged resources.

Objective 2: Work with public agencies and the general public to foster partnerships.

Integrated Strategy:

1. Coordinate with public agencies and the general public to increase awareness of natural preserves and submerged resources.
   a. Performance Measure: Participate in and organize events.
   b. Performance Measure: Sponsor award programs to motivate public awareness.
   c. Performance Measure: Promote through social media.

Goal 2: Increase public awareness of FCO and NWFLAP.

Objective 1: Coordinate with local, state, and federal agencies, as well as community.

Integrated Strategies:

1. Inform and educate agencies and public about NWFLAP's mission.
   a. Performance Measure: Track number of attendees to NWFLAP events and inquiries from agencies.
   b. Performance Measure: Track distributed outreach materials to user groups.
   c. Performance Measure: Track number of events or articles mentioning NWFLAP.
2. Increase program efficiencies, educational opportunities, and public access by housing NWFLAP at one location. (See Chapter 6 for more details.)
   a. Performance Measure: Existing NWFLAP offices/lab/greenhouses housed at one functional location.
   b. Performance Measure: Track number of events/participants at new facility.

Goal 3: Increase public awareness of YRMAP and its significance.

Objective 1: Coordinate with local, state, and federal agencies, as well as community.

Integrated Strategies:

1. Implement signage at access points to help user groups understand aquatic preserve rules, boundaries, and submerged resources.
   a. Performance Measure: Track number of inquiries tallied by online resources via access to social media and website by signage prompts.
2. Attend public events to educate the public about YRMAP.
   a. Performance Measure: Track number of events attended by NWFLAP staff.
   b. Performance Measure: Track number of people attending events with NWFLAP displays.
3. Involve public volunteers in cleanup and restoration.
   a. Performance Measure: Hold public events for volunteer opportunities.

Goal 4: Inform user groups about coastal resiliency and how to implement coastal resilient features for lands and infrastructure.

Objective 1: Inform public on future of environmental effects of climate change.

Integrated Strategies:

1. Utilize tools to show effects of sea level rise and its progression.
   a. Performance Measure: Track number of presentations on sea level rise and long term effects.

Objective 2: Inform coastal property owners of structural adaptation options available to improve coastal resilience.

Integrated Strategies:

1. Utilize tools to show effects of sea level rise in reference to properties.
   a. Performance Measure: Track number of presentations where tools utilized.
2. Hold public meetings for coastal property owners on potential infrastructure changes and practices.
   a. Performance Measure: Track number of presentations for coastal property owners.
   b. Performance Measure: Track number of restoration and enhancement projects implemented.

Goal 5: Inform coastal property owners on proper land use.

Objective 1: Share knowledge and tools with public on habitat preservation and improving water quality.

Integrated Strategies:

1. Promote Florida Friendly Yards (FFY).
   a. Performance Measure: Track number of FFY presentations.

b. Performance Measure: Track number of integrated FFYs.
c. Performance Measure: Track number of information requests about FFYs.

2. Promote FFY recommendation of a minimum 10 foot vegetative buffer along coastal properties.
   a. Performance Measure: Measure linear feet of proper buffers through shoreline surveys.
3. Promote conversion of hardened shorelines to living shorelines.
   a. Performance Measure: Measure linear feet of shoreline converted to living shorelines.
4. Promote use of native plants, rain gardens, and lawn control through collaboration with Santa Rosa Extension agents.
   a. Performance Measure: Track number of inquiries about land use programs.
   b. Performance Measure: Track number of implemented integrated land use strategies
   c. Performance Measure: Track educational materials distributed to coastal property owners.

Goal 6: Inform public concerning marine debris.

Objective 1: Promote awareness of marine debris impacts and effects to wildlife and environment.

Integrated Strategies:

1. In collaboration with UF/IFAS Sea Grant and FWC, educate public on marine debris, and its effects on wildlife and the environment.
   a. Performance Measure: Decline in overall quantity of marine debris.
   b. Performance Measure: Track educational materials distributed.
2. Reduce number of injured animals due to marine debris.
   a. Performance Measure: Decline in number of injured animals reported by FWC.
3. Coordinate with local organizations to remove marine debris.
   a. Performance Measure: Coordinate with local groups and volunteers to remove marine debris.

4.4 / The Public Use Management Program

The Public Use Management Program addresses the delivery and management of public use opportunities at YRMAP. The components of this program focus on providing the public recreational opportunities, within the site's boundaries which are compatible with resource management objectives. The goal for public access management in FCO managed areas is to promote and manage public use of our preserves and reserves that supports the research, education, and stewardship mission of FCO.

While access by the general public has always been a priority, the conservation of FCO's sites is the primary management concern for FCO. It is essential for staff to analyze existing public uses and define management strategies that balance these activities where compatible in a manner that protects natural, cultural and aesthetic resources. This requires gathering existing information on use, needs, and opportunities, as well as a thorough consideration of the existing and potential impacts to critical upland, wetland and submerged habitats. This includes the coordination of visitor program planning with social science research. One of FCO's critical management challenges during the next 10 years is balancing anticipated increases in public use with the need to ensure preservation of site resources.

	Facilty	Address	City	County
1	Brown's Fish Camp	3400 Ward's Basin Rd.	Milton	Santa Rosa
2	Ski Land	4109 Driskell Rd.	Milton	Santa Rosa
3	The Fish Camp	8000 Couey Road	Milton	Santa Rosa
4	Nichols Seafood Restaurant & Marina	7408 Bain Drive	Milton	Santa Rosa
5	Snapper Avenue Public Boat Ramp	Snapper Avenue	Milton	Santa Rosa
6	Mae Lane Public Boat Ramp	End of Mae Lane	Milton	Santa Rosa
7	Eglin AFB - Boiling Creek	End of unnamed dirt road	Milton	Santa Rosa
8	Dickerson City Public Boat Ramp	1200 Vista Del Mar Drive	Milton	Santa Rosa
9	Yellow River Canoe Launch	State Highway 87	Milton	Santa Rosa

Table 3 / Public access points of Yellow River Marsh Aquatic Preserve

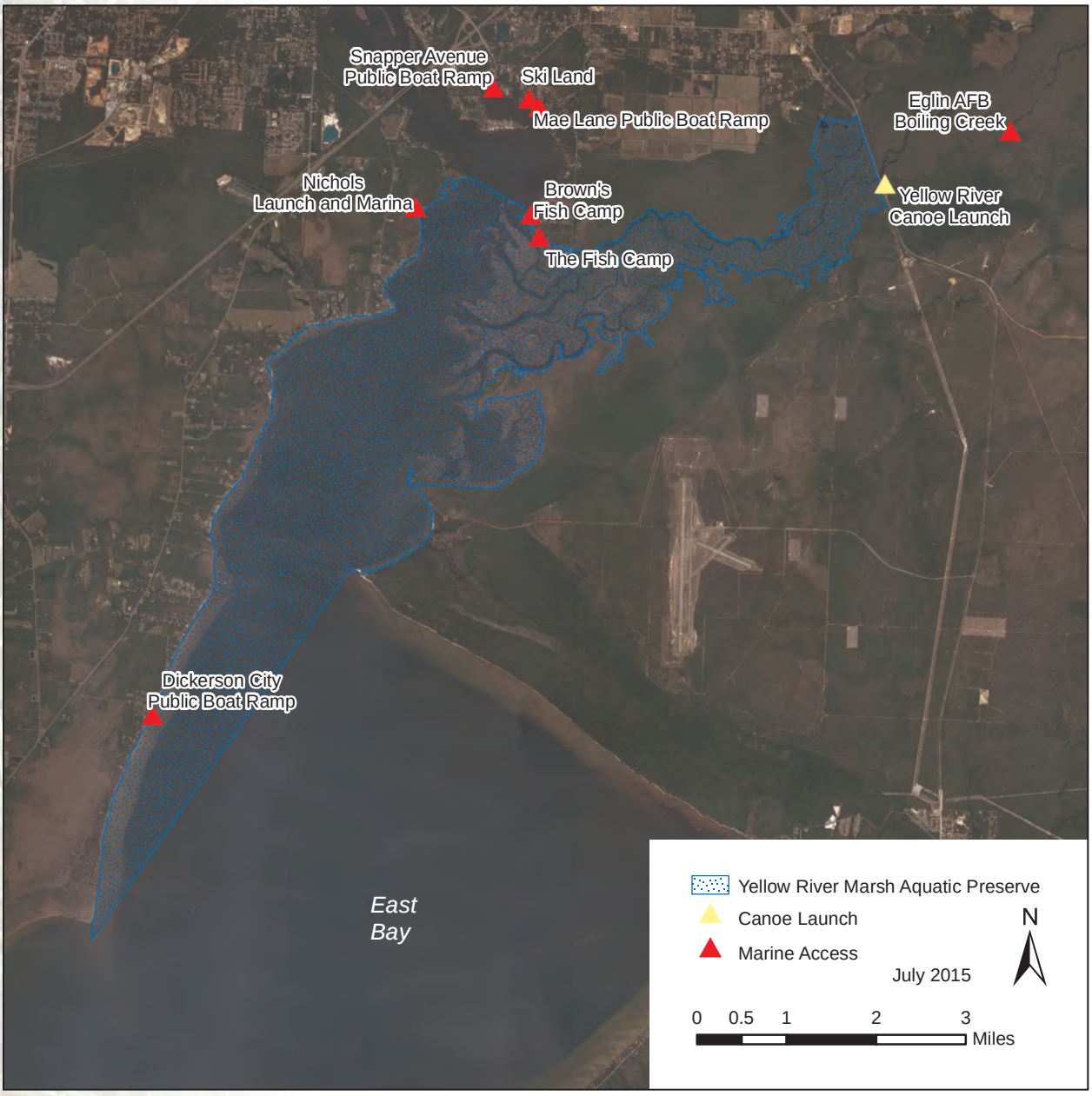
4.4.1 / Background of Public Use at Yellow River Marsh Aquatic Preserve

Much of the background of public use at YRMAP, prior to current management, is unavailable due to programmatic closures in 2011. This section has been composed based on site knowledge gathered since the office reopened and current management's involvement with other agencies familiar with the area.

4.4.2 / Current Status of Public Use at Yellow River Marsh Aquatic Preserve

Public use of YRMAP is optimal for preservation. There is an adequate number of public and private boat launches for the acreage of YRMAP and they are all of sound structure (Map 11). With many ramps and launches just north of the aquatic preserve, there is ample access on all sides. Each launch site offers a different setting to areas in the PBW. The majority of the sites have adequate disposal, monofilament recycling containers and no current sign pollution. The public launches are maintained by Santa Rosa County. UF/IFAS Sea Grant and numerous volunteers assist with the recycling efforts at these locations. Fishing and boating are the main recreational uses in the open waters of YRMAP, while the majority of canoeing and kayaking is done in the river portion of YRMAP due to the calmer conditions.

No issues have been explicitly associated with public use at YRMAP, but sustainable public use is a component of management strategies associated with other issues.



Map 11 / Public access points of Yellow River Marsh Aquatic Preserve.

Recreational fishing on Yellow River.

Part Three

Additional Plans

Chapter Five

Administrative Plan

The management program for the Yellow River Marsh Aquatic Preserve (YRMAP), as well as two other aquatic preserves (Fort Pickens State Park Aquatic Preserve and Rocky Bayou State Park Aquatic Preserve), is implemented by the Northwest Florida Aquatic Preserves (NWFLAP) manager and one Full Time Equivalent (FTE) serving as assistant manager. Any restoration projects and nursery facilities are operating under grant funding and Other Personal Services (OPS) staff. Management and administrative duties are undertaken by the two FTE employees. These tasks include purchasing, budget approval and reconciliation, reporting, grant writing and reporting, staff management and field monitoring, recording and assessment. Oversight for the NWFLAP spans over a majority of the Florida Panhandle and is nearly 100 miles from the westernmost to easternmost managed site.

In addition to aquatic preserve management, NWFLAP, through grant awards, implements habitat restoration and enhancement projects in their managed areas as well as areas that will influence the quality of NWFLAP resources. Many management duties are required for these grants in addition to the regular aquatic preserve management responsibilities, such as reporting, budget allocations, and addressing staffing needs.

Downed trees within the marsh.

Staffing Needs

Successful implementation of the strategies outlined in this management plan depends on funding and staffing factors over the next 10 years. The conversion of two employees (Environmental Specialist I) from grant funded OPS positions to Career Service FTE positions will reduce turnover and ensure the quality of current and future restoration projects, research and monitoring efforts, and expanding the education and outreach program are obtainable and successful. The office utilizes three facilities, one of which has a laboratory. The two additional FTE positions requested would help with facility maintenance, ecotourism, vehicle and vessel maintenance, volunteer coordination, education/outreach, monitoring and administrative duties.

Moss covered trees along the east side of the aquatic preserve.

Chapter Six

Facilities Plan

The main office location for Northwest Florida Aquatic Preserves (NWFLAP) is in the Northwest District Regulatory Office at the James Building in Pensacola. Staff occupies three offices, a laboratory and a storage space within the building. NWFLAP also occupies a nursery facility within Ellyson Industrial Park in Pensacola. This location consists of a modular office space with storage, a large warehouse, two full size greenhouses, grow out and aquaculture space, oyster recycling location and space for boat, vehicle and trailer storage. This location is also utilized by the Northwest District Regulatory Office for file storage and for the Air Quality Monitoring Program. All facilities are compliant with Americans with Disabilities Act (ADA) specifications.

The modular office at the nursery has had several roof patches/repairs over the last five years and every year the air conditioning unit/HVAC has had repairs. These items will need to be addressed in the immediate future and may exceed the value of the modular unit itself. Recommendation of management is to replace this modular office space. This would provide a more central location for staff between all aquatic preserves and facilities, with the nursery being the main office space and visitor center.

Vehicles

- 1999 Chevy Suburban (115,000 miles *as of April 2015*): used for hauling equipment, towing short distances, volunteer transport; *grant funded.*
- 2002 Toyota Prius (71,000 miles *as of April 2015*): used for transportation for long distance, especially Central Office, meetings and conferences, and commuting around town.
- 2007 Ford F-150 (96,500 miles *as of April 2015*): used for majority of towing and hauling equipment, occasional travel for distance and project implementation.
- 2011 Chevy Silverado (33,500 miles *as of April 2015*): used for towing and hauling equipment, occasional travel for distance and project implementation; *grant funded.*

Vessels

- 15’ Boston Whaler with trailer (Johnson 40 horsepower motor)
- 17’ Mako with trailer (Mercury four-stroke 90 horsepower motor)
- 20’ Scandy White with trailer (Honda Outboard 150 horsepower motor)
- 24’ Lowe Pontoon with trailer (Evinrude E-Tec two-stroke 70 horsepower motor)
- Two additional motors (parts)

Trailers

- Four utility trailers ranging in lengths from 10’ to 20’ for transport of equipment to various sites.

The NWFLAP office has developed a hurricane preparedness plan to secure and protect all facilities, equipment, and staff should the need arise. This plan is reviewed annually and updated as needed.

Future Needs

An office building to accommodate a more central location and nursery facility with better accommodations is desired. The NWFLAP office serves volunteers, interns and visitors, in addition to staff. The facility is beginning to fall into disrepair and accommodations are lacking for many people at a given time. If staff had a larger space to accommodate for the flux of visitors, events could also be held at this location, but not in its current state. Funds for greenhouse infrastructure repairs are requested. Due to the age and extreme weather conditions that the existing greenhouses have endured, some repairs to walls, structural wood components and doors are required to make them storm resistant as well as energy efficient.

Within the next five years, a new vehicle that can tow and transport staff will be needed to replace the Suburban. The Suburban is not used often due to its unreliable condition. In addition, vessels are starting to show wear and tear. A shallow draft vessel (20’– 22’) and trailer will be needed to replace an existing vessel within the next five years. The shallow draft vessel is needed to transport people and equipment for use in the harder to navigate areas of YRMAP.

Ten new continuous water quality data loggers are needed to adequately fulfill water quality monitoring goals for YRMAP and other aquatic preserves managed by the NWFLAP office. NWFLAP currently has two data loggers and the requested equipment will be updated data loggers with newer technology to replace existing ones. The current models being utilized will be outdated in the near future. Two of these will be deployed in YRMAP to get sampling of the aquatic preserve in its entirety. The placement of the data loggers will be able to capture the full water quality from the influence from the river, with a focus on the change in salinity and turbidity throughout YRMAP.

List of Appendices

Appendix A

Legal Documents

*A.1 / **Aquatic Preserve Resolution***

WHEREAS, the State of Florida, by virtue of its sovereignty, is the owner of the beds of all navigable waters, salt and fresh, lying within its territory, with certain minor exceptions, and is also the owner of certain other lands derived from various sources; and

WHEREAS, title to these sovereignty and certain other lands has been vested by the Florida Legislature in the State of Florida Board of Trustees of the Internal Improvement Trust Fund, to be held, protected and managed for the long range benefit of the people of Florida; and

WHEREAS, the State of Florida Board of Trustees of the Internal Improvement Trust Fund, as a part of its overall management program for Florida's state-owned lands, does desire to insure the perpetual protection, preservation and public enjoyment of certain specific areas of exceptional quality and value by setting aside forever these certain areas as aquatic preserves or sanctuaries; and

WHEREAS, the ad hoc Florida Inter-Agency Advisory Committee on Submerged Land Management has selected through careful study and deliberation a number of specific areas of state—owned land having exceptional biological, aesthetic and scientific value, and has recommended to the State of Florida Board of Trustees of the Internal Improvement Trust Fund that these selected areas be officially recognized and established as the initial elements of a statewide system of aquatic preserves for Florida;

NOW, THEREFORE, BE IT RESOLVED by the State of Florida Board of Trustees of the Internal Improvement Trust Fund:

THAT it does hereby establish a statewide system of aquatic preserves as a means of protecting and preserving in perpetuity certain specially selected areas of state-owned land: and

THAT specifically described, individual areas of state-owned land may from time to time be established as aquatic preserves and included in the statewide system of aquatic preserves by separate resolution of the State of Florida Board of Trustees of the Internal Improvement Trust Fund; and

THAT the statewide system of aquatic preserves and all individual aquatic preserves established thereunder shall be administered and managed, either by the said State of Florida Board of Trustees of the Internal Improvement Trust Fund or its designee as may be specifically provided for in the establishing resolution for each individual aquatic preserve, in accordance with the following management policies and criteria:

(1) An aquatic preserve is intended to set aside an exceptional area of state-owned land and its associated waters for preservation essentially in their natural or existing condition by reasonable regulation of all human activity which might have an effect on the area.

(2) An aquatic preserve shall include only lands or water bottoms owned by the State of Florida, and such private lands or water bottoms as may be specifically authorized for inclusion by appropriate instrument from the owner. Any included lands or water bottoms to which a private ownership claim might subsequently be proved shall upon adjudication of private ownership be automatically excluded from the preserve, although such exclusion shall not preclude the State from attempting to negotiate an arrangement with the owner by which such lands or water bottoms might be again included within the preserve.

(3) No alteration of physical conditions within an aquatic preserve shall be permitted except: (a) minimum dredging and spoiling for authorized public navigation projects, or (b) other approved activity designed to enhance the quality or utility of the preserve itself. It is inherent in the concept of the aquatic preserve that, other than as contemplated above, there be: no dredging and filling to create land, no drilling of oil wells or excavation for shell or minerals, and no erection of structures on stilts or otherwise unless associated with authorized activity, within the confines of a preserve - to the extent these activities can be lawfully prevented.

(4) Specifically, there shall be no bulkhead lines set within an aquatic preserve. When the boundary of a preserve is intended to be the line of mean high water along a particular shoreline, any bulkhead line subsequently set for that shoreline will also be at the line of mean high water.

(5) All human activity within an aquatic preserve shall be subject to reasonable rules and regulations promulgated and enforced by the State of Florida Board of Trustees of the Internal Improvement Trust Fund and/or any other specifically designated managing agency Such rules and regulations shall not interfere unduly with lawful and traditional public uses of the area, such as fishing (both sport and commercial), hunting, boating, swimming and the like.

(6) Neither the establishment nor the management of an aquatic preserve shall infringe upon the lawful and traditional riparian rights o private property owners adjacent to a preserve. In furtherance of these

rights, reasonable improvement for ingress and egress, mosquito control, shore protection and similar purposes may be permitted by the State of Florida Board of Trustees of the Internal Improvement Trust Fund and other jurisdictional agencies, after review and formal concurrence by any specifically designated managing agency for the preserve in question.

(7) Other uses of an aquatic preserve, or human activity within a preserve, although not originally contemplated, may be permitted by the State of Florida Board of Trustees of the Internal improvement Trust Fund and other jurisdictional agencies, but only after a formal finding of compatibility made by the said Trustees on the advice of any specifically designated managing agency for the preserve in question.

IN TESTIMONY WHEREOF, the Trustees for and on behalf of the State of Florida Board of Trustees of the Internal Improvement Trust Fund have hereunto subscribed their names and have caused the official seal of said State of Florida Board of Trustees of the Internal Improvement Trust Fund to be hereunto affixed, in the City of Tallahassee, Florida, on this the 24th day of November A. D. 1969.

CLAUDE R. KIRK, JR, Governor

TOM ADAMS, Secretary of State

EARL FAIRCLOTH, Attorney General

FRED O. DICKINSON, JR., Comptroller

BROWARD WILLIAMS, Treasurer

FLOYD T. CHRISTIAN, Commissioner of Education

DOYLE CONNER, Commissioner of Agriculture

As and Constituting the State of Florida Board of Trustees of the Internal Improvement Trust Fund

A.2 / ***Florida Statutes***

All the statutes can be found according to number at www.leg.state.fl.us/Statutes

Florida Statutes, Chapter 253: State Lands

Florida Statutes, Chapter 258: State Parks and Preserves
Part II (Aquatic Preserves)

Florida Statutes, Chapter 267 (Historical Resources)

Florida Statutes, Chapter 370: Saltwater Fisheries

Florida Statutes, Chapter 372: Wildlife

Florida Statutes, Chapter 403: Environmental Control
(Statute authorizing the Florida Department of Environmental Protection (DEP) to create Outstanding

Florida Waters is at 403.061(27))

Florida Statutes, Chapter 597: Aquaculture

A.3 / ***Florida Administrative Codes***

All rules can be found according to number at www.flrules.org/Default.asp

Florida Administrative Code, Chapter 18-20: Florida Aquatic Preserves
www.dep.state.fl.us/legal/Rules/shared/18-20.pdf

Florida Administrative Code, Chapter 18-21: Sovereignty Submerged Lands Management
www.dep.state.fl.us/legal/Rules/shared/18-21.pdf

Florida Administrative Code, Chapter 62-302: Surface Water Quality Standards
(Rule designating Outstanding Florida Waters is at 62-302.700)
www.dep.state.fl.us/legal/Rules/shared/62-302/62-302.pdf

MEMORANDUM OF AGREEMENT
BETWEEN THE
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA COASTAL OFFICE
AND
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS DISTRICT 1
FOR
NATIVE PLANT PROPAGATION

THIS AGREEMENT, entered into by the FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION FLORIDA COASTAL OFFICE, NORTHWEST FLORIDA AQUATIC PRESERVES OFFICE, an office within the Florida Department of Environmental Protection, an agency of the State of Florida, whose address is 160 W. Government Street, Pensacola, Florida 32502 (hereinafter referred to as "NWFLAP"), and the FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF RECREATION AND PARKS DISTRICT 1, also an office within the Florida Department of Environmental Protection, an agency of the State of Florida, whose address is 4620 State Park Lane, Panama City, Florida 32408 (hereinafter referred to as the "D1"), for the purposes of native plant propagation.

WITNESSETH:

WHEREAS, D1 has issued a research and collection permit for the purpose of collecting plant seed and cuttings and/ or bare root material from District 1 State Parks to NWFLAP; and

WHEREAS, D1 and NWFLAP entered into a MOA for native plant propagation on February 9th, 2009, which expired on December 31st, 2015. D1 and NWFLAP desire to continue that relationship through the execution of this MOA; and

NOW THEREFORE IN CONSIDERATION of the mutual covenants herein, the parties do hereby agree as follows:

1. NWFLAP agrees to work in cooperation with D1 for re-vegetation and restoration of D1 lands by agreeing to grow native vegetative material for specified D1 projects; and

2. D1 will involve NWFLAP management and nursery staff in plant species selection for D1 projects of which NWFLAP will be propagating native plant material; and

3. D1 shall allow NWFLAP to collect a reasonable amount of stock/donor plant material via seeds, cuttings and/or bare root material from State Park lands as needed and as approved by D1 technical support personnel for the purpose of using local, native plant material for re-vegetation efforts; and

5. D1 agrees to provide NWFLAP at least 6 months lead time to allow for collection and propagation of grasses and non-woody plant material. D1 agrees to allow at minimum a one year lead time for the collection and propagation of woody plant material. The ability of NWFLAP to provide sufficient and adequate plant material for D1 project requests will depend on the provision of adequate lead time to propagate requested material; and

6. D1 agrees to remit payment to NWFLAP upon receipt of plant material on a per unit fee schedule by plant type to be determined based on the plant species required/requested for the project. The fee schedule and plant species quantity request will be through email exchange and shall include: price per plant (based on species and/or type), quantity of each requested plant species and timeframe for delivery/pick up of plant material. Invoices will be forwarded by NWFLAP to the appropriate D1 office for payment. D1 will pay via JT (Journal Transfer) for invoiced plant material.

A. NWFLAP agrees to provide D1 with native plant material and to be paid on a per plant basis as agreed upon through email exchange between the Project Managers which shall include: price per plant (based on species and/or type), quantity of each requested plant species and timeframe for delivery/pick up of plants ordered.

B. NWFLAP agrees to provide all equipment, materials, supplies and labor necessary to grow the plants at NWFLAP Coastal Restoration Nursery.

C. D1 agrees to provide NWFLAP staff access to State Park lands for the purposes of material collection. D1 agrees to allow NWFLAP to collect a reasonable amount of stock/donor plant material via seeds and cuttings from State park lands as needed and approved by the D1 Project Manager, for the purposes of using local, native plant material for re-vegetation/propagation efforts.

D. D1 agrees to a fee schedule payment, based on quantity of plants at the agreed to rate per plant, at delivery of plant material through a JT into the budget codes provided by NWFLAP. The parties understand and agree that D1 is not obligated to pay for plants delivered in excess of the quantity ordered. However, D1 may agree through a separate email to purchase additional quantities of plants, if available, prior to delivery of the plants by NWFLAP.

E. Plant material is being grown by NWFLAP on a fee schedule basis. If circumstances arise that prevent the D1 from rendering full agreed upon payment to NWFLAP for propagated plant material, this contract will revert to an advance payment agreement where the FDEP FLORIDA COASTAL OFFICE shall be required to pay in full upfront at the start of plant material propagation for future requested projects. The advance will be based on an email exchange with established rates pursuant to item 1. Outstanding payments may be negotiated on a prorated basis at the discretion of NWFLAP representatives.

F. D1 Project Manager shall be the District biologist or their designee. D1 Project Manager shall be responsible for coordinating with the appropriate D1 staff regarding the acquisition of plant material and the scheduling of such acquisition. The NWFLAP Project Manager shall be the Program Manager or their designee.

G. All parties to this Agreement shall commence and complete the Project with all practicable dispatch, in a sound, economical, and efficient manner and in accordance with the provisions herein and all applicable state and federal laws.

H. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida.

I. If any provision of this Agreement is held invalid, the remainder of this Agreement shall not be affected. In such instances, the remainder would then continue to the terms and requirements of applicable law.

J. This Agreement shall be effective upon execution by all parties and remain in effect until December 31, 2020.

K. Each party hereto agrees that it shall be solely responsible for the negligent or wrongful acts of its employees or agents. However, nothing contained herein shall constitute a waiver by either party of its sovereign immunity or the provisions of Section 768.28, Florida Statutes.

L. 1. Either party may terminate this Agreement at any time in the event of the failure of the other party to fulfill any of its obligations under this Agreement. Prior to termination, the terminating party shall provide thirty (30) calendar days written notice of its intent to terminate and shall provide the other party an opportunity to consult with the terminating party regarding the reason(s) for termination.

2. Either party may terminate this Agreement for convenience by providing the other party with thirty (30) calendar days written notice.

3. If a termination is initiated, payment for ordered and propagated plants shall be due within 30 days following contract termination to NWFLAP by way of a JT to NWFLAP designated account.

M. This Agreement represents the entire agreement between NWFLAP and D1, and supersedes all prior negotiations, representations or agreements either written or oral, with exception of agreement of plant orders conducted via email exchange as described in paragraph 1. This Agreement may be amended only by written instrument signed by authorized representatives of NWFLAP and D1.

IN WITNESS HEREOF, NWFLAP and D1 have caused this Agreement to be executed by their authorized representatives on the day and year last written below.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
FLORIDA COASTAL OFFICE

By: _____
Jennifer W. Harper, FCO Northwest Region Administrator

Date: 11/16/2015

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
DISTRICT 1

By: _____
Daniel Jones, Bureau Chief

Date: 12/11/15

MASTER MEMORANDUM OF UNDERSTANDING

FDACS CONTRACT #
003325

MEMORANDUM OF UNDERSTANDING
Among

DEPARTMENT OF DEFENSE,
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION,
FLORIDA DIVISION OF FORESTRY,
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION,
INTERNATIONAL PAPER,
NATIONAL FORESTS IN ALABAMA,
NATIONAL PARK SERVICE,
NOKUSE PLANTATION,
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT, and
THE NATURE CONSERVANCY

THIS MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU" or "Understanding") is made and entered into on the 24th day of September, 2006 among Conecuh National Forest (National Forests in Alabama), Department Of Defense, Florida Department Of Environmental Protection, Florida Division Of Forestry (Florida Department of Agriculture and Consumer Services), Florida Fish and Wildlife Conservation Commission, International Paper, National Park Service, Nokuse Plantation, Northwest Florida Water Management District, and The Nature Conservancy (hereinafter referred to as "parties").

This MOU hereby replaces and supercedes that certain MOU between Eglin Air Force Base (Air Armament Center), Blackwater River State Forest (Florida Department of Agriculture and Consumer Services-Division of Forestry), Northwest Florida Water Management District, Conecuh National Forest (National Forests in Alabama), Florida Department of Environmental Protection, International Paper and The Nature Conservancy (Florida Southeast Division, Alabama Field Office and Alabama Natural Heritage Program), dated April, 4, 2003.

The parties have responsibilities on and collectively own and manage approximately 1,050,000 acres in the ecosystems of the region (see Attachment). These acres comprise the largest remaining nearly contiguous block of longleaf pine uplands in the southeastern United States and include portions of five major watersheds, including the Escambia-Conecuh, Blackwater, Yellow, Choctawhatchee, and Perdido River drainages.

The purpose of this MOU is to develop and implement a voluntary and cooperative stewardship strategy to sustain the long-term viability of native plants and animals, the integrity of ecosystems, the production of commodities and ecosystem services, and the human communities that depend upon all of them.

MASTER MEMORANDUM OF UNDERSTANDING

The general goals of this MOU include the following:

-To assist, share information and coordinate efforts with the other parties in fulfilling the purposes of the MOU.

-To provide a model for local, state, federal, and private entities working together to fulfill the purpose of the MOU.

-To communicate to the public success in meeting both individual and common goals related to the MOU.

-To cooperate with other agencies and organizations including:

- U.S. Fish and Wildlife Service
- Universities and Junior Colleges
- The National Biological Service
- The Florida Department of Transportation
- The Alabama Department of Conservation and Natural Resources
- The Longleaf Alliance
- Southern Group of State Foresters

This MOU recognizes that the individual parties (public and private) have legitimate and varied management goals ranging from military missions, to producing forest commodities, providing recreational opportunities, protecting water quality, and conserving native species and ecosystem integrity. This MOU is in no way intended to limit or constrain the party's individual goals.

This MOU is entered into pursuant and subject to all applicable federal, state, and local laws. This MOU is not entered in the interest of obtaining advise or recommendations for any office or agency of the federal government and nothing herein shall be construed, nor is intended to state or imply, that this MOU establishes a federal advisory committee or that the Federal Advisory Committee Act (5 U.S.C. Appendix 2) shall apply.

IN ORDER TO FULFILL the stated purpose and intent of this MOU, the Parties agree in principle to the following:

1. To develop jointly a voluntary strategy, to be reviewed and updated annually, that will document critical ecosystem elements, processes, and interactions, identify priority ecosystem goals and objectives, both individually and jointly, and measure progress in attaining goals and objectives.

2. To develop jointly a voluntary red-cockaded woodpecker management strategy, and strategies for other listed species as appropriate, to be reviewed and updated annually, that will coordinate objectives and management efforts among the parties toward the mutual goal of recovering the red-cockaded woodpecker and other listed species.

3. To develop jointly a voluntary longleaf pine and other natural communities restoration strategies, to be reviewed and updated annually, that will coordinate objectives, strategies and actions among the parties and other efforts toward the mutual goal of recovering representative and ecologically functional examples of the longleaf pine ecosystem.

4. To share and exchange relevant information and technology as appropriate and need to compile and implement the above strategies.

5. To develop specific agreements and working plans for individual projects considered by all or some of the parties hereto to have mutual interest. Such agreements and working plans will be developed whenever deemed appropriate by the relevant parties.

6. To consider entering into specific agreements among all or some of the parties and/or third parties, as occasion demands, for the use of specialized equipment, transfer of funds, purchasing of supplies, and other matters pertaining to the general purposes of management agreed upon by all or some of the parties hereto. Any allocation of responsibilities and liabilities, including limitation of expenditures under this Understanding, will be as set forth in specific working agreement entered into by the relevant parties.

7. To hold at least one meeting per year and more often as required to discuss management opportunities and coordinate management and monitoring efforts and to keep written records made under this Understanding.

8. To make this Understanding effective as of the date it is executed by the last party and continuing for a term of one year and renewing automatically on an annual basis unless terminated in writing by one or more of the parties hereto pursuant to paragraph 9 below.

9. To terminate this understanding at any time by mutual agreement by all parties with any party having the right to withdraw from this Understanding by giving the other parties 30 days notice.

10. To amend this Understanding as necessary at any time to incorporate new parties, new information or changes in any parties authorities, policies, directives, or goals, subject to concurrence by all parties.

11. Nothing in this Understanding shall be construed to place financial commitment upon any of the parties. Actions taken and funds expended to implement this Understanding are contingent upon appropriations, priorities, and other constraints.

MASTER MEMORANDUM OF UNDERSTANDING

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding as of the date above written.

DEPARTMENT OF DEFENSE, 96th AIR BASE WING

Edmond B Keith — Commander — 30 Sep 05

Signature | Title | Date

DEPARTMENT OF THE NAVY, NAVY REGION GULF COAST

[signature] — COMMANDER — 18 MAY 06

Signature | Title | Date

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

R G Ballard — Dep Sec — 07/27/06

Signature | Title | Date

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
(Florida Division of Forestry)

[signature] — Director of Administration — 3-23-06

Signature | Title | Date

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

[signature] — Director, Div. of Habitat + Species Cons — 5-09-06

Signature | Title | Date

INTERNATIONAL PAPER

Sharon H Haines — Director Sustainable Forestry & Forest Policy — 12/14/05

Signature | Title | Date

MASTER MEMORANDUM OF UNDERSTANDING

NATIONAL FORESTS IN ALABAMA

Signature	Title	Date
	Forest Supervisor	1/31/06

NATIONAL PARK SERVICE

Signature	Title	Date
	Superintendent	

NOKUSE PLANTATION

Signature	Title	Date
	owner	8-12-06

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Signature	Title	Date
	Executive Director	08/28/06

THE NATURE CONSERVANCY

Signature	Title	Date
	Florida State Director	09/24/06

MASTER MEMORANDUM OF UNDERSTANDING

ATTACHMENT
Ownership Included in Memorandum of Understanding

OWNERSHIP/MANAGER	NAME OF PROPERTY	ACREAGE (Approx.)
DEPARTMENT OF DEFENSE	Eglin Air Force Base, Naval Air Station Pensacola, and Naval Air Station Whiting Field	481,241
FLORIDA DIVISION OF FORESTRY	Blackwater River, Pine Log, and Point Washington State Forests	211,752
NW FLORIDA WATER MANAGEMENT DISTRICT	Garcon Point, Escribano Point, Yellow River, Choctawhatchee River, Blackwater River, and Escambia River Water Management Areas	112,963
NATIONAL FORESTS IN ALABAMA	Conecuh National Forest	83,790
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	NW Florida Aquatic and Buffer Preserves, and Blackwater River, Perdido Key, Tarkiln Bayou, and Big Lagoon State Parks	57,270
NOKUSE PLANTATION	Nokuse North and Nokuse South	50,000
NATIONAL PARK SERVICE	Gulf Islands National Seashore and Naval Live Oaks, Florida	24,795
INTERNATIONAL PAPER	International Paper Connector Parcel and Coldwater Creek	24,263
THE NATURE CONSERVANCY	Choctawhatchee River Delta Preserve, and Perdido River Nature Preserve	5,081
FLORIDA FISH & WILDLIFE CONSERVATION COMMISSION	Escribano Point	1,166
TOTAL ACREAGE ENROLLED IN GCPEP (As Of April 2005)		**1,052, 321**

Assignment and Assumption of Lease #4306 for Yellow River Marsh Buffer Preserve

AOL1

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION,
OFFICE OF COASTAL AND AQUATIC MANAGED AREAS
ASSIGNMENT AND ASSUMPTION OF

Lease Numbers:

4085 Charlotte Harbor State Buffer Preserve
4140 Cockroach Bay State Buffer Preserve
4084 Crystal River State Buffer Preserve
4083 Estero Bay State Buffer Preserve
4305 Indian River Lagoon State Buffer Preserve
4178 North Fork St. Lucie River State Buffer Preserve
4074 Pumpkin Hill Creek State Buffer Preserve
4118 St. Sebastian River State Buffer Preserve
~~4101 Terra Ceia State Buffer Preserve~~ - will be included in a separate document
4306 Yellow River Marsh State Buffer Preserve

The State of Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas ("Assignor"), for value received does, subject to written consent of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida ("Lessor"), hereby assign, transfer and convey 100% of its rights, title, and interest vested under the above referenced leases ("Leases") made and entered into by and between Lessor and Assignor, as Lessee, to the State of Florida Department of Environmental Protection, Division of Recreation and Parks ("Assignee"), for and during the remainder of the term of the Leases and all renewals thereof, subject to the performance of all covenants, conditions, and provisions required to be performed by the Lessee under the terms of the Leases, and subject to the conditions and provisions therein set forth.

Dated December 5, 2003.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION, OFFICE
OF COASTAL AND AQUATIC MANAGED AREAS

Ellen L Stere
Witness
Ellen L Stere
Print/Type Witness Name

By: Katherine Andrews (SEAL)
Katherine Andrews
Print/Type Name

Sherry G. Ervin
Witness
Sherry G. Ervin
Print/Type Witness Name

Title: CAMA Director

"Assignor"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 5th day of December, 2003 by Katherine Andrews as Director, Office of Coastal and Aquatic Managed Areas, State of Florida Department of Environmental Protection. He/(she) is personally known to me.

Shannon Franklin
MY COMMISSION # DD119914 EXPIRES
May 23, 2006
BONDED THRU TROY FAIN INSURANCE, INC.

Notary Public, State of Florida
Shannon Franklin
Print/Type Notary Name

Commission Number: DD119914
Commission Expires: May 23, 2006

ACCEPTANCE OF ASSIGNMENT AND ASSUMPTION OF LEASES

The State of Florida Department of Environmental Protection, Division of Recreation and Parks ("Assignee"), in consideration of the foregoing Assignment, subject to written consent of the Lessor, does hereby accept assignment of the Leases, and assumes and agrees for the benefit of the Lessor to perform all covenants, agreements, conditions and provisions of the Leases. Further, Assignee agrees that it, its successors and assigns shall be bound for the due performance herein in the same manner as was the Assignor, as the original Lessee named in the Leases, for and during the remainder of the term of the Leases and all renewals thereof.

Dated December 15, 2003.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION, DIVISION
OF RECREATION AND PARKS

By: _____ (SEAL)
Albert G. Gregory

Title: Chief, Office of Park Planning

"Assignee"

_____
Witness

_____
Print/Type Witness Name

_____
Witness

_____
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 15th day of December, 2003, by Albert G. Gregory, Chief, Office of Park Planning, Division of Recreation and Parks, State of Florida Department of Environmental Protection. He is personally known to me.

_____
Notary Public, State of Florida

Dale H. Quick
Commission # DD122787
Expires June 20, 2006
Bonded Thru
Atlantic Bonding Co., Inc.

Print, Type or Stamp Notary Name

Commission Number:

Commission Expires:

CONSENT TO ASSIGNMENT AND ASSUMPTION OF LEASES

The BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, the Lessor of the property described in the Leases consents to the foregoing Assignment and Assumption of Leases this 22nd day of December, 2003.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

BY: Gloria C Nelson (SEAL)
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 22nd day of Dec., 2003, by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust fund of the State of Florida. She is personally known to me.

(SEAL)

Theresa M. Brady
Notary Public, State of Florida

Print/Type Notary Name: Theresa M. Brady
Commission # DD081826
Expires Jan. 2, 2006
Bonded Thru
Atlantic Bonding Co., Inc.

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: _____
DEP Attorney

CITIZEN SUPPORT ORGANIZATION AGREEMENT

THIS AGREEMENT is made the 3rd day of December, 2013, by the State of Florida Department of Environmental Protection ("Department") for the purposes of recognizing Ecosystem Restoration Support Organization, Inc., hereinafter called "ERSO," as an approved Citizen Support Organization for the Northwest Florida Aquatic Preserve Program ("NWFAP").

PARTIES

1. The Department is an agency of the state created under section 20.255, F.S.
2. The NWFAP is a field office within the Department's Office of Coastal and Aquatic Managed Areas ("CAMA"), hereinafter collectively called "NWFAP."
3. The NWFAP acts as manager over the Fort Pickens Aquatic Preserve, the Yellow River Marsh Aquatic Preserve, the Rocky Bayou Aquatic Preserve and the St. Andrews Bay Aquatic Preserve.
4. ERSO is a not for profit Florida corporation incorporated under the provisions of chapter 617, F.S., and approved by the Department of State.

PURPOSE

5. The NWFAP is vested with restoring and enhancing sea grass, emergent marsh, and sand dune ecosystems within the Fort Pickens Aquatic Preserve, the Yellow River Marsh Aquatic Preserve, the Rocky Bayou Aquatic Preserve and the St. Andrews Bay Aquatic Preserve for faunal habitat, shoreline erosion control, public enjoyment, and healthful recreation.
6. ERSO desires to act as an approved Citizen Support Organization ("CSO") for the NWFAP, with all rights and privileges provided in section 20.2551, F.S.
7. By this Letter of Agreement, the NWFAP has determined that ERSO's organization and purpose, as provided in ERSO's Articles of Incorporation, incorporated and made part of this agreement as Attachment A, are consistent with the goals of the Department and are in the best interests of the state.

NOW THEREFORE, it is agreed:

8. The Department hereby grants to ERSO the exclusive approval to serve as the Citizen Support Organization for the NWFAP, in accordance with the provisions of section 20.2551, F.S., subject to all terms and conditions set forth in this agreement.
9. This agreement shall take effect upon execution and shall continue indefinitely or until terminated pursuant to paragraphs 8-9, below, or modified pursuant to paragraph 10, below.
10. Any violation of, or failure to comply with, the terms of this approval shall, at the option of the Department, terminate this agreement after three days from receipt of notice in writing to ERSO.
11. This agreement may be terminated by either party without cause after 90 days from the receipt of notice in writing to the other party.
12. The Department may modify this Agreement at any time by letter modification or substantial rewrite of this Agreement. ERSO may either execute the modification or terminate its status as a CSO.

13. ERSO shall have appropriate use of the NWFAP's laboratory, nursery, office space, facilities, and equipment when approved, in writing, a minimum of 15 business days in advance of use by the NWFAP Manager.

14. ERSO is hereby authorized to: conduct programs and activities; raise funds; request and receive grants, gifts, and bequests of money; acquire, receive, hold, invest, and administer, in its own name, securities, funds, objects of value, or other property, real or personal; make expenditures to or for the direct or indirect benefit of the NWFAP; and conduct official meetings of ERSO.

15. All notices and orders given to ERSO may be served by mail at the following address: Ecosystem Restoration Support Organization, 411 E. Government St., Pensacola, FL 32502. All notices and orders given to the NWFAP may be served by mail at the following address: FDEP, NWFAP Manager, 160 Governmental Center, Suite 308, Pensacola, FL 32501.

16. The NWFAP Manager is hereby designated as the Department's agreement manager and shall be responsible for insuring performance of the terms and conditions of this agreement.

17. The NWFAP may permit, without charge, appropriate use of NWFAP property, equipment, staff and facilities by ERSO subject to the conditions of this paragraph. Such use must be directly in keeping with the approved purposes of ERSO, and may not be made at times or places that would unreasonably interfere with the NWFAP's use of property and facilities or normal NWFAP operations. In order to use property or facilities of the NWFAP, the ERSO must:

A. Comply with all NWFAP, CAMA, and Department policies, rules and regulations as they may be amended periodically;

B. Develop and submit to the NWFAP manager, for review and prior written approval, a program or schedule of all projects, activities and events it plans to carry out on NWFAP property, including the designation of a specific location and time for such use, no less than ten business days prior to the project, activity, or event; and

C. Be responsible for maintaining the property, facilities, or equipment assigned in a clean and orderly state.

18. ERSO agrees that all funds generated by ERSO will be used for the direct benefit of the office of the NWFAP or in accordance with Articles III and IV of Attachment A of this agreement. At no time shall less than 85% of all revenue collected by ERSO be used for the direct benefit of the office of the NWFAP and its Aquatic Preserves.

19. ERSO agrees to provide a for financial reporting by the submittal of:

A. A Monthly gross sales report, submitted quarterly within 30 days of the end of each calendar quarter; and

B. An annual Profit and Loss (P&L) statement, where annual means the state fiscal year, July 1 through June 30, submitted within 30 days of the end of each fiscal year.

20. In accordance with section 215.981(2), F.S., should ERSO's annual expenditures (of the state fiscal year, July 1 through June 30 of each year) exceed $300,000, ERSO shall provide for an annual financial audit of its accounts and records to be conducted by an independent certified public accountant in accordance with Chapter 10.700, Rules of the Auditor General. Financial Accounting Standards No. 117, Financial Statements of Not-For-Profit Organizations established by the Financial Accounting Standards Board. The audit report shall be submitted within 9 months after the end of the fiscal year to the Auditor General and to the NWFAP Manager.

21. ERSO agrees and consents to allow the NWFAP, CAMA, or the Department to conduct operational and financial reviews of ERSO's finances without prior notice.

22. It is acknowledged that ERSO is operating as a citizen support organization and volunteer nonprofit organization for the benefit of the Florida Department of Environmental Protection. As such, activities of ERSO may be covered by state liability protection as outlined in Sections 110.504 and 768.28, F.S. Nothing in this agreement shall be interpreted to act as a waiver of the state's sovereign immunity.

IN WITNESS WHEREOF, based on the foregoing, the State of Florida Department of Environmental Protection herein approves ERSO as Citizen Support Organization.

Approved as to form and legality:

By: _____
Attorney

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: Lee Edmiston
Lee Edmiston
Regional Environmental Administrator
Coastal and Aquatic Managed Areas

Signed as a recognition of this LETTER OF AGREEMENT and its conditional approval:

ATTEST:

By: Kim Kirschenfeld
Kim Kirschenfeld, Secretary

ECOSYSTEM RESTORATION SUPPORT ORGANIZATION, INC.

By: Taylor Kirschenfeld
Taylor Kirschenfeld, President

Appendix B

Resource Data

B.1 / Glossary of Terms

References to these definitions can be found at the end of this list and in Appendix B.3.

aboriginal - the original biota of a geographical region. (Lincoln, Boxshall & Clark, 2003)

anadromous – Migrating from salt to fresh water, as in the case of a fish moving from the sea into a river to spawn. (Lincoln et al., 2003)

anaerobic - growing or occurring in the absence of molecular oxygen. (Lincoln et al., 2003)

annelid - any of a phylum (Annelida) of usually elongated segmented coelomate invertebrates (as earthworms and leeches). (annelid, 2015)

aquaculture - the cultivation of aquatic organisms. (Lincoln et al., 2003)

codify - to arrange laws and rules systematically. (Neufeldt & Sparks, 1990)

diadromous – Migrating between fresh water and sea water. (Lincoln et al., 2003)

diversity - a measure of the number of species and their relative abundance in a community. (Lincoln et al., 2003)

drainage basin (catchment) - the area from which a surface watercourse or a groundwater system derives its water; watershed. (Allaby, 2005)

easement - a right that one may have in another's land. (Neufeldt & Sparks, 1990)

ecosystem - a community of organisms and their physical environment interacting as an ecological unit. (Lincoln et al., 2003)

emergent - an aquatic plant having most of the vegetative parts above water; a tree which reaches above the level of the surrounding canopy. (Lincoln et al., 2003)

endangered species - an animal or plant species in danger of extinction throughout all or a significant portion of its range. (U.S. Fish and Wildlife Service [USFWS], 2015)

endemic - native to, and restricted to, a particular geographical region. (Lincoln et al., 2003)

extinction - the disappearance of a species from a given habitat. (Lincoln et al., 2003)

herpetofauna - The reptiles and amphibians of a particular region, habitat, or geological period. (herpetofauna, 2015)

fauna - the animal life of a given region, habitat or geological stratum. (Lincoln et al., 2003)

flora - the plant life of a given region, habitat or geological stratum. (Lincoln et al., 2003)

geographic information system (GIS) - computer system supporting the collection, storage, manipulation and query of spatially referred data, typically including an interface for displaying geographical maps. (Lincoln et al., 2003)

hydric - pertaining to water; wet. (Lincoln et al., 2003)

infauna - the animal life within a sediment; epifauna. (Lincoln et al., 2003)

intertidal zone - the shore zone between the highest and lowest tides; littoral. (Lincoln et al., 2003)

listed species - a species, subspecies, or distinct population segment that has been added to the Federal list of endangered and threatened wildlife and plants. (USFWS, 2015)

mandate - an order or command; the will of constituents expressed to their representative, legislature, etc. (Neufeldt & Sparks, 1990)

mesic - pertaining to conditions of moderate moisture or water supply; used of organisms occupying moist habitats. (Lincoln et al., 2003)

mollusk – A member of the phylum of invertebrate animals (*Mollusca*), most of them aquatic, comprising classes which are morphologically quite diverse. Mollusks are fundamentally bilaterally symmetrical. Shells may be univalve, bivalve, plated, or, in some groups, modified to serve as internal skeletons. (Allaby, 2005)

mosaic - an organism comprising tissues of two or more genetic types; usually used with reference to plants. (Lincoln et al., 2003)

population - all individuals of one or more species within a prescribed area. A group of organisms of one species, occupying a defined area and usually isolated to some degree from other similar groups. (Lincoln et al., 2003)

potamodromous – Used of an organism that migrates only within fresh water. (Lincoln et al., 2003)

psammophyte - a plant growing or moving in unconsolidated sand. (Lincoln et al., 2003)

ruderal - pertaining to or living amongst rubbish or debris, or inhabiting disturbed sites. (Lincoln et al., 2003) (FNAI describes ruderal as areas impacted by development measures such as roadways, drainage ditches, navigational channels or are considered hydrological alterations.)

runoff - part of precipitation that is not held in the soil but drains freely away. (Lincoln et al., 2003)

salinity - a measure of the total concentration of dissolved salts in seawater. (Lincoln et al., 2003)

sessile - non-motile; permanently attached at the base. (Lincoln et al., 2003)

species - a group of organisms, minerals or other entities formally recognized as distinct from other groups; the basic unit of biological classification. (Lincoln et al., 2003)

species of concern - an informal term referring to a species that might be in need of conservation action. This may range from a need for periodic monitoring of populations and threats to the species and its habitat, to the necessity for listing as threatened or endangered. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing. “Imperiled species” is another general term for listed as well as unlisted species that are declining. (USFWS, 2015)

stakeholder - any person or organization who has an interest in the actions discussed or is affected by the resulting outcomes of a project or action. (USFWS, 2015)

subtidal - environment which lies below the mean low water level. (Allaby, 2005)

supratidal - the zone on the shore above mean high tide level. (Lincoln et al., 2003)

threatened species - an animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. (USFWS, 2015)

turbid - cloudy; opaque with suspended matter. (Lincoln et al., 2003)

upland - land elevated above other land. (Neufeldt & Sparks, 1990)

vegetation - plant life or cover in an area; also used as a general term for plant life. (Lincoln et al., 2003)

water column - the vertical column of water in a sea or lake extending from the surface to the bottom. (Lincoln et al., 2003)

watershed - an elevated boundary area separating tributaries draining in to different river systems; drainage basin. (Lincoln et al., 2003)

wetland - an area of low lying land, submerged or inundated periodically by fresh or saline water. (Lincoln et al., 2003)

wildlife - any undomesticated organisms; wild animals. (Allaby, 2005)

xeric - having very little moisture; tolerating or adapted to dry conditions. (Lincoln et al., 2003)

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Common Name	Species Name	Status
Legend: FT = Federally- and State-Designated Threatened • **FE** = Federally- and State-Designated Endangered **ST** = State-Designated Threatened • **SE** = State-Designated Endangered • **SSC** = State Species of Special Concern • **(S/A)** = listed due to similarity of appearance		
Plants		
boxelder	*Acer negundo*	
red maple	*Acer rubrum*	
red buckeye	*Aesculus pavia*	
false indigobush	*Amorpha fruticosa*	
peppervine	*Ampelopsis arborea*	
pine-woods bluestem	*Andropogon arctatus*	ST
bushy bluestem	*Andropogon glomeratus*	
broomsedge bluestem	*Andropogon virginicus*	
chalky bluestem	*Andropogon virginicus var. glaucus*	
longleaf threeawn	*Aristida palustris*	
wiregrass	*Aristida stricta var. beyrichiana*	
switchcane	*Arundinaria gigantea*	
fewflower milkweed	*Asclepias lanceolata*	
ricebutton aster	*Aster dumosus*	
saltwater falsewillow	*Baccharis angustifolia*	
silverling	*Baccharis glomeruliflora*	
lemon bacopa	*Bacopa caroliniana*	
oneflower honeycombhead	*Balduina uniflora*	
hairy wild indigo	*Baptisia calycosa var. villosa*	ST
river birch	*Betula nigra*	
sea ox-eye daisy	*Borrichia frutescens*	
green fanwort	*Cabomba caroliniana*	
Curtiss' sandgrass	*Calamovilfa curtissii*	ST
trumpet creeper	*Campsis radicans*	
sedge	*Carex* spp.	
vanillaleaf	*Carphephorus odoratissimus*	
hairy chaffhead	*Carphephorus paniculatus*	
water hickory	*Carya aquatica*	
pignut hickory	*Carya glabra*	
sugarberry	*Celtis laevigata*	
spadeleaf	*Centella asiatica*	
buttonbush	*Cephalanthus occidentalis*	
Atlantic white cedar	*Chamaecyparis thyoides*	
bush goldenrod	*Chrysoma pauciflosculosa*	
sawgrass	*Cladium jamaicense*	
pond rush	*Cladium mariscoides*	
coastal sweetpepperbush	*Clethra alnifolia*	
black titi	*Cliftonia monophylla*	
Florida tickseed	*Coreopsis floridana*	
flowering dogwood	*Cornus florida*	
toothleachegrass	*Ctenium aromaticum*	

Common Name	Species Name	Status
Legend: FT = Federally- and State-Designated Threatened • **FE** = Federally- and State-Designated Endangered **ST** = State-Designated Threatened • **SE** = State-Designated Endangered • **SSC** = State Species of Special Concern • **(S/A)** = listed due to similarity of appearance		
sedge	*Cyperus* spp.	
titi	*Cyrilla racemaflora*	
tapered witchgrass	*Dichanthelium acuminatum*	
common persimmon	*Diospyros virginiana*	
seashore saltgrass	*Distichlis spicata*	
pink sundew	*Drosera capillaris*	
spoon-leaved sundew	*Drosera intermedia*	ST
three-way sedge	*Dulichium arundinaceum*	
jointed spikerush	*Eleocharis equisetoides*	
beaked spikerush	*Eleocharis rostellata*	SE
early whitetop fleabane	*Erigeron vernus*	
wild buckwheat	*Eriogonum tomentosum*	
flattened pipewort	*Eriocaulon compressum*	
tenangle pipewort	*Eriocaulon decangulare*	
coralbean	*Erythrina herbacea*	
dogfennel	*Eupatorium cappilifolium*	
Carolina ash	*Fraxinus caroliniana*	
green ash	*Fraxinus pennsylvanica*	
dwarf huckleberry	*Gaylussacia dumosa*	
blue huckleberry	*Gaylussacia frondosa var. tomentosa*	
wooly huckleberry	*Gaylussacia mosieri*	
yellow jessamine	*Gelsemium sempervirens*	
loblolly bay	*Gordonia lasianthus*	
narrowleaf sunflower	*Helianthus angustifolius*	
variableleaf sunflower	*Helianthus heterophyllus*	
largeleaf marshpennywort	*Hydrocotyle bonariensis*	
pennywort	*Hydrocotyle umbellata*	
coastalplain St. John's wort	*Hypericum brachyphyllum*	
roundpod St. John's wort	*Hypericum cistifolium*	
sandweed	*Hypericum fasciculatum*	
bedstraw St. John's wort	*Hypericum galiodes*	
St. Andrew's cross	*Hypericum hypericoides*	
dahoon holly	*Ilex cassine*	
large gallberry	*Ilex coriacea*	
gallberry	*Ilex glabra*	
myrtle-leaved holly	*Ilex myrtifolia*	
American holly	*Ilex opaca*	
yaupon	*Ilex vomitoria*	
Florida anisetree	*Illicium floridanum*	
Virginia iris	*Iris virginica*	
Virginia willow	*Itea virginica*	
bigleaf sumpweed	*Iva frutescens*	
black walnut	*Juglans nigra*	
black needlerush	*Juncus roemerianus*	

Common Name	Species Name	Status
Legend: FT = Federally- and State-Designated Threatened • **FE** = Federally- and State-Designated Endangered **ST** = State-Designated Threatened • **SE** = State-Designated Endangered • **SSC** = State Species of Special Concern • **(S/A)** = listed due to similarity of appearance		
red cedar	*Juniperus virginiana*	
wicky	*Kalmia hirsuta*	
mountain laurel	*Kalmia latifolia*	ST
Carolina redroot	*Lachnanthes caroliana*	
slender gayfeather	*Liatris gracilis*	
gopher apple	*Licania michauxii*	
Panhandle lily	*Lillium iridollae*	SE
sweetgum	*Liquidambar styracilfua*	
foxtail club-moss	*Lycopodiella alopecuroides*	
doghobble	*Lyonia lucida*	
hummingbird flower	*Macranthera flammea*	SE
Ashe's magnolia	*Magnolia ashei*	SE
Southern magnolia	*Magnolia grandiflora*	
sweetbay magnolia	*Magnolia virginiana*	
wax myrtle	*Myrica cerifera*	
odorless bayberry	*Myrica inodora*	
Piedmont water milfoil	*Myriophyllum laxum*	
Southern naiad	*Najas guadalupensis*	
West Florida cowlily	*Nuphar lutea ssp. ulvacea*	
blackgum	*Nyssa sylvatica*	
swamp tupelo	*Nyssa sylvatica var. biflora*	
cockspur pricklypear	*Opuntia pusilla*	
goldenclub	*Orontium aquaticum*	
cinnamon fern	*Osmunda cinnamomea*	
royal fern	*Osmunda regalis* var. *spectabilis*	
water cowbane	*Oxypolis filiformis*	
stiff cowbane	*Oxypolis rigidor*	
panic grass	*Panicum longifolium*	
maidencane	*Panicum hemitomon*	
seashore paspalum	*Paspalum vaginatum*	
red bay	*Persea borbonia*	
swamp bay	*Persea palustris*	
red chokeberry	*Photinia pyrifolia*	
common reed	*Phragmites australis*	
Chapman's butterwort	*Pinguicula planifolia*	FT
slash pine	*Pinus elliottii*	
spruce pine	*Pinus glabra*	
longleaf pine	*Pinus palustris*	
pond pine	*Pinus serotina*	
lobolly pine	*Pinus taeda*	
narrowleaf silkgrass	*Pityopsis graminifolia*	
American sycamore	*Platanus occidentalis*	
drumheads	*Polygala cruciata*	
orange milkwort	*Polygala lutea*	

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tall jointweed	*Polygonella gracilis*	
October flower	*Polygonella polygana*	
smartweed	*Polygonum punctatum*	
pickerelweed	*Pontederia cordata*	
bracken fern	*Pteridium aquilinum*	
sand live oak	*Quercus geminata*	
laurel oak	*Quercus hemisphaerica*	
bluejack oak	*Quercus incana*	
turkey oak	*Quercus laevis*	
swamp laurel oak	*Quercus laurifolia*	
overcup oak	*Quercus lyrata*	
sand post oak	*Quercus margaretta*	
swamp chestnut oak	*Quercus michauxii*	
water oak	*Quercus nigra*	
willow oak	*Quercus phellos*	
Shumard oak	*Quercus shumardii*	
live oak	*Quercus viginiana*	
savannah meadowbeauty	*Rhexia alifanus*	
Florida flame azalea	*Rhododendron austrinum*	SE
swamp azalea	*Rhododendron viscosum*	
winged sumac	*Rhus copallinum*	
bunched beaksedge	*Rhynchospora cephalantha*	
Chapman's beaksedge	*Rhynchospora chapmanii*	
hairy-peduncled beaksedge	*Rhynchospora crinipes*	SE
clustered beacksedge	*Rhynchospora glomerata*	
narrowfruit horned beasedge	*Rhynchospora inundata*	
swamp dock	*Rumex verticillatus*	
widgeon grass	*Ruppia maritima*	
dwarf palmetto	*Sabal minor*	
cabbage palm	*Sabal palmetto*	
Bartram's rosegentian	*Sabatia bartramii*	
largeleaf rosegentian	*Sabatia macrophylla*	
awl-leaf arrowhead	*Sagittaria subulata*	
black willow	*Salix nigra*	
white-top pitcherplant	*Sarracenia luecophylla*	SE
sweet pitcherplant	*Sarracenia rubra*	ST
little bluestem	*Schizachyrium scoparium*	
bulrush	*Scirpus* spp.	
saw palmetto	*Serenoa repens*	
earleaf greenbrier	*Smilax auriculata*	
saw greenbrier	*Smilax bona-nox*	
laurel greenbrier	*Smilax laurifolia*	
coral greenbrier	*Smilax walteri*	
sweet goldenrod	*Solidago odora*	

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seaside goldenrod	*Solidago sempervirens*	
yellow indiangrass	*Sorghastrum nutans*	
saltmarsh cordgrass	*Spartina alterniflora*	
saltmeadow cordgrass	*Spartina patens*	
pineywoods dropseed	*Sporobolus junceus*	
coastal dropseed	*Sporobolus virginicus*	
horse sugar	*Symplocos tinctoria*	
yellow hatpins	*Synogonanthus flavidulus*	
pond cypress	*Taxodium ascendens*	
bald cypress	*Taxodium distichum*	
Spanish moss	*Tillandsia usneoides*	
poison ivy	*Toxicodendron ascendens*	
broadleaf cattail	*Typha latifolia*	
bladderwort	*Urticularia* spp.	
sparkleberry	*Vaccinium arboretum*	
highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowii*	
tapegrass	*Vallisneria americana*	
rusty blackhaw	*Viburnum rufidulum*	
muscadine grape	*Vitis rotundifolia*	
algal bulrush	*Websteria confervoides*	
Virginia chain fern	*Woodwardia virginica*	
Adam's needle	*Yucca filamentosa*	
coastalplain yellow-eyed grass	*Xyris ambigua*	
Carolina yellow-eyed grass	*Xyris caroliniana*	
savannah yellow-eyed grass	*Xyris flabelliformis*	
Birds		
Cooper's hawk	*Accipiter cooperii*	
sharp-shinned hawk	*Accipiter striatus*	
spotted sandpiper	*Actitis macularius*	
red-winged blackbird	*Agelaius phoeniceus*	
wood duck	*Aix sponsa*	
Henslow's sparrow	*Ammodramus henslowii*	
Leconte's sparrow	*Ammodramus leconteii*	
Louisiana seaside sparrow	*Ammodramus maritimus fisheri*	
Nelson's sparrow	*Ammodramus nelsoni*	
grasshopper sparrow	*Ammodramus savannarum*	
blue-winged teal	*Anas discors*	
anhinga	*Anhinga anhinga*	
American pipit	*Anthus rubescens*	
chuck-will's-widow	*Antrostomus carolinensis*	
whip-poor-will	*Antrostomus vociferus*	
ruby-throated hummingbird	*Archilochus colubris*	

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great egret	*Ardea alba*	
great blue heron	*Ardea herodias*	
short-eared owl	*Asio flammeus*	
lesser scaup	*Aythya affinis*	
ring-necked duck	*Aythya collaris*	
tufted titmouse	*Baeolophus bicolor*	
cedar waxwing	*Bombycilla cedrorum*	
Canada goose	*Branta canadensis*	
great horned owl	*Bubo virginianus*	
cattle egret	*Bubulcus ibis*	
bufflehead	*Buchephala albeola*	
red-tailed hawk	*Buteo jamaicensis*	
red-shouldered hawk	*Buteo lineatus*	
broad-winged hawk	*Buteo platypterus*	
green heron	*Butorides virescens*	
least sandpiper	*Calidris minutilla*	
Canada warbler	*Cardellina canadensis*	
Wilson's warbler	*Cardellina pusilla*	
Northern cardinal	*Cardinalis cardinalis*	
turkey vulture	*Cathartes aura*	
veery	*Catharus fuscescens*	
hermit thrush	*Catharus guttatus*	
gray-cheeked thrush	*Catharus minimus*	
Swainson's thrush	*Catharus ustulatus*	
brown creeper	*Certhia americana*	
chimney swift	*Chaetura pelagica*	
killdeer	*Charadrius vociferus*	
snow goose	*Chen caerulescens*	
lark sparrow	*Chondestes grammacus*	
common nighthawk	*Chordeiles minor*	
Bonaparte's gull	*Chroicocephalus philadelphia*	
Northern harrier	*Circus cyaneus*	
Marian's marsh wren	*Cistothorus palustris marianae*	ST
sedge wren	*Cistothorus platensis*	
yellow-billed cuckoo	*Coccyzus americanus*	
black-billed cuckoo	*Coccyzus erythropthalmus*	
Northern flicker	*Colaptes auratus*	
Northern bobwhite	*Colinus virginianus*	
common ground-dove	*Columbina passerina*	
olive-sided flycatcher	*Contopus cooperi*	
Eastern wood-pewee	*Contopus virens*	
black vulture	*Coragyps atratus*	
yellow rail	*Coturnicops noveboracensis*	
American crow	*Corvus brachyrhynchos*	

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fish crow	*Corvus ossifragus*	
blue jay	*Cyanocitta cristata*	
bobolink	*Dolichonyx oryzivorus*	
pileated woodpecker	*Dryocopus pileatus*	
gray catbird	*Dumetella carolinensis*	
little blue heron	*Egretta caerula*	ST
snowy egret	*Egretta thula*	
tricolored heron	*Egretta tricolor*	ST
swallow-tailed kite	*Elanoides forficatus*	
yellow-bellied flycatcher	*Empidonax flaviventris*	
least flycatcher	*Empidonax minimus*	
willow flycatcher	*Empidonax traillii*	
Acadian flycatcher	*Empidonax virescens*	
white ibis	*Eudocimus albus*	
rusty blackbird	*Euphagus carolinus*	
Brewer's blackbird	*Euphagus cyanocephalus*	
merlin	*Falco columbarius*	
peregrine falcon	*Falco peregrinus*	
American kestrel	*Falco sparverius*	
Southeastern American kestrel	*Falco sparverius paulus*	ST
American coot	*Fulica americana*	
Wilson's snipe	*Gallinago delicata*	
common gallinule	*Gallinula galeata*	
common loon	*Gavia immer*	
Kentucky warbler	*Geothlypis formosus*	
mourning warbler	*Geothlypis philadelphia*	
common yellowthroat	*Geothlypis trichas*	
purple finch	*Haemorhous purpureus*	
bald eagle	*Haliaeetus leucocephalus*	
worm-eating warbler	*Helmitheros vermivorum*	
barn swallow	*Hirundo rustica*	
wood thrush	*Hylocichla mustelina*	
yellow-breasted chat	*Icteria virens*	
Baltimore oriole	*Icterus galbula*	
orchard oriole	*Icterus spurius*	
Mississippi kite	*Ictinia mississippiensis*	
dark-eyed junco	*Junco hyemalis*	
loggerhead shrike	*Lanius ludovicianus*	
ring-billed gull	*Larus delawarensis*	
black rail	*Laterallus jamaicensis*	
laughing gull	*Leucophaeus atricilla*	
Swainson's warbler	*Limnothlypis swainsonii*	
hooded merganser	*Lophodytes cucullatus*	
belted kingfisher	*Megaceryle alcyon*	

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Eastern screech-owl	*Megascops asio*	
red-bellied woodpecker	*Melanerpes carolinus*	
red-headed woodpecker	*Melanerpes erythrocephalus*	
wild turkey	*Meleagris gallopavo*	
swamp sparrow	*Melospiza georgiana*	
Lincoln's sparrow	*Melospiza lincolnii*	
song sparrow	*Melospiza melodia*	
Northern mockingbird	*Mimus polyglottos*	
black-and-white warbler	*Mniotilta varia*	
brown-headed cowbird	*Molothrus ater*	
great crested flycatcher	*Myiarchus crinitus*	
black-crowned night heron	*Nycticorax nycticorax*	
yellow-crowned night heron	*Nycticorax violacea*	
Connecticut warbler	*Oporornis agilis*	
orange-crowned warbler	*Oreothlypis celata*	
Tennessee warbler	*Oreothlypis peregrina*	
Nashville warbler	*Oreothlypis ruficapilla*	
osprey	*Pandion haliaetus*	
Louisiana waterthrush	*Parkesiamotacilla*	
Northern waterthrush	*Parkesia noveboracensis*	
savannah sparrow	*Passerculus sandwichensis*	
fox sparrow	*Passerella iliaca*	
blue grosbeak	*Passerina caerulea*	
painted bunting	*Passerina ciris*	
indigo bunting	*Passerina cyanea*	
American white pelican	*Pelecanus erythrorhynchos*	
brown pelican	*Pelicanus occidentalis*	
cliff swallow	*Petrochelidon pyrrhonota*	
Bachman's sparrow	*Peucaeaaestivalis*	
double-crested cormorant	*Phalacrocorax auritus*	
rose-breasted grosbeak	*Pheucticus ludovicianus*	
red-cockaded woodpecker	*Picoides borealis*	FE
downy woodpecker	*Picoides pubescens*	
hairy woodpecker	*Picoides villosus*	
Eastern towhee	*Pipilo erythrophthalmus*	
scarlet tanager	*Piranga olivacea*	
summer tanager	*Piranga rubra*	
black-bellied plover	*Pluvialis squatarola*	
pied-billed grebe	*Podilymbus podiceps*	
Carolina chickadee	*Poecile carolinensis*	
blue-gray gnatcatcher	*Polioptila caerulea*	
vesper sparrow	*Pooecetes gramineus*	
purple gallinule	*Porphyrio martinicus*	
sora	*Porzana carolina*	

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purple martin	*Progne subis*	
prothonotary warbler	*Protonotaria citrea*	
vermilion flycatcher	*Pyrocephalus rubinus*	
common grackle	*Quiscalus quiscula*	
king rail	*Rallus elegans*	
Virginia rail	*Rallus limicola*	
ruby-crowned kinglet	*Regulus calendula*	
golden-crowned kinglet	*Regulus satrapa*	
bank swallow	*Riparia riparia*	
Eastern phoebe	*Sayornis phoebe*	
American woodcock	*Scolopax minor*	
ovenbird	*Seiurus aurocapilla*	
Northern parula	*Setophaga americana*	
black-throated blue warbler	*Setophaga caerulescens*	
bay-breasted warbler	*Setophaga castanea*	
cerulean warbler	*Setophaga cerulea*	
hooded warbler	*Setophaga citrina*	
yellow-rumped warbler	*Setophaga coronata*	
prairie warbler	*Setophaga discolor*	
yellow-throated warbler	*Setophaga dominica*	
Blackburnian warbler	*Setophaga fusca*	
magnolia warbler	*Setophaga magnolia*	
palm warbler	*Setophaga palmarum*	
chestnut-sided warbler	*Setophaga pensylvanica*	
yellow warbler	*Setophaga petechia*	
pine warbler	*Setophaga pinus*	
American redstart	*Setophaga ruticilla*	
blackpoll warbler	*Setophaga striata*	
Cape May warbler	*Setophaga tigrina*	
black-throated green warbler	*Setophaga virens*	
Eastern bluebird	*Sialia sialis*	
red-breasted nuthatch	*Sitta canadensis*	
white-breasted nuthatch	*Sitta carolinensis*	
brown-headed nuthatch	*Sitta pusilla*	
yellow-bellied sapsucker	*Sphyrapicus varius*	
pine siskin	*Spinus pinus*	
American goldfinch	*Spinus tristis*	
dickcissel	*Spiza americana*	
clay-colored sparrow	*Spizella pallida*	
chipping sparrow	*Spizella passerina*	
field sparrow	*Spizella pusilla*	
Northern rough-winged swallow	*Sterlgidopteryx serripennis*	
least tern	*Sterna antillarum*	ST
Forster's tern	*Sterna forsteri*	

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barred owl	*Strix varia*	
Eastern meadowlark	*Sturnella magna*	
tree swallow	*Tachycineta bicolor*	
royal tern	*Thalasseus maximus*	
Carolina wren	*Thryothorus ludovicianus*	
brown thrasher	*Toxostoma rufum*	
lesser yellowlegs	*Tringa flavipes*	
greater yellowlegs	*Tringa melanolueca*	
solitary sandpiper	*Tringa solitaria*	
winter wren	*Troglodytes hiemalis*	
American robin	*Turdus migratorius*	
scissor-tailed flycatcher	*Tyrannus orficatus*	
Eastern kingbird	*Tyrannus tyrannus*	
barn owl	*Tyto alba*	
golden-winged warbler	*Vermivora chrysoptera*	
blue-winged warbler	*Vermivora cyanoptera*	
Bell's vireo	*Vireo belli*	
yellow-throated vireo	*Vireo flavifrons*	
white-eyed vireo	*Vireo griseus*	
red-eyed vireo	*Vireo olivaceus*	
Philadelphia vireo	*Vireo philadelphicus*	
blue-headed vireo	*Vireo solitarius*	
white-winged dove	*Zenaida asiatica*	
mourning dove	*Zenaida macroura*	
white-throated sparrow	*Zonotrichia albicollis*	
white-crowned sparrow	*Zonotrichia leucophrys*	
Mammals		
Southern short-tailed shrew	*Blarina carolinensis*	
North American beaver	*Castor canadensis*	
least shrew	*Cryptotis parva*	
Virginia opossum	*Didelphis virginiana*	
Southeastern pocket gopher	*Geomys pinetis*	
Southern flying squirrel	*Glaucomys volans*	
Northern yellow bat	*Lasiurus intermedius*	
North American river otter	*Lontra canadensis*	
bobcat	*Lynx rufus*	
long-tailed weasel	*Mustela frenata*	
Eastern woodrat	*Neotoma floridana*	
golden mouse	*Ochrotomys nuttali*	
white-tailed deer	*Odocoileus virginianus*	
cotton mouse	*Peromyscus gossypinus*	
oldfield mouse	*Peromyscus polionotus*	
raccoon	*Procyon lotor*	

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Eastern harvest mouse	*Reithrodontomys humulis*	
Eastern mole	*Scalopus aquaticus*	
Eastern gray squirrel	*Sciurus carolinensis*	
Southern fox squirrel	*Sciurus niger*	
hispid cotton rat	*Sigmodon hispidus*	
Eastern cottontail	*Sylvilagus floridanus*	
marsh rabbit	*Sylvilagus palustris*	
Eastern chipmunk	*Tamias striatus*	
gray fox	*Urocyon cinereoargenteus*	
Florida black bear	*Ursus americanus floridanus*	
Reptiles		
cottonmouth	*Agkistrodon piscivorus*	
American alligator	*Alligator mississippiensis*	FT (S/A)
green anole	*Anolis carolinensis*	
Florida softshell turtle	*Apalone ferox*	
six-lined racerunner	*Aspidoscelis sexlineata*	
scarlet snake	*Cemophora coccinea*	
common snapping turtle	*Chelydra serpentina serpentina*	
Southern black racer	*Coluber constrictor priapus*	
Eastern diamondback rattlesnake	*Crotalus adamanteus*	
chicken turtle	*Deirochelys reticularia*	
ringneck snake	*Diadohis punctatus punctatus*	
Eastern indigo snake	*Drymarchon corais couperi*	FT
Southern coal skink	*Eumeces anthracinus*	
mud snake	*Farancia abacura*	
gopher tortoise	*Gopherus polyphemus*	ST
Escambia map turtle	*Graptemys ernsti*	
Eastern hognose snake	*Heterodon platirhinos*	
Southern hognose snake	*Heterodon simus*	
Eastern mud turtle	*Kinosternon subrubrum*	
common kingsnake	*Lampropeltis getula*	
alligator snapping turtle	*Macrochelys temminckii*	SSC
Mississippi diamondback terrapin	*Malaclemys terrapin pileata*	
Eastern coachwhip	*Masticophis flagellum*	
Eastern coral snake	*Micrurus fulvius*	
Gulf saltmarsh snake	*Nerodia clarkii clarkii*	
banded water snake	*Nerodia fasciata fasciata*	
brown water snake	*Nerodia taxispilota*	
rough green snake	*Opheodrys aestivus*	
Eastern slender glass lizard	*Ophisaurus attenuatus longicaudus*	
mimic glass lizard	*Ophisaurus mimicus*	
Eastern corn snake	*Pantherophis guttatus*	
gray rat snake	*Pantherophis spiloides*	

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Florida pine snake	*Pituophis melanoleucus mugitus*	ST
Southeastern five-lined skink	*Plestiodon egregius*	
common fived-lined skink	*Plestiodon fasciatus*	
broad-headed skink	*Plestiodon laticeps*	
crayfish snake	*Regina rigida*	
Eastern fence lizard	*Sceloporus undulatus*	
ground skink	*Scincella lateralis*	
dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	
musk turtle	*Sternotherus minor*	
Gulf Coast box turtle	*Terrapene carolina major*	
Eastern garter snake	*Thamnophis sirtalis sirtalis*	
yellowbelly slider	*Trachemys scripta scripta*	
rough earth snake	*Virginia striatula*	
Amphibians		
Southern cricket frog	*Acris gryllus gryllus*	
reticulated flatwoods salamander	*Ambystoma bishopi*	FE
Eastern tiger salamander	*Ambystoma trigrinum*	
two-toed amphiuma	*Amphiuma means*	
one-toed amphiuma	*Amphiuma pholeter*	
Fowler's toad	*Anaxyrus fowleri*	
oak toad	*Anaxyrus quercicus*	
Southern toad	*Anaxyrus terristris*	
spotted dusky salamander	*Desmognathus conanti*	
Southern two-lined salamander	*Eurycea cirrigera*	
three-lined salamander	*Eurycea guttolineata*	
dwarf salamander	*Eurycea quadridigitata*	
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	
pine barrens treefrog	*Hyla andersonii*	
bird-voiced treefrog	*Hyla avivoca*	
Cope's gray treefrog	*Hyla chrysoscelis*	
green treefrog	*Hyla cinerea*	
pinewoods treefrog	*Hyla femoralis*	
barking treefrog	*Hyla gratiosa*	
squirrel treefrog	*Hyla squirella*	
gopher frog	*Lithobates capito*	
bullfrog	*Lithobates cateseianus*	
bronze frog	*Lithobates clamitans*	
pig frog	*Lithobates grylio*	
river frog	*Lithobates heckscheri*	
Florida bog frog	*Lithobates okaloosae*	ST
Southern leopard frog	*Lithobates sphenocephalus*	
central newt	*Notophthalmus viridescens louisisanensis*	
Southeastern slimy salamander	*Plethodon grobmani*	

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spring peeper	*Pseudacris crucifer*	
Southern chorus frog	*Pseudacris nigrita*	
ornate chorus frog	*Pseudacris ornata*	
Southern red salamander	*Pseudotriton ruber vioscai*	
Eastern lesser siren	*Siren intermedia intermedia*	
Fishes		
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	FT
diamond killifish	*Adinia xenica*	
Alabama shad	*Alosa alabamae*	
skipjack herring	*Alosa chrysochloris*	
white catfish	*Ameiurus catus*	
yellow bullhead	*Ameiurus natalis*	
brown bullhead	*Ameiurus nebulosus*	
spotted bullhead	*Ameiurus serracanthus*	
bowfin	*Amia calva*	
Florida sand darter	*Ammocrypta bifascia*	
bay anchovy	*Anchoa mitchilli*	
American eel	*Anguilla rostrata*	
pirate perch	*Aphredoderus sayanus*	
sheepshead	*Archosargus probatocephalus*	
hardhead catfish	*Ariopsis felis*	
alligator gar	*Atractosteus spatula*	
gafftopsail catfish	*Bagre marinus*	
silver perch	*Bairdiella chrysoura*	
Gulf menhaden	*Brevoortia patromus*	
crevalle jack	*Caranx hippos*	
bull shark	*Carcharhimus leucas*	
quillback	*Carpiodes cyprinus*	
flier	*Centrarchus macropterus*	
darter goby	*Ctenogobius boleosoma*	
freshwater goby	*Ctenogobius shufeldti*	
sand seatrout	*Cynoscion arenarius*	
spotted seatrout	*Cynoscion nebulosus*	
sheepshead minnow	*Cyprinodon variegatus*	
blacktail shiner	*Cyrprinella venusta*	
stingray	*Dasyatis* sp.	
gizzard shad	*Dorosoma cepedianum*	
threadfin shad	*Dorosoma petenense*	
Everglades pygmy sunfish	*Elassoma evergladei*	
banded pygmy sunfish	*Elassoma zonatum*	
largescaled spinycheek sleeper	*Eleotris amblyopsis*	
ladyfish	*Elops saurus*	
bluespotted sunfish	*Enneacanthus gloriosus*	

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lake chubsucker	*Erimyzon sucetta*	
sharpfin chubsucker	*Erimyzon tenuis*	
redfin pickerel	*Esox americanus*	
chain pickerel	*Esox niger*	
coastal darter	*Etheostoma colorosum*	
Choctawhatchee darter	*Etheostoma davisoni*	
brown darter	*Etheostoma edwini*	
swamp darter	*Etheostoma fusiforme*	
goldstripe darter	*Etheostoma parvipinne*	
speckled darter	*Etheostoma stigmaeum*	
Gulf darter	*Etheostoma swaini*	
spotfin mojarra	*Eucinostomus argenteus*	
banded topminnow	*Fundulus cingulatus*	
golden topminnow	*Fundulus chrysotus*	
marsh killifish	*Fundulus confluentus*	
russetfin topminnow	*Fundulus escambiae*	
saltmarsh topminnow	*Fundulus jenkinski*	
blackspotted topminnow	*Fundulus olivaceous*	
longnose killifish	*Fundulus similis*	
eastern mosquitofish	*Gambusia holbrooki*	
naked goby	*Gobiosoma bosc*	
least killifish	*Heterandria formosa*	
undescribed chub	*Hybopsis* (new species)	
blue catfish	*Ictalurus furcatus*	
channel catfish	*Ictalurus punctatus*	
southern brook lamprey	*Ichthyomyzon gagei*	
brooke silverside	*Labidesthes sicculus*	
pinfish	*Lagodon rhomboides*	
spot	*Leiostomus xanthurus*	
spotted gar	*Lepisosteus oculatus*	
longnose gar	*Lepisosteus osseus*	
redbreast sunfish	*Lepomis auritus*	
green sunfish	*Lepomis cyanellus*	
warmouth	*Lepomis gulosus*	
bluegill	*Lepomis macrochirus*	
dollar sunfish	*Lepomis marginatus*	
longear sunfish	*Lepomis megalotis*	
redear sunfish	*Lepomis microlophus*	
spotted sunfish	*Lepomis punctatus*	
spotted sunfish (intergrade)	*Lepomis punctatus X miniatus*	
pygmy killifish	*Leptolucania ommata*	
blacktip shiner	*Lythrurus atrapiculus*	
rainwater killifish	*Lucania parva*	
tarpon	*Megalops atlanticus*	

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inland silverside	*Menidia beryllina*	
rough silverside	*Membras martinica*	
clown goby	*Microgobius gulosus*	
Atlantic croaker	*Micropogonias undulatus*	
spotted bass	*Micropterus punctulatus*	
largemouth bass	*Micropterus salmoides*	
spotted sucker	*Minytrema melanops*	
white bass	*Morone chrysops*	
striped bass	*Morone saxatilis*	
blacktail redhorse	*Moxostoma poecilurum*	
striped mullet	*Mugil cephalus*	
speckeled worm eel	*Myrophis punctatus*	
golden shiner	*Notemigonus crysoleucas*	
ironcolor shiner	*Notropis chalybaeus*	
redeye chub	*Notropis harperi*	
longnose shiner	*Notropis longirostris*	
taillight shiner	*Notropis maculatus*	
blackmouth shiner	*Notropis melanostomus*	ST
coastal shiner	*Notropis petersoni*	
weed shiner	*Notropis texanus*	
black madtom	*Noturus funebris*	
tadpole madtom	*Noturus gyrinus*	
speckled madtom	*Noturus leptacanthus*	
leatherjacket	*Oligoplites saurus*	
pugose minnow	*Opsopoeodus emiliae*	
Southern flounder	*Paralichthys lethostigma*	
blackbanded darter	*Percina nigrofasciata*	
harvestfish	*Perprilus paru*	
sailfin molly	*Poecilia latipinna*	
black drum	*Pogonias cromis*	
Atlantic threadfin	*Polydactylus octonemus*	
black crappie	*Pomoxis nigromaculatus*	
bighead searobin	*Prionotus tribulus*	
sailfin shiner	*Pteronotropis hypselopterus*	
flagfin shiner	*Pteronotropis signipinnis*	
bluenose shiner	*Pteronotropis welaka*	
flathead catfish	*Pylodictis olivaris*	
red drum	*Sciaenops ocellatus*	
dixie chub	*Semotilus thoreauianus*	
Atlantic needlefish	*Strongylura marina*	
Gulf pipefish	*Syngnathus scovelli*	
hogchoker	*Trinectes maculatus*	

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Insects		
	Ablabesmyia hauberi	
	Ablabesmyia mallochi	
	Ablabesmyia parajanta	
	Ablabesmyia rhamphe grp.	
	Acerpenna pygmaea	
	Acroneuria arenosa	
	Ancyronyx variegatus	
	Baetis frondalis	
	Baetisca rogersi	
fawn darner	*Boyeria vinosa*	
	Centroptilum triangulifer	
	Ceraclea maculata	
	Cladotanytarsus spp.	
	Coelotanypus concinnus	
dobsonfly	*Corydalus cornutus*	
	Cricotopus bicinctus	
	Cricotopus bicinctus	
	Cryptochironomus fulvus	
	Cyrnellus fraternus	
	Dicrotendipes lobus	
	Dicrotendipes modestus	
	Dicrotendipes neomodestus	
	Dineutus discolor	
	Djalmabatista pulcher	
Southeastern spinyleg	*Dromogomphus armatus*	
	Eurylophella doris	
	Gonielmis dietrichi	
	Habrophlebia vibrans	
	Habrophlebiodes brunneipennis	
	Helopicus bogaloosa	
	Heteroplectron americanum	
	Hexagenia limbata	
	Hydaticus bimarginatus	
	Hydroperla phormidia	
	Hydropsyche elissoma	
	Larsia decolorata	
	Leptophlebia bradleyi	
	Lype diversa	
	Maccaffertium mexicanum integrum	
	Maccaffertium smithae	
	Macronychus glabratus	
	Macrostemum carolina	
	Mesovelia amoena	

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	Microcylloepus pusillus	
	Microtendipes pedellus grp.	
	Molanna blenda	
	Molanna tryphena	
Alabama shadowdragon	*Neurocordulia alabamensis*	
	Nigronia serricornis	
	Oecetis cinerascens	
	Parachironomus pectinatellae	
	Parakiefferiella spp.	
	Pentaneura inconspicua	
	Perlesta placida complex	
	Perlinella drymo	
	Perlinella ephyre	
	Plauditus bimaculatus	
	Polypedilum flavum	
	Polypedilum halterale grp.	
	Polypedilum illinoense grp.	
	Polypedilum scalaenum grp.	
	Potamyia flava	
	Pseudocloeon alachua	
	Pseudocloeon bimaculatus	
	Pseudocloeon propinquum	
	Rheocricotopus robacki	
	Rheocricotopus tuberculatus	
	Rheotanytarsus exiguus grp.	
	Rheotanytarsus pellucidus	
	Rhyacophila carolina	
	Serratella deficiens	
	Stenonema exiguum	
	Stenonema smithae	
	Stictochironomus devinctus	
	Tanytarsus spp.	
	Triaenodes spp.	
	Tribelos fuscicorne	
	Xenochironomus xenolabis	
	Xylotopus par	
Crustaceans		
an amphipod	*Apocorophium louisianum*	
ivory barnacle	*Balanus eburneus*	
a mysid shrimp	*Bowmaniella dissimilis*	
blue crab	*Callinectes sapidus*	
an isopod	*Cyathura burbancki*	
Gulf grassflat crab	*Dyspanopeus texanus*	

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an isopod	*Edotia montosa*	
an amphipod	*Gammarus mucronatus*	
an amphipod	*Grandidierella bonnieroides*	
an amphipod	*Hyalella azteca*	
a tanaid	*Leptochelia rapax*	
Mississippi grass shrimp	*Palaemonetes kadiakensis*	
Atlantic mud crab	*Panopeus herbstii*	
an isopod	*Sphaeroma quadridentatum*	
Mollusks		
Gulf spike	*Elliptio pullata*	
narrow pigtoe	*Fusconaia escambia*	FT
southern sandshell	*Hamiota australis*	FT
chestnut mussel	*Lioberus castaneus*	
olive nerite	*Neritina reclivata*	
fuzzy pigtoe	*Pleurobema strodeanum*	FT
purple pigtoe	*Quadrula succissa*	
marsh clam	*Rangia cuneata*	
grooved fingernailclam	*Sphaerium simile*	
Texas tellin	*Tellina texana*	
Choctaw bean	*Villosa choctawensis*	FE
Other Invertebrates		
	Brania clavata	
	Capitella capitata	
	Carinoma tremaphoros	
	Hobsonia florida	
	Laeonereis culveri	
	Limnodrilus hoffmeisteri	
	Neanthes succinea	
	Pristinella osborni	
	Streblospio benedicti	

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Legend: FT = Federally- and State-Designated Threatened • **FE** = Federally-and State-Designated Endangered **ST** = State-Designated Threatened • **SE** = State-Designated Endangered • **SSC** = State Species of Special Concern • **(S/A)** = listed due to similarity of appearance		
Plants		
pine-woods bluestem	*Andropogon arctatus*	ST
hairy wild indigo	*Baptisia calycosa* var. *villosa*	ST
Curtiss' sandgrass	*Calamovilfa curtissii*	ST
spoon-leaved sundew	*Drosera intermedia*	ST
beaked spikerush	*Eleocharis rostellata*	SE
mountain laurel	*Kalmia latifolia*	ST
Panhandle lily	*Lillium iridollae*	SE
hummingbird flower	*Macranthera flammea*	SE
Ashe's magnolia	*Magnolia ashei*	SE
Chapman's butterwort	*Pinguicula planifolia*	FT
Florida flame azalea	*Rhododendron austrinum*	SE
hairy-peduncled beaksedge	*Rhynchospora crinipes*	SE
white-top pitcherplant	*Sarracenia luecophylla*	SE
sweet pitcherplant	*Sarracenia rubra*	ST
Birds		
Marian's marsh wren	*Cistohorus palustris marianae*	ST
little blue heron	*Egretta caerula*	ST
tricolored heron	*Egretta tricolor*	ST
Southeastern American kestrel	*Falco sparverius paulus*	ST
red-cockaded woodpecker	*Picoides borealis*	FE
least tern	*Sterna antillarum*	ST
Reptiles		
American alligator	*Alligator mississippiensis*	FT (S/A)
Eastern indigo snake	*Drymarchon corais couperi*	FT
gopher tortoise	*Gopherus polyphemus*	ST
alligator snapping turtle	*Macrochelys temminckii*	SSC
Florida pine snake	*Pituophis melanoleucus mugitus*	ST
Amphibians		
reticulated flatwoods salamander	*Ambystoma bishopi*	FE
Florida bog frog	*Lithobates okaloosae*	ST
Fishes		
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	FT
blackmouth shiner	*Notropis melanostomus*	ST
Mollusks		
narrow pigtoe	*Fusconaia escambia*	FT
southern sandshell	*Hamiota australis*	FT
fuzzy pigtoe	*Pleurobema strodeanum*	FT
Choctaw bean	*Villosa choctawensis*	FE

*B.3.3 / **Invasive Non-native and/or Problem Species***

Common Name	Species Name	Plants (FLEPPC* Category) Others (Invasive Status)
Plants		
mimosa	*Alibizia julibrissin*	I
camphor tree	*Cinnamomum camphora*	I
cogongrass	*Imperata cylindrica*	I
Chinese privet	*Ligustrum sinense*	I
Japanese honeysuckle	*Lonicera japonica*	I
Peruvian primrose willow	*Ludwigia peruviana*	I
Japanese climbing fern	*Lygodium japonicum*	I
Guinea grass	*Panicum maximum*	II
torpedo grass	*Panicum repens*	I
golden bamboo	*Phyllostachys aurea*	II
Chinese tallow	*Sapium sebiferum*	I
Birds		
house finch	*Carpodacus mexicanus*	
rock pigeon	*Columba livia*	
house sparrow	*Passer domesticus*	
Eurasian collared dove	*Streptopelia decaocto*	
European starling	*Sturnus vulgaris*	
Mammals		
coyote	*Canis latrans*	
nine-banded armadillo	*Dasypus novemcinctus*	
house mouse	*Mus musculus*	
nutria	*Myocastor coypus*	
Norway rat	*Rattus norvegicus*	
black rat	*Rattus rattus*	
wild hog	*Sus scrofa*	
red fox	*Vulpes vulpes*	
Fishes		
grass carp	*Ctenopharyngodon idella*	
Mollusks and Crustaceans		
Asian clam	*Corbicula fluminea*	
Asian clam	*Corbicula manilensis*	

***Florida Exotic Pest Plant Council (FLEPPC)** categorizes invasive exotic plants as **Category I** (plants that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives) or **Category II** (plants that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species).

B.4 / Arthropod Control Plan

Spatial data (e.g. shapefiles) for the boundaries of the aquatic preserve have been made accessible to the appropriate mosquito control district. The aquatic preserve is deemed highly productive and environmentally sensitive. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation. Mosquito control plans are typically proposed by local mosquito control agencies when they desire to treat on public lands.

Appendix C

Public Involvement

*C.1 / **Advisory Committee***

The following Appendices contain information about the advisory committee meeting which was held in order to obtain input from the Yellow River Marsh Aquatic Preserve Management Plan Advisory Committee regarding the draft management plan.

*C.1.1 / **List of Members and Affiliations***

Member	Affiliation
Beth Fugate	Yellow River Marsh Aquatic Preserve Manager
Steve Brown	Northwest Florida Water Management District
Chris Verlinde	UF/IFAS Sea Grant Santa Rosa County Sea Grant
Steve Seiber	Eglin Air Force Base
Leila Mae Brown	Private property owner; Owner of Brown's Fish Camp
Trent Mathews	Blackwater Soil & Water Conservation District
Ferlain Hoover	Yellow River Marsh Preserve State Park
Barbara Almario	Florida Fish & Wildlife Conservation Commission
Darryl Boudreau	The Nature Conservancy
Robert "Bob" Cole	Santa Rosa County Commission
Terry Hansen	DEP - Division of Ecosystem Assessment and Restoration

The Florida Building Commission, "THE COMMISSION", Electrical Technical Advisory Committee concurrently with the Swimming Pool Technical Advisory Committee, announces a public meeting to which all persons are invited.
DATE AND TIME: April 29, 2016, 10:00 a.m.
PLACE: Meetings to be conducted using communications media technology, specifically teleconference and webinar. To access the webinar go to https://global.gotomeeting.com/join/305857077. You may call in to participate by audio only or in conjunction with the webinar at 1(866)309-2070. The meeting ID/access code is: 305-857-077. Public point of access: 1940 North Monroe Street, Room 90, Tallahassee, Florida
GENERAL SUBJECT MATTER TO BE CONSIDERED: To review and accept the outline for the "Swimming Pool Electrical Safety Factsheet and Educational Training Module Content" and other matters in accordance with the meeting agenda.
A copy of the agenda may be obtained by contacting: Chip Sellers, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, calling (850)487-1827 or accessing the Commission website, https://floridabuilding.org/c/default.aspx.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 5 days before the workshop/meeting by contacting: Ms. Barbara Bryant, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, (850)487-1824 or fax: (850)414-8436. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).
If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.
For more information, you may contact: Chip Sellers, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, (850)487-1827, fax: (850)414-8436 or access information on the Commission's website, https://floridabuilding.org/c/default.aspx.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Florida Department of Environmental Protection, Florida Coastal Office announces a public meeting to which all persons are invited.
DATE AND TIME: Monday, May 23, 2016, 6:00 p.m. – 7:30 p.m.
PLACE: Santa Rosa County Extension Office, 6263 Dogwood Drive, Milton, FL 32570-3500
GENERAL SUBJECT MATTER TO BE CONSIDERED: A draft Yellow River Marsh Aquatic Preserve Management Plan has been prepared by the Florida Coastal Office. The draft plan is available for viewing or download at www.dep.state.fl.us/coastal/sites/yellow/plan.htm. The Florida Coastal Office seeks public comment on the draft. Members of the Yellow River Marsh Aquatic Preserve Management Plan Advisory Committee have also been invited to attend, listen to comments, and may provide or respond to comments.
A copy of the agenda may be obtained by contacting: Aquatic Preserve Manager Beth Fugate at Beth.L.Fugate@dep.state.fl.us or (850)595-0683.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Aquatic Preserve Manager Beth Fugate at (850)595-0683. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Florida Department of Environmental Protection, Florida Coastal Office announces a public meeting to which all persons are invited.
DATE AND TIME: Tuesday, May 24, 2016, 9:00 a.m.
PLACE: Santa Rosa County Extension Office, 6263 Dogwood Drive, Milton, FL 32570-3500
GENERAL SUBJECT MATTER TO BE CONSIDERED: The Yellow River Marsh Aquatic Preserve Management Plan Advisory Committee will meet to discuss comments received at the public meeting - scheduled for May 23, 2016, and separately noticed - and possible revisions to the draft Yellow River Marsh Aquatic Preserve Management Plan. The draft plan is available for viewing or download at www.dep.state.fl.us/coastal/sites/yellow/plan.htm.
A copy of the agenda may be obtained by contacting: Aquatic Preserve Manager Beth Fugate at Beth.L.Fugate@dep.state.fl.us or (850)595-0683.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Aquatic Preserve Manager Beth Fugate at

(850)595-0683. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Florida Department of Environmental Protection, Florida Coastal Office announces public meetings to which all persons are invited.

DATES AND TIMES: Wednesday, April 27, 2016, 9:00 a.m. – 5:00 p.m.; Thursday, April 28, 2016, 9:00 a.m. – 5:00 p.m.

PLACE: Center of Excellence for Coral Reef Ecosystem Research, Nova Southeastern University Oceanographic Center, 8000 North Ocean Drive, Dania Beach, FL 33004; room numbers: Wednesday, April 27, Forman Classroom; Thursday, April 28, 3rd Floor Auditorium

GENERAL SUBJECT MATTER TO BE CONSIDERED: The Department previously published a notice of meeting on March 25, 2016 (Vol. 42, No. 59, F.A.R.) This corrected notice provides notice that the room, but not the address, for one of the meetings has been changed. The meeting notice read as follows:

The FDEP Coral Reef Conservation Program is holding its biannual, two-day meeting of its Technical Advisory Committee (TAC). The TAC will be advising the Southeast Florida Coral Reef Initiative (SEFCRI) on its mission to develop and support the implementation of an effective strategy to preserve and protect southeast Florida's coral reefs and associated reef resources, emphasizing balance between resource use and protection, in cooperation with all interested parties.

Specifically, the TAC will be reviewing current status and trends on water quality issues, water quality monitoring, and a recent coral disease outbreak in southeast Florida to help advise the SEFCRI body.

A copy of the agenda may be obtained by contacting: David Cox, David.F.Cox@dep.state.fl.us or (561)681-6691.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: David Cox at (561)681-6691. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of the Secretary

The Florida Greenways and Trails Council, Greenways and Trails Guidelines Subcommittee announces a telephone conference call to which all persons are invited.

DATE AND TIME: May 4, 2016, 1:00 p.m.

PLACE: 1(888)670-3525, follow instructions for participant, enter: 1518575507, then press #

GENERAL SUBJECT MATTER TO BE CONSIDERED: Discussion related to the subcommittee recommendation to the full council on updating statewide trail guidelines and other business of the subcommittee.

A copy of the agenda may be obtained by contacting: Brian Ruscher, Office of Greenways and Trails, Division of Recreation and Parks, Florida Department of Environmental Protection, 3800 Commonwealth Boulevard, MS 795, Tallahassee, Florida 32399-3000, Brian.Ruscher@dep.state.fl.us, (850)245-2078. The agenda and meeting materials will be available and posted at the Office of Greenways and Trails' website (FloridaGreenwaysandTrails.com) 7 days prior to the meeting.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 5 days before the workshop/meeting by contacting: Brian Ruscher using the contact information shown above. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

DEPARTMENT OF HEALTH

Division of Medical Quality Assurance

The Board of Osteopathic Medicine announces a telephone conference call to which all persons are invited.

DATE AND TIME: April 22, 2016, 3:00 p.m.

PLACE: Telephone: 1(888)670-3525

GENERAL SUBJECT MATTER TO BE CONSIDERED: The meeting has been cancelled.

For more information, you may contact: Daisy King, Program Operations Administrator at (850)245-4161 or 4052 Bald Cypress Way, #C-06, Tallahassee, FL 32399.

DEPARTMENT OF HEALTH

Board of Chiropractic Medicine

The Board of Chiropractic Medicine Task Force Committee announces a telephone conference call to which all persons are invited.

DATE AND TIME: Tuesday, June 7, 2016, 9:00 a.m.

PLACE: Florida Department of Health, 4042 Bald Cypress Way, Tallahassee Florida 32399; conference call at 1(888)670-3525, participation code: 7342425515

GENERAL SUBJECT MATTER TO BE CONSIDERED: Online Continuing Education Discussion.

A copy of the agenda may be obtained by contacting: Edith Rogers at edith.rogers@flhealth.gov or by visiting the Board's website at: http://floridaschiropracticmedicine.gov/meeting-information/.

Florida Department of Environmental Protection

Northwest Florida Aquatic Preserves
160 W. Government Street
Pensacola, Florida 32502

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

Yellow River Marsh Aquatic Preserve Draft Management Plan
Advisory Committee Meeting Summary

May 24, 2016, 9:00 a.m.
Santa Rosa County Extension Office
6263 Dogwood Drive
Milton, Florida 32570

Advisory Attendees: Barbara Almario, Darryl Boudreau, Karen Kebart.

Staff: Beth Fugate, Jenna Harper, Penny Isom, Earl Pearson, Fred Rock, Zach Schang.

Penny welcomed everyone and introductions were done around the room. A brief recap of last night's public meeting was given with the comments from each station read aloud.

The floor was open to discussion regarding the identified issues and any other issues. Where applicable, the discussions have been summarized and categorized below under the four issues (water quality, habitat loss, sedimentation, and public awareness). When the discussion overlapped categories, it was placed where it seemed to fit best.

Miscellaneous

- p.28 – Potential estuary program could be mentioned: to integrate with surrounding land use
  SWIM Plan use and plan updates
  Santa Rosa County Part 1
  Rattlesnake Bluff
  8 miles of oyster restoration
  Santa Rosa County oyster mapping.
  Update Species List

Issue I: Water Quality

- p.33 – monitoring site for WQ.
- Fish and Wildlife Research Institute (FWRI) also has sites for sturgeon.
- Florida Fish and Wildlife Conservation Commission (FWC) has an oyster reef calculator to figure out the desired size reef for a certain amount of filtering.

- Be specific about what's already in place: take credit for what's being done.
- Same goes for major accomplishments.
  - Sub-bullets?
  - Adding a few extra words.
- Add making data available as a goal.
- Lots of strategies that require "minimal" effort adds up to lots of effort; point them to Appendix D.1
- Check on automating data accumulation for WQ data.
- State (specify?) that WQ efforts will be additive, not duplicative.
- Language tips: Instead of promote, implement; use generate, publish.
- Have goals that are more optimistic about funding in order to make the case for funding and stuff.
- Department of Health (DOH) has septic GIS analysis, identifying hotspots – concentration or concentration of failures; check on DOH datasets.
- Map 8 – Escribano Point Wildlife Management Area and update boundaries.

Issue II: Habitat Loss

- Look at FWRI seagrass dataset, looking back to the 1950s.
- Add Integrated Strategy for determining historical data.
- Talk about working with specific landowners; prioritize projects as Integrated Strategy.
- Be opportunistic.
- Look for acreage targets on each natural community, including non-benthic like salt marsh.
- Detail habitat loss and where it needs to occur.
- Add more details.

Issue III: Sedimentation

- November 2011 sediment study, use to add Integrated Strategy.
- Work with USDA, Natural Resources Conservation Service about educating landowners on ways that they could help (add to Integrated Strategy 1).
- Are additional data loggers needed for Yellow River turbidity?
- Monitoring of turbidity, discrete sampling, total suspended solids, going out to sample after rain events.
- Check with EPA on their sampling locations.
- Data logger positioning and assessment of current and potential new sites.

Issue IV: Public Awareness

- Change title to Partnerships and Public Awareness? Public Awareness and Coordination?
- Public Awareness – mention agency in Goal 1 or move it to Sedimentation.

- p.38 – last line, add 3b, percentages/parameters of change.
- Identify shoreline stabilization needs – how much is hardened versus how much is living shorelines vs how much is unprotected.
- What do we know about off-site impacts?
- Mention more specifically about how living shorelines migrate with sea level rise.
- Add coastal resiliency or sea level rise on page 37, Issue II, Integrated Strategy #3.
- p.38 Adequate buffer versus 10' buffer, possibly removing Florida Friendly Yard for that strategy. Or mention that proper buffers are site by site, and possibly by not-maintained or mowed?
- p.38 – Goal 5, Objective 1 – "tools such as coastalresilience.org"
- p.36 – Goal 6 – Cooperate with Blackwater Pirates (or local groups) on marine debris removal events and identifying hotspots.
- p.40 – "no sign pollution"?
- p.35 – federally or state-listed?
- Add source data for maps? As an appendix? Like references?
- p.44 – Map to show sampling location?
- Turbidity vs. sedimentation; not the same thing.
- Sedimentation strategy – host meeting of all monitoring groups.
- Issue IV – Bagdad Mill site has juice; hook up with them.

Penny explained the next steps in the management plan process: revisions will be made to the plan before it goes to the Acquisition and Restoration Council for a public meeting in Tallahassee. The plan will go to the Governor and Cabinet for final approval. Comments can still be submitted on or before June 6. The advisory committee members were thanked for their time and input.

Meeting was adjourned.

C.2 / Formal Public Meeting

The following Appendices contain information about the Formal Public Meeting which was held in order to obtain input from the public about the Yellow River Marsh Aquatic Preserve Draft Management Plan.

C.2.1 / Florida Administrative Register Posting

The Florida Building Commission, "THE COMMISSION", Electrical Technical Advisory Committee concurrently with the Swimming Pool Technical Advisory Committee, announces a public meeting to which all persons are invited.
DATE AND TIME: April 29, 2016, 10:00 a.m.
PLACE: Meetings to be conducted using communications media technology, specifically teleconference and webinar. To access the webinar go to https://global.gotomeeting.com/join/305857077. You may call in to participate by audio only or in conjunction with the webinar at 1(866)309-2070. The meeting ID/access code is: 305-857-077. Public point of access: 1940 North Monroe Street, Room 90, Tallahassee, Florida
GENERAL SUBJECT MATTER TO BE CONSIDERED: To review and accept the outline for the "Swimming Pool Electrical Safety Factsheet and Educational Training Module Content" and other matters in accordance with the meeting agenda.
A copy of the agenda may be obtained by contacting: Chip Sellers, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, calling (850)487-1827 or accessing the Commission website, https://floridabuilding.org/c/default.aspx.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 5 days before the workshop/meeting by contacting: Ms. Barbara Bryant, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, (850)487-1824 or fax: (850)414-8436. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).
If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.
For more information, you may contact: Chip Sellers, Building Codes and Standards Office, Division of Professions, Department of Business and Professional Regulation, 1940 North Monroe Street, Tallahassee, Florida 32399-0772, (850)487-1827, fax: (850)414-8436 or access information on the Commission's website, https://floridabuilding.org/c/default.aspx.

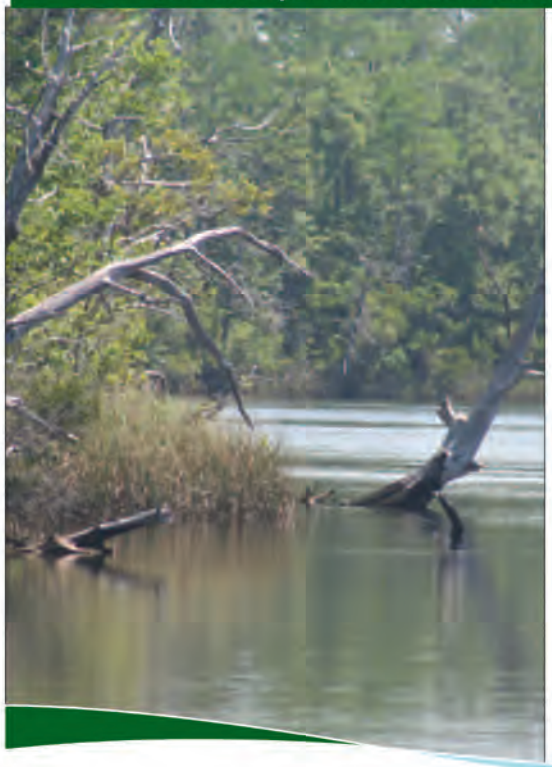
DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Florida Department of Environmental Protection, Florida Coastal Office announces a public meeting to which all persons are invited.
DATE AND TIME: Monday, May 23, 2016, 6:00 p.m. – 7:30 p.m.
PLACE: Santa Rosa County Extension Office, 6263 Dogwood Drive, Milton, FL 32570-3500
GENERAL SUBJECT MATTER TO BE CONSIDERED: A draft Yellow River Marsh Aquatic Preserve Management Plan has been prepared by the Florida Coastal Office. The draft plan is available for viewing or download at www.dep.state.fl.us/coastal/sites/yellow/plan.htm. The Florida Coastal Office seeks public comment on the draft. Members of the Yellow River Marsh Aquatic Preserve Management Plan Advisory Committee have also been invited to attend, listen to comments, and may provide or respond to comments.
A copy of the agenda may be obtained by contacting: Aquatic Preserve Manager Beth Fugate at Beth.L.Fugate@dep.state.fl.us or (850)595-0683.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Aquatic Preserve Manager Beth Fugate at (850)595-0683. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Florida Department of Environmental Protection, Florida Coastal Office announces a public meeting to which all persons are invited.
DATE AND TIME: Tuesday, May 24, 2016, 9:00 a.m.
PLACE: Santa Rosa County Extension Office, 6263 Dogwood Drive, Milton, FL 32570-3500
GENERAL SUBJECT MATTER TO BE CONSIDERED: The Yellow River Marsh Aquatic Preserve Management Plan Advisory Committee will meet to discuss comments received at the public meeting - scheduled for May 23, 2016, and separately noticed - and possible revisions to the draft Yellow River Marsh Aquatic Preserve Management Plan. The draft plan is available for viewing or download at www.dep.state.fl.us/coastal/sites/yellow/plan.htm.
A copy of the agenda may be obtained by contacting: Aquatic Preserve Manager Beth Fugate at Beth.L.Fugate@dep.state.fl.us or (850)595-0683.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Aquatic Preserve Manager Beth Fugate at

Florida Department of Environmental Protection • Florida Coastal Office



Public Meeting

Monday, May 23, 2016
6:00 pm - 7:30 pm

Santa Rosa County Extension Office
6263 Dogwood Drive
Milton, FL 32570-3500

To view the draft plan, please visit:
www.dep.state.fl.us/coastal/sites/yellow/plan.htm

The Florida Department of Environmental Protection's Florida Coastal Office (FCO) is responsible for the management of Florida's 41 aquatic preserves, three National Estuarine Research Reserves, a National Marine Sanctuary, Florida Coastal Management Program, Outer Continental Shelf Program, and Coral Reef Conservation Program. These protected areas comprise more than 4 million acres of the most valuable submerged lands and select coastal uplands in Florida. FCO is updating these management plans, and is currently seeking input on the draft Yellow River Marsh Aquatic Preserve management plan.

Meeting objectives:

1. Review purpose and process for revising the Yellow River Marsh Aquatic Preserve management plan.
2. Present current draft plan with a focus on issues, goals, objectives and strategies.
3. Receive input on the draft management plan.

The information from the meeting will be compiled and used by FCO in the revision of the draft management plan.

Please contact Beth Fugate (850)595-0683, Beth.L.Fugate@dep.state.fl.us or visit our website at www.dep.state.fl.us/coastal/sites/yellow/plan.htm for more information or to request a written copy of the plan. Written comments are welcome and can be submitted by mail or email FloridaCoasts@dep.state.fl.us on or before **June 6, 2016**.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting Beth Fugate at (850)595-0683 or Beth.L.Fugate@dep.state.fl.us. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, (800) 955-8771 (TDD) or (800) 955-8770 (Voice).

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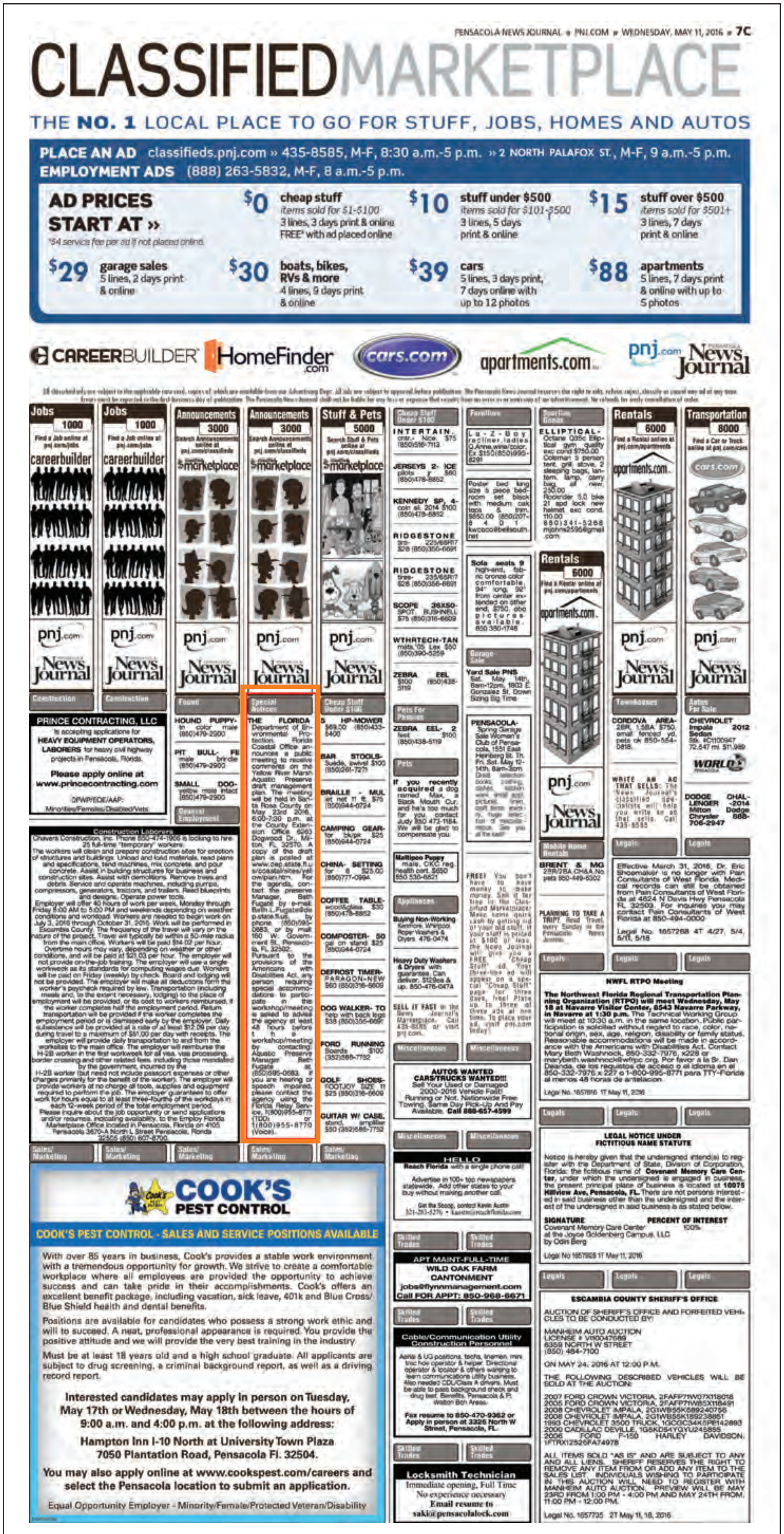
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Special Notices
THE FLORIDA Department of Environmental Protection, Florida Coastal Office announces a public meeting to receive comments on the Yellow River Marsh Aquatic Preserve draft management plan. The meeting will be held in Santa Rosa County on May 23rd 2016, 6:00-7:30 p.m. at the County Extension Office, 6263 Dogwood Dr., Milton, FL 32570. A copy of the draft plan is posted at www.dep.state.fl.us/coastal/sites/yellow/plan.htm. For the agenda, contact the preserve Manager, Beth Fugate by e-mail: Beth.L.Fugate@dep.state.fl.us, by phone (850)695-0683, or by mail 160 W. Government St. Pensacola, FL 32502.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in the workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Aquatic Preserve Manager Beth Fugate at (850)695-0683. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).
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Must be at least 18 years old and a high school graduate. All applicants are subject to drug screening, a criminal background report, as well as a driving record report.
Interested candidates may apply in person on Tuesday, May 17th or Wednesday, May 18th between the hours of 9:00 a.m. and 4:00 p.m. at the following address:
Hampton Inn I-10 North at University Town Plaza 7050 Plantation Road, Pensacola Fl. 32504.
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Florida Department of Environmental Protection

Northwest Florida Aquatic Preserves
160 W. Government Street
Pensacola, Florida 32502

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

Yellow River Marsh Aquatic Preserve Draft Management Plan
Public Meeting Summary
May 23, 2016, 6:00 – 7:30 p.m.
Santa Rosa County Extension Office
6263 Dogwood Drive
Milton, Florida 32570

Meeting Attendees: Shana Alford, Barbara Almario, Darryl Boudreau, Jeff Cochran, Karen Kebart, Garrett Walton.

Staff: Beth Fugate, Jenna Harper, Penny Isom, Earl Pearson, Fred Rock, Zach Schang.

Penny welcomed everyone, gave a brief introduction about the purpose of the meeting, and introduced aquatic preserve and Tallahassee staff.

Beth gave a PowerPoint presentation about Yellow River Marsh Aquatic Preserve, its challenges, and work being conducted.

After the presentation, Penny explained the commenting process. The room was set up so there were four stations, one for each of the four issues identified in the management plan. Attendees started at one of the issues stations and rotated to the next when time. Staff gave a little background on the issue and recorded comments the public had pertinent to each issue (listed below). The group rotated about every 15 minutes so they had an opportunity to comment at each station.

Miscellaneous

- An attendee stated that they were working on securing property adjacent to aquatic preserve for staff, storage and access purposes.

Issue I: Water Quality

- Current and future development, rapid growth and infrastructure within county could impact the health of the aquatic preserve.

- Development in and around watershed and aquatic preserve could result in increased stormwater runoff and nutrient discharge which would diminish water quality.
- Use National Pollutant Discharge Elimination System (NPDES) information and monitor outputs.
- Need to know what efforts are being done and where data can be found.
- Use historical data from water quality and habitat monitoring and mapping to show trends.

Issue II: Habitat Loss

- Use historical data from water quality and habitat monitoring and mapping to show trends.
- Marsh, fish and seagrass historically has declined. More restoration efforts in the aquatic preserve.

Issue III: Sedimentation

- Find historical sedimentation data and compare with current monitoring data.
- Coordinate with other agencies to address sedimentation.

Issue IV: Public Awareness

- Hold and/or sponsor fishing tournaments in aquatic preserve.
- Participate in Bagdad Mill outreach events and others to get more community support.
- Additional marketing and advertising, as well as a Facebook Page.

After the comments were received, the group reconvened and Penny explained the next steps in the management plan process: an advisory committee meeting, Acquisition and Restoration Council meeting (a public meeting in Tallahassee), and Governor and Cabinet meeting. The public was reminded that comments could still be submitted on or before June 6. They were thanked for taking time out of their busy schedules to attend and provide valuable feedback.

Meeting was adjourned.

Goals, Objectives, and Strategies

D.1 / *Current Goals, Objectives and Strategies Table*

The following table provides a cost estimate for conducting the management activities identified in this plan. The data is organized by year and Management Program with subtotals for each program and year. The following represents the actual budgetary needs for managing the resources of the aquatic preserve. This budget was developed using data from the Florida Coastal Office (FCO) and other cooperating entities, and is based on actual costs for management activities, equipment purchases and maintenance, and for development of fixed capital facilities. This budget assumes optimal staffing levels and does not include the costs associated with staffing such as salary or benefits. Budget categories identified correlate with the FCO Management Program Areas. The Funding Source column depicts the source of funds with "S" designated for state, "F" for federal, and "O" for other funding sources (e.g. non-profit groups, etc.). Dollar figures in red font indicate funding not available at this time.

Large, beneficial projects outside the current capacity of YRMAP's funding and staffing, are identified in Appendix D.4, in case opportunities become available to support those projects in the ten-year span of this management plan.

Goals, Objectives & Integrated Strategies	Mgmt. Program	Implement. Date (Planned)	Length of Initiative	Est. Avg. Yearly Cost	Funding	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Issue I: Water Quality															
Goal 1: Improve water quality in YRMAP as well as the surrounding waterbodies															
Objective 1: Implement research, restoration and enhancement projects throughout YRMAP and adjacent bays (where needed and appropriate), that focus on improving water quality.															
Strategy 1: Continue to implement a continuous water quality monitoring program and add additional monitoring sites.	Ecosystem Science	2016	ongoing	$32,000		$80,000	$80,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Strategy 2: Promote research within YRMAP with UWF and other institutions of higher education to promote a basin-wide approach on how regional impacts affect these systems.	Ecosystem Science	2016	ongoing	$750	S	$750	$750	$750	$750	$750	$750	$750	$750	$750	$750
Strategy 3: Use lessons from successful habitat restoration and enhancement projects to expand on how projects increase beneficial habitat and the anticipated time for improved water quality.	Ecosystem Science	2017	5 years	$110,000			$350,000	$50,000	$50,000	$50,000	$50,000				
Strategy 4: Work with the City of Milton and Santa Rosa County to promote cost incentives and education/ outreach to homeowners for septic to sewer conversion.	Ecosystem Science	2017	5 years	$750			$1,750	$500	$500	$500	$500				
Strategy 5: Promote regional based efforts to adapt stormwater infrastructure to accommodate larger rain events.	Ecosystem Science	2016	5 years	$400	S	$1,000	$250	$250	$250	$250					

Goals, Objectives & Integrated Strategies	Mgmt. Program	Implement. Date (Planned)	Length of Initiative	Est. Avg. Yearly Cost	Funding	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Issue II: Habitat Loss															
Goal 1: Slow or stop the gradual estuarine habitat loss within YRMAP.															
Objective 1: Address national, state and local concerns about habitat decline.															
Strategy 1: Determine ideal locations and implement habitat restoration and enhancement projects and partnerships within YRMAP.	Ecosystem Science	2016	ongoing	$118,000		$210,000	$170,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Strategy 2: Map benthic habitats in YRMAP.	Ecosystem Science	2017	3 years	$125,000			$135,000	$120,000	$120,000						
Strategy 3: In cooperation with FWC, develop an Imperiled Fish and Wildlife Species Management Strategy to address imperiled fish and turtle species and associated management prescriptions for their habitats; based on site-specific occurrence, population and sustainability data.	Ecosystem Science	2018	5 years	$0			$0	$0	$0	$0	$0				
Strategy 4: Facilitate education and outreach on importance of estuarine ecosystem and habitat, for environmental, recreational and commercial importance.	Education and Outreach	2016	ongoing	$2,800	S, O	$4,000	$4,000	$2,000	$2,000	$2,000	$2,000	$4,000	$4,000	$2,000	$2,000
Strategy 5: Work with local community and stakeholders on suggested land use for coastal resilience and habitat preservation.	Education and Outreach	2017	3 years	$1,000	S, O		$2,000	$500	$500						
Issue III: Sedimentation															
Goal 1: Decrease sedimentation from Yellow River and its tributaries, which ultimately affect the YRMAP and adjoining bays.															
Objective 1: Work with local, state, and federal agencies, as well as land owners to measure and decrease sedimentation into Yellow River.															
Strategy 1: Coordinate with the ERP section of the NW District of DEP and consultants performing upland work, via applications, that could affect sedimentation within Yellow River and YRMAP.	Resource Mgmt.	2016	ongoing	$100	S	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100

Goals, Objectives & Integrated Strategies	Mgmt. Program	Implement. Date (Planned)	Length of Initiative	Est. Avg. Yearly Cost	Funding	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Strategy 2: Work with the FDOT to coordinate any roadway improvements along I-10 corridor and State Highway 87 to reduce and potentially mitigate current sedimentation loads into Yellow River.	Resource Mgmt.	2016	ongoing	$100	S	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100
Strategy 3: Promote the paving of earthen roads, when appropriate, in Santa Rosa County and adjoining managed areas.	Resource Mgmt.	2016	ongoing	$285	S	$1,500	$150	$150	$150	$150	$150	$150	$150	$150	$150
Strategy 4: Measure changes in turbidity through continuous water quality monitoring.	Resource Mgmt.	ongoing	ongoing	$3,000		$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
Strategy 5: Coordinate with other organizations to include historical data	Resource Mgmt.	2016	ongoing	$1,500		$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Strategy 6: Coordinate with DEP and Santa Rosa County on NPDES permits.	Resource Mgmt.	2017	ongoing	$0			$0	$0	$0	$0	$0	$0	$0	$0	$0
Issue IV: Public Awareness and Coordination															
Goal 1: Increase awareness on how upland management affects submerged resources.															
Objective 1: Work with local, state, and federal agencies when upland management affects submerged resources.															
Strategy 1: Attend state land management meetings.	Resource Mgmt.	2019	2 years	$175	S				$175	$175					
Strategy 2: Make recommendations for additional protective strategies	Resource Mgmt.	2016	ongoing	$100	S	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100
Objective 2: Work with public agencies and the general public to foster partnerships															
Strategy 1: Coordinate with public agencies and the general public to increase awareness of natural preserves and submerged resources.	Education and Outreach	2017	3 years	$300	S, F, O		$500	$200	$200						
Goal 2: Increase public awareness of FCO and NWFLAP															
Objective 1: Coordinate with local, state, and federal agencies, as well as community.															
Strategy 1: Inform and educate agencies and public about NWFLAP's mission.	Education and Outreach	ongoing	ongoing	$5,000		$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000

Goals, Objectives & Integrated Strategies	Mgmt. Program	Implement. Date (Planned)	Length of Initiative	Est. Avg. Yearly Cost	Funding	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Strategy 2: Increase program efficiencies, educational opportunities, and public access by housing NWFLAP at one location	Education and Outreach	2016	ongoing	$14,300	S	$120,000	$15,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Goal 3: Increase public awareness of YRMAP and its significance.															
Objective 1: Coordinate with local, state, and federal agencies, as well as community.															
Strategy 1: Implement signage at access points to help user groups understand aquatic preserve rules, boundaries, and submerged resources.	Education and Outreach	2018	1 year	$35,000				$35,000							
Strategy 2: Attend public events to educate the public about YRMAP.	Education and Outreach	ongoing	ongoing	$75	S	$75	$75	$75	$75	$75	$75	$75	$75	$75	$75
Strategy 3: Involve public volunteers in cleanup and restoration	Education and Outreach	ongoing	ongoing	$200	S, F, O	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Goal 4: Inform user groups about coastal resiliency and how to implement coastal resilient features for lands and infrastructure.															
Objective 1: Inform public on future of environmental effects of climate change.															
Strategy 1: Utilize tools to show effects of sea level rise and its progression.	Education and Outreach	2018	4 years	$3,375				$12,000	$500	$500	$500				
Objective 2: Inform coastal property owners of structural adaptation options available to improve coastal resilience.															
Strategy 1: Utilize tools to show effects of sea level rise in reference to properties.	Education and Outreach	2018	4 years	$3,375				$12,000	$500	$500	$500				
Strategy 2: Hold public meetings for coastal property owners on potential infrastructure changes and practices.	Education and Outreach	2018	ongoing	$500	S			$500	$500	$500	$500	$500	$500	$500	$500
Goal 5: Inform coastal property owners on proper land use.															
Objective 1: Share knowledge and tools with public on habitat preservation and improving water quality.															
Strategy 1: Promote Florida Friendly Yards (FFY).	Education and Outreach	ongoing	ongoing	$100	S	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100

Goals, Objectives & Integrated Strategies	Mgmt. Program	Implement. Date (Planned)	Length of Initiative	Est. Avg. Yearly Cost	Funding	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Strategy 2: Promote FFY recommendation of a minimum 10 foot vegetative buffer along coastal properties.	Education and Outreach	2017	ongoing	$80,000			$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000
Strategy 3: Promote conversion of hardened shorelines to living shorelines.	Education and Outreach	ongoing	ongoing	$100,000		$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Strategy 4: Promote use of native plants, rain gardens, and lawn control through collaboration with Santa Rosa Extension agents.	Education and Outreach	2016	ongoing	$78,500		$110,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Goal 6: Inform public concerning marine debris.															
Objective 1: Promote marine debris impacts and effects to wildlife and environment.															
Strategy 1: In collaboration with UF/IFAS Sea Grant and FWC, educate public on marine debris, and its effects on wildlife and the environment.	Education and Outreach	2016	ongoing	$6,500		$20,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
Strategy 2: Reduce number of injured animals due to marine debris.	Education and Outreach	2016	ongoing	$1,800		$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800
Strategy 3: Coordinate with local organizations to remove marine debris.	Education and Outreach	2017	3 years	$20,000			$25,000	$25,000	$10,000						

*D.2 / **Budget Summary Table***

The following table provides a summary of cost estimates for conducting the management activities identified in this plan.

Fiscal Year	Ecosystem Science	Resource Management	Education & Outreach	Annual Total
2016-2017	$291,750	$6,300	$361,175	$659,225
2017-2018	$737,750	$4,950	$313,675	$1,056,375
2018-2019	$291,500	$4,950	$355,375	$651,825
2019-2020	$291,500	$5,125	$282,375	$579,000
2020-2021	$171,500	$5,125	$271,675	$448,300
2021-2022	$171,250	$4,950	$271,675	$447,875
2022-2023	$120,750	$4,950	$272,675	$398,375
2023-2024	$120,750	$4,950	$272,675	$398,375
2024-2025	$120,750	$4,950	$270,675	$396,375
2025-2026	$120,750	$4,950	$270,675	$396,375
Ten Year Totals	$2,438,250	$51,200	$2,942,650	$5,432,100

*D.3 / **Major Accomplishments Since the Approval of the Previous Plan***

- Educational programs have been developed to address the awareness and protection of submerged aquatic vegetation (SAV) to the boating public, including brochures, restoration and events such as the Seagrass Awareness Festival. Coordination with Sea Grant, Environmental Education Coordination Team, Santa Rosa County and others have made these efforts possible.
- The preservation and promotion of the importance of marsh habitat and preservation of wet prairies through education has been done in collaboration with state parks and Santa Rosa County.
- Staff has coordinated with applicable agencies in the permit application process to promote avoidance or minimize tree removal and other native vegetation in the riverine forest.
- Staff has coordinated with applicable agencies to ensure that land and water developments are designed to minimize SAV and wetland loss. Applicants often seek input from Northwest Florida Aquatic Preserves staff on SAV and wetland restoration.
- An inventory of nonpoint and point source pollution has been created and maintained by the Florida Department of Environmental Protection (DEP).
- Water quality monitoring has been implemented. Data is available upon request.
- Staff has identified and implemented estuarine restoration, where needed. Includes oyster, SAV, fisheries, and salt marsh.
- Staff has participated in local land use planning meetings and coordination to minimize Yellow River Marsh Aquatic Preserve (YRMAP) impacts.
- Staff has coordinated with DEP's Northwest District office to ensure structures and projects are in compliance with authorized conditions, and to ensure habitat and submerged lands are protected per Florida rules for Aquatic Preserves (18.20 & 18.21, Florida Administrative Code).
- Gulf sturgeon habitat and migration in YRMAP and Pensacola Bay Watershed have been identified in coordination with U.S. Fish and Wildlife Service.
- Staff has coordinated with local educational programs concerning YRMAP and its resources to ensure preservation. Efforts will continue to promote conservation and appreciation of YRMAP resources in coordination with Sea Grant, Santa Rosa County and Santa Rosa County Public Schools.
- Staff has participated in public forums addressing resource utilization, regulatory activities, and resource management issues.

*D.4 / **Gulf Priority Restoration Projects***

Florida's expansive coastline and wealth of aquatic resources have defined it as a subtropical oasis, attracting millions of residents and visitors, and the businesses that serve them. Florida's submerged lands play important roles in maintaining good water quality and hosting a diversity of wildlife and habitats (including economically and ecologically valuable nursery areas). The following three projects are proposed by the Florida Coastal Office as top priorities for Yellow River Marsh Aquatic Preserve in regards to creating and maintaining healthy ecosystems and economies. Following the three projects is a table listing the projects, including the top three, that were reviewed and are supported by Yellow River Marsh Aquatic Preserve. In addition, the table also crosswalks the Yellow River Marsh Aquatic Preserve management plan's issues, goals, objectives, and strategies with the projects.

NWFLAP PRIORITY RESTORATION PROJECTS

Oyster Reef Restoration East Bay

Partners:
NWFLAP

Funding Partners:
NWFLAP

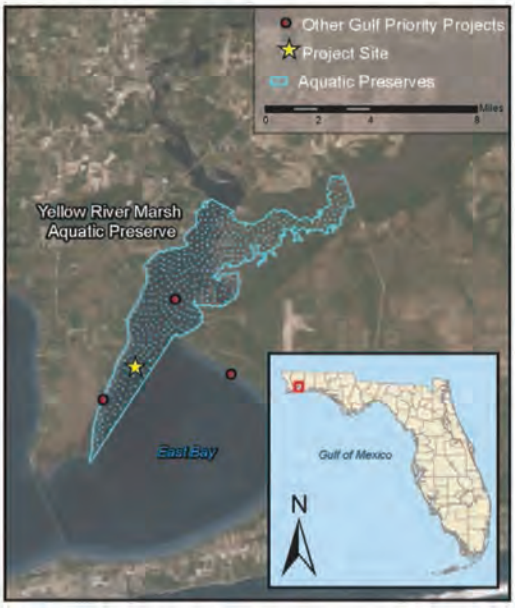
Funding Required:
$2,000,000

Location:
Santa Rosa
30.4390° N, 87.0916°W

Project Timeline:
4 Years

Project Objectives:

This project will see to the creation of 2 miles of fossilized oyster reefs adjacent to existing project along Garcon Point Peninsula. Restoration of approximately 20 acres of oyster and fish habitat will provide wave attenuation and increased water quality in addition to restoration of historical habitat in Yellow River Marsh Aquatic Preserve.



Project Outcomes:

The creation of 2 miles of fossilized oyster reefs will provide wave attenuation and increased water quality in addition to restoration of historical habitat in Yellow River Marsh Aquatic Preserve.

NWFLAP PRIORITY RESTORATION PROJECTS

Oyster Reef Restoration in Pensacola Bay

Partners:
FDACS

Funding Required:
$1,436,200

Location:
Santa Rosa 30.3960° N, 86.2288° W

Project Timeline:
Unspecified

Project Objectives:

Productive oyster reefs in the Pensacola Bay System play an essential role in sustaining ecological relationships within the estuarine ecosystem, as well as the Gulf of Mexico (GOM). Beyond the fact that oysters and oyster reef communities represent important food sources for many species of commercially important fish and invertebrates, functioning oyster reefs are also recognized as critical structural and community components which stabilize and sustain a broad array of ecological relationships. When oysters, oyster reef habitat, and oyster population dynamics are injured, impaired or damaged, the result can be widespread throughout broader ecosystems and extend beyond local geographical boundaries. Many commercially valuable, important recreational, and ecologically critical species within the GOM depend upon or spend a portion of their life cycles associated with oyster reef communities. Because of this complexity of food webs and life cycles, restoring functioning oyster communities is the cornerstone for any broad-scope aquatic resource restoration plan and a prudent management decision.

Restoring oyster habitat acts as an essential building block to offset the potentially injurious impacts from petroleum-based pollutants on estuarine and marine trophic systems. Rebuilding oyster reef infrastructure contributes to a "bottom up approach" to repairing injured, impaired and damaged natural resources along Florida's Gulf Coast. Improved habitat will form the foundation for oysters, as an engineering species, to contribute to wide reaching fishery and ecological benefits throughout estuarine, coastal and open Gulf ecosystems.

Project Outcomes:

This project will replace substrate and re-establish elevation using 12,000 cubic yards of aggregate lime rock or fossil shell on debilitated oyster reefs in Escambia Bay and East Bay. Placing substrate or "cultch" in bays where natural reproduction occurs is the most effective technique used throughout the GOM to 1) create three-dimensional reef structure, 2) stimulate spat setting, 3) enhance community functions, 4) increase natural productivity and 5) accelerate the recovery process. The Florida Department of Agriculture and Consumer Services (DACS) has been involved in rehabilitating oyster reefs for more than sixty years and provides a multi-dimensional approach built on decades of experience. DACS has the equipment, staff and expertise to obtain, stockpile, transport and deposit suitable substrate materials (quarried lime rock, fossil shell or processed shell) to successfully restore the structure and function of debilitated oyster reefs.

NWFLAP PRIORITY RESTORATION PROJECTS

Sedimentation Reduction/ Elimination on Blackwater River State Forest

Partners:
Florida Forest Service

Funding Required:
$21,083,649

Location:
Santa Rosa and others;
30.5716° N, 86.9980°W

Project Timeline:
2-6 years

Project Objectives:

There are areas within the bounds of Blackwater River State Forest (BRSF) that have experienced significant sedimentation into streams, creeks and Blackwater River. All the tributaries of Blackwater River join together just North of Eglin Air Force Base and East of Naval Air Station Whiting Field and eventually flow into the Gulf of Mexico; therefore, any sediment generated within BRSF becomes part of environmental problems for the Gulf. Blackwater River watershed is one of the last remaining shifting white sand bottom river systems in its natural state in the world. Sections of the river have been designated as an Outstanding Florida Water. Attendance at Blackwater River State Forest averages nearly 100,000 visitors per year. Each canoe rental business within the forest could book as many as 300 visitors on their busiest days. The erosion and sediments develop in the following areas of the forest:

- Open deck bridges in several areas on the forest. These bridges allow sediment carried by vehicles and from the adjacent banks to be deposited into the rivers, creeks, and streams in the watershed.
- Unpaved roads with both sandy soils and those with significant fines contribute to the sediment deposits via open deck bridges, low-water crossings, and culverts.
- Borrow pits that have erosion protection measures that have failed due to heavy rainfall or unauthorized recreational activity.
- Significant erosion generated in a collection basin adjacent to I-10 in Yellow River area known as Julian Mill.
- Tommy Eiland and Penny Creek/Red Wash along steeply sloping dirt roadways that have been previously closed.
- Lower Blackwater River Steepheads and steep sloping roadways that are eroding into the river.

Project Outcomes:

The proposed projects will include replacing open deck bridges, adding pavement and rock toroads, sloping of gully and steephead walls, berming and terracing for flow control and planting native vegetation.

The projects listed below, not arranged in any particular order, have also been reviewed and are supported by Yellow River Marsh Aquatic Preserve. For project details go to www.dep.state.fl.us/deepwaterhorizon/default.htm.

Project Name	Amount	Partners	Location in YRMAP mgmt plan
Oyster Reef Restoration East Bay	$2,000,000	NWFLAP	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1 Issue IV, Goal 5, Objective 1
Oyster Reef Restoration in Pensacola Bay	$1,436,000	The Florida Department of Agriculture and Consumer Services	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 3, Objective 1
Sediment Reduction/Elimination on Blackwater River State Forest	$21,083,649	Florida Forest Service	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Restoration through Ecotourism: Increasing Public Awareness of Natural Resource Management through Interpretive Wilderness Experiences	$6,854,262	Florida Coastal Office	Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
Pensacola Bay Watershed Restoration Project	$250,000,000	Escambia County	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
Bagdad Mill Site Passive Park Coastal Access Improvements	$878,532	Santa Rosa County	Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
M-14 Oyster Reef Restoration in the Pensacola Bay System, Florida	$788,600	The Florida Department of Agriculture and Consumer Services	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 3, Objective 1

Project Name	Amount	Partners	Location in YRMAP mgmt plan
Garcon Ecosystem	$19,000,000	Florida Wildlife Federation	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
Sewer System Repair and Upgrade	$32,600,000	City of Milton	Issue I, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Additional Living Shoreline and Oyster Habitat Restoration	$16,700,000	The Nature Conservancy, Santa Rosa County, Northwest Florida Aquatic Preserves, Florida Fish and Wildlife Conservation Commission	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1 Issue IV, Goal 5, Objective 1
Stormwater Retrofit Projects	$13,500,000	City of Milton	Issue I, Goal 1, Objective 1
Julian Mill Tributary Stabilization	NA	University of West Florida, CEDB	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Eglin AFB Range Road and Unpaved Stream Crossing Stabilization	$150,000,000	Elgin AFB 96 Test Wing/Range Support Squadron	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Unpaved Eglin Range Road Paving and Stabilization	$80,000,000	Elgin AFB 96 Test Wing/Range Support Squadron	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Septic Tank Abatement Project	$2,754,000	City of Milton	Issue I, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Septic Tank Abatement Program for Flood Prone or Low Lying Areas	$2,754,000	City of Milton	Issue I, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Sediment Control through Bridge Approach Paving in the Blackwater, Coldwater and Sweetwater Units of BRSF	$6,732,000	Florida Forest Service	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1

Project Name	Amount	Partners	Location in YRMAP mgmt plan
Sedimentation Reduction from Unpaved Roads - Santa Rosa County	$2,627,900	Santa Rosa County	Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
M-42 An Integrated Water Quality Monitoring Plan for Northwest Florida and Alabama Watersheds	$300,000	The University of West Florida	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1
E-20 Tarkiln Bayou/Yellow River Marsh Preserve State Parks Fireline Installation/Maintenance	$91,495	Florida Department of Environmental Protection, Division of Recreation and Parks, NWFWMD, Florida Division of Forestry, Florida Division of Historical Resources	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
SR-13 Escribano Point Florida Forever Project/Yellow River Wildlife Management Area/Yellow River Marsh Aquatic Preserve/Eglin Air Force Base Buffer Parcels	$17,480,000	National Wildlife Refuge Association and Defenders of Wildlife	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
Florida Panhandle Integrated Water Quality Monitoring Initiative	$11,000,000	Florida Fish and Wildlife Conservation Commission, The University of West Florida	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1
Repair damage to Panhandle river systems; restore damaged river banks, restore natural flow patterns, and reduce erosion and sedimentation	$190,000,000	Florida Fish and Wildlife Conservation Commission	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue III, Goal 1, Objective 1 Issue IV, Goal 1, Objective 1
Monitoring and evaluation of juvenile Gulf of Mexico Sturgeon habitats, status, and trends from FL waters	$724,061	Florida Fish and Wildlife Conservation Commission	Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1

Project Name	Amount	Partners	Location in YRMAP mgmt plan
Pre- and Post-restoration Assessment of FL Gulf Coast River Ecosystems	$3,592,230	Florida Fish and Wildlife Conservation Commission	Issue I, Goal 1, Objective 1 Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1
Blackwater Hatchery Renovation and Expansion	NA	Florida Fish and Wildlife Conservation Commission	Issue II, Goal 1, Objective 1 Issue IV, Goal 2, Objective 1 Issue IV, Goal 3, Objective 1

Other Requirements

*E.1 / **Acquisition and Restoration Council Management Plan Compliance Checklist***

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
Section A: Acquisition Information Items			
1	The common name of the property.	18-2.018 & 18-2.021	Ex. Sum.
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	p. 1
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	p. 1, 6-8
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	Ex. Sum & p. 11-12
5	A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.	18-2.018 & 18-2.021	p. 12
6	An assessment as to whether the property, or any portion, should be declared surplus. Provide Information regarding assessment and analysis in the plan, and provide corresponding map.	18-2.021	N/A
7	Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. Please clearly indicate parcels on a map.	18-2.021	N/A
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	p. 30
9	A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.	259.032(10)	p. 6
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	p. 15-16, 27-28
Section B: Use Items			
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	p. 10
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	p. 10-11, 25
13	A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.	18-2.018	N/A
14	A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.	18-2.018	p. 6-8, 31-40
15	Include a provision that requires that the managing agency consult with the Division of Historical Resources, Department of State before taking actions that may adversely affect archeological or historical resources.	18-2.021	p. 34-42, 44-48, 52-53
16	Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.	18-2.021	p. 35
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	p. 39-40
18	A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent "balanced public utilization," specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.	18-2.021	p. 6-8
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	App. E.3

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	p. 19-21, 31-40
21	*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.	18-2.021 & 253.036	N/A
22	If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.	18-021	N/A
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	p. 39-40
*The following taken from 253.034(10) is not a land management plan requirement; however, it should be considered when developing a land management plan: The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the Board of Trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, storm-water management projects, linear facilities and sustainable agriculture and forestry. Such additional uses are authorized where: (a) Not inconsistent with the management plan for such lands; (b) Compatible with the natural ecosystem and resource values of such lands; (c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands; (d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and (e) The use is consistent with the public interest.			
Section C: Public Involvement Items			
24	A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.	18-2.021	App. C
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	N/A
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.	259.032(10)	App. C
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	App. C
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.	253.034(5) & 259.032(10)	App. C
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. Include manager's replies to the team's findings and recommendations.	259.036	N/A
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	N/A

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	N/A
Section D: Natural Resources			
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. Use brief descriptions and include USDA maps when available.	18-2.021	p. 13-15
33	Insert FNAI based natural community maps when available.	ARC consensus	p. 18
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	Ex. Sum
35	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.	18-2.018 & 18-2.021	p. 17-23
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	N/A
37	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.	18-2.018 & 18-2.021	p. 13-15
38	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.	18-2.018 & 18-2.021	p. 17-23, App. B.3
39	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed endangered or threatened species and their habitat.	18-2.021	p. 17-23, App. B.3
40	The identification or resources on the property that are listed in the Natural Areas Inventory. Include letter from FNAI or consultant where appropriate.	18-2.021	p. 17-23
41	Specific description of how the managing agency plans to identify, locate, protect and preserve or otherwise use fragile, nonrenewable natural and cultural resources.	259.032(10)	p. 19, 31-40, App. E.2
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.	259.032(10) & 253.034(5)	p. 17-26, 31-40
42-B.	Provide a detailed description of both short (2-year planning period) and long-term (10-year planning period) management goals, and a priority schedule based on the purposes for which the lands were acquired and include a timeline for completion.	259.032(10) & 253.034(5)	App. D.1
42-C.	The associated measurable objectives to achieve the goals.	259.032(10) & 253.034(5)	App. D.1
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. Include fire management plans - they can be in plan body or an appendix.	259.032(10) & 253.034(5)	App. D.1
42-E.	A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.	259.032(10) & 253.034(5)	App. D.1
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. See footnote.	253.034(5)	Ex. Sum

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10)	
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	18-2.021, 253.034(5) & 259.032(10)	N/A
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	18-2.021, 253.034(5) & 259.032(10)	N/A
44-C.	Measurable objectives (see requirement for #42-C).	18-2.021, 253.034(5) & 259.032(10)	N/A
44-D.	Related activities (see requirement for #42-D).	18-2.021, 253.034(5) & 259.032(10)	N/A
44-E.	Budgets (see requirement for #42-E).	18-2.021, 253.034(5) & 259.032(10)	N/A
45	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032(10) & 253.034(5)	
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	p. 23, 31-40
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	App. D.1
45-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	App. D.1
45-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	App. D.1
45-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	App. D.1
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. See footnote.	253.034(5)	p. 23-25, App. B.3.3
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	App. B.4
48	Exotic and invasive species maintenance and control	259.032(10) & 253.034(5)	
48-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	p. 23-25, App. B.3.3
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	p. 23-25, App. B.3.3
48-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	p. 23-25, App. B.3.3
48-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	p. 23-25, App. B.3.3
48-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	p. 23-25, App. B.3.3
Section E: Water Resources			
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.	18-2.018 & 18-2.021	p. 1-4

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
50	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding water resources, including water classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Water under Rule 62-302.700, F.A.C.	18-2.021	p. 1-4, 15
51	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding swamps, marshes and other wetlands.	18-2.021	p. 17-23
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. See footnote.	253.034(5)	Ex. Sum
53	Hydrological Preservation and Restoration	259.032(10) & 253.034(5)	
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	App. D.1
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	App. D.1
53-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	App. D.1
53-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	App. D.1
53-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	App. D.1
Section F: Historical, Archaeological and Cultural Resources			
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.	18-2.018, 18-2.021 & per DHR's request	Ex. Sum, p. 25-26
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	Ex. Sum, p. 25-26
56	A description of actions the agency plans to take to locate and identify unknown resources such as surveys of unknown archeological and historical resources.	18-2.021	p. 25-26, App. E.2
57	Cultural and Historical Resources	259.032(10) & 253.034(5)	
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	p. 25-26, App. E.2
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	p. 25-26, App. E.2
57-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	p. 25-26, App. E.2
57-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	p. 25-26, App. E.2
57-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	p. 25-26, App. E.2
**While maps of Native American sites should not be included in the body of the management plan, the DSL urges each managing agency to provide such information to the Division of Historical Resources for inclusion in their proprietary database. This information should be available for access to new managers to assist them in developing, implementing and coordinating their management activities.			
Section G: Facilities (Infrastructure, Access, Recreation)			
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. See footnote.	253.034(5)	p. 43-44
59	Capital Facilities and Infrastructure	259.032(10) & 253.034(5)	

Land Management Plan Compliance Checklist Required for State-owned conservation lands over 160 acres			
Item #	**Requirement**	**Statute/Rule**	**Pg#/App**
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	p. 41-44, App. D.1
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	App. D.1
59-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	App. D.1
59-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	App. D.1
59-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	App. D.1
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	p. 38-40
61	Public Access and Recreational Opportunities	259.032(10) & 253.034(5)	
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	259.032(10) & 253.034(5)	p. 38-40, App. D.1
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	259.032(10) & 253.034(5)	p. 38-40, App. D.1
61-C.	Measurable objectives (see requirement for #42-C).	259.032(10) & 253.034(5)	p. 38-40, App. D.1
61-D.	Related activities (see requirement for #42-D).	259.032(10) & 253.034(5)	p. 38-40, App. D.1
61-E.	Budgets (see requirement for #42-E).	259.032(10) & 253.034(5)	p. 38-40, App. D.1
Section H: Other/ Managing Agency Tools			
62	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	Front & App. E.1
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	Ex. Sum
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	App. D.3
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	p. 31-40
66	Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.	253.034(5)	App. D.1
67	Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.	259.032(10)	App. D.1
68	A statement of gross income generated, net income and expenses.	18-2.018	N/A
*** = The referenced inventories shall be of such detail that objective measures and benchmarks can be established for each tract of land and monitored during the lifetime of the plan. All quantitative data collected shall be aggregated, standardized, collected, and presented in an electronic format to allow for uniform management reporting and analysis. The information collected by the DEP pursuant to s. 253.0325(2) shall be available to the land manager and his or her assignee.			

E.2 / ***Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Lands*** (revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at: www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward
Division of Historical Resources, Bureau of Historic Preservation, Compliance and Review Section
R. A. Gray Building, 500 South Bronough Street
Tallahassee, FL 32399-0250
Phone: (850) 245-6425, Toll Free: (800) 847-7278, Fax: (850) 245-6435

Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

Beckie Cato
Santa Rosa County
Development Services Department
6051 Old Bagdad Highway, Suite 202
Milton, Florida 32583

Dear Ms. Cato:

Attached is a copy of the draft Yellow River Marsh Aquatic Preserve Management Plan. (The plan can also be found at http://dep.state.fl.us/coastal/sites/yellow/.) The plan was developed with input from the public and the Yellow River Marsh Aquatic Preserve Management Plan Advisory Group. It is anticipated to be reviewed and approved by the Acquisition and Restoration Council at their February 2017 meeting in Tallahassee. We respectfully request, within 30 days of receipt of this letter, your review of the Aquatic Preserve plan for its compliance with the Santa Rosa County Comprehensive Plan. Please reply to the physical address (or e-mail address) regarding whether the management plan is in compliance with the county's comprehensive plan. Thank you in advance for your time and effort in this matter.

If you have any questions, please don't hesitate to contact me at (850)245-2098 or Penny.Isom@dep.state.fl.us.

Sincerely,

Penny Isom
Planning Manager
Florida Coastal Office

Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Ryan E. Matthews
Interim Secretary

February 17, 2017

Ms. Penny Isom
Planning Manager
Florida Coastal Office
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS 235
Tallahassee, Florida 32399-3000

RE: Yellow River Marsh Aquatic Preserve Management Plan

Dear Ms. Isom:

On **February 17, 2017**, the Acquisition and Restoration Council recommended approval of the **Yellow River Marsh Aquatic Preserve** management plan. Please advise Mr. James Parker of this office when the plan has been approved by the Board of Trustees.

Sincerely,

Raymond V. Spaulding
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

Yellow River Marsh Aquatic Preserves
Management Plan

Florida Department of Environmental Protection
Florida Coastal Office
3900 Commonwealth Blvd., MS #235
Tallahassee, FL 32399 • www.aquaticpreserves.org