

CM-224.  
Project 2.7

CE130



# PELLICER CREEK

## AQUATIC PRESERVES MANAGEMENT PLAN



SEPTEMBER 1989

QH  
91.75  
.P441  
F6  
1989

DEPARTMENT OF NATURAL RESOURCES

PELLICER CREEK  
AQUATIC PRESERVE MANAGEMENT PLAN  
(DRAFT)  
SEPTEMBER 1989

Tom Gardner  
Executive Director  
Department of Natural Resources

This plan was prepared by  
The Bureau of Aquatic Preserves  
Division of State Lands

QH 91.75 . P441 F6 1989

Funds for this management plan were provided by the Department of Environmental Regulation, Office of Coastal Management using funds made available through the National Oceanic and Atmospheric Administration under the Coastal Zone Management Act of 1972, as amended.

Property Of  
NOAA Coastal Services Center  
Library

TABLE OF CONTENTS

CHAPTER I	<u>INTRODUCTION</u> .....	1
CHAPTER II	<u>MANAGEMENT AUTHORITY</u>	
	A. Statutory Authority .....	7
	B. Administrative Rules.....	8
	C. Management Plans.....	11
	D. Other Applicable Authorities .....	12
CHAPTER III	<u>DESCRIPTION OF AQUATIC PRESERVE</u>	
	A. Location/Boundary.....	15
	B. Physiography.....	15
	C. Geology.....	19
	D. Hydrology.....	20
	E. Climate.....	20
	F. Water Quality.....	21
	G. Vegetation.....	25
	H. Fish and Wildlife.....	30
	I. Designated Species.....	33
	J. Cultural Resources.....	36
	K. Regional Land Use, Development & Associated Impacts.....	36
	1. Adjacent Upland Uses	
	2. Uses of the Preserve	
	3. Planned Use	
CHAPTER IV	<u>MANAGEMENT AREAS</u>	
	A. Introduction.....	41
	1. Definition	
	2. Use Designations	
	3. Management Area Criteria	
	4. Rational for Specific Criteria	
	B. Management Areas.....	44
CHAPTER V	<u>SITE SPECIFIC MANAGEMENT ISSUES &amp; NEEDS</u>	
	A. Management Issues and Special Needs.....	51
	B. Policy Directives.....	53

CHAPTER VI	<u>MANAGEMENT ACTION PLAN</u>	
	A. Resource Management.....	55
	B. Resource Protection.....	57
	C. Research.....	59
	D. Environmental Education.....	60
CHAPTER VII	<u>MANAGEMENT COORDINATION NETWORK</u>	
	A. Federal Agencies.....	63
	B. State Agencies.....	67
	C. Regional Agencies.....	70
	D. Local Governments & Interest Groups.....	71
CHAPTER VIII	<u>STAFFING AND FISCAL NEEDS</u>	73
CHAPTER IX	<u>RESOURCE &amp; ACTIVITY MONITORING PROGRAM</u>	
	A. Resource Monitoring.....	77
	B. Activity Monitoring.....	77
	C. Accomplishments & Progress Monitoring.....	77
	<u>REFERENCES</u>	79

LIST OF FIGURES AND TABLES

Figure 1.	Florida Aquatic Preserve System .....	3
Figure 2.	Pellicer Creek Aquatic Preserve..... Boundary Map	17
Figure 3.	Saline Conditions in Pellicer..... Creek	23
Figure 4.	Vegetation Map of Pellicer Creek.....	27
Figure 5.	Adjacent Land Use Map.....	37
Figure 6.	Management Areas.....	49
Table 1.	Designated Wildlife Species.....	34
Table 2.	Management Coordination Network.....	65
Table 3.	Anticipated Budget for Pellicer..... Creek Aquatic Preserve	75

LIST OF APPENDICES

Appendix A. Relevant Legislation .....81

Appendix B. Local Government Comprehensive.....91  
Plans - Applicable Policies

Copies of the legal description of the Pellicer Creek Aquatic Preserve, as well as, copies of Chapters 253 and 258, F.S., and Chapter 18-21, F.A.C., may be obtained from:

Bureau of Aquatic Preserves  
Department of Natural Resources  
Cedars Executive Center, Suite 232-B  
Mail Box 77, 2639 North Monroe Street  
Tallahassee, Florida 32303

## CHAPTER I

### INTRODUCTION

Pellicer Creek was designated an aquatic preserve in 1970, because of its near pristine condition and because of the state's desire to protect this condition from development. Pellicer Creek represents one of the 42 officially designated aquatic preserves in the state of Florida (figure 1). Located in northeast Florida along the border of St. Johns and Flagler counties, the Pellicer Creek Aquatic Preserve covers approximately 505 acres of sovereignty submerged lands. The boundaries of the preserve include all tidal lands and islands, sandbars, shallow banks, submerged bottoms and lands waterward of the mean or ordinary high water line (MHW) to which the state holds title.

The goal of the Florida Aquatic Preserve Program as specified in Section 258.36, Florida Statutes (F.S.), is to set aside forever state-owned submerged lands which have exceptional, biological, aesthetic, or scientific value for the benefit of future generations. Creation of the Aquatic Preserve Program resulted from an appreciation of these values and an understanding that development-oriented problems were destroying these values. Therefore, it is the intent of the Florida Legislature that aquatic preserves be maintained in an essentially natural or existing condition so these exceptional values can be preserved for future generations.

The role of the Aquatic Preserve Program is to manage and protect the natural resources within the boundaries of the preserve through staff programs and coordination with other state and federal resource management programs. An integrated management plan encompassing all the legislatively delegated resource management and protection laws is essential in preserving the resource values of the preserve.

In developing a management plan for an aquatic preserve, the process of obtaining relevant information about the area includes the collection of resource facts, management issues and strategies, and present and future land use plans. This management plan is intended to serve as a useful guide in assisting preserve managers in maintaining the uniqueness of the area. Local governments are encouraged to incorporate this plans management criteria and policies into their local government comprehensive plans.

Due to the relatively pristine conditions found in Pellicer Creek, the preserve will be granted the maximum protection allowable under the Aquatic Preserve Program. Section 18-



# AQUATIC PRESERVES

AQUATIC PRESERVES ARE ESTABLISHED BY THE FLORIDA LEGISLATURE AND INCLUDE ONLY STATE OWNED SOVEREIGNTY SUBMERGED LANDS. THE GOVERNOR AND CABINET SITTING AS TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND ARE MANAGERS OF THESE AREAS.

FOR MORE INFORMATION REGARDING AQUATIC PRESERVES CONTACT:  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF STATE LANDS  
 BUREAU OF AQUATIC PRESERVES

3900 COMMONWEALTH BLVD  
 TALLAHASSEE, FLORIDA 32303  
 CREATED BY CAROL A. KNOX  
 1988

Figure 1

20.004 (2)(a), Florida Administrative Code (F.A.C.) (Appendix A), states that proposed development projects and lease requests to utilize sovereign bottoms in less developed aquatic preserves shall be subject to a higher standard than similar projects in the more developed preserves.

The overriding goal of this management plan is to target specific actions designed to maintain the original integrity and pristine quality of Pellicer Creek and its associated resources. To achieve this goal, four primary strategies are emphasized in this plan:

- 1) documentation and collection of all available resource information concerning the preserve.
- 2) designation of various management areas within the boundaries of the preserve.
- 3) establishment of compatible management criteria governing preserve usage for each management area.
- 4) summarization of procedures for plan implementation, including fiscal and staffing requirements.

Due to the lack of human encroachment in and around the Pellicer Creek Aquatic Preserve, the natural beauty of the salt marsh and associated communities, has largely been preserved; however, there is a lack of updated, site specific information on the natural resources contained in the study area. Therefore, much of the biological resource information supplied in this report is based on salt marsh systems in general.



## CHAPTER II

### MANAGEMENT AUTHORITY

#### A. STATUTORY AUTHORITY

The primary laws providing management authority for aquatic preserves are Chapters 253 and 258, Florida Statutes (F.S.). These authorities establish the proprietary role of the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund as Trustees over sovereignty submerged lands. These statutes also empower the Trustees to adopt and enforce rules and regulations for managing all sovereignty submerged lands, including aquatic preserves. Management responsibilities may be fulfilled directly by the Governor and Cabinet, or indirectly by staff of the Division of State Lands, through delegations of authority from the Trustees.

The Division staff, in addition, serve as site managers for the Trustees, and review requests for uses affecting sovereignty submerged lands within the aquatic preserves. The staff conduct project site reviews to evaluate the environmental consequences of proposed uses. Project assessments and review are primarily evaluated in accordance with the criteria in Sections 258.35-42, F.S., (Florida Aquatic Preserves Act) and 18-20, F.A.C., (Rules of Florida Aquatic Preserves).

Staff comments on proposed uses are submitted for consideration in developing recommendations to be presented to the Trustees. This mechanism provides a basis for the Trustees to evaluate public interest and project merits within the context of potential environmental impacts upon the aquatic preserves. Any activity located on sovereignty submerged lands will require consent or other approval from the Board of Trustees. Consent of use may be granted on small projects from the Division of State Lands in accordance with the authority delegated by the Board.

The laws supporting aquatic preserve management are the result of the public's awareness of the importance of preserving Florida's coastal environment resulting from the rampant dredge and fill activities in the late 1960's.

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 (Section 253.03, F.S.) for the Trustees to exercise proprietary control over

state-owned lands. Also, in 1967, government focus on protecting Florida's productive estuaries from development led to the Trustee's establishment of a moratorium on the sale of submerged lands to private interests.

In the same year, an interagency advisory committee on submerged lands was created. In late 1968, the committee issued a report recommending the establishment of twenty-six aquatic preserves. Also, in 1968, the Florida Constitution was revised, declaring in Article II, Section 7, the State's policy of conserving and protecting the natural resources and scenic beauty. That constitutional provision also established the authority for the legislature to enact measures for abatement of air and water pollution.

On October 21, 1969 the Governor and Cabinet acted upon the recommendations of the Interagency Advisory Committee and adopted by resolution eighteen of the water bodies as aquatic preserves. Other preserves were similarly adopted at various times through 1971. Prior to the October 1969 action, the legislature had created the Boca Ciega Aquatic Preserve. Subsequent legislation in 1972, 1973, and 1974 created the Pinellas County, Lake Jackson and Biscayne Bay Aquatic Preserves, respectively.

In 1975, the legislature established the Florida Aquatic Preserve Act (Chapter 258, F.S.) bringing all existing preserves under a standardized set of maintenance criteria. Subsequent acts added Cockroach Bay in 1976, Rookery Bay in 1977 and Gasparilla Sound-Charlotte Harbor in 1978 to the Aquatic Preserve program.

In June, 1985, the Legislature passed Senate Bill 762 which expanded the boundaries of the Rookery Bay, Banana River, Indian River-Malabar to Vero Beach, Loxahatchee River-Lake Worth Creek, and Wekiva River Aquatic Preserves, and created the Guana River Marsh and Big Bend Seagrasses Aquatic Preserves. Lemon Bay and Rainbow Springs were added as aquatic preserves by SB 607 in 1986. Lake Weir and Oklawaha River were added in 1988 and 1989, respectively.

#### **B. ADMINISTRATIVE RULES GOVERNING AQUATIC PRESERVES**

Chapters 18-20 and 18-21, Florida Administrative Code (F.A.C.), are two administrative rules directly applicable to the DNR's/Trustees' actions regarding allowable uses of submerged lands in general and aquatic preserves specifically.

1. CHAPTER 18-20, F.A.C.

Chapter 18-20, F.A.C., addresses the aquatic preserves and derives its authority from Sections 258.35, 258.36, 258.37, and 258.38, F.S. The intent of this rule is contained in Section 18-20.01, F.A.C., which states:

- "(1) All sovereignty lands within a preserve shall be managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation including hunting and fishing where deemed appropriate by the board and the managing agency.
- (2) The aquatic preserves which are described in 73-534, Laws of Florida, sections 258.39, 258.391, 258.392, and 258.393, Florida Statutes, future aquatic preserves established pursuant to general or special acts of the legislature, and in Rule 18-20.002, Florida Administrative Code, were established for the purpose of being preserved in essentially natural or existing condition so that their aesthetic, biological and scientific values may endure for the enjoyment of future generations.
- (3) The preserves shall be administered and managed in accordance with the following goals:
  - (a) to preserve, protect, and enhance these exceptional areas of sovereignty submerged lands by reasonable regulation of human activity within the preserves through the development and implementation of a comprehensive management program;
  - (b) to protect and enhance the waters of the preserves so that the public may continue to enjoy the traditional recreational uses of those waters such as swimming, boating, and fishing;
  - (c) to coordinate with federal, state, and local agencies to aid in carrying out the intent of the Legislature in creating the preserves;
  - (d) to use applicable federal, state, and local management programs, which are compatible with the intent and provisions of the act and these rules, and to assist in managing the preserves;

- (e) to encourage the protection, enhancement, or restoration of the biological, aesthetic, or scientific values of the preserves, including but not limited to the modification of existing man-made conditions towards their natural condition, and discourage activities which would degrade the aesthetic, biological, or scientific values, or the quality, or utility of a preserve, when reviewing applications, or when developing and implementing management plans for the preserves;
- (f) to preserve, promote, and utilize indigenous life forms and habitats, including but not limited to: sponges, soft coral, hard corals, submerged grasses, mangroves, saltwater marshes, freshwater marshes, mudflats, estuarine, aquatic and marine reptiles, game and non-game fish species, estuarine aquatic, and marine invertebrates, estuarine, aquatic, and marine mammals, birds, shellfish and mollusks;
- (g) to acquire additional title interests in lands wherever such acquisitions would serve to protect or enhance the biological, aesthetic, or scientific values of the preserve;
- (h) to maintain those beneficial hydrologic and biologic functions, the benefits of which accrue to the public at large."

## 2. CHAPTER 18-21, F.A.C.

Chapter 18-21, F.A.C., controls activities conducted on sovereignty submerged lands in general and is predicted upon the provisions of Sections 253.03 and 253.12, F.S. These rules are supplemental to Chapter 18-20, F.A.C. in the regulation of activities in aquatic preserves. The stated intent of this administrative rule is:

- "(1) 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;
- (2) to insure maximum benefit and use of sovereignty lands for all citizens of Florida;

- (3) 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;
- (4) 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;
- (5) 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;
- (6) to aid in the implementation of the State Lands Management Plan."

### C. MANAGEMENT PLANS

Various aquatic preserve management plans previously adopted by the Trustees were incorporated into rule in 1988; this plan will be similarly incorporated into rule upon approval by the Trustees. As such, these plans carry the same authority as do Chapters 18-20 and 18-21, F.A.C. Presently, 14 management plans have been adopted, covering 21 of the State's 42 aquatic preserves. These previous management plans were designed to be generic in nature, with policies and management guidance generally applicable to all aquatic preserves. However, this plan and all future aquatic preserve management plans will be designed to be more site-specific and contain policy guidance and directives applicable to an individual preserve.

The State Lands Management Plan, adopted on March 17, 1981, and amended by the Trustees on July 7, 1981 and March 15, 1983, contain specific policies concerning spoil islands, submerged land leases, "Outstanding Native Florida Landscapes," unique natural features, seagrass beds, archaeological and historical resources, and endangered species. These policies provide the fundamental direction for formulating management plans and policies of the Aquatic Preserves Program.

Also, the State Comprehensive Plan, established by Chapter 187, Florida Statutes, provides broad policy guidance for the development of management plans for the statewide system of aquatic preserves. The goals, objectives and policies set forth in this aquatic preserve management plan are designed to be consistent with the goals and policies of the State Comprehensive Plan pertaining to the water resources, coastal

and marine resources and natural systems. In addition, this plan has been developed to serve as a guide for local governments to build consistency between this plan and the conservation and coastal management elements of regional and local government plans.

#### D. OTHER APPLICABLE MANAGEMENT AUTHORITIES

Other Department of Natural Resources management authorities applicable to aquatic preserve management includes fisheries and marine mammal management and protection (Chapter 370, F.S.), and beach and shore (Chapter 161, F.S.) programs. Also, land acquisition programs conducted under the Environmentally Endangered Lands (EEL) authority of Chapter 259, F.S. and the Conservation and Recreation Lands (CARL) Program authorized by Chapter 253, F.S., will enhance the protection of natural resources within aquatic preserves.

The Marine Fisheries Commission (MFC) was established as a rule making authority pursuant to Section 370.027, F.S. Seven members are appointed by the Governor and are delegated full rulemaking authority over marine life, except for endangered species.

The Department of Environmental Regulation's (DER) rules significant to the aquatic preserve management program are Chapter 17-3, 17-4, and 17-12 F.A.C. Authority for these rules is based in Chapter 403, F.S. Chapter 17-3, F.A.C. addresses water quality standards with the most stringent category being "Outstanding Florida Waters" (OFW). As an OFW, ambient conditions, instead of prescribed values, become the water quality standards for the water body. Chapter 17-4, F.A.C. addresses permit requirement, and Chapter 17-12, F.A.C. dredge and fill activities.

Section 253.77, F.S., as amended by the Warren S. Henderson Wetlands Protection Act of 1984, requires that any person requesting use of state-owned lands shall have prior approval of the Trustees. An interagency agreement between DNR and DER provides for DNR staff comments into the DER permitting process for environmental impacts in aquatic preserves.

Authorized by Section 380.06, F.S., the Department of Community Affairs (DCA) and the Regional Planning Councils (RPC) are responsible for administering the Development of Regional Impact (DRI) program. The DRI process was established to provide a review and monitoring procedure for development projects potentially affecting the health, safety, or welfare of citizens of more than one county.

Chapter 267, F.S., establishes the State policy regarding the preservation and management of Florida's archaeological and historical resources. This responsibility is assigned to the Department of State, Division of Historical Resources (DHS), which holds title to those cultural resources located on state-owned lands, including aquatic preserves.

The Department of Health and Rehabilitative Services, (HRS) under the authority of Chapters 3381 and 388, F.S. administers two programs directly affecting the aquatic preserve management program: septic tank regulations (which are usually administered by the County Health Department); and arthropod (mosquito) control programs usually administered through local mosquito control districts. Each of these programs holds the potential to create significant impacts upon the aquatic preserves.

Each of the above referenced programs assist in protecting the aquatic preserves and their ecologically sensitive resources.

## CHAPTER III

### DESCRIPTION OF PELLICER CREEK AQUATIC PRESERVE

#### A. LOCATION/BOUNDARY

The Pellicer Creek Aquatic Preserve is located in northeast Florida, approximately 16 miles south of the City of St. Augustine. The creek borders the northeast section of Flagler County with the southeast section of St. Johns County (Figure 2). This 505 acre preserve borders U.S. Highway 1, and extends approximately 4 miles eastward to the Matanzas River. Pellicer Creek's salt marsh habitat is considered to be one of the most pristine estuarine/riverine systems along Florida's east coast.

Boundaries of the Pellicer Creek Aquatic Preserve include only state-owned (sovereignty) submerged lands that occur below the mean high water mark. Uplands and artificial canals are excluded from the preserve.

#### B. PHYSIOGRAPHY

The Pellicer Creek Aquatic Preserve is located in the lower part of the Atlantic Coastal Plain. The coastal region occupies a physiographic division known as the Coastal Lowlands, which are low in elevation and poorly drained.

White (1970), describes the general topography of this area which was formed during the Pleistocene epoch, as being composed of ancient marine terraces that run parallel to the Atlantic Ocean shoreline. There are seven, possibly eight marine terraces in Florida, each formed at different sea levels. These terraces were formed long ago by waves, currents and varying sea levels. When the sea level remained stationary for long periods, the waves and currents would erode the sea floor to form a fairly level surface. When the sea level dropped, the sea floor became a level plain or terrace. The Silver Bluff terrace is present within the Pellicer Creek preserve boundaries at an altitude between sea level and ten feet above sea level. Just outside the preserve boundaries, the Pamlico terrace rises from 5 to 25 feet above sea level.

Drainage in this coastal strip area between the St. Johns River basin and the Atlantic Ocean is primarily into lagoons, formed by barrier islands. Pellicer Creek contributes to this drainage by flowing into the Matanzas River which is part of the Atlantic Intracoastal Waterway. This river can better be described as a coastal lagoon with access to the Atlantic

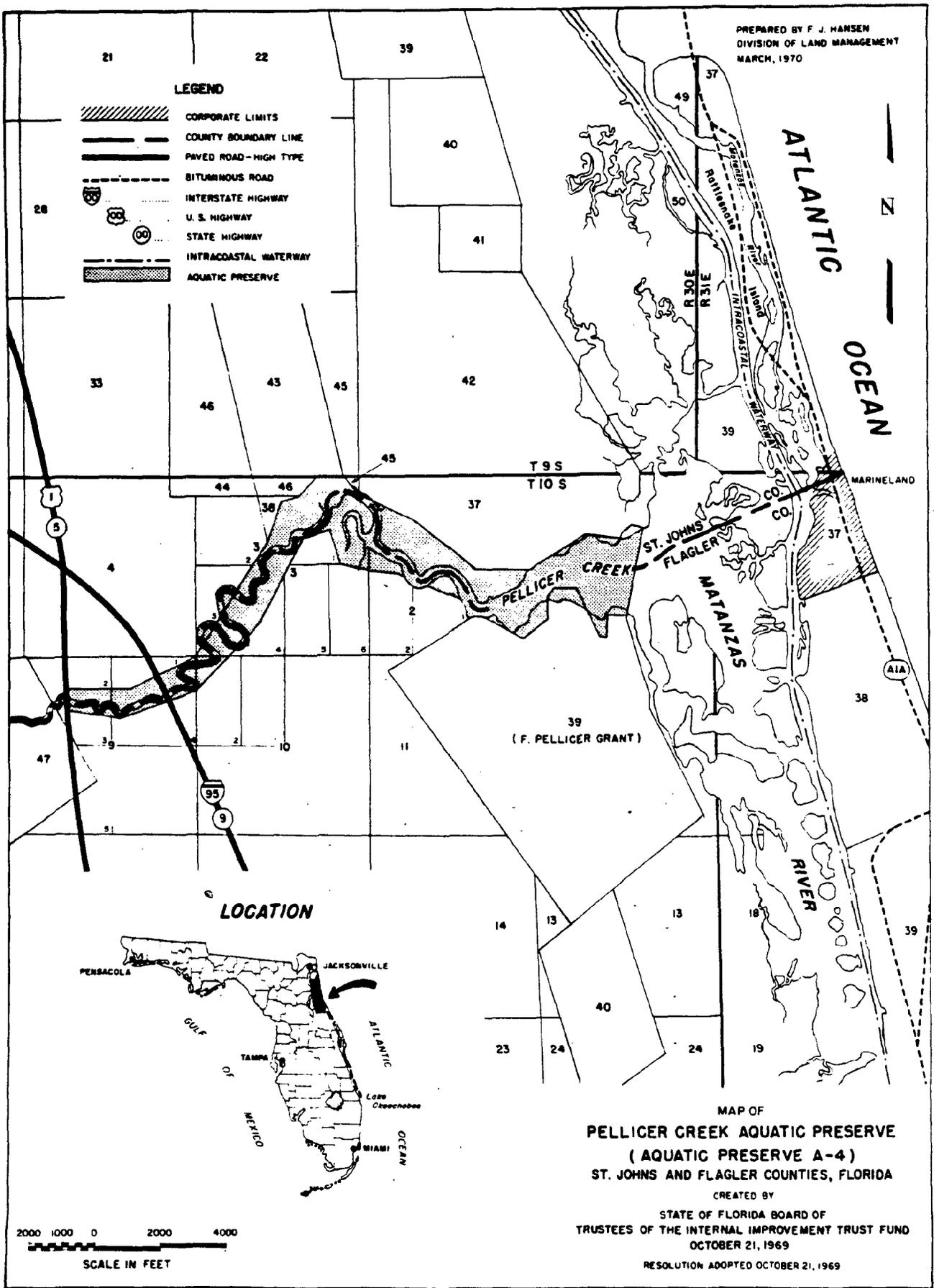


Figure 2

Ocean by way of the Matanzas Inlet, located approximately 2.5 miles north of Pellicer Creek.

The long, narrow chain of barrier islands outside the preserve, acts as the first line of defense for the mainland against storm surges. Inlets have formed along these islands during storms, forming temporary shallow inlets that later closed due to siltation. Human intervention through dredging and stabilization of the existing inlets has allowed saline water to mix with fresh water, creating the estuarine environment that now exists.

### C. GEOLOGY

In St. Johns and Flagler counties, thick limestone beds of the Eocene age underlie the area at depths ranging from sea level to more than 300 feet below sea level. Miocene or Pliocene deposits directly overlie the Eocene limestone formations. The surface area is blanketed by Pleistocene and Recent deposits in varying depths.

The general soil type within the aquatic preserve is made up of the Pellicer Series. This is a very poorly drained, nearly level soil that is found in low tidal marshes along stream estuaries near the Atlantic coast. Typically, the surface layer is dark brown silty clay loam about ten inches thick. The soil is flooded twice daily by normal high tides. Permeability is slow. Organic matter content is very high, while natural fertility is limited by excess salt.

This Pellicer soil is not suited to cultivated crops, improved pasture, or trees. The high salt and sulfur content, high clay content, and low strength severely restrict the use of this soil for agricultural purposes. The soil becomes extremely acid when it is dry for long periods. The low soil strength will not support grazing cattle or equipment.

Potential for community development is low. The hazard of flooding, excessive wetness, and low strength make the soil poorly suited to the construction of buildings or roads.

This soil type does support various vegetation providing important wildlife habitat, and an essential link in the food chain for both sport and commercial fishing.

In the upland communities surrounding the Pellicer Creek Aquatic Preserve, sandy soil types are represented in the communities of sand ridges, coastal dunes and flatwoods. More information regarding the soil types in the preserve and surrounding uplands, can be found in the USDA publication, Soil Survey of St. Johns County (1983).

#### D. HYDROLOGY

Pellicer Creek is part of the northern watershed in the Upper East Coastal Basin. Most of which is dominated by forestland (80%), but also having significant amounts of wetlands (16%). The majority of the watershed in this basin is drained by relatively small creeks or branches (Flagler County Comprehensive Plan, Draft, 1988).

The Hulett Branch, Pringle Branch, Stevens Branch, Dave Branch and Schoolhouse Branch all drain into the aquatic preserve from the west. Styles Creek flows south out of Pellicer Creek, near the Matanzas River. To the north, Rootan Branch flows southward through Faver-Dykes State Park and drains into Pellicer Creek.

Pellicer Creek is the only natural drainage in the general area that cuts through the marine terraces and ridges to flow east into the Matanzas River. From the Matanzas River lagoonal area the flow of water eventually empties into the Atlantic Ocean by way of the Matanzas Inlet, 2.5 miles north of the Flagler County line.

In the coastal area covering St. Johns County and Flagler County, three major estuarine rivers drain the region: Tolomato River (north), the Matanzas River (middle), and the Halifax River (south).

Surface-water hydrology in this area is influenced by the interaction of the brackish water of the Matanzas River with the freshwater inputs from tidal branches, and overland sheetflow. The results are wetlands that provide valuable wildlife habitat and play an important role in maintaining the levels and quality of surface water.

#### E. CLIMATE

The climate of the northeast Florida coastal region is under a pronounced maritime influence (National Oceanic & Atmospheric Administration, 1982). The heat of summer and cold of winter is moderated by the close proximity of the Gulf Stream. As a result, this area experiences a humid, sub-tropical climate characterized by long summers and heavy rainfall with mild, dry winters.

Specifically, the average maximum and minimum temperatures range from 81 degrees F. to 58 degrees F., respectively. The mean annual temperature is about 70 degrees F. near the coast and about 72 degrees F. inland. The average annual rainfall is about 50 inches, of which 50-75% falls between June and October.

## F. WATER QUALITY

Pellicer Creek was designated as an "Outstanding Florida Waters" (OFW), on March 1, 1979. Because of their natural attributes, these waterbodies are assigned additional protection through the Department of Environmental Regulation. Chapter 17-3, F.A.C., addresses the water quality standards by which OFW are managed. Permit applications for activities that lower ambient water quality standards within designated OFW are normally denied.

Although limited data exists on the quality of water in the aquatic preserve, the Department of Environmental Regulations, 1988 Florida Water Quality Assessment 305 (b) Technical Appendix, classifies the water quality in Pellicer Creek as "good". Water quality in the adjoining Matanzas River, outside the preserve was listed as "fair". The good water quality rating of Pellicer Creek may be supported, in part, by the obvious lack of human encroachment on the uplands surrounding the creek.

Septic tanks are presently used by a small number of homes bordering the creek, representing a potential non-point source of pollution.

The assessment of water quality in the East Coast Basin, in general, indicated more serious water quality problems both north and south of the Pellicer Creek Aquatic Preserve. These areas of concern were located near urban areas where stormwater runoff and sewage treatment effluents were reasons cited for water degradation.

The entire creek system within the preserve is strongly affected by fluctuating tides. Saline conditions are evident up to and beyond the eastern preserve boundary of U.S. Highway 1, (figure 3). A study of the salinity conditions in Pellicer Creek, was conducted in 1978 for the Palm Coast Comprehensive Plan, utilizing "indicator species" of plants and animals. Below is a list of the species reported occurring in the following salinity ranges of Pellicer Creek:

False Mussels, <u>Mytilopsis leucophaeata</u> .....	0.0 - 5.0	ppt
Carolina Marsh Clam, <u>Polymesoda caroliniana</u> .	0.5 - 10.0	ppt
Ivory Barnacles, <u>Balanus eburneus</u> .....	15.0 - 28.0	ppt
Candy Striped Barnacle, <u>Balanus amphitrite</u> .	30.0 & above	ppt
Oysters, <u>Crassostrea virginica</u> .....	10.0 - 35.0	ppt
Smooth Cordgrass, <u>Spartina alterniflora</u> ....	15.0 - 35.0	ppt
Narrow-Leaf Cattail, <u>Typha angustifolia</u> ....	15.0	ppt
Red Maple, <u>Acer rubrum</u> .....	0.0 - 5.0	ppt
Bald Cypress, <u>Taxodium distichum</u> .....	0.0 - 5.0	ppt
Soft Rush, <u>Juncus effusus</u> .....	0.0 - 5.0	ppt

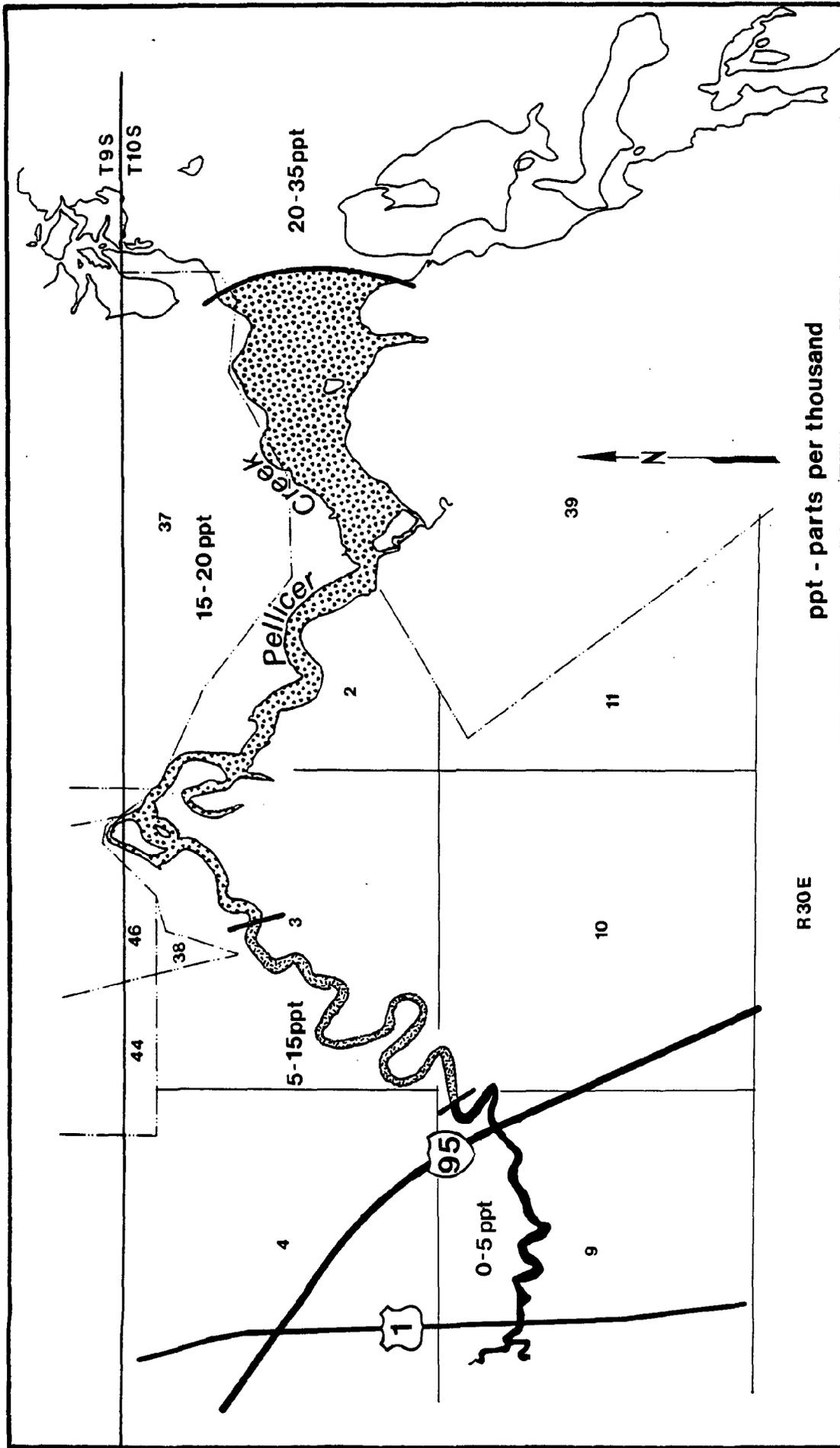


Figure 3 Saline conditions in Pellicer Creek

## G. VEGETATION

The predominate habitat type of the Pellicer Creek Aquatic Preserve is of an intertidal, salt marsh community, (figure 4). Considerable information has been written on the value of salt marshes to the environment, (Bagur, 1977; DNR, Appendix IV, 1986; SCSA, 1897; Westlake, 1965).

As part of an estuarine ecosystem, salt marshes form a vital connection between saltwater and freshwater habitats. The term, salt marsh, may be synonymous with tidal marsh, brackish marsh, coastal wetland, coastal marshes, and tidal wetland. All are generally characterized as expanses of grasses (Poaceae), rushes (Juncacea), and sedges (Cyperaceae) common along the Atlantic Coast and inland tidal rivers.

Salt marshes are most abundant and extensive in Florida north of the normal freeze line, being displaced by and interspersed among tidal swamps and mangroves below this line. They are usually dominated by a single plant species such as blackneedle rush (Juncus roemarianus) or smooth cordgrass (Spartina alterniflora) that form dense, uniform stands. These stands may be arranged in well-defined zones according to tidal action and salinity levels, or may spread over a broad area, with elevation the primary determining factor. Usually, one or two species dominate areas of higher salinity, with a noticeable increase in plant diversity occurring further inland where the salinity decreases.

In the Pellicer Creek Aquatic Preserve, blackneedle rush is the dominate species of vegetation, accompanied by occasional patches of smooth cordgrass fringing the outer reaches of the marsh. These outer reaches may be classified as low marsh, due to the frequency of tidal inundation. In the high marsh, dense concentrations of blackneedle rush mix with an assortment of less salt tolerant species such as, sawgrass, cattail, and salt myrtle. The only evidence of submerged vegetation are patches of Widgeon Grass (Ruppia maritima), which occurs in both fresh and brackish environments.

Salt marsh vegetation live under stressful conditions. High salt content in the soil, poor soil aeration, frequent submersion and exposure, intense sunlight, and occasional fires make the salt marsh community inhospitable to most plants and require a wide tolerance limit for its inhabitants. These parameters also help to create the distinct vegetation zones that are characteristic of salt marshes. Despite the rigorous environment which restricts the number of species, salt marshes, like the estuaries they surround, are extremely productive ecosystems.

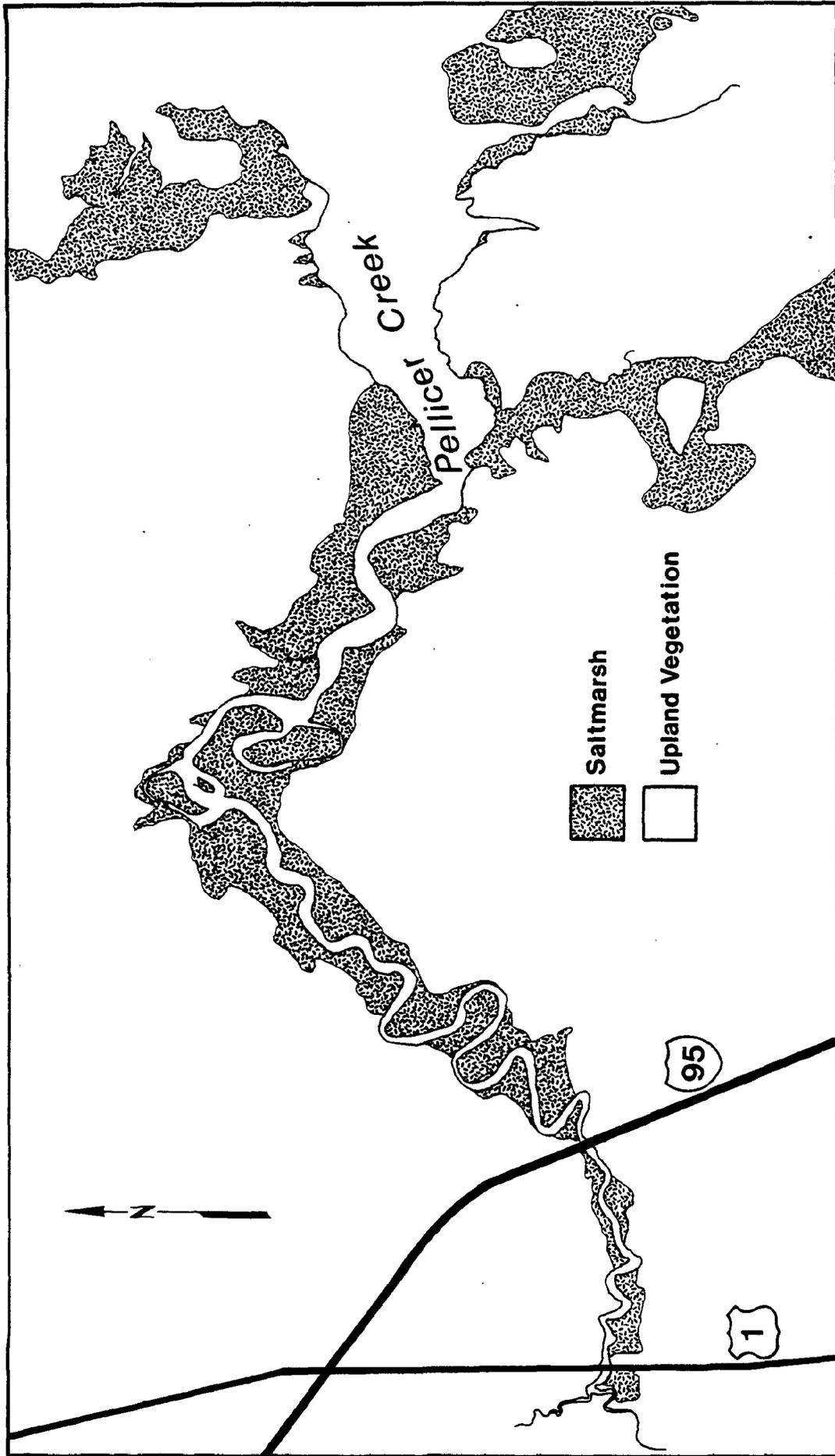
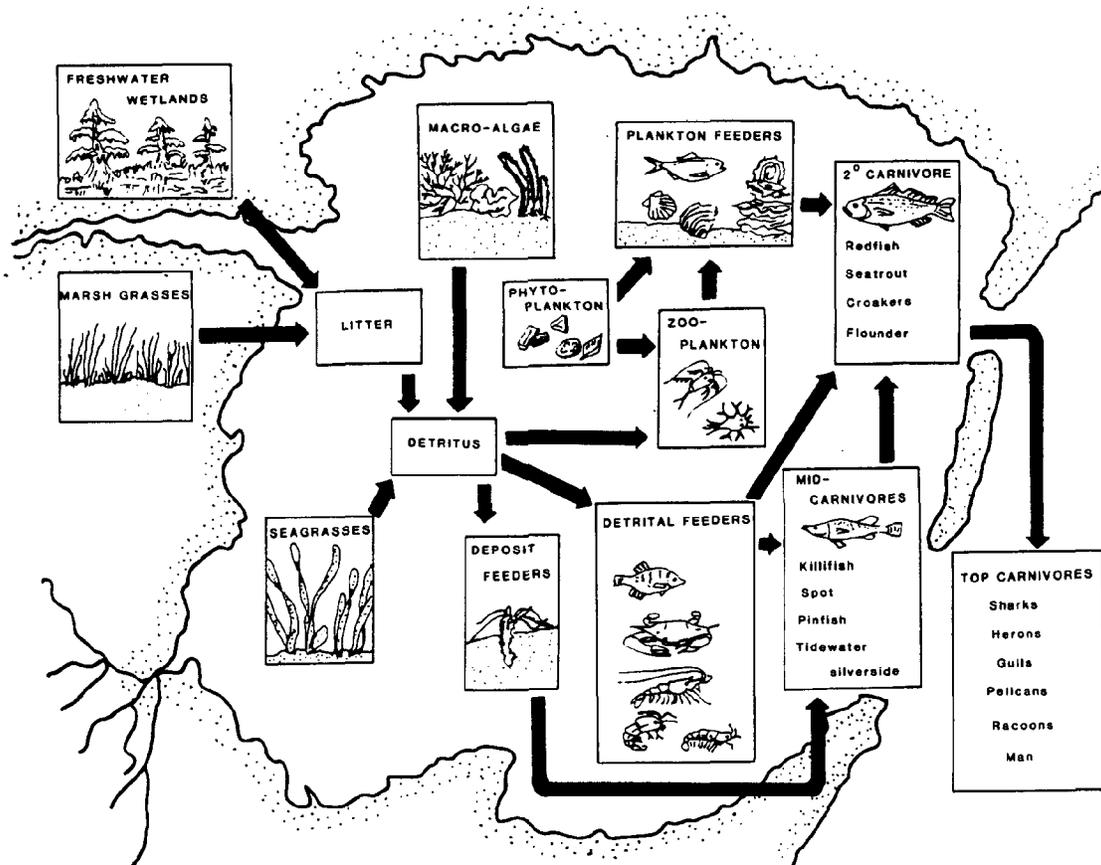


Figure 4 Vegetation Map

Tidal fluctuation is the most important ecological factor in salt marsh communities. The frequency and physical action of tidal flooding attributes to the fragmentation of vegetation and the rate of decomposition. The nutrients, sediments and detritus from the uplands filter into the marsh contributing to this highly productive environment. The changing water levels allow for the cycling of these nutrients and gives marine and estuarine fauna access to the marsh. This exchange or flushing action helps to make salt marshes one of the most biologically productive natural communities in the world, even to the degree of surpassing most intensive agricultural practices.

Decomposing organic matter generated from the salt marsh vegetation provides an essential link in the estuarine - oceanic food cycle. The diagram below illustrates the dynamics of a typical marsh food web and its importance to top carnivores extending outside the salt marsh community



Generalized marsh-estuarine food web (Durako et al., 1985).

A great number of invertebrates and fish, including most of the commercially and recreationally important species such as shrimp, blue crab, oysters, sharks, grouper, snapper and mullet, use salt marshes throughout part or all of their life cycles. The habitat provides ideal protection and an abundant food supply for juvenile and adult fish, birds and invertebrates, forming the perfect "nursery" grounds.

Salt marshes are also extremely important because of their abilities to buffer storms and to filter out pollutants from the water. The dense composition of roots and stems hold the unstabilized soils together, reducing the impact of storm wave surge, protecting shorelines from erosion. The plants, animals and soils filter, absorb, and neutralize many pollutants, such as heavy metals, pesticides, and sewage effluents, before they can reach adjacent marine and estuarine communities. This removal of excess nutrients and pollutants is in a manner analogous to tertiary waste treatment. These are additional factors that make tidal marshes extremely valuable as a natural resource.

The high density of plant stems and roots effectively anchors sediments from upland runoff or from littoral and storm currents. As suspended solids from runoff are restrained, water clarity increases, thereby providing suitable habitat for phytoplankton and submerged vegetation. Decaying marsh plants and transported detritus which are also trapped by the living plants, accumulate to form peat deposits. Together, these accretion processes build land.

Another type of vegetative community found in the preserve, are tidal or mud flats, underlining most of the open estuarine water near the mouth of Pellicer Creek. The tidal flats are usually exposed at low tide, along the creek bank and smaller branches that empty into preserve. This community supports microscopic algae, also referred to as "mud algae", as the main producer and food source to a host of invertebrates. Birds utilize these productive flats not only for feeding, but also for loafing.

#### H. FISH AND WILDLIFE

The wildlife value associated with highly productive salt marsh communities is extremely important. The linking of estuarine with freshwater environments forms a necessary habitat for the feeding and breeding of many species. Ranging from protozoa to mammals, the animal populations are of considerable variety. Some species are restricted to this semiaquatic semiterrestrial habitat, while others can be found in the upland communities surrounding the preserve.

Marsh animals exhibit zonation patterns similar to vegetation, due to habitat preferences. Environmental parameters affecting their distribution and zonation, include salinity, inundation, substrate character, pH, oxygen level, light, humidity, and temperature as well as fire and wind.

The frequency of tidal flooding or proximity to tidally affected waters, as well as the availability of detritus, are two of the principal factors influencing the density of aquatic and intertidal salt marsh organisms. In addition to providing an area of abundant food, the protective qualities of salt marshes provide reproduction and juvenile development habitat for many animal species.

Primary and secondary consumers such as amphipods, fishes, shrimp, crabs, clams, oysters, snails and worms feed on the abundant supply of detritus, plankton, and animal protein that is generated from salt marshes. Various rodents such as the rice rat and cotton mouse, and birds like rails, willets, red-winged blackbirds, seaside sparrows, and marsh wrens, all utilize salt marshes for denning or nesting habitat. Other mammals such as the raccoon, opossum, marsh rabbit, and wading birds like herons, egrets, ibis, and wood storks frequent marsh edges and mud flats primarily to feed.

Partial destruction of ecological communities often breaks up productive wildlife areas into smaller isolated pockets by destroying the vegetation which serves to link these communities together. These linkages or corridors allows for the necessary movement of wildlife that may be vital for specific activities such as breeding, nesting, and feeding. Habitat disturbance and destruction are the major causes for decline and loss of species. With increasing human encroachment and development, pressures will undoubtedly be placed on present wildlife populations.

### **Fish/shellfish**

The salt marsh community provides a crucial habitat, in the form of a nursery area, for many species of juvenile fish and shellfish. Tidal creeks are preferred by many commercially important species such as blue crabs, shrimp, mullet, menhaden, and many other fishes. According to Seaman (1985), at least 75% of Floridas recreational and commercial fishes depend on estuaries for at least part of their life. In Florida, at least 72% of the 89 commercially-landed species of finfish and shellfish and 74% of the 84 recreational species are estuarine-dependent.

Seaman (1985), goes on to say that, penaeid shrimp represent the most economically important fishery in Florida with a 1980 dockside value of \$48,107,789. Utilizing the marsh as a refuge and for feeding activity, the amount of salt marsh

vegetation is directly related to the yeilds of penaeid shrimp. Alterations of freshwater flow have been shown to have an affect on penaeid shrimp, as well as reduced water quality from runoff. Without the filtering virtues of wetlands, shrimp populations would be in jeopardy.

Blue crabs are another important commercial fishery source in Florida, that are found in secondary bays, salt marshes, and areas adjacent to rivers and creeks. As with penaeid shrimp, marshes and their protective qualities also play an essential role in crab production.

Oysters require an environment having low energy waves and fluxuating salinity levels, characteristic of salt marshes. Chemical pollution, high levels of turbidity, or a reduction of freshwater inflow could be detrimental to oyster habitat. The filtering attributes of salt marshes, is essential to the development of oysters.

According to the Department of Natural Resources, 1988 Assessment of Fisheries Habitat: Northeast Florida, the loss or alteration of wetland habitats, resulting from population growth and development, is probably the most important issue affecting coastal fisheries in northeast Florida. The secondary effects of development that act to stabilize the landscape (e.g., dredging, filling, bulkheading, channelization) alters freshwater inflow and increases pollutants, thereby contributing to reduced fisheries production.

#### **Reptiles/Amphibians**

There are a number of both reptiles and amphibians that reside in the uplands surrounding Pellicer Creek, but they do not typically do well in saline environments. However, as salinity decreases further inland, an increase of species would be expected.

Restricted to brackish water, the diamondback terrapin is a possible inhabitant of Pellicer Creeks salt marsh community. Alligators are frequently seen throughout the preserve, while a host of various snake, turtle and frog species occur in the inland wetlands bordering the preserve.

#### **Birds**

As with other wildlife species, birds utilize the Pellicer Creek area extensively for both nesting and feeding activity. Nesting in the adjacent upland habitat, but feeding in the marsh are bald eagles, ospreys, herons and egrets. Rails and pelicans are also supported by the marsh, whereas, waterfowl utilize the area during the winter. During low tide wading

birds commonly utilize the mudflats for feeding and loafing activity.

According to Daiber (1982), management practices such as disking, ditching, grazing and burning of salt marshes alters the water flow and level. Such management practices, can adversely impact certain species of birds and their nesting sites, from the standpoint of species composition, density, and distribution.

#### **Mammals**

A number of small mammals are associated with the fringes of salt marshes. However, none appear unique to salt marshes since all are found in or along fresh water inland marshes, along the borders of ponds, lakes, streams or in the upland areas.

The raccoon, mink, and otter are typical mammalian predators who invade salt marshes searching for voles, shrews, mice, rats, muskrats, nutria, and rabbits. Of these, the muskrat, marsh rabbit, harvest mouse, nutria, and the shrew may be considered marsh animals (Daiber 1982).

Marine mammals such as bottle-nosed dolphin and West Indian manatee occasionally travel the Intracoastal Waterway outside the preserve. Manatees have been seen within the Pellicer Creek Aquatic Preserve by personnel from Faver-Dykes State Park.

#### **I. DESIGNATED SPECIES**

Found in Table 1 are a list of animal species assumed to be found at or in the vicinity of Pellicer Creek. These species have been given legal protection pursuant to the U.S. Fish and Wildlife Service (USFWS) Endangered Species Act of 1973, and/or the Florida game and Fresh Water Fish Commission (FGFWFC) regulations.

Designated species may be classified as endangered, threatened, of special concern, or under review for such listing. Endangered species are those threatened with extinction if the deleterious factors affecting their populations continue. These are species whose numbers have already declined to such a critically low level, or whose habitats have been so seriously reduced or degraded that without active assistance, survival is questionable. Threatened species are those likely to become endangered in the foreseeable future if current trends continue. Species of special concern are those that warrant special attention even though they do not fit the other categories. These species, although perhaps not rare, may be especially vulnerable to

certain types of exploitation or environmental changes and have experienced long term population declines. Species of this designation may also have potential impact on endangered or threatened populations of other species.

TABLE 1  
Designated Wildlife Species  
Likely to Occur In Pellicer Creek Aquatic Preserve

<u>COMMON NAME/SCIENTIFIC NAME</u>	<u>FGWC</u>	<u>USFWS</u>
<b><u>BIRDS:</u></b>		
Brown pelican <u>Pelecanus occidentalis</u>	SSC	
Little blue heron <u>Egretta caerulea</u>	SSC	
Louisiana heron <u>Egretta tricolor</u>	SSC	
Snowy egret <u>Egretta thula</u>	SSC	
Reddish egret <u>Egretta rufescens</u>	SSC	UR2
Limpkin <u>Aramus guarauna</u>	SSC	
American oystercatcher <u>Haematopus palliatus</u>	SSC	
Least tern <u>Sterna antillarum</u>	T	
Bald eagle <u>Haliaeetus leucocephalus</u>	T	E
Wood stork <u>Mycteria americana</u>	E	E

COMMON NAME/SCIENTIFIC NAME	FGFWC	USFWS
-----------------------------	-------	-------

MAMMALS:

West Indian manatee <u>Trichechus manatus</u> <u>latirostris</u>	E	E
--	---	---

REPTILES:

American alligator <u>Alligator mississippiensis</u>	SSC	T(S/A)
---	-----	--------

FISH:

Atlantic sturgeon <u>Acipenser oxyrhynchus</u>	SSC	US2
Common snook <u>Centropomus undecimalis</u>	SSC	

=====

FGFWFC = Florida Game & Fresh Water Fish Commission  
 USFWS = United States Fish & Wildlife Service  
 E = Endangered  
 T = Threatened  
 T(S/A) = Threatened Due to Similarity of Appearance  
 SSC = Species of Special Concern  
 UR1 = Under review for federal listing, with substantial evidence in existence indicating at least some degree of biological vulnerability or threat.  
 UR2 = Under review for federal listing, but substantial evidence of biological vulnerability and/or threat is lacking.

## J. CULTURAL RESOURCES

No known archaeological nor historical sites actually occur within the boundaries of the Pellicer Creek Aquatic Preserve. However, the region provides plentiful resources, mild climate, and sheltered areas that could have provided adequate accommodations for early Indian inhabitants.

In the general vicinity of the creek, on higher ground, are four recorded prehistoric sites. The Rhotan Midden, Rhotan Mound and Pellicer Mound all occur on the north bank of the creek, while the Wadsworth Midden is nearer the Matanzas River on the south side of Pellicer Creek. Very little information exists pertaining to their historical significance, or to their exact locations.

## K. REGIONAL LAND USE, DEVELOPMENT AND ASSOCIATED IMPACTS

### 1. ADJACENT UPLAND USES

The upland properties immediately adjacent to the Pellicer Creek Aquatic Preserve are presently zoned for agriculture, allowing a density of 1 residential unit per 5 acres. These lands are in both state and private ownership (see figure 5). Information from the Flagler County Comprehensive (draft) Plan 1988, indicates that significant timber producing lands (zoned agriculture) generally lie east of U.S. Highway 1.

These adjacent uplands can be broadly categorized into two types, low or no development areas, and low-density residential areas. These divisions are based on existing conditions and do not necessarily reflect county and municipal zoning terminology.

It should be noted that a large area, approximately 1500 acres of adjacent uplands, has been listed for possible purchase through the state's Conservation and Recreational Lands (CARL) program. Unfortunately, this proposal was not included on the 1989 priority list, but is still under consideration.

Low or No Development - A total of five undeveloped or minimally developed tracts of land abut Pellicer Creek. (acreage is approximated).

- a) 673 acres, north of the creek, is owned and managed by the state as Faver-Dykes State Park; providing passive recreation such as camping, boating and fishing.

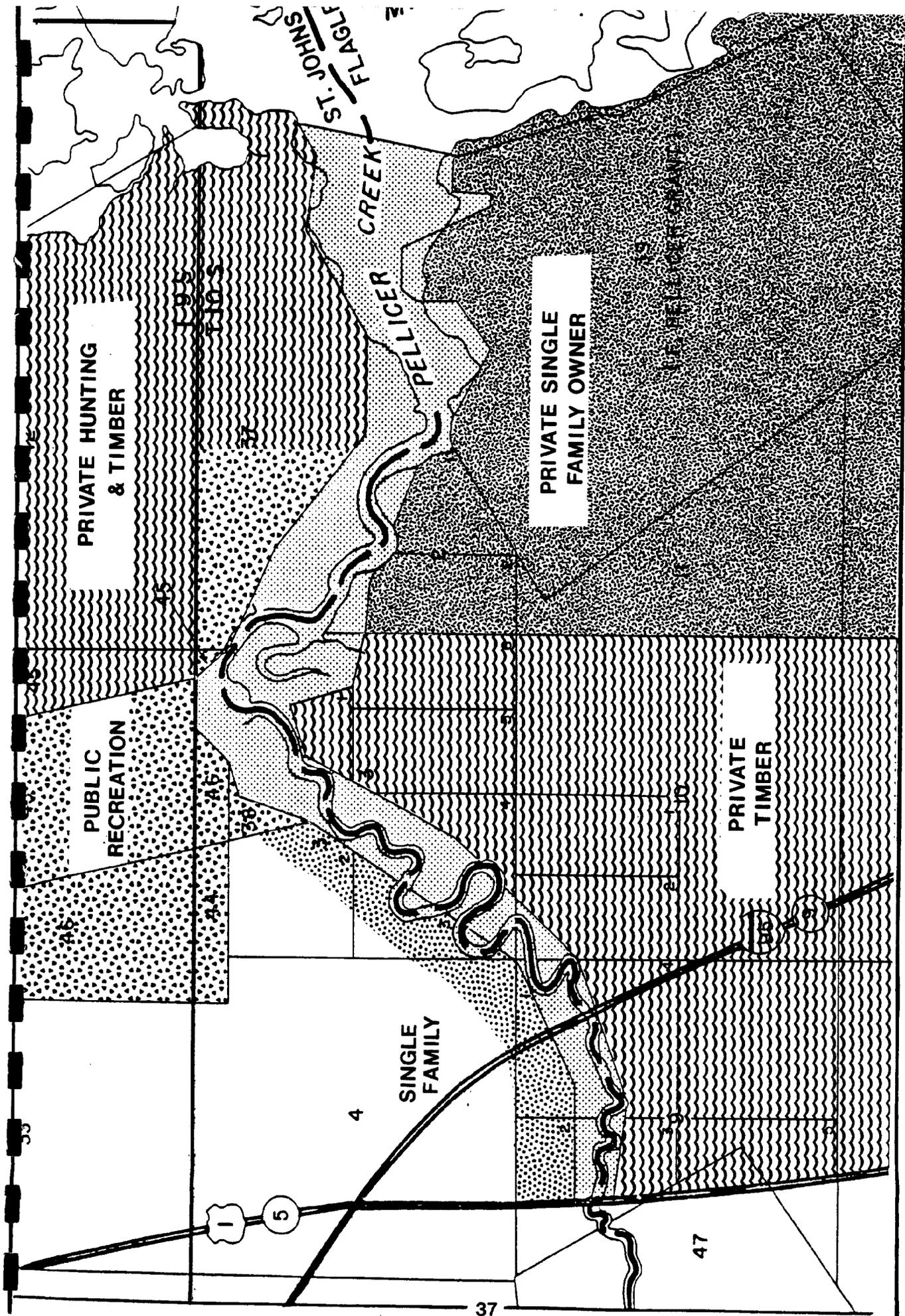


Figure 5 Adjacent land use map

- b) 800 acres, northeast of the creek, is owned by ITT-Rayonier; managed as a hunting preserve and for its timber resources.
- c) northwest of the creek between U.S. Highway 1 and I-95, private property owned by several individuals; currently undeveloped.
- d) 1500 acres, southeast of the creek, formally known as the Wadsworth Estate or Princess Place, is owned by private individual; the property has 3 residence units and several associated structures; the property is believed to be used primarily as a weekend retreat.
- e) south of the creek, another large parcel is owned by ITT-Rayonier and actively managed for timber production; this area is the probable site for the future expansion of the Palm Coast development.

Low - Density Residential - Only one area bordering the preserve falls into this category.

- a) north of the preserve, located between Faver-Dykes State Park and I-95, is a small community represented by single-family homes on lots in the one-to-five acre range; this area has the most potential for additional development in the immediate future.

## 2. USES OF THE PRESERVE

The uses of the Pellicer Creek Aquatic Preserve can be divided into four general categories:

Public/recreation - Pellicer Creek is designated as a state canoe trail, thereby promoting a complimentary form of boating recreation within the preserve. The state park provides easy access to the creek where fishing and crabbing are popular recreational activities. Extremely low tides and exposed mud flats makes the area unsuitable for active sports such as water skiing or swimming. The park provides a boat launching area and fishing dock.

Private - private uses are reflected in the presence of several (less than 12) small, private docks associated with adjacent upland single-family residences.

Public Utilities/transportation - two major roads cross the preserve, Interstate 95 and U.S. Highway 1. Power utility lines also cross over the preserve running parallel with Interstate 95.

### 3. PLANNED USE

According to the Flagler County Comprehensive (Draft) Plan 1988, most of the development activity anticipated by year 2000 will occur within the coastal area of the county. Future land use schemes include the development of Matanzas Shores, located on the coast southeast of the preserve, as well as the continued northerly expansion of the Palm Coast Development, located several miles south of the ITT-Rayonier property. Increase demand for residential communities will cause pressure to further subdivide lands westward from the coastal area.

Unfortunately the most attractive coastal areas for development activities frequently are the most ecologically fragile and are extremely vulnerable to development of any kind. The uplands along the creek would be more suitable to development than the wetland sites. The recreational opportunities coupled with the panoramic views overlooking the scenic salt marsh of the preserve, makes this area particularly vulnerable. Any development of the upland habitat would undoubtedly have some detrimental effect on the aquatic preserve.

Impacts from urban development including the filling of marshes, increased erosion, and alterations such as bulkheading, would have negative effects on the resources. The degradation of water quality from storm water runoff, wastewater effluent, and oil/gas residue from increased boat traffic will also have an impact. Along with the destruction of land and vegetation, many animal species will not adapt to the changes, and may also vanish.

According to the Northeast Florida Regional Planning Council, 75% of Florida's population resides in coastal areas. Northeast Florida's population has increased 21% in the last decade, with a 103% increase in unincorporated areas, compared to only 19% increase in municipalities. Major urban centers in northeast Florida are on bodies of water that are important breeding and nursery areas for fish and shrimp, which support the regions fishing industry.

## CHAPTER IV

### MANAGEMENT AREAS

#### A. INTRODUCTION

This section of the plan divides the Pellicer Creek Aquatic Preserve into 3 different management areas, and outlines the criteria by which activities and structures are to be allowed within each area. The intent is to provide staff direction in managing the preserves natural resources, and to assist the general public in understanding the rationale behind specific restrictions that are imposed on public and/or private uses.

#### 1. DEFINITION

The division of the preserve into different management areas is the focal point of this plan. These management areas are determined by identifying and delineating relatively homogeneous areas of (1) natural resources and (2) adjacent upland uses. By necessity, the delineation of the upland areas is often somewhat broader than is county and municipal zoning, which can be on a scale inappropriate for managing an open aquatic system. The management areas are simply geographic delineations; they do not directly imply any relative degree of management effort. The number of management areas may vary among aquatic preserves, depending on the upland use and resource conditions. Thus, the designation of management areas is considered to be preserve-specific.

#### 2. USE DESIGNATIONS

The combination of the biological and physical parameters within the preserve along with existing or proposed upland activities determines the categories of use designated for each management area. "Public utilities," defined as a means by which the public is served amenities deemed necessary for comfortable, safe living conditions, can be considered as a designated use. The utilities include communication lines, such as telephone and television cables; water lines; and power cables. These cables, pipes, and lines may be subaqueous, embedded into the substrate, or they may be aerially supported by poles or attached to bridges. Public utilities are generally deemed to be in the public interest; therefore, all management areas include public utilities as a designated use. All utilities must conform to rule criteria.

Certain utilities may be prohibited where undeveloped islands are involved. Other designated uses considered under the management areas are as follows:

**Single-Family Use:** This category is defined by single-family residences using the adjacent portion of the aquatic preserve solely for private, recreational activities. Structures built over state-owned land may include private residential single-family docks, fishing piers, shoreline stabilization, and boat ramps, associated with each residence.

**Multi-Family Use:** This designation is defined by more than one private residence using the adjacent portion of the aquatic preserve solely for private, recreational activities. Structures built over state-owned land include private residential multi-slip docks, fishing piers, shoreline stabilization, and boat ramps. The associated residences may include a group of single-family property owners, such as a homeowners' association, that desires to construct any of the above-mentioned structures for the mutual benefit of the group.

**Public Use:** This category includes structures used by the general public at no charge. The exceptions to this are federal, state, county, or municipal parks that charge a nominal fee. Structures associated with this category include single or multi-slip docks, fishing piers, and boat ramps.

These use categories are broad in nature, and while some aquatic preserves may have additional use designations, other preserves may have less. Separate management areas within each preserve may be assigned more than one use.

### **3. MANAGEMENT AREA CRITERIA**

Within a given management area, each designated use is given certain specific criteria that will: (1) allow the structure or activity to occur while minimizing its impact on the biological resources, and (2) provide the riparian owner reasonable ingress and egress.

These criteria take into account site-specific information to provide predictability in any planning effort for projects anticipated to occur within specific management areas; as such, they are intended to apply to any new structures or activities, to any expansion of existing facilities, and to any repair that involves the replacement of pilings. The criteria for each management area may include modifications to structures and lease fee rates that may be stricter or greater than those currently covered by state lands or aquatic preserve general rule. For example, the dimensions of a dock

may be restricted to a smaller size or less square footage, so to lessen the impact on marsh vegetation.

#### 4. RATIONAL FOR SPECIFIC CRITERIA

- a) Docks and fishing piers are permitted only in areas where gaining access to the water body transverses no more than 20' of extending marsh vegetation. This restriction will help to preserve the aesthetic appeal of the marsh from being diminished by docks and piers, as well as, address the biological values of providing a continuum of habitat for wildlife.
- b) Main access docks and fishing piers for private residential multi-slip facilities, will be restricted to 4' in width, but only in areas where the structures transverse directly over marsh vegetation. Extending finger piers will be confined to open water areas only. These restrictions will help to reduce the shading effect on the vegetation and will narrow the path of disturbance caused by the structure.
- c) No docks or fishing piers will be permitted to extend more than 20% of the width of open water body in Pellicer Creek. This restriction will again help to preserve the aesthetic and biological values of the preserve, as well as to curtail obstructions that may impact boating safety.
- d) Any new dredging, for the purpose of obtaining navigable water depths in conjunction with all docking facilities and/or for general navigational purposes, will be prohibited. Pellicer Creek is a pristine and shallow water body with extensive mud flats throughout much of the preserve. These mud flats severely restrict navigation to periods of high tides and in the use of smaller boats. Any dredging that would occur to increase navigation would presumably promote further dredging activity by adjacent landowners. New dredging will damage existing bottom communities, create turbidity, alter salinity levels, and encourage an increase in boating vehicles and their size. Furthermore, the Department of Natural Resources has designated Pellicer Creek as a state Canoe Trail, thereby promoting the use of a more passive, less impacting form of boating. The increase of power boats generated from new dredging would be in severe conflict with canoeing activities.

## **B. MANAGEMENT AREAS**

There are 3 management areas delineated for the Pellicer Creek Aquatic Preserve (figure 6). While the restrictive criteria placed on these management areas still provide for traditional uses of the preserve and the riparian owners right of reasonable ingress and egress, the emphasis on creating new criteria is based on the pristine condition of the preserve and in the promotion of more passive, less impacting uses.

These management areas are not listed in any priority order, but are simply labelled as Management Areas A, B, and C. The following text details these areas from a general east to west direction.

### **1. MANAGEMENT AREA A (MA-A)**

**Description and Delineation:** MA-A represents the largest management area of the preserve, including all adjacent uplands near the mouth of Pellicer Creek, as well as the entire southern boundary of the preserve. This area is characterized by tidal mud flats, oyster shell beds, large expanses of marsh vegetation, and relatively undeveloped upland properties. ITT-Rayonier owns upland property on several parcels north of the creek, and the majority of land bordering the preserve on the south. Land use practices includes management for hunting and timber resources. Private property also includes a large tract of land on the southeast border of the preserve, owned by a single individual and presently used as a residence (formally Wadsworth Estate/Princess Place). While there are no reported plans for development at this time in MA-A, adjoining properties further south (e.g. Palm Coast Development), are experiencing rapid development. This in turn, may cause properties bordering MA-A to, in the future, lend themselves towards single or multi-family uses.

MA-A is defined as all state-owned submerged lands formed by the preserve border on the east, U.S. Highway 1 bordering the southwest corner, ITT-Rayonier and Faver-Dykes State Park boundary line on the northwest corner. The south shoreline border is designated as the MHWL, and the north border extends to the middle of the creek (the county line).

**Designated Uses:** single-family use; multi-family use.

**Specific Criteria:** Proposed structures will comply with criteria outlined for private residential single docks and private residential multi-slip docks, in Section 18-20.004(5)(a)-(c), F.A.C. No commercial activities will be permitted in MA-A.

Additional restrictive criteria on structures and activities are as follows:

- 1) docks and fishing piers are permitted only in areas where gaining access to the water body transverses no more than 20' of extending marsh vegetation.
- 2) main access docks and fishing piers for private residential multi-slip facilities, will be restricted to 4' in width, in areas where the structures transverse directly over marsh vegetation. Extending finger piers will be confined to open water areas only.
- 3) no docks or fishing piers will be permitted to extend more than 20% of the width of open water body in Pellicer Creek.
- 4) any new dredging, in conjunction with docking or navigational purposes, will be prohibited.

**Effect Of Criteria:** The combination of biological, physical, and aesthetic conditions found in MA-A, warrant the above mentioned restrictions. There are only 2 known private residential structures existing in MA-A. The imposition of this additional specific criteria for docking structures, will not result in changes to these structures. However, this criteria will require new structural designs on future docks that may differ from those currently in existence. The additional criteria on dredging will minimize degradation of the preserve in general, and will insure that boating usage be limited to small horsepower engines and canoes. Overall, this criteria will provide for minimal development in a near pristine area, thereby lessening the impact on the resources, and still allowing for private use and access to the water.

If future development of uplands adjacent to MA-A results in single-family or multi-family residential growth, homeowners may obtain access to the water body through private or multi-family slip docking facilities, as provided in this plan and applicable to rule criteria.

## 2. MANAGEMENT AREA B (MA-B)

**Description and Delineation:** This area is relatively undisturbed, both in the aquatic preserve and on the adjacent upland, which is owned and managed by the state as Faver-Dykes State Park. Near shore areas are characterized by large expanses of marsh vegetation coupled with contrasting high bluffs. Land use activities are directed towards passive outdoor recreation available to the public (e.g. camping, picnicking, fishing).

MA-B is defined as all state-owned submerged lands formed on the east by the state park boundary line, and on the west by the state park property line, north to the MHWL and south to the middle of the creek (the county line).

**Designated Uses:** Public use

**Specific Criteria:** Proposed structures will comply with criteria outlined for private residential single-family docks, in Section 18-20.004(5)(a) and (b), F.A.C. No commercial or private residential multi-slip docking facilities are permitted in MA-B.

Additional restrictive criteria on structures and activities are as follows:

- 1) docks and fishing piers are permitted only in areas where gaining access to the water body transverses no more than 20' of extending marsh vegetation.
- 2) no docks or fishing piers will be permitted to extend more than 20% of the width of open water body in Pellicer Creek.
- 3) any new dredging, in conjunction with docking or navigational purposes, will be prohibited.

**Effect of Criteria:** There is only one known structure existing in MA-B (public fishing pier/dock). The imposition of this additional specific criteria for docking structures, will not result in changes to the existing dock. However, this criteria will require new structural designs on future docks that may differ from the present structure. The additional criteria on dredging will minimize degradation of the preserve in general, and will insure that boating usage be limited to small horsepower engines and canoes. Overall, this criteria will contribute to passive recreation and public use of the preserve, and protect the pristine environment.

### 3. MANAGEMENT AREA C (MA-C)

**Description and Delineation:** This area involves the only significant amount of development in the adjacent uplands, with 1 to 5 acre residences. The area is characterized by extending stretches of marsh vegetation and overlooking bluffs, where the majority of existing homes are built.

MA-C is defined as all state-owned submerged lands formed on the east by the state park property line, and on the west by U.S. Highway 1; north to the MHWL and south to the middle of the creek (the county line).

**Designated Uses:** single-family use

**Specific Criteria:** Proposed structures will comply with criteria outlined for private residential single family docks, in Section 18-20.004 (5) (a) and (b), F.A.C. No commercial or private residential multi-slip docking facilities are permitted in MA-C.

Additional restrictive criteria on structures and activities are as follows:

- 1) docks and fishing piers are permitted only in areas where gaining access to the water body transverses no more than 20' of extending marsh vegetation.
- 2) no docks or fishing piers will be permitted to extend more than 20% of the width of open water body in Pellicer Creek.
- 3) any new dredging, in conjunction with docking or navigational purposes, will be prohibited.

**Effect of Criteria:** The combination of biological, physical, and aesthetic conditions found in MA-C, warrant the above mentioned restrictions. There are approximately 10 known private residential structures existing in MA-C. The imposition of this additional specific criteria for docking structures, will not result in changes to these existing structures. However, this criteria will require new structural designs on future docks that may differ from those currently in existence. The additional criteria on dredging will minimize degradation of the preserve in general, and will insure that boating usage be limited to small horsepower engines and canoes. Overall, this criteria will provide for minimal development in a near pristine area, thereby lessening the impact on resources, and still allowing for private use and access to the water.

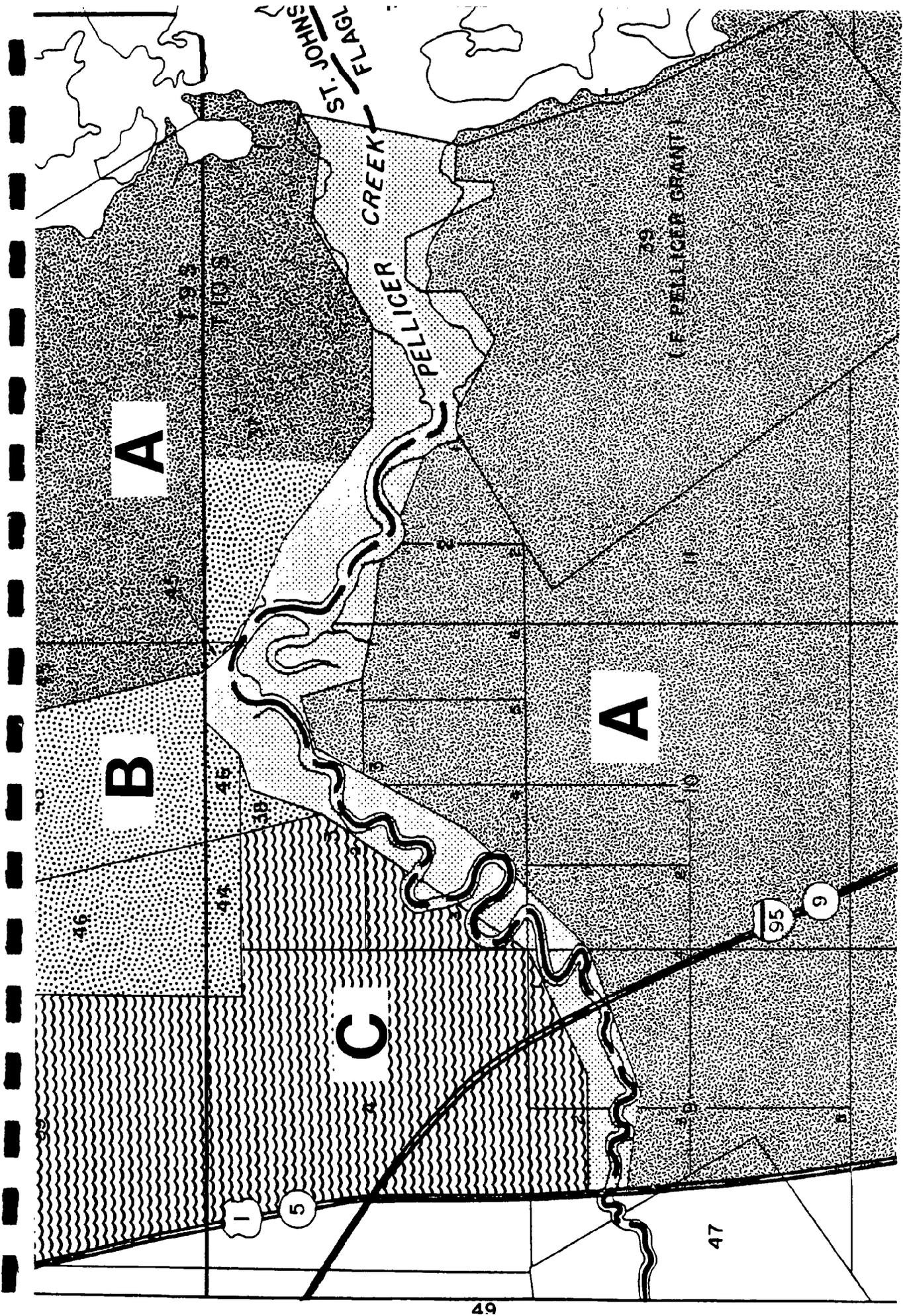


Figure 6 Management Areas Map

## CHAPTER V

### SITE-SPECIFIC RESOURCE MANAGEMENT ISSUES AND NEEDS

The management of the Pellicer Creek Aquatic Preserve and protection of its resources will be enhanced by continually identifying specific management issues and program needs, and then resolving them.

The first part of this chapter deals with a few issues and needs that are presently affecting the biological integrity of the preserve, or which will probably arise as future resource use intensifies. The second part of this chapter establishes policy directives for these issues and future needs. These policy directives are intended to provide additional management guidelines that are not set forth by Chapter 258 F.S., Chapter 18-20 F.A.C., or Chapter IV of this plan.

Overall, limited upland development and low usage of Pellicer Creek has curtailed the amount of human-associated impacts on the preserves natural resources. However, as population increases, demands on these resources will become greater. The development of water front property bordering the preserve is predicted for the future. As homes increase so will the desire to gain access to the navigable creek channel through the building of docks. This increase in human usage and uplands development will most certainly include some vegetation loss from the impact of docks, boats and other structures. Water quality is also expected to degrade resulting from an increase in stormwater runoff and septic effluents, as forested uplands are developed into homes, and similar facilities.

#### A. MANAGEMENT ISSUES AND SPECIAL NEEDS

##### **1. BOAT/AIRBOAT TRAFFIC**

While boating activities are not currently viewed as a problem in Pellicer Creek, potential conflicts between motor boats, canoes, fishermen, and crab traps may develop with increasing public use of the preserve.

Part of Pellicer Creeks appeal is the high marsh vegetation that towers over the narrow, windy creek channel, perpetuating a feeling of isolation and wilderness. However, it also creates a limited view of on coming boat traffic. The aesthetic appeal of the area prompted the Department of Natural Resources to designate Pellicer Creek as a state Canoe

Trail, promoting a passive, low-impact form of recreation. As a result of this designation, several landowners bordering the creek, have shown interest towards renting canoes to the public. As canoeing activities increase possible conflicts may result with power boat activity.

Airboats are known to frequent the preserve, and due to their high noise levels, they can present a negative impact on the wildlife resources and visitor amenities. Airboat activity also tends to cause damage to marsh vegetation, disturbs feeding and nesting wildlife, and a creates a potential hazard to canoeists and other boaters. For these reasons the use of airboats in the preserve is recognized as non-traditional, and their use will be discouraged. Future monitoring of the frequency of airboat use along the preserve, and the resultant impacts, will determine whether further action is needed on this issue. If action is needed, the Trustees, through the central office, will encourage local governments and appropriate law enforcement agencies, to adopt local ordinances and enforcement policies against airboats in the preserve.

All boating activities will be monitored as growth increases to determine additional policy directives, (see policy directives 1-3).

## **2. ACQUISITION OF ADDITIONAL PROPERTY**

The majority of adjacent uplands surrounding Pellicer Creek are privately owned. These lands contain important resources such as archaeological sites, endangered or threatened species habitat, and freshwater wetlands. Efforts should be made to acquire portions of these lands that border the aquatic preserve to form a linking corridor of public lands. This land corridor would help to create a protective buffer for the aquatic resources, prevent the development of sensitive areas, maintain species viability and diversity, and allow the removal of disruptive uses. State ownership through the Conservation and Recreational Lands (CARL) acquisition program, or local government ownership, Flagler County's Environmentally Sensitive Lands acquisition program, of these upland properties would help to ensure compatible management of all associated resources and to limit the possibility of negative impacts on the aquatic preserve, (see policy directive 4).

### **3. STAFFING/RESOURCE DATA/INFORMATION NEEDS**

The implementation of this management plan is heavily dependent on the placement of adequate staffing necessary to obtain data and information about the aquatic preserve. Data needs include compiling a thorough inventory of all preserve resources, and monitoring these resources to document the health of the ecosystem, as well as, to assess the impacts of development and human encroachment. Additional needs such as mapping, ownership information, and the status of water quality, is important to the management of the preserve. Assistance may be obtained from state and federal agencies, and universities conducting research programs, (see policy directives 5-9).

### **4. COMPLIMENTARY MANAGEMENT WITH ADJACENT LAND USES**

As previously mentioned, majority of the adjacent uplands surrounding Pellicer Creek are privately owned. The management practices conducted on these uplands can have a direct and/or indirect impact on the resources within the aquatic preserve. Therefore, the establishment of a cooperative working relationship with major upland landowners (such as ITT-Rayonier), would help to provide a complimentary structure of management practices that would benefit both the uplands and submerged habitats. This same theory could also be applied to the smaller, individual homeowners bordering the creek by establishing a working rapport through the presentation of educational programs, and participation in local meetings involving land use decisions. (see policy directive 10).

### **B. POLICY DIRECTIVES**

The following is a list of suggested policy directives that address additional resource management issues applicable to the Pellicer Creek Aquatic Preserve. Adoption of these policies will provide staff specific directions for addressing those issues not covered directly by statute or rule.

- (1) Promote boating safety by placing caution signs in areas where visibility along creek bends is limited and in shallow areas of the preserve.
- (2) Protect existing salt marsh vegetation by restricting air boats to open water areas of the preserve.

- (3) Encourage the development of local government ordinances that will further restrict air boats usage within the confines of the aquatic preserve as well as other vulnerable or sensitive habitats outside the preserve.
- (4) Encourage acquisition, where feasible, privately owned uplands adjacent and bordering the aquatic preserve, through state or local government land acquisition programs.
- (5) Seek full-time staffing to the preserve as outlined in Chapter VIII of this plan.
- (6) Develop a resource inventory and map natural habitat types within the aquatic preserve.
- (7) Protect, and where possible, enhance habitats of species threatened, endangered, and of special concern within the aquatic preserve.
- (8) Encourage, through the efforts of D.E.R. and the Water Management District, the maintenance and upgrading of the water quality, and ensure the natural seasonal flow of freshwater and tidal fluctuations of saltwater into the preserve.
- (9) Encourage the assistance of federal, state, and local government agencies in implementing the aquatic preserve management plan, especially in areas of protection of natural and cultural resources and the enforcement of applicable resource laws and ordinances.
- (10) Develop a cooperative working relationship with adjacent landowners to develop management criteria conducive to both upland and submerged habitats.

## CHAPTER VI

### MANAGEMENT ACTION PLAN

The objective of this chapter is to establish guidelines that allow for the management and protection of the aquatic preserves natural resources for the benefit of future generations (Section 258.35, F.S.).

Before an effective program can be designed to manage and protect natural resources, it is necessary to recognize the type of resources present, their location, function, and importance. Additional efforts should concentrate on identifying those activities or parameters that affect these resources, either positively or negatively. This information will form the foundation from which action will be initiated to manage and protect these resources. The strategies used in managing an aquatic preserve must consist of a variety of components such as **resource management, resource protection, research, and environmental education.**

In general, the management role of the aquatic preserve program includes:

- \* providing information on the ecological functions and their economic importance.
- \* overseeing activities that affect or could affect the natural resources of preserve.
- \* ensuring that accurate biological and physical information is considered in permit-related issues and planning decisions.
- \* ensuring that all statutes and rules regarding the preserves natural resources are complied with and that violations are enforced by appropriate authorities.
- \* conducting on-site surveys for specific activities.
- \* coordinating with other resource management and enforcement agencies.
- \* educating the public on the inherent values associated with natural resources.
- \* conducting or cooperating with other entities to conduct pertinent research projects.
- \* developing a comprehensive management program that can be periodically updated.

## A. RESOURCE MANAGEMENT

The overall goals of resource management within aquatic preserves are:

- \* conducting and maintaining resource inventories,
- \* assessing the impact of human activities on the resources,
- \* cooperating with other agencies in water quality improvement.

### GOAL A.1: Conduct and Maintain Resource Inventories

Objective A.1.1: To conduct and maintain a resource inventory of submerged and emergent vegetation.

Task A.1.1.1: Conduct a detailed inventory of submerged and emergent vegetation by using LANDSAT imagery, aerial photography and ground-truthing efforts.

Task A.1.1.2: Conduct inventory once every two years.

Objective A.1.2: To conduct an inventory of all animal species, including designated species, and their habitats.

Task A.1.2.1: Conduct an inventory of all animal species, with emphasis on designated species, that feed, roost, loaf, breed, or nest in the preserve, as well as their associated habitats by using data from existing literature and current research studies.

Task A.1.2.2: Conduct inventory once every two years.

### GOAL A.2: Assess the Impact of Human Activities

Objective A.2.1: To inventory and assess the effects of human activities on the natural resources and possible needs for restoration.

Task A.2.1.1: Conduct a survey of all structures and activities in the preserve, to determine the extent and relationship between, human impact and the degradation of the natural resources.

Task A.2.1.2: Conduct inventory once every two years.

**GOAL A.3: Coordinate With Other Agencies To Improve Water Quality**

**Objective A.3.1:** To coordinate with DER and water management districts on improving water quality in the preserve.

**Task A.3.1.1:** Maintain a file, and periodically assess data received from DER on water quality for the preserve. If water quality decline is indicated, consult with DER to determine sources of degradation and evaluate possible actions to improve the water resources.

**B. RESOURCE PROTECTION**

In order to maintain the biological integrity of the aquatic preserve, it is imperative to protect the resources that comprise the system. The primary thrust of resource protection is the protection of the various habitats that make up the preserve. The goals of the aquatic preserve program with regard to resource protection therefore include:

- \* protection of existing submerged and emergent vegetation.
- \* protection of animal species, particularly designated species, and their associated habitats.

**GOAL B.1: Protection of Submerged and Emergent Vegetation**

**Objective B.1.1:** To minimize potential damage to vegetation through the review of applications for use of state-owned land in the aquatic preserve.

**Task B.1.1.1:** Develop a standard format for surveying the biological resources at the project site. The report shall include the following information:

- a) location of the area surveyed, including the majority of the potentially affected area.
- b) assessment of the submerged bottoms and affected shorelines physical and biological features.
- c) the definition of Resource Protection Area (RPA) will be used to determine if significant resources exist within the expected area of impact.

**Task B.1.1.2:** Coordinate with appropriate DNR staff in order to process the field comments in a timely manner.

**Task B.1.1.3:** Coordinate with other appropriate agencies that have regulatory authority for these projects.

**Objective B.1.2:** To ensure that structures and projects that have been built or are occurring have been authorized and are in compliance with authorized conditions.

**Task B.1.2.1:** Report activities that do not appear to have been authorized to the appropriate DNR enforcement agent.

**Task B.1.2.2:** Coordinate with the appropriate DNR staff to receive copies of all letters of consent, easements agreements, lease agreements, and other forms of authorizations.

**Task B.1.2.3:** Report variations from the authorized conditions to the appropriate DNR enforcement agent.

**Task B.1.2.4:** Coordinate with other appropriate agencies that have regulatory authority for these projects.

**Objective B.1.3:** To ensure other human uses of the preserve do not degrade the submergent or emergent vegetation.

**Task B.1.3.1:** Seek to establish local government ordinances that will serve to further protect the vegetative resources.

**GOAL B.2: Protection of Animal Species, Particularly Designated Species, and their Associated Habitats**

**Objective B.2.1:** To comply with Objective C.2.1 through the implementation of Tasks C.2.1.1 and C.2.1.2.

**Objective B.2.2:** To ensure that these habitats are given maximum protection through the permit-review process.

**Task B.2.2.1:** Recommend modifications to proposed projects in order to take into account known habitat of designated species whether that habitat is on the adjacent upland or over state-owned submerged land.

## C. RESEARCH

The effective management of any biological system relies almost entirely on information relating how a system functions. Research is the foundation upon which this information is based. The goals of the research program for the aquatic preserves program is primarily geared towards applied research, rather than toward basic or theoretical research. The goals of the research program are:

- \* to gain a better understanding of what factors are essential to the continued biological integrity of the major habitats within the aquatic preserve,
- \* to gain a better understanding of what factors govern the continued survival and propagation of designated species that use the aquatic preserve for any portion of their life cycle.

### GOAL C.1: Integrity of Major Habitats

Objective C.1.1: To determine the primary factors that affect the survival of species associated with salt marshes and tidal flats.

- Task C.1.1.1: Pursue, information search by examining existing literature and any current research studies.
- Task C.1.1.2: Assess the need for research on the major habitat types within the preserve.
- Task C.1.1.3: Encourage researchers to conduct studies in the preserve that will benefit the overall management of the resources.

### GOAL C.2: Survival and Propagation of Designated Species

Objective C.2.1: To determine which portions of the preserve serve as habitat for designated species.

- Task C.2.1.1: Coordinate with the Game and Fresh Water Fish Commission, the U.S. Fish and Wildlife Service, the Audubon Society, and any other relevant group to determine which designated species use what portion of the aquatic preserve for various aspects of their life cycle.

**Task C.2.1.2:** Establish a system of seasonal monitoring sites to determine the preserves use by designated species, particularly by birds.

**Objective C.2.2:** To determine the patterns and trends in manatee use of the aquatic preserve.

**Task C.2.2.1:** Promote and, whenever feasible, participate in research on the factors that affect the continued survival of manatees.

**Task C.2.2.2:** Coordinate with and, if necessary, lend assistance on a local level to the Division of Marine Resources manatee-related research program.

#### **D. ENVIRONMENTAL EDUCATION**

Unless the public knows the importance and value of a resource, it cannot be expected to use that resource wisely. The integrity of the salt marsh system is a resource that can have both direct and indirect impacts on the public's enjoyment of the aquatic preserve. Without a biologically "healthy" aquatic system, water quality will deteriorate, fisheries will fail due to loss of habitat, and many species of wading birds will disappear. One of the primary aims of the aquatic preserve program, therefore, is to educate the public as to the importance of the factors that affect the integrity of the preserve. The public may include students; waterfront property owners; user groups, such as developers and marine contractors; special interest groups, such as Audubon and boating clubs; and local, regional and state government agencies that are involved in making decisions regarding the aquatic preserve.

The overall goal of the environmental education element is to instruct individuals as to the importance of preserving our natural resources so that they may consider all issues prior to making decisions that affect these resources. In general, the intent of this element is to educate the public and make them responsible users of the preserve.

#### **GOAL D.1: Public Education Toward Wise Resource Use**

**Objective D.1.1:** To establish and conduct environmental educational programs for public and private schools and to provide assistance to other educational centers and organizations.

- Task D.1.1.1:** Notify the county school boards on the aquatic preserves program education efforts and the availability of its staff to assist or provide guidance for educational programs.
- Task D.1.1.2:** Coordinate with and assist local educational centers and other facilities, (such as Marineland and Faver-Dykes State Park), on their interpretive programs.
- Task D.1.1.3:** Provide off-site classroom instruction and field trips to the aquatic preserve, for the schools and any interested parties.
- Task D.1.1.4:** Target educational programs towards audiences that will have the greatest potential impact on aquatic resources (e.g., boating clubs, homeowners associations, developers, etc.).
- Task D.1.1.5:** Conduct or assist in informal seminars, classes, or workshops for public discussion of the current resource management issues, resource utilization, and regulatory activities. Public forums such as these should involve private and public resource users.

**Objective D.1.2:** To produce educational literature and materials that inform the public of the preserves natural resources and the importance of preserving and protecting these resources.

- Task D.1.2.1:** Set up educational display at Faver-Dykes State Park distributing brochures and other educational materials about the preserve.
- Task D.1.2.2:** Maintain and expand a specimen collection of species commonly found in the aquatic preserve. This collection is to be used by public and private schools in their educational programs.
- Task D.1.2.3:** Develop brochures, pamphlets, and/or booklets that describes to the public both the purpose of and activities conducted by aquatic preserve field staff, and also presents general information on the preserve's ecosystem.
- Task D.1.2.4:** Develop at the field office a reference library of material relevant to the areas natural resources.

**Task D.1.2.5:** Submit newspaper articles and radio announcements designed to educate the general public about the ecological functions and economic importance of the natural resources within the preserve. This approach may be the vehicle with which to disseminate the findings of recent research efforts to the public.

**Objective D.1.3:** To provide informal workshops to instruct other environmental educators of the preserves natural resources.

**Task D.1.3.1:** Schedule biannual instructional workshops designed to teach other environmental educators.

**Task D.1.3.2:** Participate in environmental education conferences and seminars to further increase teaching skills, and to become familiar with other education programs.

## CHAPTER VII

### MANAGEMENT COORDINATION NETWORK

This chapter presents a general overview of the various federal, state, regional, and local agencies that regulate or hold any interest in the management or use of the Pellicer Creek Aquatic Preserve. A breakdown of specific jurisdictions is presented in Table 2. One of the goals and objectives of the aquatic preserve program is to coordinate with these agencies to achieve their common goals relevant to aquatic preserve management.

#### A. FEDERAL AGENCIES

A number of federal agencies have property interests, land and wildlife management programs, research activities, construction activities, and regulation programs that deal either directly or indirectly with the aquatic preserves.

##### U.S. Fish and Wildlife Service (USFWS)

Reviews dredge and fill projects, and is charged with the protection and recovery of endangered species and bird rookeries.

##### U.S. Army Corps of Engineers (COE)

Protects navigable waters, reviews dredge and fill projects, abates pollution, maintains water quality, and enhances fish and wildlife.

##### U.S. Geological Survey (USGS)

Performs surveys and research pertaining to topography geology, and the mineral and water resources, and collects and publishes water resources data.

##### U.S. Environmental Protection Agency (EPA)

Responsible for pollution control and abatement, including: air, water, noise, solid waste, toxic waste, and radiation.

##### U.S. Coast Guard (USCG)

Regulates boating safety, operates search and rescue missions; surveillance of narcotics contraband. USCG also regulates construction of bridges, causeways, and aerial utilities that may pose navigation hazards.

##### National Marine Fisheries Service (NMFS)

Under the U.S. Department of Commerce records commercial fish landings, enforces national fishery laws, and protects vital fishery habitats.

TABLE 2

RESPONSIBILITY

AGENCY	Resource Enforcement	Dredge & Fill	Water Quality Protection	Marine Species Management & Protection	Designated Species Management & Protection	Oil Spills	Solid/Hazardous Waste Enforcement	Emergency Management & Response	Land Development & Land Use Planning	Historical/Archaeological Resources	Environmental Education
<b>FEDERAL</b>											
FWS		X		X	X						
COE		X	X	X							
USGS											
EPA							X				
Coast Guard		X				X		X			
NMFS				X	X						
<b>STATE</b>											
DER	X	X	X				X				
DCA					X						
MFC	X			X							
GFWFC		X		X	X			X			
DOT											
DHR										X	
HRS			X								
DNR	X	X		X	X			X		X	X
<b>REGIONAL</b>											
WMDs		X	X								
RPC									X		
<b>LOCAL</b>											
County	X	X			X						X
Municipalities											

In accordance with the federal consistency review process the Bureau of Aquatic Preserves reviews the federal programs and activities as to how they affect the objectives of the aquatic preserve management program. This review is coordinated through the Florida Department of Environmental Regulation's Office of Coastal Management in order to enforce the provisions of the Federal Coastal Zone Management Act of 1972, as amended.

## **B. STATE AGENCIES**

Many state agencies have property interests, land and wildlife management programs, research activities, regulatory authority and construction activities within the preserve. Additionally, DNR administers other programs which may affect the resources and watersheds of the preserve.

### **Department of Natural Resources (DNR)**

The Division of Marine Resources has several programs beneficial to aquatic preserves. The Marine Research Laboratory in St. Petersburg has several projects including resource protection area mapping, a survey of the status of oyster bars, and fishery habitat utilization studies which generate valuable resource management information. They also administer a permitting program for the collection of certain marine species and the use of certain chemicals. The Aquatic Preserve Program receives notification of issuance of permits within the preserve. Marine Resources also conducts a variety of research projects, including those aimed at manatee and marine turtle protection.

The Division of Law Enforcement's Marine Patrol enforces statutes relating to marine resources, fishery management laws, boating safety, vessel titling/registration and illegal narcotics.

The Division of State Lands, in addition to the work related to aquatic preserves, is charged with overseeing uses, sales, leases, or transfers of all state-owned lands. The aquatic preserve staff interact with other staff of State Lands in all transactions concerning submerged lands within the preserve including acquisition of privately titled submerged lands or contiguous uplands important to the integrity of the preserve.

The Division of Resource Management is responsible for the management of aquatic plants, mineral resources, oil and gas exploration, and geologic studies. It also supervises state Navigation Districts and Canal Authority.

The Division of Beach and Shores is responsible for managing erosion control, hurricane protection, coastal flood control, shoreline and offshore rehabilitation, and the regulation of

work and activities likely to affect the physical condition of the beach and shore (Chapter 161, F.S.).

The Division of Recreation and Parks oversees operations at the Faver-Dykes State Park. Since the principle functions of research, education, and resource management are closely compatible with the aquatic preserve and they are co-located, the programs will be closely integrated.

#### Marine Fisheries Commission (MFC)

The Marine Fisheries Commission manages marine life by regulating the harvesting of all marine life except designated species. Their authority covers gear specifications, prohibited gear, bag limits, size limits, species that may not be sold, protected species, closed areas, quality control codes, harvesting seasons, special considerations related to egg-bearing females, and oyster and clam relaying. The MFC is required to make annual recommendations to the Governor and Cabinet regarding marine fisheries research priorities, which can in turn directly influence research efforts and priorities at the preserve.

#### Florida Game and Fresh Water Fish Commission (FGFWFC)

The Florida Game and Fresh Water Fish Commission has several programs directly related to resource management. The Office of Environmental Services (with staff in Tallahassee) reviews projects which may affect local fish and wildlife habitat. FGFWFC is the state coordinator of the Non-Game Wildlife and Endangered Species Program in Florida. The Division of Wildlife is also responsible for designating Critical Wildlife Management Areas to protect designated species. And, the FGFWFC has law enforcement officers working area.

#### Department of Environmental Regulation (DER)

The Department of Environmental Regulation is responsible for regulating air, water, noise, wastewater, stormwater, and hazardous waste pollution through a permitting and certification process. DER also serves as the state contact for the initiation of dredge and fill applications in conjunction with the COE and DNR. The permitting process is a key management tool for the protection of the preserve.

The DER also oversees the Outstanding Florida Waters program and enforces water quality regulations for the State. As an aquatic preserve, Pellicer Creek was automatically designated an Outstanding Florida Water. Through this designation, ambient conditions become the water quality standard for the preserve, thereby providing a legal means of preventing any degradation to the preserve's water quality.

The DER Office of Coastal Management is charged with coordinating activities related to coastal management and reviewing federal actions for consistency with the State

Coastal Management Program. The Office of Coastal Management also awards grants for research and management planning.

**Department of Community Affairs (DCA)**

The Department of Community Affairs reviews Developments of Regional Impact (DRI), designates Areas of Critical State Concern (ACSC), and approves comprehensive plans. The DRIs involve major developments that have impacts on a larger area than is covered by just one county, and they involve a regional review from neighboring local governments and from state agencies. The ACSC program is intended to protect the areas of the state where development has endangered or may endanger resources of regional or statewide significance. Under an ACSC designation, the local governments are required to notify the DCA of any application for a development permit. The entire land development process will require the state's supervision until that local government modifies its land development practices to conform to the ACSC requirements. With regard to comprehensive plans, once local plans have been determined by the regional planning council to be consistent with the regional plan, the DCA reviews them to ensure their consistency with the state comprehensive plan. Two elements that bear most directly on the aquatic preserve program are the Coastal Zone Management Element and the Conservation Element.

**Department of Transportation (DOT)**

The Department of Transportation is involved with aquatic preserves in that they maintain many of the highways, bridges, and causeways that abut and span the preserves.

**Department of State (DHR)**

The Department of State, Division of Historical Resources has responsibility for protecting archaeological and historical sites.

**Department of Health and Rehabilitative Services (HRS)**

The Department of Health and Rehabilitative Services administers septic tank and mosquito control programs at a state level. Proper installation and maintenance of septic tank systems in the watersheds of the preserve is essential to the protection of estuarine water quality.

Although mosquito control serves a useful public function, the effects of pesticides in the waters of the preserve can be a primary concern. DNR staff are involved in the management programs developed by the Florida Coordinating Council on Mosquito Control, and subsequent policy recommendations resulting from this group will be evaluated for their potential effects on the aquatic preserve.

### Executive Office of the Governor

The office of Planning and Budgeting of the Executive Office of the Governor, in conjunction with the DER's Coastal Zone Management Section, is responsible for administering project reviews applicable to Florida's Coastal Management Program Federal Consistency evaluation process. This process includes all projects in the state that involve federal permitting, federal assistance or direct federal activities. Each project must undergo this additional review to determine if the project is consistent with established programs, policies and rules of the state. This includes projects affecting resources in aquatic preserves.

### C. REGIONAL AGENCIES

In addition to state and federal agencies, two regional agencies have a major role in the use and management of the preserve: These organizations conduct activities that are on a broader scale than are those of the local governments, but they are on a smaller scale than the state level. They are the St. Johns River Water Management District and the Northeast Regional Planning Council.

#### St. John River Water Management District (SJRWMD)

The Florida Water Management District administers permitting programs for consumptive water use, management and storage of surface water well drilling and operation, regulation of artificial recharge facilities, and works of the district. This includes withdrawal of water from rivers, streams, and wells. The types of water uses permitted by the SJRWMD which could affect the preserve include irrigation and public water supply. The water management district is also involved in various studies on water supply and management that may be of use to the preserve.

#### Northeast Florida Regional Planning Council (NEFRPC)

The Northeast Florida Regional Planning Council serves as a regional planning body for the local government of St. John and Flagler County. Among its duties are: aids local governments with planning expertise; is the regional representative for the DRI review process; serves as a regional clearinghouse for state and federal projects and programs; conveys information from the local governments to the state and federal levels; assists local governments in getting grant aids; and prepares and administers the Regional Policy Plan.

The DRI review of projects which affect the preserve will be reviewed by both the central office staff and field personnel. DRI's for marinas or subdivisions adjacent to the preserve, and commercial or industrial developments will be reviewed closely for their potential impact on the preserve.

#### D. LOCAL GOVERNMENTS/INTEREST GROUPS

Local governments are the incorporated cities and counties that border the preserve. Flagler County borders Pellicer Creek on the south and St. Johns County forms the boundry on the north. Outside the eastern boundary is the town of Marineland, which is essentially composed of a marine tourist attraction. No other incorporated areas lie adjacent or within the preserve boundaries.

Flagler County's Environmentally Sensitive Land Aquistion Program, owns and manages approximately 1,000 acres in Flagler County. There is currently a proposal to buy 50 acres or more along Pellicer Creek, for recreational activities such as, canoeing, hiking and picnicing.

Field personnel are the liaison with local governments, and they will provide input into modifications of local government policies and practices to insure conformance with the objectives of the aquatic preserve management plan.

#### Relationship to Local Management Plans

Local (municipal and county) governments are required by the Local Government Comprehensive Planning Act of 1975 (Section 163.3161, F.S.), (as amended by Chapter 85-55, Laws of Florida, to the Local Government Comprehensive Planning and Land Development Regulation Act) to have a comprehensive management plan with elements relating to different governmental functions (i.e., housing, physical facilities, conservation, land use, coastal zone protection, etc.). These plans, in effect, are intended to guide the future development of the city or county. Recent statutory amendments require these plans to be updated and for cities and counties to adopt land development regulations and to improve coastal management protection. The coastal management element of the LGCP, along with the land use and conservation elements, establishes long range plans for orderly, and balanced development, with particular attention to the identification and protection of environmental resources in the planning area. Conformance with the criteria, policies, and practices of a local government comprehensive plan is required for all development within the local government jurisdiction.

The intent of the aquatic preserve management program, and this plan, is to guide county governments during their planning process, towards developing local plan criteria and standards that will be consistent with the objectives of the aquatic preserve program. Although, both Flagler and St. Johns County LGCP's are not due for review until early 1990, draft copies of the conservation, and coastal elements have been reviewed. Listed in Appendix B are specific policies from these county plans, which are applicable to the management of the Pellicer Creek Aquatic Preserve.

Private Interest Groups and Public

Effective management of the preserve will be enhanced by continued support from organized groups, associations, and individuals. Citizen support organizations are particularly valuable through the provision of technical, non-technical, and financial assistance. The administrative and field staff will actively solicit the organization of and participation from citizen support organizations at this aquatic preserve.

The relationship of non-governmental entities to the preserve will include the coordination of activities such as scientific research, environmental education, and other activities relating to the protection, management or improved understanding of the preserve. Field staff will be active in communicating with the above groups.

## CHAPTER VIII

### STAFFING AND FISCAL NEEDS

Historically, the aquatic preserves management program has been largely dependent on federal coastal zone grant funds for its operation, and as a result, the funding of both field positions and central office positions has been limited.

In order for the Pellicer Creek Aquatic Preserve to be managed in accordance to the goals, objectives and tasks, set forth in this plan, adequate funding, staffing and equipment is essential. Currently, there is no legislative funding for staffing at the four aquatic preserves located in northeast Florida (Ft. Clinch, Nassau River-St. Johns River Marshes, Guana River, Pellicer Creek). It is anticipated that one field office with at least two full time employees would be able to provide adequate staffing to cover these four preserves. An annual review of the accomplishments of the program relative to the tasks listed in Chapter VI will help to determine if the initial staffing estimate is adequate to meet the legislative intent of the program.

A budget covering projected staff time, equipment, travel and other expenses for this area, which would include Pellicer Creek Aquatic Preserve, is found in Table 3. The budget is required to fulfill the short range needs of the preserve as described in this management plan, and accomplish the Department goal of on-site management for all aquatic preserves by 1991, as expressed in the Agency Functional Plan.

TABLE 3

ANTICIPATED BUDGET FOR THE FIRST TWO YEARS FOR PELLICER CREEK  
AND OTHER LOCALLY ASSOCIATED AQUATIC PRESERVES

<u>SALARY</u>	<u>1st YEAR</u>	<u>2nd YEAR</u>
ES II (with benefits)	\$ 30,874	\$ 32,240
ES I (with benefits)	25,754	26,784
Secretary (with benefits)	15,745	16,375
<u>Subtotal.....</u>	<u>\$ 72,373</u>	<u>\$ 75,399</u>

OPERATING CAPITAL OUTLAY

Vehicle	\$ 15,000
16' Boat/motor/trailer	12,000
Office Equipment	3,500
Computer	2,600
<u>Subtotal.....</u>	<u>\$ 33,100</u>

OPERATING EXPENSES

Office Rent/Gas/Phone	\$ 19,000	\$ 21,000
-----------------------	-----------	-----------

<u>TOTAL COST</u>	<u>\$ 124,473</u>	<u>\$ 96,399</u>
-------------------	-------------------	------------------

## CHAPTER IX

### RESOURCE AND ACTIVITY MONITORING PROGRAM

To ensure that this management plan is effectively implemented, on-site staffing is imperative. The position of a preserve manager will be necessary in order to institute programs targeted at (1) monitoring changes in the natural resources, (2) recording use activities, and (3) tracking progress and accomplishments that are directed at retaining the original integrity and value of the preserve.

#### A. RESOURCE MONITORING

As earlier stated in this report, very little information on the Pellicer Creek Aquatic Preserve or its natural resources has been recorded. Therefore, a complete and thorough inventory of all resources needs to be compiled before an effective monitoring program can be installed.

To monitor changes in the natural resources, a regional geographic information system (GIS) is highly recommended. A GIS is a computer-based system that is used to capture, edit, display, and analyze geographic information. The first GIS programs were developed about 20 years ago to manage large collections of natural resource and environmental information. Since their development, they have been used in other areas such as utilities mapping, inventory management, and land use planning; however, their most important function continues to be natural resource management.

#### B. ACTIVITY MONITORING

As human interaction in and around the aquatic preserve increases, additional pressures are to be expected in the form of recreational and development activities. Monitoring the type of use activities and their compatibility, their frequency of occurrence, as well as proven and expected detrimental effects on the preserves natural resources, will provide a foundation in developing any additional future plan amendments and restrictions aimed at protecting these resources.

#### C. ACCOMPLISHMENTS AND PROGRESS MONITORING

The tracking and reporting of staff accomplishments and progress is vital to a programs success. Sharing this information with other agencies, will help develop a team

approach to problem solving and implementing management strategies.

The compilation of the above monitoring programs will be directed to the central office in Tallahassee in the form of a field office annual report. This information will then go into the development of a state-wide status report on the Aquatic Preserve Management Program focusing on resource deterioration, compatible and non-compatible use activities, and appropriate management strategies.

The field office annual report should detail the following information:

1. The state of the natural environment of the aquatic preserve.
  - a. Through the use of the resource inventories (and wherever feasible the GIS system), document the present status and stability of each resource (e.g., vegetation/species loss or gain).
  - b. Present the number of structures/activities started or completed, breaking them down into:
    - 1) authorized projects (e.g., single-family docks),
    - 2) unauthorized projects, or
    - 3) authorized projects started or completed that did not comply with the original authorization.
2. The status of accomplished/unaccomplished tasks as listed in Chapter VI.
  - a. Each task will be listed, and the activities completed toward that task will be detailed. If the task has not been completed, an explanation will be given. If the explanation was due to insufficient funding/staffing, then this fact will be detailed so that an update of Chapter VIII can be made.

## REFERENCES

Bagur, J.D. 1977. Coastal Marsh Productivity: A Bibliography. U.S. Fish Wildlife Service, Office Biological Services, Washington, D.C. FWS/OBS-77/3. 300pp.

Bermes, B.J., G.W. Leve and G.R. Tarver. 1963. Geology and Ground Water Resources of Flagler, Putnum, and St. Johns Counties, Florida. Report of Investigations No. 32. Florida Geological Survey, Tallahassee. 97pp.

Brown, T. Mark and Joseph M. Schaefer. 1987. Buffer Zones for Water, Wetlands, and Wildlife. Center for Wetland, University of Florida, Gainesville.

Bureau of Archaeological Research. Recorded Historical and Prehistorical Sites and their Distribution. Department of State, Florida.

Comprehensive Land Use Plan. 1978. Palm Coast, Flagler County, Florida.

Conservation and Recreation Lands. 1989. Annual Report of the Conservation and Recreation Lands Program by the Land Acquisition Selection Committee, Liaison Staff, and Division of State Lands. 431pp.

Daiber, C. Franklin. 1982. Animals of the Tidal Marsh. Van Nostrand Reinhold Company, N.Y. 422pp.

Department of Environmental Regulation. 1988. Florida Water Quality Assessment. 305(b) Technical Appendix. 289pp.

Durako, J. Michael, Michael D. Murphy, and Denneth D. Haddad. 1988. Assessment of Fisheries Habitat: Northeast Florida. Florida Marine Research Publication, Number 45. Florida Department of Natural Resources, Bureau of Marine Research, St. Petersburg. 51pp.

Flagler County Planning Department. 1987 & 1988. Draft, Flagler County Comprehensive Plan. Florida.

Florida Department of Natural Resources. 1988. Faver-Dykes State Park, Resource Management Component. 43pp.

Guide to the Natural Communities of Florida, Appendix IV. 1986. Florida Natural Areas Inventory and Division of State Lands, Tallahassee, Florida. 155pp.

Northeast Florida Regional Planning Council. 1982. Regional Development Guide for Northeast Florida. Jacksonville, Florida. 64pp.

National Oceanic and Atmospheric Administration. 1982. Local Climatological Data, Annual summary with comparative data 1982, Jacksonville, Florida. National Oceanic and Atmospheric Administration, Asheville, North Carolina.

Princess Place Project Assessment/Recommendations for Project Design. 1988. Division of State Lands, Department of Natural Resources, Tallahassee, Florida. 9pp.

Readle, E.L. 1983. Soil Survey of St. Johns County, Florida. Soil Conservation Service. U.S. Department of Agriculture. 196pp.

Seaman, Jr. William. 1985. Florida Aquatic Habitat and Fishery Resources. Florida Chapter of American Fisheries Society. Gainesville, Florida. 153pp.

Snell, L.J. and Warren Anderson. 1970. Water Resources of Northeast Florida. Report of Investigation No.54. Florida Department of Natural Resources, Bureau of Geology, Tallahassee. 77pp.

St. Johns Planning Department. 1988. Draft, St. Johns County Comprehensive Plan. Florida.

Twenty six Ecological Communities of Florida. 1987. Soil and Water Conservation Society. Gainesville, Florida. 145pp.

White, A. William. 1970. The Geomorphology of the Florida Peninsula. Geological Bulletin No. 51. Florida Department of Natural Resources, Bureau of Geology. Tallahassee, Florida.

Westlake, D.F. 1965. Comparisons of Plant Productivity. Biol. Rev. 30:385-525.

## APPENDIX A

### Relevant Legislation

(R. 3/87)

18-20.002

V. 9, p. 692-20

#### CHAPTER 18-20 FLORIDA AQUATIC PRESERVES

- 18-20.001 Intent.
- 18-20.002 Boundaries and Scope of the Preserves.
- 18-20.003 Definitions.
- 18-20.004 Management Policies, Standards and Criteria.
- 18-20.005 Uses, Sales, Leases, or Transfer of Interests in Lands, or Materials, Held by the Board. (Repealed)
- 18-20.006 Cumulative Impacts.
- 18-20.007 Protection of Riparian Rights. (Repealed)
- 18-20.008 Inclusion of Lands, Title to Which Is Not Vested in the Board, in a Preserve.
- 18-20.009 Establishment or Expansion of Aquatic Preserves.
- 18-20.010 Exchange of Lands.
- 18-20.011 Gifts of Lands.
- 18-20.012 Protection of Indigenous Life Forms.
- 18-20.013 Development of Resource Inventories and Management Plans for Preserves.
- 18-20.014 Enforcement.
- 18-20.015 Application Form. (Repealed)
- 18-20.016 Coordination with Other Governmental Agencies.
- 18-20.017 Lake Jackson Aquatic Preserve.

*Library References: Riparian rights to navigable waters, I. Henry Dean, 55 Fla. Bar J. 247, 250 (Mar., 1981).*

#### 18-20.001 Intent.

(1) All sovereignty lands within a preserve shall be managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation, including hunting and fishing where deemed appropriate by the board, and the managing agency.

(2) The aquatic preserves which are described in 73-534, Laws of Florida, Sections 258.39, 258.391, 258.392 and 258.393, Florida Statutes, future aquatic preserves established pursuant to general or special acts of the legislature, and in Rule 18-20.002, Florida Administrative Code, were established for the purpose of being preserved in an essentially natural or existing condition so that their aesthetic, biological and scientific values may endure for the enjoyment of future generations.

(3) The preserves shall be administered and managed in accordance with the following goals:

(a) To preserve, protect, and enhance these exceptional areas of sovereignty submerged lands by reasonable regulation of human activity within the preserves through the development and implementation of a comprehensive management program;

(b) To protect and enhance the waters of the preserves so that the public may continue to enjoy the traditional recreational uses of those waters such as swimming, boating, and fishing;

(c) To coordinate with federal, state, and local agencies to aid in carrying out the intent of the Legislature in creating the preserves;

(d) To use applicable federal, state, and local management programs, which are compatible with the intent and provisions of the act and these rules, and to assist in managing the preserves;

(e) To encourage the protection, enhancement or restoration of the biological, aesthetic, or scientific values of the preserves, including but not limited to the modification of existing manmade conditions toward their natural condition, and discourage activities which would degrade the aesthetic, biological, or scientific values, or the quality, or utility of a preserve, when reviewing applications, or when developing and implementing management plans for the preserves;

(f) To preserve, promote, and utilize indigenous life forms and habitats, including but not limited to: sponges, soft coral, hard corals, submerged grasses, mangroves, salt water marshes, fresh water marshes, mud flats, estuarine, aquatic, and marine reptiles, game and non-game fish species, estuarine, aquatic and marine invertebrates, estuarine, aquatic and marine mammals, birds, shellfish and mollusks;

(g) To acquire additional title interests in lands wherever such acquisitions would serve to protect or enhance the biological, aesthetic, or scientific values of the preserves;

(h) To maintain those beneficial hydrologic and biologic functions, the benefits of which accrue to the public at large.

(4) Nothing in these rules shall serve to eliminate or alter the requirements or authority of other governmental agencies, including counties and municipalities, to protect or enhance the preserves provided that such requirements or authority are not inconsistent with the act and this chapter.

*Specific Authority 120.53, 258.43(1) FS. Law Implemented 258.35, 258.36, 258.37, 258.39, 258.393 FS, Chapter 80-280 Laws of Florida. History—New 2-23-81, Amended 8-7-85, Formerly 16Q-20.01, Transferred from 16Q-20.001.*

#### 18-20.002 Boundaries and Scope of the Preserves.

(1) These rules shall only apply to those sovereignty lands within a preserve, title to which is vested in the board, and those other lands for which the board has an appropriate instrument in writing, executed by the owner, authorizing the inclusion of specific lands in an aquatic preserve pursuant to Section 2(2) of Chapter 73-534, Laws of Florida, Sections 258.40(1) and 258.41(5), Florida Statutes, future aquatic preserves established through general or special acts of the legislature, and pursuant to Rule 18-20.008, Florida Administrative Code. Any publicly owned and maintained navigation channel authorized by the United States Congress, or other public works project authorized by the United States Congress, designed to improve or maintain commerce and navigation shall be deemed to be excluded from the

provisions of this chapter, pursuant to Subsection 258.40(2), Florida Statutes. Furthermore, all lands lost by avulsion or by artificially induced erosion shall be deemed excluded from the provisions of this chapter pursuant to Subsection 258.40(3), Florida Statutes.

(2) These rules do not apply to Boca Ciega Bay, Pinellas County or Biscayne Bay Aquatic Preserves.

(3) These rules are promulgated to clarify the responsibilities of the board in carrying out its land management functions as those functions apply within the preserves. Implementation and responsibility for environmental permitting of activities and water quality protection within the preserves are vested in the Department of Environmental Regulation. Since these rules are considered cumulative with other rules, a person planning an activity within the preserves should also consult the other applicable department rules (Chapter 18-21, Florida Administrative Code, for example) as well as the rules of the Department of Environmental Regulation.

(4) These rules shall not affect previous actions of the board concerning the issuance of any easement or lease; or any disclaimer concerning sovereignty lands.

(5) The intent and specific provisions expressed in 18-20.001(e) and (f) apply generally to all existing or future aquatic preserves within the scope of this chapter. Upon completion of a resource inventory and approval of a management plan for a preserve, pursuant to 18-20.013, the type designation and the resource sought to be preserved may be readdressed by the Board.

(6) For the purpose of clarification and interpretation, the legal description set forth as follows do not include any land which is expressly recognized as privately owned upland in a pre-existing recorded mean high water line settlement agreement between the board and a private owner or owners. Provided, however, in those instances wherein a settlement agreement was executed subsequent to the passage of the Florida Coastal Mapping Act, the determination of the mean high water line shall be in accordance with the provisions of such act.

(7) Persons interested in obtaining details of particular preserves should contact the Bureau of State Lands Management, Department of Natural Resources, 3900 Commonwealth Blvd., Tallahassee, FL 32303 (telephone 904-488-2297).

(a) The preserves are described as follows:

1. Fort Clinch State Park Aquatic Preserve, as described in the Official Records of Nassau County in Book 108, pages 343-346, and in Book 111, page 409.

2. Nassau River — St. Johns River Marshes Aquatic Preserve, as described in the Official Records of Duval County in Volume 3183, pages 547-552, and in the Official Records of Nassau County in Book 108, pages 232-237.

3. Pellicer Creek Aquatic Preserve, as described in the Official Records of St. Johns County in Book

181, pages 363-366, and in the Official Records of Flagler County in Book 33, pages 131-134.

4. Tomoka Marsh Aquatic Preserve, as described in the Official Records of Flagler County in Book 33, pages 135-138, and in the Official Records of Volusia County in Book 1244, pages 615-618.

5. Wekiva River Aquatic Preserve, as described in Section 258.39(30), F.S.

6. Mosquito Lagoon Aquatic Preserve, as described in the Official Records of Volusia County in Book 1244, pages 619-623, and in the Official Records of Brevard County in Book 1143, pages 190-194.

7. Banana River Aquatic Preserve, as described in the Official Records of Brevard County in Book 1143, pages 195-198, less those lands dedicated to the U. S. A. prior to the enactment of the act, until such time as the U. S. A. no longer wishes to maintain such lands for the purpose for which they were dedicated, at which time such lands would revert to the board, and be managed as part of the preserve.

8. Indian River — Malabar to Sebastian Aquatic Preserve, as described in the Official Records of Brevard County in Book 1143, pages 199-202, and in the Official Records of Indian River County in Book 368, pages 5-8.

9. Indian River — Vero Beach to Fort Pierce Aquatic Preserve, as described in the Official Records of Indian River County in Book 368, pages 9-12, and in the Official Records of St. Lucie County in Book 187, pages 1083-1086.

10. Jensen Beach to Jupiter Inlet Aquatic Preserve, as described in the Official Records of St. Lucie County in Book 218, pages 2865-2869.

11. North Fork, St. Lucie Aquatic Preserve, as described in the Official Records of Martin County in Book 337, pages 2159-2162, and in the Official Records of St. Lucie County in Book 201, pages 1676-1679.

12. Loxahatchee River — Lake Worth Creek Aquatic Preserve, as described in the Official Records of Martin County in Book 320, pages 193-196, and in the Official Records of Palm Beach County in Volume 1860, pages 806-809.

13. Biscayne Bay — Cape Florida to Monroe County Line Aquatic Preserve, as described in the Official Records of Dade County in Book 7055, pages 852-856, less, however, those lands and waters as described in Section 258.165, F. S., (Biscayne Bay Aquatic Preserve Act of 1974), and those lands and waters within the Biscayne National Park.

14. Lignumvitae Key Aquatic Preserve, as described in the Official Records of Monroe County in Book 502, pages 139-142.

15. Coupon Bight Aquatic Preserve, as described in the Official Records of Monroe County in Book 502, pages 143-146.

16. Cape Romano — Ten Thousand Islands Aquatic Preserve, as described in the Official Records of Collier County in Book 381, pages 298-301.

17. Rookery Bay Aquatic Preserve, as described in Section 258.39(31), F.S.

18. Estero Bay Aquatic Preserve as described in Section 258.39(28), Florida Statutes.

19. Pine Island Sound Aquatic Preserve, as described in the Official Records of Lee County in Book 648, pages 732-736.

20. Matlacha Pass Aquatic Preserve, as described in the Official Records of Lee County in Book 800, pages 725-728.

21. Gasparilla Sound — Charlotte Harbor Aquatic Preserve, as described in Section 258.392, F.S.

22. Cape Haze Aquatic Preserve, as described in Section 258.39(29), F.S.

23. Cockroach Bay Aquatic Preserve, as described in Section 258.391, F.S.

24. St. Martins Marsh Aquatic Preserve, as described in the Official Records of Citrus County in Book 276, pages 238-241.

25. Alligator Harbor Aquatic Preserve, as described in the Official Records of Franklin County in Volume 98, pages 82-85.

26. Apalachicola Bay Aquatic Preserve, as described in the Official Records of Gulf County in Book 46, pages 77-81, and in the Official Records of Franklin County in Volume 98, pages 102-106.

27. St. Joseph Bay Aquatic Preserve, as described in the Official Records of Gulf County in Book 46, pages 73-76.

28. St. Andrews State Park Aquatic Preserve, as described in the Official Records of Bay County in Book 379, pages 547-550.

29. Rocky Bayou State Park Aquatic Preserve, as described in the Official Records of Okaloosa County in Book 593, pages 742-745.

30. Yellow River Marsh Aquatic Preserve, as described in the Official Records of Santa Rosa County in Book 206, pages 568-571.

31. Fort Pickens State Park Aquatic Preserve, as described in the Official Records of Santa Rosa County in Book 220, pages 60-63, in the Official Records of Escambia County in Book 518, pages 659-662, less the lands dedicated to the U. S. A. for the establishment of the Gulf Islands National Seashore prior to the enactment of the act, until such time as the U. S. A. no longer wishes to maintain such lands for the purpose for which they were dedicated, at which time such lands would revert to the board and be managed as part of the preserve.

32. For the purpose of this section the boundaries of the Lake Jackson Aquatic Preserve, shall be the body of water in Leon County known as Lake Jackson in Sections 1, 2, 3, 5, 10, 11 and 14, Township 1 North, Range 1 West and Sections 11, 12, 13, 14, 15, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, and 35, Township 2 North, Range 1 West lying below the ordinary high water line. Such lands shall include the submerged bottom lands and the water column upon such lands, as well as all publicly owned islands, within the boundaries of the preserve. Any privately held upland within the boundaries of the preserve shall be deemed to be excluded therefrom; provided that the Board may

negotiate an arrangement with any such private upland owner by which such land may be included in the preserve.

33. Terra Ceia Aquatic Preserve, as described in Section 258.393, Florida Statutes.

34. Future aquatic preserves established pursuant to general or special acts of the legislature. *Specific Authority 120.53, 258.43(1) F.S. Law Implemented 258.39, 258.391, 258.392, 258.393, 258.40, 258.41, 258.42, 258.43, 258.44, 258.45 F.S. History— New 2-23-81, Amended 8-7-85, Formerly 16Q-20.02, Transferred from 16Q-20.002.*

18-20.003 **Definitions.** When used in these rules, the following words shall have the indicated meaning unless the context clearly indicates otherwise:

(1) "Act" means the provisions of Section 258.35 through 258.46, F.S., the Florida Aquatic Preserve Act.

(2) "Activity" means any project and such other human action within the preserve requiring board approval for the use, sale, lease or transfer of interest in sovereignty lands or materials, or which may require a license from the Department of Environmental Regulation.

(3) "Aesthetic values" means scenic characteristics or amenities of the preserve in its essentially natural state or condition, and the maintenance thereof.

(4) "Applicant" means any person making application for a permit, license, conveyance of an interest in state owned lands or any other necessary form of governmental approval in order to perform an activity within the preserve.

(5) "Beneficial biological functions" means interactions between flora, fauna and physical or chemical attributes of the environment, which provide benefits that accrue to the public at large, including, but not limited to: nutrient, pesticide and heavy metal uptake; sediment retention; nutrient conversion to biomass; nutrient recycling and oxygenation.

(6) "Beneficial hydrological functions" means interactions between flora, fauna and physical geological or geographical attributes of the environment, which provide benefits that accrue to the public at large, including, but not limited to: retardation of storm water flow; storm water retention; and water storage, and periodical release;

(7) "Biological values" means the preservation and promotion of indigenous life forms and habitats including, but not limited to: sponges, soft corals, hard corals, submerged grasses, mangroves, saltwater marshes, fresh water marshes, mud flats, marine, estuarine, and aquatic reptiles, games and non-games fish species, marine, estuarine, and aquatic mammals, marine, estuarine, and aquatic invertebrates, birds and shellfish.

(8) "Board" means the Governor and Cabinet sitting as the Board of Trustees of the Internal Improvement Trust Fund.

(9) "Channel" means a trench, the bottom of which is normally covered entirely by water, with the upper edges of its sides normally below water.

(10) "Commercial, industrial and other revenue generating/income related docks" means docking facilities for an activity which produces income, through rental or any other means, or which serves as an accessory facility to other rental, commercial or industrial operations. It shall include, but not be limited to docking for: marinas, restaurants, hotels, motels, commercial fishing, shipping, boat or ship construction, repair, and sales.

(11) "Department" means the State of Florida Department of Natural Resources, as administrator for the board.

(12) "Division" means the Division of State Lands, which performs all staff duties and functions related to the administration of lands title to which is, or will be, vested in the board, pursuant to section 253.002, F.S.

(13) "Dock" means a fixed or floating structure, including moorings, used for the purpose of berthing buoyant vessels either temporarily or indefinitely.

(14) "Essentially natural condition" means those functions which support the continued existence or encourage the restoration of the diverse population of indigenous life forms and habitats to the extent they existed prior to the significant development adjacent to and within the preserve.

(15) "Extreme hardship" means a significant burden, unique to the applicant and not shared by property owners in the area. Self-imposed circumstances caused to any degree by actions of any person subsequent to the enactment of the Act shall not be construed as an extreme hardship. Extreme hardship under this act shall not be construed to include any hardship which arises in whole or in part from the effect of other federal, state or local laws, ordinances, rules or regulations. The term may be inherent in public projects which are shown to be a public necessity.

(16) "Fill" means materials from any source, deposited by any means onto sovereignty lands, either for the purpose of creating new uplands or for any other purpose, including spoiling of dredged materials. For the purpose of this rule, the placement of pilings or riprap shall not be considered to be filling.

(17) "Lease" means a conveyance of interest in lands, title to which is vested in the board, granted in accordance with specific terms set forth in writing.

(18) "Marina" means a small craft harbor complex used primarily for recreation.

(19) "Oil and gas transportation facilities" means those structures necessary for the movement of oil and gas from the production site to the consumer.

(20) "Person" means individuals, minors, partnerships, corporations, joint ventures, estates, trusts, syndicates, fiduciaries, firms, and all other associations and combinations, whether public or private, including governmental entities.

(21) "Pier" means a structure in, on, or over sovereignty lands, which is used by the public primarily for fishing, swimming, or viewing the preserve. A pier shall not include a dock.

(22) "Preserve" means any and all of those areas which are exceptional areas of sovereignty lands and the associated water body so designated in Section 258.39, 258.391, and 258.392, F.S., including all sovereignty lands, title to which is vested in the board, and such other lands as the board may acquire or approve for inclusion, and the water column over such lands, which have been set aside to be maintained in an essentially natural or existing condition of indigenous flora and fauna and their supporting habitat and the natural scenic qualities and amenities thereof.

(23) "Private residential single dock" means a dock which is used for private, recreational or leisure purposes for a single family residence, cottage or other such single dwelling unit and which is designed to moor no more than two boats.

(24) "Private residential multi-slip dock" means a docking facility which is used for private recreational or leisure purposes for multi-unit residential dwellings which shall include but is not limited to condominiums, townhouses, subdivisions and other such dwellings or residential areas and which is designed to moor three or more boats. Yacht clubs associated with residential developments, whose memberships or utilization of the docking facility requires some real property interest in the residential area, shall also be included.

(25) "Public interest" means demonstrable environmental, social, and economic benefits which would accrue to the public at large as a result of a proposed action, and which would clearly exceed all demonstrable environmental, social, and economic costs of the proposed action. In determining the public interest in a request for use, sale, lease, or transfer of interest in sovereignty lands or severance of materials from sovereignty lands, the board shall consider the ultimate project and purpose to be served by said use, sale, lease, or transfer of lands or materials.

(26) "Public navigation project" means a project primarily for the purpose of navigation which is authorized and funded by the United States Congress or by port authorities as defined by Section 315.02(2), F.S.

(27) "Public necessity" means the works or improvements required for the protection of the health and safety of the public, consistent with the Act and these rules, for which no other reasonable alternative exists.

(28) "Public utilities" means those services, provided by persons regulated by the Public Service Commission, or which are provided by rural cooperatives, municipalities, or other governmental agencies, including electricity, telephone, public water and wastewater services, and structures necessary for the provision of these services.

(29) "Quality of the preserve" means the degree of the biological, aesthetic and scientific values of the preserve necessary for present and future enjoyment of it in an essentially natural condition.

(30) "Resource management agreement" means a contractual agreement between the board and one

or more parties which does not create an interest in real property but merely authorizes conduct of certain management activities on lands held by the board.

(31) "Resource Protection Area (RPA) 1" — Areas within the aquatic preserves which have resources of the highest quality and condition for that area. These resources may include, but are not limited to corals; marine grassbeds; mangrove swamps; salt-water marsh; oyster bars; archaeological and historical sites; endangered or threatened species habitat; and, colonial water bird nesting sites.

(32) "Resource Protection Area 2" — Areas within the aquatic preserves which are in transition with either declining resource protection area 1 resources or new pioneering resources within resource protection area 3.

(33) "Resource Protection Area 3" — Areas within the aquatic preserve that are characterized by the absence of any significant natural resource attributes.

(34) "Riparian rights" means those rights incident to lands bordering upon navigable waters, as recognized by the courts of this state and common law.

(35) "Sale" means a conveyance of interest in lands, by the board, for consideration.

(36) "Scientific values" means the preservation and promotion of certain qualities or features which have scientific significance.

(37) "Shore protection structure" means a type of coastal construction designed to minimize the rate of erosion. Coastal construction includes any work or activity which is likely to have a material physical effect on existing coastal conditions or natural shore processes.

(38) "Sovereignty lands" means those lands including, but not limited to: tidal lands, islands, sandbars, shallow banks, and lands waterward of the ordinary or mean highwater line, to which the State of Florida acquired title on March 3, 1845, by virtue of statehood, and of which it has not since divested its title interest. For the purposes of this rule sovereignty lands shall include all submerged lands within the boundaries of the preserve, title to which is held by the board.

(39) "Spoil" means materials dredged from sovereignty lands which are redeposited or discarded by any means, onto either sovereignty lands or uplands.

(40) "Transfer" means the act of the board by which any interest in lands, including easements, other than sale or lease, is conveyed.

(41) "Utility of the preserve" means fitness of the preserve for the present and future enjoyment of its biological, aesthetic and scientific values, in an essentially natural condition.

(42) "Water dependent activity" means an activity which can only be conducted on, in, over, or adjacent to, water areas because the activity requires direct access to the water body or sovereignty lands for transportation, recreation, energy production or transmission, or source of

water and where the use of the water or sovereignty lands is an integral part of the activity.

*Specific Authority 258.43(1) FS. Law Implemented 258.37, 258.43(1) FS. History—New 2-25-81. Amended 8-7-85. Formerly 16Q-20.03. Transferred from 16Q-20.003.*

**18-20.004 Management Policies, Standards and Criteria.** The following management policies, standards and criteria are supplemental to Chapter 18-21, Florida Administrative Code (Sovereignty Submerged Lands Management) and shall be utilized in determining whether to approve, approve with conditions or modifications or deny all requests for activities on sovereignty lands in aquatic preserves.

(1) **GENERAL PROPRIETARY**

(a) In determining whether to approve or deny any request the Board will evaluate each on a case-by-case basis and weigh any factors relevant under Chapter 253 and/or 258, Florida Statutes. The Board, acting as Trustees for all state-owned lands, reserves the right to approve, modify or reject any proposal.

(b) There shall be no further sale, lease or transfer of sovereignty lands except when such sale, lease or transfer is in the public interest (see Section 18-20.004(2) Public Interest Assessment Criteria).

(c) There shall be no construction of seawalls waterward of the mean or ordinary high water line, or filling waterward of the mean or ordinary high water line except in the case of public road and bridge projects where no reasonable alternative exists.

(d) There shall, in no case, be any dredging waterward of the mean or ordinary high water line for the sole or primary purpose of providing fill for any area landward of the mean or ordinary high water line.

(e) A lease, easement or consent of use may be authorized only for the following activities:

1. a public navigation project;
2. maintenance of an existing navigational channel;
3. installation or maintenance of approved navigational aids;
4. creation or maintenance of a commercial/industrial dock, pier or a marina;
5. creation or maintenance of private docks for reasonable ingress and egress of riparian owners;
6. minimum dredging for navigation channels attendant to docking facilities;
7. creation or maintenance of a shore protection structure;
8. installation or maintenance of oil and gas transportation facilities;
9. creation, maintenance, replacement or expansion of facilities required for the provision of public utilities; and
10. other activities which are a public necessity or which are necessary to enhance the quality or utility of the preserve and which are consistent with the act and this chapter.

(f) For activities listed in paragraphs 18-20.004(1)(e)1.—10. above, the activity shall be

designed so that the structure or structures to be built in, on or over sovereignty lands are limited to structures necessary to conduct water dependent activities.

(g) For activities listed in paragraphs 18-20.004(1)(e)7., 8., 9. and 10. above, it must be demonstrated that no other reasonable alternative exists which would allow the proposed activity to be constructed or undertaken outside the preserve.

(h) The use of state-owned lands for the purpose of providing private or public road access to islands where such access did not previously exist shall be prohibited. The use of state-owned lands for the purpose of providing private or public water supply to islands where such water supply did not previously exist shall be prohibited.

(i) Except for public navigation projects and maintenance dredging for existing channels and basins, any areas dredged to improve or create navigational access shall be incorporated into the preempted area of any required lease or be subject to the payment of a negotiated private easement fee.

(j) Private residential multi-slip docking facilities shall require a lease.

(k) Aquaculture and beach renourishment activities which comply with the standards of this rule chapter and Chapter 18-21, Florida Administrative Code, may be approved by the board, but only subsequent to a formal finding of compatibility with the purposes of Chapter 258, Florida Statutes, and this rule chapter.

(l) Other uses of the preserve, or human activity within the preserve, although not originally contemplated, may be approved by the board, but only subsequent to a formal finding of compatibility with the purposes of Chapter 258, Florida Statutes, and this rule chapter.

#### (2) PUBLIC INTEREST ASSESSMENT CRITERIA

In evaluating requests for the sale, lease or transfer of interest, a balancing test will be utilized to determine whether the social, economic and/or environmental benefits clearly exceed the costs.

##### (a) GENERAL BENEFIT/COST CRITERIA:

1. any benefits that are balanced against the costs of a particular project shall be related to the affected aquatic preserve;

2. in evaluating the benefits and costs of each request, specific consideration and weight shall be given to the quality and nature of the specific aquatic preserve. Projects in the less developed, more pristine aquatic preserves such as Apalachicola Bay shall be subject to a higher standard than the more developed urban aquatic preserves such as Boca Ciega Bay; and,

3. for projects in aquatic preserves with adopted management plans, consistency with the management plan will be weighed heavily when determining whether the project is in the public interest.

##### (b) BENEFIT CATEGORIES:

1. public access (public boat ramps, boatslips, etc.);

2. provide boating and marina services (repair, pumpout, etc.);

3. improve and enhance public health, safety, welfare, and law enforcement;

4. improved public land management;

5. improve and enhance public navigation;

6. improve and enhance water quality;

7. enhancement/restoration of natural habitat and functions; and

8. improve/protect endangered/threatened/unique species.

##### (c) COSTS:

1. reduced/degraded water quality;

2. reduced/degraded natural habitat and function;

3. destruction, harm or harassment of endangered or threatened species and habitat;

4. preemption of public use;

5. increasing navigational hazards and congestion;

6. reduced/degraded aesthetics; and

7. adverse cumulative impacts.

##### (d) EXAMPLES OF SPECIFIC BENEFITS:

1. donation of land, conservation easements, restrictive covenants or other title interests in or contiguous to the aquatic preserve which will protect or enhance the aquatic preserve;

2. providing access or facilities for public land management activities;

3. providing public access easements and/or facilities, such as beach access, boat ramps, etc.;

4. restoration/enhancement of altered habitat or natural functions, such as conversion of vertical bulkheads to riprap and/or vegetation for shoreline stabilization or re-establishment of shoreline or submerged vegetation;

5. improving fishery habitat through the establishment of artificial reefs or other such projects, where appropriate;

6. providing sewage pumpout facilities where normally not required, in particular, facilities open to the general public;

7. improvements to water quality such as removal of toxic sediments, increased flushing and circulation, etc.;

8. providing upland dry storage as an alternative to weislip; and

9. marking navigation channels to avoid disruption of shallow water habitats.

##### (3) RESOURCE MANAGEMENT

(a) All proposed activities in aquatic preserves having management plans adopted by the Board must demonstrate that such activities are consistent with the management plan.

(b) No drilling of oil, gas or other such wells shall be allowed.

(c) Utility cables, pipes and other such structures shall be constructed and located in a manner that will cause minimal disturbance to submerged land resources such as oyster bars and submerged grass beds and do not interfere with traditional public uses.

(d) Spoil disposal within the preserves shall be strongly discouraged and may be approved only

structures shall be constructed and located in a manner that will cause minimal disturbance to submerged land resources such as oyster bars and submerged grass beds and do not interfere with traditional public uses.

(d) Spoil disposal within the preserves shall be strongly discouraged and may be approved only where the applicant has demonstrated that there is no other reasonable alternative and that activity may be beneficial to, or at a minimum, not harmful to the quality and utility of the preserve.

#### (4) RIPARIAN RIGHTS

(a) None of the provisions of this rule shall be implemented in a manner that would unreasonably infringe upon the traditional, common law and statutory riparian rights of upland riparian property owners adjacent to sovereignty lands.

(b) The evaluation and determination of the reasonable riparian rights of ingress and egress for private, residential multi-slip docks shall be based upon the number of linear feet of riparian shoreline.

(c) For the purposes of this rule, a private, residential, single docking facility which meets all the requirements of Rule 18-20.004(5) shall be deemed to meet the public interest requirements of Rule 18-20.004(1)(b), Florida Administrative Code. However, the applicants for such docking facilities must apply for such consent and must meet all of the requirements and standards of this rule chapter.

#### (5) STANDARDS AND CRITERIA FOR DOCKING FACILITIES

(a) All docking facilities, whether for a single or multi-slip residential or commercial, shall be subject to the following standards and criteria:

1. no dock shall extend waterward of the mean or ordinary high water line more than 500 feet or 20 percent of the width of the waterbody at that particular location whichever is less;

2. certain docks may fall within areas of special or unique importance. These areas may be of significant biological, scientific, historic and/or aesthetic value and require special management considerations. Modifications may be more restrictive than the normally accepted criteria. Such modifications shall be determined on a case-by-case analysis, and may include, but shall not be limited to changes in location, configuration, length, width and height;

3. the number, lengths, drafts and types of vessels allowed to utilize the proposed facility may also be stipulated; and

4. where local governments have more stringent standards and criteria for docking facilities, the more stringent standards for the protection and enhancement of the aquatic preserve shall prevail.

(b) Private residential single docks shall conform to the following specific design standards and criteria:

1. any main access dock shall be limited to a maximum width of four (4) feet;

2. the dock decking design and construction will insure maximum light penetration, with full consideration of safety and practicality;

3. the dock will extend out from the shoreline no further than to a maximum depth of minus four (- 4) feet (mean low water);

4. when the water depth is minus four (- 4) feet (mean low water) at an existing bulkhead the maximum dock length from the bulkhead shall be 25 feet, subject to modifications accommodating shoreline vegetation overhang;

5. wave break devices, when necessary, shall be designed to allow for maximum water circulation and shall be built in such a manner as to be part of the dock structure;

6. terminal platform size shall be no more than 160 square feet; and

7. dredging to obtain navigable water depths in conjunction with private residential, single dock applications is strongly discouraged.

(c) Private residential multi-slip docks shall conform to the following specific design standards and criteria:

1. the area of sovereignty, submerged land preempted by the docking facility shall not exceed the square footage amounting to ten times the riparian waterfront footage of the affected waterbody of the applicant, or the square footage attendant to providing a single dock in accordance with the criteria for private residential single docks, whichever is greater. A conservation easement or other such use restriction acceptable to the Board must be placed on the riparian shoreline, used for the calculation of the 10:1 threshold, to conserve and protect shoreline resources and subordinate/waive any further riparian rights of ingress and egress for additional docking facilities;

2. docking facilities and access channels shall be prohibited in Resource Protection Area 1 or 2, except as allowed pursuant to Section 258.42(3)(c)1., Florida Statutes, while dredging in Resource Protection Area 3 shall be strongly discouraged;

3. docking facilities shall only be approved in locations having adequate existing water depths in the boat mooring, turning basin, access channels, and other such areas which will accommodate the proposed boat use in order to insure that a minimum of one foot clearance is provided between the deepest draft of a vessel and the bottom at mean low water;

4. main access docks and connecting or cross walks shall not exceed six (6) feet in width;

5. terminal platforms shall not exceed eight (8) feet in width;

6. finger piers shall not exceed three (3) feet in width, and 25 feet in length;

7. pilings may be utilized as required to provide adequate mooring capabilities; and

8. the following provisions of Rule 18-20.004(5)(d) shall also apply to private residential multi-slip docks.

(d) Commercial, industrial and other revenue generating/income related docking facilities shall conform to the following specific design standards and criteria:

1. docking facilities shall only be located in or near areas with good circulation, flushing and adequate water depths;

2. docking facilities and access channels shall be prohibited in Resource Protection Area 1 or 2, except as allowed pursuant to Sections 258.42(3)(e)1., Florida Statutes; while dredging in Resource Protection Area 3 shall be strongly discouraged;

3. the docking facilities shall not be located in Resource Protection Area 1 or 2; however, main access docks may be allowed to pass through Resource Protection Area 1 or 2, that are located along the shoreline, to reach an acceptable Resource Protection Area 3, provided that such crossing will generate minimal environmental impact;

4. beginning July 1, 1986 new docking facilities may obtain a lease only where the local governments have an adopted marina plan and/or policies dealing with the siting of commercial/industrial and private, residential, multi-slip docking facilities in their local government comprehensive plan;

5. the siting of the docking facilities shall also take into account the access of the boat traffic to avoid marine grassbeds or other aquatic resources in the surrounding areas;

6. the siting of new facilities within the preserve shall be secondary to the expansions of existing facilities within the preserve when such expansion is consistent with the other standards;

7. the location of new facilities and expansion of existing facilities shall consider the use of upland dry storage as an alternative to multiple wet-slip docking;

8. marina siting will be coordinated with local governments to insure consistency with all local plans and ordinances;

9. marinas shall not be sited within state designated manatee sanctuaries; and

10. in any areas with known manatee concentrations, manatee warning/notice and/or speed limit signs shall be erected at the marina and/or ingress and egress channels, according to Florida Marine Patrol specifications.

(e) Exceptions to the standards and criteria listed in Rule 18-20.004(5), Florida Administrative Code, may be considered, but only upon demonstration by the applicant that such exceptions are necessary to insure reasonable riparian ingress and egress.

(6) MANAGEMENT AGREEMENTS

The board may enter into management agreements with local agencies for the administration and enforcement of standards and criteria for private residential single docks.

(7) In addition to the policies, standards and criteria delineated in subsections (1) through (6), the provisions of the following management plans apply to specific aquatic preserves and are incorporated herein by reference. Where regulatory criteria in 18-20, F. A. C., may differ with specific policies in the management plans listed herein, the general rule criteria shall prevail.

	Date Adopted
Alligator Harbor	September 23, 1986
Banana River	September 17, 1985

Cockroach Bay	April 21, 1987
Estero Bay	September 6, 1983
Charlotte Harbor (Cape Haze, Gasparilla Sound-Charlotte Harbor, Matlacha Pass and Pine Island Sound)	May 18, 1983
Indian River-Malabar to Vero Beach	January 21, 1986
Indian River Lagoon (Vero Beach to Fort Pierce and Jensen Beach to Jupiter Inlet)	January 22, 1985
Loxahatchee River-Lake Worth Creek	June 12, 1984
Nassau River-St. Johns River Marshes and Fort Clinch State Park	April 22, 1986
North Fork of the St. Lucie River	May 22, 1984
St. Joseph Bay	June 2, 1987
St. Martins Marsh	September 9, 1987
Terra Ceia	April 21, 1987
Wekiva River	August 25, 1987
<i>Specific Authority 258.43(1) FS. Law Implemented 258.41, 258.42, 258.43(1), 258.44 FS. History—New 2-25-81, Amended 8-7-85, Formerly 16Q-20.004, Transferred from 16Q-20.004, Amended 9-4-88.</i>	

18-20.005 Uses, Sales, Leases, or Transfer of Interests in Lands, or Materials, Held by the Board.

*Specific Authority 258.43(1) FS. Law Implemented 253.02, 253.12, 258.42 FS. History—New 2-25-81, Repealed 8-7-85, Formerly 16Q-20.05, Transferred from 16Q-20.005.*

18-20.006 Cumulative Impacts. In evaluating applications for activities within the preserves or which may impact the preserves, the department recognizes that, while a particular alteration of the preserve may constitute a minor change, the cumulative effect of numerous such changes often results in major impairments to the resources of the preserve. Therefore, the department shall evaluate a particular site for which the activity is proposed with the recognition that the activity may, in conjunction with other activities adversely affect the preserve which is part of a complete and interrelated system. The impact of a proposed activity shall be considered in light of its cumulative impact on the preserve's natural system. The department shall include as a part of its evaluation of an activity:

(1) The number and extent of similar human actions within the preserve which have previously affected or are likely to affect the preserve, whether considered by the department under its current authority or which existed prior to or since the enactment of the Act; and

(2) The similar activities within the preserve

which are currently under consideration by the department; and

(3) Direct and indirect effects upon the preserve and adjacent preserves, if applicable, which may reasonably be expected to result from the activity; and

(4) The extent to which the activity is consistent with management plans for the preserve, when developed; and

(5) The extent to which the activity is permissible within the preserve in accordance with comprehensive plans adopted by affected local governments, pursuant to section 163.3161, F.S., and other applicable plans adopted by local, state, and federal governmental agencies;

(6) The extent to which the loss of beneficial hydrologic and biologic functions would adversely impact the quality or utility of the preserve; and

(7) The extent to which mitigation measures may compensate for adverse impacts.

*Specific Authority 258.43(1) FS. Law Implemented 258.36, 258.43, 258.44 FS. History—New 2-25-81, Formerly 16Q-20.06, Transferred from 16Q-20.006.*

#### 18-20.007 Protection of Riparian Rights.

*Specific Authority 258.43(1) FS. Law Implemented 258.123, 258.124(8), 258.44 FS. History—New 2-25-81, Repealed 6-7-85, Formerly 16Q-20.07, Transferred from 16Q-20.007.*

#### 18-20.008 Inclusion of Lands, Title to Which Is Not Vested in the Board, in a Preserve.

(1) Lands and water bottoms which are within designated aquatic preserve boundaries, or adjacent thereto and which are owned by other governmental agencies, may be included in an aquatic preserve upon specific authorization for inclusion by an appropriate instrument in writing executed by the agency.

(2) Lands and water bottoms which are within designated aquatic preserve boundaries or adjacent thereto, and which are in private ownership, may be included in an aquatic preserve upon specific authorization for inclusion by an appropriate instrument in writing executed by the owner.

(3) The appropriate instrument shall be either a dedication in perpetuity, or a lease. Such lease shall contain the following conditions:

(a) The term of the lease shall be for a minimum period of ten years.

(b) The board shall have the power and duty to enforce the provisions of each lease agreement, and shall additionally have the power to terminate any lease if the termination is in the best interest of the aquatic preserve system, and shall have the power to include such lands in any agreement for management of such lands.

(c) The board shall pay no more than \$1 per year for any such lease.

*Specific Authority 258.43(1) FS. Law Implemented 258.40, 258.41 FS. History—New 2-25-81, Formerly 16Q-20.08, Transferred from 16Q-20.008.*

#### 18-20.009 Establishment or Expansion of Aquatic Preserves.

(1) The board may expand existing preserves or establish additional areas to be included in the

aquatic preserve system, subject to confirmation by the legislature.

(2) The board may, after public notice and public hearing in the county or counties in which the proposed expanded or new preserve is to be located, adopt a resolution formally setting aside such areas to be included in the system.

(3) The resolution setting aside an aquatic preserve area shall include:

(a) A legal description of the area to be included. A map depicting the legal description shall also be attached.

(b) The designation of the type of aquatic preserve.

(c) A general statement of what is sought to be preserved.

(d) A statement that the area established as a preserve shall be subject to the management criteria and directives of this chapter.

(e) A directive to develop a natural resource inventory and a management plan for the area being established as an aquatic preserve.

(4) Within 30 days of the designation and establishment of an aquatic preserve, the board shall record in the public records of the county or counties in which the preserve is located a legal description of the preserve.

*Specific Authority 258.43(1) FS. Law Implemented 258.41 FS. History—New 2-25-81, Formerly 16Q-20.09, Transferred from 16Q-20.009.*

**18-20.010 Exchange of Lands.** The board in its discretion may exchange lands for the benefit of the preserve, provided that:

(1) In no case shall an exchange result in any land or water area being withdrawn from the preserve; and

(2) Exchanges shall be in the public interest and shall maintain or enhance the quality or utility of the preserve.

*Specific Authority 258.43(1) FS. Law Implemented 258.41(5), 258.42(1) FS. History—New 2-25-81, Formerly 16A-20.10, Transferred from 16Q-20.010.*

**18-20.011 Gifts of Lands.** The board in its discretion may accept any gifts of lands or interests in lands within or contiguous to the preserve to maintain or enhance the quality and utility of the preserve.

*Specific Authority 258.43(1) FS. Law Implemented 258.42(5) FS. History—New 2-25-81, Formerly 16Q-20.11, Transferred from 16Q-20.011.*

**18-20.012 Protection of Indigenous Life Forms.** The taking of indigenous life forms for sale or commercial use is prohibited, except that this prohibition shall not extend to the commercial taking of fin fish, crustacea or mollusks, except as prohibited under applicable laws, rules or regulations. Members of the public may exercise their rights to fish, so long as not contrary to other statutory and regulatory provisions controlling such activities.

*Specific Authority 258.43(1) FS. Law Implemented 258.43(1) FS. History—New 2-25-81, Formerly 16Q-20.12, Transferred from 16Q-20.012.*

**18-20.013 Development of Resource Inventories and Management Plans for Preserves.**

(1) The board authorizes and directs the division to develop a resource inventory and management plan for each preserve.

(2) The division may perform the work to develop the inventories and plans, or may enter into agreements with other persons to perform the work. In either case, all work performed shall be subject to board approval.

*Specific Authority 258.43(1) FS. Law Implemented 253.03(7), 253.03(8) FS. History—New 2-25-81, Amended 8-7-85, Formerly 16Q-20.13, Transferred from 16Q-20.013.*

**18-20.014 Enforcement.** The rules shall be enforced as provided in Section 258.46.

*Specific Authority 258.43(1) FS. Law Implemented 258.46 FS. History—New 2-25-81, Formerly 16Q-20.14, Transferred from 16Q-20.014.*

**18-20.015 Application Form.**

*Specific Authority 253.43(1) FS. Law Implemented 258.43 FS. History—New 2-25-81, Repealed 8-7-85, Formerly 16Q-20.15, Transferred from 16Q-20.015.*

**18-20.016 Coordination with Other Governmental Agencies.** Where a Department of Environmental Regulation permit is required for activities on sovereignty lands the department will coordinate with the Department of Environmental Regulation to obtain a copy of the joint Department of Army/Florida Department of Environmental Regulation permit application and the biological survey. The information contained in the joint permit application and biological assessment shall be considered by the department in preparing its staff recommendations to the board. The board may also consider the reports of other governmental agencies that have related management or permitting responsibilities regarding the proposed activity.

*Specific Authority 253.43(1) FS. Law Implemented 258.43 FS. History—New 2-25-81, Formerly 16Q-20.16, Transferred from 16Q-20.016.*

**18-20.017 Lake Jackson Aquatic Preserve.** In addition to the provisions of Rules 18-20.001 through 18-20.016, the following requirements shall also apply to all proposed activities within the Lake Jackson Aquatic Preserve. If any provisions of this Rule are in conflict with any provisions of Rules 18-20.001 through 18-20.016 or Chapter 73-534, Laws of Florida, the stronger provision for the protection or enhancement of the aquatic preserve shall prevail.

(1) No further sale, transfer or lease of sovereignty lands in the preserve shall be approved or consummated by the Board, except upon a showing of extreme hardship on the part of the applicant or when the board shall determine such sale, transfer or lease to be in the public interest.

(2) No further dredging or filling of sovereignty lands of the preserve shall be approved or tolerated by the Board of Trustees except:

(a) Such minimum dredging and spoiling as may be authorized for public navigation projects or for preservation of the lake according to the expressed intent of Chapter 73-534, Laws of Florida; and

(b) Such other alteration of physical conditions as may be necessary to enhance the quality or utility of the preserve.

(3) There shall be no drilling of wells, excavation for shell or minerals, and no erection of structures (other than docks), within the preserve, unless such activity is associated with activity authorized by Chapter 73-534, Laws of Florida.

(4) The Board shall not approve the relocations of bulkhead lines within the preserve.

(5) Notwithstanding other provisions of this act, the board may, respecting lands lying within the Lake Jackson basin:

(a) Enter into agreements for and establish lines delineating sovereignty and privately owned lands;

(b) Enter into agreements for the exchange and exchange sovereignty lands for privately owned lands;

(c) Accept gifts of land within or contiguous to the preserve.

*Specific Authority 258.39(26) FS. Law Implemented 258.39(26), 258.43 FS. History—New 8-7-85, Formerly 16Q-20.017, Transferred from 16Q-20.017.*

## APPENDIX B

### Local Government Comprehensive Plans Applicable Policies

#### **St. Johns County**

##### Coastal Element:

- (6.04.04) Marinas shall be located in areas where minimum dredging and maintenance would be required.
- (6.05.01) County will .... implement recommendations to increase and maintain water quality at the designated standards for the appropriate water body classification.
- (6.05.02) County will monitor and participate.....in permitting activities....which may impact the quality of the coastal area.
- (6.05.03) County will restrict development proposals which could adversely impact the quality of the coastal area...
- (6.05.05) County will actively pursue the protection and enhancement of water quality for wildlife, fishing, shellfishing....
- (6.05.06) Docks and piers shall not obstruct or alter natural water flow or restrict navigation.
- (6.05.07) Assure that new development does not interfere or restrict water from entering wetlands or estuaries to maintain normal biological productivity.
- (6.05.08) Development orders shall be designed to protect the type, nature, function of floodplains, wetlands, estuaries,...by limiting encroachment, removal of native vegetation, pollution....
- (6.05.09) Development shall be designed and constructed to minimize stormwater and pollutant discharge.
- (6.05.11) Marinas that cater to live-aboard craft shall be equipped with sewage pump-out and collection systems....
- (6.06.01) Construction of canals and manmade waterways shall not be approved by county until all federal and state permits have been acquired.
- (6.06.02) All approved dredge/fill activities shall be conducted to minimize adverse impacts on ecosystems, water quality,.....
- (6.06.03) All dredge spoil material shall be placed on suitable disposal sites approved by all agencies with jurisdiction.
- (6.06.04) Approved best management practices shall be used before, during and after construction to reduce siltation and erosion.
- (6.06.05) Seawalls and other shoreline modifications shall be set at or landward of, the MHW line.
- (6.07.01) Infrastructure shall be planned and designed to be compatible with adjacent land uses....do not promote development which may be hazardous or located in sensitive areas.

(6.07.03) Roads, pipelines, public utilities shall preserve coastal marshes, wetland and surface water....

#### **St. Johns County**

##### **Conservation Element**

(7.01.09) Residents using septic tanks system shall be required to tie into public sewer systems once that system becomes available.

(7.02.01) County shall map conservation/preservation areas.... on Future Land Use Plan for identifying conservation areas and corridors.

(7.02.02) Develop guidelines for regulation of open space tree protection, scenic corridors and wildlife habitat.

(7.02.03) Encourage Planned Unit Developments....to preserve large continuous areas of wetlands and other environmentally sensitive communities.

(7.02.04) Illegal wetland development will be reported, and required to be restored and/or mitigated.

(7.02.05) Stormwater management systems will be used....to enhance hydrologic conditions of stressed or impacted wetlands.

(7.02.06) Dredge and fill activities shall be reviewed by appropriate agencies to assure impacts are minimized.

(7.02.07) Adequate buffers will be maintained between development and preservation/conservation areas.

(7.03.02) Septic tanks shall be prohibited where soils are unsuitable....

(7.04.02) Stormwater systems shall ensure adequate retention/detention of stormwater runoff to maintain surface water quality, to ensure percolation and reduce adverse impacts to drainage canals, surface water and groundwater.

(7.05.01) County will inventory unique coastal and upland systems and other environmentally significant lands for inclusion in state land purchase programs, giving priority to undisturbed sensitive lands.

(7.05.02) County should encourage the acquisition and/or preservation of environmentally sensitive lands....to assure their conservation and protection....

(7.05.03) Special land use requirements shall be established for preservation and conservation areas to limit any adverse impacts.

(7.05.04) Consideration will be given to the transfer of development rights as a method of acquiring natural lands from private developers.

(7.06.01) Marinas and ports shall not be located.....in manatee-designated sanctuaries....

(7.06.04) Developments proposed adjacent to "outstanding Florida Waters", sanctuaries, refuges, preserves,....shall be environmentally compatible....

(7.06.05) County and private landowners should cooperate to retain significant habitats for native wildlife and vegetation....and if disturbed, the habitat will be relocated....

(7.06.06) County will assist other state agencies to develop wildlife corridor plan, linking public lands....

(7.06.07) County will support efforts to identify significant transportation routes, breeding grounds, and foraging areas of the manatee....and promote educational programs to protect these habitats.

(7.06.09) County should encourage agricultural and silviculture communities to incorporate wildlife corridors in the management of their lands.

### **Flagler County**

#### **Conservation Element:**

(2-1) County shall cooperate with DER and SJRWMD's programs for testing surface water.

(2-2) County shall cooperate with SJRWMD's in its surface water improvement and management program.

(2-3) County shall adopt and implement....a comprehensive stormwater management ordinance....

(3-2) County shall identify and recommend to the state and SJRWMD, environmentally sensitive lands that warrant acquisition under CARL or SOR program.

(4-1) County shall strive to control or prohibit where necessary dredge and fill of wetlands....

(4-2) County shall amend, adopt, and implement.... land development regulations to ensure....

(4-3) County shall cooperate with DER, DNR, SJRWMD, COE, to improve compliance with dredge and fill state permitting process.

(7-1) County shall consider topographic, hydrologic, and vegetative cover factors in site plan review process of proposed developments.

(9-1) County shall maintain a comprehensive inventory of ecological communities which shall include species, habitat conditions, occurrences and disturbances; and shall recommend acquisition through CARL and SOR programs....

(9-2) County shall amend and adopt....land development regulations which include provisions to protect the ecological communities....

(9-4) County shall assist in the application of and compliance with all state and federal regulations which pertain to endangered and rare species.

(9-5) County shall consult with the FGFWFC where development, or permitting activities will affect endangered or rare species.

(9-6) County may establish a program with private landowners to use good management practices to protect endangered and rare species' most desirable habitats.

(9-7) County shall protect habitat of viable populations of threatened, endangered, or species of special concern of plants or animals by use of such available measures....

(9-8) County shall assist DNR and FGFWFC in developing an education program to promote the preservation of endangered and rare species.

Additional elements that are applicable to aquatic preserve management, (e.g. land use element), were not available at the time this management plan was prepared. It should also be noted that these are **draft** policy statements for both Flagler and St. Johns counties and are subject to change, based on reviews from various state agencies.

NOAA COASTAL SERVICES CTR LIBRARY



3 6668 14111391 2

