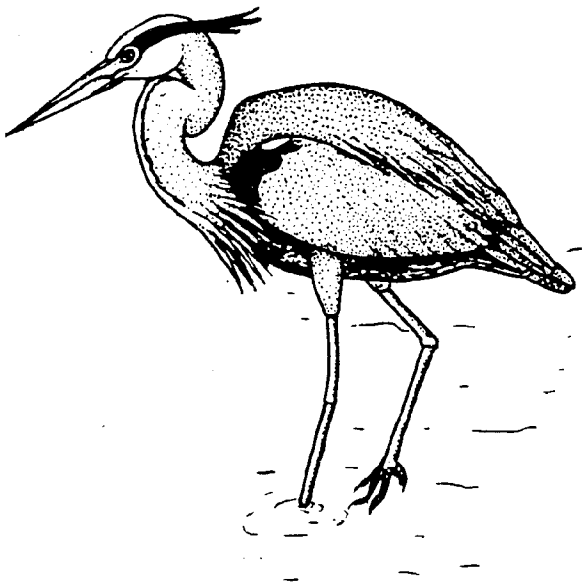
# MOSQUITO LAGOON

## AQUATIC PRESERVE MANAGEMENT PLAN



1990



DEPARTMENT OF NATURAL RESOURCES

# MOSQUITO LAGOON

# AQUATIC PRESERVE MANAGEMENT PLAN

(DRAFT)

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Executive Director

Department of Natural Resources

This plan was prepared by
the Bureau of Submerged Lands and Preserves
Division of State Lands





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Copies of the legal description of the Yellow River Marsh 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 Submerged Lands and Preserves
Department of Natural Resources
3900 Commonwealth Blvd.
Mail Box 125
Tallahassee, FL 32399-3000

# CHAPTER I

## INTRODUCTION

The Mosquito Lagoon Aquatic Preserve is located in southern Volusia and northern Brevard Counties and represents one of the 42 aquatic preserves in Florida (Figure 1). This preserve was designated by the Florida Legislature in 1970 for the purpose of maintaining Mosquito Lagoon in an essentially natural condition. The preserve is approximately 36,000 acres in size and includes only the sovereignty submerged lands located below the ordinary highwater line. The preserve is 28 miles long extending from the southern end of the lagoon north to the south city limits of New Smynra Beach (Figure's 2 & 3).

The Mosquito Lagoon system represents one of the state's most pristine waterbodies. Thousands of acres of shallow seagrass beds, mangrove-covered islands and shorelines, with intermittent oyster bars, sand bars, and natural channels characterize the diversity of natural habitats found in the area. A wide variety of fish and wildlife species flourish in this preserve.

This management plan is only one of many steps that will be necessary to maintain the area in its natural condition. It is intended primarily to serve as a useful guide to the manager and others in maintaining the natural integrity of the preserve. As more information is learned about this preserve management strategies outlined in this plan will be modified.

The process of developing this management plan involved collecting an inventory of resource information, coordinating with other plans that have been developed for the area, and identifying resource problems and management issues relating to the present and future uses of the preserve and adjacent uplands. Supporting policies were developed to be consistent with statutory authority and the overall intent of the Aquatic Preserve Program for ensuring that the submerged land resources of the lagoon remain for future generations to enjoy.

Fourteen management plans, covering 21 of the 42 aquatic preserves in the state, have been adopted by reference into the existing aquatic preserves rule (Chapter 18-20, Florida Administrative Code). This management plan will be subsequently incorporated into rule following its approval by the Board of Trustees of the Internal Improvement Trust Fund. As such, the special criteria in this plan pertaining to use of submerged lands will carry the same authority as current rule criteria.

Because of the presence of environmentally productive habitats described in Chapter III, this plan will involve emphasis on maintenance and enhancement of existing natural conditions. This effort will entail an approach that relies heavily on resource inventories. Initially, the development of this inventory will depend on LANDSAT satellite imagery, aerial photography, county land use elements, and existing literature (e.g., scientific and historical data).

Specifically, this plan is divided into chapters according to their management application:

Chapter II cites the statutory authorities upon which this resource management program and plan are built.

Chapter III provides a description of the Mosquito Lagoon Aquatic Preserve and details the physical and biological components of the preserve as well as any cultural resources.

Chapter IV provides information on the current and future uses of this preserve and use of the adjacent uplands.

Chapter V delineates various management areas within the preserve. These areas are defined by taking into account the biological resources, the physical parameters, and the aesthetic values with consideration for upland use and potential impacts on the submerged resources. Specific restrictive criteria are developed for each area, along with their effects and rational.

Chapter VI discusses specific needs and issues particular to the Mosquito Lagoon Aquatic Preserve. Management initiatives have been developed in addressing each need and/or issue.

Chapter VII outlines site-specific goals, objectives, and tasks required to meet the management needs of the preserve for resource management, resource protection, research, and environmental education.

Chapter VIII identifies local, regional, state, and federal agencies, their authorities and programs, and how they relate to and assist in the protection and management of this preserve. It also identifies non-governmental organizations, interest groups, and individuals that can assist in management.

Chapter IX projects future staffing and fiscal needs necessary for providing effective management and protection of the preserve, as well as supporting research and environmental education.

Chapter X outlines a monitoring program for recording and reporting resource changes, and establishes a tracking system for detailing the progress and accomplishments in resource management.

This plan was written by staff of the Department of Natural Resources, Division of State Lands, Bureau of Submerged Lands and Preserves.


Figure 1 All Aquatic Preserves in Florida

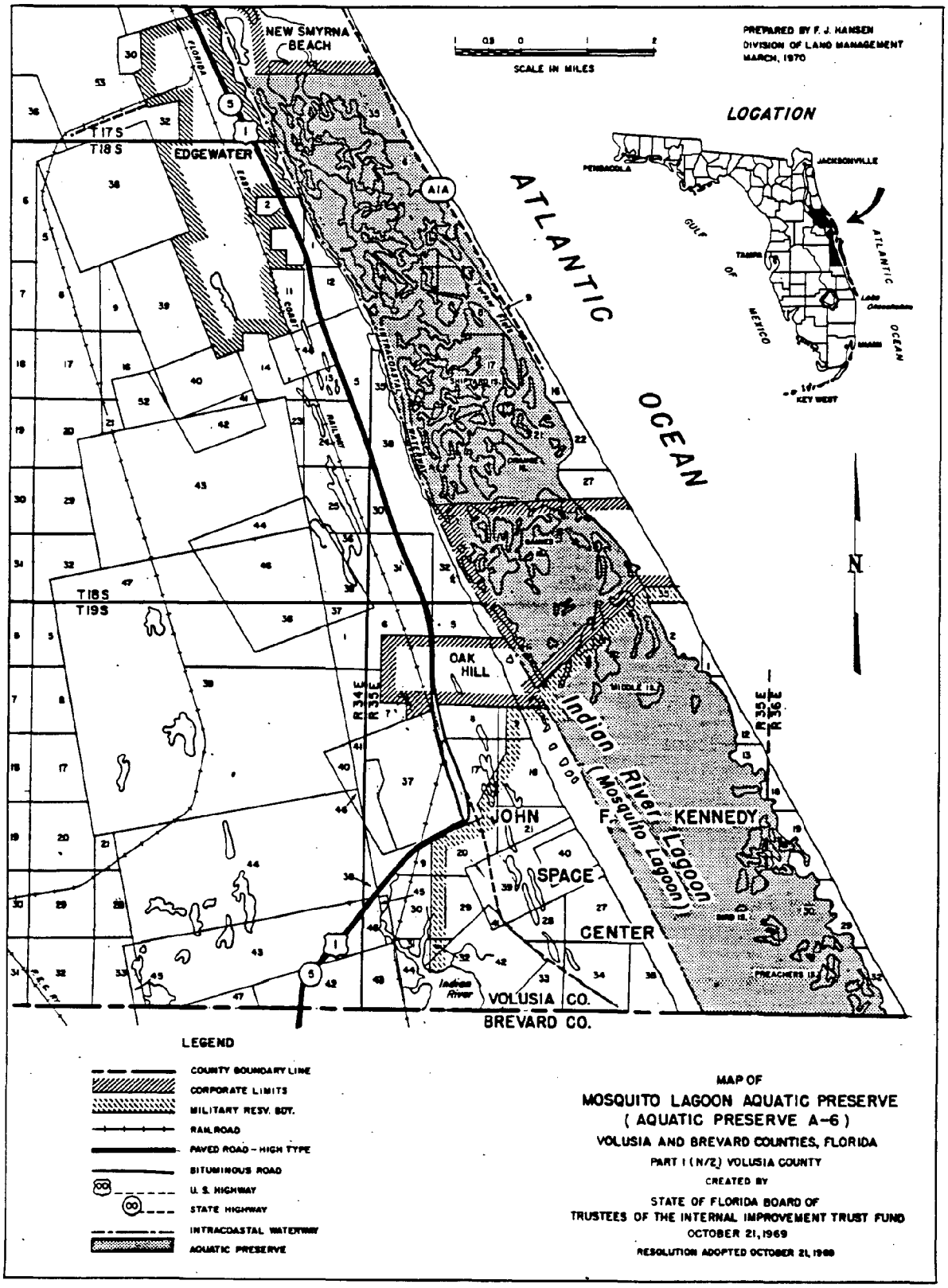


Figure 2 Mosquito Lagoon Aquatic Preserve (North Half)

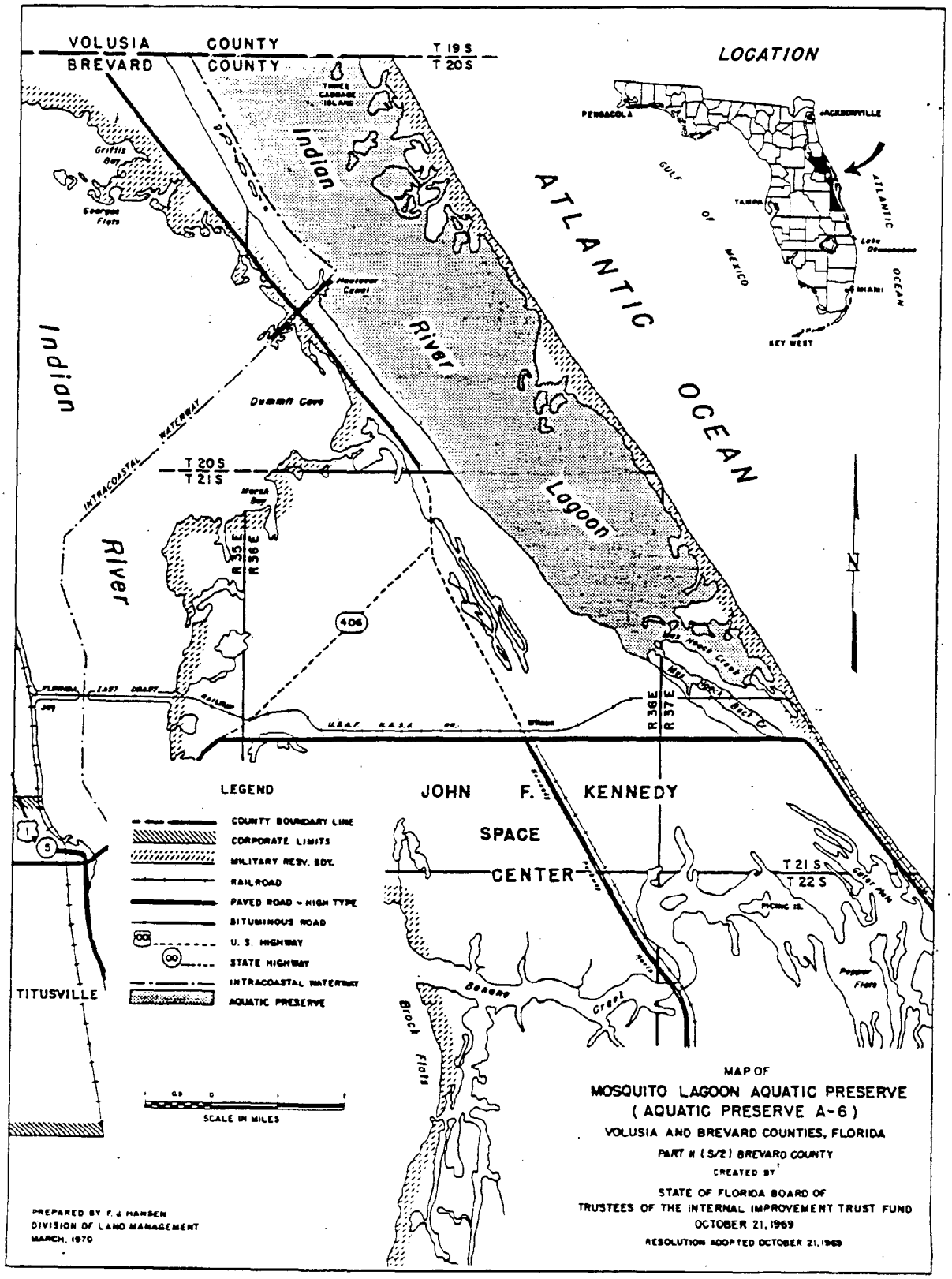


Figure 3 Mosquito Lagoon Aquatic Preserve (South Half)

# CHAPTER II

## MANAGEMENT AUTHORITY

### A. STATUTORY AUTHORITY

The fundamental laws providing management authority for the Mosquito Lagoon Aquatic Preserve are contained in Chapters 258 and 253, Florida Statutes (F.S.). These statutes establish the proprietary role of the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund, as Trustees over all sovereignty submerged lands. In addition, these statutes authorize the Board of Trustees to adopt and enforce rules and regulations for managing all sovereignty submerged lands, including aquatic preserves.

In 1975 the **Florida Aquatic Preserves Act, Sections 258.35-258.42, F.S.**, was enacted by the Florida Legislature. This statute sets forth a standardized set of management criteria for all designated aquatic preserves, and represents in concert with **Chapter 253, F.S.**, the primary laws governing use of sovereignty submerged lands within aquatic preserves.

The Legislative intent for establishing aquatic preserves is stated in Section 258.36, F.S.: **"It is the intent of the Legislature that the state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as hereinafter described, be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations."** This statement along with the other applicable laws clearly mark the direction for management of aquatic preserves. Management will emphasize the maintenance of essentially natural conditions, and will include only sovereignty submerged lands, lands leased by the State, and lands specifically authorized for inclusion as part of a preserve.

Management responsibilities for aquatic preserves may be met by the Board of Trustees or by staff of the Division of State Lands of the Department of Natural Resources through delegation of authority. Other governmental bodies may also participate in the management of aquatic preserves under appropriate instruments of authority issued by the Board of Trustees. The Division staff serves as the primary managers who implement provisions of the management plans and rules applicable to the aquatic preserves. Staff evaluates proposed uses or activities in the preserve, and assesses the possible impacts on the natural resources. Project reviews are primarily evaluated in accordance with the criteria in Sections 258.35-42 F.S., and 18-20, Florida Administrative Code (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 Board of Trustees. This mechanism provides a basis for the Board of 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 a consent of use, a lease or easement, 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 of Trustees.

BACKGROUND

The laws supporting aquatic preserve management are the direct result of the public's awareness and interest in protecting Florida's aquatic environment. The rampant dredge and fill activities that occurred in the late 1960's had a stimulating effect on this widespread concern.

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 Board of Trustees to exercise proprietary control over state-owned lands. Also, in 1967, government focus on protecting Florida's productive waterbodies from development led to the Board of 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 to develop strategies for protection and management of state submerged lands.

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 the abatement of air and water pollution. Then, late in 1968, the committee issued a report recommending the establishment of twenty-six aquatic preserves.

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 individually adopted at various times through 1989, including Mosquito Lagoon in 1970.

## B. ADMINISTRATIVE RULES GOVERNING AQUATIC PRESERVES

Chapters 18-20 and 18-21, F.A.C., are the two administrative rules directly applicable to the uses of aquatic preserves specifically, and submerged lands in general.

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

Chapter 18-20, F.A.C. (Appendix A), specifically addresses 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 predicated 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. RELATIONSHIP TO OTHER APPLICABLE PLANS AND PROGRAMS

The State Comprehensive Plan, established by Chapter 187, F.S., provides long-range policy guidance for the orderly social, economic and physical growth of the State. As such, the State Comprehensive Plan provides direction for the management of the physical resources within the state.

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.

The Conceptual State Lands Management Plan, adopted on March 17, 1981, and amended by the Board of 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 some of the fundamental direction for formulating management plans and policies of the Aquatic Preserves Program.

The Local Government Comprehensive Plan (LGCP) for Volusia and Brevard Counties is 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 (the 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 county. Recent statutory amendments require these plans to be updated and for cities and counties to adopt land development regulations and to conform to the criteria, policies, and practices of their comprehensive plan.

Brevard County adopted its LGCP on 8 September 1988; however, the Department of Community Affairs (DCA) found it not to be in compliance with the Act. Brevard County has entered into a Compliance Agreement with the DCA and the LGCP is expected to be found in compliance in mid-1990.

Volusia County will adopt its LGCP in April 1990. They expect the DCA will find the Plan in compliance.

The intent of the Aquatic Preserve 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 program. Policy statements that are developed and adopted by the county, and are consistent with the Aquatic Preserve Program, will be incorporated into this management plan at a later date.

Other Department of Natural Resources management authorities applicable to aquatic preserves include management and protection of fisheries and marine mammals as well as beach and shore preservation programs outlined in Chapters 370 and 161, F.S., respectively. Land acquisition programs conducted under the Environmentally Endangered Lands authorities of Chapter 259, F.S., or the Conservation and Recreation Lands Program authorized by 253, F.S., will enhance the protection of the natural resources within the aquatic preserves.

# CHAPTER III

# RESOURCE DESCRIPTION

## A. LOCATION AND BOUNDARY

This plan addresses the management of the Mosquito Lagoon Aquatic Preserve (Figure's 2 & 3). This preserve is located in east-central Florida and extends from southern Volusia County into northern Brevard County. There are three incorporated municipalities adjacent to the preserve, all in Volusia County: New Smyrna Beach, Edgewater, and Oak Hill.

Since most of the originally designated aquatic preserve is now under the ownership of the federal government, the primary focus of this plan will be on that part of the preserve under the ownership of the State of Florida (Figure 4).

The preserve is 28 miles long and encompasses approximately 39,000 acres. The preserve is described as a polygon bounded on the north by the southern city limits of the city of New Smyrna Beach, on the east by the mean high water line (MHWL) or the ordinary water line (OWL) of the western shore of the barrier island, on the south by the MHWL or the OWL along the northern shore of Merritt Island, and on the west by the MHWL or the OWL along the eastern shore of Merritt Island north to Haulover Canal and, then farther north by the eastern border of the Atlantic Intracoastal Waterway (AIW).

Much of the submerged bottom has been conveyed or dedicated to the United States of America (Figure 5).

On 31 July 1962 the state dedicated "to the exclusive use of the United States all of the land, beach, and water areas...for so long a period of time as the same may be used or required by the United States for the Manned Lunar Landing Program" from Haulover Canal south to just north of S.R. 520. It included the southern part of Mosquito Lagoon, the northern end of Merritt Island, and the northern end of the Banana River (Trustees, 1962). This dedication was modified on 8 March 1967 "to provide for an additional use of the property by said document dedicated to the United States of America, to-wit, a National Wildlife Refuge, and...may...transfer a portion...to the United Statutes [sic] Bureau of Sports Fisheries and Wildlife for use...as a National Wildlife Refuge" (Trustees, 1967).

On 2 March 1965 another portion of Mosquito Lagoon and north Indian River Lagoon was dedicated "to the exclusive use of the United States all of the sovereignty land, beach, and water areas,...which are owned or controlled by grantor, for so long

a period of time as the same may be used or required" (Trustees, 1965). This dedication was for the area north of the old Haulover Canal to the approximate southern city limits of Oak Hill. It included the barrier island, Mosquito Lagoon, the eastern portion of the north Indian River, and some uplands. The United States wished to expand the National Aeronautics and Space Administration (NASA) facilities at Cape Kennedy and needed additional lands. The following stipulations were added to this dedication:

1. For the location, construction, operation, repair, replacement, alteration of roads, causeways, commuter systems, railroad rights of way, other type transportation facilities, pipelines, communication facilities, power lines, etc., or their removal or abandonment.

2. For the location of poles, wires, guy lines, towers, etc.

3. For work and borrow areas.

4. For security areas.

5. For other uses necessary to the said project of the National Aeronautics and Space Administration.

In addition, "the right to police, patrol, preserve, and protect...and to exclude any and all persons therefrom" were also included (Trustees, 1965).

These two dedications were modified on 24 March 1969. This modification dedicated "to the exclusive use of the United States all of the sovereignty land, beach, and water areas within the limits of the land described...for so long a period of time as the same may be used or required by the United States in the Space Program as follows:

1. For the primary use in connection with the Space Program of the United States of America and for related purposes; and

2. For secondary use as a Wildlife Refuge or for public park and recreation purposes upon a determination by the NASA that such use is not inconsistent with its primary use in the Space Program;

together with the right to police, patrol, preserve, and protect said sovereignty land, beach and water areas,...and to exclude any and all persons therefrom... " (Trustees, 1969).

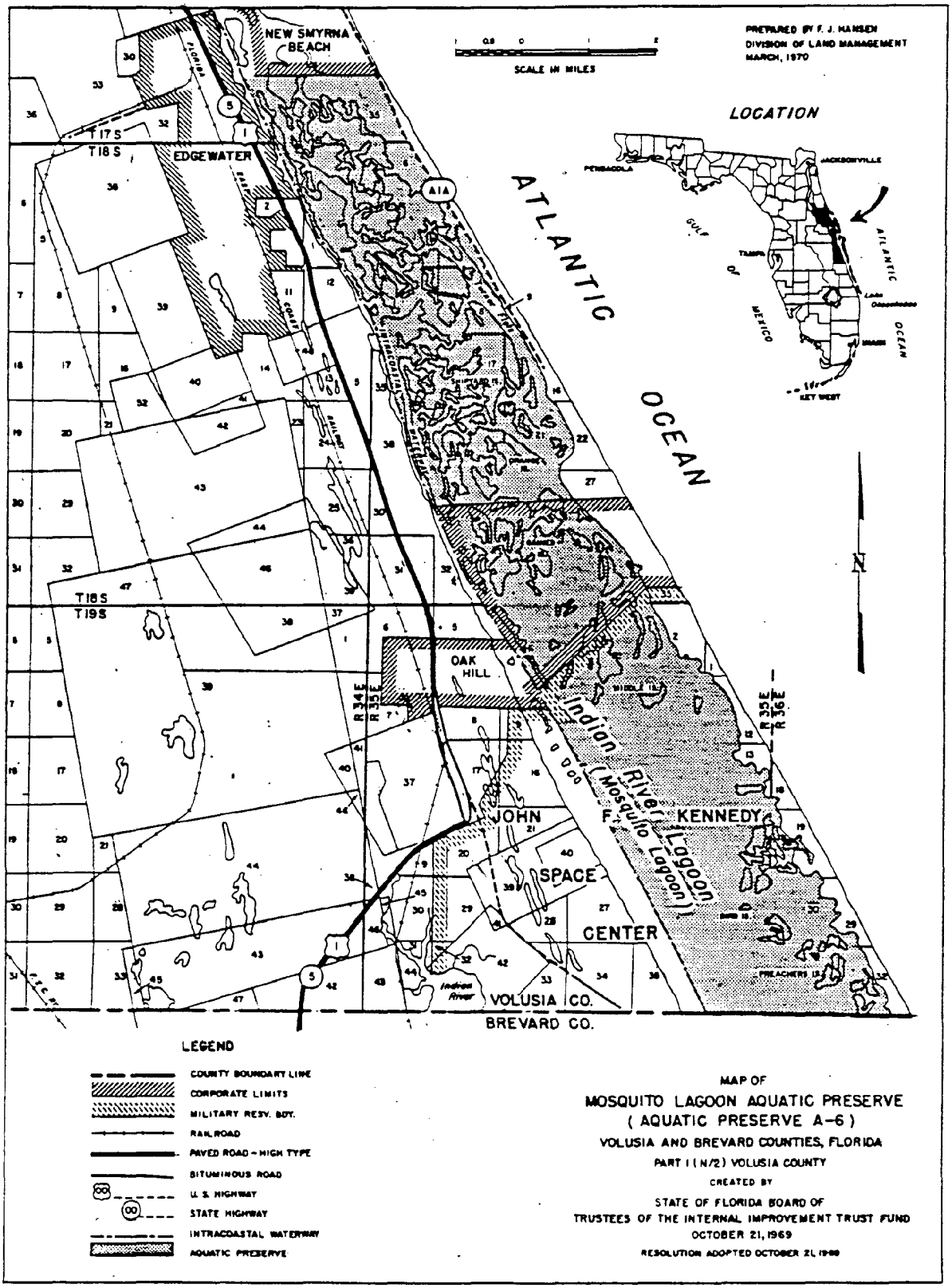


Figure 2 Mosquito Lagoon Aquatic Preserve (North Half)

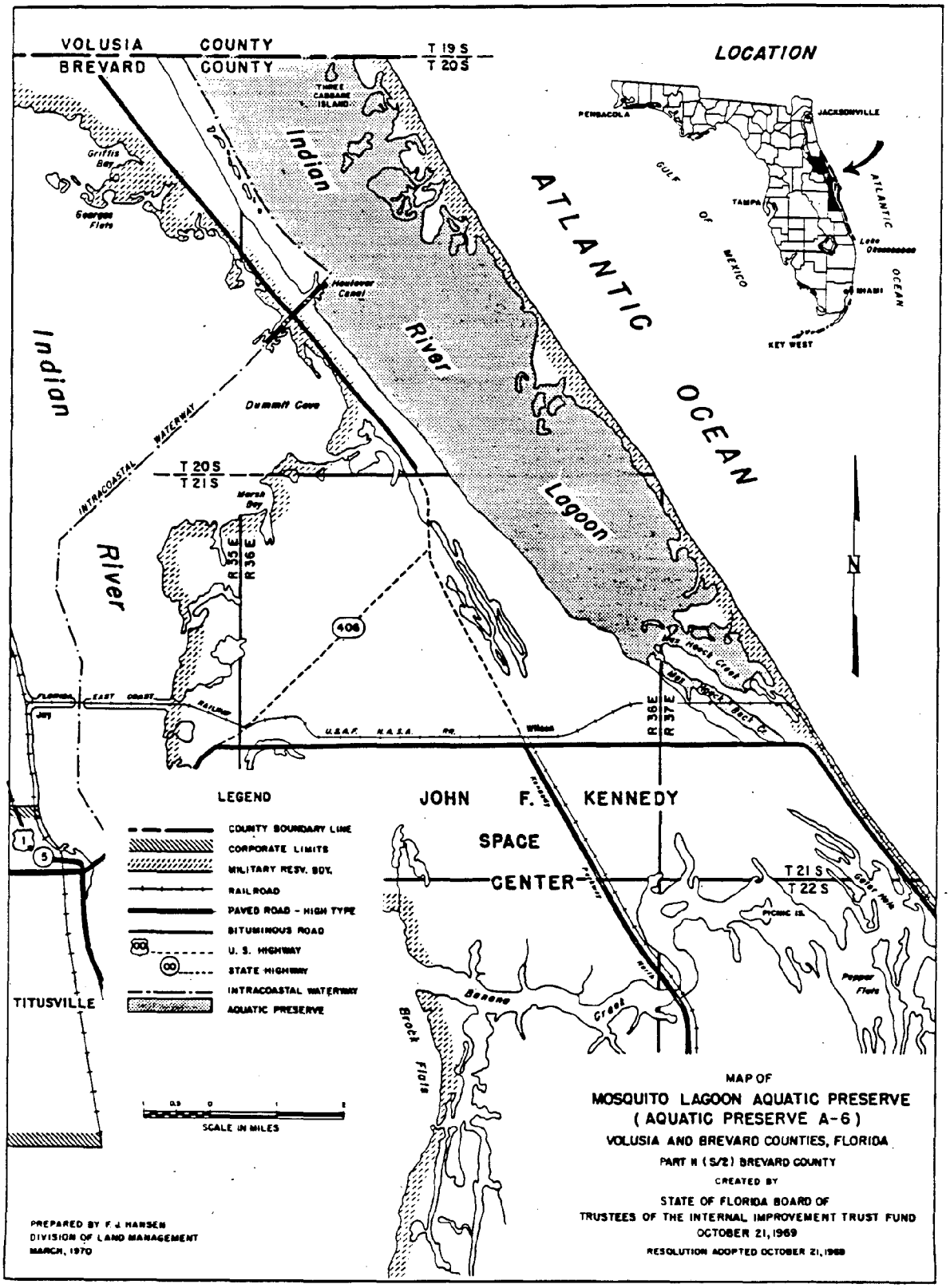


Figure 3 Mosquito Lagoon Aquatic Preserve (South Half)

State-Owned Land within Mosquito Lagoon Aquatic Preserve

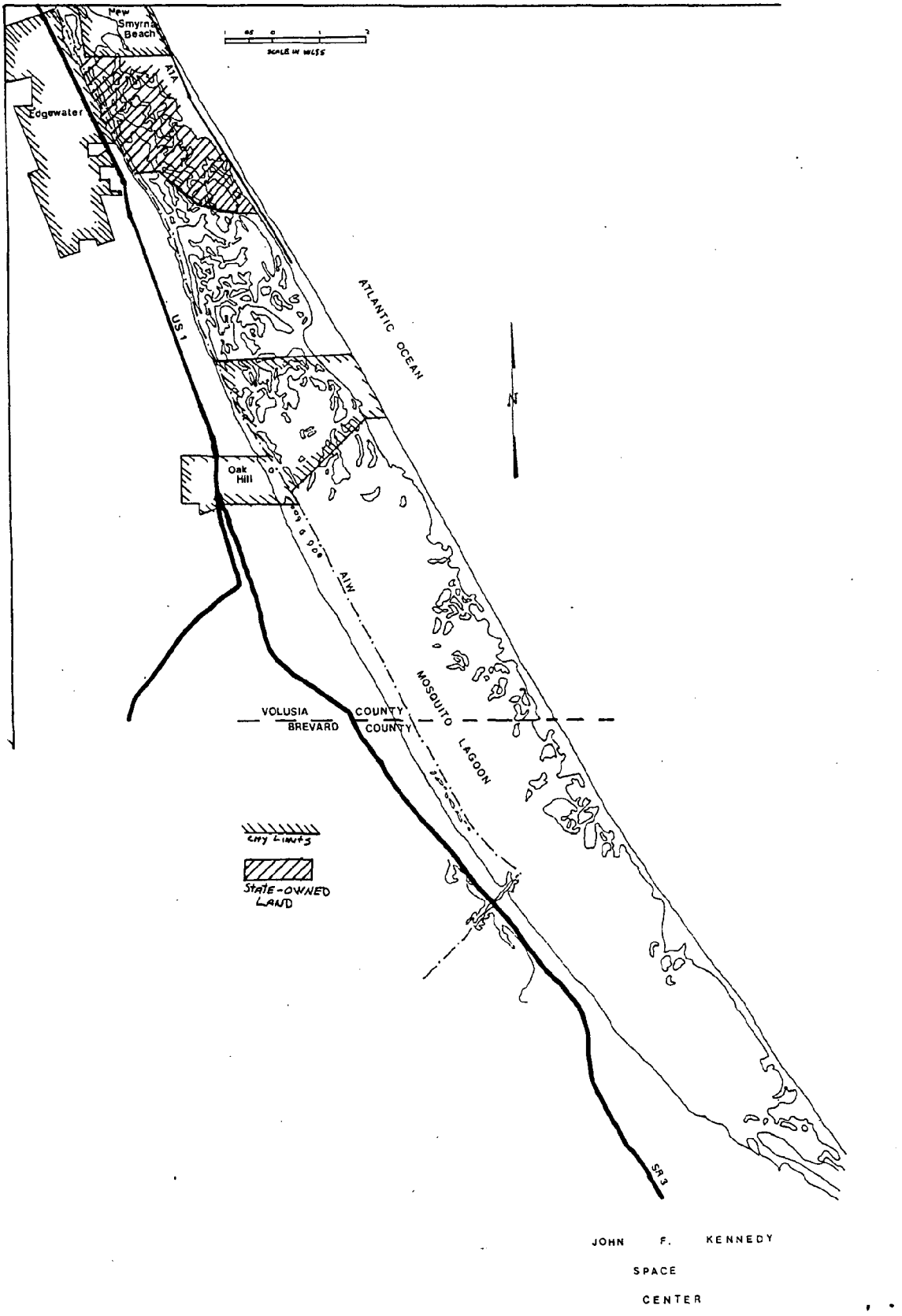


Figure 4

Federally-Owned Land within Mosquito Lagoon Aquatic Preserve

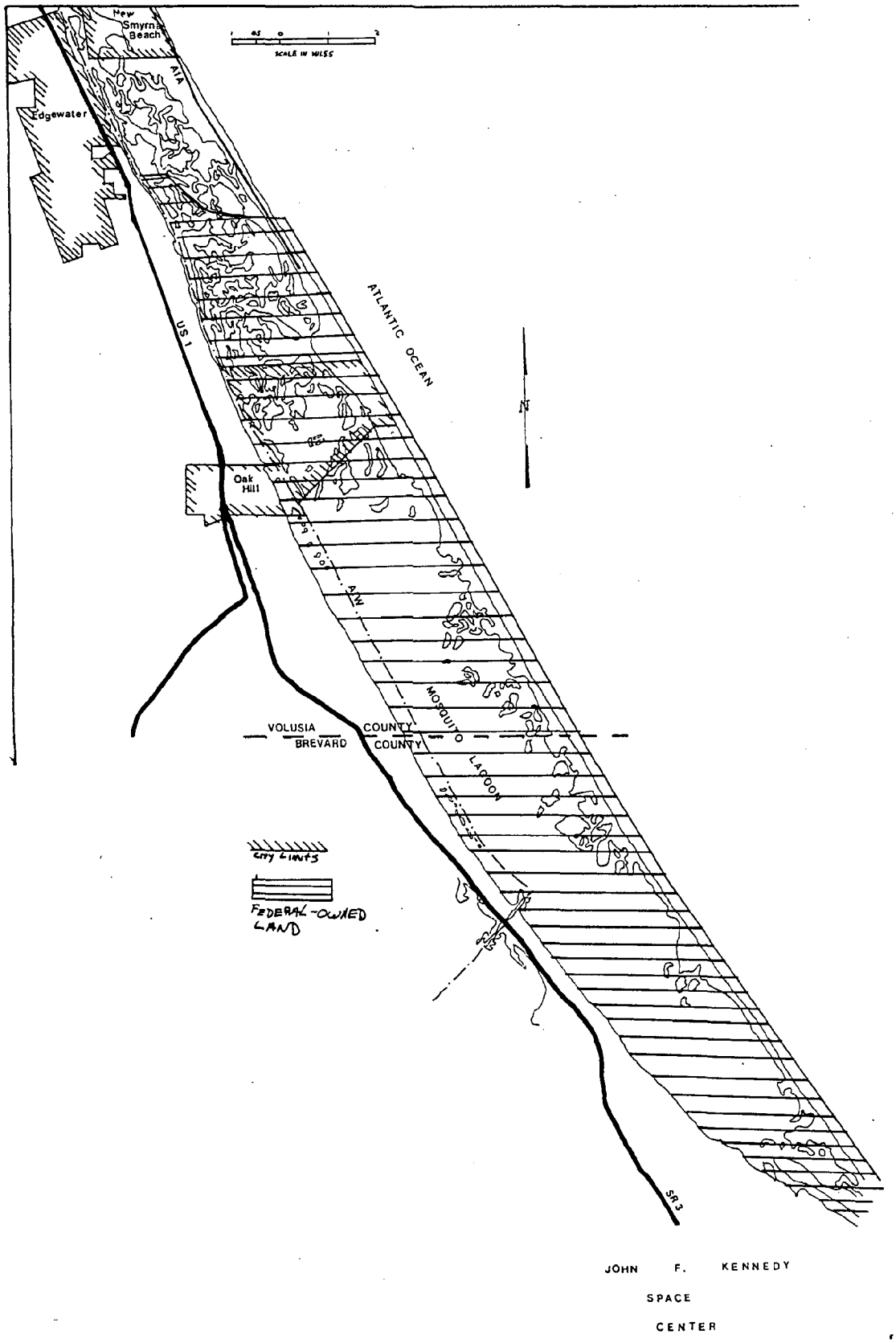


Figure 5

These dedications result in the United States having jurisdiction over the submerged bottom of the entire southern portion of the Mosquito Lagoon to the approximate southern city limits of Oak Hill. The primary purpose of this submerged land, and adjacent uplands, is for the Space Program. Its secondary purpose is as a Wildlife Refuge.

On 1 April 1980 the Trustees dedicated "State-owned land in the Mosquito Lagoon Aquatic Preserve, Apollo State Park, Turtle Mound, emergent, spoil and mangrove islands adjacent to and/or within Mosquito Lagoon and Indian River North and offshore sovereignty land in Brevard and Volusia Counties" to the United States Department of the Interior for the purpose of inclusion in the Canaveral National Seashore (Trustees, 1980). This dedication included the submerged bottom in Mosquito Lagoon from its southern reaches north to about 1/2 mile south of the southern city limits of Edgewater.

The 1980 dedication was modified on 13 January 1986, and the state-owned land was deeded over to the United States of America for inclusion in the Canaveral National Seashore at the same time. This deed "is for the express purpose of inclusion in the Canaveral National Seashore to manage the lands for wilderness/preservation purposes...In the event that any development proposals are contemplated which may be contrary to these objectives, concurrence of the said Board of Trustees shall be required" (Board, 1986).

Section 258.40(1), Florida Statutes (F.S.), states:

> The aquatic preserves established under this act shall include only lands or water bottoms owned by the state as set forth in s. 253.03 and such lands or water bottoms owned by other governmental agencies as may be specifically authorized for inclusion by appropriate instrument in writing from such agency.

There is no instrument in writing from the United States indicating that these lands are still included within the Mosquito Lagoon Aquatic Preserve. This deed then has the result of removing from the Mosquito Lagoon Aquatic Preserve approximately 25 miles of its 28-mile length from the aquatic preserve. The Trustees have no jurisdiction unless it can be shown that the activity is contrary to the management of these lands for wilderness/preservation purposes.

Within the area deeded to the United States government there are several existing, Chapter 370, F.S., shellfish leases. It has been determined that these lease areas are still under the jurisdiction of the state, and as such are technically within the Mosquito Lagoon Aquatic Preserve. Since these leases are jurisdictionally isolated from the rest of the preserve, management of these areas will be limited.

## B. PHYSIOGRAPHY

The Indian River Lagoon system is a long, wide, shallow estuarine lagoon bounded on the west by the Florida mainland and on the east by a chain of barrier islands. Mosquito Lagoon lies between a relic barrier and a present-day active barrier island, and it is connected to the north Indian River Lagoon by Haulover Canal. The Mosquito Lagoon surface drainage sub-basin (288.5 $km^2$) extends from Ponce de Leon Inlet in the north to the southernmost extent of the lagoon. The lagoon becomes increasingly derelict north to St. Johns County (White, 1970). The lagoon is relatively shallow, with extensive seagrass coverage, particularly in the southern half. There are no significant inputs of freshwater other than non-point stormwater runoff. Due to limited freshwater input and a large surface area, high evaporation rates are experienced, producing high salinities, particularly during the summer.

## C. GEOLOGY

The rise and fall of the sea level has played a continuing role in the condition of the area represented by today's lagoon. In the late Pleistocene, the sea level was higher than it is today, with the present chain of barrier islands existing as offshore sand bars. The Atlantic Coastal Ridge functioned as a barrier island that protected a shallow lagoon (Eastern Valley), thereby creating a situation analogous to the present-day system of barrier islands bordering the lagoon.

The sea level dropped at the beginning of the glacial age (≈125,000 years ago) and exposed the site of today's lagoon and barrier islands. These barrier islands had partially lithified through the precipitation of calcium carbonate ($CaCO_3$). As the sea level rose during the deglaciation of the continent (30,000 - 35,000 years ago), the Indian River Lagoon system became brackish through partial inundation by oceanic water. Between 6,000 and 30,000 years ago, there was yet another retreat of the sea level, and the site of today's lagoonal system was exposed again. Deposition of sediments through wind and freshwater transport partially filled the lagoon until the last great ice sheets melted (5,000 - 6,000 years ago), and the sea level rose to form what is today's Indian River Lagoon system (White, 1970).

The Atlantic Coastal Ridge, which lies to the west and is 25 feet above mean sea level (MSL), is characterized as a sandy ridge with Daytona-Satellite Astatula Soil series, and oak scrub and sand pine vegetation. The barrier island, which lies to the east and ranges in height from sea level to 30

feet above MSL, is comprised of the soil series Palm Beach-Paola-Canaveral with coastal scrub and oak hammock vegetation.

## D. HYDROLOGY

Low currents and small water level changes are a characteristic of Mosquito Lagoon; thus the wide shallow lagoon is poorly flushed. The 1989 National Oceanographic and Atmospheric Administration (NOAA) Tide Tables note: "From Oak Hill southward in Mosquito Lagoon the periodic tide is negligible." At Ponce de Leon Inlet the mean tidal range is 2.3 feet. Water level changes in Mosquito Lagoon are due to several factors: 1) wind speed and direction, 2) barometric pressure, 3) rainfall, and 4) ocean level changes.

The average annual rainfall in the Indian River Lagoon Basin is 50.2 inches (St. Johns River Water Management District, 1987). Seasonally, nearly 50% of this amount is recorded during the warm season (June - September). Frequent summer thunderstorms are responsible for most of the rainfall during this season. These summer storms are of short duration and can produce heavy localized rainfall. During the cold season (December - March) only 22% of the annual rainfall is recorded. Frontal systems passing through the area during the fall and winter months account for most of the rainfall during this period. This rainfall enters the lagoon as sheet or overland flow and as point-source discharges through rivers; creeks; streams; and man-made canals, ditches, and culverts. Much of the freshwater that enters the lagoon originates from these sources.

Major human-induced changes that have altered the hydrology of Mosquito Lagoon include: 1) The AIW which was completed in 1941; 2) mosquito impoundments, which have isolated large tracts of wetlands from the lagoon; 3) finger canals, which, due to the poor flushing of the lagoon, have resulted in dead-end pockets; 4) causeways, which have substantially altered the existing water current patterns; and 5) lands created by dredge and fill activities.

## E. WATER QUALITY

East-central Florida has experienced a rapid increase in population in recent years, with most of it concentrated along the coast. This increase has resulted in "...a deterioration of water and sediment quality in the Indian River Lagoon system near population centers as the result of the intensification and expansion of man's activities" (SJWRMD, 1987).

There are two wastewater treatment facilities (WWTF) near or adjacent to the preserve:

TABLE 1

Wastewater Treatment Facilities
adjacent to
Mosquito Lagoon Aquatic Preserve

| NAME OF FACILITY | TYPE TREATMENT | DESIGN CAPACIT | ACT. DISCH. |
|---|---|---|---|
| New Smyrna Beach Mun. | Complete mix activated sludge | 4.0 MGD | 2.1 MGD |
| Edgewater Municipal | Extended Aeration & nitrification | 1.0 MGD | 0.6 MGD |

notes: Data as of 1986 (SJRWMD, 1987)
MGD = million gallons per day

Salinities in Mosquito Lagoon are the product of ocean water, rain water, WWTF inputs, ground water, and evaporation. In the southern reaches of the lagoon, hypersaline conditions (>40 ppt) are not uncommon in the summer month (personal observation).

Nutrient levels (total nitrogen, total phosphorus) are relatively low in the southern section of the lagoon, particularly when compared with similar open-water areas in the North Indian River Lagoon. The Brevard County office of Natural Resources Management has collected data just east of Haulover Canal in Mosquito Lagoon from 1980 to 1985. The yearly mean levels of total nitrogen ranged from 0.5 mg/l in 1981 to 1.2 mg/l in 1985, while total phosphorus ranged from 0.5 mg/l in 1982, 1983, and 1984 to 0.10 mg/l in 1980. Yearly mean dissolved oxygen levels were generally in the 7.0 mg/l ranged and chlorophyll a levels range from 5.5 to 10 mg/l (SJRWMD, 1987).

Long-term water quality data for the northern section of the lagoon is not as extensive; however, there have been several studies either started or proposed that should rectify this gap in information (City of Edgewater, 1989). The City of Edgewater Comprehensive Plan, citing a study by the Florida Department of Environmental Regulation (DER), states, "Water

quality sampled at the Edgewater WWTP outfall area was described as fairly good except for turbidity, high total phosphorous levels, and a poor flushing rate." Citing another DER and SJRWMD report the plan states, "The poorest water quality in the Indian River North/Mosquito Lagoon was found to be in areas adjacent to urbanization (New Smyrna Beach and the City of Edgewater)."

There are several state water classifications within Mosquito Lagoon. These classifications either reflect current, attainable, or allowable water quality (Figure 6). The DER classifications of Class II or Class III determine the best allowable uses and dictate what type of activities and discharges are allowed. The Outstanding Florida Water (OFW) designation superimposes another level of protection so that water quality will not be degraded below current levels. The DNR shellfish classification system reflects relatively current water quality parameters, specifically fecal coliform levels. This classification system allows for oysters and clams to be harvested when the water quality meets specific standards and allows raw or partially cooked consumption of these oysters and clams with a low risk of disease occurrence.

That portion of the preserve within Brevard County has the following water quality classifications:

1. DNR classifies the water as approved for the harvesting of shellfish. This means that in the absence of hurricanes, sewage spills and other pollutional events, shellfish can be harvested; and
2. DER classifies the water as Class II and as an OFW.

That portion of the preserve within Volusia County has the following classifications:

1. DNR classifies the water as conditionally approved for the harvesting of shellfish. This means that when rainfall, as recorded in Edgewater, exceeds 1.50 inches in any three-day period, shellfish cannot be harvested;
2. DER classifies the water as Class II, and as OFW.

Based on this information, overall water quality in the Mosquito Lagoon Aquatic Preserve can be categorized as good, with sections having excellent water quality (the southern half of the lagoon), and other sections having fair water quality (the northern half of the lagoon).

In addition, the entire Indian River Lagoon system has been designated as an Estuary of National Significance by the U.S. Environmental Protection Agency. While this designation provides no water quality or development criteria, it does provide a level of awareness that will be considered by federal, state, and local governments.

## F. BIOLOGICAL COMMUNITIES

The fisheries of Mosquito Lagoon are a major reason for its designation as an aquatic preserve. The lagoon is a valuable nursery area for fish caught commercially and recreationally in the lagoon and the Atlantic Ocean. Other species not directly important to commercial fishing but necessary to its ultimate food chain also depend on the lagoon. The seagrass beds, mangrove forests, algal communities, oyster bars, marshes, spoil islands, tidal flats, and mosquito impoundments provide a refuge for species visiting this area during migrations, for daily feeding purposes, and during times of extremely adverse environmental conditions, such as drought, storms, and development-related activities. Some of these transients include the West Indian manatee and many bird species.

Each community is presented separately, although in reality these communities are interrelated and often intermixed.

### 1. SEAGRASS BEDS

Seagrasses are submerged vascular plants that stabilize sediments; entrap silt; recycle nutrients; provide shelter, habitat, and substrate for animals and other plant forms; provide important nursery grounds; and are important direct and indirect food sources (Wood et al., 1969; Odum, 1974). For these reasons, seagrass beds are the most productive habitat within the estuary. Some examples of the roles that they play include functioning as nursery areas for juvenile forms of shellfish, providing a food source for the endangered West Indian manatee (Trichechus manatus), and serving as a substrate for the many species of epiphytic algae eaten by invertebrates, which are in turn eaten by fish. Many commercially and recreationally important fishes spend at least part of their lives in these beds (Zieman, 1982). The invertebrate fauna and algal flora associated with these seagrass beds are rich and diverse, and collectively forms an intricate biotic complex central to the ecology of the lagoon.

The most common species of seagrass found in Mosquito Lagoon are Cuban shoal grass (Halodule wrightii) and manatee grass (Syringodium filiforme).

Seagrass coverage, density, and diversity vary seasonally, yearly, and possibly in longer cycles. Seagrasses are negatively affected both directly and indirectly from dredge and fill operations, water quality degradation and, to some extent, boating activities.

DER/DNR Water Classifications

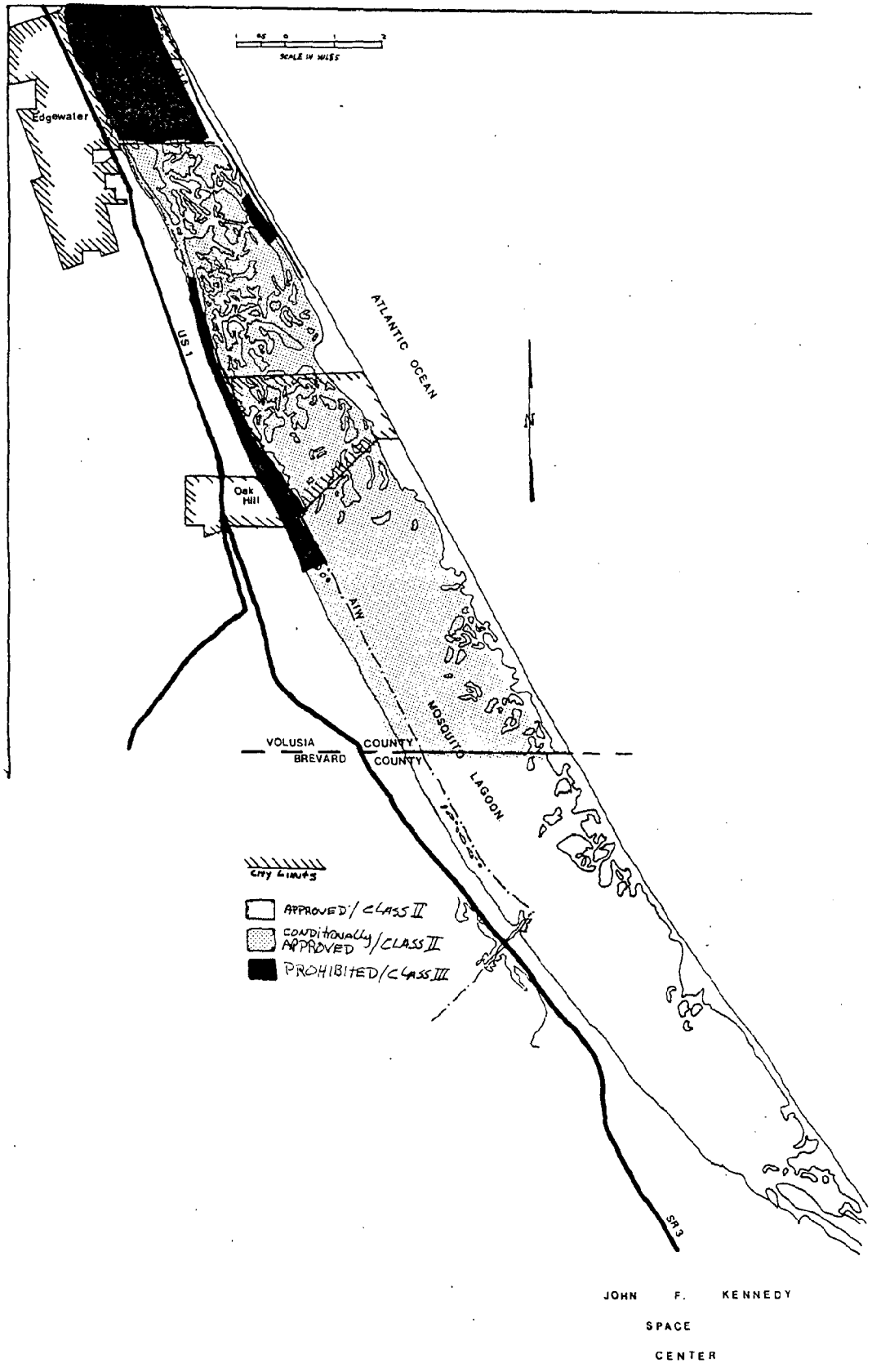


Figure 6

Seagrass beds are an extremely important vegetational community and will be used as a key indicator in measuring the biological condition of the aquatic preserve. Since there has already been an estimated 30% loss of seagrass in the Indian River Lagoon since the 1950's (Haddad and Harris, 1985), protection of seagrasses will be a major consideration in the administrative and field review of use proposals. The specific objectives and tasks regarding this management are addressed in Chapter VII.

2. MANGROVES

Four species of mangrove are found in Florida's marine environment: red mangrove (Rhizophora mangle), black mangrove (Avicennia germinans), white mangrove (Laguncularia racemosa), and buttonwood (Conocarpus erectus). The northern half of Mosquito Lagoon represents the northernmost extent of red mangroves on the east coast of Florida. While there is some evident zonation among mangrove species, it is important to bear in mind that the zones can and do overlap. There are four major factors that limit the distribution of mangroves: temperature, salinity, tidal fluctuation, and substrate (Odum et al., 1982). In Mosquito Lagoon these factors have allowed mangroves to establish themselves as the dominant shoreline vegetation, especially among the numerous tidal islands. Other plant species associated with the mangroves in the preserve include smooth cordgrass (Spartina alterniflora), salt grass (Distichlis spicata), glassworts (Salicornia spp.), sea purslane (Sesuvium portulacastrum), and sea daisy (Borrichia frutescens).

Mangroves perform a variety of ecological roles. Two species form specialized above-ground root structures (the prop roots of red mangroves and the pneumatophores, or aerating root spikes, of black mangroves) that form extensive tangles that stabilize and accrete sediments along the shoreline and limit erosion. The underground roots of all mangrove species also serve to stabilize the shoreline. The leaves contribute an important detrital component in the nutrient cycle in tropical and subtropical marine systems (Heald and Odum, 1970; Odum et al., 1982; Lewis et al., 1985). The above-ground "prop" roots of the red mangrove function as habitat for a variety of invertebrates and vertebrates (Savage, 1972), while the mangrove canopy functions as a bird rookery.

Mangroves are susceptible to both natural and human-induced disturbances. The natural disturbances can be in the form of freezing temperatures, hurricanes, the formation of new inlets, and changes in sea level. Human-induced changes include the conversion of extensive mangrove wetlands into mosquito impoundments, dredge and

fill activities, shoreline alteration through the construction of seawalls, trimming or removal in order to view the adjacent waterway, and erosion attributable to human activities. Impacts to mangrove systems resulting from alteration of upland drainage patterns are not well understood and require additional studies.

It is estimated that there has been an 86% loss of mangroves in the Indian River Lagoon since the 1950's, primarily through the creation of mosquito impoundments (Haddad and Harris, 1985). Protection of the extensive mangrove communities in the preserve will therefore be a major task of this plan's management activities. The specific objectives and tasks regarding this management are addressed in Chapter VII.

3. ALGAE

Algae represent the non-vascular vegetation in Mosquito Lagoon. There are some 60 species of red, brown, and green algae that grow in the sediment, attached to seawalls or rip rap, or attached to seagrasses. Some of these algal species can begin as attached forms and eventually break off to form drifting algal mats that become substrata for numerous invertebrates, associated algae, and fish. The drift algae communities may provide better refuge for many organisms than do seagrasses (Eiseman and Benz, 1975; Benz et al., 1979; Gore et al., 1981; Kulczycki et al., 1981; Virnstein and Howard, 1987).

Because aggregates of attached algae exhibit many of the ecological attributes associated with seagrasses (Nelson et al., in press), this community should be afforded a similar level of protection. Chapter VII addresses the specific objectives and tasks toward this end.

4. MARSHES

The term "marsh" covers a variety of habitats, the species composition of which is largely determined by small differences in elevation. Two major categories of marsh are high marsh and low marsh. High marshes represent areas that receive the least amount of tidal inundation and are characterized by salt grass (Distichilis spicata), sea purslane (Sesuvium portulacastrum), sea daisy (Borrichia frutescens), saltwort (Batis maritima), and glasswort (Salicornia virginica). Low marshes are more frequently inundated, and the dominant vegetation is smooth cordgrass (Spartina alterniflora).

Marsh habitats are extensive within the preserve, occurring mostly on the tidal islands. Along the developed portion

of the barrier island much of the marsh has been supplanted with seawalls, rip rap, and turf grasses.

This area of the east coast is a transition zone between marsh dominated shoreline and mangrove dominated shoreline. During warm years mangroves do well and dominate the shoreline area; however, after freezes (1983, 1985, 1989) the mangroves are killed back and the marsh communities dominate.

Marsh communities function as a natural filtration system for runoff, recycle nutrients, contribute to estuarine productivity, and provide shelter and habitat for a variety of animal life. Protection of the remaining marshes will be outlined in Chapter VII.

5. TIDAL FLATS

A tidal flat describes a wide variety of shallow water habitats. They may consist of lagoonal beaches, areas waterward of the mangroves, spoil areas, and natural shoals. These tidal areas are utilized by a variety of shore birds who feed on the numerous invertebrate species that inhabit the flats. Such birds often form extensive nesting colonies in adjacent upland areas. Successful breeding may be linked to both the vitality of the flats and to their undisturbed access. In addition to using the flats as feeding sites, many birds use them as resting or "loafing" areas (Barnett et al., 1980). Although tidal flats are a conspicuous and presumably important component of the lagoonal system, their ecological roles have not be adequately defined. Additional research in this area is required.

The focus for protection of tidal flats is their use as habitat by the bird population. Specific implementation of the appropriate management objectives is addressed in Chapter VII.

6. OYSTER BARS

Oyster bars are primarily intertidal, and the oysters themselves can survive in a wide range of salinities and temperatures. The sizes of the oyster bars in Mosquito Lagoon are limited by the tidal creek nature of the northern section of the lagoon; however, oysters and oyster bars are located throughout this area. The larvae need a clean, hard surface upon which to attach, and an oyster shell is the preferred substrate. Over several years, the cycle of death and reproduction of the oysters produces a labyrinth of habitat not only for subsequent oyster settings, but also for a wide variety of other marine organisms. There are several species of mussels,

barnacles, fish, shrimp, and crabs that utilize the oyster bars for habitat.

Oysters are not a light-sensitive organism, and as such are not directly affected by shading. Damage from mechanical disturbance such as dredging or placing of pilings is more likely to be the disruptive force. In addition, increases in suspended sediments can cause a silting over of the oysters, effectively smothering and killing the oysters.

Prevention of mechanical damage or smothering will be the focus of protection for this resource.

## G. DESIGNATED SPECIES

The combination of a subtropical climate and diverse habitats in the Indian River Lagoon has resulted in the survival of many species of plants and animals designated for protection by the U.S. Fish and Wildlife Service, the Florida Game and Fresh Water Fish Commission, the Florida Department of Natural Resources, and the Florida Natural Areas Inventory. Some representatives, like the common snook (Centropomus undecimalis) and loggerhead turtle (Caretta caretta), are found throughout Mosquito Lagoon. Evidence of green turtles (Chelonia mydas) feeding in the lagoon is indicated by the presence of "clipped or grazed" areas within the seagrasses, their preferred food item. After periods of hard freezes green and loggerhead turtles have been found in the lagoon stunned by the cold. These turtles have been rescued and latter return to the lagoon. Another designated species utilizing the lagoon is the West Indian manatee. Mosquito Lagoon is used as a corridor by these mammals as they travel north and south along the AIW.

## H. ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The Indian River Lagoon area has a long history of Indian activity. According to the Volusia County Coastal Management Element of the Comprehensive Plan, "Coastal Volusia County contains one National Historic Landmark, 14 resources listed on the National register of Historic Places (NRHP), 14 resources which are eligible or have been nominated to the NRHP, and over 50 historic properties of undetermined historic significance."

Mosquito Lagoon contains the greatest collection of prehistoric sites in the Volusia County coastal area, most of which lie within the Canaveral National Seashore or the Merritt Island Wildlife Refuge. Turtle Mound and Ross Hammock are two large shell middens and associated burial mounds, both of which are on the NRHP.

# CHAPTER IV

# REGIONAL LAND USE AND DEVELOPMENT

## A. ADJACENT UPLAND USES

Volusia County has four different zoning classifications in those areas adjacent to and within the preserve (Figure 7). Brevard County, on the other hand, does not zone the adjacent uplands because the uplands are under federal ownership. Based on existing development conditions within Volusia County, the adjacent upland uses in this preserve are categorized as follows: single-family residences, multi-family residences, conservation, and preservation. These broad categories identify the upland use adjacent to state-owned submerged lands and do not necessarily reflect county zoning terminology.

Single-family residential: There are two single-family residential zones located on the barrier island. The northernmost zone begins at the southern city limits of New Smyrna Beach and extends south to about Bottle Island Road. The second zone begins .47 miles south of Bottle Island Road and extends south to just south of Trout Avenue. These areas are listed in the Volusia County Future Land Use Plan as "Urban Low Intensity - Areas primarily designated for low density residential. Transitional uses such as neighborhood convenience centers and individual office buildings may be permitted. Density: 1 to 4 du/acre [unit/acre]."

The single-family lots along the lagoon are nearly all occupied by homes. There is a man-made canal along much of the shoreline giving the adjacent lots access to the rest of the lagoon via a part man-made part natural canal/channel system.

Multi-family residential: There is one multi-family residential zone on the barrier island. This zone is wedged in between the two single-family zones described above. This areas is listed in the Volusia County Future Land Use Plan as "Urban High Intensity - Areas primarily designated for high density residential development. Neighborhood shopping centers and office development may be permitted. Density: 8.1 to 20 du/acre [units/acre]."

At the present time this area is undeveloped; however, there has been one application received by the DNR for construction of a multi-family dock/pier within a small, shallow embayment.

Conservation: This is the area west of the barrier island and north of the federal jurisdiction. It includes an area within Mosquito Lagoon proper. This area is listed in the Volusia County Future Land Use Plan as "Important ecological corridors consisting of environmentally sensitive and ecologically significant lands. Silviculture is the preferred use. Density: 1 du/25 acres [unit/acre]."

Preservation: Most of Mosquito Lagoon within Volusia County is zoned for this use. The area extends from near Trout Avenue south to the lower reaches of the lagoon. It includes all areas within the jurisdiction of the Federal Government. This area is listed in the Volusia County Future Land Use Plan as including "public and private land areas that have been acquired or reserved by mutual agreement with the owner for the preservation and protection of Volusia County's natural resources." There is no density assigned this zoning category in Volusia County and the plans are not zoned by Brevard County.

B. USES OF THE PRESERVE

The uses of the Mosquito Lagoon Aquatic Preserve can be divided into five general categories: private, commercial, public utilities, and public recreation.

Private: Private uses are reflected in the many docks associated with single-family residences and one condominium.

Commercial: There is one fish camp located within the preserve. Facilities include a boat ramp, a dock with space for four boats, a fish cleaning bench over the water, a restaurant, and a kayak concession. Mosquito Lagoon is heavily used for various types of commercial fishing such as crabbing, shellfish, and netting.

Public utilities: In providing utility services from the mainland to the barrier island, there is one overhead cable that crosses the preserve.

Public recreation: The lagoon has heavy seasonal use as a recreational area both for general boating and recreational fishing. Public access points consist of one boat ramp located on the barrier island approximately three miles south of the southern city limits of New Smyrna Beach and another two ramps located within the Canaveral National Seashore. The Atlantic Intracoastal Waterway (AIW) is heavily used by boats as a navigation route to access other portions of the lagoon as well as inlets located north and south of here.

Volusia County Zoning Map

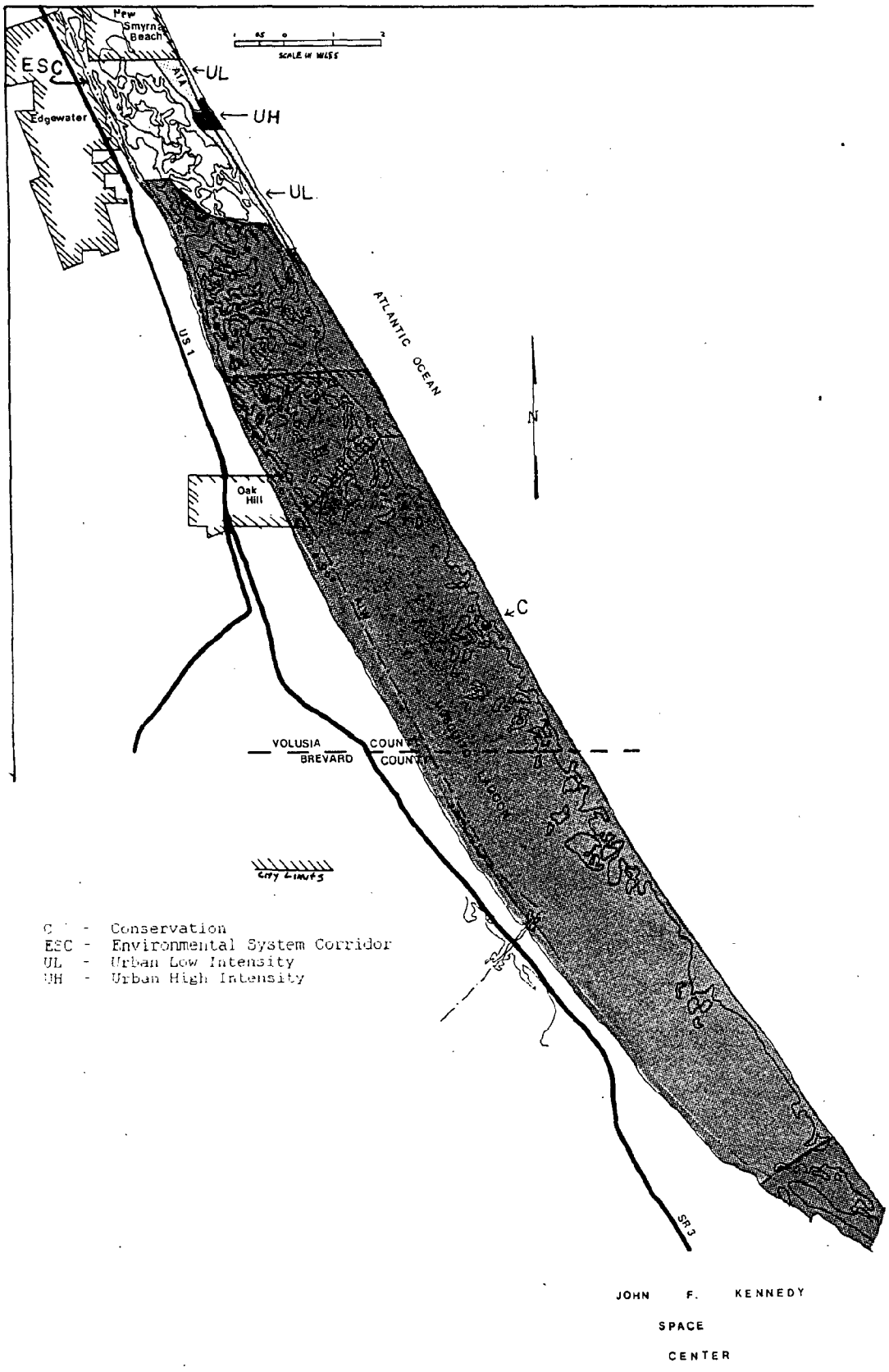


Figure 7

C. PLANNED USE

With the exception of the multi-family area described above, most of the developable shoreline is at or close to build-out and is not expected to change substantially by the year 2000. The Local Government Comprehensive Plans (LGCP) deal specifically with the projected upland use, but as this region's population increases, there is going to be a concomitant increase in the public and private usage of this segment of the preserve.

The U.S. Census population figures for Brevard and Volusia counties reflect an increase in total numbers from 1987 to 2010. Annual population estimates are produced by the Bureau of Economic and Business Research (University of Florida) for the state's counties and municipalities.

**Total Resident Population**

| County | 1987 | 2010 |
|---|---|---|
| Brevard | - | - |
| Volusia | 31,440 | 60,900 |

**Percent Increase in Total Population**

| County | 1987-2010 |
|---|---|
| Brevard | - |
| Volusia | 94% |

These dramatic increases in population growth affect water resources and wildlife habitat and, generally, increases the potential for environmental degradation.

# CHAPTER V

# MANAGEMENT AREAS

## A. INTRODUCTION

This chapter divides the Mosquito Lagoon Aquatic Preserve into separate management areas where general or special rule criteria and allowable uses are defined for each area. The management areas are classified and delineated based on the types and locations of existing and planned uses of the adjacent uplands, as well as on the types, occurrence and characteristics of the natural and cultural resources on submerged lands. The various management areas delineated may be classified similarly or differently as these factors vary in the preserve.

The purpose of this chapter is four-fold: 1) to provide a better understanding of the general and special rule criteria designed to preserve and protect resources and habitat, 2) to identify the types of allowable uses on state-owned submerged lands within the aquatic preserve, 3) to provide local planners with a guide for land use decisions, and 4) to provide the staff of the Bureau of Submerged Lands and Preserves and other agencies with a continuity of direction in regards to the management of aquatic preserves. As such, this intent will afford habitat protection while lending some measure of predictability for allowable public and private uses in the aquatic preserve.

Prior to providing the criteria for specific resource management areas, it is important that the intent, jurisdiction, and limitations of Florida's Aquatic Preserve Program be reiterated. Section 258.36, F.S., states that "it is the intent of the Legislature that state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value... be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations." The program has jurisdiction over the use of state-owned submerged lands within the boundaries of a given preserve. Activities which are not within the boundaries of the aquatic preserve (i.e., adjacent upland land uses) or which do not directly affect the state-owned submerged land (i.e., regulation of commercial fishing or water quality) are not within the jurisdiction of the Aquatic Preserve Program.

There are a number of differences between the rules governing uses of state-owned submerged lands within an aquatic preserve relative to those not within an aquatic preserve. The principle difference is that submerged lands within an aquatic preserve must be managed with the intent of protecting them

for future generations. Consequently, any proposed use must be shown to be in the public interest before it can be authorized, and an applicant must demonstrate that no other reasonable alternative exists which would allow the proposed activity to be constructed or undertaken outside the boundaries of the aquatic preserve.

## B. MANAGEMENT AREA CLASSIFICATIONS

A key component of the management program for an aquatic preserve is the division of the preserve into management areas. The classification of management areas in an aquatic preserve is based upon both resource value of submerged lands within the preserve, and the existing or anticipated future land use on the adjacent uplands as designated in the local government comprehensive plan(s). As in the delineation of upland land uses through zoning, the intention of delineating a preserve into management areas is to guide development activities on the state-owned submerged lands to areas where it is more appropriate, and to provide standards by which proposed uses and activities must comply with. The intent of these management area classifications is to make potential development activities compatible with resource protection goals.

Designated land uses are incorporated into the classification of management areas because use of the adjacent uplands has a direct bearing on the intensity of demand for uses of state-owned submerged lands. The Aquatic Preserve Program has no jurisdiction over the designated use of the adjacent uplands. The incorporation of the designated land use into the management area classification is primarily an acknowledgement of how local government has chosen to have a certain area developed; however, this upland designation also serves as a tool in designating compatible uses of the submerged lands in accordance with upland uses. Specific land use categories to be incorporated in the classification of management areas include:

**Single-Family (SF):** This category represents state-owned submerged lands adjacent to land designated on an approved Future Land Use Map for a county and/or municipality as single-family residential. It is intended to include areas using the adjacent portion of the aquatic preserve solely for private recreational activities.

**Multi-Family (MF):** This category represents state-owned submerged lands adjacent to land designated on an approved Future Land Use Map for a county and/or municipality as multi-family residential. It is intended to include areas where more than one private residence are using the adjacent portion of the aquatic preserve solely for private,

recreational activities. The associated residences include townhouses, trailer parks, condominiums, apartments, and any other group of multi-family dwellings. They may also include a group of single-family property owners, as in the case of a homeowners association, that desires to construct any of the above-mentioned structures for the mutual benefit of the group.

**Preservation (P):** This category represents state-owned submerged lands adjacent to land designated on an approved Future Land Use Map of a county and/or municipality as preservation/conservation. Upland ownership can be either public or private.

Each of the land use classifications listed above is assigned an appropriate number to identify the resource value of the adjacent submerged lands. The methodology used to determine this resource value is outlined in the most recent version of the Florida Department of Natural Resources, **"Methods Manual for Field Inspections within Aquatic Preserves."**

If an area within the preserve is identified as a **Primary Resource Protection Area (PRPA)**, then it will be assigned a resource value of **"1"**. A PRPA essentially combines Resource Protection Areas 1 and 2, as defined in Sections 18-20.003(31), and 18-20.003(32), F.A.C. Resource attributes which determine a PRPA include:

1. non-exotic and non-evasive aquatic/wetland vegetation (e.g., marine and freshwater grasses, attached algae, mangroves, marsh vegetation, cypress, and mixed hardwoods) that covers more than 1% of the surveyed area;

2. harvested bivalves (hard clams and oysters) with a clam frequency greater than 20% within the surveyed area or with oyster bars with a total surface area density greater than 5 square meters;

3. unvegetated soft-bottom communities (e.g., infaunal invertebrates) with a Shannon-Weaver Diversity Index greater than 1.00;

4. hard-bottom communities (e.g., corals, worm reefs, rock outcrops) that have a frequency greater than 5% within the survey area;

5. species designated as endangered, threatened, or of special concern (as contained in the latest update of the Florida Game and Fresh Water Fish Commission's and U.S. Fish and Wildlife Service's lists) that use the area for habitat (e.g., feeding, mating, breeding, refuge, or nesting); and

6. nesting sites for solitary or colonial birds.

Submerged areas that are characterized by the absence of the above resource attributes will be designated as a **Secondary Resource Protection Area (SRPA)**, and will be assigned a resource value of **"2"**. A SRPA is a Resource Protection Area 3 as defined by Section 18-20.003(33), F.A.C.

As stated previously, resource values are to be incorporated into the classification of management areas. For instance, if a submerged area within the preserve is determined to have a resource value of 1 and the adjacent uplands is zoned as single-family residential (SF), then this management area would be classified as **SF/1.**

In the following section of this chapter, minimum criteria are outlined for a number of uses and activities that can occur in the preserve. These minimum criteria, provided by Chapter 18-20, F.A.C., apply to the uses and activities designated for each management area.

## C. MINIMUM CRITERIA FOR ALLOWABLE USES

Chapter 18-20, F.A.C. (Appendix A), provides the minimum standards in regard to utilization of the state-owned submerged lands within an aquatic preserve. The minimum standards for each allowable use are detailed below:

**All Dock Structures**: Section 18-20.004(5)(a), F.A.C., states that all docking facilities within an aquatic preserve shall meet 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 % of the width of the waterbody at that particular location, whichever is less;

2. areas of significant biological, scientific, historic, and/or aesthetic value require special management considerations. Modifications to docks in these areas may be more restrictive and shall be determined on a case-by-case basis;

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

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.

Furthermore, it will be the policy for all docking structures to access a depth of -4 feet at mean low water (MLW).

**Private Residential Single Docks**: Section 18-20.004(5)(b), F.A.C., states that private residential single docks, as defined by Section 18-20.003(23), F.A.C., shall conform to the following specific design standards and criteria:

1. any main access pier shall be limited to a maximum width of four feet;

2. must be designed and constructed to ensure maximum light penetration;

3. can extend from the shoreline to a maximum depth of -4 feet at (MLW);

4. when the water depth is -4 feet MLW 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 shall be designed to allow for maximum water circulation and built in such a manner as to be part of the dock structure;

6. the maximum size of the terminal platform shall be 160 square feet;

7. dredging to obtain navigable water depths is strongly discouraged.

**Private Residential Multi-Slip Docks**: Section 18-20.004(5)(c), F.A.C., states that private residential multi-slip docks, as defined by Section 18-20.003(24), F.A.C., shall conform to the following 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 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 Areas 1 and 2 (= PRPA), except as allowed pursuant to Section 258.42(3)(e)1, F.S., while dredging in Resource Protection Area 3 (= SRPA) shall be strongly discouraged;

3. water depths adjacent to and within the proposed mooring area shall have a minimum clearance of one foot between the deepest draft vessel and the submerged bottom at MLW;

4. main access piers and connecting walks shall not exceed six feet in width;

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

6. finger piers shall not exceed three feet in width and 25 feet in length;

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

8. specific provisions of Section 18-20.004(5)(d), F.A.C., for commercial, industrial, and other revenue generating/income related docking facilities shall also apply to private residential multi-slip docks.

**Commercial-Industrial Docking Facilities and Marinas**: Section 18-20.004(5)(d), F.A.C., states that commercial, industrial, and other revenue generating/income related docking facilities, as defined by Section 18-20.003(10), F.A.C., shall conform to the following specific design criteria and standards:

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

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

3. 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;

4. the siting of docking facilities shall take into account the access of boat traffic to avoid marine seagrass beds or other aquatic resources in the surrounding area;

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

6. 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;

7. marina siting will be coordinated with local governments to ensure consistency with local plans and ordinances.

8. marinas shall not be sited within state designated manatee sanctuaries.

9. 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.

Exceptions to the standards and criteria for any docking facility may be considered, but only upon demonstration that such exceptions are necessary to ensure reasonable riparian ingress and egress.

**Sale, Lease, or Transfer of Lands**: Section 18-20.004 (1)(b), F.A.C., states that there shall be no further sale, lease, or transfer of sovereignty lands within an aquatic preserve unless such transaction is in the public interest. Section 18-20.004(2), F.A.C., specifically defines the public interest test (see Appendix A for a copy of Chapter 18-20, F.A.C.). Section 18-20.004(1)(e), F.A.C., states that a lease, easement, or consent of use may be authorized for only the following activities: (1) a public navigation project; (2) maintenance of an existing navigation channel; (3) installation or maintenance of approved navigational aids; (4) creation or maintenance of a commercial/industrial dock, pier, or marina; (5) creation or maintenance of private docks; (6) minimum dredging of navigation channels attendant to docking facilities; (7) creation or maintenance of shore protection structures; (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 and quantity of the preserve and which are consistent with the Florida Aquatic Preserves Act (Sections 258.35 - 258.46, F.S.). Section 18-20.004(1)(f), F.A.C., states that structures to be built in, on, or over sovereignty lands are limited to those necessary to conduct water-dependent activities.

**Utility Easements**: Section 18-20.004(3)(c), F.A.C., states that utility cables, pipes, and other such structures shall be constructed and located in a manner that will cause minimal disturbance to submerged resources (e.g., seagrass beds, oyster bars) and do not interfere with traditional uses. It will be the policy to place additional utilities into

designated corridors or existing easements within the Mosquito Lagoon Aquatic Preserve if no other reasonable alternative exists.

**Spoil Disposal**: Section 18-20.004(3)(d), F.A.C., states that spoil disposal within an aquatic preserve shall be strongly discouraged and may be approved only where the applicant has demonstrated that there is no other reasonable alternative and that the spoiling activity may be beneficial to, or at a minimum, not harmful to the quality or utility of the preserve. It will be the policy to prohibit spoil disposal within the Mosquito Lagoon Aquatic Preserve.

**Piers**: Piers shall be constructed in accordance with the minimum criteria provided by Section 18-20.004(5)(b), F.A.C. In addition, the following conditions apply to all piers: (1) the entire structure will be elevated to a minimum of 5 feet above the MHWL, (2) hand rails will be installed around the perimeter of the structure, (3) at least one "Docking Prohibited" sign will be posted and maintained on each side of the pier, (4) no temporary or permanent mooring of vessels will be permitted, and (5) dredging is prohibited when associated with pier construction and maintenance.

**Ramps**: Boat ramps will be reviewed on a case-by-case basis. Determining factors to be reviewed include: (1) the elimination or alteration of natural resources or habitat (e.g., seagrasses, shoreline vegetation, nesting areas), (2) the amount of dredging and/or filling of submerged lands, and (3) accessibility to the ramp from water and land routes.

Additional criteria for the repair, replacement, and expansion of existing structures are provided for in Chapter 18-21, F.A.C. Replacement and expansion of structures must comply with the minimum criteria provided for in Chapter 18-20, F.A.C.

Criteria more restrictive than those listed in Chapter 18-20, F.A.C., will be used if the biological and physical conditions of an area warrant it. As an example, docks may be limited in size to protect seagrasses. Areas requiring more stringent criteria will be referred to as special management areas and such areas will be labeled with the additional letter **"a"**. Again, as an example, if management area SF/1 requires more restrictive criteria, then this special management area would be classified as **SF/1a**.

## D. MANAGEMENT AREAS

In this section, management areas have been delineated for the Mosquito Lagoon Aquatic Preserve. Boundaries, descriptions, and allowable uses are listed for each area, however, the

final determination of allowable uses will be made by the Bureau or Submerged Lands and Preserve's staff on a case-by-case basis. Figure 8 is a map of all management areas within the preserve. The purpose of providing this map is to give some general guidance and an understanding of where the management areas lie within the preserve.

In addition to what is listed for allowable uses, certain activities are generally permissible in all management areas, in accordance with general rules. These include shoreline stabilization, maintenance dredging, and maintenance of channel markers.

For the purposes of this plan, the following conditions will apply: (1) the Atlantic Intracoastal Waterway (AIW) is exempt from aquatic preserve rules and regulations, pursuant to Section 258.42, F.S., and functions only as a boundary between management areas; and (2) certain activities are generally permissible in all management areas. These activities include shoreline stabilization, maintenance dredging, and maintenance of channel markers.

The trimming, cutting or removal of live and/or dead mangroves or other native wetland plant species within the aquatic preserve, except when necessitated by the pursuit of legally authorized projects, shall be prohibited in all the management areas.

Some management areas may have a specific activity occurring within that is not reflective of the overall upland use. As an example, an upland parcel consists of a fishcamp surrounded by single-family homes. The fishcamp may have preceded residential development and the aquatic preserve designation; therefore, it would be unreasonable to remove the facility. Conversely, marina expansion and new commercial-type activities may not be allowed in this management area because of the presence of seagrasses (or other resources) and/or the upland zoning restrictions. In such cases, the specific activity will be recognized as a "non-conforming use".

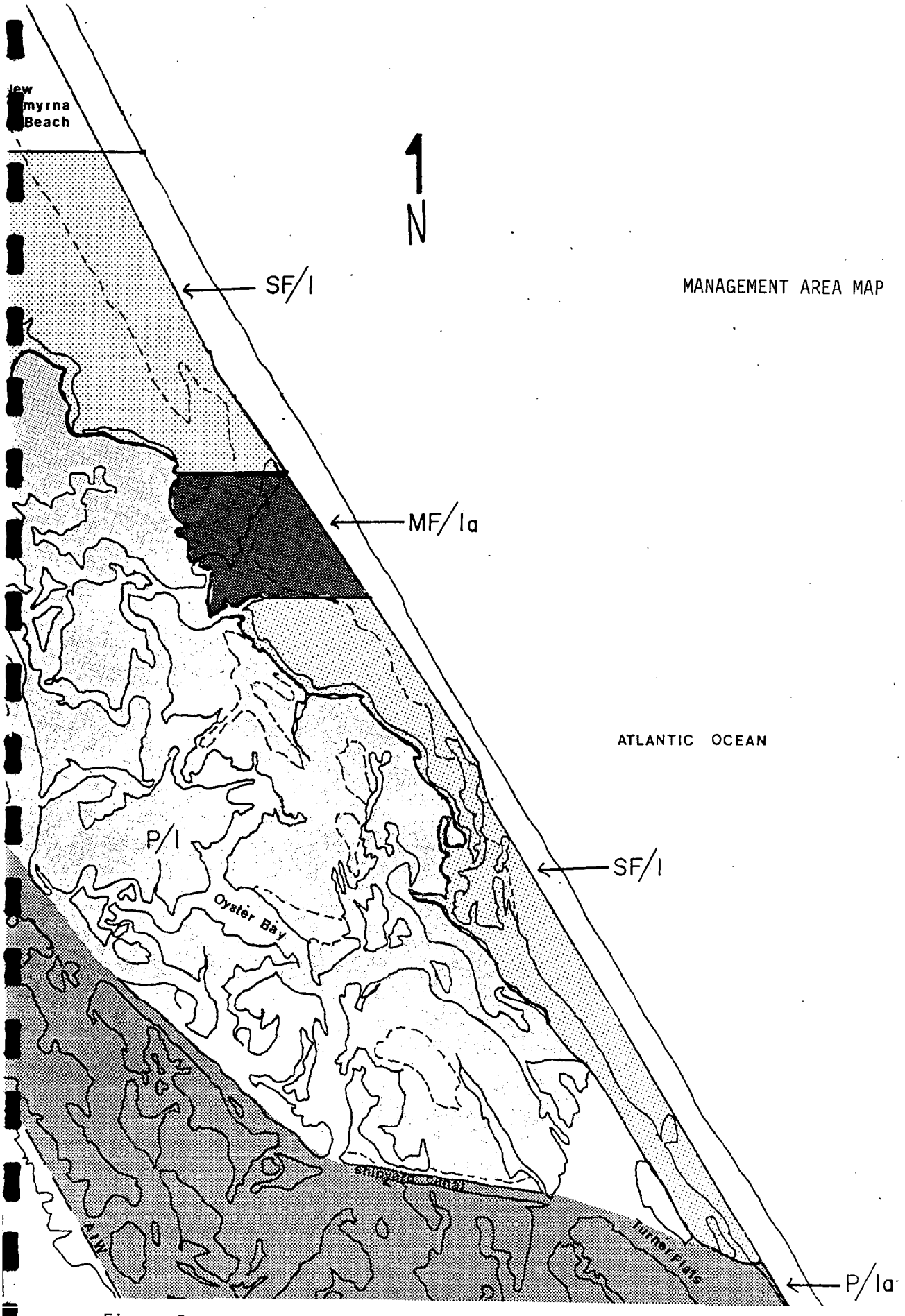
New Smyrna Beach
1
N
SF/1
MANAGEMENT AREA MAP
MF/1a
ATLANTIC OCEAN
P/1
SF/1
Oyster Bay
Shipyard Canal
Turner Flats
P/1a

Figure 8

**MANAGEMENT AREA P/1**
(Preservation/Primary Resource Protection Area)

Boundaries: All the submerged lands deeded over to the federal government. This area covers all the land (submerged and upland) under the jurisdiction of the Canaveral National Seashore, the Merritt Island National Wildlife Refuge, NASA, and the Kennedy Space Center.

Description: This area is characterized by large shallow open water areas as well as areas inundated with tidal creeks. The tidal islands are generally composed of a red mangrove fringe with occasional Spartina marsh, and black mangrove interior with various wetland plant species. The submerged bottom varies from a bare sand/mud/muck to dense coverage of seagrasses. Hard clams (Merceniara spp.) and oysters (Crassostria virginica) are harvested both commercially and recreationally.

Allowable uses: This deed "is for the express purpose of inclusion in the Canaveral National Seashore to manage the lands for wilderness/preservation purposes...In the event that any development proposals are contemplated which may be contrary to these objectives, concurrence of the said Board of Trustees shall be required" (Board, 1986). Additionally, arthropod control is an allowable use.

**MANAGEMENT AREA SF/1**
(Single Family/Primary Resource Protection Area)

There are two designated areas in this category.

(1)
Boundaries: On the barrier island from the northern boundary of the federally-owned land north to .47 miles south of Bottle Island Drive. Because of the nature of the lagoon in this area the Management Area extends west (waterward) until an island (upland) is encountered.

Description: The upland in this management area is zoned for single-family units. Non-conforming use features include an area of commercial development consisting of a fishcamp with a ramp, boat dock, and a restaurant. The submerged bottom is generally comprised of beds of Cuban shoal grass (Halodule wrightii), oyster bars, and attached algae. Water depths are generally less than 2.5 feet. The shoreline is a mixture of varying conditions (e.g., natural, rip rap, seawalls, turfgrass).

Allowable uses: Private residential single docks; piers; ramps; utility easements

(2)
Boundaries: On the barrier Island from the southern city limits of New Smyrna Beach south to Bottle Island Drive. Because of the nature of the lagoon in this area the Management Area extends west (waterward) until an island (upland) is encountered.

Description: There is a man-made channel that runs parallel to the shoreline along most of this area. Access to the main part of the lagoon is via several man-made channels running west and perpendicular to this shoreline channel. These channels are generally 20 - 30 feet wide and 2 - 4 feet deep.

Allowable uses: Private residential single docks; piers; ramps.

**MANAGEMENT AREA MF/1a**
(Multi-Family/Primary Resource Protection Area)
special management area

Boundaries: On the barrier island from Bottle Island Drive south .47 miles.

Description: The uplands are removed from the open areas of Mosquito Lagoon by mosquito impoundments, except for a small embayment on the north end of this Management Area. This embayment does not provide for boat/canoe access to the open waters of the lagoon. The mosquito impoundments consist of red and black mangrove, Spartina, and various other wetland vegetation. Water depths range from a few inches to less than 2 feet.

Allowable uses: Since the uplands have no access to the open waters of the lagoon it is irrelevant to allow uses on or over state-owned lands; therefore, no uses are allowed.

**MANAGEMENT AREA P/1**
(Preservation/Primary Resource Protection Area)

Boundaries: South of the southern city limits of the city of New Smyrna Beach to the northern boarder of the federal-owned land and east of the AIW to the westernmost boarders of the SF/1 and MF/1a Management Areas.

Description: This area is characterized by numerous tidal islands and tidal creeks. The wetlands consist of red and back mangroves and various other wetland vegetation. The submerged bottom varies from a bare sand/mud/muck to dense coverage of seagrasses and attached algae. Hard clams

(Merceniara spp.) and oysters (Crassostria virginica) are harvested both commercially and recreationally. Large areas serve as mosquito impoundments and are activity managed by the East Volusia Mosquito Control District.

Allowable uses: Private residential single docks; piers; arthropod control.

# CHAPTER VI

# SITE-SPECIFIC MANAGEMENT ISSUES

The first part of this chapter deals with management issues involving specific activities, as opposed to permitted structures, that directly affect the biological integrity of the Mosquito Lagoon Aquatic Preserve. The issues that are specific to this area include, but are not limited to, the protection of designated species and their habitat, and dredging. Other issues may arise as future use intensifies, and these will be identified as they develop.

The second part of the chapter establishes management initiatives for these issues, providing additional management direction not set forth by Chapter 258, F.S., Chapter 18-20, F.A.C., or Chapter V of this plan. These management initiatives are intended to be used as a tool by the Department of Natural Resources in managing the preserve, and in encouraging the local governments and/or other agencies to provide the necessary restrictions for resloving those issues and/or needs.

## A. MANAGEMENT ISSUES AND SPECIAL NEEDS

### 1. PROTECTION OF DESIGNATED SPECIES

Species whose existence is threatened are currently designated by four agencies: the Florida Game and Fresh Water Fish Commission (GFWFC), the Florida Department of Agriculture and Consumer Services (DACS), the U.S. Fish and Wildlife Service (FWS), and the Convention of Trade in Endangered Species of Wild Fauna and Floras (CITES). Each agency has its own focus, and the regulations regarding what level of protection is given to which species reflects this orientation. For example, the GFWFC does not designate plant species, whereas the DACS addresses plants only.

Designated species are afforded some protection by other agencies as well. These measures do overlap and, thus, reinforce each other. The DNR is actively involved in protecting manatees and sea turtles, both of which are designated by the GFWFC and the FWS. The Marine Fisheries Commission (MFC) regulates the taking of certain salt water species which includes snapper, seatrout, grouper, and redfish. All of these species are present in this preserve. Some of the protected species are detailed in the following:

Manatees: The most recognizable, and perhaps the best known, of the designated animal species found in Mosquito

Lagoon is the West Indian manatee. According to Chapter 16N-22, F.A.C., DNR affords the manatee some level of protection by imposing boat speed restrictions in certain areas of the coastal waters of Florida.

There are two "Slow Speed/No Wake Zones" in Mosquito Lagoon proper: 1) the AIW adjacent to the city of Edgewater in association with the municipal waterwater treatment facility, a known manatee congregating area; and 2) the AIW extending north from the city of Oak Hill approximately 5 miles. All of Haulover Canal is also a "Slow No Wake Zone". The zones in Edgewater and Haulover Canal were designated for the protection of the manatee, while the zone in Oak Hill was designated for the protection of the shoreline from the wake of large vessels. None of these zones are within the Mosquito Lagoon Aquatic Preserve.

Additional manatee protection will be forthcoming through the state and local levels. On October 24, 1989, the Governor and Cabinet approved a number of recommendations from DNR designed to improve manatee protection and boating safety. It is DNR's goal to coordinate with local governments toward effectively implementing these recommendations. One recommendation dealt with the development of rules to implement speed zones in 13 counties identified as having significant manatee activity. Both Volusia and Brevard counties are designated as "key" manatee protection counties. The Department of Natural Resources has requested that each of these "key" counties either select one of DNR's speed zone options or develop their own site-specific manatee protection speed zones. Both counties have elected to develop their own manatee protection plans. Volusia and Brevard counties have submitted their proposed plans to DNR for review. If accepted, these plans will be recommended for rulemaking; however, no additional speed zone areas are proposed for the preserve.

2. DREDGING

Dredging is an activity that is briefly discussed in Chapter V and is directly related to the increase in development activity on the barrier island. Since the lagoon supports tidal marshes, mangroves, and large beds of seagrass there are few sites suitable for new dredging; however, it is possible that the increase development activity in this area will result in an increase in dredging applications in order to obtain water deep enough to accommodate boats.

## B. MANAGEMENT INITIATIVES

This section of the plan contains a number of management initiatives that address the issues identified as being

particular to the Mosquito Lagoon Aquatic Preserve. The major management initiatives for these issues include:

1. Promote recognition of the fact that seagrasses provide valuable habitat and a food source for manatees as well as for other organisms essential to the biological integrity of the lagoon. This biological integrity translates into a significant economic fisheries value to this region.

2. Protect all biological resources and water quality by prohibiting fueling facilities in the lagoon.

3. Promote the revegetation of shorelines by stipulating in the permit review process that native wetland vegetation be used for shoreline stabilization either alone or in conjunction with riprap.

4. Reduce the impact of turbidity on seagrasses by prohibiting new dredging for the sole purpose of accommodating boats with drafts greater than the mooring or access capabilities of a given site.

# CHAPTER VII

# MANAGEMENT ACTION PLAN

This chapter establishes the guidelines that allow for the management and protection of the Mosquito Lagoon Aquatic Preserve's natural and cultural 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, one must know what the resources are, what their functions are, if these functions are important to the maintenance of the system, and where these resources are located. Additional efforts consist of 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 management strategies for an aquatic preserve program must consist of a variety of components such as resource management, resource protection, research, and environmental education.

In general, the role of the program in management of the aquatic preserve includes: (1) providing information on the ecological functions and economic importance within the lagoon, (2) overseeing those activities that affect the natural resources within the lagoon, (3) ensuring that accurate biological and physical information is considered in permit-related issues and planning decisions, (4) ensuring that all statutes and rules regarding the lagoon's natural resources are complied with and that violations are enforced by the appropriate authorities, (5) conducting on-site surveys for specific activities, (6) coordinating with other resource management and enforcement agencies, (7) educating the public on the inherent values associated with natural resources, (8) conducting or cooperating with other entities to conduct pertinent research projects, and (9) developing a comprehensive management program that can be periodically updated.

## A. RESOURCE MANAGEMENT

The overall goals of resource management within aquatic preserves are: (1) conducting and maintaining resource inventories, (2) assessing the impact of human activities on the resources, (3) establishing habitat restoration programs, and (4) 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 vegetation for this section of the lagoon.

Task A.1.1.1: Conduct an inventory of seagrasses and attached algae by using LANDSAT imagery, aerial photography, and groundtruthing efforts. This inventory shall be conducted once every four years.

Tasks A.1.1.2: The database generated from this inventory will be used to create biological resource maps through the use of pcARC/INFO.

Task A.1.1.3: Staff will coordinate this inventory effort with NASA and/or Canaveral National Seashore staff.

Objective A.1.2: To conduct and maintain a resource inventory of emergent vegetation for this section of the lagoon.

Task A.1.2.1: Conduct an inventory of mangroves, marsh grasses, and other shoreline vegetation by using LANDSAT imagery, aerial photography, and groundtruthing efforts. This inventory shall be conducted once every four years.

Tasks A.1.2.2: The database generated from this inventory will be used to create biological resource maps through the use of pcARC/INFO.

Task A.1.1.3: Staff will coordinate this inventory effort with NASA and/or Canaveral National Seashore staff.

Objective A.1.3: To conduct an inventory of designated species and their habitats for this section of the lagoon.

Task A.1.3.1: Conduct an inventory of designated species and their habitats by using data from existing literature and, if any, current research studies. This inventory shall be conducted once every two years.

Task A.1.3.2: Staff will coordinate this inventory effort with NASA and/or Canaveral National Seashore staff.

Objective A.1.4: To conduct an inventory of wading birds and their habitats for this section of the lagoon.

Task A.1.4.1: Conduct an inventory of coastal birds that feed, roost, loaf, and nest throughout this section of the lagoon by using existing literature and, if any, current research studies.

Task A.1.4.2: This inventory shall be conducted once every three years.

Task A.1.4.3: Staff will coordinate this inventory effort with NASA and/or Canaveral National Seashore staff and the Florida Game and Fresh Water Fish Commission.

GOAL A.2: ASSESS THE EFFECT OF HUMAN ACTIVITIES/CUMULATIVE IMPACTS

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

Task A.2.1.1: Conduct a survey of all dock/pier structures to determine if there is a direct relationship between the presence of structures and the elimination of natural resources. This survey shall contain at a minimum:

a) the length of the structure waterward of the MHWL or the OWL;
b) the size of the terminal platform, if applicable;
c) the height (elevation) of the structure above the MHWL or the OWL;
d) the water depth at the structure's terminus;
e) the number of boats using the structure;
f) the functional condition of the structure;
g) and accessory facilities and ancillary uses associated with the structure;
h) the structure's use category (e.g., single-family, commercial); and
i) an inventory of the biological resources as outlined in the Department of Natural Resources' **"Methods Manual for Field Inspections within Aquatic Preserves."**

Objective A.2.2: To inventory and assess cumulative impacts on the natural resources.

Task A.2.2..1: Conduct a survey of all docks/piers, dredged areas, shoreline stabilization, and other applicable human uses. This survey shall be conducted as follows:

a) the docks/piers inventory will be conducted in accordance with Task A.2.1.1;
b) a survey of all dredged areas will be made and include at a minimum:
    1) the length, width, and depth of the dredged area;
    2) depth profiles of the surrounding area;
    3) traditional use of the area;
    4) biological resources in the dredged and surrounding area; and
    5) review of information on pre-existing resource conditions;
c) a survey of all shoreline stabilization projects will be done and include at a minimum:
    1) the total length of riparian shoreline,

2) the length of shoreline stabilization,
3) the technique and materials used in stabilizing the shoreline, and
4) review of existing and pre-existing biological resources.

GOAL A.3: HABITAT RESTORATION

Objective A.3.1: To identify suitable unvegetated and disturbed shoreline areas as restoration sites.

Task A.3.1.1: All suitable shoreline ares will be revegetated with mangrove and/or Spartina spp. plantings.

GOAL A.4: WATER QUALITY

Objective A.4.1: To coordinate with the federal government, DER, and the St. Johns River Water Management District (SJRWMD) toward improving water quality in the lagoon.

Task A.4.1.1: Enter into a mutual agreement with the SJRWMD in order to accomplish certain elements of the Indian River Lagoon SWIM Plan.

Task A.4.1.2: Coordinate with DER on review of projects/proposals that could effect water quality in the lagoon.

Task A.4.1.3: Coordinate with NASA and the Canaveral National Seashore on review of projects/proposals that could effect water quality in the lagoon.

Task A.4.1.4: Coordinate with local mosquito control districts to review arthropod control management plans submitted in compliance with Section 388.4111, F.S.

GOAL A.5: COORDINATE WITH LOCAL GOVERNMENTS ON LAND USE PLANNING

Objective A.5.1: To coordinate with local planning departments, regional planning councils, and the Department of Community Affairs to develop/revise/evaluate local government comprehensive plans and amendments.

Task A.5.1.1: Establish role as field representative for DNR Aquatic Preserves with local governments.

Task A.5.1.2: Contact local planners to assist in the development of policies and ordinances that regulate activities affecting state-owned submerged lands.

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. Since it is not feasible to target all of the organisms adequately, the primary thrust of the resource protection element 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: (1) protection of the existing submerged vegetation (e.g., seagrass beds, attached algae); (2) protection of emergent vegetation (e.g., mangroves, Spartina spp.); and (3) protection of habitat of designated species.

GOAL B.1: PROTECTION OF SUBMERGED VEGETATION

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

Task B.1.1.1: The field staff will develop a written policy describing a scientifically based, standardized method to inventory the submerged biological resources at the project site. At a minimum, this policy will contain the following information:

a) The area to be surveyed will be described:
   1) as a polygon, and
   2) it will include a buffer zone surrounding the project of sufficient size so as to include a majority of the potentially affected area.

b) How the survey is to be performed:
   1) Two areas within the survey area will be assessed:
      i. the submerged bottom, including:
         * a description of all communities/habitats,
         * a description of the bottom type,
         * depth profiles,
         * tidal amplitude and stage (where appropriate), and
         * a physical description of the surrounding waterbody;

      ii. the shoreline (where appropriate), including:
         * a description of the vegetation,
         * a description of any existing structures,
         * notation of any nesting birds, and
         * notation of any designated species.

c) a definition of a Resource Protection Area. This definition will be used to determine if significant resources exist within the expected area of impact. It will consider, but is not limited to:

1) seagrasses and algae,
2) mangroves and marsh grass,
3) harvestable bivalves,
4) unvegetated soft-bottom communities,
5) hard-bottom communities,
6) designated species, and
7) nesting sites for solitary or colonial birds.

Task B.1.1.2: If at the time of adoption of this plan the Department's **"Methods Manual for Field Inspections within Aquatic Preserves"** has been adopted, it will be used to assess resources within the preserve.

Task B.1.1.3: Coordinate with the appropriate regional DNR planner in order to process the field staff comments in a timely manner.

Task B.1.1.4: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

Objective B.1.2: To ensure that structures and projects that have been authorized are in compliance with the authorized conditions.

Task B.1.2.1: Coordinate with the appropriate regional DNR planner to receive copies of all letters of consent, easements agreements, lease agreements, and other forms of authorizations.

Task B.1.2.2: Report variations from the authorized conditions to the appropriate DNR enforcement agent.

Task B.1.2.3: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

Objective B.1.3: To ensure that structures and projects that have been built or are occurring have been authorized.

Task B.1.3.1: Report activities that do not appear to have been authorized to the appropriate DNR enforcement agent.

Task B.1.3.2: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

Objective B.1.4: To ensure that human use of the preserve does not degrade the submerged vegetation through turbidity.

Task B.1.4.1: Require that all projects that are of a dredge and fill nature use current turbidity control practices.

GOAL B.2: PROTECTION OF EMERGENT VEGETATION

Objective B.2.1: To minimize potential damage to emergent vegetation through the review of all applications for use of state-owned land in the aquatic preserve.

Task B.2.1.1: The field staff will develop a written policy describing a scientifically based, standardized method to inventory the emergent vegetation below the MHWL or the OWL at the project site and shall include at a minimum the following:

a) describing the area to be surveyed:
   1) as a polygon;
   2) with a buffer zone surrounding the project of sufficient size so as to include a majority of the affected area.

b) Detailing how the survey is to be performed including:
   1) a description of the vegetation;
   2) any existing structures;
   3) any nesting birds; and
   4) any designated species;

Task B.2.1.2: If at the time of adoption of this plan the Department's **"Methods Manual for Field Inspections within Aquatic Preserves"** has been adopted it will be used to assess resources within the preserve.

Task B.2.1.3: Coordinate with the appropriate regional DNR planner in order to process the field staff comments in a timely manner.

Task B.2.1.4: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

Objective B.2.2: To ensure that structures and projects that have been authorized are in compliance with the authorized conditions.

Task B.2.2.1: Coordinate with the appropriate regional DNR planner to receive copies of all letters of consent, easement agreements, and lease agreements.

Task B.2.2.2: Report variations from the authorized conditions to the appropriate DNR enforcement agent.

Task B.2.2.3: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

Objective B.2.3: To ensure that structures and projects that have been built or are occurring have been authorized.

Task B.2.3.1: Report activities that do not appear to have been authorized to the appropriate DNR enforcement agent.

Task B.2.3.2: Coordinate when possible with other appropriate agencies that have regulatory authority for these projects.

GOAL B.3: PROTECT HABITAT OF DESIGNATED SPECIES

Objective B.3.1: To comply with Objective C.2.1 through the implementation of Tasks C.2.1.1 and C.2.1.2.

Objective B.3.2: To ensure that these habitats are given maximum protection through the permit-review process.

Task B.3.2.1: 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

Effective management of any biological system relies almost entirely on information as to how that system functions, and research is the foundation upon which this information is based. Estuarine/lagoonal systems are imperfectly understood, and it is essential that some of the gaps in this understanding be filled. The goals of the research program within the Bureau of Submerged Lands and Preserves are therefore primarily toward applied research, rather than toward basic, or theoretical, research.

The goals of the research program are (1) to gain a better understanding of what factors are essential to the continued biological integrity of the major habitats (beds of submerged aquatic vegetation, mangrove fringes, marshes, oyster bars, and tidal flats) within the aquatic preserve and (2) 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 seagrass and algal beds.

Task C.1.1.1: Pursue, at the bureau level, funding to conduct research on the life cycles of the seagrass and algal species present in this preserve.

Task C.1.1.2: Pursue, at the bureau level, funding to conduct research on the effects of dock/pier shading on the various species of seagrass present in this preserve.

Objective C.1.2: To determine the primary factors that affect the survival of mangrove species.

Task C.1.2.1: Promote and, whenever feasible, participate in research on the life cycles of the mangrove species present.

Task C.1.2.2: Pursue, at the bureau level, funding to conduct research on the effects of mangrove trimming.

Objective C.1.3: To determine the primary factors that affect the survival of marsh species.

Task C.1.3.1: Pursue, at the bureau level, funding to conduct research on the colonization rates of smooth cordgrass (Spartina alterniflora) and mangroves.

Objective C.1.4: To determine the primary factors that affect the functioning of tidal flats.

Task C.1.4.1: Promote and, whenever feasible, participate in compiling an inventory of the benthic infauna present in tidal flats.

Task C.1.4.2: Promote and, whenever feasible, participate in research on the changes in tidal flat configurations.

Task C.1.4.3: Promote and, whenever feasible, participate in research on the rates of colonization by submerged and emergent vegetation on tidal flats.

Objective C.1.5: To determine the primary factors that affect the survival and functioning of oyster bars.

Task C.1.5.1: Promote and, whenever feasible, participate in compiling an inventory of oyster density and populations, and the benthic infauna present in the oyster bars.

Task C.1.5.2: Promote and, whenever feasible, participate in research on the changes in oyster density and populations.

Task C.1.5.3: Promote and, whenever feasible, participate in water quality studies designed for the classification of the shellfish growing waters.

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, and any other relevant agency/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: If additional information is necessary, establish a system of seasonal monitoring sites to determine this segment of the preserve's 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

The integrity of the biological system within this segment of the Indian River Lagoon can be affected, both directly and indirectly, by the public's enjoyment of the preserve. Without a biologically "healthy" lagoon, 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. This public is composed of a number of segments: (1) elementary students; (2) waterfront property owners; (3) user groups (e.g., developers and marine contractors); (4) special interest groups (e.g., Audubon Society, boating clubs); and (5) local, regional, and state government agencies that are involved in making decisions regarding the lagoon.

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

DNR publications, Environmental Education in Florida: Needs and Goals, and A Guide for Environmental Education, are available references to aid in accomplishing this goal.

GOAL D.1: PUBLIC EDUCATION TOWARD WISE RESOURCE USE

Objective D.1: To provide information to existing environmental education programs at public and private schools and to coordinate with other local educational centers.

Task D.1.1: Notify the county School Boards of the aquatic preserve's environmental education efforts and the availability of its staff to assist or provide guidance for their existing educational programs.

Task D.1.2: Coordinate with the Canaveral National Seashore on their scheduled interpretive talks.

Objective D.2: To establish and conduct educational programs where such programs do not currently exist.

Task D.2.1: Notify the county School Boards of the field staff's intent to establish environmental education programs in their jurisdictional area.

Task D.2.2: Conduct off-site classroom instruction and field trips in the lagoon.

Task D.2.3: Conduct or assist in informal seminars, classes, workshops for public discussion of current resource management issues, resource utilization, and regulatory activities. Public forums such as these should involve private and public interests.

Objective D.3: To produce educational literature and materials that inform the public of the lagoon's natural and cultural resources and the importance of preserving and protecting these resources.

Task D.3.1: Develop brochures, pamphlets, and/or booklets that describes to the public: (1) the purpose of and activities conducted at the local aquatic preserve office and (2) general information of the preserve's ecosystem.

Task D.3.2: Submit newspaper articles or radio announcements designed to educate the general public about the ecological functions and economic importance of the natural resources within a preserve. This approach may be the vehicle with which to disseminate the findings of recent research efforts to the public.

Objective D.4: To provide informal workshops to instruct other environmental educators of the lagoon's natural resources.

Task D.4.1: Schedule biannual instructional workshops designed to teach other environmental educators.

Objective D.5: To establish an on-site environmental education center.

Task D.5.1: Pursue, at the bureau level, the necessary funds to construct an environmental learning center adjacent to the preserve.

# CHAPTER VIII

# 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 Mosquito Lagoon Aquatic Preserve. A reference matrix of these regulatory programs and their jurisdictions is presented in Table 2. One function of the aquatic preserve program is to coordinate with these agencies to achieve common goals relevant to aquatic preserve management.

## A. FEDERAL AGENCIES

A number of federal agencies have property interests, construction activities, regulation programs, research activities, and land/wildlife management programs that deal either directly or indirectly with the aquatic preserves. These federal agencies include: U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Fish and Wildlife Service, the National Park System, and the National Marine Fisheries Service.

The U.S. Army Corps of Engineers (COE) has jurisdiction over inland navigable waters under the Rivers and Harbors Act of 1899. A revision of the Rivers and Harbors Act in 1968 extended the Corps' jurisdiction allowing the agency to consider the fish and wildlife, conservation, pollution, aesthetics, ecology, and other relevant factors of a project. The Corps Regulatory Program expanded in 1972 with the Federal Water Pollution Control Act Amendments, also known as the Clean Water Act (CWA). Section 404 of this act requires the Corps to control dredge and fill activities. In 1977, amendments to the CWA extended this jurisdictional responsibility to wetlands. The Corps also contributes 50% of the funds reimbursed to the Water Management Districts by the Department of Natural Resources for aquatic plant control.

The Mosquito Lagoon is monitored by the U.S. Coast Guard (USCG) for boating safety (including search and rescue operations) and navigational problems, and to enforce maritime laws. The Coast Guard Auxiliary, an organization of volunteers, performs boating safety inspections, conducts boating classes and assists in search and rescue operations.

The U.S. Environmental Protection Agency (EPA) has jurisdiction over surface waters in the state. Enforcement authority was given under the Clean Water Act of 1968 and

broaden under the 1977 revision. In general, the EPA is responsible for pollution control and abatement, including: air, water, noise, solid waste, toxic waste, and radiation. The agency reviews permits issued by the Department of Environmental Regulation for the treatment, disposal, and storage of hazardous wastes. Authority is divided between EPA and USCG regarding the discharge of oil or hazardous substances into surface water.

The U.S. Geological Survey (USGS) performs surveys and research pertaining to topography and geology as well as monitoring the mineral and water resources of the Mosquito Lagoon region.

The U.S. Fish and Wildlife Service (USFWS) is responsible for fish and wildlife and their habitat as authorized in the; Coastal Barrier Resources Act (COBRA), National Environmental Protection Act, Migratory Bird Act, Endangered Species Act, and the Fish and Wildlife Coordination Act (FWCA). Under provision of the FWCA, USFWS must be consulted before COE can submit a plan for Congressional approval. The USFWS comments on the impacts of proposed projects on endangered species, migratory birds, and other fish and wildlife and their habitats. They are directed to prepare environmental impact assessments or statements for proposed projects by the COE and are authorized to issue "Jeopardy Opinion" against any proposed project which will negatively affect an endangered species (Barile et al., 1987).

The National Marine Fisheries Service (NMFS), under the Department of Commerce, is involved with fisheries management.

In accordance with the federal consistency review process, the Bureau of Submerged Lands and 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

Eight state agencies have programs that affect the resources or regulate activities within the aquatic preserves: Department of Natural Resources, Department of Environmental Regulation, Department of Health and Rehabilitative Services, Game and Freshwater Fish Commission, Department of Community Affairs, Marine Fisheries Commission, Department of State, and the Department of Transportation.

Although not a state agency, the Office of Planning and Budgeting of the Governor's Executive Office, in conjunction with the DER's Office of Coastal Management, 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 control 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, including aquatic preserves.

The Department of Natural Resources' (DNR) areas of responsibility include state lands, sovereignty submerged lands, and marine resources (e.g., marine research projects, sea turtle and manatee protection). The Florida Marine Patrol enforces safe boating laws as well as commercial and recreational fishing regulations. Authority granted under Chapters 18-20, and 18-21, F.A.C., gives DNR responsibility to regulate commercial and residential docks and other structures and activities conducted on submerged lands. Under Chapter 16C, F.S., DNR has responsibility for various aquatic plant control programs, including permit review for mechanical, biological, and chemical control of aquatic plants. Permits are also necessary under Chapter 16C-52, F.S., "Aquatic Plant Importation, Transportation, Cultivation, and Possession", for any persons cultivating, revegetating, or collecting aquatic plants.

The Department of Environmental Regulation (DER) has a broad range of responsibilities and receives its authority from State Law and some delegated from EPA. Generally, the DER responsibilities include water management, water quality, potable water, air quality, coastal management, wetland protection, power plant siting, and hazardous and solid wastes.

These responsibilities are accomplished through the following regulatory mechanisms: (1) establishment of state standards designed to protect natural systems and prevent harmful pollutants from entering these systems; (2) application of these standards through the permitting of potential sources of pollution and monitoring discharges for compliance; and (3) initiation of enforcement action for non-compliance with these standards.

The DER's rules significant to the aquatic preserve management program are Chapters 17-301, 17-302, 17-4, and 17-312, F.A.C. Authority for these rules is based in Chapter 403, F.S. Chapter 17-301 and 17-302, F.A.C., addresses water quality standards with the most stringent category being "Outstanding Florida Waters" (OFW). As an OFW, ambient conditions of the waterbody become the water quality standards, not a set of

prescribed values. The Mosquito Lagoon Aquatic Preserve became an OFW upon its designation as an aquatic preserve in 1970. Chapter 17-4, F.A.C., addresses permit requirements and Chapter 17-312, F.A.C., covers 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 the 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.

The Department of Health and Rehabilitative Services (HRS) has responsibilities to protect the public's health by overseeing functions that involve water supply, on-site sewage disposal, septic tank cleaning, and solid waste control. Authority for these responsibilities are found in Chapters 154, 381, and 386, F.S., and in the 10D Series of F.A.C., known as the "Sanitary Code." The local county health unit has jurisdiction overseeing these responsibilities.

Also affecting the public's health and the aquatic preserve program is the arthropod (mosquito) control program, which is usually administered through the local mosquito control district. Each of these public health programs holds the potential to create significant impacts upon the aquatic preserves.

The Game and Fresh Water Fish Commission (GFWFC) authority is provided in the rules and regulations of Chapters 39.101 and 39.102, F.A.C. This authority involves the implementation of specific regulations and their enforcement for protecting all wildlife and their habitats. As such, the GFWFC is the state coordinator for species designated for protection in Florida.

The Department of Community Affairs (DCA) and the Regional Planning Councils are authorized under Section 380.06, F.S., for administering the Development of Regional Impact (DRI) review 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.

Additionally, the DCA designates Areas of Critical State Concern (ACSC) which 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.

The DCA also oversees the development of Local Government Comprehensive Plans (LGCP) for both counties and municipalities, as required by the Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Part II, F.S. Subsection 163.3203(5), F.S., provides that DCA shall adopt rules for the review of local government land development regulations. Within one year of submission for review by DCA, local governments are required to adopt land development regulations which are consistent with their comprehensive plans, pursuant to Subsection 163.3167(2), F.S. The two elements within these plans that bear most directly on the aquatic preserve program are the Coastal Zone Management Element and the Conservation Element.

The Marine Fisheries Commission (MFC) was established as a rulemaking authority pursuant to Section 370.027, F.S. The seven members appointed by the Governor are delegated full rulemaking authority over marine life (subject to approval by the Trustees), with the exception of endangered species. This authority covers the following areas: (a) gear specifications, (b) prohibited gear, (c) bag limits, (d) size limits, (e) species that may not be sold, (f) protected species, (g) closed areas, (h) quality control codes, (i) open/closed seasons, and (j) special considerations related to egg-bearing individuals, and (k) relaying of clams and oysters. The MFC is also instructed to make annual recommendations to the Trustees regarding marine fisheries research priorities.

The Department of State (DOS), Division of Historical Resources (DHR) has the responsibility granted under Chapter 267, F.S., regarding the preservation and management of Florida's archaeological and historical resources. This responsibility includes those cultural resources located on state-owned lands including aquatic preserves.

The Department of Transportation (DOT) has responsibilities that include right-of-way and surface water runoff in the areas of roads, bridges, and causeways. The DOT also updates a state-wide aerial photographic survey every four years, rotating on a district basis.

C. REGIONAL AGENCIES

At the regional level, the management coordination network includes the St. Johns River Water Management, the East Coast Regional Planning Council, and the Florida Inland Navigation District. These organizations conduct activities that are on a broader scale than those of local governments.

The St. Johns River Water Management District (SJRWMD) was created by Chapter 61-69, Laws of Florida, as a public

corporation for carrying out Chapter 378, F.S., and is governed by provisions of Chapter 373, F.S. Chapters 40D-4 and 40D-40 were adopted to ensure continued protection of the water resources of the District including wetlands and other natural resources. The rules in these chapters are to implement the surface water management permit system mandated in Part IV of Chapter 373, F.S. The statutes resulted from passage of Chapter 84-79, Laws of Florida, the Warren G. Henderson Wetlands Protection Act of 1984.

SJRWMD has jurisdiction over and administers the permitting program for water use, well construction, stormwater discharge, surface water management, groundwater withdrawals, water level control and provides control of exotic plants (primarily hydrilla and water hyacinths) in cooperation with the COE.

It is the intent of the Florida Legislature (Chapter 87-97, Section 1-6, Laws of Florida) through the Surface Water Improvement Management (SWIM) Act, that the water management districts "design and implement plans and programs for the improvement and management of surface water." Since the Indian River Lagoon spans the SJRWMD and the South Florida Water Management District (SFWMD), both Districts were directed to develop a management plan which mandates restoration and protection for this priority water body. The Indian River Lagoon SWIM Plan was approved by the Governing Board's of both Districts in September 1989. It should be noted that the Mosquito Lagoon Aquatic Preserve is part of the larger Indian River Lagoon.

The East Coast Regional Planning Council (ECRPC) serves as a regional planning body for county and municipal governments. Its many functions include: (1) providing assistance to local governments with planning expertise, (2) serving as the regional representative for the DRI review process, (3) serving as a regional clearinghouse for state and federal projects and programs, (4) assisting local governments in securing grants, (5) conveying information from the local governments to the state and federal levels, and (6) preparing and administering the Regional Comprehensive Policy Plan.

The Florida Inland Navigation District (FIND) is a multi-county district created by the Legislature to provide spoil sites for maintenance of the Atlantic Intracoastal Waterway. Presently, FIND holds spoil easements over 137 spoil islands within the Indian River Lagoon.

D. LOCAL AGENCIES

The Mosquito Lagoon Aquatic Preserve spans two counties (Brevard and Volusia) and two municipalities, all of which

have areas of jurisdiction within Mosquito Lagoon and zoning regulations over the adjacent uplands. The municipalities are: The city of Oak Hill and the city of New Smyrna Beach. Appendix B lists those ordinances, both proposed and passed by these local governments, that relate to the management and protection of resources within the aquatic preserve.

# TABLE 2 : MANAGEMENT COORDINATION NETWORK

**LOCAL AGENCIES**

| | |
|---|---|
| LGT | Local Governments (Cities, Towns, Municipalities) |
| CGT | County Governments |
| LDD | Local Drainage Districts |
| MCD | Mosquito Control Districts |
| ICD | Inlet Commissions/Districts |
| SWC | Soil and Water Conservation Districts |

**REGIONAL AGENCIES**

| | |
|---|---|
| RPC | Regional Planning Council |
| WMD | Water Management Districts |
| FIN | Florida Inland Navigation District |

**STATE AGENCIES**

| | |
|---|---|
| DCA | Florida Department of Community Affairs |
| DER | Florida Department of Environmental Regulation |
| DNR | Florida Department of Natural Resources |
| GFC | Florida Game and Freshwater Fish Commission |
| DOS | Florida Department of State |
| DOT | Florida Department of Transportation |
| FMP | Florida Marine Patrol |
| FSG | Florida Sea Grant |
| MFC | Marine Fisheries Commission |
| DAC | Florida Department of Consumer and Agricultural Services |
| HRS | Florida Department of Health and Rehabilitative Services |

**FEDERAL AGENCIES**

| | |
|---|---|
| CG | United States Coast Guard |
| COE | United States Army Corps of Engineers |
| EPA | United States Environmental Protection Agency |
| FWS | United States Fish and Wildlife Service |
| NMF | National Marine Fisheries |
| GS | United States Geological Survey |

Source: modified from the Indian River Lagoon Joint Reconnaissance Report, 1987

| | Local | | | | | | Regional | | | State | | | | | | | | | | | Federal | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LGT | CGT | LDD | MCD | ICD | SWC | RPC | VMD | FIN | DAC | DCA | DER | DNR | GFC | HRS | DOS | DOT | FMP | FSG | MFC | CG | COE | EPA | FWS | NMF | GS |
| Dredge and Fill Permitting | ● | ● | | | | | | ● | ● | | | ● | ● | ● | | | | | | ● | ● | ● | ● | ● | | ● |
| Docks, Fishing Piers, Seawalls | ● | ● | | | | | | | | | | ● | ● | | | | | | | | | ● | | | | |
| Marinas | ● | ● | | | | | ● | | | | ● | ● | ● | | | | | | | ● | | ● | | ● | | |
| Submerged Lands Management | | | | | | | | | ● | | | | ● | | | | | | | | | | | | | |
| Habitat Protection | ● | ● | | | | | ● | ● | | | ● | ● | ● | ● | | | | ● | | ● | | ● | | ● | ● | |
| Mangroves/Wetlands Protection | ● | ● | | | | | ● | ● | | | ● | ● | ● | ● | | | | | | | | ● | | ● | | |
| Seagrass Protection | ● | ● | | | | | ● | ● | | | ● | ● | ● | | | | | | | | | ● | | ● | ● | |
| Habitat Restoration | | ● | | | | | | ● | | | ● | ● | ● | ● | | | ● | | | | | ● | | ● | | |
| Mangroves/Wetlands Restoration | | ● | | ● | | | | ● | | | ● | ● | ● | | | | | | | | | ● | | ● | | |
| Seagrass Restoration | | | | | | | | ● | | | ● | ● | ● | | | | | | | | | ● | | ● | | ● |
| Resource Inventory | | | | | | | ● | ● | ● | | ● | ● | ● | ● | | | | | ● | ● | | | | ● | ● | |
| Manatees/Porpoises | ● | ● | | | | | ● | | | | ● | | ● | | | | | | | | | | | ● | ● | |
| Endangered Species | ● | ● | | | | | ● | | | | ● | | ● | ● | | | ● | ● | ● | ● | ● | | | ● | ● | ● |
| Shellfish/Aquaculture | ● | ● | | ● | | | | | | ● | | ● | ● | | | | | | | | | | | | | |
| Public Awareness/Education | | ● | | | | | | ● | ● | | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | |
| Research | | | | ● | | | | ● | | | | ● | ● | ● | | | | | ● | | | | | | ● | |
| Fisheries Research | | | | ● | | | | | | | ● | | ● | ● | | | | | ● | ● | | | | ● | ● | |
| Fisheries Management | | | | ● | | | | | | | ● | | ● | | | | | | ● | ● | | | | ● | ● | |
| Recreational Fishing | | | | | | | | | | | ● | | ● | ● | | | | ● | ● | ● | | | | ● | ● | |
| Commercial Fishing | | | | | | | | | | | ● | | ● | | | | | ● | ● | ● | | | | ● | ● | |
| Wildlife Management | | | | | | | | ● | | | ● | | | ● | | | | ● | | ● | | ● | | ● | ● | |
| Mosquito Impoundments | | ● | | ● | | | | | | ● | ● | | ● | | | | | | | | | ● | | | | |
| Historical/Archeological Sites | ● | ● | | | | | ● | | | | ● | | ● | | | ● | | | | | | | | | | |
| Water Quality | ● | ● | | ● | | ● | ● | ● | | ● | ● | ● | ● | | ● | | | ● | | | | | ● | ● | | |
| Nonpoint Source Pollution | ● | ● | | | | ● | ● | ● | | | ● | ● | ● | | ● | | ● | | | | | ● | ● | ● | | |
| Point Source Pollution | ● | ● | | | | | ● | ● | | | ● | ● | ● | | ● | | | | | | | ● | ● | ● | | |
| Oil/Chemical Spills | | ● | | | | | ● | ● | | | ● | ● | ● | | | | | ● | | | ● | ● | ● | ● | | |
| Drainage/Freshwater Control | ● | ● | ● | | | ● | ● | ● | | ● | ● | ● | ● | | | | | | | | | ● | | ● | | |
| Emergency Response | ● | ● | | | | | ● | | | | ● | ● | ● | ● | | | | ● | | | | | | | | |
| Upland Development | ● | ● | | | | | ● | ● | | | ● | | | | | | | | | | | | | | | |
| Land Use Planning | ● | ● | | | | | ● | | | | ● | | | | | | | | | | | | | | | |
| Navigational/Boating | ● | ● | | | ● | | ● | | ● | | | | ● | ● | ● | | | ● | ● | | ● | ● | | ● | | |
| Recreational Areas | ● | ● | | | | | ● | | ● | | | | ● | | | | | ● | ● | | | ● | | ● | | ● |
| Bridges and Roads | | ● | | | | | ● | ● | | | ● | ● | ● | | | | ● | | | | ● | ● | | | | ● |

# CHAPTER IX

## STAFFING AND FISCAL NEEDS

This chapter addresses the staffing and fiscal needs required to provide effective management and protection of the Mosquito Lagoon Aquatic Preserve.

At the present time, management of this preserve is handled out of the Melbourne field office, 90 miles to the south. Since developmental pressures on the state-owned lands are currently low, it is not necessary to allot additional staff on this preserve; however, due to the distance involved, it will be necessary to take into account additional travel expenses (e.g., per diem, gas) in the budget for the Melbourne field office.

# CHAPTER X

# RESOURCE AND PROGRESS MONITORING PROGRAM

To ensure that Phase I of the management plan is effectively implemented, it will be necessary to institute two programs that will: (1) monitor changes in the biological resources over time, and (2) record any accomplishments achieved by the Mosquito Lagoon Aquatic Preserve program. These monitoring programs will consist of the following:

## A. RESOURCE MONITORING

To monitor changes in the natural resources, a geographic information system (GIS) will be necessary. 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 in natural resource management.

The Aquatic Preserve program first became involved with GIS technology in 1987 while submitting a grant to the Florida Inland Navigation District (FIND). The purpose of this grant was to conduct a resource inventory of all of the spoil islands within the Indian River Lagoon and, with this information, create a management plan that would provide some direction as to the utility of these islands by the general public.

Future use of the GIS system will include the periodic inventory, compilation, and analysis of temporal and spatial data concerning the present state of the natural resources within the preserve. Historical aerial photography will be computerized for comparison with later data to conduct a temporal analysis of resource abundance. Detailed monitoring of revegetation/restoration efforts can also be analyzed by computer. The on-line access to these natural-resource databases will facilitate informed management decisions concerning the use and protection of submerged lands and their resources. Cooperation and file sharing are possible with other agencies handling such data with identical and similar systems.

## B. PROGRESS MONITORING

For this phase of the management plan to be effectively implemented, it is necessary to monitor the accomplishments and progress of the Mosquito Lagoon Aquatic Preserve program on a regular basis. The purpose of this element is to detail the program's accomplishments in its pursuit of the objectives outlined in Chapter VIII. This information, to be submitted in an annual report each fiscal year to the Bureau Chief, will include an update of the biological resources' status within the preserve as well as an identification of current human activities. This report will detail the following:

1. The state of the natural environment of the aquatic preserve.

   a. Through the use of resource inventories and the GIS system, document the status of each biological resource (e.g., seagrass loss or gain).

   b. Identify the current number of structures/activities either started or completed in the preserve. These structures/activities will be categorized as follows:
      1) authorized projects (e.g., single-family docks, multi-family fishing piers),
      2) unauthorized projects, and
      3) projects not in compliance with the original authorization.

2. A list of accomplishments of those tasks outlined in Chapter VIII.

   a. Each task will be listed, and the activities required to complete that task will be detailed. If the task was not done or not completed, an explanation will be given. If the explanation was due to insufficient funding/staff, then this fact will be detailed so that an update of Chapter IX can be made.

3. Any new goals and/or objectives will be reflected in an update of Chapter VIII.

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CHAPTER 18-20
FLORIDA AQUATIC PRESERVES



*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), FS.

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) FS. Law Implemented 258.39, 258.391, 258.392, 258.393, 258.40, 258.41, 258.42, 258.43, 258.44, 258.45 FS. 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 wetslip; 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)(e)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 16-20.004(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 16-20, 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 |

*Specific Authority 258.43(1) FS. Law Implemented 258.41, 258.42, 258.43(1), 258.44 FS. History—New 2-25-81, Amended 6-7-85, Formerly 16Q-20.004, Transferred from 16Q-20.004, Amended 9-4-88.*

16-20.005 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 6-7-85, Formerly 16Q-20.05, Transferred from 16Q-20.005.*

16-20.006 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.*