ALLIGATOR HARBOR AQUATIC PRESERVE

MANAGEMENT PLAN

SEPTEMBER 23, 1986

Dr. Elton J. Gissendanner

Executive Director

Department of Natural Resources

This plan was prepared by
The Bureau of Historic and Environmental Land Management
Division of Recreation and Parks

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

HT91.75.F6 A55 1986 c.2

FEB 3 1997

Preparation of this management plan was primarily supported by a grant from the U.S. Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, and the Florida Department of Environmental Regulation, the Office of Coastal Management, through the Coastal Zone Management Act of 1972 as amended.

Property of CSC Library

STATE OF FLORIDA

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

R E S O L U T I O N

WHEREAS, the Board of Trustees of the Internal Improvement Trust Fund is charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands title to which is vested in the Trustees under Chapter 253, Florida Statutes; and

WHEREAS, Chapter 258, Florida Statutes, directs that state-owned submerged lands within aquatic preserves be set aside forever in their essentially natural or existing condition for the benefit of future generations; and

WHEREAS, the Trustees are charged with the adoption and enforcement of reasonable rules and regulations to carry out the provisions of Sections 258.35 through 258.46, Florida Statutes, regarding the regulation of human activity within the aquatic preserves so as not to unreasonably interfere with lawful and traditional public uses of the preserves; and

WHEREAS; Section 18-20.13, Florida Administrative Code, mandates the development of management plans for aquatic preserves; and

WHEREAS, the Trustees desire to serve the public by effectively planning, managing and protecting aquatic preserves; and

WHEREAS, the Trustees have recognized the Alligator Harbor Aquatic Preserve as a biological/scientific preserve in formal action on October 21, 1969; and

WHEREAS, the Trustees recognize the importance and benefits of protecting the natural resources and preserving the natural ecosystem and aesthetics in the Alligator Harbor Aquatic Preserve area; and

NOW THEREFORE BE IT RESOLVED that the Board of Trustees of the Internal Improvement Trust Fund hereby adopts the Alligator Harbor Aquatic Preserve Management Plan; and

BE IT FURTHER RESOLVED that the Alligator Harbor Aquatic Preserve Management Plan shall serve as a fundamental policy guideline for the Trustees and other state and local agencies having jurisdiction relative to maintaining the natural resources and environmental quality of this aquatic preserve, and shall provide the overall policy direction for the development and implementation of all administrative rules and programs related to the management of state-owned submerged lands within the Alligator Harbor Aquatic Preserve; and

BE IT FURTHER RESOLVED THAT the Department of Natural Resources, Division of Recreation and Parks, is hereby designated as agent for the Trustees for purposes of aquatic preserve planning and management.

IN TESTIMONY WHEREOF The Board of Trustees of the Internal Improvement

Trust Fund have hereunto subscribed their names and have caused the Official Seal of the Board of Trustees of the Internal Improvement Trust Fund to be hereunto affixed in the City of Tallahassee, The Capitol, on this the twenty-third day of September, A.D., 1986.

(Seal)

Governor

Secretary of State

Commissioner of Education

Attorney General

Commissioner of Agriculture

Comptroller

Treasurer

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

TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
II.	MANAGEMENT AUTHORITY	9
III.	MAJOR PROGRAM POLICY DIRECTIVES	19
IV.	RESOURCE DESCRIPTION	23
	A. Geologic Features and Landforms	24
	B. Community Associations	25
	C. Archaeological and Historical Sites	36
	D. Water Resources	38
	E. Cultural	40
V.	RESOURCE MANAGEMENT	41
	A. Introduction	41
	B. Onsite Management Objectives	41
	C. Resource Mapping and Resource Protection Areas	63
	D. Administrative Management Objectives	65
VI.	MANAGEMENT IMPLEMENTATION NETWORK	75
	A. Federal	75
	B. State	78
	C. Regional	85
	D. Local Governments and Special Districts	86
	E. Other Entities	89

Table of Contents (Continued)

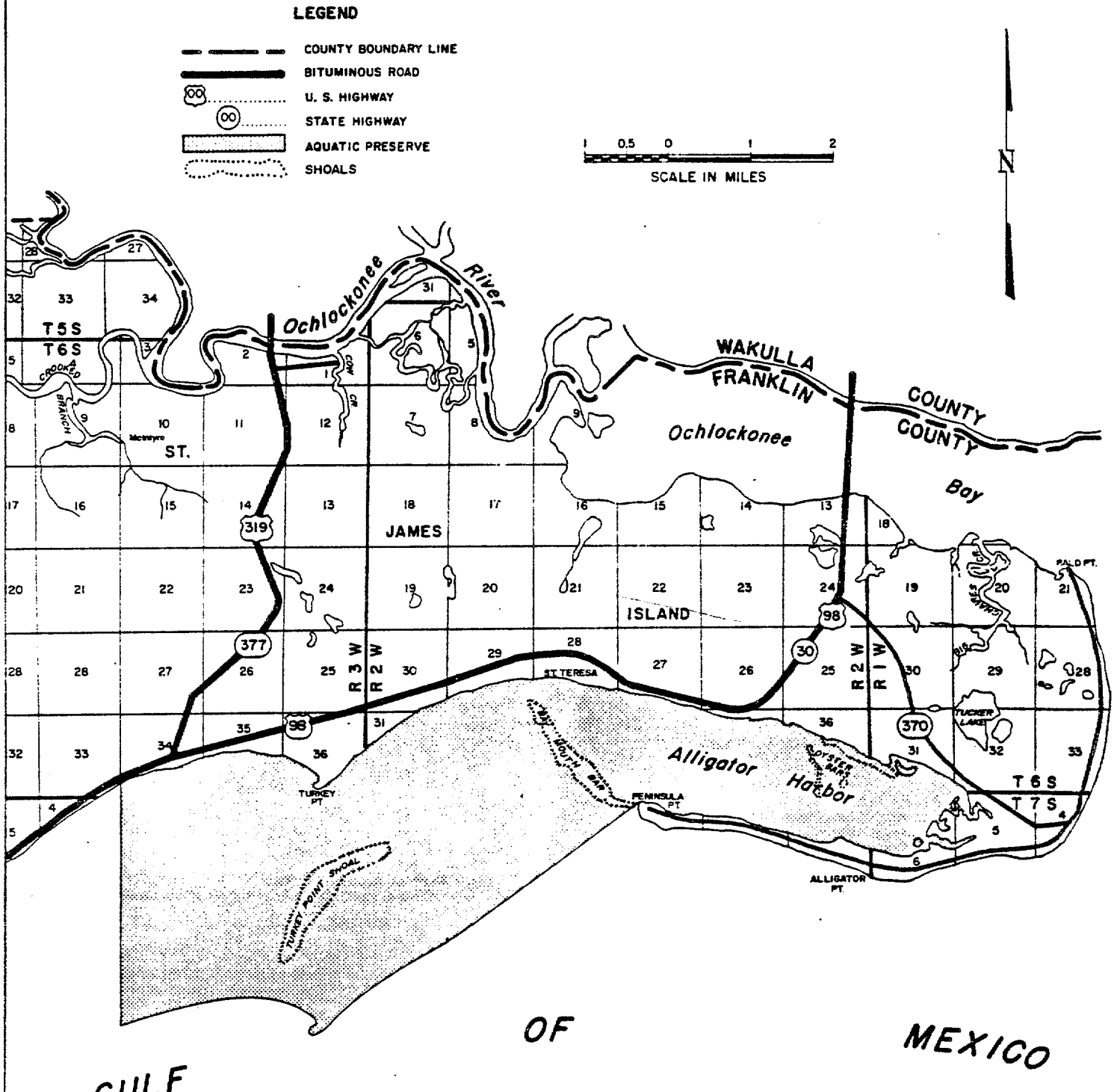
CHAPTER		Page
VII.	PUBLIC USES	91
	A. Consumptive Uses	91
	B. Non-Consumptive Uses	92
VIII.	PRIVATE NON-COMMERCIAL USES	93
IX.	COMMERCIAL USES	97
	A. Traditional Commercial Uses	97
	B. Non-Traditional Commercial Uses	99
X.	SCIENTIFIC RESEARCH	101
XI.	ENVIRONMENTAL EDUCATION	103
XII.	IDENTIFIED PROGRAM NEEDS	105
	A. Acquisition of Additional Property	106
	B. Boundary Problems and Systems Insufficiences	106
	C. Legislative Needs	107
	D. Administrative Rule Changes	107
	E. Data (Information) Needs	107
	F. Resource Protection and Enforcement Capabilities	108
	G. Funding and Staffing Needs	109
BIBLIOGRAPHY		111
CONTENTS OF APPENDICES		113

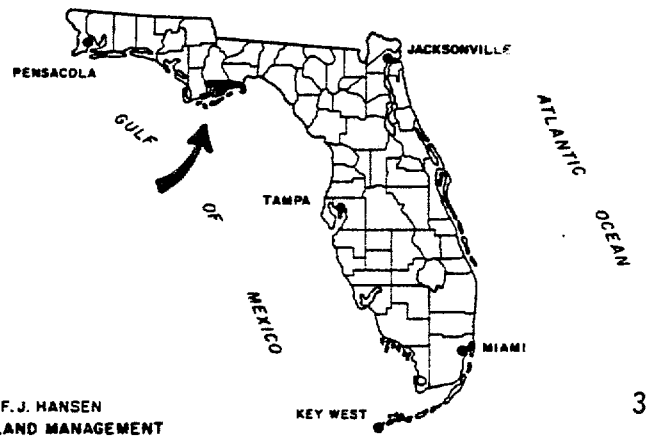
Chapter I

INTRODUCTION

This plan addresses the management of the Alligator Harbor Aquatic Preserve, located on the southeast coast of Franklin County in northwest Florida (Figure 1). The area bordering the aquatic preserve is primarily rural with scattered concentrations of single family week-end homes. The unincorporated communities of St. Teresa Beach and Alligator Point lie along the preserve boundary. The surface water area of the entire preserve is approximately 14,366 acres including the 4,045 acre Alligator Harbor.

The preserve lies just east of the Apalachicola estuary. Alligator Harbor, enclosed by the Alligator Point sand spit, has been described as a neutral estuary (Menzel, 1957), and a barrier spit lagoon (Trott, 1960). There is little freshwater inflow and salinities do not vary much from those in the adjacent inshore Gulf of Mexico. The harbor is approximately four and one-half miles long and one and one-half miles wide. The Alligator Point sand spit extends about 4.8 miles westward from Lighthouse Point. The western end of the harbor, connecting with the Gulf, is almost closed by a shallow sandbar except for a deeper channel on the north end. A channel at the south end of the sandbar closed as the result of westerly migration of the sand spit. While it appears that the Gulf coast mainland borders the preserve to the north, the land mass is actually St. James Island, formed by the Ochlockonee and Crooked Rivers and the Gulf of Mexico.





MAP OF

ALLIGATOR HARBOR AQUATIC PRESERVE

(AQUATIC PRESERVE)

FRANKLIN COUNTY, FLORIDA

CREATED BY

STATE OF FLORIDA BOARD OF
TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OCTOBER 21, 1969

RESOLUTION ADOPTED OCTOBER 21, 1969

PREPARED BY F. J. HANSEN
DIVISION OF LAND MANAGEMENT
AUGUST, 1970
UPDATED APRIL, 1985 C.A.K.

Franklin County is renowned for its commercial fishing activities in the Apalachicola estuary, dependent to a large degree on the nutrient rich freshwater inflow from the Apalachicola River. In contrast, there is little freshwater inflow into the Alligator Harbor Aquatic Preserve and the rather stable salinity structure does not create the estuarine conditions characteristic of the waterbodies lying to the west. However, the grassbeds, oyster bars, beaches, saltmarshes and bottom communities found associated with the Alligator Harbor Aquatic Preserve make it a productive and integral part of the marine ecosystem in the Franklin County area. The protected waters of the harbor and the numerous offshore reefs and channels provide high quality saltwater fishing opportunities. Spotted seatrout, redfish, and flounder are frequently caught and offshore areas are productive shrimping grounds.

Franklin County is located in a transitional climatic zone between the subtropical climate of peninsular Florida and the more temperate climate of the southeastern United States. Average rainfall is about 57 inches and the mean monthly temperature ranges from 53.0 degrees in January to 81.4 in July.

The boundary line of Figure 1 represents the gross boundary of the aquatic preserve. The actual preserve includes those sovereignty submerged lands located waterward of the mean high water line within this boundary area. This aquatic preserve will be managed to emphasize maintenance and enhancement of the existing conditions. As more site specific information becomes available, essentially natural conditions shall be identified and resources in disturbed areas restored to that condition where possible.

Due to the current limitation of permanent onsite staff resources, the initial management program described in this plan will be limited in the scope of operations. However, the program will fill the minimum need for active management in the preserve and should provide the framework for future program growth. The administrative support for this management program will be provided by the Department of Natural Resources, Division of Recreation and Park's, Bureau of Land and Aquatic Resource Management (BLARM) in Tallahassee, known as the "central office". Field personnel support and assistance will be provided through the Florida Park Service, Division of Marine Resources and the BLARM staff.

Initially, development of the resource inventory will be heavily dependent on LANDSAT satellite imagery, DOT aerial photography, and existing scientific and other literature. As the program proceeds and a full-time and on-site manager is hired, the experience and additional resource information will likely result in modifications to the program and plan, which are both designed to accommodate such changes or at least identify areas needing improvement.

This plan is divided into chapters according to their management application. Chapter II cites the authorities upon which this management program and plan are built. Chapter III (Major Program Policy Directives) highlights the major policy areas that are within this plan. Chapter IV presents a brief resource description.

Chapter V presents the management objectives of both the on-site managers, who actually work in the preserve, and the administrative staff in Tallahassee.

Chapter VI addresses how this plan will interface with local, regional, state, and federal agencies and programs; as well as its relevance to non-government organizations, interest groups, and individuals.

Chapters VII through IX address the various uses, from public to private to commercial. Chapters X and XI address the use of the aquatic preserve for scientific research and environmental education, respectively.

Chapter XII is an internal management improvement section identifying problems and needs in the progressive improvement of this aquatic preserve management plan.

This plan was written by the Department of Natural Resources (DNR), Division of Recreation and Parks, Bureau of Land and Aquatic Resource Management staff. Funding for the plan was provided by a coastal management grant (CM-106) through the U.S. Department of Commerce's National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, and the Florida Department of Environmental Regulation (DER), Office of Coastal Management.

Chapter II

MANAGEMENT AUTHORITY

The primary management authorities available to the staff for implementing policy directives affecting aquatic preserves are found in Chapters 258 and 253, Florida Statutes (F.S.). These authorities clearly establish the proprietary management overview role of the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund and are variously referred to as the "Trustees" or the "Board". Furthermore, all management responsibilities assigned to the Trustees by this plan may be fulfilled directly by the Governor and Cabinet or indirectly via staff or agents of the Trustees, pursuant to delegations of authority, management agreements, or other legal mechanisms. All subsequent references to the Board or Trustees should be presumed to potentially include staff and designated agents, in addition to the Governor and Cabinet. The staff of the Bureau of Land and Aquatic Resource Management (acting as "agents" for the Trustees) will review all requests for uses of state-owned sovereignty submerged lands within aquatic preserves. The review and subsequent staff comments are primarily designed to evaluate the environmental consequences of any proposed use of state-owned submerged land. The review is conducted within the confines of the criteria contained in the "maintenance" provisions for aquatic preserves in Chapter 258, F.S.

Formal review comments are provided to the Department of Natural Resources (DNR), Division of State Lands by the Bureau of Land and Aquatic Resource Management for inclusion in the comments and recommendations accompanying agenda items for Trustees consideration. This mechanism allows the Trustees, sitting as owners of the land, to evaluate public interest and project merits within the context of environmental impact upon the preserve.

BACKGROUND

In many respects, the authorities supporting aquatic preserve planning and management are the cumulative result of the public's awareness of the importance of Florida's environment. The establishment of the present system of aquatic preserves is a direct outgrowth of public concern with dredge and fill activities rampant in the late 1960's.

In 1967, the Florida Legislature passed the Randall Act (Chapter 67-393, Laws of Florida), which set up procedures regulating previously unrestricted dredge and fill activities on state-owned submerged lands. That same year the Legislature also provided statutory authority (Section 253.03, F.S.) for the Trustees to exercise proprietary control over state-owned lands. In 1967, this governmental focus on protecting Florida's productive estuaries from the impacts of development led to the establishment of a moratorium by the Governor and Cabinet on the sale of submerged lands to private interests. In that same year, this action was followed by the creation of an Interagency Advisory Committee on submerged lands management. In late 1968, that

Committee issued a report recommending the establishment of a series of aquatic preserves. Twenty-six separate waterbodies were addressed in the original recommendation.

Also in 1968, the Florida Constitution was revised, declaring in Article II, Section 7, the State's policy of conserving and protecting the natural resources and scenic beauty of the state. That constitutional provision also established the authority for the Legislature to enact measures for the abatement of air and water pollution.

It was not until October 21, 1969 that the Governor and Cabinet acted upon the recommendations of the Interagency Advisory Committee and adopted, by resolution, 18 of the waterbodies as aquatic preserves, including the Alligator Harbor Aquatic Preserve.

Prior to the October 1969 action by the Governor and Cabinet, the Legislature had created the Boca Ciega Aquatic Preserve. Subsequent Legislative action in 1972, 1973, and 1974, created the Pinellas County, Lake Jackson and Biscayne Bay Aquatic Preserves, respectively.

In 1975, the Legislature established a Florida Aquatic Preserve Act (codified in Chapter 258.35-258.46, F.S.), thereby bringing all existing preserves under a standardized set of maintenance criteria. Additional acts were passed subsequent to the 1975 action, such as the addition of the Cockroach Bay Aquatic Preserve in 1976 and the Gasparilla Sound--Charlotte Harbor Aquatic Preserve to the system in 1978.

The Charlotte Harbor Aquatic Preserve Management Plan, approved by the Trustees on May 18, 1983, was the first management plan for an aquatic preserve. The following aquatic preserves also have approved plans: Estero Bay - September 6, 1983; North Fork--St. Lucie River - May 22, 1984; Loxahatchee River--Lake Worth Creek - June 12, 1984; and Indian River Lagoon - January 22, 1985; Banana River - September 17, 1985; Indian River - Malabar to Vero Beach- January 21, 1986; Nassau River, St. Johns River Marshes and Fort Clinch State Park Aquatic Preserves - March 22, 1986.

In June 1985, the Legislature passed S.B. 762 which expanded the boundaries of the Banana River, Malabar to Vero Beach, Loxahatchee River--Lake Worth Creek, Wekiva River, and Rookery Bay Aquatic Preserves; and created Guana River Marsh and Big Bend Seagrasses Aquatic Preserves. Lemon Bay and Rainbow Springs were added as aquatic preserves by the 1986 Legislature.

The State Lands Management Plan, adopted on March 17, 1981, by the Trustees, contains specific policies. The Plan also establishes policies concerning spoil islands, submerged land leases, "Outstanding Native Florida Landscapes", unique natural features, submerged grassbeds, archaeological and historical resources, and endangered species. All of these issues provide management guidance to the aquatic preserve program.

ADMINISTRATIVE RULES

Chapters 18-21 and 18-20, Florida Administrative Code (F.A.C.), are two administrative rules directly applicable to the DNR's/Trustee's actions

regarding allowable uses of submerged lands, in general, and aquatic preserves specifically. Chapter 18-21, F.A.C. controls activities conducted on sovereignty submerged lands, and is predicated upon the provisions of Sections 253.03 and 253.12, F.S. 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 the 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; and,

(6) to aid in the implementation of the State Lands Management Plan."

(a) 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 management programs, which are compatible with 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, 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 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 preserve;

(f) To preserve, promote, and utilize indigenous life forms and habitats, including but not limited to: sponges, soft coral, hard coral, submerged grasses, mangroves, salt water marshes, fresh water marshes, mud flats, estuarine, aquatic and marine reptiles, game and nongame 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."

OTHER MANAGEMENT AUTHORITIES

Other Department of Natural Resources management authorities applicable to aquatic preserves include: fisheries and marine mammal management and protection, and beach and shore preservation programs outlined in Chapters 370

and 161, F.S. respectively; and land acquisition programs conducted under the Conservation and Recreation Lands Program authorized by 253, F.S.,

Chapter 403, F.S., is an important adjunct to Chapter's 253 and 258, F.S. This governs, in part, the State's regulatory programs affecting water quality and biological resources. The Department of Environmental Regulation (DER), through a permitting and certification process, administers this program. Section 253.77, F.S., as amended by the Warren S. Henderson Wetlands Protection Act of 1984, requires that any person requesting use of State-owned land shall have approval of the proposed use from the Trustees before commencing the activity. An interagency agreement between DNR and DER provides an avenue for staff comments on potential environmental impacts of projects in aquatic preserves through the DER permitting process. Additionally, the DER has designated, by administrative rule, a series of waterbodies with stringent use criteria called "Outstanding Florida Waters" (OFW). The inclusion of all aquatic preserve waters within this classification greatly enhances the protective provisions of Chapter 258, F.S. As the designated "306" Coastal Zone Management Agency, the DER also provides a source of funding for data collection and planning in areas such as the Alligator Harbor area, as well as being the state agency responsible for implementing the "federal consistency" provisions of the Federal Coastal Management Act.

The DER's administrative rules of primary significance to the aquatic preserve management program include Chapters 17-3, 17-4 and 17-12, F.A.C. These rules are based upon the authorities contained in Chapter 403, F.S. Chapter 17-3, F.A.C. addresses water quality standards and establishes the

category of "Outstanding Florida Waters", while Chapters 17-4 and 17-12, F.A.C. address permit requirements and dredge and fill activities, respectively.

In December, 1982 a Memorandum of Understanding (MOU) between the DER, DNR, and the U.S. Army Corps of Engineers (COE) was executed. This MOU clearly establishes a process whereby the proprietary concerns of the Trustees, stated in Chapter 253, F.S. can be integrated into the DER/COE joint permit processing system.

Other opportunities for environmental review and input into activities potentially affecting aquatic preserves are afforded by the Department of Community Affairs (DCA), and the Department of State, Division of Archives, History, and Records Management (DAHRM). The Executive Office of the Governor also provides a mechanism for public input into federal projects via the State clearinghouse process.

The DCA is statutorily responsible for administering the "Development of Regional Impact" (DRI). The DRI program, authorized by Section 380.06, F.S. was established by the Legislature to provide a review and monitoring procedure for those development projects potentially affecting more than one county.

Chapter 267, F.S. establishes the state policy regarding preservation and management of Florida's archaeological and historical resources. This responsibility is legislatively assigned to the DAHRM, which holds title to those cultural resources located on state-owned lands. This also applies to

sovereignty submerged lands, including aquatic preserves.

The Department of Health and Rehabilitative Services, under their public mandate, administers two programs directly affecting the aquatic preserve management program. These programs are (1) septic tank regulation, usually administered by county health departments and (2) arthropod (mosquito) control programs, usually implemented through local mosquito control districts. Each of these programs holds the potential for creating significant impacts upon the aquatic preserves. Establishment of close working relationships between the aquatic preserve staff and the Department of Health and Rehabilitative Services will be a necessary element of the aquatic preserves management program.

Each of the above referenced programs may provide an effective means of protecting aquatic preserves and their ecologically sensitive resources.

Chapter III

MAJOR PROGRAM POLICY DIRECTIVES

This plan contains a number of management policy issues that are discussed either generally or definitively. This section highlights those major policy areas that comprise the basic thrust of this management effort. Adoption of these policies will provide specific staff direction for implementing the day-to-day aquatic preserve management program. Major program policy directives are:

(A) Manage all submerged lands within the aquatic preserve to ensure the maintenance of essentially natural conditions to ensure the propagation of fish and wildlife, and public recreation opportunities.

(B) Prohibit the disturbance of archaeological and historical sites within the aquatic preserve, unless prior authorization has been obtained from the Trustees and DAHRM, and such disturbance is part of an approved research design or authorized project.

(C) Develop a resource inventory and map natural habitat types within the aquatic preserve, with an emphasis on those habitat types utilized by threatened and/or endangered species.

(D) Protect and, where possible, enhance threatened and endangered species habitat within the aquatic preserve.

(E) Prohibit development activities within the aquatic preserve that adversely impact upon grassbeds and other valuable submerged habitat, unless a prior determination has been made by the Board of overriding public importance with no reasonable alternatives, and adequate mitigation measures are included.

(F) Prohibit the removal of saltmarsh and other natural shoreline vegetation within the aquatic preserve, except when necessitated by the pursuit of legally authorized projects and local protection ordinances.

(G) Provide research and educational opportunities for scientists and other interested researchers within the framework of a planned research program in the aquatic preserve.

(H) Acquire, where feasible, privately owned submerged lands located within the boundaries of the aquatic preserve pursuant to the authorities contained in Section 253.02(4), F.S.

(I) Prohibit the drilling of oil and gas wells, the mining of minerals, and dredging for the primary purpose of obtaining upland fill within the aquatic preserve.

(J) Prohibit non-water dependent uses of submerged lands within the aquatic preserve except in those cases where the Board has determined that the project

is overwhelmingly in the public interest and no reasonable alternatives exist. This prohibition shall include floating residential units, as defined in Section 125.0106(2), F.S.

(K) Prohibit storage of toxic, radioactive, or other hazardous materials within the aquatic preserve.

(L) Prohibit those mosquito control practices within the aquatic preserve that would result in habitat modification or manipulation (i.e. diking, ditching) unless there are no reasonable alternatives and failure to conduct such practices would result in a threat to public health.

(M) Limit pesticide and biocide use within the aquatic preserve to those that are approved by the Environmental Protection Agency (EPA) for wetland and aquatic application.

(N) Prohibit the construction of new deep water ports within the aquatic preserve boundaries.

(O) Insure that any artificial reef construction does not adversely impact environmentally fragile areas within the aquatic preserve and that the construction will maintain the essentially natural condition while enhancing the quality and utility of the preserve.

(P) Manage any state-owned spoil islands within the aquatic preserve as bird rookeries and wildlife habitat areas.

(Q) Encourage public utilization of the aquatic preserve, consistent with the continued maintenance of its natural values and functions.

(R) Develop a well coordinated aquatic preserve management mechanism that recognizes and utilizes local government programs and authorities.

(S) Require, through the efforts of DER and the water management districts, the maintenance of the naturally high water quality of the estuary and ensure the natural seasonal flow fluctuations of freshwater into the estuary.

(T) Apply the management criteria contained in the adopted Alligator Harbor Aquatic Preserve Management Plan to all subsequent legislative additions of land to the aquatic preserve.

(U) Encourage the assistance of federal, state, and local government agencies in implementing the aquatic preserve management plans, especially in the areas of protection of natural and cultural resources and the enforcement of applicable resource laws and ordinances.

(V) Prohibit marinas in Class 1 or 2 Resource Protection Areas.

(W) Identify and document any problems caused by fishing activities and report them to the Marine Fisheries Commission.

Chapter IV

RESOURCE DESCRIPTION

The Alligator Harbor Aquatic Preserve is a shallow system with rather constant salinities. The preserve boundaries include Alligator Harbor (delimited by Alligator Point sand spit) and coastal areas as far west as Turkey Point. The system includes salt marshes, oyster bars, soft bottom communities and grass-beds. The protected waters of the Harbor, as well as the numerous offshore reefs and channels, provide some of the better small boat saltwater fishing to be found along the South Atlantic and Gulf Coasts (COE, 1981). Spotted sea-trout is the most popular sportfish followed by redfish, pompano, jack, blue-fish and Spanish mackeral.

Much of the eastern portion of Franklin County is rural, but some sections are popular vacation spots. There are many single family, seasonal cottages on Alligator Point and along sections of the coastline (St. Teresa and Wilson Beach).

Several endangered species are attracted to the preserve area and, along with the barrier islands in the area, Alligator spit is an important landfall for migratory birds.

The major problems in the continued health of the area include septic tank leakage (exacerbated by high water table), development and associated habitat destruction, and shoaling and erosion.

A. Geological Features and Landforms

The Alligator Harbor area is part of a broad, sandy shore plain which is constantly being altered by wind, rainfall and sea level change (Livingston, 1984). Mean sea level fluctuated greatly during the Pleistocene. At the height of the Wisconsin glaciation, roughly 20,000 years ago, sea level was about 410 feet lower than it is today. The coastline was considerably seaward of its present position. The barrier islands and spits in the area began to be formed about 5,000 years ago when sea level had risen essentially to its present position. These islands began as beach ridges which formed on top of the eroded remains of the previous islands and dunes that dated to earlier time of Pleistocene interglacial high sea levels (Clewell, 1977). Sea level reached its modern position about 5,000 years ago when the construction of the present barrier island system was underway.

The near-surface deposits of the area include Upper Miocene limestones, clayey sands and shell beds of the Choctawhatchee Stage, younger (Pliocene to Recent) clayey sands, and fine sands and silts associated with ancient stream alluvium and ancient shoreline development (Schmidt, 1978). The sediments overlying the limestone sequence are variable depending on their location. Commonly occurring near the coast is a shell bed composed of numerous pelecypods and gastropods contained in a sand and clayey sand matrix. The shell bed is approximately 20 feet thick near the Alligator Point area and is overlain by fine-grained quartz sand and silt. Exposures of the underlying strata are rare in this area because of these sand deposits.

Alligator Harbor is bordered by several prominant offshore shoal systems, Dog Island Reef to the southwest, South Shoal to the southeast, and the Ochlockonee Shoal to the east. Dog Island Reef is considered to be an example of a submerged barrier island; the South Shoal was probably deposited by the Ochlockonee River during a lower stand of sea level; and the Ochlockonee Shoal probably represents a downed barrier island or headland (U.S.C.O.E., 1981).

B. Community Associations

The plant communities of the Alligator Harbor area are a major factor in the continued health and productivity of the natural systems in the preserve. This section will also reference some of the major animal species associated with these plant communities. The major community associations recognized in the preserves are saltmarshes, marine grassbeds, oyster bars, unvegetated soft-bottom communities, and algae. Each community is presented separately although in reality these communities are sometimes mixed or overlap. Final subsections address the animal life and endangered species within the aquatic preserve.

1. Oyster Reef. Oyster reefs are stable islands of substrate in an otherwise muddy environment. Their extensive surface area provides essential habitat for many animals, especially sessile suspension--feeding epifauna like barnacles and polychaetes. The crevices also provide a refuge for motile invertebrates such as crabs and amphipods. One of the functions of the reef inhabitants is to mineralize organic carbon and release nitrogen and phosphorous in forms usable by the primary producers (phytoplankton and benthic

algae). The community may also affect local turbidity levels through the processes of filtration and biodeposition.

The oyster has generally adapted well to a wide range of salinities, temperatures, turbidities, and oxygen tensions (Bahr et al., 1981). However, in Alligator Harbor, high, rather stable salinities and high summer temperatures restrict oyster reef development below the mid-intertidal zone. High temperatures limit the upper level at which oysters can live. The high salinities allow predation on the oysters by whelks, stone crabs and polychaetes which predominate in the subtidal region of relatively constant salinity. Other predators on the community include the blue crab, sheepshead minnow, raccoon, and numerous wading birds such as the American oystercatcher and boat-tailed grackle. Table I lists commonly occurring species.

In the Alligator Harbor area, oyster reefs occupy approximately 290.7 acres. Dense intertidal and subtidal oyster reefs occur at the eastern end of the harbor. There are also several scattered large reefs in the harbor as well as patches of reefs associated with the salt marshes. The oysters are not harvested commercially because of their small size.

2. Marine Grassbeds. Marine grasses are submerged, flowering plants which stabilize sediments, entrap silt, recycle nutrients, provide shelter, habitat and substrate for animals and other plant forms, serve as important nursery grounds, and are important direct food sources (Odum et al., 1974; Wood et al., 1969). They are important not only for their productivity but also for the animal life associated with the community. These beds serve as important

TABLE 1

Oyster Reef Community

Examples of Animal Life Commonly Associated with the Oyster Reef Community

Birds

American oystercatcher
Dunlin
Ruddy turn-stone
Black-bellied plover
Willet
Fish crow
Boat-tailed grackle

Invertebrates

Hydroids
Bryozoans
Sponges
Sea anemones
Barnacles
Crabs
Parasitic gastropods
Predatory gastropods
Flatworms
Starfish
Polychaete worms
Bivalves
Snapping shrimp
Amphipods

Mammals

Raccoon

Fishes

Blennies
Gobies
Clingfish
Toadfish

Pudloe, J., 1984
Livingston, R.J., 1983
Livingston, R.J., 1984
Bahr, L.M. and W.P. Lanier, 1981

nursery areas for juvenile forms of shellfish, and a substrate for many species of algae, such as Gracilaria spp., Caulepa sp. and Padina sp. The algae are eaten by many of the invertebrates which are, in turn, eaten by the fishes. Many commercially important fishes spend at least part of their lives in these grassbeds (Zieman, 1982) (Table II).

The submerged vegetation in coastal areas of Franklin County is generally limited by high turbidity, color, and sedimentation. Thus, grassbeds and associated algae are usually found only in the shallowest (usually fringing) portions of the system.

Grassbeds in Alligator Harbor cover approximately 645.7 acres and are dominated by Cuban shoal grass (Halodule wrightii), manatee (Syringodium filiforme), and turtle (Thalassia testudinum) grasses. At the eastern end of Alligator Harbor the grassbeds are sparse and composed primarily of shoalgrass, while at the western end the grassbeds are denser and made up primarily of turtle grass mixed with patches of shoal grass and manatee grass (COE, 1979). There are also grassbeds associated with the Turkey Point shoals south of Turkey point.

The shallow areas where seagrasses grow are prime fish habitat and are vulnerable to damage by boating activities. Thalassia can take from two to five years to regenerate once disturbed by boat propellers or other impacts (Zieman, 1976). The grassbed community's sensitivity to turbidity make it vulnerable to dredging activities.

TABLE II
Marine Grassbeds Community

Examples of Animal Life Community Associated with the Marine Grassbeds Community.

FISHES

Pigfish
Croaker
Killifish
Spiny boxfish
Spotted seatrout
Silver perch
Mullet
Gobies
Pipefish
Pinfish

Invertebrates

Tunicates
Sea urchins
Sea Cucumbers
Polychaete worms
Bryozoans
Crabs
Sea anemones
Bivalves
Gastropods
Hydroids

BIRDS

Common Loon
Brown pelican
Double-crested cormorant
Green-winged teal
Blue-winged teal
American widgeon
Northern shoveler
Lesser scaup
Bufflehead
Ruddy duck
Red-breasted merganser
Hooded merganser
Osprey
American coot
Black skimmer
Belted kingfisher
Gulls
Terns

Rudloe, J., 1984
Livingston, R.J., 1983
Livingston, R.J., 1984

3. Subtidal Soft Bottom Substrate. Muddy, soft bottom, unvegetated substrate comprises the majority of the open water zone and is the dominant habitat form in the area. The relative composition of the sand, silt, clay and shell fractions of the sediments depends on proximity to land, runoff conditions, water currents, and trends of biological productivity (Livingston, 1984). In turn, the sediment type, salinity, and water quality conditions determine the composition of infaunal and epifaunal biological components.

This substrate is generally dominated by polychaetes and amphipods. Table III lists other species commonly associated with this community.

4. Saltmarshes. In the Alligator Harbor Aquatic Preserve, saltmarshes function to stabilize and bind sediments, and to provide significant nursery, feeding, and reproductive zones for a wide variety of organisms. Complex food webs support associations of insects, mollusks, crustaceans, fishes, birds, and other vertebrates. Many species of sport and commercial importance, including blue crabs, penaeid shrimp, mullet, spotted seatrout, snapper, red drum feed in the marshes. Some of the net productivity of the marsh system enters associated aquatic habitats via microbial and tidal action.

In the Alligator Harbor area most of the saltmarsh habitat is found along the tidal creek system at the eastern end of the harbor. A smaller saltmarsh area occurs on the north shore of the spit just inside the boundary of the Phipps Preserve. Scattered patches of saltmarsh vegetation are also found between Wilson Beach and the well developed marshes at the eastern end of the harbor.

TABLE III
Soft-Bottom Substrate

Examples of Animals Associated With Subtidal Soft-bottom Substrate.

Invertebrates

Polychaetes
Amphipods
Phoronid worms
Blue crabs
Penaeid shrimp
Horseshoe crabs
Bivalve molluscs
Gastropod molluscs

Fishes

Striped anchovy
Atlantic croaker
Spotted seatrout
Inshore lizardfish
Southern flounder
Spot
Pigfish
Bighead searobin

Birds

Great blue heron
Great egret
Herring gull
Ring-billed gull
Laughing gull
Black skimmer
Common tern
Least tern
Royal tern

There is little saltmarsh development along the shoreline between Wilson Beach and Turkey Point.

Zonation of plant species within the saltmarsh is dependent on elevation, depth of tidal flooding and salinity. In this area, the saltmarshes are composed primarily of black needlerush (Juncus roemerianus) with secondary concentrations of smooth cordgrass (Spartina alterniflora). At slightly higher elevations, saltwort (Batis maritima), glasswort (Salicornia virginica), sea ox-eye (Borrichia frutescens), and marsh elder (Iva frutescens) are common.

The animal life of the salt marsh is rich and diverse (Table IV). It includes primary consumers that feed on vascular plant detritus and fresh algae, such as amphipods, fishes, shrimp, crabs, clams, oysters, snails and worms. Animals like the rice rat and cotton mouse nest within the marsh, but others, such as the raccoon, marsh rabbit and oppossum come down to the marshes to feed during low tides. Avian species like clapper rails, willets, red-winged blackbirds, seaside sparrows, and marsh wrens nest in the salt marshes. Herons, egrets, ibis, and other wading birds feed on mud flats and at the edges of the marshes.

5. Benthic Algae. Over 300 species of algae have been found in the general area of the Alligator Harbor Aquatic Preserve (Menzel, 1957). The red algae are the most conspicuous and include such forms as Gracilaria. The green algae are also well represented and there are eight species of the genus Enteromorpha. Other greens that are commonly found are species of Cladophora,

TABLE IV
Salt Marsh Community

Examples of Animal Life Commonly Associated with the Salt Marsh Community

Fishes

Croakers
Mullet
Killifish
Redfish
Sand trout
Skipjack
Sea trout
Tarpon
Drum
Sheepshead
Threadfin herring
Shad

Invertebrates

Penaeid shrimp
Periwinkle snails
Fiddler crabs
Barnacles
Nematodes
Polycheate worms
Amphipods
Bivalves
Gastropods

Mammals

Raccoon
Marsh rabbit
Rice rat
Striped skunk
Cotton Mouse

Reptiles

Diamondback terrapin

Birds

Willets
Great egret
Clapper rails
Gulls
Great blue heron
Little blue heron
Green backed heron
White ibis
Spotted sandpiper
Least sandpiper
Western sandpiper
Ruddy turnstone
Dunlin
Seaside sparrow
Marsh wren
Red-winged blackbird

Rudloe, J., 1984
Livingston, R.J., 1983
Livingston, R.J., 1984

Rhizoclonium, Codium, and Acetabularia. Five species of brown algae, both attached and drifting, have been identified. The less conspicuous blue green algae are mainly sessile on the sand or mud or are epiphytic. Many are intertidal and a few bore in shells.

Algal growth is usually rapid and continuous throughout the year. The amount of energy transformed by algal photosynthesis is a significant contribution to the total primary production.

6. Endangered and Threatened Species. The diverse habitats of the Alligator Harbor Aquatic Preserve contribute to the survival of several species of endangered or threatened animals. For example, the shoals, sand bars, sandy beaches and other aquatic areas in the preserve provide attractive feeding and/or nesting sites for many avian species. The southeastern snowy plover (an endangered species) and the eastern brown pelican (a threatened species) feed in waters surrounding the preserve, and loaf and roost on its beaches. The least tern (another threatened species) nests on the upper beach area of the Phipp's Preserve on Peninsula Point. Plovers, oystercatchers, herons and egrets feed and loaf in the numerous shallow water and shoreline habitats.

The Atlantic loggerhead turtle nests along the barrier island beaches in the area and the Atlantic/Ridley and leatherback turtles may utilize nearshore and offshore waters for feeding.

Table V provides a tentative list of several endangered, threatened, or special concern animals known or likely to occur within this area.

TABLE V
Endangered, Threatened and Species of Special Concern

Species of the Alligator Harbor Area which are classified as endangered, threatened or of special concern.

Endangered Species

Reptiles

Atlantic Ridley turtle.....	Lepidochelys Kempii
Leatherback turtle.....	Dermochelys coriacea

Birds

Peregrine falcon.....	Falco peregrinus
Southeastern snowy plover.....	Charadrius alexandrinus tenuirostris

Threatened

Reptiles

Atlantic loggerhead turtle.....	Caretta caretta caretta

Birds

Eastern brown pelican.....	Pelecanus occidentalis carolinensis
Bald eagle.....	Haliaeetus leucocephalus
Southeastern kestrel.....	Falco spaverius paulus
Roseate tern.....	Sterna dougallii
Least tern.....	Sterna antillarum

Species of special concern

Reptiles

American Alligator.....	Alligator mississippiensis

Birds

Little blue heron.....	Florida caerulea
Snowy egret.....	Egretta thurla
Tricolored heron.....	Egretta tricolor
Reddish egret.....	Egretta rufescens
American oystercatcher.....	Haematopus palliatus
Wakulla seaside sparrow.....	Ammospiza maritima junicola

Florida Game and Fresh Water Commission. Rare and Endangered Biota of Florida. P.C.H. Pritchard, Series Ed., Vol. 1-6. University Presses of Florida, Gainsville, 1978.

Florida Game and Fresh Water Fish Commission. Endangered and Potentially Endangered Fauna and Flora in Florida. October 1984.

C. ARCHAEOLOGICAL AND HISTORICAL SITES

The areas surrounding Alligator Harbor were extensively utilized by the pre-Columbian inhabitants of this region. The abundant natural food resources, such as fin and shellfish, have provided sustenance to permanent and semipermanent occupants of the area for several thousand years. Although the area was undoubtedly inhabited by Paleo-Indian and Archaic peoples (12,000-3,000 B.C.), little has been recovered to document a substantial use. Toward the close of the Archaic period, however, a change began to take place in observed subsistence activities.

Sometime between 3,000 and 2,000 B.C., a crude fiber tempered pottery came into use by the coastal inhabitants along this portion of the Gulf Coast. This archaeological phase is known locally as the Norwood Phase (Phelps, 1966), and the type site is located on Alligator Harbor. During this phase, there was a clear dependence upon fin and shellfish from the Harbor, and the remains of these people's living areas provide an indication that they were taking everything edible, including deer and smaller upland game.

Following the Norwood Phase, an occupation continuum known to archaeologists as the Deptford-Swift Creek Continuum has been identified. This covers a period of approximately 1500 years (1,000 B.C.-500 A.D.). Occupation sites became larger and ceramics more abundant. The ceramic vessels were often elaborately decorated by incising or stamping the wet clay with a carved paddle. There was a definite emphasis upon ritual and ceremonialism during this time. One of the best known examples of the late Deptford-early Swift

Creek Ceremonial Mound is the Yent Mound, located on Alligator Harbor. This site was originally excavated by Clarence B. Moore in 1902 and has been the subject of many scientific publications since that time.

Another important archaeological site located on the Harbor is the Tucker Site, which contains some Swift Creek phase materials, but is primarily an example of the Weedon Island Phase (500 A.D.-1,000 A.D.) This site also contained a burial mound, as well as a village area. During the Weedon Island phase, local inhabitants appeared to have modified their earlier subsistence patterns. Remains of shellfish in the village area of this and other Weedon Island Sites in the vicinity indicate a preponderant use of a small brackish water clam (Rangia cuneata). Whether this subsistence shift was by preference or was forced upon the occupants by changing climatic conditions is not presently known.

Following the Weedon Island phase came the late prehistoric and early historic phase known as Fort Walton. Sites around Alligator Harbor from this time period (1,000-1,600 A.D.) are very small, indicating brief seasonal occupation. Shellfish remains are predominately oyster. Oysters were perhaps gathered as a protein supplement to transport inland since horticulture was well established by this time. Local evidence of early European contact by these people is scarce, but some European trade goods have been recovered from Indian burials at the Mashes Sands Site, near Carrabelle.

While most of the archaeological sites in the vicinity of Alligator Harbor are small and disturbed in varing degrees, every effort should be made to protect

these non-renewable resources until the data contained within them can be professionally extracted. Each site potentially represents a time capsule of not only cultural remains, but also of what natural conditions existed in Alligator Harbor at a given point in time. Loss of this paleo-ecological data would be as tragic as loss of the unique cultural remains within these sites.

D. WATER RESOURCES

Alligator Harbor is a shallow, neutral bay with no significant freshwater inflow and relatively stable salinities. These characteristics are due, in part, to the extremely small drainage basin and to regular tidal exchange with the water of Apalachicola Bay. Only during extremely heavy rains can any appreciable amount of freshwater enter the harbor. Salinities in the area range from 30 to 35 parts per thousand and have occasionally dropped significantly when heavy rainfalls have lowered the salinity in the nearshore waters of Apalachicola Bay.

Average water depth in the harbor is about 3.5 feet below mean low water. The extreme shallow areas are the headwaters, shoreline waters near the north shore and scattered sand bars. Depths at the harbor mouth are about 8-10 feet (Yentsch, 1953). Depths in the aquatic preserve area between the harbor mouth and the western boundaries of the preserve vary from 4 to 17 feet, with a 10 foot deep channel running south from the Florida State University Marine Laboratory at Turkey Point.

Access channels between Alligator Harbor and the Gulf have been chronically plagued by severe shoaling and the westward migration of Peninsula Point.

This shoaling blocked off a natural channel immediately adjacent to Peninsula Point that was improved by the State of Florida in 1974. The stability of the channel is indicated to be directly related to a natural dynamic equilibrium existing between hydraulic (tidal flows between Harbor and Gulf) and sedimentary (along shore and onshore transport) forces (COE, 1979). The north channel across the bay mouth bar south of Wilson Beach and St. Teresa is still open and has a controlling depth of about 4 feet.

Although there is little published information available on water quality in the aquatic preserve, the fact that the surrounding area has a low population density, little agricultural development, no significant industrialization, and negligible freshwater inflow (potentially carrying pollutants), water quality is probably very good. Currently, there are no sewage treatment facilities to serve the Alligator Harbor Aquatic Preserve area and all residences are served by individual septic tanks. It is estimated that there are 375 septic tanks along Alligator Point and an additional 28 located between St. Teresa and Turkey Point (Franklin County, 1983). Of the existing septic systems in the County, some are unapproved and are of primitive design. Improper design and/or poor soil absorption can result in hydraulic overload and the potential contamination of local ground and surface water sources. Prior to the installation of the newly completed sewage treatment facilities at Apalachicola, there was not a septage disposal site in the County. Attempts to establish one at an existing landfill were rejected by the DER because of the high water table. Residents in the eastern part of the County probably utilize facilities in Wakulla County or resort to illegal dumping (Franklin County Health Department, 1985).

The waters of the aquatic preserve are classified as Class II (shellfish propagation or harvesting) by the DER. DNR classifies the harbor as an Approved Shellfish Harvesting Area, while the rest of the aquatic preserve is Unclassified.

E. CULTURAL

This section addresses the human influence and development of this area, as it affects the aquatic preserve. Overall, the U.S. Census population for Franklin County decreased 1.68 percent from 7,065 in 1970 to 6,946 in 1980. The 1980 figures indicate a reduction in population county-wide, caused by a precipitous drop in Apalachicola's population, and a slowing in the rate of growth in the unincorporated areas of the county. When the county is further divided into Census County Divisions (CCD's), the unincorporated portion of the Carrabelle division, including the area in the aquatic preserve and Dog Island, shows a population increase of 6.83% from 688 in 1970 to 735 in 1980 (Franklin County, 1981).

The shoreline bordering the aquatic preserve is becoming heavily developed, primarily with residential week-end cottages along the Alligator Point side of the harbor. Commercial zoning is currently limited. The northern and eastern portions of the harbor, except at Wilson Beach and St. Teresa, are basically undeveloped. There are no Developments of Regional Impact (DRI's) in the aquatic preserve area at this time.

Chapter V

RESOURCE MANAGEMENT

A. Introduction

The main objective of the resource management plan in the aquatic preserve is to protect the resources of the aquatic preserve for the benefit of future generations (Section 258.35, F.S.). The management of the Alligator Harbor Aquatic Preserve will be directed toward the maintenance of the existing or essentially natural conditions. This part of the management plan addresses the policies and procedures which both onsite and administrative personnel will pursue. The on-site management will involve DNR's field personnel assigned to the aquatic preserve. The administrative management will involve the Division of Recreation and Parks' personnel (both in the field and in the central office) and the Division of State Lands' personnel, cooperating in the review of applications for use of state-owned lands and related activities surrounding the preserve. These personnel will be interacting with various government and non-government entities, interest groups, and individuals.

B. Onsite Management Objectives

The onsite management objectives are reflected in the activities that the field personnel become involved in (i.e., observation, research, public interaction, emergency responses, etc.) to protect and enhance the resources

within the aquatic preserve. Other activities, such as the interaction with other government and non-government entities, are covered in more detail in Chapter VI (Management Implementation Network). The field personnel's duties are, with respect to management of the various uses of the aquatic preserve, addressed in more detail in Chapters VII and XI. The field personnel will generally be involved in all management activities concerning the Alligator Harbor Aquatic Preserve.

1. Plant Communities

The communities of aquatic and wetland plants within the Preserve perform five major functions vital to the health and productivity of the aquatic system:

a. they tend to stabilize geologic features in the face of dynamic forces (i.e., currents, tides, winds, and waves), which often act in concert to both erode and deposit;

b. they create, from recycled nutrients and solar energy, the organic materials that fuel the marine food web which supports the area's fisheries, endangered species, migratory waterfowl, colonial waterbird nesting colonies, raptors, marine mammals, and invertebrate life.

c. they provide protected fisheries habitat for spawning and juvenile development, many of which are of economic importance to the commercial fisheries of the state and the nation;

d. they provide roosting and nesting habitat for water birds; and,

e. they filter pollutants from contaminated and channelized runoff from uplands within the adjacent watershed and, buffer the uplands from storm waves and winds.

The management objectives for plant communities will be to maintain and enhance these functions. Because these plant communities are critically important to the well-being of the Preserve, a program to work toward the protection and restoration of those communities affected by human activities should be developed.

Management Policy

a. Field Familiarization and Documentation. Field personnel will become familiar with the plant species and communities present in the aquatic preserve, and locations of their occurrences.

b. Literature Familiarization. Field personnel will assemble a working library of existing pertinent literature concerning the species and communities present in the aquatic preserve. Staff will become familiar with the ranges, life histories, ecological requirements, productivity, importance to water quality, contribution to landform stabilization, wildlife habitat provision, fisheries habitat provision, and fisheries food production of the plant communities within the aquatic preserves.

c. Preparation of Guidelines of Management of Endangered Species. Field personnel, based on their field observations and literature reviews, will develop maps (using 7.5 minute quadrangles) showing the locations of threatened and endangered plant species within the aquatic preserve. A set of management guidelines for each species, outlining the habitat requirements and the methods to sustain and/or restore these habitats will be developed. Field personnel, in the course of documenting the occurrence of threatened and endangered animals, will develop maps showing the locations and types of plant communities used by these animals for nesting, roosting, feeding, resting, spawning, etc. Literature information and personal observations will then be used to develop guidelines for maintaining (or restoring if necessary) the "critical habitat" required by each species.

d. Monitoring of Plant Communities for Natural Changes. Field personnel will become familiar with the use of aerial photography and LANDSAT imagery, for the study and monitoring of plant communities (historically and at the present time) and will use this remote sensing in conjunction with field observations to monitor and document natural changes such as:

1. freeze damage to, and recovery of, salt marsh communities;

2. wind and wave damage to salt marsh and beach communities from storms and hurricanes;

3. accretion-related seaward extension of salt marsh and beach communities;

4. erosion-related landward retraction of salt marsh and beach communities;

5. depositional burying of marine grassbed communities;

6. invasions of exotic plant species and revegetation by native species after exotic plant removal projects;

7. pathogen damage to and recovery of plant communities.

e. Identification of Areas and Communities in Need of Restoration. Field personnel will, as time permits, systematically survey the aquatic preserve to determine the location, nature, and extent of environmental damages from human activities and assess the possibility of restoring each site according to whether the site is publicly or privately owned, and the cost and effort required.

f. Protection of Plant Communities. Field personnel shall protect the plant communities from the various uses of sovereign lands within the aquatic preserve according to the following guidelines.

1. Field personnel in their biological reports shall not recommend for approval any proposed use of sovereignty submerged lands when the plant communities in the proposed use area appear to be jeopardized.

   i. Removal of salt marsh vegetation shall only be permitted for minimum access from the mean high water line to a dock or pier.

The destructive clearing of salt marshes in sovereignty lands shall be strictly prohibited.

ii. Marine grassbed communities shall not be removed or shaded to such an extent as to cause the death of a significant area of the community. They shall not be subjected to unacceptable turbidity, decreased light penetration, propeller or net damage.

2. Field personnel shall be notified of applications for uses of submerged lands within the aquatic preserve by the Bureau of Land and Aquatic Resource Management central office. No applications will be approved within Class 1 and 2 Resource Protection areas (see Section B(6) of this chapter) without a thorough review by the field personnel. The field personnel will inspect the site, assess the potential impacts to the plant communities, and then convey their recommendations to the central office as required.

3. Field personnel will initiate various educational programs and supplement existing educational programs designed to increase public awareness of the damage that recreational, private and commercial uses (i.e., propeller damage) can inflict on marine grassbed communities. Education programs can also be undertaken with other federal, state or local groups (i.e., Florida Sea Grant, school boards, etc.).

4. Field personnel will develop an exotic plant control and removal plan after monitoring the rate and extent of invasion by exotic species.

5. In cooperation with the Department of Community Affairs field personnel will familiarize themselves with the results of a study under the Coastal Energy Impact Program in assessing the potential impacts of an oil tanker spill or drilling rig accident on the natural resources of the Alligator Harbor Aquatic Preserve.

g. Restoration of Plant Communities. Field personnel will consult with professionals in the wetlands restoration/revegetation field to determine the advisability of using healthy beds of marine grasses as a stock source to restore damaged grassbeds. They will develop guidelines for restoring marine grassbeds in the aquatic preserve.

Field personnel will identify easily accessible salt marsh communities within the aquatic preserve where a high density of salt marsh seedlings could serve as a nursery stock source for transplanting to restoration sites. Field personnel will consult with professionals in the wetlands restoration/revegetation field concerning proven procedures for transplanting and nurturing salt marsh species and will develop guidelines for restoring these communities in the aquatic preserve.

In the event that plant restoration is required as the result of a permit application with DER, or as a result of any other process, the field personnel will be responsible for monitoring the restoration activity. This might include advising the individuals involved in the actual restoration work on the best techniques under the available restoration guidelines. The field personnel will monitor the success of the restoration project after the work is completed.

h. Identification of Research Needs. Field personnel will identify research needs concerning plant communities within the aquatic preserve with special emphasis given to data needs that would increase the capability of field personnel to manage plant communities under environmental stress, and to determine threshold tolerances for plant community health and diversity in relation to degraded environmental conditions.

i. Coordination With Other Researchers. Field personnel will become familiar with research projects being conducted within the aquatic preserve by state and federal agency biologists and non-government researchers. Water quality research issues, as they affect plant communities, should also be closely followed. This familiarization should lead to a better understanding of both agencies' personnel and a better awareness of the data findings and uses. The research liaison will also be addressed in Chapter X (Scientific Research).

2. ANIMAL LIFE

The richness of the animal life of the Alligator Harbor area is important to the designation of the aquatic preserve. The fish, shrimp, and crabs within the aquatic preserve, both in the estuary and offshore, are valuable resources on which recreational and commercial fisheries depend. Large areas of undisturbed wetlands are excellent habitat for many types of wildlife. These wildlife include an extensive list of endangered species, migratory waterfowl, colonial waterbirds, invertebrates and vertebrates.

The management objective for animal life within the aquatic preserve will be the protection through preservation of habitats and living conditions in the most natural condition possible.

Management Policy

a. Field Familiarization and Documentation. Field personnel will become familiar with the major animal species in each habitat in the aquatic preserve. This identification process will include the location, number, season of sighting, weather conditions and any other factors which may be necessary to build a working knowledge of the species, and their interaction and occurrence in the aquatic preserve.

b. Literature Familiarization. The field personnel will assemble a working library of existing literature concerning the major animal species and communities within the aquatic preserve. The field personnel will become familiar with life histories, ecological requirements, position in the community, habitat and other factors necessary for sound management.

c. Preparation of Guidelines for the Management of the Endangered Species Within the Aquatic Preserve. The field personnel will become familiar with the guidelines of the Florida Game and Fresh Water Fish Commission, U.S. Fish and Wildlife Service, Department of Natural Resources' Division of Marine Resources, National Marine Fisheries Service, Marine Fisheries Commission, and any other applicable agencies and non-government organizations involved in the management of endangered species. These guidelines will be used in conjunction with the field familiarization, documentation, and mapping to develop

management guidelines for each endangered species within the aquatic preserve. Special guidelines shall be developed and implemented for the management of areas within the aquatic preserve that are identified as critical habitat for endangered species.

d. Monitoring Changes in Animal Populations. Field personnel will study and monitor changes in animal species that are caused by natural phenomena, such as:

i. freezes;

ii. storms and hurricanes;

iii. changes in habitat due to changes in plant types;

iv. changes in habitat due to water quality changes; and

v. geologic or hydrologic changes including erosion, estuarine current flow changes, and any other physical changes.

e. Protection of Animal Life From Human Uses of the Aquatic Preserve. Field personnel, during the process of resource impact analysis in the review of use applications in or affecting the preserve, shall consider the protection of animal species. The review shall also consider the potential effects of the proposed use on the plant communities as they function as habitat for the animal life and uses that may cause a disturbance in the natural activities and functions of the animal life (e.g., air pollution, excessive noise or bright lights affecting a bird rookery). The field personnel should be notified of any proposed activities within the aquatic preserve that might affect the well-being of animal life and should be involved in planning the activity so as to cause the least amount of stress on animal life.

f. Identification of Research Needs. The field personnel in the course of their duties shall identify research needs required to improve the management of animal life in the aquatic preserve. This identification process is more fully described in Chapter XII (Identified Program Needs).

g. Coordination With Other Researchers. Field personnel will become familiar with research projects conducted within the aquatic preserve by state and federal agency biologists and non-government researchers. This familiarization should lead to a better understanding of both agencies' personnel and a better awareness of the data findings and uses. The research liaison will also be addressed in Chapter X (Scientific Research).

3. GEOLOGIC FEATURES

The management of geologic features will require that the field personnel become aware of the natural geologic features and the changes, both human and natural, which affect these features within the aquatic preserve to better enable a review of applications for state-owned land uses that might affect these features. These geologic features will include inlets, islands, shoals, shorelines, embayments, and channels. The overall objective of the management of these features is to allow the naturally dynamic system to operate without man's influence or interference. Active management in this area shall include the review of proposed uses that might affect the geologic features within the aquatic preserve. The majority of these reviews will probably concern bulkheads, bridges and channels as they might affect state owned lands. The objective in the placement of bulkheads on lands upland of the aquatic

preserve shall be that the natural contour and drainage be altered to the least amount practicable. The use of rip rap with salt marsh or other suitable native plantings would be preferable to bulkheads within the preserve. Bulkheads are not allowed within the preserve, except as stated in Sections 258.42(2) and 258.44, F.S. and in accordance with the management objectives of the preserve.

Existing bridges and causeways within other sections of Franklin County have resulted in losses of grassbeds and salt marsh vegetation. Proposals for bridge and causeway construction within the preserve will be reviewed in light of these potential impacts. Causeways restrict natural flushing and create unnatural circulation patterns.

Maintenance dredging of existing channels should also be carefully studied to remove conditions that require perennial maintenance and chronic environmental disturbances. New channels also have the potential to adversely impact the aquatic preserves, with varying influences in each preserve, depending on channel location.

The field personnel shall also be involved in the review of project proposals submitted to other agencies, such as the U.S. Army Corps of Engineers, Department of Environmental Regulation, the Department of Transportation or the Water Management Districts, and shall formally review and comment on any permit application that impacts the aquatic preserve. These projects shall be reviewed jointly with those agencies' personnel whenever possible. The field personnel will review these projects on behalf of the aquatic preserve and its resources.

4. ARCHAEOLOGICAL AND HISTORICAL SITES

Archaeological and historical sites have several characteristics which must be recognized in a resource management program.

i. They are a finite and non-renewable resource.

ii. Each site is unique because individually it represents the tangible remains of events which occurred at a specific time and place.

iii. While these sites uniquely reflect localized events, these events and the origin of particular sites are related to conditions and events in other times and places. They also preserve traces of past biotic communities, climate, and other elements of the environment that may be of interest to other scientific disciplines.

iv. These sites, particularly archaeological sites, are very fragile because their significance is derived not only from the individual artifacts within them, but especially from the spatial arrangement of those artifacts in both horizontal and vertical planes.

Administering Agency

The management of the archaeological and historical sites is authorized and administered by the Division of Archives, History and Records Management

(DAHRM) in the Florida Department of State. The management authority for this area of management is presented in Chapter II (Management Authority).

Management Policy

The management policy presented here is one of conservation, as recommended by the DAHRM and subject to that agency's changes. Their policy is as follows:

1. The field personnel and all other agencies planning activities within the aquatic preserve shall coordinate closely with DAHRM in order to prevent any unauthorized disturbance of archaeological and historical sites that may exist on the affected tract. DAHRM is vested with the title to archaeological and historical resources abandoned on state lands and is responsible for administration and protection of such resources (Section 267.061(1)(b), F.S.). It is illegal to destroy or otherwise alter sites on state lands without a permit from DAHRM (Section 267.13, F.S.). Therefore, agencies planning activities should coordinate their plans with DAHRM at a sufficiently early stage to preclude inadvertent damage or destruction to these resources.

2. The nature of these sites' fragility and vulnerability to looting and other destructive forces required that the location of these sites not be widely known, if the location is known at all. In many instances DAHRM will have knowledge of the known and expected site distribution in an area. Special field surveys for unknown areas

may be required by DAHRM to identify potential endangerment of a proposed activity to these archaeological and historical sites. This will be especially necessary in the case of activities contemplating ground disturbance over large areas.

3. In the case of known sites, activities that are expected to alter or damage these sites shall alter their management or development plans as necessary, or make provisions so as not to disturb or damage such sites prior to professionally acceptable and authorized mitigation.

4. If in the course of a management activity, or as a result of development or the permitting of dredge/fill activities, it is determined that valuable historic or archaeological sites will be damaged or destroyed, DAHRM reserves the right to require salvage measures to mitigate the destructive impact of such activities on such sites (Section 267.061(1)(b), F.S.). Such salvage measures shall be accomplished before DAHRM would grant permission for site destruction.

5. Excavation of archaeological sites in the near future is discouraged. Archaeological sites within the aquatic preserve should be left undisturbed for the present, with particular attention devoted to preventing site looting by "treasure hunters".

6. Field personnel will note suspected sites for future surveys by DAHRM. Cooperation with other agencies in this activity is also

encouraged by DAHRM. The DAHRM will help inform the field personnel about the characteristics and appearance of these sites.

7. Any discovery of instances of looting or unauthorized destruction of these sites will be reported to the DAHRM so that appropriate action may be initiated. The Florida Marine Patrol and other enforcement personnel of DNR shall provide enforcement assistance to DAHRM and make arrests or investigate cases of looting or other unauthorized destruction of archaeological sites. The field personnel will follow the above management policy and become familiar with the personnel involved with this task in DAHRM and their procedures for identifying suspected sites.

5. WATER RESOURCES

Responsible management of water resources for the protection of human health and recreational enjoyment of aquatic preserve waters, as well as for the protection and enhancement of the preserve's plant and animal communities is one of the most critical aspects of aquatic preserve management. Research to understand how human activity can alter or detrimentally affect the dynamic characteristics of the preserve's various habitats can be approached confidently after monitoring data has been used to model the effects of naturally occurring variations on the same habitat. Only a single toxic substance may be necessary to initiate irreparable ecological damage and change in the water resources of the aquatic preserve estuarine ecosystem.

Management Policy

The successful management of the water resources of the aquatic preserve depends heavily on other government agencies (i.e., DER and the Water Management District) charged with regulating water quality and quantity. The objective of the water resources management shall be to maintain the naturally high water quality and to ensure the natural seasonal fluctuations of fresh water into the estuary. Sources of water resources data from non-government agencies, are dependent on or may be found among colleges, universities, scientific foundations and private consultants working in the Alligator Harbor area. These various entities have interests at many different levels and areas within the estuarine system. The aquatic preserve management program will manage the water resources through coordination with these various entities. The field personnel will not conduct water sampling, but through the review of these data from other entities and from their own field observations, they will be able to identify water resource problems in the aquatic preserve. Efforts will be made to ensure consistency in project design and sampling techniques so that data from various studies can be used for integrated analysis.

a. Familiarization with the Jurisdiction, Personnel, and Monitoring Programs of Government Agencies and Other Entities. Field personnel will become thoroughly familiar with the jurisdiction, personnel and monitoring programs of other agencies, institutions and corporations involved in studying, monitoring, regulating and managing water resources within the aquatic preserve and the drainage basins which provide fresh water to this preserve.

Those agencies known to be working or having potential activities affecting the preserve are listed below; others may be added as they are identified.

1. Florida Department of Environmental Regulation
2. Franklin County Health Department
3. Northwest Florida Water Management District
4. U. S. Geological Survey
5. U. S. Fish and Wildlife Service
6. National Oceanic and Atmospheric Administration
7. Tall Timbers Research Station
8. Florida Department of Transportation
9. Apalachee Regional Planning Council
10. Florida Game and Fresh Water Fish Commission
11. Florida Department of Natural Resources Marine Research Laboratory
12. Florida State University
13. U. S. Army Corps of Engineers
14. Southeastern Fisheries Association, Inc.
15. U. S. Environmental Protection Agency
16. Department of Natural Resources--Shellfish Sanitation Section
17. Florida Division of Forestry
18. Alligator Point Water Resources Board
19. Florida Marine Patrol

b. Monitoring of Water Resources by Cooperative Data Collection and Review. Field personnel will: (1) promote coordination among involved agencies in planning monitoring programs and in evaluating monitoring data, (2) monitor

water resources within the preserve by reviewing the data collected and compiled by those agencies as it applies to the aquatic preserve and its resources.

c. Review of Permits and Lease Applications for Aquatic Preserve Uses and Watershed Activities that Would Affect the Preserve Water Resources. Field personnel will review sovereign land lease applications, development of regional impact reviews, and DER/COE permit applications in cooperation with other agencies as necessary, and as outlined in Chapter V (C) for their potential impact on the water resources of the aquatic preserve.

d. Familiarization with and Monitoring of Activities and Users Which Regularly Contribute Pollutants to Preserve Waters. Field personnel will become familiar with the activities and users which regularly or potentially contribute pollutants to the waters of the aquatic preserve. This monitoring will be accomplished directly by field observations and indirectly by review of other entities' water resources data. Field personnel will encourage and coordinate with other agencies involved with water resources monitoring to consider more detailed field monitoring in areas of the preserve where the incidence of polluting activities is found to be high. These monitoring activities will also include the monitoring of freshwater releases into the preserves and their effect on the environment.

These activities will also be applicable to Chapter X (Scientific Research), and the coordination through Chapter VI (Management Implementation Network). The field personnel's onsite presence will be complemented by their reliance

on other agencies and entities for data and regulation. The field personnel will have the ability to visually monitor water resource crises and phenomena as they occur and when they affect other resources.

6. CUMULATIVE IMPACT ANALYSIS

Cumulative impacts are the sum total of major and minor changes or effects upon a natural system. Taken singularly these effects may not constitute a notable change in the condition of the natural system, but as these single changes or uses accumulate, their combined impact may result in a substantive environmental disturbance or degradation of the natural system.

The review of proposed uses in the aquatic preserve from the perspective of cumulative impact analysis requires a thorough knowledge of the natural system and the various interactions and dynamics within that system. This aquatic preserve management program will initiate development of a cumulative impact analysis program. The evaluation of cumulative impacts shall include the following criteria from Chapter 18-20, F.A.C.:

(1) The number and extent of similar 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 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 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 partially off-set adverse impacts. Proposed mitigation to compensate for damages to resources in the preserve will only be considered when no other reasonable alternatives exist.

The availability of onsite preserve staff who are familiar with the distinctive characteristics of this system, coupled with their ability to access

LANDSAT imagery and mapping, and other data sources, is the key to development of a successful cumulative impact analysis program. As cumulative impacts are identified for specific areas and/or resources, they will become an integral part of the project analysis and decision-making process.

7. MANAGEMENT OF ENCROACHMENTS

The management of encroachments in the preserve will concern the unauthorized placement of structures, unauthorized dredging or filling, or other illegal uses in the aquatic preserve. These encroachments might also include illegal activities associated with an approved use (e.g., extension of a dock, construction of boat houses, extension of an approved channel).

The management policy for the field personnel, after identification of a suspected illegal encroachment, will involve a reporting procedure and the monitoring of the remedial action. After a field identification of suspected encroachments, field personnel will notify the central office to verify the title of the property and research the possibility of the use being an approved activity. Due to the extensive areas involved in the aquatic preserve, this will be a progressive activity depending on the field personnel's eventual familiarization with the preserve and the approved uses. The potential for unauthorized activities in such an extensive area may possibly require some type of mapping and recording system to assist the field personnel in their monitoring.

The management action for verified illegal encroachment will be developed by

the agencies specifically involved (i.e, DNR, DER). The field personnel will assist, as necessary, with field evaluations or other support activities. The final action will be monitored by the field personnel, at the direction of the Trustees to the central office. The procedures followed in these applications will be decided on a case by case basis.

C. RESOURCE MAPPING AND RESOURCE PROTECTION AREAS

The efficient description and location of resources within such a large area requires the use of remote sensing techniques. This work will be done in conjunction with DNR's Marine Research Laboratory's Assessment of Fishery Habitat Loss Study in the Alligator Harbor area. Marine Research Laboratory personnel have developed resource and habitat identification mapping through the use of LANDSAT (satellite) imagery and aerial photography.

The vegetation and land use mapping done in this study will become the basis for the development of a Resource Protection Area management system in the aquatic preserves. This mapping system will identify and classify various resources within the aquatic preserves that require protection by the management program. This mapping system will also give acreage totals for each land use and vegetation classification in the preserves. The vegetation portion of the mapping will be augmented over time by wildlife and fisheries information (endangered species, bird rookeries, etc.), archaeological and historical site information and other resource factors deemed crucial to the continued health and viability of the aquatic preserves.

The onsite managers will supplement this mapping with the above information to develop and update a Resource Protection Area (RPA) mapping program. The RPA mapping system is based on three levels of resource classification. The Class 1 level will contain resources of the highest quality. Uses proposed for these areas will receive the most rigorous review. The Class 1 level will include one or more of the following: marine grassbeds; beaches; saltwater marsh; oyster bars; archaeological and historical sites (upland and submerged); endangered species habitat; colonial water bird nesting sites; and other appropriate factors.

The Class 2 areas will be defined as those areas containing the resources of Class 1, but in a transitional condition compared to Class 1. These resources will either be building toward Class 1 status or declining to Class 3 status. Class 2 areas will require careful field review as to the specific area's sensitivity to each proposed use. In some respects, these areas may be as sensitive or more sensitive to disturbances as Class 1 areas. The resources of Class 2 will include: marine grassbeds; salt marsh species colonizing new lands; and other resources of Class 1 type that fit in the Class 2 condition.

Class 3 areas will be characterized by the general absence of the attributes of the above two classes. Class 3 areas may have small localized Class 1 or 2 areas within them. Class 3 will generally have deep water areas or areas with no significant vegetation or wildlife attributes. Nearshore and bottom areas significantly modified by man will be designated Class 3.

These RPA maps will require periodic revisions as the onsite managers learn

more about the resource's reaction to man's uses. Scientific research and other data additions may also require modification of this system. Natural changes will also require modification of this classification system. Periodic checking by LANDSAT satellite imagery will become useful for remote sensing monitoring as its use is more fully developed.

The RPA maps will become a planning tool for both onsite and central office staff. More detailed field review will still be required to supplement this information on a case by case basis, as necessary.

The initial development, as well as periodic review, will require support and assistance of the many other resource regulating and managing agencies, as well as local and regional government entities. Support will also be requested from the colleges, universities, foundations and other interest groups and individuals.

D. ADMINISTRATIVE MANAGEMENT OBJECTIVES

This section of the chapter addresses the role of the central office, in the aquatic preserve management planning and implementation process. The central office's role is generally interpreted within the context of coordinating activities with the field personnel. This coordination linkage is important to many program aspects, including project review and evaluation, local contact initiation, administrative rule development, contractual services and conflict resolution; routine support (payroll, operating expenses, etc.) usually extended by the central office to the onsite managers. All program activities

identified within this context are designed to protect and enhance the environmental, educational, scientific, and aesthetic qualities of the natural systems of the aquatic preserve.

1. Objectives

Specifically, the following administrative objectives are an essential part of the aquatic preserve management program.

a. To ensure a comprehensive, coordinated review and evaluation of proposed activities potentially affecting the environmental integrity of the aquatic preserve.

b. To serve as the link between aquatic preserve field personnel, and state agencies and programs which originate in Tallahassee.

c. To serve as the primary staff in the development of administrative rule additions, deletions, and revisions.

d. To serve as the administrative staff for contractual agreements and services.

e. To establish and maintain a conflict resolution process.

f. To review all existing and past activities as to their effect on the environmental integrity of the aquatic preserve.

2. Project Review and Evaluation

A major element in the administration of an aquatic preserve management system is the establishment of a thorough project review process. It is the program's intent that the central office staff review all proposed activities requiring the use of state-owned lands within the preserve.

Sections 258.42 through 258.44, F.S., establish the legal context within which all proposed uses of the aquatic preserve must be evaluated.

Essentially, these sections require that projects be basically water dependent or water-enhanced, not contrary to the lawful and traditional uses of the preserve, and not infringing upon the traditional riparian rights of the upland property owner.

The primary mechanism through which proposed uses are reviewed is accomplished by participation in the state lands management process as established by Chapter 253, F.S., and modified by Chapter 258, F.S. The central office was administratively designated, on October 4, 1982, as an agent of the Trustees, for the purposes of evaluating the environmental consequences of proposed uses of state-owned lands within aquatic preserves.

In conducting the environmental evaluations, the central office staff will rely heavily upon the most current, readily available data such as Department of Transportation (DOT) aerial photography, LANDSAT imagery, DER biological

reports, and other data resources. If a proposed activity is legally consistent with the maintenance criteria outlined in Section 258.42, F.S. and Chapter 18-20, F.A.C., and is generally of negligible environmental concern, then the project review will likely be conducted in its entirety by the central office staff, utilizing the generalized environmental data.

The field personnel will be requested to conduct a more detailed environmental assessment of the project if the central office staff, during the course of the preliminary application review, determines that the requested use of state-owned lands may have a significant effect upon the environmental integrity of the preserve. Copies of all applications received will be provided to the field personnel for project monitoring and assessment of the possible cumulative impacts.

Field personnel will be encouraged to establish direct communication links with the various regulatory and management agencies for purposes of obtaining advance notification of projects potentially affecting the preserve. All environmental review and assessments, however, will be channeled through the central office unless other arrangements have been previously cleared with the central office.

While the State Lands Management Program authorized by Chapters 253 and 258, F.S. and Chapter 18-20 and 18-21, F.A.C. is expected to be the primary management implementation vehicle for the aquatic preserve, it is by no means the only vehicle. Section 253.77, F.S., as amended, and the December 1982 Memorandum of Understanding between the COE, DER and DNR provide direct access

to DER's permitting process for DNR. The Development of Regional Impact (DRI) and other regional or state level review processes represent other implementation mechanisms. The basic review approach and the evaluation relationship between the field personnel and the central office staff will be the same as the case involving the State Lands Management program.

One aspect of the aquatic preserve review and evaluation program is the identification of proposed activities that are either generally or specifically prohibited. Immediately upon review of such project applications, the central office staff will notify the Division of State Lands (or other program managers) that the proposed activity is legally unapprovable for the stated reasons. For those proposals which are subject to denial due to their adverse environmental impacts, even though the activity may be permissible, Section 258.42, F.S., specifically provides that:

"(1) No further sale, lease, or transfer of sovereignty submerged lands shall be approved or consummated by the trustees except when such sale, lease, or transfer is in the public interest.

(2) The trustees shall not approve the waterward relocation or setting of bulkhead lines waterward of the line of mean high water within the preserve except when public road and bridge construction projects have no reasonable alternative and it is shown to be not contrary to the public interest.

(3) (a) No further dredging or filling of submerged lands shall be

approved by the trustees except the following activities may be authorized pursuant to a permit:

1. Such minimum dredging and spoiling as may be authorized for a public navigation project.

2. Such minimum dredging and spoiling as may be authorized for creation and maintenance of marinas, piers, and docks and their attendant navigation channels.

3. Such other alteration of physical conditions as may, in the opinion of the trustees, be necessary to enhance the quality or utility of the preserve or the public health generally.

4. Such other maintenance dredging as may be required for existing navigation channels.

5. Such restoration of land as authorized by Section 253.124(8).

6. Such reasonable improvements as may be necessary for public utility installation or expansion.

7. Installation and maintenance of oil and gas transportation facilities, provided such facilities are properly marked

with marine aids to navigation as prescribed by federal law.

(b) There shall, in no case, be any dredging seaward of a bulkhead line for the sole or primary purpose of providing fill for any area landward of a bulkhead line.

(c) There shall be no drilling of gas or oil wells. However, this will not prohibit the state from leasing the oil and gas rights and permitting drilling from outside the preserve to explore for oil and gas if approved by the board.

(d) There shall be no excavation of minerals, except the dredging of dead oyster shells as approved by the Department of Natural Resources.

(e) There shall be no erection of structures within the preserve; except:

1. Private docks for reasonable ingress or egress of riparian owners;

2. Commercial docking facilities shown to be consistent with the use or management criteria of the preserve; and

3. Structures for shore protection, approved navigational aids, or public utility crossings authorized under subsection (3)(a).

(f) No wastes or effluents shall be discharged into the preserve which substantially inhibit the accomplishment of the purposes of this act.

(g) No nonpermitted wastes or effluents shall be directly discharged into the preserve which substantially inhibit the accomplishment of the purposes of this act."

Generally, applicants desirous of appealing staff recommendations will have to follow those appellate procedures outlined in the appropriate authorizing statutes. In the case where applications requesting the use of state-owned lands are denied, three appellate procedures are available to the applicant. Depending upon the type of application submitted, an applicant may:

a. Ask the Governor and Cabinet to overturn an application decision rendered by the Executive Director of Department of Natural Resources (or his designee) under a delegation of authority;
b. Request an Administrative Hearing under the procedures outlined in Chapter 120, F.S.; or
c. Appeal the action of the Board of Trustees of the Internal Improvement Trust Fund to the District Court of Appeal.

3. Liaison Between Field Personnel and Other Interested Parties

One of the most important aspects of the field personnel's job is to establish a mutually beneficial communication link with pertinent interest groups. The central office staff will assist in initially identifying and contacting governmental bodies, special interest groups and interested individuals requiring aquatic preserve program coordination.

When requested by the onsite managers, the central office staff will assist in arranging for specialized management expertise not generally available locally. This may include, for example, such things as arranging for DAHRM to conduct a detailed cultural resource assessment for certain areas of the preserve.

Chapter VI

MANAGEMENT IMPLEMENTATION NETWORK

This chapter of the management plan will address the various relationships of aquatic preserve management to the different government agencies and programs, non-government entities, interest groups, and individuals within the aquatic preserve area. The activities of both field personnel and central office staff as they relate to these other organizations will be presented.

A. FEDERAL

Many federal agencies have property interests, land and wildlife management programs, research activities, construction activities, and regulation programs existing or potentially existing within the aquatic preserve, The objective of the aquatic preserve management program will be to complement the various activities wherever possible. The field personnel will assist those federal agencies in areas where they have common goals. The field personnel and central office staff will also review the federal activities as to their effect on the objectives of the aquatic preserve management. The review shall be coordinated through the DER's Office of Coastal Management for the purposes of enforcing the provisions of the Federal Coastal Zone Management Act of 1972, as amended.

1. United State Fish and Wildlife Service. The Aquatic Preserve program will be involved in the review of proposed preserve uses in conjunction with the

Fish and Wildlife Service in Panama City. The USFWS reviews dredge and fill requests and other federal level permitting under the Fish and Wildlife Coordination Act.

Another management program in which the field personnel could possibly interact with the Fish and Wildlife Service is the protection and recovery of endangered species and bird rookeries within the aquatic preserve. Field personnel will become involved in using available recovery techniques for this purpose, as necessary.

2. U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers (COE) is charged with providing technical guidance and planning assistance for the nation's water resources development. The COE also provides supervision and direction to many engineering works such as harbors, waterways and many other types of structures. Their major responsibility, as it applies to the aquatic preserve, is the protection of navigable waters, pollution abatement and maintaining water quality and the enhancement of fish and wildlife.

The COE activities in the Alligator Harbor area include their involvement with the DER in the dredge and fill permitting process, technical oversight of channel, inlet and canal maintenance, and evaluating requests for new channels, canals and other such public works projects. The field personnel will become familiar with the various programs, policies and procedures as they apply to the aquatic preserve.

The field personnel and central office staff will also review activities

proposed by the COE for conformance to the objectives of the aquatic preserve management plan. This involvement should begin in the early stages of project planning in order to facilitate the best protection of the aquatic preserve possible.

3. U.S. Geological Survey. The U.S. Geological Survey (USGS) under the Department of the Interior has the responsibility to perform surveys, investigations, and research pertaining to topography, geology, and the mineral and water resources of the United States. USGS also publishes and disseminates data relative to those preceding activities. In the past the USGS has conducted many studies on various resources in the region.

The field personnel and central office staff will become familiar with these studies and the data results as they apply to their management activities.

4. U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (EPA), in cooperation with state and local governments, is the federal agency responsible for the control and abatement of environmental pollution. The six areas of pollution within which the EPA is concerned are air, water, solid waste, noise, radiation and toxic substances. The DER is the state agency responsible for handling most of these programs on a state level in lieu of a federal program. Within the aquatic preserve, the field personnel will assist the EPA in planning field activities and where there are common goals.

5. U.S. Coast Guard. The U.S. Coast Guard is the federal agency involved in

boating safety, including search and rescue, and investigation of oil spills. The Coast Guard is also charged with the permitting of structures which affect navigation and boating safety. These structures include bridges, causeways, aerial utilities and other structures which may be in conflict with navigational uses. The field personnel, in conjunction with the central office staff, will also review projects which the Coast Guard may be evaluating for permits.

6. National Marine Fisheries Service. The National Marine Fisheries Service (NMFS) under the U.S. Department of Commerce is active in the Alligator Harbor area in recording commercial fish landings. The NMFS also has enforcement officers in the area checking for illegal fishery activities. The field personnel will work with these personnel whenever they have common goals within the aquatic preserve.

B. STATE

Many state agencies have programs which affect the resources or regulate activities within the aquatic preserve. There are other DNR programs that are within or affect the Alligator Harbor Aquatic Preserve management.

1. Department of Environmental Regulation. The Department of Environmental Regulation (DER) is the state agency in charge of state-wide regulation of water quality. The DER is also the local contact in the aquatic preserves area for the initiation of dredge and fill applications in conjunction with the COE and DNR. With respect to water quality and dredge and fill regula-

tion, the DER is one of the most important agencies to the management of the aquatic preserve. Maintaining water quality in the preserve is critical to the health of the estuarine complex, and dredge and fill activities are one of the most potentially destructive activities affecting water qualtiy within the preserve. The DER also monitors and regulates other potential forms of pollution, such as air pollution, wastewater discharges, and hazardous waste, all of which can affect the ability to maintain essential natural conditions.

The field personnel will become familiar with the water quality, dredge and fill, and other regulatory programs that are important to the aquatic preserve. The field personnel should develop a close working relationship with DER staff and become familiar with DER field activities and programs that are in common with the objectives of the aquatic preserve management program. The field personnel should open the most efficient line of communication with the local offices to receive advanced copies of the permit applications from DER to improve the response time within the review process.

The DER, Office of Coastal Management is charged with coordinating activities related to coastal management in the state and reviewing federal actions for consistency with the State Coastal Management program, Section 380.20, F.S. The central office staff will maintain a close relationship with the Office of Coastal Management for assistance in the review of federal actions, data and research needs, and other program support.

2. Department of Community Affairs. The Department of Community Affairs (DCA) is responsible for determining Developments of Regional Impact (DRI) and

for recommending to the Administration Commission Areas of Critical State Concern (ACSC). DRI's are major developments that have impacts on a scale which is greater than county level and require a regional review from neighboring local governments and state agencies. Both the central office staff and field personnel of the aquatic preserve program will be involved in reviewing DRI's. The field personnel should receive notice of a DRI through the central office staff and will proceed with the field review. The central office staff will coordinate the field review findings and work with the other state agencies in Tallahassee in the review of the DRI.

The ACSC program is intended to protect the areas of the state where unsuitable land development would endanger resources of regional or statewide significance. When an area is identified as a possible ACSC, a Resource Planning and Management Program (RPMP) is established. The RPMP evaluates the resources, and the local government's land development practices. After this evaluation is complete, the RPMP committee makes recommendations to the local governments on how their land development practices could be improved to ensure an orderly land well-planned growth that would protect the critical resources. When these modifications are not made to the RPMP committee's approval, areas of local government that are not in conformance could be designated an ACSC or the entire area may be designated an ACSC by the Legislature. Franklin County has been designated as an ACSC with the exception of areas east of the intersection of U.S. 319 and 98. This exclusion encompasses the entire Alligator Harbor Aquatic Preserve.

Under an ACSC designation, the local governments are required to notify DCA of

any application for a development permit. The entire land development process will require the state's oversight until that local government modifies its land development practices to conform to the ACSC requirements.

3. Department of Natural Resources. The aquatic preserve management program is associated with several other Department of Natural Resource (DNR) programs in the Alligator Harbor area.

DNR's Marine Research Laboratory in St. Petersburg, under the Division of Marine Resources, has several programs and projects within this area which will benefit the aquatic preserve program. The Marine Lab is presently studying fishery habitat losses in the Alligator Harbor area. The Resource Protection Area mapping, which will be used in the management of these aquatic preserves, was created as a product of that fishery habitat loss study. The data from this project, when it is completed, will be incorporated into this management plan. The field will become familiar with this study and will consult the Marine Lab for their data needs whenever possible.

The Division of Marine Resources also handles the permitting for the collection of certain marine species and use of certain chemicals. The field and central office staff will become familiar with this permitting process and request notification of these permits within the aquatic preserve.

The Marine Patrol, under DNR's Division of Law Enforcement, also operates in Alligator Harbor. The field personnel will become familiar with their programs and operation, and will call on the Marine Patrol for law enforcement support as required.

The Division of State Lands within the DNR is charged with overseeing uses, sales, leases or transfers of state-owned lands. The aquatic preserve staff will interact with State Lands in all transactions concerning submerged lands within the aquatic preserve.[1] These would include the potential acquisition of privately titled submerged lands or contiguous uplands important to the integrity of the preserve. This relationship is more fully described in Chapter V(C).

The Division of Resource Management, through the Bureau of Geology and Aquatic Plant Research and Development, is responsible for various programs potentially affecting the aquatic preserve. Staff will establish communication links with this Division to ensure that adequate consideration is given to potential impacts upon the preserve that may result from the conduct of their various programs.

The Division of Recreation and Parks, in addition to the work related to aquatic preserves by BLARM and the Florida Park Service, is also involved in the management of State parks and recreation areas nearby. The aquatic preserve program will work closely with these programs as they relate to aquatic preserve management objectives.

4. Marine Fisheries Commission (MFC). The MFC was established as a rule-making authority pursuant to Section 370.027, F.S. The seven members are appointed by the governor and are delegated full rule making authority over marine life (subject to approval by the Governor and Cabinet), with the exception of endangered species. This authority covers the following areas:

a) gear specifications, b) prohibited gear, c) protected species, g) closed areas, h) quality control codes, i) seasons, and j) special considerations related to egg bearing females and oyster and clam relaying. The field personnel and central office staff will become familiar with and enforce the rules of the MFC.

The MFC is also instructed to make annual recommendations to the Governor and Cabinet regarding marine fisheries research priorities. The field and central office staff will use these recommendations to direct research efforts within the aquatic preserve.

5. Florida Game and Fresh Water Fish Commission. (GFWFC) The GFWFC's Environmental Services office in Tallahassee sends biologists into the preserve to review projects which may have potential impacts on local fish and wildlife habitat as necessary. The central office will use the GFWFC's assistance in their review process, when possible, and in developing fish and wildlife management for the aquatic preserve.

The GFWFC also has law enforcement officers working in this area. The field personnel will interact with these officers where there are common goals.

The GFWFC is also the state coordinator of the Non-Game Wildlife and the Endangered Species Programs in Florida. The Field personnel and central office staff will work with GFWFC personnel in developing program needs in this area.

6. Department of Transportation. (DOT) The DOT has its State headquarters office in Tallahassee and District office in Chipley, and the aquatic preserve field personnel and the central office will work with the resident engineer on anticipated projects having possible impacts on the aquatic preserve. The field personnel and administrative staff will review any major highway or bridge projects that may be proposed in the future.

7. Department of State. The Division of Archives, History and Records Management (DAHRM) in the Department of State will have a close working relationship with the field personnel and central office staff in the protection of archaeological and historical sites. The field personnel will be directed by DAHRM, through the central office, in any activities or management policy needs for these sites.

8. Health and Rehabilitative Services. (HRS) Both the central office staff and field personnel will establish communication and coordination linkages with HRS and their locally conducted programs of septic tank regulation and mosquito control. Although mosquito control serves a useful public function, the effects of pesticides (adulticides and larvacides) in the waters of the preserve are a primary concern. Additionally, the central office staff will become involved in future meetings and management programs developed by the Governor's Working Group on mosquito control. Subsequent policy recommendations coming out of this group will be evaluated for applicability to the ongoing aquatic preserve management program.

C. REGIONAL

The regional level of the management implementation network as it applies to the Alligator Harbor Aquatic Preserve will include the Northwest Florida Water Management District, The Apalachee Regional Planning Council, and the Florida Inland Navigation District. These organizations have activities that are broader than the local government, but are on a smaller scale than the state level.

1. Water Management District. The Northwest Florida Water Management District includes Franklin County. The water management district administers permitting programs for consumptive water use, management and storage of surface waters well drilling and operation, regulation of artificial recharge facilities, and works of the district. This includes the withdrawal and use of water from rivers, streams, and wells. The types of water uses they permit in the preserve area include irrigation and public water supply. The field personnel will become familiar with the review and permitting procedures as they might apply to water supply in this basin. The water management district is also involved in various studies on water supply and management, and other related research that may be of use to aquatic preserve management.

2. Regional Planning Councils. The Apalachee Regional Planing Council (ARPC) serves as a regional planning body for the local government of Franklin County. Other northwest Florida counties are served by these regional planning councils, as well. Among its duties, the ARPC:

a. aids local governments with planning expertise;

b. is the regional representative for the Development of Regional Impact (DRI) review process;

c. serves as regional clearinghouse for state and federal projects and programs;

e. conveys information from the local governments to the state and federal levels; and

f. prepares and administers the regional policy plan.

The field personnel will become familiar with the various projects, programs, and data sources that the ARPC has within their administration that may affect or prove useful to the aquatic preserve program.

The DRI review of projects which affect the aquatic preserves will be reviewed by the central office staff, with the field personnel's field review, when necessary. DRI's for large marinas, large subdivisions on the uplands above the preserve, and commercial or industrial developments will require a field review by the field personnel as to their effect on the aquatic preserve.

D. Local Governments and Special Districts

This section will address the relationship of the aquatic preserve management program to the various local government agencies, special districts and their programs. The local government for Alligator Harbor Aquatic Preserve is

Franklin County since there are no incorporated cities bordering the Preserve. The various special districts (drainage, inlet and mosquito control) and their relationship to aquatic preserve management, are also presented.

The field personnel will be the local liaison for the aquatic preserve to these local government entities to assist them in modifying their policies and practices to conform to the objectives of the aquatic preserve's management plan, and to exchange information and expertise for mutual benefits.

1. Relationship to local management plans: Local (municipal and county) governments are required by the Local Government Comprehensive Planning Act of 1975 (Section 163.3161, F.S.) [as ammended by Chapter 85-55, Laws of Florida, to the Local Government Comprehensive Planning and Land Development Regulation Act] to update their local plans and among other requirements adopt land development regulations and improve coastal management protection. The coastal management element of the LGCP along with the land use and conservation elements establishes long range plans for orderly, and balanced development, with particular attention to the identification and protection of environmental resources in the planning area. Conformance with the criteria, policies and practices of a local government comprehensive plan is required for all development within the local governmental jurisdiction.

The intent of the aquatic preserve management program and this plan is to guide Franklin County government during its comprehensive planning toward developing local plan criteria and standards to be consistent with the objectives of the aquatic preserve program. Field personnel will become

acquainted with local planning efforts and local officials and lend assistance for this purpose. In addition, the central office and field personnel will encourage and advise local officials in preparation of marina elements in their local plans to comply with aquatic preserve rules for commercial docking facilities as specified in Chapter 18-20.04(5)(d)(4), F.A.C.

2. Relation to local development codes. The local zoning and development codes (e.g. building codes) provide the major local regulation that defines what an owner can do on a particular parcel of property. The zoning prescribes the allowable uses and the intensity of those uses. Certain uses along an aquatic preserve can potentially have a profound effect on a preserve.

This section will operate in conjunction with the preceding section on local management plans. The field personnel will become familiar with the local zoning, development codes and their potential effects on the nearby aquatic preserve. The field personnel will assist local planning and zoning officials in identifying areas where changes in zoning would better conform to the objectives of environmental protection for the aquatic preserve management. The field personnel will also offer to assist local planning and zoning officials in the review of proposed subdivisions upland of the preserve.

3. Special Districts (Drainage, Inlet and Mosquito Control). The special districts are taxing districts established to correct drainage and mosquito control problems. Franklin County has a mosquito control district, but no special drainage or inlet districts.

These districts may not have an official comprehensive management plan, but they do have management policies and program statements that are similar to such a plan. The field personnel will become familiar with these policies and the activities of these districts and will monitor their effect on the aquatic preserve. For example, the field personnel might recommend identifying areas that should not receive mosquito spraying or other alternative management because of remoteness to inhabited areas and because of possible damage to the resources of the aquatic preserve; or drainage districts might be asked not to use certain types of herbicides or to use them only at certain times of the year.

E. Other Entities

This section will apply to the numerous entities that have an interest in the aquatic preserve but are non-governmental agencies. This includes the 50 acre Phipp's Preserve on the western tip of Alligator spit, owned by the Nature Conservancy and managed by the Tall Timbers Research Station.

In addition, it includes the environmental interest groups (i.e. Audubon Society, Sierra Club and Native Plant Society), the scientific organizations (Tall Timbers Research Station), the fishing and sports interest groups (i.e., Florida League of Anglers, Organized Fishermen of Florida), the universities that may have research activities in the preserve (i.e., Florida State University), the newly formed Marine Fisheries Commission that will delegate rules and regulations concerning fishing and shellfish harvesting in the aquatic preserve, and other interest groups or individuals. The relationship

of these entities to aquatic preserve management might include the coordination of activities, such as scientific research, environmental education, management of rookeries or other natural areas, or numerous other possible activities. A worthwhile aquatic preserve management process will depend on the continued support and help of these interest groups in all of the aquatic preserves. The field personnel will be active in communicating the aquatic preserve management process and activities to the various groups and consulting with them for their help in their areas of expertise.

Chapter VII

PUBLIC USES

This chapter addresses the public use of the aquatic preserve. The public in this case shall refer to the general public or those persons without riparian rights. The "Florida Aquatic Preserve Act of 1975" (Section 258.35, F.S.) allows for the lawful and traditional public uses of the aquatic preserve, such as sport fishing, boating and swimming (as adapted from Section 258.43[1], F.S.) These and other traditional uses that do not involve a commercial intent or the use of a riparian right to place a structure in the preserve, and do not degrade or otherwise destroy the preserve will be considered public uses. This section will be further divided into consumptive and non-consumptive uses as applicable to each resource.

A. Consumptive Uses.

Consumptive uses involve the removal of resources from the preserve. These uses include fishing, hunting, shellfishing, and other related activities. They also include the unintentional removal of resources by propeller damage to grassbeds. The management of these uses (see Chapter V, Resource Management, Section B: Onsite Management Objectives) will include the observation and monitoring of the effects of these uses on the resources. The field personnel will periodically assess the impacts through the use of the Marine Research Laboratory's LANDSAT capabilities for habitat losses or disturbances in the Alligator Harbor area plus any other studies or data sources that might

become available. This management will also include the protection of the resources from unlawful or excess practices of these uses. The legality of these uses will be controlled by existing applicable state laws and local ordinances. Field personnel, for example, will become familiar with and monitor the success of rules adopted by the Marine Fisheries Commission. These will include regulations on fishing gear, bag and size limits, closed areas, seasons, etc.

Consumptive uses will also be monitored for their effect on other resources (e.g., bird rookeries, marine grassbeds, oyster bars, archaeological and historical sites). The field personnel will also be sensitive to additional enforcement needs (i.e., the need for additional enforcement staff during nesting seasons).

B. Non-consumptive Uses.

These uses are those which do not generally remove resources from the preserve. Examples of these uses include swimming, diving, boating, bird-watching and other related activities. The management practices involved with these uses will be the same as those previously described under Section A., except that these uses are not generally controlled by law. The guiding principle in these cases will be whether or not the activity causes a disruption of the preserve's resources (e.g., destroys marine grassbeds, or disturbs rookeries). Only in the event of these disruptions will the field personnel become involved. Some of these uses may possibly be involved in environmental education programs (Chapter XI).

Chapter VIII

PRIVATE NON-COMMERCIAL USES

This section will apply to those private, non-commercial uses which are associated with riparian land ownership. The management of the aquatic preserve recognizes the traditional riparian rights of upland property owners. The right of ingress, egress, boating, swimming, fishing and other incidental uses of sovereignty lands, historically has allowed for the placement of certain structures, such as docks, within the preserve. The right to make any preemptive use of sovereign lands is a qualified one and can only be exercised with the prior consent of the Board after a finding that such uses will not impair public uses, or destroy or damage areas of environmental significance. The review of proposed activities will require the interaction of the Resource Protection Area mapping with administrative and possible field review and later monitoring by field personnel as projected by Chapter V., Section B.

Private non-commercial uses shall be designed to avoid critical Resource Protection Areas (Class 1 and 2) and shall be designed to reduce the uses' impact to the preserve in general. Individual applications for these private non-commercial uses shall be reviewed by the applicable Resource Protection Area Map and criteria. In addition, private dock proposals will be reviewed by the criteria described in Section 18-20.04(5) F.A.C. of the revised Aquatic Preserve Rule.

Bulkheads should be placed, when allowed, in such a way as to be the least destructive and disruptive to the vegetation and other resource factors in each area. Approved uses which do disrupt or destroy resources on state-owned lands will require mitigation. This mitigation will include restoration by the applicant or other remedy which will compensate for the loss of the affected resource to the aquatic preserve.

Dredging within the aquatic preserve shall be held to a minimum. Dredging proposals shall be reviewed according to the procedures in Chapter V depending on the proposed activities location within the RPA. Proposals within Class 1 areas (Chapter V[B][6]) will be scrutinized to the maximum extent in order to find the best practicable method of development and location if that use is acceptable in that particular area of the preserve. The mitigation of lost or disturbed resources shall be required. There shall be no dredging allowed in Class 1 or 2 areas or in nearby areas if it will adversely impact these areas.

The location of proposed multiple docking facilities, such as for condominium developments, shall be based on the marina siting criteria described in Section 16Q-20.04(5) F.A.C. of the revised General Aquatic Preserve Rule.

Authorization of such facilities will be conditioned upon receipt of documentation evidencing the subordination of the riparian rights of ingress and egress for the remainder of the applicant's shoreline for the life of the proposed docking facility.

Non-residential docking facilities (commercial) are addressed in Chapter IX.

Bulkheads should be placed, when allowed, in such a way as to be the least destructive and disruptive to the vegetation and other resource factors in each area. Approved uses which do disrupt or destroy resources on state-owned lands will require mitigation. This mitigation will include restoration by the applicant or other remedy which will compensate for the loss of the affected resource to the aquatic preserve.

Dredging within the aquatic preserve shall be held to a minimum. Dredging proposals shall be reviewed according to the procedures in Chapter V depending on the proposed activities location within the RPA. Proposals within Class 1 areas (Chapter V[B][6]) will be scrutinized to the maximum extent in order to find the best practicable method of development and location if that use is acceptable in that particular area of the preserve. The mitigation of lost or disturbed resources shall be required. There shall be no dredging allowed in Class 1 or 2 areas or in nearby areas if it will adversely impact these areas.

The location of proposed multiple docking facilities, such as for condominium developments, shall be based on the marina siting criteria described in Section 16Q-20.04(5) F.A.C. of the revised General Aquatic Preserve Rule.

Authorization of such facilities will be conditioned upon receipt of documentation evidencing the subordination of the riparian rights of ingress and egress for the remainder of the applicant's shoreline for the life of the proposed docking facility.

Non-residential docking facilities (commercial) are addressed in Chapter IX.

The use of seaplanes and airboats within this preserve is seen as a non-traditional use and this activity is discouraged due to the background noise they create. Applications for seaplanes and airboats use within the preserve will be reviewed on a case by case basis. Their use will only be recommended where the activity will not affect resource protection areas, or the other natural and aesthetic values of the preserve, or when required in law enforcement efforts.

Chapter IX

COMMERCIAL USES

This section addresses the variety of traditional and non-traditional (i.e., new uses in this area) commercial uses which might occur within the aquatic preserve. Among the traditional uses in the Alligator Harbor area are utility crossings, marinas and yacht clubs, commercial uses.

A. TRADITIONAL COMMERCIAL USES

1. Utility Crossings. There are at present time both aerial and underwater utility crossings in the aquatic preserve. Future proposals should be designed so the preserve is crossed by the least destructive method in the least vulnerable areas according to the RPA maps (Chapter V[C]). Increased or additional use of any existing utility crossings is preferable, if their condition at the time of the proposal is acceptable. The field personnel should eventually develop a utility crossing plan for all areas with anticipated utility crossing needs to allow for advance planning, for placement of these crossings in the best environmental location possible. The utility crossing plans, when completed, will become a part of this plan. Crossings should be limited to open water areas to minimize disturbance to marine grassbeds, salt marshes or other critical habitat areas and should not interfere with traditional public uses.

2. Commercial Fishing. The management of the aquatic preserve shall not

include the direct management of commercial fishing activities. Field personnel will monitor these activities and assess their affects on the preserve only in conjunction with the Division of Marine Resources, the Florida Marine Patrol and the Marine Fisheries Commission, and as part of a cooperative effort with that division. The field personnel will also notify the requisite authority in the event of illegal activities (Chapter 370, F.S. or by special act). The field personnel, along with other agencies and divisions' programs and studies, will monitor fishing activities within the aquatic preserve. Monitoring will concentrate on boat access into certain areas, prevention of marine grassbed destruction and other needs of the aquatic preserve as they are associated with commercial fishing activities. After problems associated with commercial fishing activities are identified and documented, the findings will be presented to the Marine Fisheries Commission. It is the authority of the Commission and the Florida Legislature to regulate commercial fishing within the aquatic preserve.

3. Marinas. The locating of marinas and their related uses will be a major concern of the Alligator Harbor Aquatic Preserve management. Marinas represent a use with many potential impacts on the preserve's resources. The siting policy of Section 18-20.04(5) F.A.C. of the revised General Aquatic Preserve Rule shall be used for siting marinas in the aquatic preserves.

4. Other Docking. Any other type of commercial docking, not mentioned in the preceding sections, will follow the marina siting policy as stated in Section 18-20.04(5) F.A.C. of the revised General Aquatic Preserve Rule.

B. Non-traditional Commercial Uses

1. Deep Water Port Facilities. There are no facilities of this type within the Alligator Harbor Aquatic Preserve at the present time. New deep water port facilities within the preserve boundary shall be prohibited.

2. Power Plants. Power plants have the potential for causing major changes in the air quality, water quality, and plant and animal life of the aquatic preserve. For these reasons, they are incompatible with the purposes of this aquatic preserve. The location of proposed power plants upstream of a preserve should also be evaluated as to the effects on the downstream preserve.

3. Aquaculture. The Alligator Harbor area could potentially have proposals for aquacultural development in the future. These uses may include floating structures or other new techniques now being used in aquaculture. The location type of impacts to the resources will require careful examination. If there is not sufficient data available for valid evaluation, a small scale test of the use might be possible in a selected area.

4. Other Uses. Any other use that qualifies as a commercial use of state-owned submerged lands not mentioned above will require a review for its anticipated impact on the aquatic preserve and the best location for the activity compatible to the resource protection areas within each preserve.

Chapter X

SCIENTIFIC RESEARCH

The field personnel attached to the Alligator Harbor Aquatic Preserve should serve as the area coordinators of scientific research in the preserves. Scientific research, and any other type of research or testing within the aquatic preserve, should require the clearance of both the field personnel and the central office staff before these activities can proceed. Certain activities could be detrimental to the resources of the preserve and should be carefully reviewed before allowing them to occur. Factors including location, specific procedures, and time of year, should be carefully reviewed for the possible disturbance or effect of the research on the other resources of the aquatic preserve. The field personnel will be aware of the possibility of working with other government agencies, colleges, universities, research foundations and government programs to fill the data needs of the aquatic preserve (see Chapter V and XII). The field personnel will assist in the selection of possible test sites and other research needs within the preserve.

Chapter XI

ENVIRONMENTAL EDUCATION

The aquatic preserve should be used to enhance environmental educational programs at every opportunity. The goal of maintaining the aquatic preserve for the benefit of future generations can begin to be realized through the use of aquatic preserves for environmental education. Through education, the youth of Franklin County can acquire a knowledge of the natural systems and an appreciation for the aquatic preserve program.

The field personnel will, through their normal activities in the aquatic preserve, select good examples of habitats and resources within these aquatic environments for use during educational group tours. This might include the development of environmental educational boat or canoe tours through the preserves. Other educational activities might also include prepared presentations for specific interest or user groups such as sport (boating, diving, fishing, etc.), civic and conservation groups and the development of a brochure outlining the major points of management within the preserve. These brochures could then be circulated to the various user groups. The field personnel will also prepare programs on the value of management activities of the aquatic preserve for presentation to interested groups of all ages. Educating the public about aquatic preserve management is the key to the success and future of the preserve.

The environmental education activities of the Alligator Harbor Aquatic Preserve may be coordinated with the public information and education program of the Apalachicola National Estuarine Research Reserve. The educational goals of the preserve and reserve are similiar. A cooperative effort between both programs and a sharing of resources would strengthen the educational impact of each. Educating the public about estuarine and related resources is the key to the success and future of the preserve.

Chapter XII

IDENTIFIED PROGRAM NEEDS

This chapter of the management plan will address the various internal program needs that are expected to be identified during management activities. Meetting these needs will correct or generally relieve some stress on the preserve or the personnel involved in the management of the aquatic preserve. These needs may, in some cases, require legislative or administrative rule changes or acquisition of critical areas by the State. The need to identify problem areas and adjust the management plan in a manner that will positively address these problems and management needs is an essential element of any good management program. Both field personnel and central office staff will continually monitor the management plan implementation process and specifically identify observed program needs and problems. The areas to be considered include, but are not limited to:

A. acquisition of additional property,
B. boundary problems,
C. legislative needs,
D. administrative rule changes,
E. data needs,
F. resource protection capabilities, and
G. funding and staffing needs.

Staff will annually develop an implementation status report that will contain a summary of identified management needs and suggested measures to be taken in meeting these needs.

A. Acquisition of Additional Property

There are areas both within and upland of the aquatic preserve that are in public ownership under the jurisdiction of various local, state and federal agencies. Many of these lands contain important resources, such as bird rookeries, archaeological or historical sites, endangered species habitat, and freshwater source wetlands as well as other wetlands. The protection of these areas is necessary to the wilderness preserve designation. Formal management agreements, memoranda of understanding, etc. that will ensure the compatible management of these areas will be developed. Other areas within or adjacent to the preserve that are in private ownership should be closely examined to determine the advisability of bringing them into public ownership. The acquisition of these lands might act as a buffer to critical resources, prevent development of sensitive areas, allow the restoration of areas adversely affected by previous development or allow removal of disrupting uses within a preserve. The field personnel, during normal management activities, should be aware of significant upland areas and sovereign land conveyances which, if developed, would compromise the integrity of the aquatic preserve. The field personnel will keep a running record of these areas and will prioritize these areas for possible public acquisition.

B. Boundary Problems and Systems Insufficiencies

The boundaries of the aquatic preserve are often political lines or artificial delineations of the natural systems within and surrounding the preserves. The field personnel, in their normal management activities, will be sensitive to the possible need for boundary modifications in areas where resources would be better protected. Potential boundary changes might include areas adjacent to the present boundary or previously conveyed sovereign lands. Any boundary change will require legislative approval.

C. Legislative Needs

Management needs could involve changes in the legislation pertaining to aquatic preserves or changes in the other statutes upon which aquatic preserve management is based. These changes may include boundary realignments or the strengthening of certain management authorities.

D. Administrative Rule Changes

Administrative rule statements addressing the organization, procedures and practices used in the implementation of aquatic preserve management plans and policies. This process includes identifying problems within the Department of Natural Resources, as well as other agencies, that affect the management of the preserve.

E. Data (Information) Needs

The field personnel and central office staff will note data needs and promote

research or other means to fulfill them. Data needs in the near future could possibly be supplied by such ongoing projects as the U.S. Geological Survey's, and Northwest Florida Water Management District studies, Department of Environmental Regulation water quality monitoring or by the research of other agencies. The field personnel will be aware of data needs as they interact with the various levels of government and with other entities. These data needs might include additional mapping, ownership information, water quality data or any other data. The major suppliers of data will probably be other public agencies that are conducting programs in and around the preserve. Other potential sources of data are the colleges and universities that have, in the past, conducted research projects in the area.

F. Resource Protection and Enforcement Capabilities

The protection of the preserve's resources depends on the Florida Marine Patrol, in addition to field personnel. These protection needs might also require additional enforcement support from local government or other state agencies. The need for additional manpower, authority, equipment or vehicles for this task will be identified.

The field personnel will become familiar with the staff capabilities of both the Department of Natural Resources and the other agencies with enforcement responsibilities in the preserve. Annually, staff should fully assess the effectiveness of the protective and enforcement capabilities of these combined agencies.

G. Funding and Staffing Needs

The present aquatic preserve management program has been minimally implemented with funds from a variety of sources and programs. The writing of this management plan was funded through a grant from the U. S. Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, and through the "Coastal Zone Management Act of 1972", as amended.

In order for the management program proposed in this plan to function and succeed, the program must have sufficient funding and staffing. The workload required by this program is too much for an interim staff from other programs to handle in addition to their primary obligations. Funding and staffing needs are critically important to the success of the aquatic preserve program. The following outline represents a proposed budget for the on-site staffing of the preserve, as well as the identification of the equipment and expenses for the first year of operation.

Proposed First Year Budget for the
Alligator Harbor Aquatic Preserve Management

Salary (Environmental Specialist II) and Associated Overhead	=	$ 30,000
Operating Capital Outlay	=	1,100
Utility Vehicle	=	15,000
Boat/Motor/Trailer	=	5,000
Operation Expenses	=	8,900
TOTAL		$ 60,000

Upon adoption of this management plan, an interim management presence is contemplated through the use of existing O.P.S. funding. This funding will remain in effect for the remainder of the current fiscal year.

***

BIBLIOGRAPHY

Clewell, A.F. "Geobotany of the Apalachicola River Region". Pages 6-15 in R.J. Livingston and E.A. Joyce., eds. Proceedings of the Conference on the Apalachicola Drainage System. Fla. Department of Natural Resources. Marine Resources, Marine Research Publication No. 26, 1977.

De la Cruz, A.A. "The Role of Tidal Marshes in the Productivity of Coastal Waters." Association of Southeastern Biologists Bulletin. 20(4): 147-156. 1973.

Florida Game and Fresh Water Fish Commission. Rare and Endangered Biota of Florida. P.C.H. Pritchard, Series Ed., Vol. 1-6. University Presses of Florida, Gainsville, 1978.

Florida Game and Fresh Water Fish Commission. Endangered and Potentially Endangered Fauna and Flora in Florida. October, 1984.

Franklin County Comprehensive Plan. Volumes 1 and 2. 1981.

Kurz, H. and K. Wagner. Tidal Marshes of the Gulf and Atlantic Coasts of Northern Florida and Charleston, South Carolina. Florida State University Studies No. 24. 168 pp. 1951.

Livingston, R.J. The Ecology of the Apalachicola Bay System: An Estuarine Profile. U.S. Fish Wildl. Serv. FWS/OBS 82/05. 148 pp. 1984.

Livingston, R.J. Resource Atlas of the Apalachicola Estuary. Florida Sea Grant Publication. 64 pp. 1983.

Menzel, R.W. "Marine Biology of Alligator Harbor, FL. "ASB Bulletin 4(4): 51-54. 1957.

Menzel, R.W. and F.E. Nichy. "Studies of the Distribution and Feeding Habits of Some Oyster Predators in Alligator Harbor, FL." Bull. Mar. Sci. Gulf & Caribb. 8(2): 125-145. 1958.

Milanich, J.T. and Fairbanks C.H. Florida Archaeology. 1980.

Moore,C.B. "Certain Aboriginal Remains of the Northwest Florida Coast". Journal of the Academy of Natural Sciences of Philadelphia. Vol. 12, pl. 2. 1902.

Naqui, S.M.Z. Effect of Predation on Infaunal Invertebrates of Alligator Harbor Region. M.S. Theses. Florida State University, Tallahassee, FL. 1966.

Odum, E.P. "The Role of Tidal Marshes in Estuarine Production." The Conservationist, Vol. XIX, No. 1. 1966.

Odum, W.E., J.S. Fisher, and J.C. Pickral. "Factors Controlling the Flux of Particulate Carbon from Estuarine Wetlands." In: Ecological Processes in Coastal and Marine Systems. Ed. R.J. Livingston. Plenum Press, New York. 69-82 pp. 1974.

Penton, D.T., On Site Inventory of Yent Mound. October, 1971.

Phelps, D.S. "Early and Late Components of the Tucker Site". Florida Anthropologist, Vol. XIX, No. 1. 1966.

Rudloe, J. The Erotic Ocean. E.P. Dutton, Inc. New York. 1984.

Schmidt, W. Environmental Geology Series - Apalachicola Sheet. Florida Dept. Natural Resources, Bureau of Geology. Map Series No. 84. 1978.

Sears, W.H. "Hopewellian Affiliations of Certain Sites on the Gulf Coast of Florida." American Antiquity. Vol. 23, No. 1, pp. 5-18. 1962.

Teal, J.M. "Energy Flow in the Salt Marsh Ecosystem". Proceedings of the Salt Marsh Conference, Sapelo Island, Georgia. Pages 101-107, University of Georgia, Athens. 1959.

Teal, J.M. "Energy Flow in the Salt Marsh Ecosystem of Georgia. Ecology 43;614-624. 1962.

Terhune, F. (ed.) 1980 Census Handbook, Florida Counties University Presses of Florida, Gainsville - 404 pp. 1984.

Terhune, F. (ed) Florida Statistical Abstract. University Presses of Florida, Gainsville. 700 pp. 1983.

Trott, L.B. A Quantitative Study of Certain Benthic Communities in Alligator Harbor. M.S. Theses. Florida State University, Tallahassee, FL 1960.

U.S. Army Corps of Engineers, Mobile District. Coordination Report: Detailed Project Study on Alligator Harbor, Florida. May, 1979.

Wiley, G.R. "Archaeology of the Florida Gulf Coast". Smithsonian Miscellaneous Collections. Vol. 113. 1949.

Yentsch, S.C. Some of the Factors Influencing Distribution of Sessile Invertebrates in Alligator Harbor, a Neutral Estuary. M.S. Theses. Florida State University, Tallahassee, FL. 1953.

Zieman, J.C. "The Ecological Effects of Physical Damage from Motorboats on Turtle Grass Beds in Southern Florida." Aquat. Bot. 2:127-139. 1976.

Zieman, J.C. The Ecology of the Seagrasses of South Florida: A Community Profile. U.S. Fish and Wildlife Service, Office of Geological Services, Washington D. C., FWS/OBS-82/25, 158 pp. 1982.

APPENDICES

Selected Management Authorities

Chapter 258.35-258.46, Fla. State General Aquatic Preserves Act. Board of Trustees of the Internal Improvement Trust Fund (BTIITF)

Chapter 253., F.S. Public Lands and Property (State Lands) BTIITF

Chapter 16Q-20, Fla. Administrative Code, General Aquatic Preserve Rules. BTIITF

Chapter 16Q-21, F.A.C., Sovereignty Submergered Lands Management Rules. BTIITF

Chapter 17-3, F.A.C., Water Quality Standards (Rules) Florida Department of Environmental Regulation (FDER)

Chapter 17-4, F.A.C. Water Quality Permitting (Rules) FDER

Chapter 17-12, F.A.C. Dredge and Fill Permitting (Rules) FDER

Chapter 17-25, F.A.C. Regulation of Stormwater Discharge (Rules) FDER

Memorandum of Understanding (MOU) Between U.S. Army Corps of Engineers, Florida Department of Natural Resources and Florida Department of Environmental Regulation On Permit Processing In the Waters of the State.

(Copies of the above referenced statutes and rules can be obtained from the Aquatic Preserves central office in Tallahassee or from the specific regulatory agency referenced.)