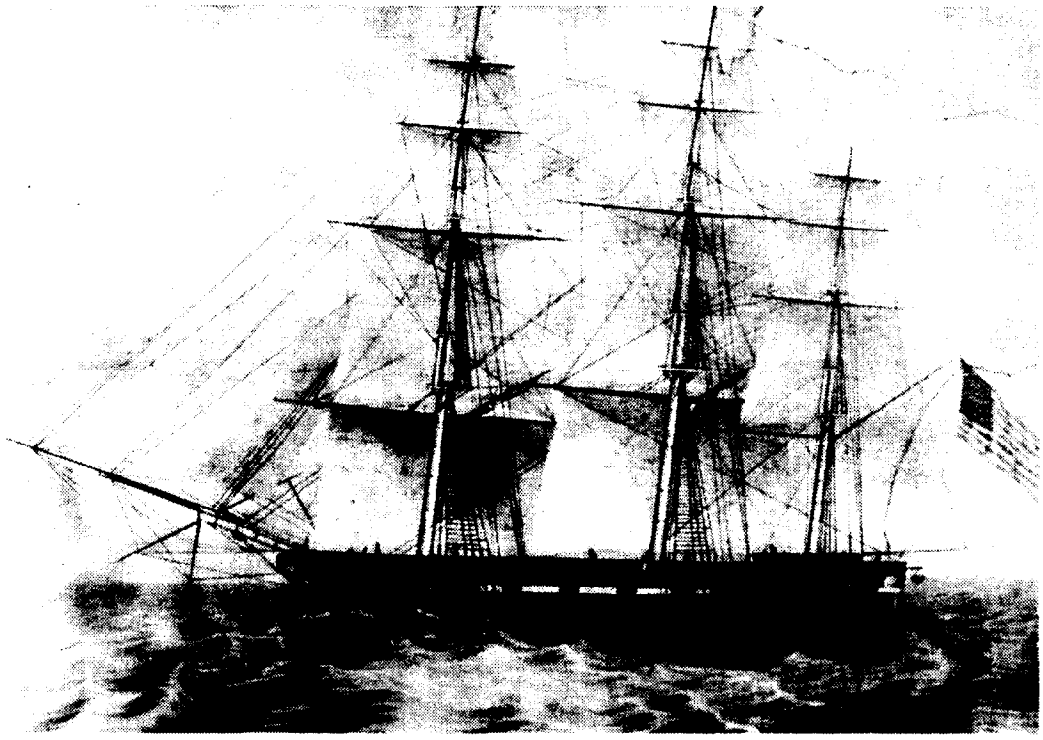
FT. PICKENS

AQUATIC PRESERVE MANAGEMENT PLAN



1992

DEPARTMENT OF NATURAL RESOURCES

FORT PICKENS

AQUATIC PRESERVE MANAGEMENT PLAN

ADOPTED

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VIRGINIA WETHERELL

Executive Director

Florida Department of Natural Resources

This plan was prepared by Elaine Martin
Division of State Lands
Bureau of Submerged Lands and Preserves
Northwest Florida Aquatic Preserve Field Office

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The ship illustrated on the cover is the USS Preble. The Preble was a square rigged sloop, 117 feet in length with a beam of 32 feet. She was originally used as a practice ship for midshipman before being attached to the Mississippi blockade during the Civil War. The ship was accidentally burned and sunk on April 27, 1863, and is only one of many historical shipwrecks which can be found at the bottom of the Pensacola Bay.

EXECUTIVE SUMMARY

The Fort Pickens Aquatic Preserve is recognized as an exceptional water resource of the state. The preserve is fringed by white sandy beaches, sea oats and salt marsh. Both sandy bottoms and seagrass beds occur below the mean high water line. This aquatic preserve provides food and habitat for numerous fish, reptiles, marine mammals, birds, and benthic invertebrates. Several designated species are known to occur in the preserve. Submerged resources of this beautiful preserve include not only productive seagrass meadows but also the remains of unlucky ships that once traveled these waters. Other historical artifacts such as the ruins of Ft. McRee and armaments have been found or are known to occur in the preserve.

Uplands adjacent to the aquatic preserve are known as Gulf Islands National Seashore and are federally owned. The National Park Service, which manages the seashore, has no plans for shoreline development. Consequently, the upland boundary of the preserve should remain in a natural state for years to come.

Even with minimal adjacent upland development, the preserve is impacted by human activities. Commercial shrimping impacts grassbeds and juvenile fish, while recreational fishermen have severely depleted the native scallop population. Water quality has deteriorated in recent years from sewage discharge, stormwater runoff and bilge wastes from boat traffic. Pensacola Naval Air Station, directly across from the preserve, is home to 17 "superfund" sites. The Navy also plans to keep the USS Forrestal at Pensacola NAS and recently deepened the ship channel to accommodate this ship. The preserve supports some of the heaviest boating traffic in northern Florida, not only from the military but also from commercial freighters and recreational boaters.

Submerged lands are selected as aquatic preserves based upon their outstanding biological, aesthetic, and scientific values. Fort Pickens Aquatic Preserve was designated as such in 1970 for the primary purpose of preserving the biological resources in the area and maintaining these resources in an essentially natural condition. The preserve encompasses approximately 34,000 acres of state sovereign submerged lands in Escambia County, Florida.

The main objective of the resource management program for Fort Pickens Aquatic Preserve is to protect the preserve's natural resources for the benefit of future generations. The management of the preserve will be directed toward the maintenance of essentially natural conditions. On site management activities include actions by field personnel to protect plant communities, animal life, archaeological sites, and water resources of the preserve. Management activities will also focus on cooperation with Gulf Islands National Seashore to further enhance protection of the aquatic preserve.

Fort Pickens Aquatic Preserve has been divided into several management areas. The classification of each management area is based upon the resource value of submerged lands associated with existing and future land uses on the adjacent uplands. The intent of these management areas is to make potential development activities and uses of the preserve compatible with resource protection goals. The major uses of this preserve are commercial and recreational fishing, boating, diving, swimming, commercial navigation, adjacent land uses and attendant facilities (e.g. Fort Pickens fishing pier). Maintaining the continued health of the preserve involves minimizing adverse impacts from all uses within and adjacent to the preserve.

This management plan outlines the relationship between the Department of Natural Resources Central Office and field staff. Criteria for the review of specific development proposals within the preserves' boundaries are also provided. Public and private uses that are allowable pursuant to statutory direction and other applicable authorities of the aquatic preserve are discussed. These uses are subject to the approval of the Board of Trustees or their designee. Approval is normally predicated upon demonstration that the proposed use is environmentally sound, and in the opinion of the Board, necessary for the public.

Various federal, state, regional, and local organization oversee laws and regulations which apply to all of the lands and waters within the aquatic preserve. One of the aquatic preserve management program's objectives, therefore, is to complement agency programs whenever it is in the preserve's interest. Both field personnel and central office staff will coordinate extensively with many agencies to assure effective management and protection.

To enhance management and protection of the aquatic preserve, research and education programs will be developed. These programs will operate in close coordination with similar programs established in the area. Research and education needs for the aquatic preserve are defined.

The management of the preserve and protection of the resources included within its boundaries will be enhanced by continually identifying and resolving specific program needs. Meeting these needs, which may include legislative support, administrative rule changes resource protection capabilities, and funding and staffing needs, will relieve some stress on the resources or personnel involved in the management of the preserve. In the future, the field staff will develop and submit a status report that summarizes the program's needs and suggests measures to be taken to resolve these needs.

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

Bureau of Submerged Lands and Preserves
Department of Natural Resources
3900 Commonwealth Blvd.
Mail Station 125
Tallahassee, FL 32399-3000

CHAPTER I

INTRODUCTION

Fort Pickens Aquatic Preserve is located in the southwestern corner of the Florida panhandle and it represents one of the 42 aquatic preserves in Florida (Figure 1). This beautiful 34,000 acre stretch of Florida gulf coast was designated as an aquatic preserve on November 2, 1970 by the Florida Legislature. The boundary of the preserve encompasses only the sovereignty submerged lands below the mean high water line in Santa Rosa Sound, Pensacola Bay, and Big Lagoon, extending northward to the Gulf Intracoastal Waterway. The preserve also includes the lands below mean high water in the Gulf of Mexico, to a line three miles south of the coast (Figure 2).

The preserve surrounds the western end of Santa Rosa Island and the eastern end of Perdido Key. Both of these islands are typical examples of undeveloped barrier islands. The submerged lands along the northern sides of these islands are characterized by shallow, saline waters, "continuous" and "patchy" seagrass beds, and salt marshes. These communities are currently providing habitat for wildlife and birds such as the loggerhead turtle (Caretta caretta) the southeastern snowy plover (Charadrius alexanderinus), the least tern (Sterna antillarum), and the black skimmer (Rynchops niger), all of which are listed as threatened or endangered species. These wetland areas and grass beds also serve as nursery areas for various shrimp and fish species which are commercially or recreationally important to the area.

The aquatic preserve provides such an excellent habitat for fish and wildlife because the islands and the adjacent submerged lands are some of the only undeveloped coastal areas in the region. As development continues to increase adjacent to the preserve careful planning will be necessary in order to prevent degradation of these habitats.

Due to its proximity to the Gulf Intracoastal Waterway and the Pensacola Ship Channel, the preserve experiences some of the heaviest boat traffic (industrial, military, and recreational) in northern Florida. Increased recreational use, intracoastal waterway traffic and general development pose the major threats to this area. Such intense use confirms the need for an integrated management program by federal, state, regional, and local governments to accomplish a goal of long-term resource protection for the preserve.

Implementation of a management plan for the Fort Pickens Aquatic Preserve is only one of the many steps that will be necessary to accomplish this goal. The plan is intended primarily to serve as a useful guide to the aquatic preserve field staff and others in maintaining the integrity of the preserves. As more information

concerning the preserve is obtained and analyzed, management strategies outlined in this plan may need to be adjusted accordingly.

Development of this phase of the management plan required collecting an inventory of resource information, coordinating with other management plans that have been developed for the area, and identifying resource problems and management issues related to the present and future uses of the preserve and the adjacent uplands. Management initiatives were developed to be consistent with statutory authority and the overall intent of the Aquatic Preserve Program for ensuring that the submerged resources of the preserve remain for future generations to enjoy.

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

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

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

Chapter III provides a description of the area included in the Fort Pickens Aquatic Preserve and details the physical and biological components of the preserve as well as cultural resources. Additional information includes the current and future uses of this preserve and use of the adjacent uplands.

Chapter IV delineates various management areas within this section of the preserve. These areas are defined by taking into account the biological resources, physical parameters, and the aesthetic value in conjunction with the use of the adjacent uplands. Where necessary, specific restrictive criteria are developed for each area and their effects and rationale are discussed.

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

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

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

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

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

Figure 1 - Florida's Aquatic Preserves

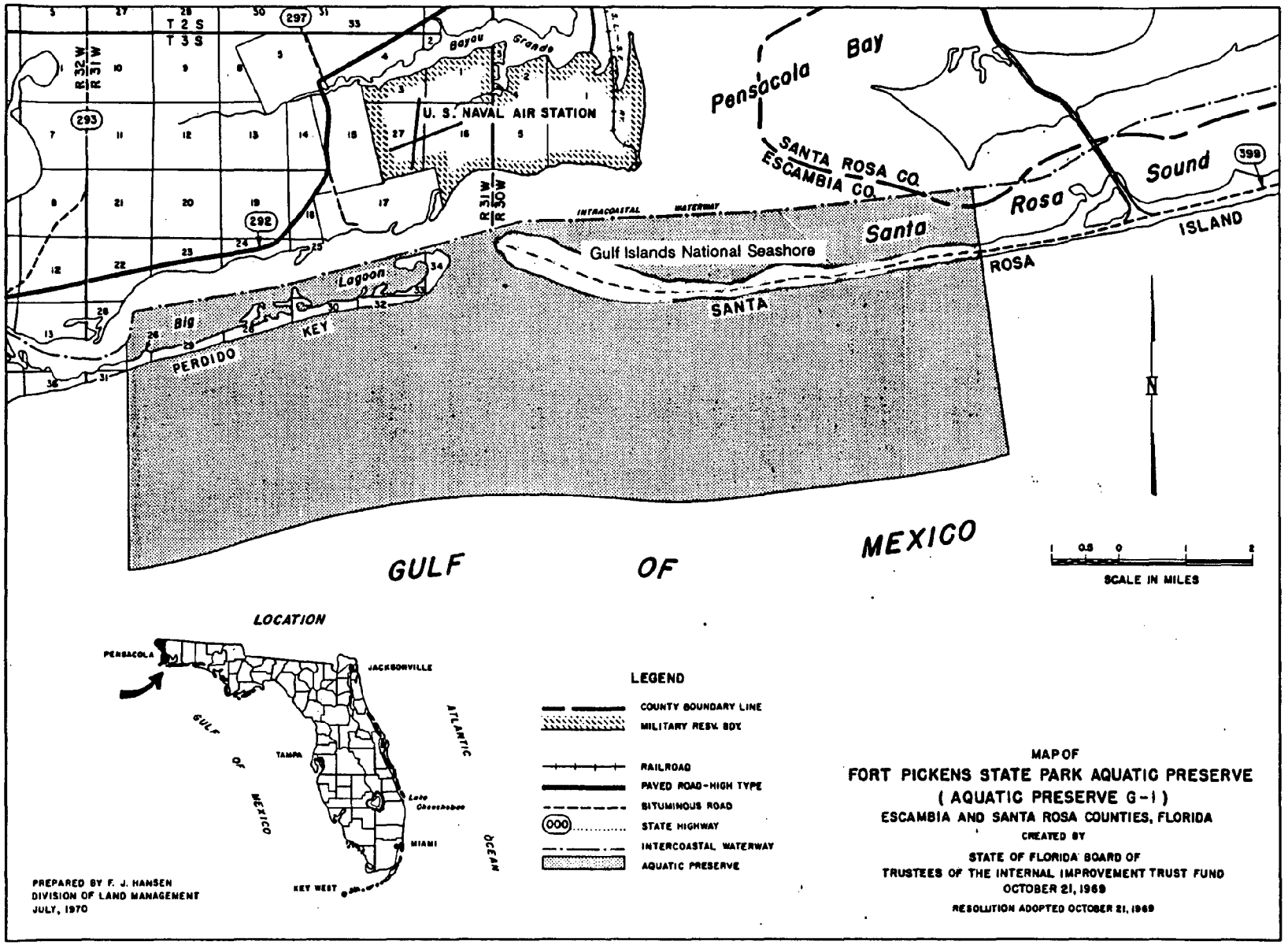

Figure 2 - Fort Pickens Aquatic Preserve

CHAPTER II

MANAGEMENT AUTHORITY

A. STATUTORY AUTHORITY

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

In particular, Sections 258.35-258.46, F.S., enacted in 1975 by the Florida Legislature, represent the **Florida Aquatic Preserve Act**. These statutes set forth a standardized set of management criteria for all designated aquatic preserves, and represent the primary laws governing use of sovereignty submerged lands within aquatic preserves.

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

Management responsibilities for aquatic preserves may be fulfilled directly by the Board of Trustees or by staff of the Division of State Lands of the Department of Natural Resources through delegation of authority. Other governmental bodies may also participate in the management of aquatic preserves under appropriate instruments of authority issued by the Board of Trustees. The Division staff serve as the primary managers who implement provisions of the management plans and rules applicable to the aquatic preserves. Staff evaluate proposed uses or activities in the preserve, and assess the possible impacts on the natural resources. Project reviews are primarily evaluated in accordance with the criteria in Sections 258.35-46, F.S. (Florida Aquatic Preserves Act), Chapter 18-20, Florida Administrative Code (Rules of Florida Aquatic Preserves), and in accordance with the policies set forth in this plan.

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

BACKGROUND

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

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

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

On October 21, 1969, the Governor and Cabinet acted upon the recommendations of the IAC and adopted, by resolution, eighteen of the water bodies as aquatic preserves, which included the Ft. Pickens Aquatic Preserve. Other preserves were individually adopted at subsequent times through 1989.

B. ADMINISTRATIVE RULES GOVERNING AQUATIC PRESERVES

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

supplemental to the rules in Chapter 18-21, F.A.C, in the regulation of activities in aquatic preserves.

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

Chapter 18-20, F.A.C., specifically addresses aquatic preserves and derives its authority from Sections 258.35, 258.36, 258.37, and 258.38, F.S. The intent of this rule is contained in Section 18-20.001, F.A.C., which states:

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

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

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

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

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

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

(d) to use applicable federal, state, and local management programs, which are compatible with the intent and

provisions of the act and these rules, and to assist in managing the preserves;

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

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

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

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

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

Chapter 18-21, F.A.C., controls activities conducted on sovereignty submerged lands in general and is predicated on 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 citizens of Florida;

(3) to manage, protect, and enhance sovereignty lands so that the public may continue to enjoy traditional uses including, but not limited to, navigation, fishing and swimming;

(4) to manage and provide maximum protection for all sovereignty lands, especially those important to public drinking water supply, shellfish harvesting, public recreation, and fish and wildlife propagation and management;

(5) to insure that all public and private activities on sovereignty lands which generate revenues or exclude traditional public uses provide just compensation for such privileges;

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

C. RELATIONSHIP TO OTHER APPLICABLE PLANS AND PROGRAMS

The State Comprehensive Plan, established by Chapter 187, F.S., provides long-range policy guidance for the orderly social, economic and physical growth of the State. As such, the State Comprehensive Plan provides direction for the management of the physical resources within the state. The goals, objectives and policies set forth in this aquatic preserve management plan are designed to be consistent with those in the State Comprehensive Plan that pertain to the water resources, coastal and marine resources and natural systems.

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

The Local Government Comprehensive Plans (LGCP) for Escambia and Santa Rosa counties are required by the Local Government Comprehensive Planning and Land Development Regulation Act to have a comprehensive management plan with elements relating to different governmental functions (e.g., housing, physical facilities, conservation, land use, coastal zone protection, etc.) Each plan, in effect, is intended to guide the future development of each respective county. Cities and counties are to adopt land development regulations and conform to the criteria, policies, and practices of their comprehensive plans, which must be updated periodically as required by recent statutory amendments.

The intent of the Aquatic Preserve Program is to guide county governments during their planning process towards developing local planning criteria and standards that will be consistent with the objectives of the program. Escambia and Santa Rosa counties' LGCP's have been submitted to the state for review and adoption by the Department of Community Affairs is pending.

CHAPTER III

DESCRIPTION OF AQUATIC PRESERVE

A. LOCATION AND BOUNDARIES

Fort Pickens Aquatic Preserve includes all of the sovereignty submerged lands below the mean high water line in Santa Rosa Sound, Pensacola Bay, Big Lagoon, and the Gulf of Mexico which fall within the following boundaries.

Located in southern Escambia and Santa Rosa counties, Fort Pickens Aquatic Preserve extends from the eastern boundary of Gulf Islands National Seashore-Fort Pickens Unit (DNR reference monument R105) on Santa Rosa Island, westerly to a line intersecting Perdido Key at DNR reference monument R40. Twelve miles of Gulf Intracoastal Waterway bound the preserve to the north and connect its east and west boundaries. The east and west boundaries project across Santa Rosa Island and Perdido Key, respectively, to meet the southern boundary of the preserve three miles offshore in the Gulf of Mexico.

Santa Rosa Island and Perdido Key both have major population centers nearby. These centers are comprised of single and multi-family dwellings.

The Santa Rosa Island section of the preserve is affected by high density development concentrated in the Pensacola Beach area. Pensacola Beach is under the jurisdiction of the Santa Rosa Island Authority, a governing board appointed by the Escambia County Board of County Commissioners.

The Gulf Islands National Seashore-Perdido Key Unit portion of the preserve is somewhat buffered from extensive development by approximately 1.5 miles of public-access beach which is immediately adjacent to the western boundary of the preserve. The Perdido Key State Recreation Area, which is located approximately 2 miles from the western boundary of the preserve, may also serve as a deterrent to development in the immediate vicinity of the preserve. Development trends on Perdido Key have been towards oceanfront multi-family construction (DNR 1990). The developed area stretches from the Alabama state line to the Perdido Key State Recreation Area, with a few structures lying between the state recreation area and the public beach.

B. PHYSIOGRAPHY AND GEOLOGY

The Fort Pickens Aquatic Preserve lies in the physiographic region known as the Gulf Coastal Lowlands. The Gulf coastal lowlands extending across the southern half of the panhandle consist generally of flat plains sloping gently to the coast

(Fernald and Patton, eds., 1984). In the western end of the panhandle the coastal lowlands rise to form a high, sandy plateau which is characterized by coastal terraces, separated by scarps which are carved between them.

Silver Bluff Terrace, rising 0 to 10 feet above sea level, characterizes the geomorphology of the preserve. It is believed to have been formed near the end of the Pleistocene around 10,000 years ago. The recent sedimentology of the area is a result of watershed erosion since the Pleistocene epoch (Olinger et al., 1975). During this period, Citronelle deposits were reworked and intermixed with marine terrace sediments.

The preserve area is also characterized by the Mississippi-Alabama Shelf depositional system and the Western Florida barrier spit depositional system. The Mississippi-Alabama Shelf extends offshore from the DeSoto Canyon on the east to the Mississippi River Delta on the west and from the barrier islands to the 200 meter contour line. The shelf surface is relatively smooth in the western portion; however, south of Pensacola it becomes highly irregular. As the sand sheet thins to the east, the limestone karst topography of the West Florida shelf predominates (Rogers, 1988).

The Florida barrier spit and island systems were formed during the submergence of dune beach ridges in the Holocene period. This system is composed of long narrow islands with sandy beaches and it forms the northern boundary of the Mississippi-Alabama Shelf of Florida (Rogers, 1988).

Approximately 8 miles of Santa Rosa Island are surrounded by the preserve. Santa Rosa Island is a narrow barrier island, ranging from 600 to 3,500 feet in width and averaging 2,000 feet (DNR, 1990). This island is characterized by a well-defined primary dune ridge backed by a lower swale and a well developed secondary dune system. A narrow tidal marsh borders the northern shoreline. At its western end, the landward side of the island fronts on Pensacola Bay. The remainder of the island is separated from the mainland peninsula by Santa Rosa Sound.

The beaches on the gulf side of Santa Rosa Island average 100-125 feet in width, and are backed by dunes averaging 16 feet in height. Some dunes attain heights of up to 40 feet and are usually associated with old gun emplacements and are not natural features (DNR, 1990).

Dunes on Perdido Key only average about 20 feet in elevation with elevation decreasing toward the ends of the island. Approximately 7 miles of the eastern end of Perdido Key are surrounded by the aquatic preserve. Prior to the Perdido Key Beach Renourishment Project in August 1990, Perdido Key was a narrow barrier island ranging in width from 500 to 3,500 feet. As a result of renourishment the width of 5 miles of the eastern end of Perdido Key beach was increased approximately 400 feet at an elevation sloping from +5 feet nautical ground vertical

distance on the landward side to +4 feet at the seaward edge (Gibson and Looney, 1990).

The narrow width of the two islands make them subject to local storm tide washover during major storms. Hopefully the Renourishment Project will prevent severe damage from occurring on Perdido Key. A number of washover fans are evident from aerial photographs on both islands prior to beach renourishment (DNR, 1990). The foreshore slope of Santa Rosa Island still remains relatively steep, especially towards the east, and hence, the area has recorded some of the highest waves in the northeast Gulf of Mexico (Gorsline, 1966).

C. SURFACE WATER HYDROLOGY

The fundamental unit of surface hydrology is the drainage basin. A drainage basin consists of that area which drains surface runoff to a given point (Wolfe et al., 1988). The Escambia Bay and coastal area drainage basin is the major hydrologic system affecting the aquatic preserve area. This basin drains approximately 1,410 km^2. The system receives flow from a watershed including Yellow, Blackwater, and Escambia Rivers and totaling some 18,130 km^2, of which 6,525 km^2 is located in Florida and 11,605 km^2 in Alabama.

The water cycle of the aquatic preserve area is also influenced by tidal fluctuations of the Gulf of Mexico. The Pensacola area exhibits predominantly diurnal tides with a single high and low stage occurring each tidal cycle. The average tidal range is 1.3 feet (NOAA, 1986). The diurnal nature of the tides along with the low tidal amplitude limits the flushing capabilities of the bay system. The interaction of freshwater discharges from the drainage basin with the gulf tides influences the circulation patterns, sedimentation, nutrient loading, and pollution levels of the system. In order to maintain the integrity of the aquatic preserve environment these factors need to be considered during the planning of dredge and fill operations, sewer systems, stormwater runoff drains, pumping stations, etc.

Another factor which must be taken into consideration is that the aquatic preserve is located in a coastal region which is subject to salt-water encroachment if large wells are closely spaced and heavily pumped (Musgrove et al., 1965). The intrusion of saline ground water into the potable aquifer may become a future problem. The increasing consumption of ground-water supplies by a growing population will cause salt-water intrusion to be increasingly common (Wolfe et al., 1988).

The coastal waters in the preserve area are also affected by several forces that have little impact on the freshwaters of upland areas. In shallow inshore areas such as those along the Panhandle coast and in estuaries, wind is the major factor driving water circulation (Williams et al., 1977). The result of this circulation is the

net long-term movement of water and sand west along the coast during late spring, early summer, and early fall, and east along the coast during the winter months (Wolfe et al., 1988). .

D. CLIMATE

Fort Pickens Aquatic Preserve has the mild, subtropical climate that is characteristic of the Florida Panhandle. Warm summers and mild winters are a result of the area's latitude (30° to 31° N) and the stabilizing effect of the adjacent Gulf of Mexico (Wolfe et al., 1988). According to data from the National Oceanographic and Atmospheric Administration (NOAA), the average annual temperature is 68°F with 54 days having a maximum temperature above 90°F and 18 days having a minimum temperature below 32°F (NOAA, 1986).

Summer heat is tempered by sea breezes along the coast and up to 50 km inland, as well as by the cooling effect of frequent afternoon thundershowers. These storms frequently cause a 10° to 20° drop in temperature (Wolfe et al., 1988). Winter temperatures may vary quite a bit due to the frequent passage of cold fronts. Temperatures rarely remain below freezing during the day.

Average monthly rainfall ranges from 2.99 to 7.88 inches, and there are 2 peak rainfall periods during the year. During the summer rainfall period, June through August, the average monthly rainfall is approximately 6.5 inches. During the late winter rainfall period, February through April, 5.25 inches of rain is the monthly average (Fernald and Patton, 1984). Average annual precipitation at Pensacola is 61 inches with a range from 29 to 90 inches. Summertime showers are generally associated with convective thunderstorms and wintertime showers are frontal related (Palik and Kunneke, 1984).

The average annual wind speed at Pensacola is 8.3 miles per hour with prevailing winds from the south 18 percent of the time and from the north 22 percent of the time. Winds from the north and south generally have higher velocities than do winds from the east and west (USEPA, 1988).

On average, a hurricane strikes once every 17 years with fringe effects felt about every 5 years (NOAA, 1986). Hurricane Frederick (1979) attained category 3 status on the Saffir-Simpson scale prior to landfall 50 miles west of Perdido Key, at Dauphin Island, Alabama. Severe damage extended well into western Florida from the storm surge and increased wind velocities as the hurricanes front-right quadrant moved landward from the Gulf of Mexico. Hurricane Elena also attained category 3 status during landfall on September 2, 1985 near Biloxi, Mississippi. Damage along the barrier islands was much less than what occurred during Frederick because Elena paralleled Northwest Florida at a distance of no less than 50 miles offshore (Stone and Salmon, 1988).

E. WATER QUALITY

Fort Pickens Aquatic Preserve was designated as an "Outstanding Florida Water" (OFW) on March 1, 1979. Because of their natural attributes, these water bodies are assigned additional protection through the Department of Environmental Regulation. Chapter 17-3, F.A.C., addresses the water quality standards by which OFW's are managed. An OFW designation places more stringent standards on the issuance of DER permits. Permit applications for activities that lower ambient water quality within a designated OFW are normally denied.

Pensacola Bay, Big Lagoon, Santa Rosa Sound and the Gulf of Mexico are the 4 water bodies which have a direct impact on the water quality of the Fort Pickens Aquatic Preserve. Pensacola Bay receives runoff and discharges from the city of Pensacola, Pensacola Naval Air Station, Bayou Grande, Bayou Chico, and Bayou Texar.

The Pensacola Bay System will be under a considerable amount of scrutiny over the next three years as implementation of the Surface Water Improvement and Management program (S.W.I.M.) proceeds. The Florida Legislature enacted the S.W.I.M. Act in 1987, and amended it in 1989. The act declares that it is the duty of the state's agencies to enhance the environmental and scenic value of surface waters, many of which are in a state of degraded water quality, or are in danger of becoming degraded. The water management districts have been directed to develop and implement plans to improve the water quality and related aspects of the state's surface waters. Pensacola Bay System in the Northwest Florida Water Management District has been selected as one of the top five priority water bodies in the state, and will be addressed under the S.W.I.M. program. Needed activities, schedules, and budgets for preservation and/or restoration are already under development (NFWMD, 1990).

The waters of the bay system are classified by use in accordance with the rules of the Department of Environmental Regulation. Class I waters have the most stringent water quality criteria and Class V the least. However, Classes I, II, and III surface waters share water quality criteria established to protect recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Most of the tributaries, and a portion of the bays within the Pensacola Bay System are classified by the state as Class III waters, and are used for recreational purposes (i.e. swimming, skiing, etc.) and for the maintenance of a well-balanced fish and wild-life population (NFWMD, 1990). These Class III waters are directly associated with the Fort Pickens Aquatic Preserve area and they are prohibited from shellfish propagation and harvesting (Figure 3).

Santa Rosa Sound has good water quality, but it is threatened by development of Santa Rosa Island, ditching and storm-water runoff. There are also a few waste water treatment plants that have some seasonal problems during summer tourist

months (Hand et al., 1988). The waters of the sound which have a direct effect on the aquatic preserve area are Class III waters.

Water quality in Big Lagoon is regularly tested by the Escambia County Health Department. Big Lagoon, in the area affecting the aquatic preserve, has a designation of Class III waters also. Even though extensive residential development and recreational facilities along the northern shore of Big Lagoon pose a threat to the water quality of the area the latest pollution sanitary survey (Merritt and Hunt, 1991) indicates that the water quality does meet bacteriological standards for designation as Class III waters.

F. VEGETATION

The predominant habitat types of the Fort Pickens Aquatic Preserve are subtidal and intertidal vegetation communities, (Figure 4). The subtidal communities consist primarily of seagrass and aquatic algae. The intertidal communities are salt marshes, one of the most valuable natural resources of the northwest gulf coast.

The subtidal vegetation in the Fort Pickens Aquatic Preserve is composed mostly of turtle-grass (Thalassia testudinum), shoal-grass (Halodule wrightii), and manatee-grass (Syringonium filiforme). These are flowering plants that produce oxygen, stabilize sediments, produce organic carbon, provide nursery habitat, and provide foraging and resting habitat for marine animals and sea birds. In the shallowest areas (often in the intertidal zone) the dominate species is shoal-grass. Below the low-tide mark, down to maximum depths of approximately ten feet, beds of turtle-grass dominate. Mixed in with the turtle-grass (or sometimes growing alone in pure strands) is the manatee-grass. Although not as abundant as the turtle-grass, manatee-grass is very important to the preserve system.

Since seagrasses rely on clear water for photosynthesis, they are very susceptible to disturbances and impacts by man. Human induced increases in turbidity associated with dredging and erosion of adjacent uplands can decrease the photic zone of these plants or physically smother them with silts. Increased nutrient levels can cause a proliferation of epiphytic algas to grow on seagrass leaves, causing reduction in photosynthetic capabilities and unnatural rates of defoliation. Industrial pollution and discharge which causes changes in seagrass productivity and distribution can seriously impair macroinvertebrate and fish populations in the affected areas (Livingston, 1975). Detailed studies of submerged aquatic vegetation indicate that selective removal of dominant vegetation types by changes in water quality and light transmission characteristics is associated with alteration of the entire trophic organization of a particular system. Implications are that, although generalized food web relationships are generally stable in a given seagrass bed from year to year, relatively minor changes in water quality can lead to sharp reductions in productivity and broad habitat alteration (Livingston, 1975).

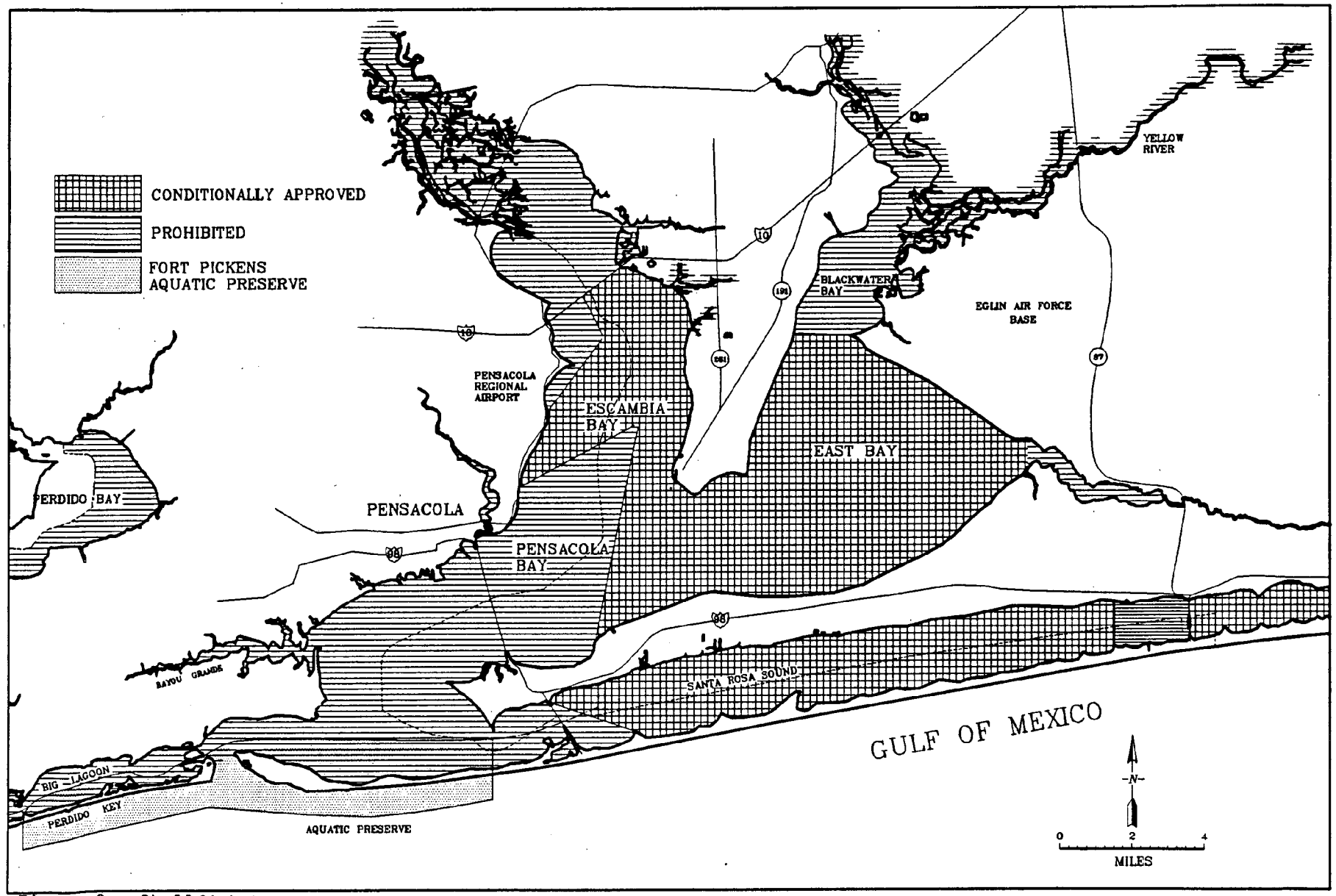

Figure 3 - Shellfish Propagation and Harvesting

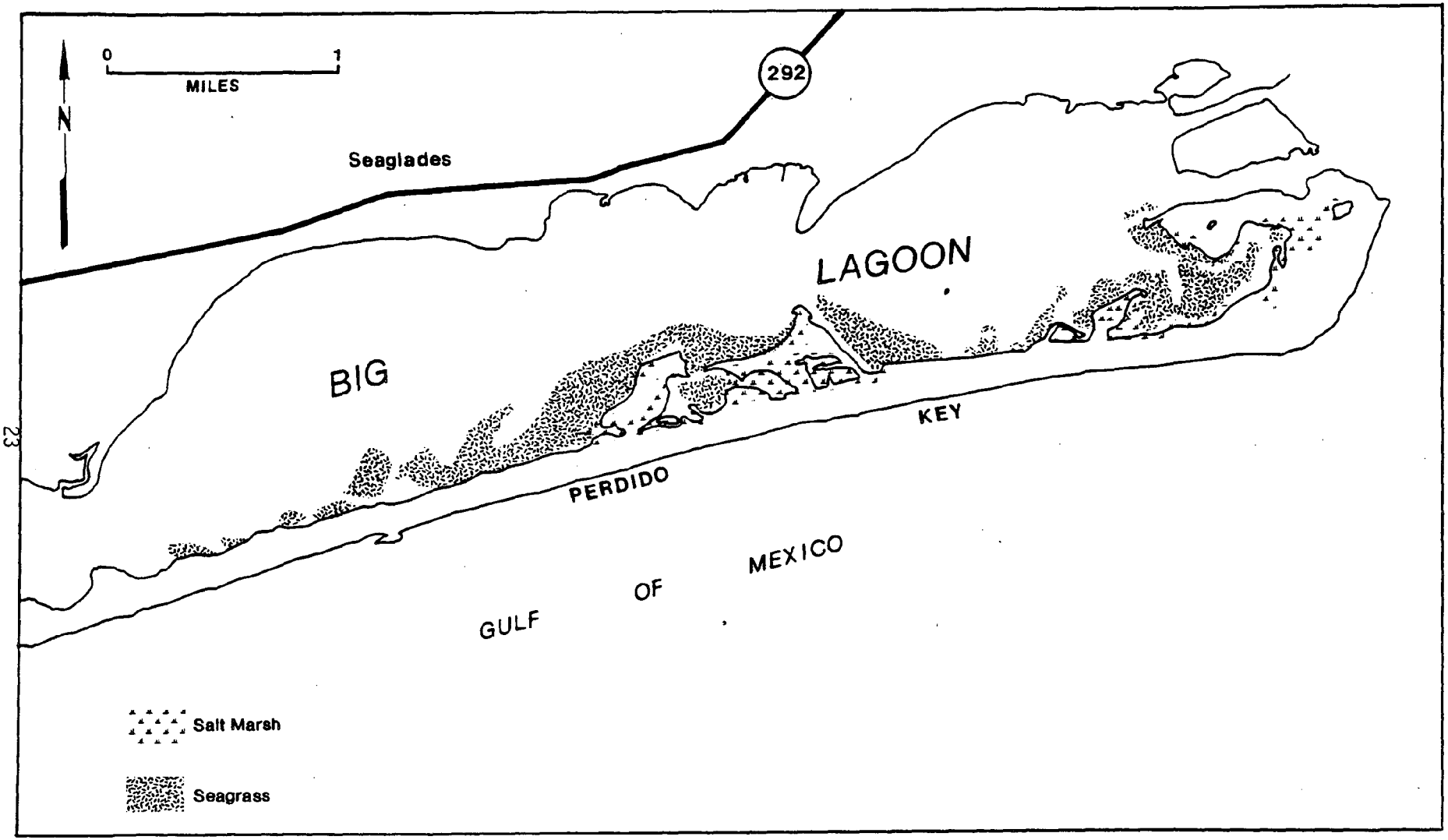

FIGURE 4: Vegetation Map

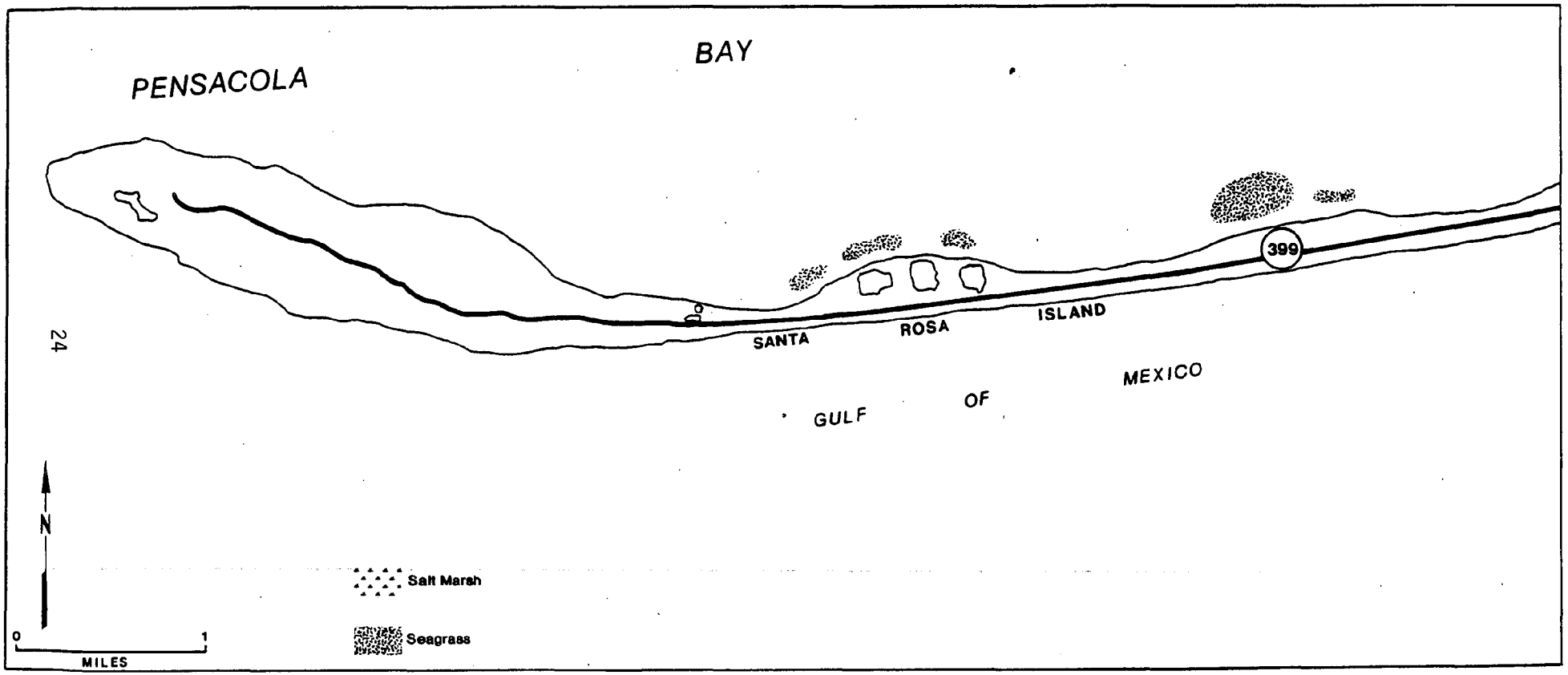

FIGURE 4: Vegetation Map

Although algae make up only a small portion of the subtidal vegetation, they are often important where they occur. Most algal growth will be found where hard-bottom, either natural or man-made, exists. Man-made sites such as jetties, piers, docks and artificial reefs provide hard materials upon which algas can attach and grow. While alive the algal beds provide oxygen to the water column. As the algal beds die back each summer, they make a contribution to the organic carbon load that gets recycled through the aquatic system in the form of detritus. In addition to the attached algal species, there are several free-swimming species that drift over the shallows, particularly in the early spring. This is the time of year when the rooted seagrasses have reduced above-seafloor growth and the algae provides cover for the juvenile fishes utilizing the shallows.

Tidal marshes are a major component of Fort Pickens Aquatic Preserve. At least six functions of salt marshes in estuarine ecosystems have been proposed:

1. Detrital export
2. Nutrient export
3. Sediment trapping
4. Pollutant removal
5. Critical habitat for juvenile fish and shellfish
6. Wildlife habitat

Marshes usually have distinct vegetation zonation. Smooth cordgrass (Spartina alterniflora) forms a border along the open water within the intertidal zone. This fringe may extend above mean high water (MHW). Landward of the cordgrass is the black needle rush (Juncus roemerianus), usually comprising the largest vegetated zone and the bulk of the standing plants.

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

Table 1 lists many of the species of plants and algae which may be found within the various habitats of Fort Pickens Aquatic Preserve. Several illustrations of these vegetative species can be found in Appendix B.

TABLE 1:

ALGAE AND VEGETATION OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Sawgrass	Cladium jamaicense
Flat sedge	Cyperus spp.
Seashore Saltgrass	Distichlis spicata
Spikerush	Eleocharis spp.
Umbrella grass	Fuirena squarrosa
Shoal Grass	Halodule wrightii
Black Needlerush	Juncus roemerianus
Shoregrass	Moanathochloe littoralis
Paspalum	Paspalum spp.
Seashore Paspalum	Paspalum vaginatum
Common Reed	Phragmites australis
Saltmarsh Bullrush	Scirpus robustus
Smooth Cordgrass	Spartina alterniflora
Cordgrass	Spartina patens
Gulf Cordgrass	Spartina spartinae
Whorled dropseed	Sporobolus pyramidatus
Seashore dropseed	Sporobolus virginicus
Manatee grass	Syringonium filiforme
Turtle Grass	Thalassia testudinum

ALGAL SPECIES

Class: Cyanophyta

Calothrix crustacea
Dichothrix penicillata
Entophysalis conferata
Entrophysalis deusta
Lyngbya confervoides
Lyngbya majuscula
Lyngbya semiplena
Microcoleus tenerrimus
Plectonema calothrichoides

Class: Rhodophyta

Bostrychia radicans
Bostrychia uvaria
Ceramium fastigiatum

Class: Chlorophyta

Acetabularia crenulata
Acetabularia farlowii
Caulerpa prolifera
Chaetomorpha linum
Cladophora gracilis
Cladophora fulginosa
Cladophoropsis membranacea
Codium decoratum
Enteromorpha clathrata
Enteromorpha flexuosa
Enteromorpha lingulata
Enteromorpha plumosa
Entocladia viridis
Halimeda tridens

TABLE 1: (cont)

ALGAE AND VEGETATION OF FORT PICKENS AQUATIC PRESERVE

Class: Rhodophyta
Chondria cnicophylla
Chondria littoralis
Chondria sedifolia
Eucheuma acanthocladium
Fosliella farinosa
Gelidium comeum
Gelidium crinale
Halymenia pseudofloresia
Jania rubens
Laurencia intricata
Laurencia obtusa
Laurencia poitei
Lithothamnium occidentale
Polysiphonia echinata
Polysiphonia howei
Polysiphonia subtilissima

Class: Chlorophyta
Monostroma latissimum
Penicillus lamourouxii
Portoderma marinum
Udotea conglutinata
Ulva lactuca

Class: Phaeophyta
Dictyota dichotoma
Ectocarpus coinfervoides
Ectocarpus mitchellae
Pandina vickersiae
Sargassum filipendula
Sargassum linifolium
Sporochnus pendunculatus

G. FISH AND WILDLIFE

The wildlife value associated with highly productive salt marsh communities is extremely important. The linking of estuarine with freshwater environments forms a necessary habitat for the feeding and breeding of many species. Ranging from protozoa to mammals, the animal populations are of considerable variety.

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

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

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

Partial destruction of habitat often breaks up productive ecological communities into smaller isolated subunits by destroying the vegetation which produces habitat continuity. These linkages or corridors allow for the necessary movement of wildlife that may by vital for specific breeding or foraging activities. Habitat disturbance and destruction are the major causes of decline and loss of species.

Tables 2-5 illustrates the wide range of fish and wildlife which are found within the aquatic preserve and its adjacent area. Some species are restricted to this semiaquatic semiterrestrial habitat, while others can be found in the adjacent upland communities as well as in the preserve.

Fish/shellfish

More than 100 families of finfish and a wide variety of shellfish have been reported from the marshes, estuaries and coastal waters of Fort Pickens Aquatic Preserve (Table 2). More than 200 species have been reported in the waters of the Pensacola Bay system alone. The open water habitats contain numerous species of commercial and recreational importance and the estuarine and marsh areas serve as "nursery grounds" for many of the juvenile and larval forms of marine organisms. These include brown and pink shrimp, ladyfish, spotted seatrout, red drum, silver perch, Atlantic croaker, spot, southern kingfish, gulf menhaden, striped mullet, and sheepshead (Wolfe et al., 1988).

Though many marsh species have little commercial importance, their diverse feeding habits and intense utilization of marsh resources makes them especially important in transferring energy from the marsh to the estuary and coastal waters and thus to commercially valuable species. Nursery species and marsh foraging species consume detritus, larval organisms, and plankton at the base of the food web in the marsh and then introduce this energy to the estuarine and nearshore food webs when they leave the marsh. Foraging carnivores also provide a trophic link between the marsh and adjacent ecosystems.
Fish species found in the Fort Pickens Aquatic Preserve inhabit a variety of habitats. Pompano, blue runner, whiting and other forage and juvenile species can be found in the sandy surf-zone. Unvegetated, sand bottom habitats are inhabited by burrowing types such as flounder, stingrays, jawfishes, and inshore lizard fishes. Non-burrowing types consist of the sand perch, pigfish and spot. Mud bottom habitats are preferred by mullet, croaker, silver perch and catfish. Anchovies and

silversides are important forage species and can be seen in the shallow bay waters at the surface where they feed. The seagrass beds have a diverse assemblage of fish populations including mullet, pinfish, needlefish, mojarra, seahorses, pipefish, blennies and gobies. "Hard" habitats such as piers, docks, artificial reefs and jetties contain many of the "pretty" tropical species such as cocoa damsels, angelfishes, parrotfishes, spadefishes, and butterfly fishes. These tropical species are seasonal, arriving by currents in the warmer months, and dying off in the colder months. Wrasses, groupers and snappers are also found along these hard substrates.

In Florida, the number of species actually harvested either entirely or principally in the estuaries is surprisingly limited. But estuaries play a significant role in the production of many shellfishes and finfishes that ultimately are harvested mainly at sea. About 50 commercial and 65 recreational species caught in the Gulf of Mexico spend at least some portion of their lives in estuarine systems such as those within Fort Pickens Aquatic Preserve. Seabasses, jacks, snappers, sheepshead, spot, mackerel, and flounders are a few examples of estuarine dependent species which may be taken either offshore in the gulf or in the estuary (Comp and Seaman, 1985).

TABLE 2:

FINFISH FAMILIES FOUND IN FORT PICKENS AQUATIC PRESERVE

Acanthuridae	Carcharhinidae	Fistulariidae
Acipenseridae	Centrolophidae	Gadidae
Albulidae	Centropomidae	Gerreidae
Anguillidae	Chaetodontidae	Gobiesocidae
Antennariidae	Cirrhitidae	Gobiidae
Ariidae	Clupeidae	Grammistidae
Ariommidae	Clinidae	Gymnuridae
Atherinidae	Congridae	Holocentridae
Aulostomidae	Coryphaenidae	Ictaluridae
Apogonidae	Cynoglossidae	Istiophoridae
Balistidae	Dactylopteridae	Labridae
Batrachoididae	Dactyloscopidae	Lammidae
Belonidae	Dasyatidae	Lepisosteidae
Blenniidae	Diodontidae	Lobotidae
Bothidae	Dysommidae	Lutjanidae
Bramidae	Echeneidae	Microdesmidae
Branchiostegidae	Elopidae	Mobulidae
Bregmacerotidae	Engraulidae	Mugilidae
Carapidae	Ephippidae	Mullidae
Carangidae	Exocoetidae	Muraenesocidae

TABLE 2: (cont.)

FINFISH FAMILIES FOUND IN FORT PICKENS AQUATIC PRESERVE

Muraenidae	Pomadasyidae	Sparidae
Mylobatidae	Pomatomidae	Sphyraenidae
Nomeidae	Priacanthidae	Squalidae
Odontaspididae	Pristidae	Squantinidae
Ogocephalidae	Rachycentridae	Stromateidae
Ophichthidae	Rajidae	Syngnathidae
Ophidiidae	Rhincodontidae	Synodontidae
Opsitognathidae	Rhinobatidae	Tetraodontidae
Orectolobidae	Scaridae	Torpendinidae
Ostraciidae	Sciaenidae	Trichiuridae
Percichthyidae	Scombridae	Triglidae
Poeciliidae	Scorpaenidae	Uranoscopidae
Polynemidae	Serranidae	Xiphiidae
Pomacentridae	Soleidae	

Reptiles/Amphibians

The coastal strand, saltmarsh, estuarine, and marine environments within the aquatic preserve exhibit severely stressful conditions. Arid conditions and extremes in temperature and salinity limit the types of organisms which can inhabit this area (Table 3). In order to inhabit these areas the preserve organisms must have a tolerance for these conditions.

The upland dune community adjacent to the aquatic preserve is hot and dry; few amphibians can tolerate the extreme conditions. The southern toad occasionally takes refuge in burrows and forages at night at the base of the dunes. Toads can be abundant in coastal strand environments as can the southern leopard frog because both breed in temporary ponds of the interdune flats.

The various habitats found adjacent to the aquatic preserve may be well-endowed with reptile species because these species are best adapted for dry terrestrial environments. Several types of snakes and land turtles are abundant in the coastal strands. Reptiles such as sea turtles are better adapted to the salinity ranges of the gulf and estuarine waters.

The Atlantic loggerhead sea turtle (Caretta caretta) may be found in and around Fort Pickens Aquatic Preserve. The frequency of reported sightings of loggerheads in this area has increased over the past five years. Whether this increase is due to the presence of more loggerheads or more "loggerhead-watchers" has yet to be

determined (Dr. Collard, University of West Florida, Pers. Comm., 1991). The loggerhead is listed by the U.S. Fish and Wildlife Service as a threatened species.

Other sea turtles such as the green sea turtle (Chelonia midas), and the leatherback sea turtle (Dermochelys coriacea) have been reported in the area but these are rare sightings. The leatherback turtle is listed as threatened and the green turtle is listed as endangered by the U.S. Fish and Wildlife Service.

Another species of sea turtle, the Kemps Ridley (Lepidochelys kempii), is an occasional visitor to this area. Several strandings of Kemps Ridley sea turtles have been documented within the Florida district of Gulf Islands National Seashore (Carl Zimmerman, Resource Management Specialist, Gulf Islands National Seashore, Pers. Comm., 1991).

TABLE 3:

REPTILES AND AMPHIBIANS IN AND ADJACENT TO FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Cottonmouth	Agkistrodon piscivorus
American Alligator	Alligator mississippiensis
Southern Toad	Buffo terrestris
Atlantic Loggerhead	Caretta caretta
Green Turtle	Chelonia midas
Black Racer	Coluber constrictor
Leatherback Turtle	Dermochelys coriacea
Atlantic Ridley Turtle	Lepidochelys kempii
Alligator Snapping Turtle	Macrochlemys temmenckii
Coachwhip	Masticophis flagellum
Southern Leopard Frog	Rana sphenocephala
Pygmy Rattlesnake	Sistrurus miliarius
Garter Snake	Thamnophis sirtalis

Birds

Over 280 species of birds have been identified in the aquatic preserve and its adjacent upland areas. Fort Pickens Aquatic Preserve and the adjacent area comprise several diverse ecological communities which attract a variety of bird life. Gulf beaches, dunes, fresh and saltwater marshes, and nearby wooded areas provide a wide range of wildlife habitats.

Table 4 represents a list of bird species which have been identified within these various habitats in the aquatic preserve area. Many of these species are area transients, using this area as a resting place on their way to summer or wintering grounds. Others are accidental visitors, far from their natural home ranges. The majority of the species found within the preserve are summer, winter, and/or annual residents. Many of these species are dependent on the marine/estuarine environment. Species such as the double crested cormorant, red breasted merganser, brown pelican and black skimmer depend on the gulf for food, and its environs for shelter. Numerous other species depend on marine and estuarine wetlands to fulfill life history requirements.

Within the marsh community, birds comprise one of the large herbivore groups and they also play a significant role in both the immediate marsh and estuarine food webs. Marsh areas within the aquatic preserve support year round residents (clapper rail and great blue heron), summer nesting species (least bittern), migrants (American widgeon), casual feeders (great egrets), and summer visitors (white ibis). Many coastal birds use the marsh habitats as secondary breeding and dispersal areas. The marsh provides an ideal environment for breeding birds. The dense vegetation and the isolated nature of many marsh tracts restricts access by predators, especially the raccoon. Small fish, as well as an abundant invertebrate population, provide food for both adults and young fledglings (Stout, 1984).

TABLE 4:

BIRD SPECIES OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Cooper's Hawk	Accipiter cooperii
Sharp-Skinned Hawk	Accipiter striatus
Spotted Sandpiper	Actitus marcularia
Red Winged Blackbird	Agelaius phoeniceus
Northern Pintail	Anas acuta
Green-Winged Teal	Anas crecca
Blue-Winged Teal	Anas discors
Mottled Duck	Anas fulvigula
Mallard	Anas platyrhynchos
American Black Duck	Anas rubripes
Gadwall	Anas streperta
Anhinga	Anhinga anhinga
Wood Duck	Aix sponsa
Great Blue Heron	Ardea herodias
Ruddy Turnstone	Arenaria interpres

TABLE 4: (cont)

BIRD SPECIES OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Lesser Scaup	Aythya affinis
Redhead	Aythya americana
Ringneck Duck	Aythya collaris
Greater Scaup	Aythya marila
Canvasback	Aythya valisineria
Upland Plover	Bartramia longicauda
American Bittern	Botaurus lentigenosus
Bufflehead	Bucephala albeola
Common Goldeneye	Bucephala clangula
Red-shouldered Hawk	Buteo lineatus
Red-tailed Hawk	Buteo jamaicensis
Broad-winged Hawk	Buteo platypterus
Green Backed Heron	Buteroides striatus
Red Knot	Calidris canutus
Sanderling	Calidris alba
Dunlin	Calidris alpina
Semipalmated Sandpiper	Calidris pusilla
Great Egret	Casmerodius albus
Boat-tailed Grackle	Cassidix mexicanus
Turkey Vulture	Cathartes aura
Willet	Catoptrophorus semipalmatus
Piping Plover	Charadrius melodus
Semipalmated Plover	Charadrius semipalmatus
Killdeer	Charadrius vociferus
Wilson's Plover	Charadrius wilsonia
Snow Goose	Chen hyperborea
Black Tern	Chlidonias niger
Oldsquaw	Clangula hyemalis
Black Vulture	Coragyps atratus
Fish Crow	Corus ossifragus
Reddish Egert	Dichromanassa rufescens
Tricolor Heron	Egretta tricolor
Swallow-tailed Kite	Elanoides forficatus
Western Sandpiper	Ereunetes mauri
Barid's Sandpiper	Erolia bairdii
White-rumped Sandpiper	Erolia fuscicollis
Pectoral Sandpiper	Erolia melanotos
Least Sandpiper	Erolia minutilla

TABLE 4 (cont):

BIRD SPECIES OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
White Ibis	Eudocimus albus
Merlin	Falco columbarius
Peregrine Falcon	Falco peregrinus
American Kestrel	Falco sparverius
Little Blue Heron	Florida caerulea
Magnificiant Frigatebird	Fregata magnificens
American Coot	Fulica americana
Common Snipe	Gallinago gallinago
Common Loon	Gaxia immer
Gull-billed Tern	Gelochelidon nilotica
American Oystercatcher	Haematopus palliatus
Bald Eagle	Haliaeetus leucocephalus
Black-necked Stilt	Himantopus mexicanus
Caspian Tern	Hydroprogone caspia
Mississippi Kite	Ictinia misisippiensis
Least Bittern	Ixobrychus exilis
Herring Gull	Larus argentatus
Laughing Gull	Larus atricilla
Ringbilled Gull	Larus delawarensis
Greater black-backed Gull	Larus marinus
Bonaparte's Gull	Larus philadelphia
Snowy Egret	Leucophoyx thula
Marbled Godwit	Limosa fedoa
Short-billed Dowitcher	Limnodromus griseus
Long-billed Dowitcher	Limnodromus scolopaceus
Hooded Merganser	Lophodytes cucullatus
American Wigeon	Mareca americana
Belted Kingfisher	Megaceryle alcyon
White-winged Scooter	Melanitta deglandi
Surf Scooter	Melanitta perspicillata
Red-breasted Merganser	Mergus serrator
Stilt Sandpiper	Micropalama himantopus
Gannett	Morcus bassanus
Long-billed Curlew	Numenius americanus
Whimbrel	Numenius phaeopus
Black-crowned Night Heron	Nycticorax nycticorax
Yellow-Crowned Night Heron	Nycticorax violaceus
Black Scooter	Oidemia nigra

TABLE 4 (cont):

BIRD SPECIES OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Ruddy Duck	Oxyura jamaicensis
Osprey	Pandion haliaetus
American White Pelican	Pelicanus erythrorhynchos
Brown Pelican	Pelicanus occidentalis
Double-Crested Cormorant	Phalacrocorax auritus
Glossy Ibis	Plegadis falcinellus
Black-Bellied Plover	Pluvialis squatarola
Horned Grebe	Podiceps auritus
Eared Grebe	Podiceps caspicus
Pied-billed Grebe	Podilymbus podiceps
Common Grackle	Quiscalus quiscula
Clapper Rail	Rallus longirostris scotti
King Rail	Rallus elegans
Virginia Rail	Rallus limicola
American Avocet	Recurvirostra americana
Black Skimmer	Ryhchops nigra
American Woodcock	Scolopax minor
Northern Shovler	Spatula clypeata
Wilson's Phalarope	Steganopus tricolor
Least Tern	Sterna albrifrons
Forster's Tern	Sterna forsteri
Sooty Tern	Sterna fuscatc
Common Tern	Sterna hirundo
Royal Tern	Sterna maxima
Sandwich Tern	Sterna sandvincensis
Blue-faced Booby	Sula dactylatra
Brown Booby	Sula leucogaster
Lesser Yellowlegs	Totanus flavipes
Greater Yellowlegs	Tringa melanoleuca
Solitary Sandpiper	Tringa solitaria
Buff-breasted Sandpiper	Tryngites subruficollis

Mammals

The mammals which are found within or adjacent to Fort Pickens Aquatic Preserve must also be able to survive the extreme conditions of the varying habitats. Coastal scrub communities of Santa Rosa Island and Perdido Key have populations of light-

colored beach rodents (cotton rats and rice rats) that burrow in the sand of the dune habitats as well as marsh areas. The marsh rice rat is the most abundant of all coastal marsh mammals. This rat is a good swimmer and may be observed feeding in the lower marsh. The hispid cotton rat is more terrestrial and prefers the higher, less frequently flooded marsh/upland interface (Stout, 1984).

Santa Rosa Island and Perdido Key are also home to the Santa Rosa beach mouse and the Perdido Key beach mouse, respectively. These light colored mice are restricted to the primary dune habitats and do not generally frequent nor construct burrows in marsh areas (Carl Zimmerman, Gulf Islands National Seashore, Pers. Comm., 1991). The Perdido Key beach mouse, a federally listed endangered species, suffered a major population decline following Hurricane Frederick in 1979 (Meyers, 1983; Holler and Mason, 1988). The species appears to have undergone a dramatic increase and is making a successful comeback due to the joint efforts of the Florida Game and Fresh Water Fish Commission, the National Park Service, and the U.S. Fish and Wildlife Service.

A few mammalian species may be found in the tidal marsh habitats but resident mammals are few; nutria, round tailed muskrat and marsh rabbits make up this group.

Predator species include the raccoon, mink and the long-tailed weasel who generally feeds on grubs and insects at the marsh/upland interface. All of the other predators have mixed diets of small mammals, birds, benthic invertebrates, and fish.

Marine mammals such as the bottle-nosed dolphin travel the waters of Fort Pickens Aquatic Preserve. Bottle-nosed dolphins are regular visitors to the preserve, often feeding on the smaller fish inhabiting the preserve waters.

TABLE 5:

MAMMALS FOUND AT OR IN THE VICINITY OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Bottle-Nosed Dolphin	Delphinus delphis
Striped Skunk	Mephitis mephitis
Long-tailed Weasel	Mustela frenata
Nutria	Myocastor coypus bonariensis
Rice Rat	Oryzomys palustris
Raccoon	Procyon lotor

TABLE 5: (cont.)

MAMMALS FOUND AT OR IN THE VICINITY OF FORT PICKENS AQUATIC PRESERVE

Common Name	Scientific Name
Eastern Grey Squirrel	Sciurus carolinensis
Cotton Rat	Sigmodon hispidus
Marsh Rabbit	Sylvilagus palustris
Gray Fox	Urocyon cinereoargenteus
Red Fox	Vulpes fulva
Santa Rosa Beach Mouse	Peromyscus polionotis leucocephalus
Perdido Key Beach Mouse	Peromyscus polionotis trissyllepsis

H. ENDANGERED, THREATENED, AND SPECIES OF SPECIAL CONCERN

Table 6 provides a list of animal species assumed to be found at or in the vicinity of Fort Pickens Aquatic Preserve. These species have been given legal protection pursuant to the U.S. Fish and Wildlife Service (USFWS) Endangered Species Act of 1973, and/or the Florida Game and Fresh Water Fish Commission (FGFWFC) regulations.

Listed species may be classified as endangered (E), threatened (T), of special concern (SSC), or under review (UR) for such listing. Endangered species are those threatened with extinction if deleterious factors affecting their populations continue. These are species whose numbers have already declined to such a critically low level, or whose habitats have been so seriously reduced or degraded that without active assistance, survival is questionable.

Threatened species populations, although not as critically stressed as endangered species, are also jeopardized. Species of special concern are those that warrant special attention due to similarity in appearance to other species, commercial exploitation, environmental changes, and/or long-term population declines. Species of this category may also have potential impact on endangered or threatened populations of other species.

TABLE 6:

ENDANGERED, THREATENED, AND SPECIES OF SPECIAL CONCERN LIKELY TO OCCUR IN FORT PICKENS AQUATIC PRESERVE.

COMMON NAME/SCIENTIFIC NAME	FGFWFC	USFWS
BIRDS:		
Southeastern Snowy Plover *Charadrius alexandrinus tenuirostris*	T	UR2
Piping Plover *Charadrius melodus*	T	T
Little Blue Heron *Egretta caerulea*	SSC	
Snowy Egret *Egretta thula*	SSC	
Tricolored Heron *Egretta tricolor*	SSC	
Peregrine Falcon *Falco peregrinus*	E	T
Southeastern American Kestral *Falco sparverius paulus*	T	UR2
American Oystercatcher *Haematopus palliatus*	SSC	
Wood Stork *Mysteria americana*	E	E
Osprey *Pandion haliaetus*	SSC	
Brown Pelican *Pelecanus occidentalis*	SSC	
Least Tern *Sterna antillarum*	T	

TABLE 6: (cont.)

ENDANGERED, THREATENED, AND SPECIES OF SPECIAL CONCERN LIKELY TO OCCUR IN FORT PICKENS AQUATIC PRESERVE.

COMMON NAME/SCIENTIFIC NAME	FGFWFC	USFWS
MAMMALS:		
Santa Rosa Beach Mouse *Peromyscus polionotus leucocephalus*	UR2	UR2
Perdido Key Beach Mouse *Peromyscus polionotus trissyllepsis*	E	E
REPTILES:		
American Alligator *Alligator mississippiensis*	SSC	T(s/a)
Loggerhead Turtle *Caretta caretta*	T	T
Green Turtle *Chelonia midas*	E	E
Leatherback Turtle *Dermochelys coriacea*	E	E
Kemps Ridley *Lepidochelys kempii*	E	E
Alligator Snapping Turtle *Macrochlemys temmenckii*	SSC	UR2
FISH:		
Saltmarsh Topminnow *Fundulus jenkensi*	SSC	

FGFWFC= Florida Game & Fresh Water Fish Commission
USFWS = United States Fish & Wildlife Service
E = Endangered
T = Threatened
T(s/a) = Threatened due to similarity of appearance
SSC = Species of Special Concern
UR2 = Under review for federal listing, but substantial evidence of biological vulnerability and/or threat is lacking.

I. CULTURAL RESOURCES

Cultural resources are an important part of the management of aquatic preserves in Florida. A total of 3,556 archaeological sites are listed on the Florida Master Site File of the Florida Division of Historical Resources for the northwest Gulf of Mexico.

To date, 955 archaeological and historic sites have been recorded for Escambia county alone. The Gulf Islands National Seashore contains 121 known archaeological and cultural sites, 12 of which are listed on the National Register of Historic Places. Further study reveals that 40 of these sites are located within Fort Pickens Aquatic Preserve.

Fort Pickens, a masonry style pre-civil war fort, located on the western end of Santa Rosa Island and the Perdido Key Historic District, which is located on the eastern end of Perdido Key, are 2 of the 12 sites listed on the National Register of Historic Places.

The first European settlements in northwest Florida occurred in the mid-1500's along coastal areas that were navigable by boat. Over the last four-and-a half centuries these coastal waters have been utilized by vessels of many different nationalities with many different missions.

The historic and archaeological resources of Fort Pickens Aquatic Preserve are represented by the unlucky ships whose remains litter the bottoms of Pensacola Bay, Pensacola Pass, Santa Rosa Sound and the Gulf of Mexico.

Most of the terrestrial sites, on the adjacent uplands have been surveyed for their cultural resources according to the National Historic Preservation Act. Unfortunately, much of the underwater acreage within the aquatic preserve has not been studied. As of January 1991, only 5 submerged sites in the aquatic preserve had been studied and recorded in the Florida Master Site File Inventory. These sites included: three shipwrecks - 1) the "E.W.Fowler", 2) the "Sport", 3) the "Convoy"; a pre-civil war fort 4) Fort McRee; and 5) a 19th century cannon found in Pensacola Pass.

At the present time, a survey of Pensacola shipwrecks is being made throughout the entire Pensacola Bay System. The project, which began in March 1991, is being conducted by Dr. Roger Smith, the state's underwater archaeologist. The goal of the study is to make an inventory and assessment of shipwreck sites and other underwater materials in the Pensacola Bay System. The survey will determine what relics are in the bays, their value, and develop a management plan for these newly discovered cultural resources.

The shipwreck survey has already produced 140 targets in the Pensacola Bay system and has spurred a proposal for an underwater archaeological preserve.

The remains of the U.S.S. Massachusetts, the nation's oldest surviving battleship, are located in shallow water off the coast of Perdido Key. Dr. Smith proposes to establish an Underwater Archaeological Preserve on the sunken remains of the ship. Such a preserve would set the Massachusetts aside for its own protection and for public enjoyment. By making important historic shipwreck sites available to citizens and visitors, an appreciation and understanding of the irreplaceable remnants of Florida's maritime heritage would be encouraged (See Chapter V for more details).

J. REGIONAL LAND USE, DEVELOPMENT AND ASSOCIATED IMPACTS

Adjacent Upland Use:

The upland properties of Santa Rosa Island and Perdido Key, which are directly adjacent to Fort Pickens Aquatic Preserve are presently zoned as "Conservation" areas (Figure 5). The county's zoning category, Conservation, as defined in the Escambia County Comprehensive Plan, designates these uplands as "unsuited for development" and these areas may only be used for "activities which are compatible with the purpose of conserving or protecting the natural resources of the area." Such activities would include flood control, wildlife habitat protection, resource-oriented recreational uses, and where appropriate silviculture, using best management practices as defined by the Florida Division of Forestry.

The purpose of this zoning classification is to identify public and private land which will be held for conservation of natural features. These barrier islands are part of the Gulf Islands National Seashore (GINS). The GINS is an area that has been set aside, by Congress, for recreation and for its natural and historic resources. These uplands will remain protected and undeveloped in order to protect their distinctive natural features for the enjoyment of future generations.

Within GINS, on Santa Rosa Island, the National Park Service has developed resource-oriented park facilities centered around the preservation of Fort Pickens and the natural beauty of the gulf beaches and coastal marshes. This park area

provides easy access to the aquatic preserve by way of beach access boardwalks, dune overwalks, nature trails, picnic areas, parking facilities, and a fishing pier.

The Perdido Key GINS area also provides access to the preserve at an area known as Johnson Beach. This popular recreation area provides boardwalks, nature trails, a boat ramp, and bathing and picnicking facilities, all of which allow the public easy access to the aquatic preserve.

It should be noted that although the northern shore of Big Lagoon is not immediately adjacent to the aquatic preserve, it is an area which has a direct impact upon the preserve. The boat docks which accompany single and multi-family dwellings and marinas along this shore provide private access to the aquatic preserve. Big Lagoon State Park, which is also located on the north shore, has a boat ramp, boardwalks, and picnic areas which are open to the public. Public and private accesses on Big Lagoon's north shore, as well as those of the immediate upland areas, allow for increased recreational use of the aquatic preserve.

Uses of the Preserve:

The uses of Fort Pickens Aquatic Preserve can be divided into three general categories: Recreation, Research and Preservation.

Recreation - Although the submerged lands of the aquatic preserve are not designated as recreation areas, they are easily accessed by way of the adjacent uplands. Boat ramps, boardwalks, nature trails, fishing piers, and private docks all provide a means by which the public can enjoy the aquatic preserve. Popular recreational activities include swimming, snorkeling, scuba diving, sunbathing, boating, fishing, bird watching, and beach combing.

Research - Aquatic preserves are submerged lands of exceptional beauty which are to be maintained in their natural or existing conditions. The unique environmental conditions in these areas create very delicate and productive ecosystems within which various types of marine organisms exist. This environment provides the prefect setting through which scientists can study the natural conditions of barrier islands and how those conditions are affected by man.

Several research projects, conducted through contract by Gulf Islands National Seashore, have been, or are currently, taking place within Fort Pickens Aquatic Preserve and its adjacent uplands. Gibson and Looney (1990), of the University of West Florida, are presently studying the effect of beach renourishment on the barrier island plant community of Perdido Key. Dr. Richard Heard of the Gulf Coast Marine Research Lab at Ocean Springs, Mississippi, is also studying the effects of beach renourishment but his emphasis is being placed on the macroinvertebrates of Perdido Key. Dr. Jerome Coling, also of the University

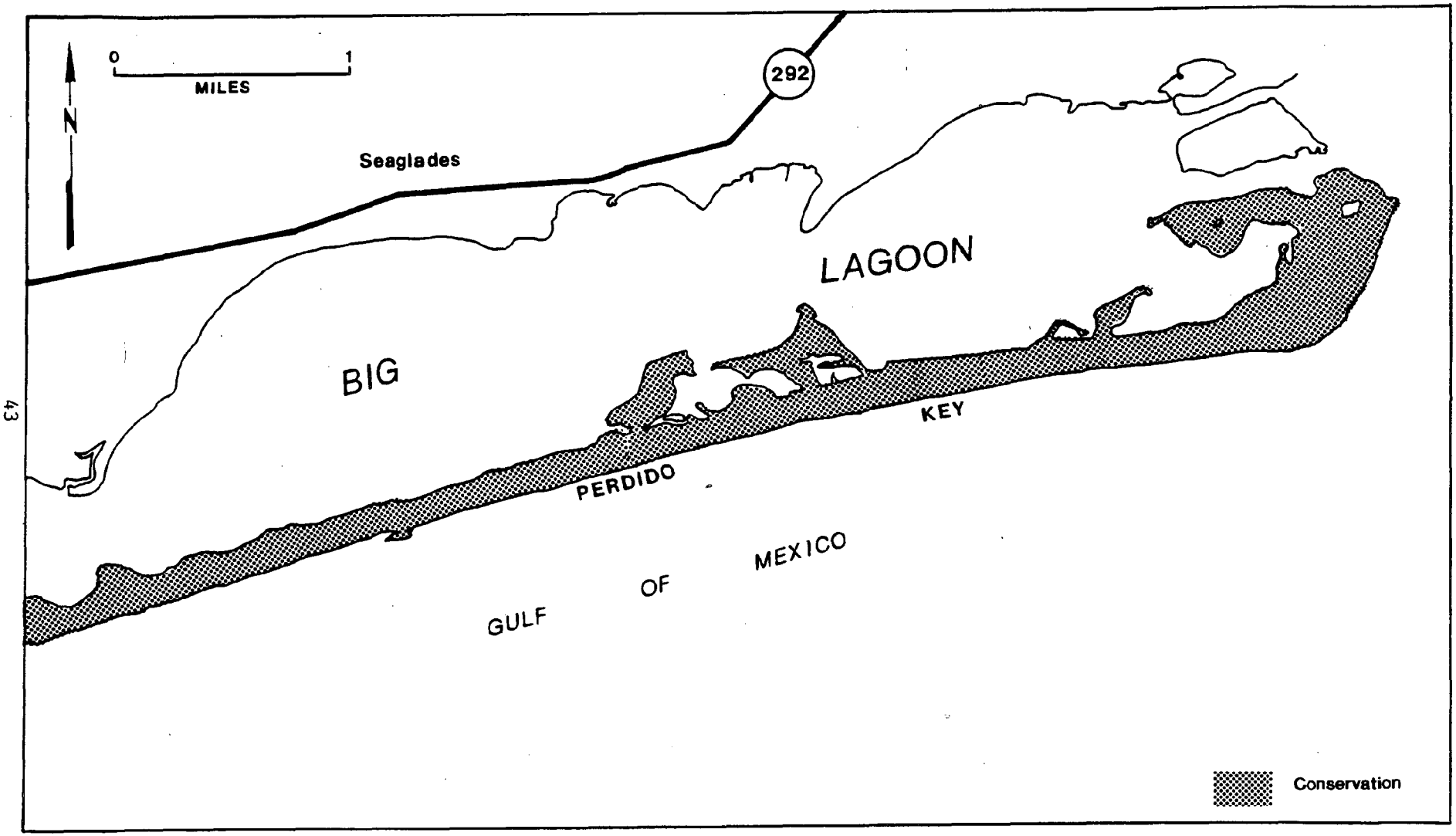

FIGURE 5: Adjacent Land Use Map

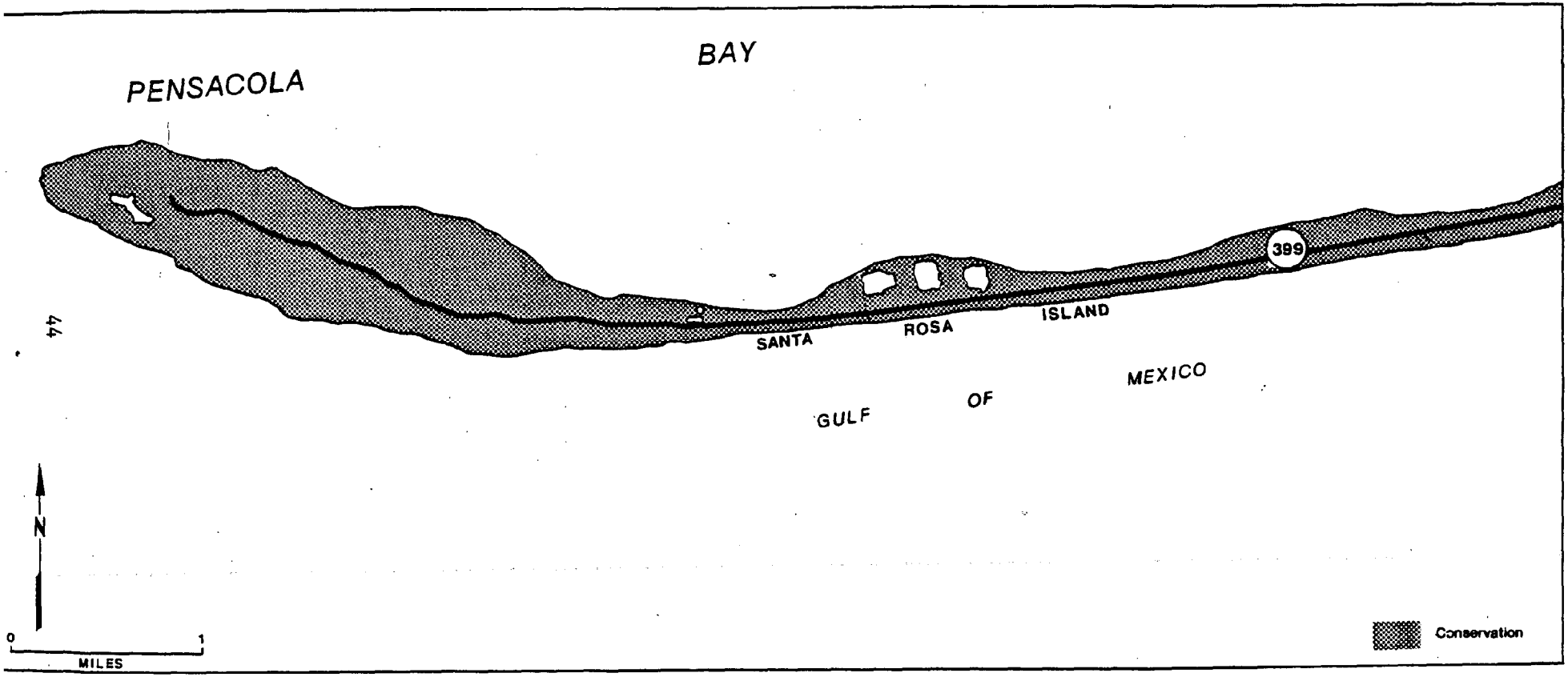

FIGURE 5: Adjacent Land Use Map

of West Florida, has previously conducted research on the physiographic changes taking place at Perdido Key. Dr. Norbert Psuty and K.A. Jagger (1990) of Rutgers University studied shoreline changes on Perdido Key.

The Florida Legislature enacted the Surface Water Improvement and Management (S.W.I.M.) Act in 1987 and amended it in 1989. This act declares that it is the duty of the state's agencies to enhance the environmental and scenic value of surface waters. This declaration has prompted several research projects which will determine the quality of the waters of the Pensacola Bay system - of which Pensacola Bay and Santa Rosa Sound are a large part. Strategies will be designed to protect and enhance the waters and their related resources. These studies represent but a few of the projects which are taking place within the preserves unique environment.

Preservation - The northwest Florida coastline is one of this states most distinctive natural features. This natural beauty has always been one of Florida's major attractions for both tourists and residents. Aquatic preserves were created in order to protect these distinctive natural features. The major management objective of Fort Pickens Aquatic Preserve is to maintain and enhance resources such as seagrasses, aquatic plants, birds and fish. Only through careful preservation of these resources can the public's continued enjoyment of this natural area be insured.

Future Use:

Gulf Islands National Seashore personnel plan to provide a passenger ferry from Fort Barrancas, Pensacola Naval Air Station, to the dock at the old Coast Guard Station at the Fort Pickens Unit. Once approved, the project will require modifications to the existing dock to accommodate the passenger ferry. The management of the national seashore plans no further development within the aquatic preserve, in keeping with the preservation philosophy of the National Park Service.

If, for any reason, Gulf Islands National Seashore ceases to exist, the upland property will revert back to state ownership.

CHAPTER IV

MANAGEMENT AREAS

A. INTRODUCTION

This chapter divides the Fort Pickens Aquatic Preserve into separate management areas and delineates allowable uses (e.g., activities and structures) associated with each area. Each management area is classified by the value of natural and cultural resources (e.g., types, occurrence) on submerged lands adjacent to the type of upland use. The land adjacent to the Fort Pickens Aquatic Preserve is entirely owned by the federal government. The land is managed as the Gulf Islands National Seashore, and falls under the jurisdiction of the National Park Service, U.S. Department of the Interior. Consequently, the upland zoning and future land uses of this area are not expected to change from its present designation of "Conservation".

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

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

There are a number of differences between the rules governing uses of state-owned submerged lands within an aquatic preserve relative to those not within an aquatic preserve. The principal difference is that uses of submerged lands within an aquatic preserve must be shown to be "in the public interest" before they can be authorized, as opposed to being "not contrary to the public interest" for non-aquatic preserve areas.

B. MANAGEMENT AREA CLASSIFICATIONS

A key component of the management program for any aquatic preserve is the division of the preserve into management areas. The classification of management areas in an aquatic preserve is based upon the resource value of the submerged lands within the preserve associated with existing and proposed future land uses on the adjacent uplands as designated in the local government comprehensive plan(s). As in the delineation of upland uses through zoning, the delineation of a preserve into management areas is two-fold: (1) to identify areas of public and private uses, and (2) to provide standards with which proposed uses and activities must comply. The intent of these management area classifications is to make potential development activities compatible with resource protection goals.

Designated or existing land uses are incorporated into the classification of management areas because use of the adjacent uplands has a direct bearing on the intensity of demand for uses of state-owned submerged lands. As mentioned earlier, the Aquatic Preserve Program has no jurisdiction over the designated use of the adjacent uplands within the GINS. The incorporation of a designated land use into the management area classification is simply an acknowledgement of how a specific upland area is used. Since all adjacent uplands to the preserve are under federal ownership the specific land uses to be incorporated in the classification of management areas in the Fort Pickens Aquatic Preserve is limited to the following categories:

> Public Recreation (PR): This category represents state-owned submerged lands adjacent to land designated on a future land use map as public recreation/preservation and is utilized for the purpose of public recreation. It is intended to include (1) areas where structures are used by the general public at no charge and (2) federal, state, and municipal parks that charge a nominal fee. Military property, while not always open to the public, is included in this category since the buildings and grounds are often designated as public facilities.
>
> Open Water (OW): This category represents state-owned submerged lands within an aquatic preserve which are of a distance of greater than 500 feet from land.

The land use classifications listed above are assigned an appropriate number to identify the resource value of the adjacent submerged lands. The methodology used to determine this resource value shall be consistent with the latest methodology approved by the Bureau of Submerged Lands and Preserves.

If an area within the preserve contains natural or cultural resources of significant value it is identified as a **Primary Resource Protection Area (PRPA)**, and is assigned a resource value of "**1**". A PRPA essentially combines Resource

Protection Areas 1 and 2, as defined in Sections 18-20.003(31), and 18-20.003(32), F.A.C.

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

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

C. MINIMUM CRITERIA FOR ALLOWABLE USES

Chapter 18-20, F.A.C., provides the minimum standards with regard to the utilization of state-owned submerged lands within an aquatic preserve as authorized by the Board of Trustees and the Department of Natural Resources. It should be noted that other regulatory agencies rules and jurisdictions over activities may also apply within aquatic preserves. The minimum standards for allowable uses in the preserve are detailed below.

All Dock Structures: Section 18-20.004(5)(a), F.A.C., states that all docking facilities within an aquatic preserve shall meet the following standards and criteria:

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

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

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

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

Additional policies include all docking structures to access a depth of -4 feet at mean low water (MLW) and a reduction in the width of a terminal platform to 4 feet

wide if the platform is over seagrasses. This reduction will not affect the overall area of the terminal platform.

Spoil Disposal: Section 18-20.004(3)(d), F.A.C., states that spoil disposal within an aquatic preserve shall be strongly discouraged and may be approved only where the applicant has demonstrated that there is no other reasonable alternative and that the spoiling activity may be beneficial to, or at a minimum, not harmful to the quality or utility of the preserve. It will be the policy to not recommend spoil disposal onto a PRPA within the Ft. Pickens Aquatic Preserve. Exceptions to this criteria may be granted where beach quality sand is transferred and deposited onto shoreline beaches as part of an approved beach restoration management plan.

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

For the purposes of this plan, the following conditions will apply: (1) the Gulf Intracoastal Waterway is exempt from aquatic preserve rules and regulations, pursuant to Section 258.42, F.S., and functions only as a boundary of the preserve; and (2) certain activities are generally permissible in all management areas. These activities include shoreline stabilization, maintenance dredging, and maintenance of channel markers. Where appropriate to protect environmental resources, certain conditions or restrictions may be placed on these types of activities. For example, seawalls in some locations may be discouraged, and riprap may be required to be placed along a seawall in order to provide additional habitat.

Utility Easements: Section 18-20.004 (3) (c), F.A.C., states that utility cables, pipes, and other such structures shall be constructed and located in a manner that will cause minimal disturbance to submerged resources (e.g., seagrass beds, oyster bars) and do not interfere with traditional uses. It will be the policy to place additional utilities into designated corridors or existing easements within the aquatic preserve if no other reasonable alternative exists.

D. MANAGEMENT AREAS

In this section, each management area is delineated with boundaries, descriptions, and allowable uses. Due to changes that may occur from the rezoning of adjacent uplands and altering biological conditions on submerged lands, the final decision on approving, modifying or denying uses of the submerged lands within the preserve will be made based on field surveys and assessments of project sites. Figure 6 is a map of all management areas within the preserve. The purpose of providing this map is to give some general guidance and an understanding of where the management areas lie within the preserve.

MANAGEMENT AREA PR/1

(public recreation/primary resource protection area)

Boundaries: This management area is defined as all state-owned submerged lands from the mean high water line out 500 feet along the entire north shore of both Perdido Key and Santa Rosa Island.

Description: This area is characterized by sparse to dense seagrass beds, expansive salt marshes, bird nesting areas, a variety of marine life such as crabs, scallops, shrimp, polychaetes, and fish, and cultural resources.

Allowable Uses: Public docks (meeting the requirements of all dock structures as stated in Section 18-20.004(5)(a), F.A.C.), utility easements (in designated corridors).

MANAGEMENT AREA PR/2

(public recreation/secondary resource protection area)

Boundaries: This management area is defined as all state-owned submerged lands from the mean high water line out 500 feet on the Gulf side of the preserve from Perdido Key to Santa Rosa Island.

Description: This area is characterized by high energy beaches and hard sand bottoms. Marine life forms include burrowing crabs, shrimp and worms, and fish. The beaches of Perdido Key are part of a beach renourishment program. These beaches received approximately 400 feet of sand along a five mile stretch of Perdido Key.

Allowable Uses: Public docks (meeting the requirements of all dock structures as stated in Section 18-20.004(5(a), F.A.C.), beach renourishment and nearshore spoil disposal for beach renourishment purposes, utility easements.

MANAGEMENT AREA OW/1

(open water/primary resource protection area)

Boundaries: This management area is defined as all state-owned submerged lands of Big Lagoon, Pensacola Bay and Santa Rosa Sound which are 500 feet waterward of the mean high water line, within the aquatic preserve. This management area also continues approximately 1 and 3/4 miles south of Perdido Key, paralleling the ship channel, and one mile west, paralleling the shoreline of Perdido Key, and northward towards the Perdido Key, until reaching the southern boundary of the PR/2 management area.

Description: This area is characterized by patchy seagrass beds and submerged cultural resources.

Allowable Uses: Utility easements (in designated corridors).

MANAGEMENT AREA OW/2

(open water/secondary resource protection area)

Boundaries: This area is defined as all state-owned submerged lands of the Gulf of Mexico, which are 500 feet waterward of the mean high water line, within the aquatic preserve, excluding the area included in the OW/1 category.

Description: This area is characterized by relatively clear, deep waters with hard sand bottoms and scattered artificial reefs.

Allowable Uses: Spoil disposal, utility easements.

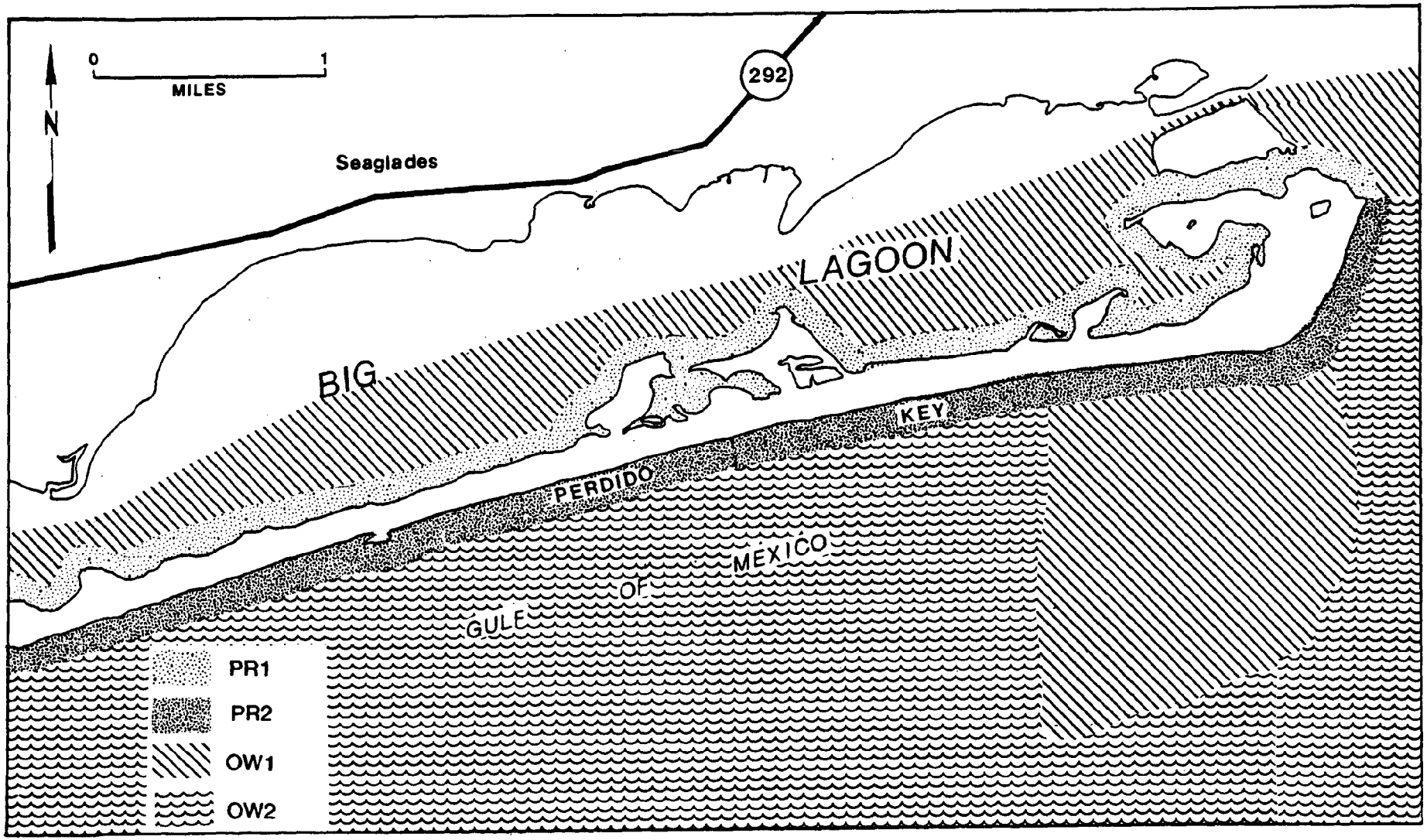

FIGURE 6: Management Areas

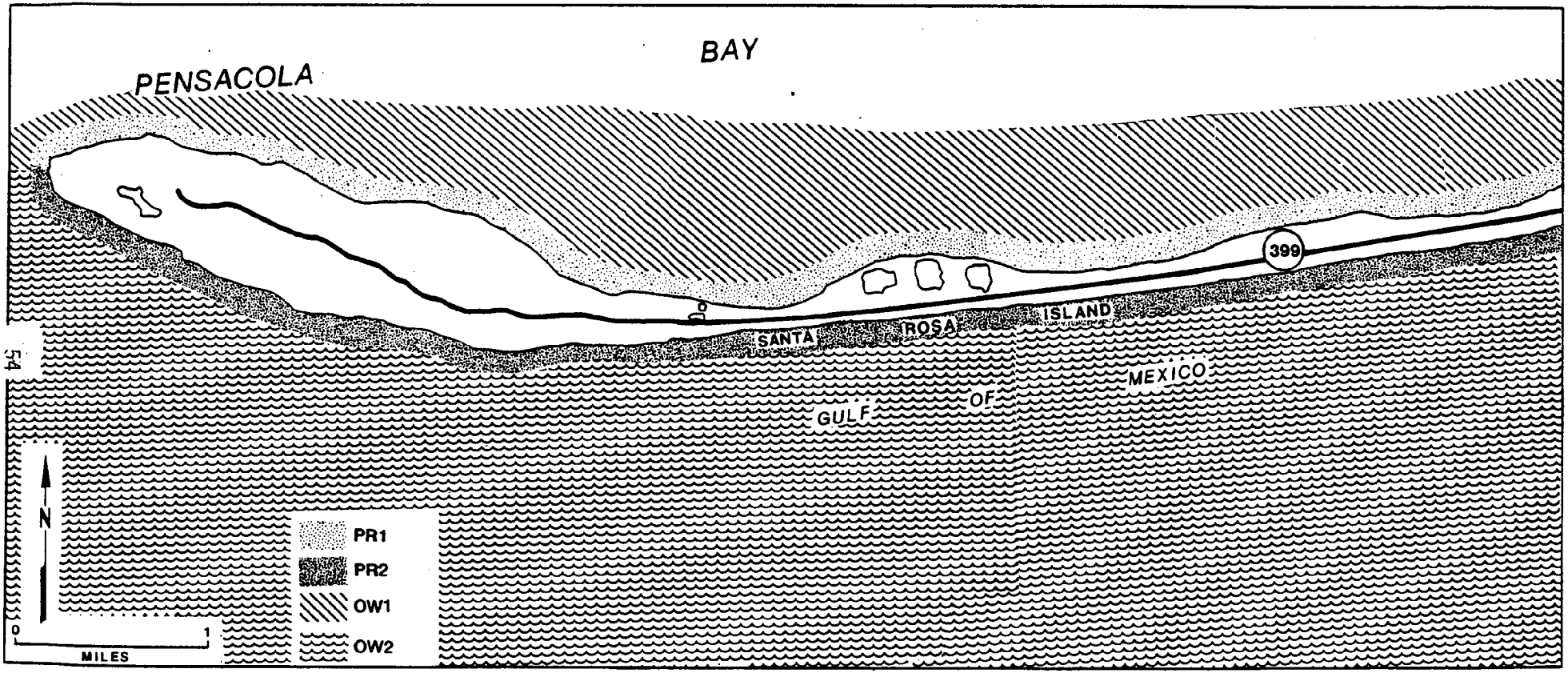

FIGURE 6: Management Areas

CHAPTER V

SITE SPECIFIC MANAGEMENT ISSUES AND NEEDS

This chapter deals with management issues and initiatives involving specific activities and environmental processes that directly affect the biological integrity of the Fort Pickens Aquatic Preserve. The issues that are specific to this area include, but are not limited to, increasing boat and jet ski traffic and cooperation with the National Park Service. Management initiatives relative to these issues provide additional direction not set forth by Chapter 258, F.S., Chapter 18-20, F.A.C., or Chapter IV of this plan. These initiatives are intended to be used as a tool for DNR to manage the aquatic preserve and encourage local governmental and/or other agencies to provide additional restrictions where necessary for resolving those issues and needs.

MANAGEMENT ISSUES AND SPECIAL NEEDS

1. Boat and Jet Ski Traffic

A large portion of Big Lagoon is shallow and presents navigational problems. Additionally, expansive submerged grassbeds occur in 1 to 3 foot depths. As the population of Florida grows, the traffic from boats and jet skis is expected to increase. This trend poses a number of problems, both from the standpoint of the expected impacts on the biological resources and from related safety issues. The biological aspects include: (1) an increase in turbidity, with the resultant loss of seagrasses sensitive to lowered levels of incident light penetration, (2) cutting of propellers and "prop dredging", and (3) pollution from refueling jet skis on beaches and shallow bay areas.

Safety issues primarily revolve around the dramatic increase in jet ski use in recent years. By their very nature, jet skis are fast and highly maneuverable, making them a potential hazard for boaters and swimmers.

Management Initiatives:

(1) Protect submerged vegetation by requiring navigational aides in areas of shallow water in conjunction with dense areas of submerged grassbeds.

(2) Encourage the local government and federal government (GINS) to adopt regulations restricting jet skis from the preserve.

2. Water Quality

Although not under the jurisdiction of DNR, water quality is an issue of concern to the aquatic preserve. Very limited water quality studies have been conducted in the preserve. Directly across from the aquatic preserve is the Pensacola Naval Air Station (NAS). This military installation is the site of 17 hazardous waste superfund sites. These sites have the potential for surface and groundwater contamination. In addition, the preserve is impacted by discharges and stormwater runoff into Pensacola Bay and by bilgewater and wastewater from vessels. Consequently, there exists an immediate need to perform baseline water quality studies, document potential and actual impacts to the water quality and biological integrity in the aquatic preserve, and recommend ways to improve water quality.

Management Initiatives:

(1) Seek funding for basic water quality monitoring equipment to set up a regular water quality monitoring program in the preserve.

(2) Establish a cooperative status with Pensacola NAS and monitor progress of the clean-up of the Navy's superfund sites, as outlined in the Navy's Community Relations Plan.

(3) Communicate with the U.S. Environmental Protection Agency's Environmental Monitoring and Assessment Program Manager to stay informed of research and monitoring activities within the preserve.

(4) As a member of the Pensacola S.W.I.M. program's Technical Advisory Committee, offer assistance and make recommendations to improve water quality in the preserve.

3. Cooperation with the Department of State

Archaeologists with the Department of State (DOS), Division of Historical Resources, Bureau of Archaeological Research, have been conducting a survey of shipwrecks in the Pensacola Bay System. Several shipwrecks have been located in the preserve, the most notable of which is the USS Massachusetts, an 1896 battleship. The Bureau of Archaeological Research (BAR) is planning to establish this shipwreck as an Underwater Archaeological Preserve. It will be the third such preserve in the state, and the first to be located within the boundaries of an aquatic preserve. The Bureau of Archaeological Research plans to study and document the flora and fauna of the shipwreck, establish a system of mooring buoys, set up an educational display at a local museum, and develop brochures describing the shipwreck and its history. The Bureau of Archaeological Research has asked for suggestions, potential concerns, and cooperation in establishing and monitoring

this underwater archaeological preserve from the Department of Natural Resources, Division of State Lands, Bureau of Submerged Lands and Preserves.

Management Initiatives:

(1) Develop a working, cooperative relationship with the personnel from the Bureau of Archaeological Research.

(2) Provide the Bureau of Archaeological Research with a list of concerns and suggestions for establishing the underwater archaeological preserve, and offer assistance and support as needed.

(3) Provide assistance in monitoring and maintaining the biological and cultural integrity of the underwater archaeological preserve.

(4) Develop a plan with the Bureau of Archaeological Research to monitor and study other shipwrecks in the preserve.

4. Cooperation with the National Park Service, Gulf Islands National Seashore

When the United States Congress authorized the establishment of Gulf Islands National Seashore in 1971, they included in the boundary submerged lands owned by the State of Florida and designated as the Fort Pickens Aquatic Preserve. In 1974 part of these submerged lands were transferred to Gulf Islands National Seashore by the State of Florida through a dedication. An act was passed in 1986 by the Florida Legislature, in cooperation with the federal government, relating to concurrent jurisdiction of state-owned submerged lands, providing that the United States Department of the Interior, National Park Service, and the Governor of the State of Florida enter into written agreements for the exercise of concurrent jurisdiction over lands within the state of Florida, and provide an effective date.

Such action will benefit the aquatic preserve by providing an extra layer of law enforcement and additional resource management capabilities presently not held by the Department of Natural Resources.

Management Initiatives:

(1) Develop a cooperative working relationship with personnel at Gulf Islands National Seashore.

(2) Cooperate with the Department of the Interior, National Park Service personnel to develop and process the necessary paperwork required to establish concurrent jurisdiction at Gulf Islands National Seashore, as authorized by Florida law.

(3) Develop a joint management agreement with Gulf Islands National Seashore for the state-owned submerged lands authorized by the United States Congress for inclusion in the national seashore. This includes close cooperation to identify issues of concern and specific needs of the National Park Service, thereby improving the management of the submerged land and protecting and preserving the resources present.

5. Name Change

As mentioned earlier, the uplands adjacent to the preserve were once a state park, called Fort Pickens State Park. When the aquatic preserve was established, it was given the name "Fort Pickens State Park Aquatic Preserve". This name is no longer accurate, as the uplands are no longer known as Fort Pickens State Park, rather as Gulf Islands National Seashore. The actual fort, Fort Pickens, is a well known historic landmark.

Management Initiative:

(1) Initiate correction language in the applicable Florida Statutes that will properly rename this aquatic preserve as Fort Pickens Aquatic Preserve.

6. Expansion of Preserve

The Department of State, Division of Historical Resources, Bureau of Archaeological Research and local citizens are in support of expanding the Fort Pickens Aquatic Preserve to include the submerged lands around the area known as "Deadman's Island." The island was purchased by the city of Gulf Breeze to prevent development and is in a natural state. The island was used historically as a "careenage", a haven where ships could be repaired and refitted, since the 1700s. The area is noted on a regional scale as a prime maritime archaeological site.

Management Initiative:

(1) As per the Rules of the Board of Trustees of the Internal Improvement Trust Fund Chapter 18-20 Florida Aquatic Preserves, 18-20.009, pursue the expansion of the Fort Pickens Aquatic Preserve to include the submerged lands adjacent to Deadman's Island on the Gulf Breeze peninsula.

7. Cooperation with Pensacola Naval Air Station

The Pensacola Naval Air Station is a major land holder in the area, owning approximately four miles of shoreline near the Fort Pickens Aquatic Preserve. The military base is used primarily to train naval aviators. Several factors make it an issue of concern to the aquatic preserve, those being the presence of seventeen sites which require indepth remedial investigation (superfund sites), Sherman Cove Marina, and military maneuvers and training which occurs in or above the aquatic preserve.

Management Initiatives:

(1) Develop a cooperative status and close liaison with Pensacola Naval Air Station environmental management personnel.

(2) Promote the mutual exchange of environmentally sound information and ideas relating to such issues as military maneuvers and/or operations that may require direct utilization or otherwise impact the preserve.

CHAPTER VI

MANAGEMENT ACTION PLAN

This chapter establishes the guidelines which allow for the management and protection of Fort Pickens Aquatic Preserve's natural and cultural resources for the benefit of future generations (Section 258.35, F.S.).

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

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

* providing information on the ecological functions and economic importance of the natural resources within the preserve.

* overseeing those activities that affect the natural resources within the preserve.

* ensuring that accurate biological and physical information is considered in permit-related issues and planning decisions.

* ensuring that all statutes and rules regarding the preserve's natural resources are followed and that violations are enforced by the appropriate authorities.

* conducting on-site surveys for specific activities.

* coordinating with other resource management and enforcement agencies.

* educating the public on the inherent and economic values associated with natural resources.

* conducting or cooperating with other entities to conduct pertinent research projects.

* developing a comprehensive management program that can be periodically updated.

For all of the following goals, objectives and tasks, the Department of Natural Resources will, when appropriate and practical, participate with other agencies and organizations dedicated to protecting the local resources. In order to avoid duplication of effort the Department will initiate programs only when they do not overlap or compete with programs operated by other governmental agencies or non-profit corporations.

A. RESOURCE MANAGEMENT

The overall goals of resource management within aquatic preserves are:

* conducting and maintaining resource inventories,
* assessing the impact of human activities on the resources,
* establishing habitat restoration programs,
* cooperating with other agencies in water quality improvement,
* participating in local land use decisions that may affect the submerged resources.

GOAL A.1: MAINTAIN RESOURCE INVENTORIES

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

Task A.1.1.1: Conduct an inventory of seagrasses, attached algae, marsh grasses, and other shoreline vegetation by using available satellite imagery (e.g., LANDSAT, SPOT, etc.), aerial photography, Loran coordinates, and groundtruthing efforts.

Task A.1.1.2: This inventory shall be conducted once every two years.

Task A.1.1.3: The database generated from this inventory will be used to create biological resource maps.

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

Task A.1.2.1: Conduct an inventory of plant and animal species, with emphasis on designated species, and their habitats by using data from existing literature, current research studies and groundtruthing efforts.

Task A.1.2.2: This inventory shall be conducted once every two years.

Objective A.1.3: To conduct an inventory of coastal and estuarine birds and their habitats.

Task A.1.3.1: Conduct an inventory of birds that feed, roost, loaf, and nest throughout the preserve by using existing literature, current research studies, and groundtruthing efforts.

Task A.1.3.2: This inventory shall be conducted once every two years.

Objective A.1.4: Conduct and maintain an inventory of cultural resources in the preserve.

Task A.1.4.1: Coordinate with the Department of State, Bureau of Archaeological Research and Gulf Islands National Seashore to identify location and types of cultural resources in the preserve.

GOAL A.2: ASSESS THE IMPACTS OF HUMAN ACTIVITIES IN THE PRESERVE

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

Task A.2.1.1: Implement a natural resources monitoring program in the preserve to determine the extent and relationship between human activities and the degradation of the natural resources.

Task A.2.1.2: Monitor patterns and trends of seagrass distribution in the preserve. Determine areas which have been impacted by boating, fishing, shrimping and other human activities.

GOAL A.3: RESTORE ESTUARINE HABITAT

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

Task A.3.1.1: Conduct a survey to identify suitable shoreline areas that could be revegetated with marsh grass plantings.

Objective A.3.2: To seek grant funding sources to restore or enhance seagrass and salt marsh habitats in the preserve.

Task A.3.2.1: Pursue grant funding to restore or enhance seagrass and salt marsh habitats in the preserve.

Task A.3.2.2: Coordinate with the Northwest Florida Water Management District, as a member of the Pensacola Bay S.W.I.M. program Technical Advisory Committee, to accomplish habitat restoration elements of the Pensacola Bay S.W.I.M. Plan.

Goal A.4: IMPROVE WATER QUALITY

Objective A.4.1: To coordinate with DER, NWFWMD, and local governments toward improving water quality in the preserve.

Task A.4.1.1: Actively pursue procurement of basic water quality monitoring supplies for the preserve.

Task A.4.1.2: Maintain an inventory file and assess available water quality data in the preserve. Coordinate with DER and NWFWMD to determine sources of degradation and evaluate possible actions to improve water quality. Offer input and assistance to the Pensacola Bay System S.W.I.M. program.

Task A.4.1.3: Coordinate with DER and local governments toward improving the management of surface water and stormwater discharges into the aquatic preserve.

Task A.4.1.4: Investigate the impacts to water quality by private recreational and commercial boaters. Alert appropriate enforcement agencies of need for increased patrols. Develop boater awareness plan.

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

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

Task A.5.1.1: Establish role as field representative for DNR Aquatic Preserves with local governments. Offer assistance in the development of policies and ordinances that regulate activities affecting state-owned submerged.

B. RESOURCE PROTECTION

In order to maintain the biological integrity of the aquatic preserve, it is imperative to protect the resources that comprise the system. Since it is not feasible to target all of the organisms adequately, the primary thrust of the resource protection element is the protection of the various habitats that make up the preserve. The goals of the aquatic preserve program with regard to resource protection therefore include (1) protection of the existing submerged vegetation (e.g., seagrass beds, attached algae), (2) protection of emergent vegetation (e.g., marsh grass), and (3) protection of animal species, particularly designated species, and their habitat.

In the case of Fort Pickens Aquatic Preserve, very few activities are planned on state-owned submerged lands, consequently resources are not expected to be negatively impacted from development. Uplands are owned by the National Park Service which has a strong preservation philosophy. Park officials do have plans to rebuild an old existing dock. These plans will be closely coordinated with DNR's Bureau of Submerged Lands and Preserves, the Army Corps of Engineers, and the Department of Environmental Regulation, as required by law.

GOAL B.1: PROTECTION OF SUBMERGED AND EMERGENT VEGETATION

Objective B.1.1: Ensure that human use of the preserve does not adversely affect the submerged and emergent vegetation.

Task B.1.1.1: Require that all dredge and fill projects use effective turbidity control practices.

Task B.1.1.2: Assess the impact of shrimp trawling and other commercial and recreational activities on the submerged vegetation within the preserve.

Task B.1.1.3: Develop and implement a seagrass protection plan for the preserve. Seek funding to erect signs notifying boaters of shallow seagrass areas.

Task B.1.1.4: Assess impacts to emergent vegetation and develop plan for remediation.

Task B.1.1.5: Coordinate with the Florida Marine Fisheries Commission on the development of new draft fisheries regulations which may affect the aquatic preserve.

GOAL B.2: PROTECTION OF DESIGNATED SPECIES AND HABITAT

Objective B.2.1: To ensure that habitats and species are given maximum protection through the aquatic preserve program.

Task B.2.2.1: Be familiar with all designated species likely to occur in the aquatic preserve, their identification, habitat requirements, status, and relevant laws pertaining to designated species.

Task B.2.2.2: Record sightings, locations, activity and other relevant data when observing designated species in the preserve.

Task B.2.2.3: Coordinate with appropriate groups to conduct monitoring, inventories, habitat evaluations or other activities that relate to the status and distribution of designate species and their habitat.

Task B.2.2.4: Evaluate forces impacting life history requirements of designated species in the preserve. Coordinate with appropriate agencies to protect species and habitat and enforce relevant laws.

C. RESEARCH

Effective management of any biological system relies almost entirely on information as to how that system functions, and research is the foundation upon which this information is based. Estuarine systems and open water habitats are not fully understood, and it is essential that some of the gaps in this understanding be filled. In the case of Fort Pickens Aquatic Preserve, several researchers are conducting studies in and adjacent to the preserve. The aquatic preserve manager shall therefore actively support their research and participate in the research, if possible. The goals of the research program for aquatic preserves in general are:

* to gain a better understanding of those factors that are essential to the continued biological integrity of the major habitats (beds of submerged vegetation, marshes, tidal flats, etc.) within the aquatic preserve, and

* to gain a better understanding of those factors that govern the continued survival and propagation of designated species that use the aquatic preserve for any portion of their life cycle.

GOAL C.1: DETERMINE THE FACTORS THAT AFFECT THE INTEGRITY OF COASTAL AND ESTUARINE HABITATS

Objective C.1.1: To determine research needs in the preserve

Task C.1.1.1: Conduct a literature review, including current status and biological trends, of coastal and estuarine species and habitats in the preserve.

Objective C.1.2: To determine the primary factors that affect the coastal and estuarine habitats in the preserve.

Task C.1.2.1: Determine historical seagrass loss in the preserve and identify probable factors causing this loss.

Task C.1.1.3: Pursue funding to establish a seagrass restoration project in the preserve.

Task C.1.1.4: Pursue funding to conduct research on the biology and ecology of the marsh habitat and species in the preserve.

Task C.1.1.5: Coordinate with ongoing research projects in the preserve (beach renourishment, plant recovery, benthic invertebrates, Perdido Key beach mouse) to monitor findings, and participate in research when possible.

GOAL C.2: DETERMINE THE FACTORS WHICH AFFECT SURVIVAL AND PROPAGATION OF DESIGNATED SPECIES

Objective C.2.1: Seek funding to initiate research on habitat and survival needs of designated species in the preserve.

Task C.2.1.1: Support research to establish critical habitat areas for designated species in the preserve.

Task C.2.1.2: Pursue funding for research on the distribution, life cycles and habitat needs of designated species in the preserve.

Objective C.2.2: To determine the species composition, distribution, abundance, seasonality, and size classes of marine turtles and dolphins that utilize the aquatic preserve.

Task C.2.2.1: Support or seek funding to participate in research on the biology and life history of marine turtles and dolphins and the factors affecting their survival.

Task C.2.2.2: Coordinate with and offer assistance on a local level to the Division of Marine Resources' marine turtle research and conservation program.

Task C.2.2.3: Maintain an active membership in and support the efforts of both the Marine Mammal Stranding Network and the Turtle Stranding Network.

D. ENVIRONMENTAL EDUCATION

The integrity of the biological system of Ft. Pickens Aquatic Preserve can be affected, both directly and indirectly, by the public's enjoyment of the preserve. One of the primary aims of the aquatic preserve program, therefore, is to educate the public as to the importance of the factors that affect the integrity of the preserve. Environmental education instructs individuals as to the importance of preserving natural and cultural resources so they may consider all issues prior to making decisions that affect these resources. In general, the purpose of this element is to educate the public and encourage them to become responsible users of the preserve.

GOAL D.1: EDUCATE THE PUBLIC TOWARD WISE RESOURCE USE

Objective D.1: To develop an aquatic preserve interpretive program for use in existing environmental education programs and to educate users of the preserve on the preserve's natural resources.

Task D.1.1.1: Develop a reference library of information relevant to the natural resources of Fort Pickens Aquatic Preserve.

Task D.1.1.2: Maintain and expand a specimen collection of species commonly found in the aquatic preserve for use in educational programs.

Task D.1.1.3: Coordinate with Gulf Islands National Seashore to develop interpretive programs which focus on the aquatic preserve. Cooperate with park personnel to implement these programs.

Task D.1.1.4: Provide natural history talks and field trips for local public and private groups (college students, developers, local governments, scout groups, etc.) interested in the preserves natural resources.

Objective D.2: To produce educational literature and materials that inform the public of the preserve's natural and cultural resources and the importance of preserving and protecting these resources.

Task D.2.1.1: Develop brochures, pamphlets, and/or booklets that describe to the public; (1) the purpose of the aquatic preserve program and activities conducted at the local aquatic preserve office, and (2) general information on the preserve's ecosystem and cultural resources. If feasible, this task will include video presentations.

Task D.2.2.2: Submit newspaper articles or radio announcements designed to educate the general public about the ecological functions and economic importance of the natural resources within a preserve.

Task D.2.2.3: Cooperate with Gulf Islands National Seashore to set up an educational display to distribute brochures and other educational materials about the aquatic preserve.

Task D.2.2.4: Cooperate with the Bureau of Archaeological Research to set up an educational display on the submerged cultural resources of the preserve, especially the sunken 1896 battleship, USS Massachusetts.

Objective D.3: To participate in environmental education programs.

Task D.3.1.1: Participate in environmental education conferences and seminars to enhance teaching skills, to become familiar with other educational programs, and to share information on the aquatic preserve program.

CHAPTER VII

MANAGEMENT COORDINATION NETWORK

This chapter presents a general overview of the various federal, state, regional, and local agencies that regulate or hold interest in the management or use of the Fort Pickens Aquatic Preserve. A reference matrix of these regulatory programs and their jurisdictions is presented in Table 7. One function of the aquatic preserve program is to coordinate with these agencies to achieve common goals relevant to aquatic preserve management.

It should be noted that many of the following federal, state, and local agencies with jurisdiction in the preserve may impose additional permit requirements on activities previously outlined in Chapter IV of this plan.

A. FEDERAL AGENCIES

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

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

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

The **U.S. Environmental Protection Agency (EPA)** has jurisdiction over surface waters in the state. Enforcement authority was given under the Clean Water Act of 1968 and broadened under the 1977 revision. In general, the EPA is responsible for pollution control and abatement, including: air, water, noise, solid waste, toxic waste, and radiation. The agency reviews permits issued by the Department of Environmental Regulation for the treatment, disposal, and storage of hazardous wastes. Authority is divided between EPA and USCG regarding the discharge of oil or hazardous substances into surface water.

The **U.S. Geological Survey (USGS)** performs surveys and research pertaining to topography as well as monitoring the mineral and water resources of the Fort Pickens Aquatic Preserve region.

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

The **National Park Service**, under the Department of the Interior, manages the Gulf Islands National Seashore. This popular national seashore encompasses barrier islands, wilderness areas, and a live oak reservation. Its boundaries range from the Florida panhandle to the Mississippi gulf coast (excluding Alabama). The National Park Service's philosophy of preservation ensures that these areas will remain in their natural state for future generations to enjoy.

The **National Marine Fisheries Service (NMFS)**, under the Department of Commerce, is involved with fisheries management.
In accordance with the federal consistency review process, the Bureau of Submerged Lands and Preserves reviews the federal programs and activities as to how they affect the objectives of the aquatic preserve management program. This review is coordinated through the Florida Department of Environmental Regulation's Office of Coastal Management in order to enforce the provisions of the Federal Coastal Zone Management Act of 1972, as amended.

The United States Navy, **Pensacola Naval Air Station**, under the Department of Defense, has been selected as a Homeporting site. Pensacola NAS is used primarily as a training center for naval aviators.

B. STATE AGENCIES

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

Although not a state agency, the Office of Planning and Budgeting of the Governor's Executive Office, in conjunction with the DER's Office of Coastal Management, is responsible for administering project reviews applicable to Florida's Coastal Management Program Federal Consistency evaluation process. This process includes all projects in the state that involve federal permitting, federal assistance or control federal activities. Each project must undergo this additional review to determine if the project is consistent with established programs, policies, and rules of the State, including aquatic preserves.

The **Department of Natural Resources (DNR)** areas of responsibility include state lands, sovereignty submerged lands, and marine resources (e.g., marine research projects, sea turtle and manatee protection). The Florida Marine Patrol enforces safe boating laws as well as commercial and recreational fishing regulations. Authority granted under Chapters 18-20, and 18-21, F.A.C., gives DNR responsibility to regulate commercial and residential docks and other structures and activities conducted on submerged lands. Chapters 369.20-369.22, F.S., authorizes the Bureau of Aquatic Plants to regulate various aquatic plant control programs, including permit review for mechanical, biological, and chemical control of aquatic plants. Permits are also necessary under Chapter 16C-52, F.A.C., "Aquatic Plant Importation, Transportation, Cultivation, and Possession", for any persons cultivating, revegetating, or collecting aquatic plants.

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

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

The DER's rules significant to the aquatic preserve management program are Chapters 17-301, 17-302, 17-4, and 17-312, F.A.C. Authority for these rules is based in Chapter 403, F.S. Chapter 17-301 and 17-302, F.A.C., addresses water quality standards with the most stringent category being "Outstanding Florida Waters" (OFW). The Fort Pickens Aquatic Preserve became an OFW in 1979. Chapter 17-4, F.A.C., addresses permit requirements and Chapter 17-312, F.A.C., covers dredge and fill activities.

Section 253.77, F.S., as amended by the Warren S. Henderson Wetlands Protection Act of 1984, requires that any person requesting the use of state-owned lands shall have prior approval of the Trustees. As a result of this amendment, an interagency agreement between DNR and DER provides for comments from DNR staff, on behalf of the Board of Trustees, into the DER permitting process for proposed activities in aquatic preserves.

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

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

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

The **Department of Community Affairs (DCA)** and the Regional Planning Councils are authorized under Section 380.06, F.S., for administering the Development of Regional Impact (DRI) review program. The DRI process was established to provide a review and monitoring procedure for development projects potentially affecting the health, safety or welfare of citizens of more than one county. Additionally, the DCA designates Areas of Critical State Concern (ACSC). These designations are intended to protect the areas of the state where development has endangered or may endanger resources of regional or statewide significance. Under an ACSC designation, the local governments are required to submit new or existing land development regulations to DCA for review and approval. According to Section 380.05, F.S., the entire land development process will require the state's

supervision until that local government modifies its land development practices to conform to the principles guiding development within an ACSC.

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

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

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

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

C. REGIONAL AGENCIES

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

The **Northwest Florida Water Management District (NWFWMD)** was created by Chapter 61-69, Laws of Florida, as a public corporation for carrying out Chapter 378, F.S., and is governed by provisions of Chapter 373, F.S. Chapters 40D-4 and 40D-40 were adopted to ensure continued protection of the water resources of the District including wetlands and other natural resources. The rules in these chapters are to implement the surface water management permit system mandated in Part IV of Chapter 373, F.S. The statutes resulted from passage of Chapter 84-79, Laws of Florida, the Warren G. Henderson Wetlands Protection Act of 1984.

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

It is the intent of the Florida Legislature (Chapter 87-97, Section 1-6, Laws of Florida) through the Surface Water Improvement Management (S.W.I.M.) Act, that the water management districts "design and implement plans and programs for the improvement and management of surface water." The Northwest Florida Water Management District was directed to develop a management plan which mandates restoration and protection for this priority water body (Pensacola Bay). The Pensacola Bay S.W.I.M. Plan was approved by the Governing Board of the District in November 1990.

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

D. LOCAL GOVERNMENTS/INTEREST GROUPS

Local governments are the incorporated cities and counties that border the preserve. The entire Fort Pickens Aquatic Preserve is within Escambia County's area of jurisdiction. Uplands adjacent to the aquatic preserve are owned by the federal government and are managed as Gulf Islands National Seashore.

As the liaison with local governments, field personnel provide input into local government policies to encourage conformance with the objectives of the aquatic preserve management plan.

Private and Public Interest Groups

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

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

TABLE 7: MANAGEMENT COORDINATION NETWORK

LOCAL AGENCIES

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

STATE AGENCIES

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

REGIONAL AGENCIES

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

FEDERAL AGENCIES

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

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

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

CHAPTER VIII

STAFFING AND FISCAL NEEDS

Historically, the Aquatic Preserve Program has been largely dependent on federal coastal zone grant funds for the development of management plans, with very little of this funding allocated towards staffing. Consequently, the number of both field positions and central office positions have been limited.

In order for the Fort Pickens Aquatic Preserve to be managed in accordance to the goals, objectives and tasks, set forth in this plan, adequate state funding for staffing and equipment is essential. Currently, one employee has been assigned to manage Fort Pickens Aquatic Preserve and three other northwest Florida aquatic preserves. There is no legislative funding for a permanent on-site manager at the preserve. Instead, management is conducted on a part-time basis by the aquatic preserve manager located in the Pensacola Field Office.

It is anticipated that the above program can be implemented with two full-time employees for the preserves and a full-time secretarial assistant. This estimate does not include staff-time or expenses by DNR and other state agency employees involved intermittently in the various tasks necessary to manage and conserve the natural resources of the aquatic preserve. An annual review of the accomplishments of the program relative to the tasks listed in Chapter VI will help to determine if the initial staffing estimate is adequate to meet the legislative intent of the program.

A budget covering projected staff time, equipment, travel and other expenses for this area is found in Table 8. The budget is required to fulfill the short-range needs of the preserve as described in this management plan, and accomplish the Department goal of on-site management for all aquatic preserves by 1991, as expressed in the Agency Functional Plan.

TABLE 8

ANTICIPATED BUDGET FOR FORT PICKENS AND OTHER LOCALLY ASSOCIATED AQUATIC PRESERVES

SALARY	1ST YEAR	2ND YEAR
ES II (with benefits)	$ 33,836	$ 34,851
ES I (with benefits)	28,224	29,071
Secretary (with benefits)	17,255	17,773
Subtotal	79,315	81,695
OPERATING CAPITAL OUTLAY		
Vehicle	$ 15,000	
17' Boat/Motor/Trailer	15,000	
Office Equipment	10,000	
Computer	5,000	
Sampling Gear/Supplies	3,000	
Subtotal	48,000	
OPERATING EXPENSES		
Office Rent/Gas/Phone	$ 19,000	$ 21,000
TOTAL COST	**$146,315**	**$102,695**

CHAPTER IX

RESOURCE AND PROGRESS MONITORING PROGRAM

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

A. RESOURCE MONITORING

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

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

B. PROGRESS MONITORING

For this phase of the management plan to be effectively implemented, it is necessary to monitor the accomplishments and progress of the Fort Pickens Aquatic Preserve Program on a regular basis. The purpose of this element is to detail the program's accomplishments in its pursuit of the objectives outlined in Chapter VII. This information, to be submitted in a report once every two years to the Bureau Chief, will include an update of the biological resources' status within the preserve as well as identifying current human activities.
This report will detail the following:

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

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

   b. Identify the current number of structures/activities either started or completed in the preserve. These structures/activities will be categorized as follows:

      1) authorized projects (e.g., private residential single docks),

      2) unauthorized projects, and

      3) projects not in compliance with the original authorization.

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

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

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

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CHAPTER 18-20
FLORIDA AQUATIC PRESERVES

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

18-20.001 Intent.

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

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

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

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

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

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

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

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

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

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

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

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

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

18-20.002 Boundaries and Scope of the Preserves.

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

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

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

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

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

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

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

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

(a) The preserves are described as follows:

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

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

3. Pellicer Creek Aquatic Preserve, as described in the Official Records of St. Johns County in Book 181, pages 363-366, and in the Official Records of Flagler County in Book 33, pages 131-134.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

34. Future aquatic preserves established pursuant to general or special acts of the legislature.

Specific Authority 120.53, 258.43(1) FS. Law Implemented 258.39, 258.391, 258.392, 258.393, 258.40, 258.41, 258.42, 258.43, 258.44, 258.45 FS. History—New 2-23-81, Amended 6-7-85, Formerly 16Q-20.02, Transferred from 16Q-20.002.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) GENERAL PROPRIETARY

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

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

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

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

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

1. a public navigation project;

2. maintenance of an existing navigational channel;

3. installation or maintenance of approved navigational aids;

4. creation or maintenance of a commercial/industrial dock, pier or a marina;

5. creation or maintenance of private docks for reasonable ingress and egress of riparian owners;

6. minimum dredging for navigation channels attendant to docking facilities;

7. creation or maintenance of a shore protection structure;

8. installation or maintenance of oil and gas transportation facilities;

9. creation, maintenance, replacement or expansion of facilities required for the provision of public utilities; and

10. other activities which are a public necessity or which are necessary to enhance the quality or utility of the preserve and which are consistent with the act and this chapter.

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

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

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

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

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

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

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

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

(2) PUBLIC INTEREST ASSESSMENT CRITERIA

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

(a) GENERAL BENEFIT/COST CRITERIA:

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

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

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

(b) BENEFIT CATEGORIES:

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

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

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

4. improved public land management;

5. improve and enhance public navigation;

6. improve and enhance water quality;

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

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

(c) COSTS:

1. reduced/degraded water quality;

2. reduced/degraded natural habitat and function;

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

4. preemption of public use;

5. increasing navigational . hazards and congestion;

6. reduced/degraded aesthetics; and

7. adverse cumulative impacts.

(d) EXAMPLES OF SPECIFIC BENEFITS:

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

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

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

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

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

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

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

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

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

(3) RESOURCE MANAGEMENT

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

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

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

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

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

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

(4) RIPARIAN RIGHTS

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

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

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

(5) STANDARDS AND CRITERIA FOR DOCKING FACILITIES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(6) MANAGEMENT AGREEMENTS

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

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

	Date Adopted
Alligator Harbor	September 23, 1986
Banana River	September 17, 1985
Cockroach Bay	April 21, 1987
Estero Bay	September 6, 1983
Charlotte Harbor (Cape Haze, Gasparilla Sound-Charlotte Harbor, Matlacha Pass and Pine Island Sound)	May 18, 1983
Indian River-Malabar to Vero Beach	January 21, 1986
Indian River Lagoon (Vero Beach to Fort Pierce and Jensen Beach to Jupiter Inlet)	January 22, 1985
Loxahatchee River-Lake Worth Creek	June 12, 1984
Nassau River-St. Johns River Marshes and Fort Clinch State Park	April 22, 1986
North Fork of the St. Lucie River	May 22, 1984
St. Joseph Bay	June 2, 1987
St. Martins Marsh	September 9, 1987
Terra Ceia	April 21, 1987
Wekiva River	August 25, 1987

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

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

Specific Authority 258.43(1) FS. Law Implemented 253.02, 253.12, 258.42 FS. History—New 2-25-81, Repealed 6-7-85, Formerly 16Q-20.05, Transferred from 16Q-20.005.

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

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

(2) The similar activities within the preserve

which are currently under consideration by the department; and

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

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

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

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

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

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

18-20.007 Protection of Riparian Rights.

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

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

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

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

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

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

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

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

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

18-20.009 Establishment or Expansion of Aquatic Preserves.

(1) The board may expand existing preserves or establish additional areas to be included in the aquatic preserve system, subject to confirmation by the legislature.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Specific Authority 258.43(1) FS. Law Implemented 253.03(7), 253.03(8) FS. History—New 2-25-81, Amended 6-7-85, Formerly 16Q-20.13, Transferred from 16Q-20.013.

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

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

18-20.015 Application Form.

Specific Authority 253.43(1) FS. Law Implemented 258.43 FS. History—New 2-25-81, Repealed 6-7-85, Formerly 16Q-20.15, Transferred from 16Q-20.015.

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

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

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

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

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

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

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

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

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

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

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

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

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

Specific Authority 258.39(26) FS. Law Implemented 258.39(26), 258.43 FS. History—New 6-7-85, Formerly 16Q-20.017, Transferred from 16Q-20.017.

Scirpus californicus
Giant bulrush

APPENDIX B

illustration provided by:
IFAS, Center for Aquatic Plants
University of Florida, Gainesville, 1990

Soft rush

illustration provided by:
IFAS, Center for Aquatic Plants
University of Florida, Gainesville, 1990