FLORIDA
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Legal Aspects of Recreational Marine Siting in Florida

by Frank E. Maloney, Bram D. E. Canter and Richard G. Hamann

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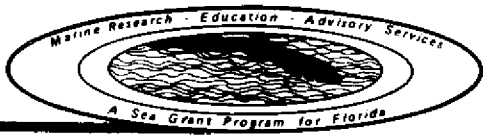

LEGAL ASPECTS OF RECREATIONAL MARINA SITING IN FLORIDA

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Without being the owner of any land, I find that I have a civil right in the river--that, if I am not a landowner I am a waterowner. It is fitting, therefore, that I should have a boat, a cart, for this my farm. Since it is almost wholly given up to a few of us, while the other highways are much traveled, no wonder that I improve it. Such a one as I will choose to dwell in a township where there are most ponds and rivers and our range is widest. In relation to the river, I find my natural rights least infringed on. It is an extensive "common" still left....

Henry David Thoreau (1853)

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INTRODUCTION

Recreational boating is an increasingly popular pastime and important economic activity in the United States. In 1976, 10.1 million boats were serviced by 6,025 marinas.[1] Over 56 million Americans went pleasure boating in 1978 and spent nearly $7 billion on boats, equipment and services.[2] It is estimated that by the year 2000, 153 million Americans will be boating annually and the number of pleasure craft in use will exceed 16.8 million.[3] An abundance of water and sunshine has made Florida a leader in recreational boating activity.[4] It is an important component of the State's number one industry--tourism.

The practicality of owning and operating a pleasure boat often depends upon the availability of the essential services provided by recreational marinas. In many areas the capacity of marina facilities is already insufficient to meet current demands.[5] With the projected increase in recreational boating, there will be an associated increase in the demand for marinas in Florida. The boating industry and boating enthusiasts are thus hoping to substantially increase the number of such facilities in the near future.

Marina development, however, is now subject to the environmental protection revolution that began in the late Sixties and which brought forth new regulatory agencies administering a multitude of statutes and rules designed to prohibit unnecessary and undesired degradation of our natural resources. The protection of sensitive and extremely valuable coastal ecosystems has received special attention in recent years.[6] Because the greatest demand for marinas is on the

coast, the forces for marina development and the forces for environmental protection have sometimes engaged in head-to-head confrontations. Much of this controversy is unnecessary but its resolution will require more intelligent planning and management and greater public support than has been available to date.

The coast is worth protecting. The coastal environment performs many functions that are of value to humans. Mangrove fringes along the coast protect inland areas from hurricane and storm damage caused by high winds and tides. Coastal wetlands also protect water quality by removing and recycling nutrients in runoff. Toxic substances, sediment and other forms of pollution are trapped and assimilated before they can reach open water. Coastal estuaries, those areas where fresh and salt waters mix, are especially vital. It has been estimated that two-thirds or more of the animal life in the oceans spend one essential stage of their life cycles in estuarine waters or depend on species that do.[7] Consequently, the entire fisheries industry is largely dependent upon coastal processes. In addition, innumerable waterfowl, shore birds and land animals depend upon coastal wetlands for food and habitat. These services are provided by the natural environment free of charge.[8]

The development of coastal areas for marinas and other uses has, in the recent past, caused many adverse impacts to coastal ecosystems.[9] Valuable natural areas such as mangroves, salt marshes, grass flats and oyster bars have been physically replaced with fill or channels. The siltation from dredging has smothered areas far from the site of actual development. Canals and basins that are not properly flushed by the tides have been created. Improperly managed stormwater runoff, septic tank leachate and other pollutants have been allowed to enter these waterways, destroying fish populations and degrading water quality.

State and federal laws have attempted to control land uses in the coastal zone primary through the creation of permit programs. These programs give certain regulatory agencies the authority to review coastal development proposals and to prevent or modify those projects that would unreasonably degrade the quality of the coastal environment. The piecemeal development of state and federal programs, however, has made them complex. Responsibility for the protection of particular elements of the natural environment is scattered among several agencies, and frequently overlaps. The result is often confusion, delay and discontent on the part of applicants for development permits.

Despite some undesirable examples from the past, marinas can be built without unnecessarily or indiscriminately sacrificing coastal resources. Most marinas that exist today were sited and constructed without a thorough assessment of

impacts and alternatives. None was required. The new permit programs have succeeded in generating more information for decision-making, and there have been improvements in the quality of decisions regarding marina siting and development. Major deficiencies exist, however. Most notably lacking has been a deliberate planning process, at any level of government, to meet the public demand for recreational marina facilities, without sacrifice of environmental quality. Permitting programs, required to make decisions on a case-by-case basis using uniform standards, have been too inflexible.

If the recreational, economic and aesthetic values of the coast are to be enhanced, it must have comprehensive management and protection. Expanded use of this system for recreational boating and other purposes cannot occur without adverse results unless decision-makers consciously allocate the limited resources of a region in a manner that is consistent with the protection of their beneficial functions.

This report has two major purposes. First, it is designed to inform public and private planners and decision-makers of the major environmental regulatory controls to which a marina construction project in Florida is subject. Understanding the general framework for regulation and project review can assist developers in avoiding the unnecessary costs and delays attributable to redesign and reapplication for required permits. The second purpose of the report is to make available a compilation of criteria that can be used to assess the merits of recreational marina proposals and to facilitate planning for meeting marina facility demands in a municipality, a country, a region or the entire state.

Not addressed here are the legal aspects of operating a recreational marina after its siting and construction. Marine products liability, pleasure boat torts, marine insurance, bailment, charter service and other elements of marina operations that are potential sources of litigation are to be treated in a forthcoming Florida Sea Grant report entitled, "Legal Aspects of Recreational Marina Operations in Florida." Its objective will be the development of guidelines for use by marina operators to avoid situations that give rise to legal liability.

The text has been divided into three sections. Section I, "Current Regulatory Considerations," is a description and analysis of the statutes, regulations and review standards of the agencies that are involved in the permitting of recreational marinas. Section II, "Coastal Zone Management," outlines the Federal Coastal Zone Management Act and Florida's own coastal zone management efforts. These enactments are potentially the most effective tools for comprehensive management of the coastal zone. Marina siting criteria should be an

integral component of any coastal zone management effort. Finally, Section III, "Marina Siting Criteria," examines previous efforts to develop marina siting and construction criteria and offers related policies for effective coastal ecosystem management.

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A. REGULATION OF DREDGING AND FILLING

Sites that are suitable for development as recreational marinas without at least a small amount of dredging or filling are rare in Florida. Since dredging and filling in coastal areas can result in significant short and long-term damage to the coastal environment, such activities have been subject to both state and federal regulation. The federal agency with primary regulatory responsibility for dredging, filling and related activities is the United States Army Corps of Engineers. Persons desiring to conduct dredging or filling activities in Florida must also comply with requirements of state law, primarily administered by the Florida Department of Environmental Regulation.

1. Federal Jurisdiction

Federal jurisdiction to control dredging and filling activities is based upon a number of statutes, with section 404 of the Federal Water Pollution Control Act (FWPCA) now playing the predominant role.[10] The Army Corps of Engineers, which has historically regulated dredging and filling activities pursuant to section 10 of the Rivers and Harbors Act of 1899,[11] is given additional authority under section 404 to require a permit for the discharge of dredge and fill material into navigable waters at specified disposal sites. Because "navigable waters" are broadly defined in the FWPCA as "the waters of the United States including the territorial seas,"[12] the jurisdictional reach of the Corps is quite extensive.[13]

The reach of federal jurisdiction has increased significantly over the past ten years. Prior to the 1972 amendments to the Federal Water Pollution Control Act, the basic federal interest supporting federal regulation of activities occurring in the waters of the United States was navigation. Federal jurisdiction was limited to navigable waters because non-navigable waters, being by definition unsuitable for interstate commerce, were not considered to be affected with a valid federal interest under the Commerce Clause of the U. S. Constitution.[14] The 1972 amendments to the FWPCA discarded the navigability restriction when federal jurisdiction to control pollution was extended to virtually all of the waters of the United States.[15] The most current rules of the Corps allow them to regulate dredge and fill activities that occur landward of the mean high water line.[16]

Section 404 of the FWPCA also provides the Administrator of the Environmental Protection Agency (EPA) with certain authority and responsibilities regarding dredging

and filling activities. The EPA is required to develop guidelines regarding the selection and use of disposal sites for dredged material and may prohibit or restrict the use of a particular disposal site when it determines that the discharge of materials into the area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas.[17]

Another law affecting federal jurisdiction over dredging and filling activities is the Marine Protection, Research and Sanctuaries Act of 1972.[18] Section 103 of this Act authorizes the Secretary of the Army, acting through the Corps of Engineers, to issue permits for the transportation of dredged material for the purpose of disposal in ocean waters. Regulations have been promulgated in the Code of Federal Regulations by the Corps and EPA regarding the criteria applicable to selection and use of ocean disposal sites. [19] The EPA is given final authority to veto any proposed dumping which it determines will result in an unacceptable adverse effect on municipal water supplies, shellfish beds, wildlife, fisheries or recreational areas. Corps jurisdiction under the Marine Protection, Research and Sanctuaries Act of 1972 obviously overlaps with the EPA's under section 404 of the FWPCA, and regulations promulgated pursuant to the two acts are substantially similar.

A federal permit is generally required for work or structures in all tidal areas channelward of the mean high water line on the Atlantic and Gulf Coasts; in the Ocean and Gulf waters to the outer limits of the continental shelf; and in all rivers, streams and lakes to the ordinary high water line; in marshes and shallows which are periodically inundated and normally characterized by aquatic vegetation; in all artificially created channels and canals used for recreational, navigational or other purposes that are connected to navigable waters up to their headwaters; in all tributaries of navigable waters up to their headwaters; and in any other waters which the Corps District Engineer determines is necessary to protect water quality.

General permits may be issued by the Corps District Engineer for certain activities which are substantially similar in nature and will cause only minimal adverse environmental impact when considered separately or by their cumulative effect.[20] General permits are issued in advance for the specified class of activities. General permits, for example, may allow the construction of private piers, boat ramps and boat slips under certain circumstances without the necessity of obtaining a regular permit so long as construction is performed in accord with specified criteria. The District Engineer may, however, require stricter permitting requirements of an activity normally subject to a general permit and may even revoke a general permit when necessary to protect the public interest.

2. State Jurisdiction

Just as federal authority to regulate dredging or filling activities is split between two regulatory programs that are administered generally by one agency, state dredge and fill regulation is based on provisions of Chapters 253 and 403, Florida Statutes, administered by the Department of Environmental Regulation (DER). The similarity to federal regulation also extends to the bases of the two state statutes which provide dredge and fill regulatory authority. Chapter 253 is concerned primarily with activities in navigable waters[21] and Chapter 403 encompasses all of the "waters of the state."[22]

Section 253.123, Florida Statutes, which provides restrictions on filling submerged lands and dredging and section 253.124 which provides for permits for filling submerged lands, apply to "navigable waters of the state." A determination of navigability, therefore, is key to the exercise of DER's regulatory authority under Chapter 253. Florida courts have attempted a general definition of navigability in only a few cases. Basically, navigability requires suitability for navigation and waterbodies are generally regarded as navigable as far as they may be "conveniently used at all seasons of the year with vessels, boats, barges, or other water craft, for purposes of commerce."[23] The Florida Supreme Court has further recognized that a waterbody's potential for use is the test of navigability--a history of actual use is not necessary.[24]

The determination of navigability in Florida is influenced by the existence or absence of a meander line survey of the waterbody in question. A meander line is a straight line or a series of straight lines connecting points or monuments on the shore for use in determining the acreage of public land in the section being surveyed.[25] Federal surveyors established meander lines in Florida after the state entered the Union in 1845. In a 1977 opinion of the Florida Supreme Court, it was held that non-meandered lakes are presumed to be non-navigable, though that presumption can be rebutted by sufficient factual evidence to the contrary.[26] Similarly, a meandered lake is rebuttably presumed to be navigable.[27]

Pursuant to Chapter 253, permitting procedures have been promulgated in Chapter 17-4 of the Florida Administrative Code. Nothing has been done, however, to further define the concept of navigability in the rules. Section 17-4.29 states that certain activities in, on, or over the navigable water of the state require a DER permit pursuant to Chapter 253, including: "Marina construction, maintenance and installation and/or docks, wharfs, piers, walkways and living quarters

or dwelling-type structures thereon and/or mooring pilings, dolphins and similar structures and/or boat ramps, lifts or similar launching facilities and/or ski ramps or other similar water structures."

Under Chapter 403, Florida Statutes, DER is given general authority to establish permitting requirements for "any installation that may be a source of air or water pollution," including dredging and filling activities.[28] This authority encompasses all of the "waters of the state," including "rivers, lakes, streams, springs, impoundments, and all other waters or bodies of water, including fresh, brackish, saline, tidal, surface or underground."[29] This coverage has been interpreted to extend upland from the mean high water line because of the need to control water pollution at the source and is not limited by the traditional concept of navigability.[30]

Rules promulgated under Chapter 403 are also contained in Chapter 17-4 of the Florida Administrative Code. Section 17-4.28(2), which sets forth the jurisdictional boundaries of Chapter 403 dredge and fill regulation, states that:

> (2) Those dredging and/or filling activities which are to be conducted in or connected directly or via an excavated water body or series of excavated water bodies to the following categories of waters of the State (including the submerged lands of such waters and transitional zone of a submerged land) shall obtain a permit from the department prior to being undertaken:
>
> (a) rivers and natural tributaries thereto;
> (b) streams and natural tributaries thereto;
> (c) bays, bayous, sounds, estuaries, and natural tributaries thereto;
> (d) natural lakes, except those owned entirely by one person; and except for lakes that become dry each year and are without standing water together with lakes of no more than ten (10) acres of water area at a maximum average depth of two (2) feet existing throughout the year;
> (e) Atlantic Ocean out to the seaward limit of the State's territorial boundaries;
> (f) Gulf of Mexico out to the seaward limit of the State's territorial boundaries;
> (g) natural tributaries do not include intermittent natural water courses which act as tributaries only following the occurence of rainfall and which normally do not contain contiguous areas of standing water.

Recognizing that the areas listed above may be difficult to define because of the ambulatory nature of their natural boundaries, DER has created vegetative indices that are to guide the applicant and the Department in determining the extent of DER regulatory jurisdiction under Chapter 403. Vegetative indices for submerged lands are set out in section 17-4.02(17) and indices for transitional zones between submerged lands and uplands are listed in section 17-4.02(19) of the Florida Administrative Code. All other land areas are treated as uplands by DER. Activities that occur exclusively in uplands do not require a dredge or fill permit nor do activities near submerged lands which only infrequently exchange water with or provide only insignificant benefit to the water quality of any of the areas previously described.

The permitting procedures for both Chapter 253 and Chapter 403 dredge and fill regulation are substantially similar. In fact, there are numerous rules promulgated for Chapters 253 and 403 that have identical language. There are a few important differences, however.

Chapter 253 provides that before a state permit will be issued, applicants for filling projects which may also involve dredging activities must first obtain approval from the local Board of County Commissioners if the proposed project is to be located in the unincorporated area of a county, or from the municipal governing body if the proposed project is to be within the bounds of the municipality.[31] The local body is required to consider such factors as whether the proposed project violates zoning laws, obstructs the flow of navigable waters, causes increased erosion or shoaling of channels, creates areas of stagnant water, or "interferes with the conservation of fish, marine and wildlife or other natural resources to such an extent as to be contrary to the public interest.[32] Local approval is not required for projects which only involve the removal of sand, rock or earth from the navigable waters of the state.

Although DER will not issue a permit without local approval when such approval is required, its authority to deny a permit regarding a proposed activity is not affected by the fact that the activity may have been approved by the local governing body. The agency is authorized to reconsider all factors for which the local governing body had primary review.[33]

Another major difference between the regulatory provisions of Chapters 253 and 403 is the procedure for hearing administrative appeals. The Governor and Cabinet, in their capacity as the Trustees of the Internal Improvement Trust Fund, are empowered to hear an administrative appeal brought by an applicant whose request for a Chapter 253 dredge and

fill permit was denied.[34] The appeal of a permit denial under Chapter 403, on the other hand, must be taken directly to the appropriate district court.[35]

Special problems have arisen regarding the extent of regulatory jurisdiction over dredge and fill activities in artificially created waterbodies. Section 253.124, which requires state approval for the extension of lands bordering navigable waters, makes no exception for artifically created navigable waters.[36] For dredging activities, however, a Florida court interpreted the language of sections 253.123 and 253.124 to exempt artificial waterbodies from the permit requirements.[37] Thus, it appears that Chapter 253 requires that a developer obtain a permit for any filling project in artificially created navigable waters but not for projects only involving dredging. Nevertheless, Chapter 403, which is based upon water quality protection in all waters of the state, contains no jurisdictional limitation regarding artificially created waterbodies. Filling and dredging projects in artificial waterbodies are subject to Chapter 403 water quality regulations unless the waterbody is owned entirely by one person and does not discharge on other property or water.[38]

3. The Joint Permit Application[39]

Because both the United States Corps of Engineers and the Florida Department of Environmental Regulation exercise dredge and fill permit authority, an applicant must get approval from both agencies before commencing any dredging or filling. The complexity and delays that resulted from this bifurcated process led to an agreement by the two agencies to establish a joint permitting procedure which was embodied in a "Memorandum of Understanding" in 1976. The joint application process of DER and the Corps of Engineers is a favorable development, which provides applicants with significant benefits by eliminating costly delays and duplicative procedures.

As a result of this understanding, a joint application form may be sent in duplicate to the nearest DER District Office, which then forwards a copy to the Corps District Office in Jacksonville. The applicant must include a check for $20 with any DER short form application or the standard application for a Chapter 403 permit. A standard (long) form application under Chapter 253 (involving navigable waters) requires a $200 processing and biological survey fee. The federal fee is deferred until the Corps notifies the applicant that its public interest review is complete. At that time a fee of $10 must be submitted for a permit involving non-commercial activities and $100 for commercial activities.

After the application is determined to be in order, a joint public notice is issued to all individuals, groups, and governmental agencies known to have an interest in the proposed activity. Any comments that are received in response to the public notice are sent to the applicant. Generally, DER will hold a public hearing on the permit application when requested by the applicant or a third party whose substantial interests may be affected. Of course, if DER intends to deny the permit, the applicant will be provided the opportunity for an administrative hearing. The Corps holds a public hearing as a matter of policy whenever the District Engineer considers a hearing is warranted by public interest. When possible, joint DER/Corps hearings are held.

Generally, approval or denial by DER will follow within 60 to 90 days of the submission of a completed application. Applications not approved or denied within this 90 day period are deemed approved by the agency, except when an evidentiary hearing has been held pursuant to Section 120.57, Florida Statutes. In such instances, approval or denial must follow within 45 days of the submission of a recommended order by the Hearing Office to the Department. Federal review will generally be completed within the 90 day time period, except in those instances where the proposed work is controversial, or the Corps is required to hold a public hearing or prepare an environmental impact statement. In such instances, processing of an application may take up to one year or more.

When a proposed activity involves the use of state-owned submerged lands, the project will not be approved until the required lease, license, easement or other form of consent has been received from the Board of Trustees of the Internal Improvement Trust Fund. When necessary to determine the boundary of navigable waters, the applicant may be required to submit a survey prepared in accordance with the procedures established in Chapter 177, Florida Statutes.

4. Exemptions and Short Form Projects

A number of small-scale projects are exempted from both Chapter 253 and 403 permitting requirements. However, a project, no matter how small, must not violate state water quality standards published in Chapter 17-3 of the Florida Administrative Code. The exempted projects which are related to the construction of recreational marina facilities include:[40]

a. The installation of aids to navigation and buoys, except in Class II (Shellfish) waters.

b. The installation of boat ramps on artificial bodies of water where navigation access to the proposed ramp exists.

c. The replacement and repair of existing docks provided that no fill material is to be used, and provided that the replacement or repaired dock is in the same location and of the same dimension as the replaced or repaired dock.

The Department of Environmental Regulation also considers certain other projects involving dredging and filling to require only a short form permit which can be processed at a DER District Office rather than Tallahassee. Short-form projects related to the construction of a recreational marina include:[41]

a. Projects not exceeding 10,000 cubic yards of material placed in or removed from waters of the state. The 10,000 cubic yardage limit shall be separately applied to proposed dredging and/or filling (i.e., a short form application may be processed for a single project encompassing both 10,000 cubic yards of filling and an additional 10,000 cubic yards of dredging).

b. Dockage or marina facilities not exceeding 20,000 square feet of submerged lands and transitional zone of a submerged land or dockage or marina facilities regardless of area occupied, designed primarily for the mooring or storage of watercraft used exclusively for sport or pleasure and containing less than 100 slips, which number is the sum of existing and proposed boat slips.

c. New riprap revetments of any length and new vertical bulkheads, seawalls or similar structures not exceeding 400 linear feet of shoreline when not exempted.

d. The installation of buoys and aids to navigation that are not exempted.

e. The performance for ten years from the date of issuance of the original permit for maintenance dredging of permitted navigation channels, port harbors, turning basins and harbor berths.

5. Project Evaluation

a. Federal Review

In evaluating dredge or fill permit applications, the Corps conducts a public interest review, in which it attempts to balance the benefit which may reasonably be expected to accrue from the proposal against the reasonably foreseeable detriments. Factors which the Corps considers relevant include 1) the relative extent of the public and private need for the proposed structure or work; 2) the desirability of using alternative locations and methods; 3) the extent and permanence of the beneficial or adverse effects on the public and private uses to which the area is suited; and 4) the probable cumulative effect of similar structures or work in the general area.[42]

The Corps review is formalized in an "Environmental Assessment" prepared by the District Engineer or an environmental impact statement (EIS) if the granting of the permit would constitute a major federal action significantly affecting the human environment. If an EIS is required, the applicant will be required to submit additional data and may be assessed for preparation costs.

The Corps has acknowledged that "wetlands are vital areas that constitute a productive and valuable public resource, the unnecessary alteration or destruction of which should be discouraged as contrary to the public interest,"[43] and has authorized the District Engineer to consider the cumulative effects of proposed projects in wetland areas, although a particular project may itself only cause a minor change in the wetland environment. In order to gain approval for a project in a wetland area, the applicant must demonstrate that the proposed activity is primarily dependent upon being located in or near the aquatic environment and that alternative sites are not feasible.[44] Of course, in the case of a proposed marina, the need to be located on the water could be easily demonstrated.

In any projects for which it is determined that the quality of the waters of the United States may be adversely affected, compliance with applicable water quality standards and management practices will be required. State certification that water quality standards will be met is considered conclusive in this regard by the Corps, unless the EPA advises that other water quality aspects need to be taken into consideration.[45]

In the Corps commenting process, the agencies whose comments are solicited carry significant weight to the extent that the comments, if unfavorable, can alter the Corps'

decision. Federal dredge and fill permit review is generally considered more stringent than that of the State. While it is not unheard of for a project to be approved by the State only to be denied by the Corps of Engineers, it is extremely rare for the State to deny a dredge and fill permit which the Corps is willing to approve.

b. State Review

Most of this discussion of the DER evaluation process for dredge and fill permit applications was derived from interviews with DER personnel and the examination of DER files of recent and ongoing permit applications which were specifically for the construction of recreational marina facilities. At the end of this report are copies of a number of actual documents from current DER files which provide an excellent opportunity for the reader to see exactly what factors were of concern to DER and the other agencies that reviewed those dredge and fill permit applications and the action that was recommended.

In reviewing dredge and fill permit applications for marinas, DER and the commenting agencies consistently placed emphasis on the following general aspects of the proposed project:

1. Dredging Generally: The impacts of dredging are not necessarily adverse. Beneficial impacts may include the improvement of flushing by removing shoaled areas or by opening stagnant pockets of water. The greatest concerns expressed about dredging involved the disposal of the dredged spoil. Negative impacts which have been identified include the filling of important wetlands and the covering of productive inter-tidal and shallow water habitat. Such actions, it was noted, reduce the food supply for sport and commercial fishes.

Mitigation measures suggested included upland disposal, contouring spoil areas and replanting coastal vegetation such as mangroves and salt marsh grasses. In some instances, dikes were recommended to protect spoil disposal sites from wave action. Spoil also was recommended to be used to artificially create grassbeds and salt marshes. Spoil disposal in open water was discouraged.

2. Dredging Previously Filled and Developed Areas: No significant impacts were foreseen from this activity if certain conditions were met. The primary condition was to contain in the fill or spoil area the silt and petroleum pollutants in the dredged sediments. It was also recommended that sloping riprap be placed at the toe of the bulkheads

that contained the spoil as an area for the attachment of sessile marine organisms and as a protected habitat for small motile organisms.

3. Turbidity During Dredging: Turbidity was another impact of dredging which raised concerns. Long-term disturbances were simply not permitted to take place. The state pollution criteria of 50 Jackson Turbidity Units (J.T.U.s) was used as the threshold for requiring mitigative measures. If turbidity would exceed 50 J.T.U.s, applicants were required to erect turbidity curtains around the dredge site and monitor for dissolved oxygen. For marina basins fed by rivers, or for dredging in entrance channels, it was recommended that turbidity curtains be placed at the mouth of the waterbody or channel.

4. Circulation: Circulation has implications for both the desirability of and type of dredging, as well as for general water quality considerations. The need for a high tidal exchange was recognized as a key to good circulation. To facilitate such circulation, DER recommended that the entrance channel and basin be the same depth. In contrast, the federal Fish and Wildlife Service recommended that the marina basin be shallower than the entrance channel. Abnormally deep water at any given spot within a marina was discouraged as it could create a sump. Finally, it was recommended that the marina basin should be aligned to maximize circulation by prevailing winds.

5. Water Quality: Surface waters that have been designated Class I (public water supply) or Class II (shellfish propagation and harvesting) are strictly protected against any degradation in water quality. Class II waters are prevalent all along the Florida coastline in areas that may be proposed for marina development. DER normally looks unfavorably upon marina siting in or near Class II waters and has usually denied such proposals.

Monitoring of water quality was frequently recommended for both surface and mid-depth areas. Monitoring covered dissolved oxygen, oil and grease, biochemical oxygen demand, coliform and fecal coliform, temperature, pH and salinity. Four sources of water pollution were often discussed: runoff, sewage, floating debris and oil and gas spills from fuel storage tanks.

Grass lawns and areas of naturally occurring vegetation were recommended to serve as scrubbers for runoff pollution. Such areas should be preserved and maintained where they already exist, or could be created. A recommendation was usually made that, as a minimum, the first one inch of stormwater runoff be retained on the upland site. On-site disposal by use of soaking pits was suggested.

Sewage concerns related substantially to live-aboards. In particularly sensitive areas, live-aboards were totally prohibited from mooring. In other areas, no live-aboards were allowed unless they were provided direct sewage pumpout connections at each live-aboard slip. It was also recommended that marina sewage be piped to a city main for disposal through public treatment facilities rather than being retained and disposed of at the marina.

Floating debris and fuel storage tanks were minor causes for concern. Methods to control floating debris ranged from erecting a "flotsam" fence to planting grass barriers. Annual tests for leakage were recommended for fuel storage tanks. To reduce the impacts of spills should they occur, recommendations were made to train marina employees in the use of spill clean-up equipment and to maintain such equipment on site.

6. Salt Marshes and Grass Beds: These areas were recognized to be of substantial value to coastal ecosystems. Primary benefits include their value as fish and wildlife habitats, their use as a source of detrital energy to the estuarine food web, and their assimilative capacity to protect water quality. The loss of salt marshes or grass flats is of particular concern to the protection of certain endangered species. Maintenance of such areas, restoration by replanting or the creation of new areas with dredged spoil was generally recommended.

7. Further Notes: Concerns were also expressed about secondary impacts of marina development. Most common was the impact of traffic generation with the accompanying air pollution and water pollution runoff. Specific mitigative measures for these secondary impacts were rarely suggested, however.

If the proposed project is an expansion of an existing marina, DER review is substantially the same as for construction of a new marina but the permit is usually easier to obtain. This is true because there is usually little further destruction of biological resources and in many cases the water quality of such an area can actually be improved. Thus, DER often requires conditions to be met before issuance of a permit for a marina expansion which were not required for the existing facility to be constructed and which operate to further mitigate the impacts of the original construction as well as the expanded facilities.

DER personnel estimate that fewer than ten percent of the dredge and fill permit applications received by them are approved as originally designed. However, a large majority of applications are ultimately approved because the project designs are modified to resolve the problems identified by the DER staff.

B. THE DEVELOPMENT OF REGIONAL IMPACT REVIEW PROCESS

1. Definition

In 1972, the Florida Legislature enacted the Environmental Land and Water Management Act, Chapter 380 of the Florida Statutes. An integral part of this act is the Development of Regional Impact process which is currently administered by the Bureau of Land and Water Management in the Division of Local Resource Management of the Department of Community Affairs in Tallahassee. A Development of Regional Impact (DRI) is defined in the statute as "any development which, because of its character, magnitude, or location, would have a substantial effect upon the health, safety, or welfare of citizens of more than one county."[46] Once it has been determined that a proposed project is a DRI, a special review process must be followed by the developer in order to receive development approval.

To add specificity to the definition of a DRI, a set of guidelines and standards have been promulgated in Chapter 22F-2 of the Florida Administrative Code. Twelve types of development are presumed to be of regional impact: [47]

(1) Airports

(2) Attractions and Recreation Facilities

(3) Electrical Generating Facilities and Transmission Lines

(4) Hospitals

(5) Industrial Plants and Industrial Parks

(6) Mining Operations

(7) Office Parks

(8) Petroleum Storage Facilities

(9) Port Facilities

(10) Residential Developments

(11) Schools

(12) Shopping Centers.

Within each of these general categories, thresholds have been established to define the scale of development that requires DRI approval pursuant to Chapter 380, Florida Statutes.

In regard to proposed recreational marina projects, the relevant category is Port Facilities. The threshold for a recreational marina is 100 mooring slips. If a marina project will create 100 or more slips it is presumed to be a Development of Regional Impact.[48] However, this threshold, like all the others in the twelve listed categories, can be rebutted by demonstration to the satisfaction of the Division of Local Resource Management that the project will not create a significant impact upon more than one county.[49] Among the DRI documents that are attached at the end of this report is a copy of an actual letter from the DRI files in Tallahassee that informed an applicant that a marina project for 107 new slips would not be DRI under the circumstances presented. It should also be noted that a marina of less than 100 slips may be found to be a DRI if evidence is presented showing that it meets the statutory definition.

Because of this necessary flexibility in the definition of DRIs on a case-by-case basis, Chapter 380 provides a mechanism to allow developers the opportunity to secure a determination of applicability from the Division of Local Resource Management. This mechanism is the binding letter of interpretation. Upon the request of the developer, the Division has 60 days to issue a binding letter of interpretation which addresses 1) whether the proposed project is of DRI scale or 2) whether the developer has vested rights to proceed with the development without being subject to the procedure outlined in Chapter 380.[50] If a binding letter is issued by the Division, it binds all state, regional and local agencies and the developer to its provisions.

Because of its binding effect, the Division must give notice of the request for a binding letter of interpretation to the local government having jurisdiction over the proposed development and the appropriate regional planning agency.[51] In making its determination, the Division considers all the information submitted by the applicant or gathered and made a part of the record by the Division. Statements and information submitted by third parties are also accepted but must be sent to the applicant along with all other materials which will be utilized to make the final determination. The applicant is entitled to an evidentiary hearing if a material issue of fact is disputed. The Division then issues a binding letter of interpretation that states either 1) the development is not a DRI; 2) the development is a DRI but is vested; or 3) the development is a DRI and must comply with Chapter 380 provisions.

2. Vested Rights Under Chapter 380

As just noted, a development that is determined to be a DRI--large enough to impact upon two or more counties--may still be exempt from the DRI process due to vesting of development rights if certain conditions are met. First, the developer must have received authorization to develop prior to July 1, 1973, the effective date of the Division's rules in the Florida Administrative Code. "Authorization to develop" in this context can occur through registration or recordation of a subdivision, issuance of a building permit, or other authorization to commence development.[52]

Second, the developer must have relied on the authorization to develop by changing his position, such as by beginning construction.[53] Chapter 380 further defines acts of reliance to specifically include a conveyance or agreement to convey property to the county, state or local government as a prerequisite to a zoning change as long as the zoning change was actually granted.

Should a developer propose to change the scale or configuration of his vested development before its completion, he may lose his vested right and become subject to the DRI review process.[54] The Division of Local Resource Management must determine if the proposed change is substantial and if so, whether the change would result in greater or lesser regional impact. If the proposed change would cause no additional regional impacts or would actually reduce such impacts, the vested rights of the developer are not lost and he can proceed without being subject to the DRI process.

There is another way in which a proposed development may be exempted from the requirements of the DRI review process. If the land where the development is to take place is not subject to zoning or subdivision regulations, the developer is required to give notice to the Division and to the local government having jurisdiction of his intent to pursue development. If the local government does not adopt regulations within 90 days of this notice, the developer can proceed as if his project was not a DRI, even if it otherwise would be.[55] There are currently ten Florida counties that do not having zoning or subdivision regulations and a proposed development within these county jurisdictions (outside municipal boundaries) would not be a DRI.[56] They are: Baker, Columbia, Flagler, Glades, Gulf, Lake, Okaloosa, Suwannee, Wakulla, and Washington.

3. Application Procedure

Any developer whose proposal is a DRI and not vested must file an application for development approval (ADA) with the local governmental body, either city or county, having jurisdiction over the project area.[57] Copies must also be submitted to the appropriate regional planning council and to the state land planning agency. Within 15 days of the receipt of the application the regional planning council may request additional information from the developer. Once the regional planning council determines that the application is sufficient, or is informed by the developer that additional information will not be provided, it notifies the local government body.[58] The local government body then sets a date for a public hearing on the matter. Notice of the hearing must be given to the Division of Local Resource Management, the regional planning council, the state and local offices of the Department of Environmental Regulation, the appropriate water management district, and adjacent counties at least 60 days prior to the date of the hearing.[59] The hearing on the application is conducted in the same manner as one held for a local rezoning request. If the project is within the jurisdiction of more than one local government the developer may request a joint public hearing.

It is the responsibility of the regional planning council to prepare recommendations for the local government to consider in making its decision on the development under review.[60] These recommendations must be submitted within 50 days of the notice of hearing, and specifically must include consideration of the following items:

(1) whether the development will have a favorable or unfavorable impact on the environment and natural resources of the region;

(2) whether it will have a favorable or unfavorable impact on the region's economy;

(3) whether water, sewer, solid waste disposal, or other public facilities will be efficiently used or unduly burdened;

(4) whether public transportation facilities will be efficiently used;

(5) whether the ability of people to find adequate housing reasonably accessible to their place of employment will be favorably or adversely affected;

(6) other criteria which the council deems appropriate such as the additional demand for energy,

provided the rulemaking procedures of Fla. Stat. Sec. 120.54 are followed.

Before the recommendations are forwarded to the local government body for consideration, the regional planning council must provide the developer or any other substantially affected party the opportunity to present evidence relating to the agency's proposed report.

Within 30 days of the public hearing the local government must reach a decision regarding the application for development approval, unless an extension is requested by the developer. Just as the regional planning councils are mandated to consider specific items, the local government must consider:[61]

(1) whether the development unreasonably interferes with the achievement of the objectives of an adopted state development plan applicable to the area;

(2) whether it is consistent with the local land development regulations; and

(3) whether it is consistent with the report forwarded by the regional planning council.

The decision by the local government on the application is termed a "development order." It must include findings of fact and conclusions of law consistent with the above-mentioned criteria.[62] The order will either approve the application, approve it subject to conditions, or deny it. If the application is not approved, the order must explain why and include changes necessary for approval.

An alternative to the review process outlined above is development review in stages.[63] Developments which include more than one DRI and/or extended build-out periods are eligible for this alternative review procedure. An ADA covering the project's master plan must first be submitted by the developer. If approved, a pre-construction review of each increment or phase of the project is carried out. A developer opting for this procedure must enter into an agreement with the Division of Local Resource Management and the appropriate local government as to how the project will proceed.

The owner, the developer, regional planning agency, and the Division of Local Resource Management may appeal the development order to the Florida Land and Water Adjudicatory Commission which is the Governor and Cabinet.[64] A notice of appeal must be filed with the Commission within 45 days after the development order is issued. The Commission

must hold a hearing prior to issuing a decision on the case. A hearing officer is normally appointed to conduct the hearing. Recommendations, findings of fact, and a proposed order are filed with the Commission at the conclusion of the hearing. The Commission must issue a decision within 90 days and may grant permission to develop, deny permission or grant permission subject to conditions.[65]

Since Chapter 380's DRI review process took effect in 1973, through 1979, only five recreational marina developments were determined to be DRIs. They ranged in size from 163 to 420 slip capacity. One of them was exempted from the Chapter 380 procedure because it was located in Gulf County which had no zoning or subdivision regulations. The other four were ultimately approved with conditions. Because so few marinas have undergone the DRI process, few patterns can be identified to indicate general areas of concern to the reviewing agencies.

C. OTHER STATE CONTROLS

1. Chapter 161 Permits

The Florida Department of Natural Resources (DNR) is the state agency primarily responsible for erosion control, beach restoration and the management of marine resources generally. In conjunction with these responsibilities, DNR has implemented two permit programs pursuant to Chapter 161 of the Florida Statutes that regulate coastal development activities such as the construction of a recreational marina facility. A coastal construction permit is required before one may conduct any construction, operation, modification or expansion of an erosion control structure.[66] A coastal control line permit is required for any excavation or construction that will occur seaward of an established coastal construction control line.[67]

a. Coastal Construction Permits

Section 161.041, Florida Statutes, states:

> If any person, firm, corporation, county, municipality, township, special districts, or any public agency shall desire to make any coastal construction or reconstruction or change of existing structures, or any construction or physical activity undertaken specifically for shore protection purposes, or other structures and physical activity including groins, jetties, moles, breakwaters, seawalls, revetments and artificial nourishment or other deposition or removal of beach material or other structures if of a solid or highly impermeable design, upon sovereignty lands of Florida, below the mean waterline of any tidal water of the state, a permit must be obtained from the Department of Natural Resources prior to the commencement of such work.

One or more types of erosion control structures are almost certain to be utilized in the creation of a recreational marina facility and will require this DNR permit. The intent behind the permitting program is to provide DNR a supervisory role over the use of erosion control structures so as to prevent the destruction or material alteration of natural shore processes. The indiscriminate or uninformed placement of groins, jetties and other similar devices can cause great harm to adjacent shorelines and even to quite distant coastal areas.

Anyone desiring to obtain a coastal construction permit from DNR must submit an application which, along with other information, must contain "statements describing the proposed erosion control structure(s), the problem, its causes and the expected effect of the proposed erosion structure(s) on the problem and on adjacent and neighboring property.[68] Also required are detailed maps and engineering plans that must be certified by a registered engineer.[69]

b. Coastal Construction Control Line Permits

The Department of Natural Resources also requires a permit for the construction of dwellings, hotels, motels, apartments and other buildings and related structures if the construction is to occur seaward of a coastal construction control line that has been established for the county where the project will be located. The purpose of the control line, as stated in Chapter 161, is to "define that portion of the beach-dune system which is subject to severe fluctuations based on a 100-year storm surge or other predictable weather conditions, and . . . to define the area within which special structural design consideration is required to insure protection of the beach-dune system, any proposed structure, and adjacent properties. . . ."[70]

A number of coastal counties and municipalities which have established coastal construction zoning and building codes acceptable to DNR have been granted the authority to administer the control line permit program in the place of DNR.[71] However, a local government that has been delegated this authority cannot therafter grant exceptions to its zoning and building code regulations related to coastal construction without the approval of DNR. Also, the Department can resume administration of any local permit program if it finds that the local program has become inadequate.

The control line permit is almost never required for a marina development because a sandy beach is rarely proposed as a marina site. Vegetated, non-sandy shores are usually chosen and the need to protect shoreline processes there is not such as to require the control line permit by DNR.[72] Also exempted from the control line permit program are erosion control structures regulated by the coastal construction permit program discussed above[73] and the maintenance or repair of existing structures not involving foundations or seawalls.[74]

c. Procedure

The coastal construction permit application and the control line permit application are processed in much the same manner by DNR. When both permits are applicable, the

staff of DNR will normally review the project as a single application and issue just one permit if the project is approved.[75] The Department does not currently utilize a standard application form, though new rules which are expected to be adopted in late 1980 will include a standard form.

Marina projects and other large development proposals that include construction at the shoreline will almost always require a dredge and fill permit from the Department of Environmental Regulation. Normally, at the time that an applicant for a DER permit submits the joint DER/Corps application form for dredge and fill activity, DER personnel will either notify the applicant that a DNR permit must also be obtained or will sometimes provide DNR with a copy of the joint application form for review.[76] The applicant, however, is ultimately responsible for obtaining all necessary permits and should initiate the contact with DNR by inquiring as to the need for a DNR permit or by submitting a copy of the DER/Corps joint application form to DNR. An application for a coastal construction permit must be accompanied by a $100 application processing fee unless made by a local government.[77]

When DNR receives the application and the information required by the rules set out in Chapters 16B-24 and 16B-25 of the Florida Administrative Code, it first determines whether the data is complete and notifies the applicant if it is not. Depending on the nature of the project, DNR may conduct a field investigation of the site to better understand the proposal and its potential impacts. For erosion control structures, DNR mails a public notice to all landowners within 1000 feet of the proposed construction and allows 30 days for responses.[78]

After review of the application and consideration of any comments that have been received from citizens and other agencies, DNR notifies the applicant by mail of the recommendation that it will make to the Governor and Cabinet which sit as the head of DNR. The applicant and any interested parties may appear at the time the recommendation is made to make statements in support of or against the proposed project. When issued, a coastal construction permit often requires the applicant to provide DNR with a surety bond to allow for the repair or removal of the structure if necessary.[79] DNR may place time limits on the validity of both types of permits.[80]

2. Submerged Land Leases

In Florida, the title to beds of navigable lakes and rivers up to the ordinary high water mark [81] and the

submerged bottoms of all tidal waters up to the mean high water line,[82] is vested in the State in trust for the benefit of all its citizens.[83] This doctrine of state trusteeship of sovereignty water bottoms is called the "public trust doctrine" and is a product of the old English common law. The Board of Trustees of the Internal Improvement Trust Fund was created in 1855 to administer state lands, including sovereignty submerged lands. The Trustees are comprised of the Governor and members of his Cabinet and its staff functions are performed by the Division of State Lands within the Department of Natural Resources.

Chapter 16C-12.14 of the Florida Administrative Code requires that in order for a "Commercial/Industrial Docking Facility" to be built in or over sovereignty submerged lands, a lease must be obtained from the Board of Trustees of the Internal Improvement Trust Fund. A recreational marina will constitute a commercial docking facility when direct income is derived from docking as through the use of regular slip fees. A fee for docking that is included in the cost of membership in a yacht club or condominium is not considered to be direct income in this context.[84] Marinas in existence prior to March, 1970, are not required to obtain a lease.[85]

Applications for state land leases are submitted to the Department of Natural Resources along with a $150 non-refundable processing fee.[86] Information that must be contained in the application includes a legal description of the state lands sought to be leased, a statement of total acreage, a survey prepared by a licensed land surveyor, all structures that will be placed in the parcel, and evidence of clear title to the uplands.[87] The applicant for a lease must also supply DNR with the names and addresses for each riparian owner within 1,000 feet of the parcel to which DNR will subsequently send notices of the application and a request for comments.[88] A public notice is also placed in the local newspaper for 30 days. If objections to the lease application are received within that period, a hearing is held.

As noted previously, the construction of a recreational marina will almost certainly require dredge and fill permits from the Florida Department of Environmental Regulation and the U. S. Army Corps of Engineers. It will often require a DNR coastal construction permit as well. In most cases, therefore, the applicant is notified by DER or DNR of the need to obtain a submerged land lease when these agencies are reviewing the application for other permits. An application for a lease, however, is handled separately by DNR and it will hold separate hearings on the issuance of leases, rather than combine them with permit hearings.[89] If no hearing on the lease is held, the lease can typically be approved in three or four months.

Submerged land leases, when granted, are contingent upon approval of the project by the Department of Environmental Regulation (DER) and completion of the project in conformance with all permits. In addition, DER will not issue its own permits if this contingent lease has not been granted by the Trustees of the Internal Improvement Trust Fund. As a consequence of this policy, and DER's statutory requirement to grant or deny a dredge or fill permit within 90 days, DER will often inform an applicant that his dredge or fill permit will be denied because a lease has not yet been obtained.[90] In this situation, an applicant usually agrees to waive the 90 day requirement.

The fee for each lease in presently assessed annually at a rate of 3.7¢ per square foot or $187.00, whichever is greater.[91] An acre would be leased for $1,612.00 at this rate. The lease can be cancelled if the fee is not paid within 60 days after the due date.[92] Leases are usually granted for a term of five years, though a longer term can be granted under limited circumstances.[93] A submerged land lease is renewable at the option of the Trustees. The Department of Natural Resources has a staff of inspectors whose responsibility is to insure that leases are obtained when required by state law and that lease terms are complied with.[94]

3. Aquatic Preserves and Estuarine Sanctuaries

a. Aquatic Preserves

Since the enactment in 1975 of the Florida Aquatic Preserve Act,[95] the Florida Legislature has designated 35 waterbodies "with exceptional biological, aesthetic or scientific value to be set aside forever as aquatic preserves . . . for the benefit of future generations."[96] These preserves and counties where they are located are:[97]

1. The Fort Clinch State Park Aquatic Preserve, Nassau County

2. Nassau River-St. Johns River Marshes Aquatic Preserve, Duval and Nassau Counties

3. Pellicer Creek Aquatic Preserve, St. Johns and Flagler Counties

4. Tomoka Marsh Aquatic Preserve, Flagler and Volusia Counties

5. Mosquito Lagoon Aquatic Preserve, Volusia and Brevard Counties

6. Banana River Aquatic Preserve, Brevard County

7. Indian River-Malabar to Sebastian Aquatic Preserve, Brevard and Indian River Counties

8. Indian River-Vero Beach to Fort Pierce Aquatic Preserve, Indian River and St. Lucie Counties

9. Jensen Beach to Jupiter Inlet Aquatic Preserve, St. Lucie County

10. Loxahatchee River-Lake Worth Creek Aquatic Preserve, Martin and Palm Beach Counties

11. Biscayne Bay-Cape Florida to Monroe County Line Aquatic Preserve, Dade County

12. North Fork, St. Lucie Aquatic Preserve, Martin and St. Lucie Counties

13. Yellow River Marsh Aquatic Preserve, Santa Rosa County

14. Fort Pickens State Park Aquatic Preserve, Santa Rosa and Escambia Counties

15. Rocky Bayou State Park Aquatic Preserve, Okaloosa County

16. St. Andrews State Park Aquatic Preserve, Bay County

17. St. Joseph Bay Aquatic Preserve, Gulf County

18. Apalachicola Bay Aquatic Preserve, Gulf and Franklin Counties

19. Alligator Harbor Aquatic Preserve, Franklin County

20. St. Martins Marsh Aquatic Preserve, Citrus County

21. Matlacha Pass Aquatic Preserve, Lee County

22. Pine Island Sound Aquatic Preserve, Lee County

23. Cape Romano-Ten Thousand Islands Aquatic Preserve, Collier County

24. Lignumvitae Key Aquatic Preserve, Monroe County

25. Coupon Bight Aquatic Preserve, Monroe County

26. Lake Jackson Aquatic Preserve, Leon County

27. Pinellas County Aquatic Preserve, Pinellas County

28. Boca Ciega Bay Aquatic Preserve, Pinellas County

29. Biscayne Bay Aquatic Preserve, Dade and Broward Counties

30. Estero Bay Aquatic Preserve, Lee County

31. Cape Haze Aquatic Preserve, Charlotte County

32. Wekiva River Aquatic Preserve, Lake, Seminole and Orange Counties

33. Rookery Bay Aquatic Preserve, Collier County

34. Cockroach Bay Aquatic Preserve, Hillsborough County

35. Gasparilla Sound-Charlotte Harbor Aquatic Preserve, Lee and Charlotte Counties.

The effect of an aquatic preserve designation is that the waterbody so designated is to be maintained essentially in its natural or existing condition.[98] While activities conducted on or over state submerged lands are already extensively regulated under the current water quality and dredge and fill regulations of state and federal agencies, an aquatic preserve designation imposes even more stringent controls on such activities.

The applicable statute, Chapter 258 of the Florida Statutes, only sets out very general criteria for aquatic preserve management. It was left to the Trustees of the Internal Improvement Trust Fund (the Governor and Cabinet in their role as trustees of all state lands) to develop more specific rules that would be applicable to a particular preserve. Many of these rules, of course, are likely to be identifical for several or most of the preserves. So far, however, rules for only the Biscayne Bay Aquatic Preserve have been adopted.[99]

The general criteria found in Chapter 258, Florida Statutes, provide that 1) no sale or lease of sovereignty (state-owned) submerged lands may occur except when in the public interest; 2) bulkhead lines will not be set or relocated below the mean high water line within the preserve except when unavoidable in conjunction with road and bridge construction; and 3) dredging and filling activities are

prohibited except under limited circumstances.[100] The first two criteria above are already applied under other state statutes. Sale or lease of sovereignty submerged lands is already required to be in the public interest.[101] Also, bulkhead lines are currently prohibited to be waterward of the mean high water line.[102] The additional regulation of dredging and filling activities, then, is the crux of the new aquatic preserve law.

Under Chapter 258, the "creation and maintenance of marinas, piers, docks and their navigation channels" are a few of the extremely limited types of projects involving dredging or filling that "may" still receive a permit when located in an aquatic preserve.[103] This, and the fact that the Trustees are expressly directed not to "unreasonably interfere with lawful and traditional public uses of the preserve, such as sport and commercial fishing, boating and swimming,"[104] would seem to indicate that the construction and operation of marina facilities would not be incompatible with the management of an aquatic preserve. However, the rules for the Biscayne Bay Aquatic Preserve clearly demonstrate that the creation of marina facilities will be significantly restricted within the boundaries of any aquatic preserve.

Biscayne Bay is the only aquatic preserve for which rules have been adopted, filed and made effective.[105] They appear in Chapter 16Q-18 of the Florida Administrative Code. The rules were drafted by the Division of State Lands within the Department of Natural Resources (DNR) which performs the staff functions of the Board of Trustees of the Internal Improvement Trust Fund. The rules for the Biscayne Bay Aquatic Preserve will be used in large part in the establishment of rules for the other thirty-four preserves.[106] Each aquatic preserve, however, is certain to have a number of unique provisions of its own and the management plan used in conjunction with the rules for a preserve will also be designed specifically for its special needs. The rules for management of the Biscayne Bay Aquatic Preserve will have a significant effect upon new marina facility development in Dade and Broward Counties. To the extent that they will be duplicated for other preserves, they will have a great impact upon recreational marina development throughout Florida.

That section of the rules entitled "General Management Criteria" provides that before the sale, lease or transfer of any interest in state lands, an applicant must affirmatively demonstrate that:[107]

1. Proposed dredging is the minimum necessary to accomplish the stated purpose and that the activity is designed to minimize the need for maintenance dredging;

2. No new lands will be created by filling or spoiling unless no other alternative exists to accomplish the stated purpose, and the project is designed to require the minimum fill to accomplish the stated purpose of the activity consistent with the protection of the preserve;

3. Marina facilities over water are restricted to those water dependent activities necessary to service boats and allow for fishing or fish cleaning activities and are designed to allow the unimpeded flow of water and minimize bottom shading;

* * * * * * *

6. Dredged spoil materials are disposed of outside of the preserve unless the applicant affirmatively demonstrates that the spoil will not be harmful to or will benefit the quality or utility of the preserve.

Applications for activities on lands other than state lands will also be reviewed by DNR for consistency with the rules and management plans for the preserve as long as the activity is one that will require a water quality, dredge and fill or solid waste permit under Chapter 253 or 403, Florida Statutes.[108]

Cumulative impacts associated with activities conducted in the Biscayne Bay Aquatic Preserve must also be considered. The rules recognize 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 of the resources of the preserve."[109] The Department of Natural Resources is therefore directed to include in its evaluation of a project the number and extent of similar projects which are currently under consideration. DNR will also consider the extent to which the project conforms to the comprehensive plans of local governments that will be affected.[110]

The rules discussed above will obviously act to restrict the number and types of development that can take place in the Biscayne Bay Aquatic Preserve. However, the provision that indicates most clearly the degree to which projects such as recreational marina facilities will be curtailed is section 16Q-18.15 which requires that an applicant for a permit show than an "extreme hardship" would result if a permit was not issued.[111] This provision and the rules discussed previously are designed to accomplish the intent of the Florida Aquatic Preserve Act to permanently

set aside waterbodies to be maintained in their natural or existing conditions. To permit the construction of marinas and other similar coastal projects within an aquatic preserve would be inconsistent with this legislative intent except in the most limited circumstances.

An application for a permit to construct a recreational marina will be made to the Department of Environmental Regulation (DER)--not the Department of Natural Resources (DNR)--on forms normally required by DER for activities in navigable waters. All public hearings held to consider an application for dredge or fill projects in an aquatic preserve are to be held jointly with DNR and DER in the county where the activity will occur.[112] Within 14 days from the completion of the hearing, the hearing officer submits a report to DNR for consideration. Thereafter, the Executive Director of DNR makes his own recommendations concerning the project to the Governor and Cabinet in their capacity as the Trustees of the Internal Improvement Trust Fund. Comments from the Game and Fresh Water Fish Commission and the local governments involved are to be submitted along with the Executive Director's recommendation.[113]

b. Estuarine Sanctuaries

In Section III of this report, the federal Coastal Zone Management Act of 1972 (CZMA)[114] and Florida's own efforts to formulate a state coastal zone management act will be examined as to their impact upon the construction and operation of recreational marinas. However, one relatively small aspect of the federal CZMA--the National Estuarine Sanctuary Program--will be discussed here because of its similarity to Florida's aquatic preserve program. Section 315 of the CMZA established the sanctuary program, administered by the National Oceanic and Atmospheric Administration (NOAA) within the U. S. Department of Commerce. Guidelines for the program were first promulgated in 1974 and amended in 1977.[115]

The CZMA defines an estuarine sanctuary as "a research area which may include any part or all of an estuary and any island, transitional area, and upland in, adjoining, or adjacent to such estuary, and which constitutes to the extent feasible a natural unit, set aside to provide scientists and students the opportunity to examine over a period of time the ecological relationships within the area."[116]

Only seven estuarine sanctuaries have been designated to date,[117] although several others are under consideration. Two of the designated sanctuaries are located in Florida--Rookery Bay in Collier County and Apalachicola Bay in Franklin and Gulf Counties. The Florida sanctuaries are the largest

of the seven with 8500 acres for Rookery Bay and 190,000 acres for Apalachicola Bay. The Apalachicola Bay estuary has been called one of the largest remaining naturally functioning estuarine systems in the entire United States.[118]

The estuarine sanctuary program is primarily a funding mechanism to provide fifty percent matching funds to coastal states in three phases. First, pre-acquisition funds are allocated for the development of sanctuary management plans, for land appraisals and for the refinement of boundaries for the sanctuary.[119] Later, an acquisition grant is made for the purchase of adjacent lands.[120] Finally, funds are provided for the operation and maintenance of the sanctuary and its educational programs.[121] Once created, the estuarine sanctuaries are owned and managed by the states. Management, however, must conform to the guidelines established by the NOAA and published in the Code of Federal Regulations.[122]

It is stated in the guidelines that while the primary purpose of the sanctuaries is to provide long-term protection for natural areas so that they may be used for scientific and educational purposes, "multiple use of estuarine sanctuaries will be encouraged to the extent that such use is compatible with this primary sanctuary purpose."[123] Whether a particular use will be allowed is to be determined on a case-by-case basis. Low intensity recreation, fishing, hunting and wildlife observation are identified as allowable uses, though it is recognized that "the exclusive use of an area for scientific or educational purposes may provide the optimum benefit to coastal zone management and resource use and may on occasion be necessary.[124]

As in the case of state aquatic preserves, the designation of a waterbody as an estuarine sanctuary will make it extremely difficult thereafter to construct or expand marina facilities within its boundaries. The federal guidelines provide that the states are not to balance or optimize uses of an estuarine sanctuary on economic or other bases.[125] They further declare that uses other than scientific research are clearly secondary and uses that can cause significant short or long-term ecological changes or would detract from the use of the estuary as a natural field laboratory are to be prohibited.[126] These declarations indicate that the construction or expansion of a marina facility would be incompatible with the management of an estuarine sanctuary.

D. REGULATORY CHECKLIST FOR A RECREATIONAL MARINA DEVELOPMENT

1. Discuss the project with regulatory agencies at an early stage.

Make contact at an early stage in your planning with personnel of agencies that are likely to become involved in the regulatory process. Tell them what you are planning to do and find out if they would assert jurisdiction and what concerns they have regarding the project. Determine whether any objections can be overcome by modifications of your plans. Work with them as much as possible to avoid conflicts and delay.

2. Dredge and fill activities (see pp. 6-17, supra)

Projects that involve any dredging, filling or construction in the water or in wetlands may require permits from the Florida Department of Environmental Regulation and the U. S. Army Corps of Engineers.

a. The Tallahassee office of the Department of Environmental Regulation processes long form applications. Regional offices process short form applications. The address of the appropriate regional office can be obtained from the Tallahassee office.

Bureau of Permitting
Department of Environmental Regulation
2600 Blairstone Road
Twin Towers Office Building
Tallahassee, Florida 32301
(904) 488-0130

b. DER will normally forward a copy of the application to the Corps of Engineers. An applicant may want to contact the Corps directly, for example, to determine if an activity qualifies for a general permit.

Regulatory Branch
Department of the Army
Jacksonville District,
Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32232
(904) 791-2211
(800) 342-5950

3. Developments of regional impact (see pp. 18-23, supra)

a. Construction of a large marina may constitute a development of regional impact. For assistance in determining whether a project qualifies contact:

Bureau of Land and Water Management
Department of Community Affairs
530 Carlton Building
Tallahassee, Florida 32301
(904) 488-4925.

b. If the marina is a development of regional impact then an application for development approval must be filed with the appropriate local government and regional planning council. The Bureau of Land and Water Management can supply the name and address of the regional planning council with jurisdiction.

4. State submerged land leases (see pp. 26-28, supra)

The use of state owned submerged lands requires approval of a lease by the Trustees of the Internal Improvement Trust Fund and the payment of an annual fee. For assistance in determining whether a lease is required and to make application contact:

Bureau of State Lands
Department of Natural Resources
3900 Commonwealth Blvd.
Tallahassee, Florida 32303
(904) 488-2290

5. Erosion control structures (see pp. 24-26, supra)

If the project involves beach nourishment or the construction of groins and jetties, a permit may be required from the

Bureau of Beaches and Shores
Department of Natural Resources
3900 Commonwealth Blvd.
Tallahassee, Florida 32303
(904) 488-3180

6. Local zoning and building codes

The ordinances and comprehensive plan of the city or county in which the marina will be located must be complied with. Contact appropriate officials of the planning, building and zoning and engineering departments to determine:

(a) the existing and needed zoning classifications of the site;

(b) the effect of the local government comprehensive plan;

(c) the effect of local building codes; and

(d) whether special flood plain, wetlands or other ordinances apply.

7. Determine if any special classifications have been placed on surrounding waters. Any of the following classifications will make it difficult or impossible to obtain dredge and fill permits for a marina:

(a) aquatic preserve;

(b) estuarine sanctuary; and/or

(c) Class II shellfish waters.

8. Determine what valuable environmental resources are on or near the site. To improve the chances of receiving permits, plan to make allowances for the protection or mitigation of impacts on:

(a) marine habitat such as grassbeds, salt marsh, or mangroves; and/or

(b) endangered species habitat (e.g. bald eagles or manatees).

SECTION II: COASTAL ZONE MANAGEMENT

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A. INTRODUCTION

Marinas must, of course, be located at the water's edge. Alteration of such coastal features as mangrove wetlands or bay bottoms is usually necessary to accommodate marina siting. The users of marinas come to those facilities for access to other parts of the coastal zone. They fish, swim or simply enjoy the coastal environment from their boats. Both the length of shoreline and the amount of alteration that can be tolerated are limited. Since numerous other economic activities such as ports, power plants, and residential construction are also seeking to use and alter coastal environments, marinas are in fierce competition for available sites.

There is an urgent need to determine which locations are suitable for the siting of marinas, to make some allocation of those sites to marina use and to ensure that the construction and operation of marinas is compatible with the coastal environment. Numerous planning and regulatory programs treat some aspect of marina siting, but none is sufficiently integrated and comprehensive. The Coastal Zone Management Program, however, offers potential for incorporating marina siting decisions into a comprehensive approach to the protection and development of coastal resources.

In the Federal Coastal Zone Management Act of 1972 (CZMA),[127] Congress recognized the "national interest in the effective management, beneficial use, protection and development of the coastal zone."[128] The CZMA was intended to help protect this interest by encouraging the states to develop and implement coastal management programs. Although there is no requirement for any state to undertake coastal zone management planning, substantial incentives are offered. The federal government will fund up to 80% of the costs of developing and administering an approved program.[129] Grants are available for only four years of program development, however. The state must be moving to implement a program at the end of that time or it will not qualify for further federal assistance. Various other grants, loans and guarantees are also available.[130]

Once a state coastal zone management program has been approved, the state acquires significant control that it would not otherwise have over federal activities in the coastal zone.[131] Federal agencies that conduct or support activities directly affecting the coastal zone or undertake development projects in the coastal zone must act consistently with the approved program.[132] Dredging projects by the U. S. Army Corps of Engineers, for example, would have to be

consistent. Furthermore, applicants for federal licenses or permits to conduct activities affecting land or water uses in the coastal zone would have to provide certification from the state that the proposed activity would be consistent with the program.[133] Finally, state and local government agencies seeking grants would have to show consistency with the CZM program.[134]

The CZMA specifies certain criteria for state management programs. The Office of Coastal Zone Management, the agency charged by Congress with administering the program, has interpreted and supplemented the statute with extensive regulations.[135] These federal regulations for state program approval establish a framework that could make coastal zone management planning extremely helpful in siting marinas. Unfortunately, the Florida Legislature's response to the CZMA has been shortsighted. As a result, the forthcoming draft of Florida's coastal zone management program will have little impact upon the current fragmented and reactionary regulatory system.[136] The federal criteria and potentialities for improving marina siting will first be examined, then Florida's own efforts.

B. THE FEDERAL PROGRAM CRITERIA

1. General Requirements

The federal regulations establish several general requirements that must be met by an individual state coastal zone management plan. The plan must be comprehensive in its nature. It must clearly articulate specific policies, standards, objectives and criteria and there must be sufficient policies of an enforceable nature to insure implementation and adherence to the management plan.[137] The regulations further require that the management plan be able to "manage coastal land and water resources based on ecological, historical, cultural, aesthetic and economic considerations."[138] Since specific requirements as to this subject would be impossible to draft, the regulations simply require the inclusion of three broad classes of policies.[139] Resource policies are those directed toward management and conservation of valuable or vulnerable coastal resources such as wetlands or estuaries. Coastal development policies should be developed for "such matters as shorefront access, ports and harbors, and other major competing uses of the coastal zone. Government process policies should address considerations such as the role of various agencies or "the clarification and simplification of regulatory and permitting procedures."

2. Uses Subject to Management

Another group of program requirements that is particularly relevant to marina siting deals with the management of specific land and water uses. First, there must be an identification of uses which "because of their direct and significant impacts on coastal waters" are to be subject to the management program.[140] To make that determination, the Office of Coastal Zone Management recommends that an inventory of both natural and manmade coastal resources should be made.[141] The inventory should "analyze the quality, location, distribution and demand" for these resources.[142]

Both existing marinas and good marina sites are significant coastal resources and should be identified and analyzed as part of this inventory. The regulations, in fact, specifically recommend an assessment of the potential impact on coastal waters of "marinas and other boating facilities" as well as several other uses such as residential, commercial, industrial and transportation developments.[143] This assessment could contribute significantly to the resolution of conflicts between the demand for coastal locations by marinas and competing uses.

A second state program requirement is to develop "policies and procedures by which uses, determined to be subject to the management program, will be allowed, conditioned, modified, encouraged or prohibited."[144] Although these policies and procedures must certainly be protective of environmental values, they should also make provision for reconciling conflicts in the siting of competing users. The regulations suggest basing them on analyses of:[145]

(1) Capability and suitability of resources types to accomodate existing or projected uses;

(2) Environmental impacts on coastal resources;

(3) Compatibility of various uses with adjacent uses or resources;

(4) Evaluation of inland and other location alternatives; and

(5) Water dependency of various uses and other social and economic considerations.

Such analyses would likely show that marinas are more suitable and desirable for shoreline development than are competing uses like residential homesites or office buildings. In that case, the policies and procedures of the management program could be designed to encourage the utilization of good marina sites for that purpose and discourage the siting in these places of less desirable uses. Of course, the management program should also discourage the location of marinas in unsuitable locations or where the damage to environmental values would be too great.

A mechanism that could be used for giving a preference to marinas is to designate them as "uses of regional benefit." The state management program must:[146]

(1) Identify what constitutes uses of regional benefit; and

(2) Identify methods that will assure that local land and water use regulations do not unreasonably restrict or exclude land and water uses of regional benefit.

Marinas are often needed and used by citizens who live outside of the local political jurisdiction in which the marina is located. Local interests may unreasonably restrict marinas. A local zoning code, for example, could prohibit marinas, in preference to single family housing, in an area that is already dredged and otherwise has the

physical characteristics of an excellent marina site. The local decision might then have the effect of forcing marinas into sites where the dredging of mangroves is necessary or where there are longer distances to good fishing grounds. There is a need, which a coastal zone management program could meet, to ensure that local regulations do not conflict with the broader regional interests in providing adequate recreational marina facilities.

3. Special Management Areas

Certain areas in the coastal zone, such as sites for energy facilities, may need special management. The State Coastal Zone Management Program, accordingly, must include a designation of geographic "areas of particular concern."[147] The selection of areas of particular concern should be based on an inventory of natural and man-made coastal resources. Areas of valuable natural habitat should be considered for designation.[148] In addition, however, several classes of areas that are of importance to the siting of marinas should be considered. The regulations suggest that coastal zone planners consider the following as areas of particular concern:[149]

> (iii) Areas of substantial recreational value and/or opportunity;
>
> (iv) Areas where developments and facilities are dependent upon the utilization of, or access to, coastal waters;
>
> (v) Areas of unique hydrologic, geologic or topographic significance for industrial or commercial development or for dredge spoil disposal;
>
> (vi) Areas of urban concentration where shoreline utilization and water uses are highly competitive.

A state coastal zone management program could use this requirement to give special attention to potential marina sites. A great deal of flexibility is provided in the federal rules. Areas where intense competition is expected between marinas and other uses could be designated. Once an area is designated, the state must establish guidelines for determining the priority of various uses.[150] Such a listing of priorities could aid in resolving conflicts. The use of prime marina sites for marinas, for example, could be given priority over site development for uses not dependent on a water location.

In addition, the regulations require states to develop criteria and procedures for designating areas for "the purpose of preserving or restoring them for their conservation, recreational, ecological or aesthetic values.[151] Areas suitable for marina sites would have recreational value. The regulations also require states to "develop a planning process that can identify public shorefront areas appropriate for access or protection."[152] Since marinas are vital facilities for access to public waters and lands, they could be considered in such a process.

4. Boundaries

The geographic boundaries of the area covered by a coastal zone management program must be clearly defined. The regulations require inclusion of the following areas:[153]

> (1) Those areas the management of which is necessary now or is likely to be necessary in the near future to control uses which have direct and significant impacts on coastal waters . . .
>
> (2) . . . special management areas . . .
>
> (3) transitional and intertidal areas . . .
>
> (4) salt marshes and wetlands . . .
>
> (5) islands . . .
>
> (6) beaches. . . .

Although most marina sites would clearly be within the coastal zone, there is some ambiguity, particularly with regard to urban areas and estuaries or rivers. The regulations therefore recommend that areas of tidal influence should be included "if uses further inland could have direct and significant impacts on coastal waters."[154] The regulations also recommend that in urban areas the state should consider the "number, nature and location of water dependent or water-impacting uses" in setting the boundary.[155] Certain federal lands must be excluded.

5. Authorities and Organizations

In order to be approved by the Office of Coastal Zone Management, a state must have adequate authorities and an organizational structure to enforce the policies and otherwise implement the program. Federal funds will not go to a state that is not serious about solving its

problems. The state must demonstrate an ability to administer land and water use regulations, resolve conflicts among competing users and acquire interests in lands when necessary.[156] A state has great latitude in choosing specific control techniques to implement and enforce its coastal zone management program. One or a combination of several types of control mechanisms may be used.[157]

C. FLORIDA'S RESPONSE TO THE FEDERAL ACT

Florida seemed willing, for a time, to lead the nation in coastal zone management. Anticipating passage of the Coastal Zone Management Act of 1972, the Florida Legislature established, in 1970, a Coastal Coordinating Council (CCC).[158] Ex officio members of the CCC were the Executive Director of the Department of Natural Resources, who served as Chairman, the Executive Director of the Department of Pollution Control and the Executive Director of the Board of Trustees of the Internal Improvement Trust Fund. The Council had a staff and state funding of approximately $200,000 per year. In 1974 when the CZMA had finally been funded, an additional $460,000 in federal funds was made available.[159]

The primary emphasis of the CCC was on developing an informational basis for the coastal zone management program. Data was compiled, analyzed and published in a series of reports.[160] A series of Citizen Advisory Committees was established in cooperation with regional planning councils and technical assistance was provided to local governments.

In 1975, however, the Coastal Coordinating Council was abolished. Its staff and functions were moved to a Bureau of Coastal Zone Planning in the Department of Natural Resources (DNR).[161] Although work continued at a staff level, the program never received support from higher levels in DNR. Consequently, not much progress was made on tackling the major policy issues facing the State and in late 1976 a Task Force on Coastal Management recommended transferring the CZM program to the Department of Environmental Regulation.[162]

In 1977, the Legislature made the transfer.[163] It also specifically directed DER to develop the coastal zone management plan to "contain a boundary, policies, goals, and programs necessary to comply with the requirements of the [federal act]." A program was to be submitted to the Legislature by March 1, 1978.

By October, 1977, a Workshop Draft of the Coastal Zone Management Plan had been developed. A series of hearings were subsequently held to receive public comment. The response of economic interests to this document was vociferous and hostile.[164] The program was greatly revised in light of the reaction it had received and in March, 1978, a Legislative Draft was completed and presented to the Legislature. Although the new proposal was considerably milder than its predecessor, the opposition had been stimulated to action and the program was lobbied against intensely. As the result of such pressure, confusion as to the effect of a program, and a swelling sentiment

against environmental regulation, the Legislature failed to pass any bill in the regular session.

A special session was called and it enacted the Coastal Zone Management Act of 1978,[165] the legislation under which coastal zone planners are now attempting to prepare a program. This law is often referred to as the "No New Nothing" bill. It directed DER to seek approval by the OCZM of a coastal zone management program for Florida, but mandated that program policies could "only reference existing statutes and existing implementing administrative rules."[166] The Legislature also directed DER to waive the state's full right to review federal activities for consistency with the program.[167] Instead, receipt of a state permit would automatically constitute a determination that the activity is consistent. Denial of a permit would indicate inconsistency. There would be no review permitted of vested, exempted or excepted activities. Finally, review for consistency would only be allowed for activities that are expressly listed in the Florida law. In addition, staff was reduced to eight persons and funding was reduced to a total of $170,000.

Pursuant to this Legislative mandate, DER staff, now reduced to four, are compiling a program for submission. The document is currently in rough preliminary draft form and staff are reluctant, due to the program's history of controversy, to release much information regarding its contents until there has been further internal review. A draft will be circulated in June, 1980, and the comments received will then be used to draft a program for submission to the OCZM.

Nevertheless, the basic organization and direction of the program document has been ascertained.[168] It will be divided into two sections. The first section will compile, describe and analyze existing state authorities to show how Florida's current resource management system meets the federal requirements. In order to coordinate these existing programs, Governor Graham appointed, in October, 1979, an Interagency Management Committee, comprised on the managers of virtually every state agency that affects coastal resources.[169] Even if current program authorities meet the federal requirements, however, there is a general consensus that much improvement is needed. Therefore, a second section will identify a number of substantive areas where the State intends to work toward improving existing programs. Possible approaches for the State to take in resolving these issues will be suggested.

Three categories of issues will be discussed. Resource protection and restoration issues that have been identified include "the protection of coral reefs; the maintenance of minimum freshwater flows into estuaries; aquatic preserves;

the restoration of waterbodies; the management of state-owned lands; and the protection of barrier islands, beaches and dunes."[170] Although these topics should be of interest to the marina industry, the coastal development category is of more direct relevance. It includes a discussion of the issues of "port development; spoil disposal; marina siting; outer continental shelf activities; fisheries management; road construction; recreational development and access; and power plant siting."[171] [emphasis supplied]. A third category of coastal hazard and protection issues addresses "shoreline erosion; hurricane evacuation plans; road construction in flood plains; and the impact of public investment."[172]

The draft discussion of marina siting issues first describes many of the problems discussed elsewhere in this report. The physical characteristics of a good marina site are noted and then the inherent conflict between creating marinas and maintaining environmental values is portrayed. The thrust of the paper is to find ways of balancing the competing needs. Several specific problems are then identified:

(1) There is no effective means for ensuring consistency between the DNR State Lands Plan and DER's regulatory program.

(2) There is a need to determine the long term cumulative environmental impacts of marinas and to balance environmental and economic considerations in marina permitting.

(3) There is no standard methodology for identifying sites that are suitable for marinas and no common design standards for avoiding their adverse impacts.

(4) Communication between the marina industry and state regulatory agencies is ineffective.

(5) Local land use plans generally do not adequately provide for marina siting.

Three basic recommendations are suggested for the improvement of marina siting decisions. First, it is suggested that the Interagency Management Committee could examine the issues and make recommendations for their resolution. The Committee, for example, could propose criteria for balancing environmental and economic considerations. Second, closer coordination between state agencies and local governments with regard to the local government comprehensive planning process could be established. State agencies could work with local planners, for example, to jointly select suitable marina sites. State review of local government comprehensive plans could also specifically determine whether

the need for marinas has been adequately accomodated. Third, a closer working relationship could be developed between Florida Sea Grant and the Florida Coastal Zone Management Program. In this regard, it is suggested that the Marine Advisory Program could be used as a forum for communication between the marina industry and government agencies. In addition, joint research projects could be undertaken.

Florida's proposed Coastal Zone Management Program is far from perfect. It does, however, provide a beginning, a focus and a programmatic means for solving many of the difficult problems that face the marina industry, regulatory agencies and the public in the siting of marinas. Florida is now in its fourth year of funding under the federal Act. If an acceptable program is not submitted this year, there will be no more federal money to support further coastal zone management planning. If the program is accepted, however, millions of dollars will be made available to the state to develop and implement a coastal management program that includes a deliberate program for recreational marina development.[173]

SECTION III: MARINA SITING CRITERIA

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A. LOCAL GOVERNMENT PLANNING FOR RECREATIONAL MARINAS

Marina siting has traditionally been dictated only by the political and market forces associated with real estate development. An increased awareness of the harm to environmental resources that arises from indiscriminate coastal development led to the enactment of protective legislation. State and federal permitting agencies now closely scrutinize marina projects. Nevertheless, most local governments continue to ignore the unique impacts and needs of recreational marina development.

Many coastal communities in Florida have no local regulations or plans which specifically address marinas. Some local government codes mention marinas, but only to the extent of making them one of the many land uses permitted in a commercial zoning district. In these communities, the only explicit local policy for marina development is to prohibit marinas in residential areas. No distinction is made between a shopping center, which can locate inland, and a marina, which must be on the water. Other communities utilize a zoning classification that provides exclusively for marinas. While such a classification would appear to indicate a positive planning process for recreational marina siting, it most often arises as an after-the-fact designation. The zoning plan has merely recognized and designated marinas that were already in existence. Such marina zones rarely provide for the construction of new marina facilities by discouraging other types of development on sites suitable for marinas.

While local governments have had little to do with the siting of recreational marinas, many of them have developed regulations governing the allowable uses associated with recreational marinas. Such regulations normally cover subjects like permissible dock lengths, the provision of sewer and water facilities, whether motels and restaurants are allowed and other typical building requirements.

There are several notable exceptions in Florida to the pattern of marina planning and regulation outlined above. Three local government plans were discovered that attempted to quantify the need for marina facilities and to develop alternatives and guidelines for providing them. These were commissioned or conducted by Jacksonville, St. Petersburg and Metropolitan Dade County.[174]

1. The Jacksonville Study

The Metropolitan Jacksonville Water Resource Study, prepared by the U. S. Army Corps of Engineers for the City

of Jacksonville in 1979, included a "Small Boat Navigation Assessment" which identifies small boat navigation and facility needs for Duval County and parts of Clay County through the year 2030. To aid in satisfying current and projected needs, the report presented general planning and design guidelines for developing recreational boating facilities.

The twenty-seven marinas (one public) and twenty-four boat launching facilities in the study area were surveyed to ascertain current service capabilities. This data was compared to projections for facility demand through the year 2030 derived from an earlier regional study prepared by the Florida Department of Natural Resources and further refined by local field studies conducted by the Corps of Engineers. The comparison indicated that there will be a need for 466 new slips by 1980, 857 new slips by 1990 and 1,253 new slips by the year 2000. Boat ramp needs were also projected by the study but it was determined that there was a sufficient number of existing ramps to satisfy demand through the year 2000.

The Small Boat Navigation Assessment then identified eleven potential sites for the construction of three new public marinas. The eleven sites were chosen on the basis of the following criteria:

(1) Distance between the potential marina location and the population area to be served;

(2) Environmental sensitivity to development;

(3) Availability of the site for public acquisition;

(4) The potential for wind or wave damage;

(5) Water velocities in the area;

(6) Accessibility to roads;

(7) The extent of conflicts between the marina and adjacent land uses; and

(8) Bridge clearance.

Numerical scores were assigned each of the eleven sites based upon these eight factors and then totaled to identify the top three sites.

Appendix A of the Corps' study, entitled "Guidelines for Development of Small Boat Facilities," provides general planning and design considerations for development of recreational boating facilities as requested by the City of Jacksonville.

The guidelines state that, as a prerequisite to site selection, the physical characteristics and space requirements of the planned facility must be determined. Sixteen related factors are listed, including the need for launching lanes, parking space, fuel facilities, repair yards and fire fighting equipment. Once space requirements are determined, site analysis can begin. A major consideration, according to the report, is whether the site is available at acceptable cost. Four additional analytical criteria for potential marina sites suggested by the study are site access, site physical characteristics, hydraulic factors and environmental factors.

Easy access to the marina site by major highways should be provided as well as safe and convenient access from the principal residential areas served by the marina. Adequate on-site parking is also noted as an important site consideration. Relevant physical characteristics suggested by the study are land and water acreage needs, the load-bearing capacity of submerged bottoms and the proximity of hazards to navigation.

The principal hydraulic factors discussed in the report are waves, currents and depth. Water depth should be at least seven to eight feet at low water throughout the marina. A depth of greater than 20 feet, however, increases costs for pier construction. Siltation and shoaling patterns must be examined. Tendencies to deposit silt or sand at a site influence needs for maintenance dredging and protective measures. The selection of a location that is free from currents and waves may save money by reducing the need for protective works. Currents greater than one-half knot and waves higher than one-half foot are undesirable in boat mooring or docking areas.

Several general marina siting suggestions were made to avoid costly delays resulting from conflicts with environmental concerns:

(1) Sites in or adjacent to marshes or wetlands should be analyzed carefully for environmental conflicts.

(2) The presence of any rare or endangered species should be investigated during the selection process. Sites providing habitat for such species should be avoided.

(3) Sites adjacent to areas where commercial fishing, trapping, or harvesting of sea life occurs should be avoided.

(4) Preliminary evaluation of water pollution problems and socio-economic conditions may help one to anticipate the nature and degree of future conflicts.

It is recognized in the study that a more detailed assessment of all environmental, social and economic impacts of a proposed project would be needed when necessary permits are sought.

The Jacksonville study examined local boating demands and current facilities well but did not satisfactorily integrate ecological concerns into its planning analysis. The study fails to identify the major factors which may affect the environmental quality of marina sites. For example, the report states a marina basin should be at least seven to eight feet deep at low water and observes that currents greater than one-half knot and waves higher than one-half foot are undesirable in boat mooring and dock areas. It does not discuss, however, the propensity of deep water to stratify or the effect upon circulation and flushing if significant oceanic forces are lacking. The study places a premium on economic efficiency but overlooks, for example, the economic loss that may occur through indiscriminate habitat destruction. The study simply does not attempt to adequately identify potential adverse environmental impacts and offer suggestions for avoiding or mitigating those impacts.

2. The St. Petersburg Study[176]

The City of St. Petersburg is currently in the process of determining the best location for a new city marina. Due to the high cost necessary to acquire privately owned waterfront property and the scarcity of vacant waterfront lands, the city planning staff looked only at city-owned properties for a marina site. "Environmental sensitivity" and boat travel distance to the Gulf of Mexico caused city properties in the northeast part of St. Petersburg to be immediately eliminated. Five potential sites remained for further analysis.

Using the City's objective to build a marina with a minimum of 100 boat slips, the possibilities were narrowed to four of sufficient size. These four were evaluated against the following factors:

Environmental factors:

important marine habitat
water circulation
extent of required dredging
secondary impacts related to boat traffic

Economic factors

boat basin cost
channel dredging cost
breakwater construction
travel time
expansion potential
marina operation cost
support facility cost
location relative to residential development

Each of the above criteria was assigned a weighted value based upon a subjective determination of its importance in the selection of a marina site. An evaluation matrix was then utilized to compare the scores of each of the four proposed sites. Two of the site choices scored equally high. The lower two were eliminated. The high scores were based on relatively low economic costs and minor environmental impacts. Finally, the last two sites were examined on the basis of every possible adverse consequence to ascertain which presented the least risk. That site was selected as most appropriate for the new city marina.

St. Petersburg's choice appears to be a good one. The site selected will be a huge borrow pit dug by the Florida Department of Transportation to improve Interstate 275. An unsightly, disturbed area will thus be greatly improved. Instead of threatening environmental resources, the marina construction may ultimately enhance them. Certainly, the economic, aesthetic and recreational value of the area will be improved.

3. The Dade County Study[177]

In response to a recognized need for additional recreational marinas in Dade County, the Dade County Commission contracted to have a plan prepared to expand park and marina facilities at three county-owned properties on Biscayne Bay. Commendably, the Commission requested that this plan be made a part of a more comprehensive county-wide master plan for both public and private marina development over a twenty-year period. The major components of the "Marina System Plan" are 1) a forecast of boat ownership and demand distribution in the County; 2) marina system alternatives; 3) system evaluations; and 4) the development of an optimum system plan.

Forecasts of Dade County marina needs were developed for the short-term (1977-1982), medium-term (1983-1987) and long-term (1988-1997) time frames. The aggregate forecasts were broken down into more specific categories such as boat type and size, distribution of owner residences, number of

predicted outings and even ramp use. The need to refine these forecasts through continuing experience was recognized as essential to the plan's growth and usefulness over time.

After identifying several categories of marinas by use, "specialty" (i.e., as part of a convention center or residential development complex), and configuration, six alternative systems were developed in the Marina System Plan that could meet the various marina facility needs that were forecasted. The alternative systems ranged from the utilization of one large, centrally located marina to many small marinas located throughout Biscayne Bay, with variations in between. The six alternatives were chosen solely on the basis of demand forecasts so as to preclude the premature elimination of any proposal from further analysis.

To evaluate the alternatives, each was weighed against various factors outlined in the plan. Three categories of factors were used: physical space requirements for land and water uses, environment impacts and the financial costs.

Physical space requirements are dependent on several factors. Boats can be stored in several ways, each with its own space requirements ranging from a possible 33 boats per acre when dry stacked in four levels to 3.3 boats per acre when using a portable anchor. The size and location of land-based ancillary facilities is also a major factor. All upland facilities should be located and scaled to complement each other. The Marina System Plan considered the need for maneuvering area within the marina basin and at the entrance channel as well as the space requirements for launching facilities and vehicular parking.

The environmental assessment section of the plan begins with an environmental inventory of the Biscayne Bay ecosystem and its processes. The importance of the red, black and white mangrove association and other coastal vegetation and the rookeries in the area were noted. This section also recognized the unique hydrologic patterns of Biscayne Bay which are described as a shallow elongated subtropical lagoon. The Marina System Plan states that the question of the bay's capacity was often raised in the course of the evaluation process. It was recognized that when boat use exceeded a certain level, the ability of the bay environment to recover would be destroyed. This was thought to be especially critical in South Bay where reduced currents, low flushing rates and other physical factors made it most sensitive to development impacts. Since the question of bay capacity was determined to require a large study in itself, the plan recommends that a study be undertaken as soon as possible. It was further recommended that no development beyond the short-term system in South Bay take place until such a study is completed.

Appendix A of the Marina System Plan outlines a number of "marina development considerations." Salinity barriers, areas of greatest flood potential, turbidity and stormwater runoff are discussed. The plan recommends development in a manner that does not alter tidal flushing patterns or nutrient flow and minimizes coastal vegetation destruction. Importantly, the plan recommends against the placement of a marina on the coastal edge or fringe of the Bay. It suggests, instead, that the marina be placed farther inland and made accessible by a channel through the coastal fringe.

A matrix was used to compare the alternative systems by ranking them against the evaluative factors developed in the plan. Because of the difficulty of accurately quantifying the relative importance of the evaluative factors, no relative weights were assigned. The ratings outlined in the matrix were intended to indicate the relative performance of the system alternatives against a particular factor only. Therefore, unlike the St. Petersburg study, the matrix values for each alternative were not totaled to determine the optimum system.

The evaluation matrix did not pinpoint a single system alternative which could be termed optimum. The matrix did, however, identify systems that excel in one or another factor. By attempting to maximize the positive aspects of every factor, a new alternative was designed to represent the optimum marina system. Accessibility, differential bay capacity, induced development and ecological factors were considered most important in the final selection.

The optimum system plan is based on a conceptual goal for 1997. It provides for 3,600 new berths in Dade County by 1982, 2,500 more by 1987 and 6,200 more by 1997, or a total of 12,300 more berths than there are at present. The plan would be implemented in stages, corresponding to the short, medium and long-term forecasts for facility demand. At each stage, new berths would be developed in locations and in numbers that also reflect the facility demand which, as noted previously, is to be continuously updated. New berths would be created by the expansion of existing marinas and the construction of new ones.

The Dade County study is the most comprehensive of the three in identifying considerations that are relevant to the selection of a recreational marina site. Unlike the other two studies, it encompassed both public and private marina site alternatives. Most importantly, the Marina System Plan was broad enough in scope to allow for the development of "system" alternatives. Its treatment of environmental factors, however, was not of the same depth as its treatment of boater demand distributions and other factors. In the beginning of the study, where basic objectives of any marina

site are set out, no mention is made of the need to minimize adverse environmental impacts as a basic objective of the selection process. Economic considerations and user convenience are given primary emphasis throughout the report.

It should be noted that the Dade County Marina System Plan was completed before the rules were adopted for the Biscayne Bay Aquatic Preserve. In the discussion of those rules, which appears in another section of this report, it is concluded that the development of new marina facilities in Biscayne Bay may be very difficult in the future. The effect of the aquatic preserve rules upon the implementation of Dade County's Marina System Plan is not altogether clear, but could be extreme. The plan's recommendation that new marinas be placed inland of the coastal fringe, with access by a single channel, is a sound one and may be compatible with the rules for the Biscayne Bay Aquatic Preserve. If a new marina was planned to be placed inland and built on an existing canal and basin, it would seem even more reasonable to permit its construction.

B. ENVIRONMENTAL CRITERIA FOR MARINA SITING

The goal of the marina siting process should be to choose the most suitable site for the construction and operation of a marina. Site suitability is now most often determined largely by the environmental regulatory agencies in the review of permit applications for specific marina projects. Sound planning requires a more comprehensive approach to marina development. If analysis is confined to a single site, there may be more suitable sites that are not considered. Only by evaluating the relative suitabilities of alternative sites can a region's need for marina facilities be accomodated with the least possible loss of environmental values. The discussion of environmental considerations in subsection 1 is intended to aid in the evaluation of marina sites. Whether a particular site is suitable for use as a marina also depends on the design, construction and operation of the facility. In subsection 2, techniques are presented to aid in the mitigation of marina development impacts. These mitigation techniques are derived from the cited literature and from permit review documents. They may not always be applicable and are not intended for inflexible regulatory application. Rather, they should be used to guide imaginative and environmentally sensitive design.

1. Environmental Considerations

The coastal ecosystem is a complex interacting system of biologic communities and their physical environment.[178] Nitrogen, carbon, oxygen and other elements move in continuous cycles. Energy cascades through the system, powering it. A diversity of well-adapted organisms pass through elaborate life cycles in concert with the physical processes. The destruction or alteration of important components of the ecosystem has profound and often unpredictable impacts on the structural and functional integrity of the system. Aspects of the system of known value to humans such as productive fisheries and clear water may be degraded.

a. Vegetation and Habitat

Marinas should generally not be sited in areas where it is necessary to disturb large areas of vegetation. Plant communities such as mangroves, sea grass beds, or salt marshes perform vital functions in the coastal ecosystem. Using sunlight, plants convert nutrients into food that is usable by animals. Vegetation is thus the basis of the food chain. Mangrove leaves, for example, fall into the water and become detritus. Microorganisms cover the leaves, breaking them down into usable nutrients. Within 30 days after dropping into the water, the protein content of mangrove leaves is

trebled.[179] This rich food is then consumed by a variety of small crustaceans and other creatures which are consumed by larger creatures, and so forth up the food chain. The important fact to keep in mind is that the mangroves are the foundation of this chain. If the mangroves are removed and replaced by coastal development, then the rest of the biologic community that depends on mangroves is consequently diminished. Other similar sources of plant food are sea grasses, seaweed, salt marsh grasses and the algae growing on the surface of mudflats. Each site must be examined individually to identify the sources of primary plant productivity. Appropriate protection should then be given those areas.

In addition to serving as a source of food, vegetation serves other habitat needs of coastal organisms. Vegetation may provide shelter, nursery, feeding and breeding areas.[180] Rocks, oyster bars, inlets or other physically recognizable areas might also serve these functions.[181] Careful consideration should be given to their preservation when siting marinas. Areas that provide habitat for rare or endangered species should obviously be avoided. In order to maintain the integrity of a habitat, it may be necessary to establish a buffer zone.

Another important function of vegetated areas is to remove harmful pollutants from runoff.[182] By trapping silt and absorbing excess nutrients, vegetation can buffer the coastal ecosystem from upland sources of these pollutants. Areas that perform this function should also be protected.

Vegetation and other areas of habitat can be destroyed in a variety of ways. The most obvious is by direct dredging or filling and replacement with a channel or dry land. Although, viewed alone, one project might have a small impact, the cumulative effect of the project together with others might be quite destructive. Already in Florida vast areas of coastal wetland vegetation have been eliminated. Additional destruction should be avoided whenever possible.

One method of avoiding further destruction in the siting of new marinas would be to utilize previously disturbed sites. Numerous navigation channels have been cut into the Florida coast. New marinas should be located on existing channels when possible rather than on sites where new channels would have to be dredged. Many areas have extensive systems of dredged canals with single family homes on filled land. Rather than dredging undisturbed bay bottoms and filling virgin wetlands, new marinas might be placed in these areas.

b. Circulation System

The circulation of water in a basin is of great importance in siting a marina. Factors affecting the circulation

system include freshwater inflow, tidal actions, oceanic forces and wind. Tidal action is generally the dominant force in the circulation system. Even this force, however, will vary with the shape, size and bottom material of the system's component parts.[183] All circulation forces tend to be reduced when tidal amplitudes are low and the basin is deep. Circulation affects such environmental aspects of the basin as the transportation of nutrients,[184] flushing,[185] mixing, [186] and the salinity regime.[187]

There are four types of basin circulation.[188] Oceanic circulation is characterized by the presence of strong water forces such as tides, waves or currents. Stratified estuarine circulation is characterized by "opposite flows."[189] Such flows occur when heavier saltwater from the ocean moves under the lighter freshwater. The oceanic saltwater is carried landward on the bottom while the freshwater is carried seaward at the surface. In non-stratified estuarine circulation there is a total mix of the water mass.[190] The water column is thus relatively homogeneous from top to bottom. There is little water movement in a basin with lagunal circulation.

A decision-maker should consider three circulation characteristics in particular--the pattern of flow, the velocity and the flushing rate of the basin. The circulation flow pattern "transports nutrients, propels plankton, spreads 'seed' stages (planktonic larvae of fish and shellfish) . . . controls salinity, shifts sediments about [and] mixes water."[191] The velocity of the water flow is important because of its effect on the dispersal and dilution of pollutants. In considering changes in velocity, however, it should be remembered that water can be made to pass too quickly through the system. That would be the case, for example, if marine plants were not able to fully assimilate nutrients in the water.[192] The flushing rate is the rate at which estuarine water is exchanged with ocean water. The rate of flushing has a major influence on whether pollutants build up in a basin or are transported out of it. It is often related to the rate of freshwater inflow. A decrease in freshwater inflow, for example, can limit the seaward flow of inner estuarine waters. They may simply oscillate with the tide, remaining in the basin while the concentration of pollutants increases to damaging levels.[193] Where flushing rates depend on freshwater inflow, the lower rate of exchange during dry seasons is accompanied by a higher risk of harmful pollution accumulation.[194]

Unfortunately, some of the physical characteristics that are favorable for mooring vessels do not favor basin circulation. The best circulation occurs in basins that are subject to strong forces. Conditions are optimum for mooring, on the other hand, where there are both small waves and weak

currents. Lagoons are thus ideal for the safe mooring of boats. Lagoons, however, depend on wind for circulating water, have no significant freshwater inflow and often have a constricted outlet to the sea. They tend to be poorly flushed and to lack the ability to disperse pollutants. From an ecological viewpoint, it would thus be highly undesirable to locate a marina on a lagoon.

Generally, marinas should be located in areas that are well flushed so that pollutants will be carried out and dispersed in more open waters rather than accumulated in the marina basin. In addition, marinas should be located in areas where it will not be necessary to interfere with important circulation patterns.

c. Salinity Regime

Probably the single most influential biological parameter in an estuary is salinity.[195] Each estuarine creature has a range of tolerable salinity levels within which it must exist. Cyclic variations in salinity determine behavioral response patterns in certain organisms upon which the continued existence or distribution of the entire species may depend.[196] For example:[197]

> The three species of economically valuable shrimp all use the estuary as a nursery ground. The young shrimp respond to salinity differences as small as one part per thousand, becoming most active in water of high salinity but settling into the bottom at lower salinities. Such a behavior pattern allows tiny shrimp to travel two or three miles on each flood tide when entering an estuary. Postlarval and juvenile shrimp respond so strongly to salinity differences that there is a direct correlation between commercial catches of shrimp and the previous year's rainfall.

In addition, salinity gradients can create barriers which protect estuarine organisms from predators.[198]

The salinity level in an estuary at any given time is dependent upon another variable--the amount of entering freshwater. The amount of seawater, and therefore the amount of salt in an estuary, is relatively constant. Variations in the concentration of salt in estuarine waters largely depends upon how much freshwater flows into the area to dilute the seawater. The functioning of the estuary can be greatly impaired if the amount of freshwater flowing toward the estuary is altered. Diversion or consumption upstream can thus have a significant impact upon the estuary.

Permanent or extended alterations of salinity may biologically stress an estuary. Indications of the stress may be subtle or slow to appear. Such effects may include the loss of certain species in their entirety and changes in the relative dominance of others.[199] For example, increasing levels of salt may cause an increase in salt tolerant mosquito and other insect populations and the destruction of certain vegetation and oyster bars. Decreasing salinity by increasing freshwater inflow, on the other hand, may be just as damaging. In general, therefore, a site should be chosen such that a marina can be constructed without altering the natural salinity regime.

d. Light Regime

Sunlight is the primary energy source of the ecosystem. It drives photosynthesis and thus controls the abundance of food. The parameters of the light regime and particularly the depth to which light penetrates the water are thus of great significance to the functioning of the ecosystem.

Three factors that are significant in the light regime are the depth of water, its clarity (or turbidity) and the extent of floating plant life.[200] The deeper the water, the less light reaches the bottom. With increased turbidity or floating plant life, light penetrates to lesser depths.

The light regime is significant in siting a marina for several reasons. Dredging, which is usually necessary in constructing a marina, increases turbidity. So does boat traffic through shallow areas. A poorly flushed marina with input of nutrients may be susceptible to floating plant growth, although this is rarely a problem in Florida. Any of these conditions may interfere with the natural light regime to the detriment of the ecosystem. In general, the natural light regime should not be altered in either direction. Increasing the clarity of a water basin such as Apalachicola Bay, for example, would be as problematic as increasing the turbidity of Biscayne Bay.

e. Interrelationships

The factors discussed above involve complex and often subtle interrelationships. It is difficult to compartmentalize them for consideration. When evaluating a water basin, it is essential to analyze it as a whole.[201] For example, increasing the flow of freshwater into a basin may help to flush out pollutants and would thus appear beneficial. But it might also interfere with estuarine organisms by disrupting salinity gradients.

In evaluating a site it is also necessary to be cognizant of temporal as well as spatial characteristics of the ecosystem. Physical processes within the water basin should be related to the biological activities which occur there at that time.[202] Removing vegetation that would retain precipitation has no particular importance during the dry season, for example. But during the rainy season, the vegetation removal will decrease the salinity concentrations by increasing freshwater inflow.[203] This will affect all parts of the ecosystem which depend upon particular salt concentrations. The change in salinity gains added importance if the rainy season occurs during a time in which breeding fish require the natural salinity regime for successful progagation. Valuable fish and shellfish spend critical portions of their lives in estuarine ecosystems. Included among these are shrimp (brown, pink and white), mullet, winter flounder and the striped bass.[204] It is important, therefore, in order to adequately evaluate the water basin's suitability for a marina facility, not only to develop a physical and temporal description of the basin itself, but of the activities within the basin as well.

2. Mitigation Measures

The ultimate environmental impact of a marina depends on the design, construction and operation of the facility as well as the choice of site. For example, a naturally well-flushed site may be suitable for development as a marina, but only if the facility is designed so that the flushing and circulation patterns are not obstructed. The techniques presented below are intended to aid in mitigating the environmental impacts of marina development. They are derived from the cited literature and from permit review documents. They may not always be applicable, however, and are not intended for inflexible regulatory application. Rather, they should be used to guide imaginative, environmentally sensitive, site-specific design.

a. New residential developments should utilize centrally located marina facilities rather than providing navigation access to individual lots.[205] By concentrating access for many crafts in a single area, the disruptive influence on coastal wetlands is reduced. Further, both the control and monitoring of upland support activities can be accomplished more effectively.[206]

b. If it is necessary to destroy areas of important vegetation or other vital habitat, an area of greater value should be restored or created elsewhere in the ecosystem. The net loss of vegetated wetlands or other vital components of the coastal ecosystem is no longer tolerable in Florida because so much has been lost already. If it is necessary

to destroy a portion of salt marsh to site a marina, for example, then an area of salt marsh that had been destroyed previously should be restored to compensate for the loss. In order to allow for a margin of error and to provide for a net improvement, the size or value of the restored area should be larger than the area to be destroyed.

c. To minimize disruption of wetland vegetation or habitat, ancillary marina facilities, such as parking areas, boat storage housing and repair yards should be situated in upland areas.[207]

d. To reduce the possibility of boat traffic tearing up nearby submerged grass beds or causing siltation problems, the entrance channel should be well marked and boaters should be required to stay within the designated channel.[208]

e. The entrance to the marina should be at least 1,000 feet from shellfish harvesting areas to reduce the possibility of polluting or silting these areas.[209]

f. Avoid the need for dredging by:

1) building slips for boats with deep drafts in naturally deep water;

2) extending piers and docks as far as possible into naturally deep water;[210] and

3) providing storage for smaller boats with elevated boat lifts and racks located on uplands.[211]

Dredging tends to despoil estuarine spawning grounds and nurseries. The turbidity created by dredging can suffocate fish and other motile organisms by clogging their gills. Sessile benthic organisms such as clams and oysters can be buried. Water temperature may be altered by changes in the sunlight reflective qualities of the water. Finally, light penetration can be reduced to almost zero resulting in a drastic reduction in plant photosynthesis and the eventual death of submerged plants and algae. The impacts of dredging are site-specific. The exact impacts of dredging in small, recreational marinas is difficult to define, however, since most studies have concerned large boat harbors and rivers.[212]

g. If dredging is needed, carefully choose sites for the disposal of construction and maintenance dredge spoils.[213] Permanent spoil disposal sites should be set aside in non-wetland areas. The site should be designed to contain the material in such a manner as to prevent dispersal into adjacent wetland areas.[214]

If proper plans are made, the disposal of dredge spoil need not result in adverse impacts. Dredge materials can be used to create new salt marshes, to create islands suitable for colonization by birds and as sand and gravel for construction.[215] The possibility that dredge spoils are contaminated must be considered, however.

h. If dredging is needed, it should be timed to avoid interference at critical periods in the life cycle of important species.[216] Dredging may have a particularly severe impact on the submerged grass community. This is significant in that commercially important species such as sea trout, red drum, snapper, sheepshead, mullet, shrimp and crab spend some portion of their life cycle within such grass flats.[217] There should be a temporal analysis of the biological activities with which dredging might conflict.

i. Use sloping riprap walls for erosion control rather than bulkheads whenever possible.[218] Although this guideline is desirable, it should be noted that such sloping walls do require more space than vertical bulkheads, and particular aspects of the marina being examined may preclude their use. Where bulkheads are essential, a shallow zone should be maintained against the bulkheads with not more than a 3:1 slope starting at least ten feet from the bulkhead.[219]

Bulkheads are solid structures designed for shoreline stabilization. Among the impacts created by such structures are a) a restriction of natural animal movements into and out of the marina water basin; b) a restriction of circulation and water mixing; and c) interference with natural groundwater drainage into the water basin.[220] Further, although a bulkhead absorbs the impact of wave energy, thereby protecting the shore, in so doing it creates reflection waves which disturb sediments and encourage scouring at the bulkhead's base.[221] Such impacts would be mitigated by the use of sloping riprap structures.

j. If either bulkheads or riprap walls are necessary, they should be located behind all marshland and as far upland as possible.[222] Access can be provided over wetlands by piers. While creating disruptions to upland vegetative communities, such placement minimizes the adverse impacts to the wetland community.

k. Use floating breakwaters rather than solid breakwaters whenever possible. [223] Other ways to mitigate the adverse impacts of breakwaters are to leave the bottom of the breakwater open, to leave openings every few inches along the breakwater, and to leave the area near shore open.[224] The free passage of fish and the maintenance of current and sediment patterns are thus facilitated. When solid breakwaters

are used, their location should be planned with consideration of natural current and sediment flow, wave patterns and overall flushing characteristics.[225]

l. All water areas in the marina should be well flushed. All structures should be designed to allow the unimpeded circulation of water. Flushing is necessary to remove pollutants from the marina basin. Adequate flushing is necessary for both the natural water basin and artificially created portions of the marina. Canals, used for either navigation access or for drainage, are often plagued by poor circulation resulting in poor water quality.[226]

To avoid circulation problems the following guidelines should be followed:[227] a) The depth of boat basins and access channels should not exceed that of the receiving body of water; b) basins and channels should not be located in areas of poor water circulation;[228] c) channels should have gentle grades, with no sills or bottom holes; d) canals should be tapered toward the headwater both in vertical and horizontal planes; e) floating docks should be used if possible, and if not possible, docks should be built on pilings rather than on a solid base.[229]

m. The depth of the water basin should not exceed the depth of the light's penetration. Light is the most important energy source to the coastal ecosystem. If the marina basin is too deep to allow for light penetration to the bottom, photosynthesis will be reduced or eliminated with the eventual destruction of submerged grasses and algae. If greater depth is needed for deeper draft boats, such boats should be docked near the basin's entrance so the basin can slope upward from the receiving body.[230]

n. Use central wastewater treatment facilities. Septic tank systems which can leach polluted groundwater into the marina should be avoided.[231] If a septic tank must be used, it should be designed with sufficient capacity and located in proper soils far enough away from surface waters to prevent the leaching of contaminants.

o. The drainage system should be designed, constructed and operated to release stormwater runoff into estuarine waters at a rate, volume and quality approximating natural conditions.[232] The drainage of improperly managed runoff into the basin of a marina disrupts salinity regimes and transports sediment, nutrients and other pollutants from sources on land to coastal waterbodies. When vegetation is cleared and the soil is compacted or covered with impervious surfaces, the hydrologic characteristics of the watershed are also altered. Since water flows faster over a smooth surface and less of it can infiltrate the soil, both the rate and quantity of runoff are increased. Estuarine systems that are adapted to natural levels

and timing of freshwater inflow may be severely impacted. As the water flows over unprotected soils or through watercourses with inadequate capacity, it erodes particles of soils. The resulting sediment can smother marine life that is not adapted to such conditions and can fill marina basins, necessitating more frequent maintenance dredging. Sediment is also a major transport mechanism for other pollutants, which attach themselves to the particles and are moved with them. Runoff also picks up and carries to the coastal ecosystem a variety of other noxious substances such as oil, litter, heavy metals, pesticides, animal waste and nutrients which collect on surfaces in the drainage basin.

The impacts of stormwater runoff can be mitigated, however, if proper control measures are incorporated into the design of a marina. The drainage system should be designed so that the important characteristics of the runoff--its rate, volume and quality--are approximately the same as the runoff that naturally flowed into the basin.[233] The following control measures can be used:

1. Retain or create vegetated buffers between land and water areas.[234]

2. Rather than channeling runoff directly into waterbodies, route it through swales, wetlands, retention and detention ponds, and other systems designed to increase the time of concentration, decrease velocity, increase infiltration, allow suspended solids to settle and remove pollutants.

3. Install erosion and sediment controls before construction commences.

4. Minimize clearing and the construction of impervious surfaces. Use materials such as crushed rock or shell where possible rather than more impermeable surfaces.[235]

CONCLUSION

There has been a phenomenol increase in the popularity of recreational boating in Florida. Marina capacity has not been expanded to keep abreast of the increased demand, though, and many residents and tourists have difficulty gaining access to the publicly owned waters of the State. Both the economy and public awareness of the value of natural resources suffer from this lack of necessary facilities.

Many factors undoubtedly have led to this failure. It is expensive to build and operate a recreational marina. The return on investment is not as lucrative as in some other businesses and the marina developer is often unable to compete effectively for scarce capital. Many suitable sites for marina development have consequently been preempted in recent years for the construction of condominia and other land uses that are not so dependant on a waterfront location.

Another factor identified by many marina operators as slowing the expansion of recreational marinas is the environmental regulatory process. Several regulatory programs have been established to protect the natural resources of Florida from the abusive exploitation that was so common until just a few years ago. Their complexity has made the marina siting process uncertain, difficult, expensive and time consuming. One purpose of this report is to assist persons involved in the marina siting process by identifying the major regulatory controls and explaining the criteria used by the agencies in making their determinations. Familiarity with the information in this report should help a marina developer avoid unnecessary delays. [236]

Ultimately, however, the marinal siting process should be made less dependent on ad hoc regulation and more a part of a conscious, planned allocation of our natural resources. Suitable marina sites should be selected and reserved for that purpose against inconsistent uses. Environmental protection and sensitive resource use could both be improved by such planning. At present, the nascent Coastal Zone Management Program offers the best potential for creating such a process and the future of recreational boating is closely related to the success of that program. Meanwhile, developers, environmentalists and government officials will continue to plan for and assess the effects of specific marina development proposals. This report, it is hoped, will make their tasks somewhat easier.

END NOTES

1. Marex and National Association of Engine and Boat Manufacturers, Boating 1976, a statistical report on America's top family sport (1976), as cited in Falk and Ross, Coastal Planning for Recreational Boating and Marinas: A Survey of State CZM Agencies (1977).

2. New England Marine Advisory Service (NEMAS) Information 102, Univ. of R.I., Narragansett, R.I. (Mar-Apr 1979).

3. Kauffman, Boat Launching--Reservations Only, Paper presented at the First National Conference on Marine Recreation, held in Newport Beach, Calif., October 2-4, 1975, cited in Falk and Ross, Id.

4. Florida is known to be the leader in outboard motor sales. Information 102, supra note 2.

5. "[T]here is indication, but little documentation, that there is and will continue to be for some time a serious shortage of boating facilities, particularly dock space for larger craft." Falk and Ross, supra note 1, at 12.

6. See, e.g., Ketchum, The Water's Edge: Critical Problems of the Coastal Zone, 6-10 (1972).

7. U. S. Council on Environmental Quality, Environmental Quality: First Annual Report, 175-78 (1970).

8. Dr. Eugene Odum computed in 1971 that the economic value of the services an estuary performs free (e.g., wastewater treatment, food supply for finfish and shellfish, and storm protection) can be approximated at $82,000 per acre. For an excellent discussion of the value of wetland ecosystems, see Odum, Value of Wetlands as Domestic Ecosystems, appearing in Proceedings of the National Wetland Protection Symposium, 9-18 (Nov. 1978), U.S. Dept. of Interior, FWS/0135-78/97.

9. See generally, Chmura and Ross, The Environmental Impacts of Marinas and Their Boats, A Literature Review With Management Considerations, 3 (1978).

10. P.L. 92-500, §404, 33 U.S.C. §1344 (Supp. 1976).

11. 33 U.S.C. §403 (Supp. 1976).

12. 33 U.S.C. §1362(7) (Supp. 1976).

13. See 40 C.F.R. §323.2 (1979).

14. Weber v. Board of Harbor Commissioners, 85 U.S. (18 Wall.) 57 (1873).

15. The relevant provisions of the 1972 amendments were challenged for being outside the scope of federal regulatory authority and the challenge was defeated. United States v. Holland, 373 F. Supp. 665 (M.D. Fla. 1974).

16. 42 Fed. Reg. 37, 161 (July 19, 1977).

17. 33 U.S.C. §1344(b), (c) (Supp. 1976).

18. 33 U.S.C. §§1401-1441 et. seq. (Supp. 1976).

19. 40 C.F.R. §220-29 (1979).

20. 33 C.F.R. §322.5 (1979).

21. Fla. Stat. §253.123 (1979).

22. Fla. Stat. §403.031(3) (1979).

23. Bucki v. Cone, 25 Fla. 1, 6 So. 160 (Fla. 1889).

24. Broward v. Mabry, 58 Fla. 398, 50 So. 826 (Fla. 1909).

25. F. Maloney, S. Plager, F. Baldwin, Water Law and Administration: The Florida Experience 40 University of Florida Press (1968).

26. Odum v. Deltona Corp., 341 So. 2d 977 (Fla. 1977).

27. Adams v. Crews, 105 So. 2d 584 (Fla. 2d D.C.A. 1958).

28. Fla. Stat. §403.061(14) (1979). Prior to the Environmental Reorganization Act of 1975, Chapter 403 contained no specific reference to dredging and filling activities.

29. Fla. Stat. §403.031(3) (1979).

30. See, e.g., State Dept. of Poll. Control v. Universal Adams, Inc., 44 Fla. Supp. 165 (9th Cir. Ct. 1974), where the construction of a golf course in a wetland area adjacent to navigable waters was held to require a permit because polluted stormwater runoff could be expected to adversely affect the navigable waters.

31. Fla. Stat. §253.124(1) (1979). See also Fla. Admin. Code §17-4.28(11)(a)(3).

32. Fla. Stat. §253.124(2) (1979).

33. Albrecht v. Dept. of Environmental Regulation, 353 So. 2d 883 (Fla. 1st D.C.A. 1978).

34. Fla. Stat. §253.76 (1979).

35. Fla. Stat. §403.804 (1980 Supp.).

36. Jefferson National Bank v. Metropolitan Dade County, 271 So. 2d 207 (Fla. 3d D.C.A. 1972).

37. Id. This interpretation was later affirmed somewhat confusedly in Board of Trustees of the Internal Improvement Trust Fund v. Sea-Air Estates, Inc., 327 So. 2d 823 (Fla. 3d D.C.A. 1976).

38. Fla. Stat. §403.031(3) (1979).

39. This summary of the joint permit application process is adapted from the manual of instructions published in the Florida Administrative Code at section 17-4.31. This section should be consulted for essential details of the application.

40. Fla. Admin. Code §17-4.31 (Appendix B).

41. Fla. Admin. Code §17-4.29(3).

42. 33 C.F.R. §320.4(a)(2) (1979).

43. 33 C.F.R. §320.4(b)(1) (1979).

44. 33 C.F.R. §320.4(b)(4) (1979).

45. 33 C.F.R. §320.4(d) (1979).

46. Fla. Stat. §380.06(1) (1979).

47. Fla. Admin. Code §22F-2.01-2.12.

48. Fla. Admin. Code §22F-2.09.

49. This was the holding in General Development Corp. v. Division of State Planning, 353 So. 2d 1199 (Fla. 1st D.C.A. 1977).

50. Fla. Stat. §380.06(4)(a) (1979).

51. Fla. Admin. Code §22F-1.16.

52. Fla. Stat. §380.06(12) (1979).

53. Id.

54. Fla. Stat. §380.06(4) (1979); Fla. Admin. Code §22F-1.16.

55. Fla. Stat. §380.06(5)(c) (1979).

56. Interview with staff of the Bureau of Land and Water Management, Department of Community Affairs (Nov. 1979).

57. Fla. Stat. §380.06(6) (1979).

58. Fla. Stat. §380.06(7) (1979).

59. Fla. Admin. Code §22F-1.21(2).

60. Fla. Stat. §380.06(8) (1979).

61. Fla. Stat. §380.06(11) (1979).

62. Fla. Stat. §380.06(7) (1979).

63. Fla. Stat. §380.06(13) (1979).

64. Fla. Stat. §380.07 (1979).

65. Fla. Stat. §380.07(5) (1979).

66. Fla. Stat. §161.041-.042 (1979).

67. Fla. Stat. §161.052-.053 (1979).

68. Fla. Admin. Code §16B-24.05(1)(b).

69. Fla. Admin. Code §16B-24.05(3), (6).

70. Fla. Stat. §161.053(1) (1979).

71. Fla. Stat. §161.053(3) (1979).

72. Fla. Stat. §161.052(4), (5) (1979).

73. Fla. Stat. §161.052(3) (1979).

74. Fla. Admin. Code §16B-25.04(a).

75. Interview with personnel in the Bureau of Beaches and Shores, Department of Natural Resources (April 17, 1980).

76. Id.

77. Fla. Admin. Code §16B-24.06(4).

78. Fla. Admin. Code §16B-24.07(3).

79. Fla. Admin. Code §16B-24.08(2)(f).

80. Fla. Admin. Code §16B-25.09(1).

81. The ordinary high water line is typically defined as a mark or line "where the presence and action of water are so common and usual and so long continued in all ordinary years, as to mark upon the soil of the bed a character distinct from that of the banks, in respect to vegetation, as well as in respect to the nature of the soil itself." Howard v. Ingersoll, 54 U.S. 381 (1851). See generally, Maloney, The Ordinary High Water Mark: Attempts at Settling an Unsettled Boundary Line, 13 Land & Water L. Rev. (1978).

82. "Mean high water line means the average height of the high waters over a 19-year period. For shorter periods of observation, mean high water means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean 19-year value." Fla. Stat. §177.27(15) (1979). See generally Maloney & Ausness, The Use and Legal Significance of the Mean High Water Line in Coastal Boundary Mapping, 53 N.C.L. Rev. 185 (1974).

83. Broward v. Mabry, 58 Fla. 398, 50 So. 826 (1909).

84. Interview with staff of the Department of Natural Resources (February 1979).

85. Fla. Admin. Code §16C-12.14(1)(a).

86. Id.

87. Id.

88. Fla. Admin. Code §16C-12.14(1)(a)(6).

89. Interview with staff of the Department of Natural Resources (February 1979).

90. Id.

91. Fla. Admin. Code §16C-12.14(1)(b). This rate equals $1,612.00 per acre.

92. Fla. Admin. Code §16C-12.14(1)(d).

93. Fla. Admin. Code §16C-12.14(1)(e).

94. Fla. Admin. Code §16C-12.14(1)(k).

95. Fla. Laws 1975, ch. 75-172; Fla. Stat. §§258.35-.46 (1979).

96. Fla. Stat. §258.36 (1979).

97. Fla. Stat. §258.39-.392 (1979).

98. "Essentially natural condition" is defined in the Biscayne Bay Aquatic Preserve rules as "those conditions 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." Fla. Admin. Code §16Q-18.04(10).

99. Fla. Admin. Code ch. 16Q-18.

100. Fla. Stat. §258.42 (1979).

101. Fla. Stat. §253.12(2), §253.68 (1979).

102. Fla. Stat. §253.1221 (1979).

103. Fla. Stat. §258.42(3) (1979). Other allowable projects include public navigation projects, maintenance dredging for existing and navigation channels, structures for shore protection and approved navigation aids.

104. Fla. Stat. §258.43(2) (1979).

105. The rules were adopted on February 22, filed on February 29, and became effective on March 20, 1980.

106. Interview with DNR staff. The 35 aquatic preserves were actually created by five separate acts of the Legislature, the Florida Aquatic Preserve Act of 1975 being only one of them. The other acts (each creating one aquatic preserve) used different language than that found in the Florida Aquatic Preserve Act and the rules for these aquatic preserves may have to differ in a number of respects to conform with the specific enabling act.

107. Fla. Admin. Code §16Q-18.05.

108. Fla. Admin. Code §16Q-18.07.

109. Fla. Admin. Code §16Q-18.08.

110. Fla. Admin. Code §16Q-18.08(5).

111. "Extreme hardship" is defined in the rules as "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." Fla. Admin. Code §16Q-18.04(11).

112. Fla. Admin. Code §16Q-18.14(10).

113. Fla. Admin. Code §16Q-18.15(3), (4), (5).

114. 16 U.S.C. §1451 et. seq. (1979).

115. 15 C.F.R. Part 921 (1979).

116. 16 U.S.C.A. §1461 (Supp. 1978).

117. Sapelo Island, Georgia; South Slough, Oregon; Waimanu, Hawaii; Old Woman Creek, Ohio; Rookery Bay, Florida; Apalachicola Bay, Florida; Elkhorn Slough, California. NOAA, Estuarine Sanctuary Program, Appendix (1979).

118. Id. at 5.

119. 15 C.F.R. §921.11 (1979).

120. 15 C.F.R. §921.12 (1979).

121. 15 C.F.R. §921.13 (1979).

122. 15 C.F.R. Part 921 (1979).

123. 15 C.F.R. §921.5(a) (1979).

124. Id.

125. 15 C.F.R. §921.5(b) (1979).

126. Id.

127. The basic thrust of the current federal coastal zone management program was enacted in the Coastal Zone Management Act of 1972, P.L. 92-583, codified at 16 U.S.C. §1451 et. seq. (1972). Substantial amendments were enacted in the Coastal Zone Management Act of 1976, P.L. 94-326. For a discussion of the origin and history of the CZMA see Zile, A Legislative-Political History of the Coastal Zone Management Act of 1972, 1 Coastal Zone Management J. 235 (1974).

128. 16 U.S.C.A. §1451(a) (Supp. 1979). The coastal zone is defined to mean "the coastal waters . . . and the adjacent shorelands . . . , strongly influenced by each other and in proximity to the shorelines of the several coastal states [including] islands, transitional and intertidal areas, salt marshes, wetlands and beaches." 16 U.S.C.A. §1451(1) (Supp. 1979).

129. 16 U.S.C.A. §§1454, 1455 (Supp. 1979).

130. 16 U.S.C.A. §1456 (Supp. 1979).

131. See generally M. Blumn and J. Noble, The Promise of Federal Consistency Under §307 of the Coastal Zone Management Act, 6 E.L.R. 50047 (1976).

132. 16 U.S.C.A. §1456(c)(1), (2) (Supp. 1979).

133. 16 U.S.C.A. §1456(c)(3) (Supp. 1979).

134. 16 U.S.C.A. §1456(d) (Supp. 1979).

135. 15 C.F.R. Part 923 (1979) originally published at 43 FR 8395 (March 1, 1978).

136. Interview with staff of the Bureau of Coastal Zone Planning, Department of Environmental Regulation (July 1980).

137. 15 C.F.R. §923.3(a)(1), (2), (3) (1979).

138. 15 C.F.R. §923.3(f) (1979).

139. 15 C.F.R. §923.3(f)(1), (2), (3) (1979).

140. 15 C.F.R. §923.11 (1979).

141. 15 C.F.R. §923.11(b) (1979).

142. 15 C.F.R. §923.11(c) (1979).

143. 15 C.F.R. §923.11(c)(3) (1979).

144. 15 C.F.R. §923.12 (1979).

145. Id.

146. 15 C.F.R. §923.12(a) (1979).

147. 15 C.F.R. §923.21 (1979).

148. 15 C.F.R. §923.21(d)(1) (1979).

149. Id.

150. 15 C.F.R. §923.22 (1979).

151. 15 C.F.R. §923.24 (1979).

152. 15 C.F.R. §923.25 (1979).

153. 15 C.F.R. §923.31(e)(f) (1979). Separate boundaries for planning and management use may be specified.

154. 15 C.F.R. §923.31(b)(1) (1979). Areas further upstream along a river could be included if "uses can and do occur that have direct and significant impacts on coastal waters. . . ."

155. 15 C.F.R. §923.31(c) (1979).

156. 15 C.F.R. §923.41(c) (1979).

157. 15 C.F.R. §923.42(b) (1979). The regulations include an extensive and elaborate discussion of these techniques.

158. Laws of Florida, ch. 70-259.

159. Unpublished, untitled paper by Luther Skelton (Summer 1979) (on file with Bureau of Coastal Zone Management).

160. Much of this information could be useful in marina siting decisions. See, e.g., the Florida Regional Coastal Zone Management Atlas, which compiled biological, physical, social and economic data for 19 regions of the state. See also the Florida Keys Coastal Management Study, which served as the basis for designation of the Keys as an Area of Critical State Concern.

161. Laws of Florida, ch. 75-22, §18.

162. The Task Force was appointed by Governor Askew and chaired by Dr. John DeGrove.

163. Laws of Florida, ch. 77-306, §§3-5.

164. See, e.g., Thomas Leahy (ed.), Conference Proceedings: Marina and Boatyard Operators in Florida, 13-17, Florida Sea Grant Report No. 27 (March 1979).

165. Fla. Laws, ch. 78-287, codified at Fla. Stat. §§380.20-.25 (1979).

166. Fla. Stat. §380.22(1) (1979).

167. Fla. Stat. §380.23 (1979).

168. See J. Brindel, Florida and Coastal Zone Management 54 Fla. B.J. 295-299 (April 1980). Mr Brindel has been working as a consultant to the Bureau of Coastal Zone Management to draft the program for submission. Much of the following discussion is based on Mr. Brindel's article, as well as interviews with staff working on the document.

169. The Interagency Management Committee includes the highest staff managers of the Departments of Commerce, Environmental Regulation, Transportation, Community Affairs, Health and Rehabilitative Services, Natural Resources and the Game and Fresh Water Fish Commission.

170. Brindell, supra note 168, at 297.

171. Id.

172. Id.

173. If the State of Florida receives federal approval it is estimated 2.5 to 3.0 million dollars would be made available annually for implementing action. Much of this money would be passed on to local governments and regional agencies. About 3 million dollars annually of Coastal Energy Impact Funds would also be given to Florida for mitigating the effects of energy development. Substantially more would be available if oil is found off the coast. In addition, the state would become eliglble to receive substantial additional funds for research and education, interstate coordination and for the acquisition of islands and beach access. By participating in the program, Florida has already received 4 million dollars to purchase land at Rookery Bay and at Apalachicola Bay. Brindel, supra note 168, at 296, Draft Briefing Paper from Edward T. LaRoe to Jacob Varn, et al. (April 27, 1979).

174. It is of course possible that an exemplary local plan exists in Florida that the authors are not aware of. If that is the case, we apologize and respectfully request relevant information to incorporate into future work.

175. City of Jacksonville (Fla.) and U.S. Army Corps of Engineers, Metropolitan Jacksonville, Florida Water Resources Study, Plan Formulation Appendix, Small Boat Navigation Assessment (Aug. 1979).

176. The information was provided by an interview with staff of the City Planning Department, St. Petersburg, Florida (February 14, 1980).

177. Connell, Metcalf & Eddy, Dade County, Parks and Marinas, Marina Siting Plan, 1977-1997 (1978).

178. Clark, Coastal Ecosystems: Ecological Considerations for Management of the Coastal Zone 1 (1974) [hereinafter cited as Clark].

179. Clark, Rookery Bay: Ecological Constraints on Coastal Development 27 (1974) [hereinafter cited as Rookery Bay].

180. Id. at 27-28.

181. Id. at 47.

182. Id. at 43.

183. Clark, A Program for Protection of Water Systems and Estuarine Resources (Draft) 71 (1974) [hereinafter cited as Clark Program].

184. "Transportation" involves both the movement of nutrients from the land or sea to the estuary and the movement of nutrients within the estuary.

185. "Flushing" involves the exchange of water between the sea and the estuary.

186. "Mixing" involves the movement of water so as to avoid the formation of stratified flows. A total mix from top to bottom of a water basin, which is common in shallow basins, would mean that no discernible layers of salt or freshwater are present.

187. Horizontal salinity gradients exist in all estuaries and form barriers which exclude some organisms and let others pass. The salinity concentration further varies as one gets nearer or farther from shore (and the source of freshwater). This total system of areas of differing salinity concentrations makes up the "salinity regime."

188. Clark, supra note 178, at 42-44.

189. "Opposite flows" typify the stratified estuarine circulation. Such flows occur because of the intrusion of the heavier, saltwater from the ocean moving under the lighter freshwater. The oceanic saltwater is carried landward at the water basin's bottom while the freshwater is carried seaward at the basin's top. Report of the Secretary of the Interior, National Estuarine Pollution Study, S. Doc. No. 91-58, 91st Cong., 2d Sess. 10, 14-15 (1970). The term, however, refers to "net" or "residual" flows only, the water movement accorded to tidal action having been discounted.

190. See note 186, supra.

191. Clark Program, supra note 183, at 70.

192. See, e.g., the impact of canal water discharge through Fahka Union Bay. Rookery Bay, supra note 179, at 41.

193. Clark Program, supra note 183, at 72(a).

194. Snedaker and deSylva, The Role of Freshwater in an Estuary, in Freshwater and the Florida Coast, 130 (Seaman and McLean, eds.) Florida Sea Grant Report #22 (1977).

195. Beaumarriage and Stewart, The Estuary--What's It to You?, reprinted in Freshwater and the Florida Coast, 130 (Seaman and McLean, eds.) Florida Sea Grant Report #22 (1977).

196. Haskin, The Distribution of Oyster Larvae, Ed. Occ. Publ. No. 2, Narragansett Marine Lab., U. Rhode Island, 76-80 (1964). It should be noted, however, that "[T]here is

great diversity among species of estuarine life as to water quality requirements. . . . A recent study of San Antonio Bay and Matagorda Bay showed that for shrimp, 'elevated productivity values generally followed medium to moderately low inflows.' The same report found 'almost opposite trends' for fish productivity data." Johnson, Legal Assurances of Fresh Water into Texas Bays and Estuaries to Maintain Proper Salinity Levels, 10 Houston L. Rev. 598, 603 (1973) [hereinafter cited as Johnson].

197. Beaumarriage, supra note 195, at 133.

198. Snedaker and de Sylva, The Role of Freshwater in an Estuary, in Freshwater and the Florida Coast, 130 (Seaman and McLean, eds.) Florida Sea Grant Report #22 (1977).

199. Id.

200. "Plants use the energy of sunlight in photosynthesis to transform carbon dioxide and basic nutrients into plant tissue, a form of energy which is available to animals as their basic foodstuff. The plants are then eaten and passed through the complex food web and back to basic nutrients. Because all animal food starts with plants, every organism ultimately depends on the major factors that limit the building of plant tissue." Clark, supra note 178, at 31.

201. Montagne, Estuary Management: Problems and Concepts, reprinted in Shorelines Management '77, Performance and Prospects, 85-88 (1977).

202. Ryner, Environmental Impact Planning, The Traverse Group, Ann Arbor, Michigan, as cited in Armstrong and Ryner, Coastal Water: A Management Analysis, at 191 (1978) [hereinafter cited as Armstrong and Ryner].

203. See, e.g., Rookery Bay, supra note 179, at 50.

204. Clark, supra note 178, at 26.

205. Coastal Coordinating Council, State of Florida, Recommendations for Development Activities in Florida's Coastal Zone 12 (1973).

206. U.S. Army Corps of Engineers, Engineering Planning and Design for Construction in Wetlands 7 (1977) [hereinafter cited as Engineering Planning].

207. Id at 13.

208. U.S. Department of the Interior, Fish and Wildlife Service, Criteria for Marina Construction in the Coastal Zone 4 (1978) [hereinafter cited as Criteria].

209. Id. at 3.

210. Id. at 2.

211. Id. at 3. See also Coastal Coordinating Council, State of Florida, Recommendations for Development Activities in Florida's Coastal Zone.

212. Chmura and Ross, The Environmental Impacts of Marinas and Their Boats, A Literature Review With Management Considerations 6 (1978) [hereinafter cited as Chmura and Ross].

213. Id at 9.

214. Criteria, supra note 208, at 4.

215. Chmura and Ross, supra note 212, at 9.

216. Id.

217. Criteria, supra note 208, at 1.

218. Chmura and Ross, supra note 212, at 10.

219. Criteria, supra note 208, at 5.

220. Engineering Planning, supra note 206, at 18.

221. Chmura and Ross, supra note 212, at 10.

222. Id. at 11.

223. Id. at 13.

224. Criteria, supra note 208, at 2.

225. Chmura and Ross, supra note 212, at 12.

226. Engineering Planning, supra note 206, at 29.

227. Id.

228. Criteria, supra note 208, at 4.

229. Chmura and Ross, supra note 212, at 12.

230. Criteria, supra note 208, at 4.

231. Criteria, supra note 208, at 6.

232. See generally Maloney, Hamann and Canter, Stormwater Runoff Control: A Model Ordinance for Meeting Local Water Quality Management Needs 20 Nat. Res. J. ___ (October 1980) (available from Florida Sea Grant).

233. Rookery Bay, supra note 179, at 66.

234. Chmura and Ross, supra note 212, at 4. See also Rookery Bay, supra note 179, at 62.

235. Chmura and Ross, supra note 212, at 67.

236. This report will not, of course, entirely substitute for the current, indepth knowledge of an experienced attorney or other professional and should not be relied upon without further investigation.

APPENDIX A

SAMPLE DOCUMENTS FROM DREDGE AND FILL PERMIT FILES

ST. JOHNS RIVER

WATER MANAGEMENT DISTRICT

FREDERICK O. ROUSE
Executive Director

PALATKA, FLORIDA
TELEPHONE

July 31, 1978

Ms. Betty Gregg
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

RECEIVED
AUG 2 1978
PERMIT

RE: File #55-9747, St. Johns County,

Dear Ms. Gregg:

These comments are submitted in response to your memorandum of June 6, 1978 and subsequent to a phone conversation with Comments will address the general nature of this project and its implications as specific design details are not known at this time.

The specific project site is located just west of the Tolomato River and Comatchie Island and directly south of Robinson Creek in St. Augustine, Florida.

The applicant proposes to construct a marina including gas docks, boat house (1672 sq. meter; 18,000 sq. ft.), boat slips, recreational vehicle parking area and shopping center on 2.4 hectares (6 acres) of salt marsh. The number of gas pumps and gas docks dimensions, number of boat slips and R/V hookups are not given.

The applicant's property is a substantial distance from the nearest navigable water body (Robinson Creek). Therefore, he proposes to dredge a channel 6 m (20 feet) wide and 1 m, (3 feet) deep a distance of approximately 100 m (328 feet) through salt marsh to attain access. This channel will require dredging of 557 cubic meters (728 cubic yards) of material.

The applicant proposes to dredge a small brackish pond and contiguous Juncus marsh to obtain open water for boat slips (dimensions absent). In order to provide an avenue to the boat basin another channel will be dredged through uplands and some marsh on the applicant's property (dimensions not given).

A total of 6885 cubic meters (9000 cubic yards) is stated for all excavation activities. This is considered extremely low. No mention is made concerning placement of spoil.

About 1.4 hectare (3.5 acres) of the property is salt sculpted coastal uplands, (elev. .5 MSL). Typical species noted were Ilex vomitoria (yaupon), Juniperus silicicola (southern red cedar), Pinus elliottii (slash pine), Quercus virginiana (live oak), Rhus copallina (winged sumac), Sabal palmetto (cabbage palm), and Serenoa repens (saw palmetto). The remaining hectare (2.5 acres) is transitional zone and salt marsh, including a small .1 hectare (.25 acre) pond, regularly inundated by tides. The marsh leading into the pond is a nearly pure stand of Juncus roemerianus (black needlebrush). Characteristic marine wetland species observed were Batis maritima (saltwort), Distichlis spicata (salt grass), Juncus roemerianus (black needlerush), Spartina alterniflora (smooth cordgrass), and S. cynosuroides (big cordgrass). Transitional species represented were Baccharis halimifolia (groundsel), Borrichia frutescens (sea daisy), Ilex vomitoria (yaupon), and Salicornia virginica (glasswort). The channel proposed extraneous the applicant's property consists of a nearly pure stand of Spartinia alterniflora (smooth cordgrass).

This project will have considerable adverse impact both short and long term. Immediate detrimental consequences will be the deracination of nearly 1.4 hectare (3.5 acres) of regularly inundated salt marsh. This would destroy littoral and benthic habitat which is valuable for filtering and assimilating nutrients as well as providing protection, nursing and forage for birds, fish, shrimp and crabs. A decrease in water quality will result from excessive turbidity due to dredging (short-term) and regular sediment disruption by boat activity and maintenance dredging (long-term). Gas docks will afford a source of constant pollution.

The combined result of this project will be an increased rate of eutrophication of nearby waters and degradation of the natural resources, fish and wildlife. This project is not consistent with the preferred management and utilization of water and related land resources.

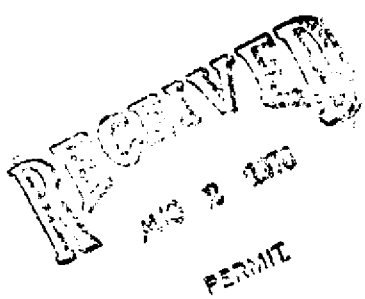
Please address any further questions to this office.

Respectfully submitted,

Vince McQuillen

Vince McQuillen, Environmental Specialist
Department of Environmental Sciences

VM/plm



State of Florida

DEPARTMENT OF NATURAL RESOURCES

HARMON W. SHIELDS
Executive Director

CROWN BUILDING / 202 BLOUNT STREET / TALLAHASSEE 32304

February 4, 1975

Mr. J. W. Landers, Jr., Director
Board of Trustees of the Internal
Improvement Trust Fund
Elliot Building
Tallahassee, Florida 32304

Dear Mr. Landers:

T.I.I.T.F. File No. 06-39-3099;
S/M 553

The staff of the Office of Survey and Management has reviewed the subject project and provides the following comments:

BIOLOGICAL ASSESSMENT

The applicant proposes to 1) fill 3 existing 480 ft. by 100 ft. by -11 ft. boat basins and sections of another basin (total fill area approximately 175,000 sq. ft.); 2) dredge to -12.3 ft. MLW previously filled and bulkheaded land adjacent to the marina basins (total dredge area approximately 36,000 sq. ft.); 3) install approximately 2,600 linear ft. of vertical concrete bulkhead around the final marina configuration and a 54 in. diameter circulation culvert to connect the enlarged basin to the Intracoastal Waterway, and 4) replace 5 existing finger piers with 22 new finger piers. The subject area is an existing marina (Photo 1) located immediately north of the SE 17 St. Causeway, west of the Intracoastal Waterway and south of a long, dead-end canal in Ft. Lauderdale.

The subject area upland is bulkheaded with vertical concrete slabs, filled, and developed (offices, paved parking lots, swimming pool, restaurant, bait shop, etc.). Vegetation in this area consists of ornamental planting and grass lawns.

The inter-tidal zone is confined to the face of the vertical concrete bulkhead. The bulkhead is unvegetated, and populated by oysters, littorina snails, barnacles and sea roaches.

Near the bulkhead, the bottom at a depth of 5.5 to 6 ft. is unvegetated, populated sparsely by polychaetes, and composed of shell fragments and rocks. Five to 8 ft. from the bulkhead, the bottom slopes steeply to approximately 11 ft. Bottoms at this depth are devoid of macroscopic vegetation, and composed of clay, detritus, and silt that releases an oil slick when disturbed by sampling. (Numerous burrows approximately ½ in. in diameter exist in this substrate.) Organisms observed include cassiopeia jellyfish, barracuda, jacks, mullet and very small fish.

Dredging previously developed land and filling degraded marina basins should be expected to have no significantly adverse biological effects provided: 1) siltation and petroleum pollutants from the marina sediments are contained in the subject area, and 2) runoff facilities meeting Department of Pollution Control water quality standards are provided in conjunction with upland development. The project would be more conservative if sloping riprap were emplaced against the toe of the vertical concrete bulkhead to provide increased area above the deep silt for attachment of sessile marine organisms and protective habitat for small motile organisms.

HYDROGRAPHIC ASSESSMENT

A hydrographic survey is not required. It is improbable that the proposed project will have significantly adverse hydrographic effects.

Sincerely,

Thomas Savage, Chief
Survey and Management

TS/HJ/ya
Enclosure Photo
cc: Captain W. M. Saunderson; Field Biologists; Messrs.: E.S. Glines, Boyce E. Ezell, Joseph D. Carroll, E. L. Arnold, R. D. Dunford, Robert W. Hall, Gary L. Nelson, John L. Taylor, Ralph R. Clark

Betty Gregg.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

NOV 0 2 1977

Mr. John Adams, Chief
Regulatory Functions Branch
U. S. Army Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32201

Re: 52-[illegible]-[illegible]
(77U-1129, October 5, 1977)

Dear Mr. Adams:

This letter is in regard to the above referenced application for a Department of the Army permit to perform maintenance dredging in an existing marina and dispose of 31,000 cubic yards in open water to create a mangrove area in Clearwater Harbor, Clearwater, Florida.

Our preliminary review of the project indicates that additional information is needed in order to properly evaluate the application pursuant to the 404(b) guidelines. This information is:

1. Physical analysis of the material to be dredged (% sand, % silt, etc.).
2. Type of material to be used for dike construction and dike protection.
3. Previous dredging method and disposal sites.
4. Shoaling rate of the marina and channel.
5. Proposed method of dredging and turbidity control.
6. Original marina depth, present marina depth, and present depth of proposed disposal area.
7. A consideration of alternatives including the alternative of temporary stockpiling the material and trucking it away.
8. Corps of Engineers' present maintenance schedule for the Intracoastal Waterway and proposed disposal sites within the immediate area.

Your assistance in obtaining this information will be greatly appreciated. We request that final decision on the permit be withheld until we have obtained the additional information and provided you with our comments.

Sincerely yours,

E. T. Heinen
Chief
Ecological Review Branch
Enforcement Division

cc: See Attached

United States Department of the Interior

FISH AND WILDLIFE SERVICE
P.O. Box 2676
Vero Beach, Florida 32960

December 1, 1977

District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Fla. 32201

Dear Sir:

The Fish and Wildlife Service has reviewed the notice of application, SAJOD-RP-N, 77U-1129, dated October 5, 1977. The applicant, , has requested a Department of the Army permit to maintenance dredge a marina and place spoil in shallow-water habitat to be later planted with mangroves. The project is located in Clearwater Harbor, Clearwater, Pinellas County, Florida. Our comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

A Fish and Wildlife Service biologist conducted an onsite inspection of the project site on November 18, 1977. The site is an established marina that is bulkheaded except for the entrance channel. The upland areas are entirely residential with the proposed spoil area being intertidal and shallow-water habitat. The bottom of the spoil site ranges from above mean high tide to about minus 4 feet mean low water. The substrate grades from silty mud to hard sand. There are no sea grasses in the area. The shoreline is vegetated with upland species and weeds. The existing bottom is highly productive having the following invertebrates: marginella, tellin, crossbarred venus, quahog, clams, mud snails, blue crabs, hermit crabs, barnacles, polychaetes, and mud crabs. Mullet, needlefish, great blue heron and gulls were also observed in the area.

The proposed work of this project will cover approximately two acres of productive and valuable shallow-water and intertidal habitat. This will reduce the habitat available for numerous marine invertebrates and thus reduce the food supply available to the sport and commercial fishes of the area. The proposal to contour the spoil area and replant the area with mangroves is a possible mitigation to the reduction in productivity but the planting of saltmarsh cordgrass Spartina alterniflora would be far superior in this location. This area is near the northern limits of

the mangroves and would be subject to freeze damage whereas Spartina is not. Spartina is highly productive and valuable in the estuarine system and does occur in the project vicinity. The spoil area would have to be graded to between mean low water and mean high water to promote the growth of the Spartina. The removal of the spoil dike would have to be staged to determine if it would be necessary to leave portions of the dike to protect the created marsh habitat from wave action.

The proposed dredging of the marina to a depth of minus 12 feet mean sea level is in excess of the depth of the Intracoastal Waterway at this location (10 feet). This would create a nutrient sump and an area that would not be subject to adequate flushing and thus contain water of lower quality than surrounding areas. The reduction of the depth to that of minus 10 feet mean sea level would eliminate this problem as well as reduce the amount of dredged material to be disposed of.

Therefore, the U.S. Fish and Wildlife Service recommends that this permit be denied unless the following conditions are made a part of the issued permit:

1. That the depth of the marina be reduced to minus 10 feet mean sea level.

2. That Spartina alterniflora be planted on the spoil area after it has been prepared.

3. That the spoil area be graded from mean low water at the spoil dike to mean high water at the marina bulkhead and the existing shoreline.

4. That the dike be removed in sections, following the establishment of the Spartina, to determine if wave protection must be provided for the established marsh.

5. That the project progress be monitored by the Corps of engineers' enforcement personnel to ensure that the project is completed in three years.

This report represents the views of the Department of the Interior. Please keep us informed of your action regarding these recommendations.

Sincerely yours,

Joseph D. Carroll, Jr.
Field Supervisor

cc:
EPA, Atlanta, Ga.
NMFS, St. Petersburg, Fla.
NMFS, Panama City, Fla.
FG&FWFC, Tallahassee, Fla.
DER, Tallahassee, Fla.
DNR, Tallahassee, Fla.
AO, Jacksonville, Fla.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

17 EXECUTIVE PARK DRIVE, N. E.

ATLANTA, GEORGIA 30329

RECEIVED

MAR

DIRECTOR'S OFFICE
DIVISION OF OPERATIONS

District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32201

Dear Sir:

The Fish and Wildlife Service and the National Marine Fisheries Service have reviewed public notice SAJSP 74B-0235, dated January 8, 1975. The applicant, has requested a Department of the Army permit to construct ~~two marinas~~ on , Monroe County, Florida. Our comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

According to the public notice, the marinas would have a depth of -5 feet mean low water (m.l.w.). On January 29-30, 1975, an onsite inspection of the project area was conducted by Fish and Wildlife Service biologists. The project area consists of a subtropical hardwood hammock and adjacent mangroves, principally black mangroves, with a fringe of red mangroves. One marina is to be located on the Atlantic side and the other on the Lake Surprise side of the project area. Shallow flats from 1 to 5 feet in depth are present on the Atlantic side. These flats were vegetated by turtlegrass (Thalassia sp.) and green algae principally Halimeda sp. and Penicillus sp. Sponges and shallow water hard corals were also observed.

Waters along most of the Lake Surprise side of the project are 5 feet in depth, and vegetated by a dense growth of turtlegrass and Cuban shoalweed (Diplanthera wrightii). Fishes observed in these nearshore marine areas included sailfin molly, gray snapper, mojarra, needlefish and killifish.

The marina project is located at the site of an old existing dredged channel which terminates in a bilobed boat basin. The channel is approximately 700 feet in length and 5 feet in depth. It is lined on both sides by red mangroves. The existing basin is silted in and has a depth which varies from 2 to 5 feet. The landward

cc: Dept. of Pollution Control, Tallahassee, Fla.

MAR 7 1975

DREDGE AND FILL

portion of the basin shoreline has been extensively altered. Much of the area has been used as a dump site for abandoned cars and garbage. The bottoms of the channel and the existing basin are covered by a layer of silty material that is essentially devoid of vegetative cover. The proposed project involves enlarging one lobe of the existing basin.

Since most of the development is confined to the uplands with tracts of hammock and mangroves conserved, we anticipate no significant adverse effects to fish and wildlife resources in these areas. Also, because of the physical location and design of the marina site on the Atlantic side of the project, minimal adverse effects to fish and wildlife are expected.

We are concerned however about the potential adverse effects on fish and wildlife resources resulting from development of the marina site. This project would result in the expansion of an existing unused basin. Anticipated boat traffic will tend to stir up the existing bottom sediments and erode the peat material on the sides of the existing channel. The poor flushing characteristics of this marina will compound water quality problems.

To maximize flushing and reduce boat wake erosion, the following remedies should be explored. It is our understanding that a rock layer exists at a depth of approximately 7 feet. The channel and marina should be dredged to this rock substrate and the sediment removed. This area should then be refilled with rock to a depth of -5 feet m.l.w. in the channel and -4 feet m.l.w. in the marina basin. The sides of the channel should also be lined with rock riprap. In addition, the existing basin lobe to the east of the applicants' basin should be cut off by a riprapped dike. Use of a grass barrier along the entrance to the channel would reduce the amount of floating debris entering the marina.

The Fish and Wildlife Service and the National Marine Fisheries Service therefore recommend that the permit be denied unless the following condition is made a part of the issued permit:

> The bottom of the entrance channel and the marina on the Lake Surprise side shall be composed of rock to a depth of -5 feet m.l.w. in the channel and -4 feet m.l.w. in the marina basin.

This report has been coordinated with and reviewed by the National Marine Fisheries Service. Mr. William H. Stevenson, Regional Director,

St. Petersburg, Florida, concurs in our views and has authorized me to sign this letter for him. The above views constitute the report of the Department of the Interior and the National Marine Fisheries Service.

Please keep us informed of your action concerning this matter.

Sincerely yours,

/s/ [illegible]

Regional Director

FLORIDA GAME AND FRESH WATER FISH COMMISSION

DR. O. E. FRYE, JR., Director
H. E. WALLACE, Assistant Director

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32304

NOV 26 1974

Mr. Joseph W. Landers, Jr.
Director
Trustees of the Internal
Improvement Fund
Tallahassee, Florida

Re: TIITF 06-39-3099, Broward County
- SAJSP 74B-0964

Dear Mr. Landers:

The Environmental Section of the Florida Game and Fresh Water Fish Commission has reviewed this permit application received from the Trustees of the Internal Improvement Fund, dated October 8, 1974. Our comments are submitted to the Trustees in accordance with the resolution passed by the Florida Cabinet, dated April 4, 1972. A copy of this letter will be sent to the United States Corps of Engineers, Jacksonville District, in compliance with the Fish and Wildlife Coordination Act.

The applicant proposes to fill three dead-end canals, remove terminal portions of the finger-fills at the mouths of these canals in order to move the bulkhead approximately 50 feet landward, excavate and fill portions of an existing boat basin, and construct a vertical seawall around the new shoreline. The basin addition would be excavated to approximately 12 feet below mean low water, roughly equal to the present depth of the basin.

The project site is located in a highly developed system of canals and finger-fills surrounding the Intracoastal Waterway in Fort Lauderdale. Therefore this proposal affects fish and wildlife resources only inasmuch as it affects water quality. The contribution of deep, dead-end canals to water quality degradation has been well documented in Florida.

The major impact of this project will result from filling the three canals, thereby removing potential pollution sources. However, the expanded 12 foot deep basin area would create a problem by increasing the zone where lack of light penetration and circulation create conditions unsuitable for most organisms. This problem could be eliminated by restricting the depth of this addition to -5 feet mean low water.

In conclusion, our agency would have no objections to the issuance of this permit provided the boat basin expansion is limited to a depth of -5 feet mean low water, and rubble rip-rap is placed at the toe of all new bulkhead construction to provide additional habitat for marine organisms.

If we may be of further assistance, please do not hesitate to contact our office.

Very truly yours,

O. E. Frye, Jr.
Director

OEF/CK/rs

FLORIDA GAME AND FRESH WATER FISH COMMISSION

Monroe

DR. O. E. FRYE, JR., Director
H. E. WALLACE, Assistant Director

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32304

February 17, 1975

Mr. Joseph W. Landers, Jr.
Director
Trustees of the Internal
Improvement Fund
Tallahassee, Florida

Re: TIITF 44-39-2484, Monroe County

Dear Mr. Landers:

The Environmental Section of the Florida Game and Fresh Water Fish Commission has reviewed the hydrographic survey for the proposed marina and offers the following comments.

As noted in the applicant's cover letter, our agency's objections to this marina are twofold.

1. The mangrove fringe at the upper end of the existing canal would be eliminated.

2. The proposed marina would create a 10 acre body of water with extremely poor flushing characteristics.

The first objection is acknowledged by the applicant, and the second is verified by the hydrographic survey. The existing canal and 1/2 acre basin are filling in and, if left undisturbed, will eventually become forested by mangroves. We would prefer this as a long term treatment for this facility, but we realize that Largo-Brand Corporation will make some use of the area even if the basin is not enlarged.

Therefore, we have analyzed the hydrographic survey with the idea of providing the best possible marina design for water quality and fish and wildlife resources. On the four modifications recommended in the survey, we offer the following:

1. "Restore the entrance channel to its original project dimensions and extend it to an equivalent depth in Lake Surprice."

   If the channel were restored to its original depth of 6.5 to 7 feet, it would have to extend nearly the entire width of Lake Surprise before reaching an equivalent depth according to U.S. Coast and Geodetic Survey data. Since the average open water depth near the

project is approximately 5 feet, and since any channel construction in Lake Surprise would involve destruction of marine grasses, we recommend that the existing channel and basin be de-mucked and back-filled with clean sand to a depth of 5 feet and that no dredging take place in Lake Surprise.

2. "Take positive steps to minimize the introduction of organics or other pollutants into the waterway."

Under this heading was proposed a mangrove leaf barrier to be constructed along the channel to prevent leaves from entering channel waters. Our field survey revealed that the shoreline mangroves are utilized by a large population of mangrove snappers. Any effective leaf barrier would eliminate this excellent snapper habitat, therefore we recommend against it. Since much of the detrital build-up within the canal results from seagrass debris out of Lake Surprise, the applicant could explore the possibility of erecting a flotsam fence at the canal entrance.

3. "Realign the proposed marina to make maximum use of the prevailing winds ability to flush surface debris from the waterways." and

4. "Excavate the marina to varying depths with the deeper depths in the center of the marina and the entrance channel."

We support these modifications as depicted on Enclosure 2 of the hydrographic survey, with the exception that the maximum depth should be 5 feet rather than 6 feet.

If the applicant agrees to these stipulations, our agency will withdraw its objections to the Lake Surprise marina.

If we may be of further assistance, please feel free to contact our office.

Very truly yours,

O. E. Frye, Jr.
Director

OEF/BB/rs

FLORIDA GAME AND FRESH WATER FISH COMMISSION

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32304

July 13, 1978

Mr. Joseph W. Landers, Jr., Secretary
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: DER 55-9747, St. Johns County,

Dear Mr. Landers:

The Office of Environmental Services of the Florida Game and Fresh Water Fish Commission has reviewed the referenced permit application and offers the following comments.

The applicant proposes to develop a marina complex in tidal wetlands associated with Robinson Creek in St. Augustine. A boat basin is to be dredged to a depth of three feet from an area of open water and salt marsh. A navigation canal is to be dredged to connect the basin with Robinson Creek. The canal is to be three feet deep, twenty feet wide, and is to traverse approximately 600 feet of uplands and 300 feet of wetlands.

The project is proposed for a site in the northwest section of St. Augustine on the edge of the extensive salt marsh system of the area. Most of the available uplands in the vicinity have been developed all the way to the marsh edge for residential use. The area to be excavated as a boat basin is a pocket of open water and salt marsh approximately two acres in size that is surrounded by uplands and that connects directly with the open salt marsh system. Vegetation surrounding the open water area within the pocket is dominated by needlerush with salt-tolerant shrubs such as marsh elder, sea myrtle and sea ox-eye along the upland margin. The connection to the pocket is vegetated by salt grass, glasswort and saltwort before giving way to smooth cordgrass in the open marsh. Several houses border one side of the pocket, but all other sides are surrounded by a xeric forest dominated by laurel oak, red cedar, slash pine, cabbage palm, wax myrtle, saw palmetto and devil's-walkingstick, all heavily overgrown with several species of vines. Other upland communities at the project site include an old field covered by mixed grasses and forbs, and several acres of low scrub

composed of sand-live oak, wax myrtle, sea myrtle, yaupon, saw palmetto and winged sumac. The proposed navigation canal would apparently cut through upland communities (approximately 0.25 acres)and then through a section of low marsh (approximately 0.14 acres) vegetated almost entirely by smooth cordgrass.

The value of the site to fish and wildlife resources is quite high. Species observed utilizing salt marsh habitats include marsh rabbit, yellow-crowned night heron and little blue heron. Other species which may be expected to occur include great blue heron, great egret, green heron, Louisiana heron, clapper rail, seaside sparrow, raccoon and Florida mink. The salt marsh provides habitat for numerous species of sport and commercial fish and contributes detrital energy to the estuarine food web. As reported by an adjacent property owner, a large number of wood storks (Florida Endangered Species List) frequently perch in the trees surrounding the proposed boat basin, and indeed four wood storks were observed flying over the site. Species which utilize the upland communities include grey squirrel, flying squirrel, raccoon, armadillo and a variety of resident and migratory songbirds.

This project will directly eliminate approximately 2.14 acres of salt marsh habitat and 0.25 acres of upland habitat valuable to fish and wildlife resources. These habitats will be replaced by a shallow water boat basin and canal which will be subject to water quality problems. Boats will discharge greases, oils and other petroleum derivatives to the basin, and runoff will contribute similar products plus nutrients and silt. The loss of the assimilative capacity of marsh vegetation and the poor flushing characteristics of the system will contribute to water quality problems both in the basin and the canal. Also of concern is the impact on the wood stork, an endangered species in Florida. With the advent of boat traffic in the area, it is unlikely that the wood stork would continue to utilize the project site. Furthermore, the increase in boat traffic will reduce the value of the areas of the marsh adjacent to the project as fish and wildlife habitat.

Because this project is expected to negatively impact fish and wildlife resources, including one endangered species, we recommend against issuance of a permit.

If we may be of further assistance, please do not hesitate to contact us.

Sincerely,

Robert M. Brantly

Colonel Robert M. Brantly
Executive Director

2263/jv3-6
rk

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

DEC 9 1977

DIVISION OF ENVIRONMENTAL PERMITTING

PERMIT APPLICATION APPRAISAL

PART ONE:

On site inspection: X Yes ..... No Date of Inspection: 10/25/77 By: R.A. Lotspeich

Permit Application No. 52-21-4097 Dated: 9/7/77

If revised, date of revision: Will be submitted.

Applicants name: .....

Address: .....

Location of project: Section 9 Township 29S Range 15E

County Pinellas Local references In Clearwater Harbor north of Cleveland Street bridge.

Project water dependent?: X Yes ..... No

Water classification of project area: III Water classification of adjacent waters: III

Purpose of project: Maintenance dredging and spoil disposal via filling.

A. Description of proposed project and construction techniques. Quantify area of project which extends into wetlands and/or waterward of the apparent mean high water line.

The applicant proposes to maintenance dredge an existing marina and to use the dredged material to fill an area to the north of the marina. A total of 30,700 cubic yards would be dredged from the bottom of the marina to obtain a depth of -12' MSL in the center of the marina and sloping upward to -8' MSL at the seawall, which encompasses the entire basin.

A hydraulic dredge would be used to pump the dredged material from the marina over the seawall into the proposed spoil area. The spoil area would be entirely below MHW. It is proposed that a dike be erected around the proposed spoil area (prior to dredging), with the seawall to the south serving as a dike for that side. The spoil would then be contained within the dike. The top elevation of the dike would be at +7' MSL and the dike would encompass an area of 2 acres (660' x 135' x 7' deep). The dike would be made with the sediments which presently exist at the spoil site.

It is also proposed that after a period of settling and drying 20,700 cubic yards of the spoil be hauled away and the remaining 10,000 cubic yards be planted with mangroves.

B. Biophysical features of general area (include comments concerning extent of developement of adjoining properties).

The proposed dredging/filling site is on the Intracoastal Waterway at Clearwater Harbor north of the Memorial Causeway. The land on the east side of the Intracoastal Waterway is primarily residentially developed (single family and multi-family dwellings). The Marina is the predominant commercial operation in the area.

C. Biophysical features of specific project site (and spoil site when appropriate, include identification of bottom types).

The proposed dredge area has a fine silt/organic sediment and little if any flora or fauna in it.

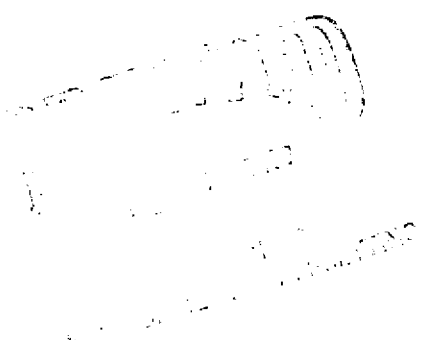
The spoil site has a medium sand/broken shell bottom and transparency was approximately 1'. No aquatic vegetation was seen. Faunal species seen included: the bay anchovy (Bairdiella chrysura), the mud snail (Nassarius sp.), the shrimp (Penaeus duorarum), the hermit crab (Pagurus sp.), the barnacle (Balanus sp.), the needlefish (Strongglurus sp.), the jack (family carangidae), tellins (family tellinidae), the common Atlantic marginella (Prunum apicinum), the cross-barred chione (Chione cancellata), the royal tern (Thalasseus maximus), the belted kingfisher (Megaccryle alcyon), the anhinga (Anhinga anhinga), and sea gulls.

D. Impact of project on biological resources. Address long-term inpact as well as immediate impact. All aspects of proposal should be assessed in these terms.

The impact of the dredging should be minimal provided that silt screens are used across the entrance to the marina.

The impact of the spoiling is potentially catastrophic. Calculations reveal that the proposed spoiling area would be insufficient to contain the amount of material that would be dredged. Furthermore, the possibility exists that exceptionally high water could cause the spoil to wash over the dike. There is also the potential for the dike rupturing. Should the spoil for any reason enter the waters of Clearwater Bay, it is of such a nature that its impact on the aquatic biota would be severe.

E. Recommendation, with justification, concerning application. Include references to statutes, administrative rules, etc..



F. Suggestion concerning modifications to reduce or minimize impact where appropriate.

The spoil should be hauled to an upland site to prevent any possibility of its entering the water.

PART TWO

PROJECT CONSTRUCTION OR OPERATION MAY CAUSE:

X 1. Increased rates of eutrophication in nearby bodies of water.

X 2. Reduced capacity of shellfish propagation and harvesting in receiving bodies of water.

X 3. Interference with the ability of the habitat to successfully support fish and wildlife propagation.

..... 4. Interference with the ability of the habitat to successfully support fish and wildlife population.

X 5. Impaired management or feasibility of management of fish and wildlife resources.

..... 6. Degradation of local water quality by reducing or eliminating the ability of surrounding wetlands to filter, stabilize or transform nutrients.

X 7. Discharged substances which settle to form putrescent or otherwise objectionable sludge deposits.

..... 8. Floating debris, oil scum, and other materials, in amounts sufficient to be deleterious.

X 9. Discharged material in amounts which create a nuisance.

X 10. Discharged substances in concentrations or combinations which could be toxic or harmful to human, animal, or plant life.

..... 11. Chlorides to exceed 250 mg/l in bodies of freshwater.

..... 12. Chlorides to exceed 250 mg/l in groundwater because of a reduction in percolation due to increased surface runoff rates.

..... 13. Chlorides to increase more than 10% above normal in brackish or saline waters

X 14. Copper residues to exceed 0.5 mg/l.

X 15. Zinc residues to exceed 1.0 mg/l

X 16. Chromium residues to exceed: 0.50 mg/l hexavalent; 1.0 mg/l total chromium in effluent discharge; or 0.05 mg/l after reasonable mixing in the receiving waters.;

..... 17. Phenolic-type compounds, calculated or reported as phenol, to exceed 0.001 mg/l.;

X 18. Lead to exceed 0.05 mg/l.;

X 19. Iron to exceed 0.30 mg/l.;

X 20. Arsenic to exceed 0.05 mg/l.;

X 21. Oils and greases in surrounding waters to exceed 15 mg/l.

X 22. Visible iridescent oil, resulting in objectionable odors and tastes which interfere with beneficial uses of the surrounding waters.

X 23. Turbidity to exceed 50 JTU as related to standard candle turbidimeter above background.

X 24. Dissolved oxygen to be artificially depressed below the values of 5 ppm.

X 25. Biological oxygen demand to exceed values which would cause dissolved oxygen to be depressed below 5 ppm or make the biological oxygen demand great enough to produce nuisance conditions.

..... 26. Dissolved solids to exceed 500 mg/l as a monthly average, or exceed 1000 mg/l at any time.

..... 27. Specific conductance of freshwater streams to be increased more than 100% above background levels or exceed 500 microhms/cm.

..... 28. Cyanide or cyanates to be detectable in receiving bodies of water.

..... 29. The pH of receiving waters to vary more than one unit above or below normal pH of the waters.

..... 30. The lower pH value to be less than 6.0.

..... 31. The upper pH value to be more than 8.5.

..... 32. Detergent levels in receiving bodies of water to exceed 0.5 mg/l.

X 33. Mercury to be detectable in receiving bodies of water.

..... 34. Coliform counts to exceed criteria established (under Chapter 17-3, Florida Statutes) for the existing water classification in the project area.

PART THREE

If certification is approved or waived, PL 92-500 requires that effluent limitations be specified as part of the certification.

When applicable, specify:

1. Monitoring required of the applicant (include frequency).

   If the spoil is not moved upland, the water outside of the diked spoil area should be monitored daily at a minimum of three sites (as indicated on the attached drawing). Parameters to be monitored should be at least: turbidity, dissolved oxygen, and heavy metals.

2. Effluent limitations (i.e., those limitations established under Chapter 17-3, Florida Statutes, for particular water classifications as well as water quality standards). Be specific.

   17-3.02 Minimum Conditions of All Waters: Times and Places
   17-3.05 Water Quality Standards; Specifics
   17-3.09 Criteria: Class III Waters-Recreation-Propagation and Management of Fish and Wildlife.

PART FOUR

Recommendations for water quality control during construction.

Silt screens should be used across the entrance to the marina to prevent siltation in the adjoining waters.

Completed by: ______________________ Date: 11/30/77
signature

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

PERMIT APPLICATION APPRAISAL

DIVISION OF ENVIRONMENTAL PERMITTING

PART ONE:

On site inspection: XXX Yes ..... No Date of Inspection: 4-8-77 By: R. R. Brooks

Permit Application No. 43-25-3948 Dated: 2-14-77

If revised, date of revision: N/A

Applicants name: .....

Address: ..... Lauderdale-by-the-sea, Fla. 33306

Location of project: Section 4 Township 39S Range 42E

County Martin Local references .....

West Bank of Pecks Lake

Project water dependent?: XXXX Yes ..... No

Water classification of project area: III Water classification of adjacent waters: II

Purpose of project: Dredge and fill for development and marina

A. Description of proposed project and construction techniques. Quantify area of project which extends into wetlands and/or waterward of the apparent mean high water line.

The applicant proposes to dredge a boat basin and accompanying access channel within submerged lands. Additional areas of submerged lands are to be filled for utilization as uplands within a residential community and for the construction of a roadway.

The entire project is to be conducted within submerged lands, however, a major portion of the project is supposedly located above the apparent mean high water line. The applicant indicates that 4100 cubic yards of material are to be removed from waterward of the mean high water line and 73,460 cubic yards of material are to be removed from submerged lands located upland of the MHW line. Approximately 13,935 cubic yards of fill are to be placed within submerged lands located upland of the MHW line and apparently no fill is to be placed waterward of the mean high water line.

A mudcat dredge is to be used for all dredging activities. The spoil material is to be pumped to the adjacent uplands and excess water is to be directed back to the dredge site via existing ditches. Silt screens are to be placed across the areas where the project waters are contiguous with the waters of Peck Lake and the Intracoastal Waterway.

D. Impact of project on biological resources. Address long-term inpact as well as immediate impact. All aspects of proposal should be assessed in these terms.

A considerable amount of the dredging is to be conducted in spoil areas, cleared areas, and impounded areas (specifically, impounded mature reds located adjacent to the sawgrass marsh in the southeast corner of the bay-head). These areas do not contribute significantly to the biological productivity of Peck Lake. The dredging of these areas in order to create a viable aquatic system would, therefore, be beneficial.

There are several areas that are to be dredged and or filled that signifi-cnatly contribute or have the potential to contribute to the biological productivity of Peck Lake. These areas will be destroyed and replaced with artificially planted mangrove seedlings and emergent and submerged grasses. These artificial plantings will not contribute as much productivity as presently exists with the natural vegetation. In addition, the potential success of these artificial plantings is extremely questionable.

The dredging of the access channel from the shoreline to the Intracoastal Waterway will create a major impact since it will destroy a large area of viable red mangroves and smooth cordgrass in addition to eliminating a 200-300 foot long by 80-100 foot wide area of extremely productive grassbeds and shallow submerged lands.

The dredging operation can be expected to create very serious problems relative to turbidity and salt water damage to freshwater areas.

Continued on addendum D.....

E. Recommendation, with justification, concerning application. Include references to statutes, administrative rules, etc..

The proposed project can be expected to significantly degrade the water quality of Class II Waters as well as destroy productive and potentially productive wildlife and marine habitat. As such the project is not in keeping with the goals and regulations set forth in Chapters 253 and 403 Florida Statutes.

F. Suggestion concerning modifications to reduce or minimize impact where appropriate. Contigent upon approval

1. The entire perimeter of the boat basin and access canal should be constructed with a 7/1 h/v side slope to a minimum depth of -3 feet MLW.

2. The depths of the boat basin and access canal should be a maximum of -5 feet MLW.

3. The navigation channel should be a maximum of fifty feet wide.

Continued on addendum F.....

ADDENDUM D

The proposed spoil area is a small and very shallow upland pond. Considering the tremendous amount of muck soils that are to be dredged, it is questionable whether the residence time within the spoil area will be sufficient to allow adequate settling of the muck materials. A major portion of the material can be expected to become suspended in the water column and be simply recycled back to the dredge pit. The effectiveness of the proposed turbidity barriers is questionable, therefore, a considerable amount of turbid water can be expected to be discharged into the adjacent Class II Waters.

The potential impact of this problem will be increased by the heavy rains and runoff that can be expected during the rainy season.

The ditch wherein the water from the dredging activities is returned to the dredge pit is located adjacent to a freshwater hydric forest. The salt water could overflow the ditch and discharge into this forest thereby damaging and possibly destroying the flora.

The internal lake and boat basin can be expected to stagnate due to the lack of sufficient flushing and turnover. The depths of eight feet will probably multiply this problem and as a result, the bottoms of the basin may become anoxic.

These problems combined with the input of the oils, greases, chemicals, and various other pollutants that are common to a large enclosed boat basin will result in the degradation of the water quality of the basin, with the subsequent degradation of the water quality of the recipient Class II Waters of Peck Lake.

The applicant's proposal to correct an existing poor water quality situation and restore tidal exchange in addition to detrital export to the remainder of the mangroves may not be accurate. A large area of the mangroves that are to be preserved are at a high elevation and don't appear to receive tidal exchange although tidal waters are available to the area via the existing tidal creek and mosquito control ditches. In addition, these areas are to be isolated from the proposed boat basin by the roadway and will only receive (supposedly) tidal exchange via a proposed bridge (Tidal exchange that probably won't occur due to the elevation of the areas.)

The proposed construction within the freshwater swamp will probably create a significant impact on that ecosystem. This area is so densely vegetated that it is practically impenetrable. It is a typical swamp with poison ivy, poison oak, snakes, mosquitos, spiders, frogs, salamanders, detritus, muck, mildew, etc. Most of all, during the rainy season this area is wet. The soils are saturated with water and pools and streams occur randomly throughout the area. The most avid nature lover or "Swamp Stomper" may love to visit this type of environment, but it is questionable that he would be able to tolerate living there. In short, the developer is proposing to place people where in recent years it has been realized, they do not belong. A realization so pronounced that current federal and state legislation simply discourages

Continued.....

such development. Relative to such legislation, it is questionable as to whether stilt homes in such an environment is the real answer.

Furthermore, if and when someone constructs a home in such an area (a home that can be expected to cost a considerable sum), and if and when that someone finds that the natural environment is intolerable, it can probably be expected that the natural environment will be replaced with a more tolerable environment. In short, the swamp will go.

It should be noted that the application does not adequately depict the entire project. What is to become of the natural tidal creek and its surrounding mangroves; the existing mosquito control ditches; and the impoundment dikes?

What is the side slope on the entrance channel, the boat basin, and the navigation channel? What are the dimensions of the navigation channel and the green areas where the mangroves, cordgrass, cuban shoalweed, and Halodule are to be planted.

It should also be noted that a major portion of the area to be dredged is covered with dead tree remains. Such materials usually inhibit dredge activities due to their clogging and jamming the dredge. How does the applicant propose to dredge the area if such a problem occurs.

4. The access canal should be relocated to avoid the productive stand of mangroves and cordgrass located at the mouth of the natural creek.

5. If possible, the navigation channel should be relocated to avoid the extensive grassbeds located along the shoreline of Peck Lake.

6. The natural tidal creek and its surrounding mangroves should be preserved in their natural state.

7. A minimum of a 30 foot wide margin of existing mangroves should be preserved around the perimeter of the proposed basin and lake. In those areas where mangroves do not occur, the shoreline and shallow submerged lands should be vegetated with mangrove seedlings and aquatic grasses.

8. An adequate portion of the mosquito control dike should be removed at the north and south end of the property to provide additional and more effective flushing of the mosquito ditches and the adjacent mangroves that are presently subject to tidal exchange.

9. Small tidal creeks should be constructed through the mangroves that are to be preserved with minimal damange to the trees in order to facilitate tidal exchange within those areas that would normally not be subject to such exchange.

10. A more satisfactory system of spoil and turbidity containment should be devised.

Permit No. 05-30-3688

EXHIBIT "A"

Monitoring Required:

Description	Frequency	Location
Turbidity	Twice daily during dredging, filling, and construction.	2 locations 100 ft. from the turbidity barrier.
Oils & Greases	Quarterly beginning one month before operation of facility.	Air/water interface
Total and Fecal coliform	"	15 cm. below surface.
TOC	"	Mid depth in top 3 cm. of sediment.
Volatile solids percent dry weight	"	In top 3 cm. of sediment.
Dissolved Oxygen, 50 Temp., pH, Conductivity, Salinity	"	15 cm. below surface, cm. and every 50 cm. to the bottom.
Lead, zinc, copper	Annually beginning one month before operation of facility.	In top 3 cm. of bottom sediment.

If monitoring reveals apparent violations of State Water Quality Standards for turbidity, construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the Department of Environmental Regulation St. Johns River District Office in Orlando. Monitoring requirements should be submitted under a cover letter containing the following information: (1) permit number; (2) a statement describing the methods used in collection, handling, storage, and analysis of the samples; and (3) a statement by the individual responsible for implementation of the monitoring program concerning the authenticity, precision, and accuracy of the data. Monitoring reports shall be submitted weekly during construction, then monthly, to the Office of Enforcement in Tallahassee and to the Department of Environmental Regulation District Office in Orlando. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit.

April 20, 1978

Vero Beach, Florida 32960

Dear Mr.

Re: Files No. 31-30-3822 and 3822M, Indian River County

I have been advised by Reese Keesler of our Orlando office that construction under the issued permit (3822) for this project has not been performed as described therein. Dredged spoil was deposited in ridges across the lagoon of the designated island to elevations above the mean high water line. This has resulted in poorly flushed, deep water pockets between these ridges and virtual isolation of this lagoon from the Indian River. According to your permit, this spoil was to be used for shoaling the lagoon to a depth of -1.5 ft. mean high water. Apparently you have been aware of this matter for some time and have taken no remedial action to date.

Non-compliance with the conditions of your permit constitutes grounds for revocation of that permit, pursuant to Subsection 403.087 (6)(b), Florida Statutes, and Chapter 17-4.10, Florida Administrative Code. Conducting works in violation of the conditions of your permit also makes you subject to enforcement action and can lead to civil penalties and criminal fines (Sections 403.121, 403.141 and 403.161, Florida Statutes).

Mr. Kessler will be initiating enforcement proceedings in the near future. Additionally, issuance of the permit for your requested modification (3822M) will not occur unless the existing violations have been corrected to the satisfaction of the district office.

Please contact me at 904/487-1582 if you have any questions

Cordially,

4/20/78

Lynn F. Griffin
Environmental Specialist
Standard Permitting Section

LFG/jg

cc: Reese Kessler

February 24, 1978

CERTIFIED - RETURN RECEIPT

Lauderdale by the Sea, Florida 33308

Dear Mr.

File No. 43-30-3948, Martin County

The Division of Environmental Permitting hereby gives notice of its intent to deny, and proposed order of denial, for your permit application specified above, pursuant to Chapters 403 and 253, Florida Statutes, and Section 401, Public Law 92-500. The Division is issuing this intent to deny for the following reasons:

The construction of the boat basin would destroy a large area of existing and reestablished mangrove forest with subsequent elimination of its contribution to the biological productivity of Peck Lake. These intertidal mangroves would be replaced by an interior boat basin which would be subjected to pollutants typical of areas of concentrated boating activities, e.g. fuels, oils, greases, fish remains, cleaning compounds, trash, etc. Consequently, the Class II Waters of the basin are expected to be degraded and their biological productivity reduced. Additionally, the upland development on spoil areas within the mangroves can be expected to have an adverse impact on the surrounding aquatic communities as a result of residential and parking lot stormwater runoff.

The construction of the access channel to the Intracoastal Waterway would eliminate grass beds of Cuban Shoalweed occurring 20-60 feet offshore as well as productive but unvegetated shallow bottoms. The channel will also pass through a highly productive area underlain by a coquina rock bed approximately 100 feet offshore.

Based on the above, your project is expected to result in degradation of water quality in the Class II Waters as well as within Aquatic Preserve A-10. The specific State Water Quality Standards which are expected to be violated are:

April 10, 1978

Pinellas Park, Florida 33565

Dear

File No. 52-21-4094. Pinellas County

This letter is a confirmation of our telephone conversation on the above mentioned project. As you are aware, the department has serious reservations about open water spoiling of dredge material due to its impact on water quality and on associated ecosystems. Moreover, the proposed spoil area is classified as Class II waters. Hence it is necessary to take all precaution possible to minimize any potential adverse impact on state waters during the dewatering process (due to the nature of the material in the boat basin).

Based on the discussion I have had with Mark Latch and Rick Lotspeich (DER-Tampa) we feel that we will be able to recommend approval of the project subject to the following conditions which should be strictly adhered to: (a) The spoil area in open waters be adequately diked with a sheet pile cover outside, an inner dike from the material to be dredged in the spoil area and an inner filter fabric (to be placed inside the dike). This to a greater extent will protect the adjacent waters from being degraded by the material to be spoiled; (b) The fill area should be recontoured to the original bottom conditions. To achieve this, you should provide the department with a bottom contour map of the area, with soundings at 50-foot intervals, before your project begins. After the spoil material is completely dewatered, all the material should be taken out and the bottom should be recontoured and soundings should be provided.

If the above conditions are agreeable to your client, please provide the department with the following particulars: (1) Plan view of the proposed spoil area including the sheet pile, dike and filter fabric, (2) Cross sectional view of the same drawn to a specific datum, (3) Cross sectional view of the area to be dredged both below and above mean high water (if any) to form the dike.

BEFORE THE STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

In the matter of:) DER File No. 55-9747, St. Johns County
Application for permit:)

INTENT TO DENY AND PROPOSED ORDER OF DENIAL

The Division of Environmental Permitting hereby gives notice of its intent to deny and proposed order of denial for the permit/certificate specified above pursuant to Chapters 403 and 253, Florida Statutes, and Section 401 of Public Law 92-500. The project proposal would involve the construction of a marina facility within tidal wetlands associated with Robinson Creek, a tidal tributary of the North River. A proposed canal would be dredged through a salt marsh to connect the basin with Robinson Creek. Upland development associated with the project proposal would include a shopping center, boat house, gas docks, storage areas, a marine railway, etc.

The proposed project site is located west of the Tolomato River and Comatchie Island and south of Robinson Creek in St. Augustine, Florida. The project site is within one of the categories of waters of the state listed in Subsection 17-4.28(2), Florida Administrative Code, and is within navigable waters of the state as specified in Section 17-4.29, Florida Administrative Code; therefore, the department has dredge and fill jurisdiction under Chapters 403 and 253, Florida Statutes. The project does not qualify for an exemption under Subsection 7-4.04(10), Florida Administrative Code. Therefore, a permit under Chapters 403 and 253, Florida Statutes, and a water quality certification pursuant to Section 401 of Public Law 92-500 will be required.

On June 6, 1978, the department timely requested, pursuant to Subsection 120.60(2), Florida Statutes, the correction of errors, omissions, and other data, including the submission of plans, specifications and other necessary information for determination of whether the project proposal would be in harmony with applicable laws, rules and regulations.

The requested information has not been received. This lack of response by the applicant to the timely request for additional information constitutes grounds, under Subsection 120.60(2), Florida Statutes and Paragraph 17-4.28(11)(a), Florida Administrative Code, for denial of the permit.

Additionally, the project site is located in Class II Waters. Subsections 17-4.28(8)(a)&(b), Florida Administrative Code, state:

> (a) The department recognizes the special value and importance of Class II Waters to Florida's economy as existing or potential sites of commercial and recreational shellfish harvesting and as a nursery area for fish and shellfish. Therefore, it shall be the department's policy to deny applications for permits and/or certifications for dredging and/or filling activities in Class II Waters, except where the applicant has submitted a plan of procedure which will adequately protect the project area and areas in the vicinity of the project from significant damage. The department shall not insure a permit for dredging and/or filling directly in areas approved for shellfish harvesting by the Department of Health and Rehabilitative Services. Provided, however, that the staff of the department may issue permits and/or certifications for maintenance dredging of existing navigational channels; for the construction of coastal protection structures; and for the installation of transmission and distribution lines for carrying portable water, electricity or communication cables in rights-of-way previously used for such lines.
>
> (b) The department shall also deny applications for permits or certifications for dredging and/or filling activities in any class of waters where the proximity of such activities to Class II waters would be expected to have an impact on the Class II Waters, and where reasonable assurance has not been provided that the activities will not result in violations of the applicable provisions of Chapter 17-3, Florida Administrative Code, in the Class II Waters.

The application contains no plan(s) of procedure which adequately protect the project area and vicinity from significant environmental damage.

Degradation of local water quality is expected to result from the project proposal. The specific State Water Quality Standards which will be affected include the following:

Turbidity - shall not exceed fifty (50) Jackson units as related to standard candle turbidimeter above background.

Oils and Greases - shall not exceed fifteen (15) mg/l, or that no visible oil, defined as iridescence, be present to cause taste and odors, or interfere with other beneficial uses.

Sewage, Industrial Wastes, or Other Wastes - any industrial wastes or other wastes shall be effectively treated by the latest modern technological advances as approved by the Department.

Toxic substances - free from substances attributable to municipal, industrial, agricultural or other discharges in concentrations or combinations which are toxic or harmful to humans, animal or aquatic life.

Bacteriological Quality, Coliform Group - areas classified for shellfish harvesting, the median coliform MPN (Most Probable Number) of water cannot exceed seventy (70) per hundred (100) ml, and not more than ten (10) percent of the samples ordinarily exceed an MPN of two hundred and thirty (230) per one hundred (100) ml in those portions of areas most probably exposed to fecal contamination during most unfavorable hydrographic and pollutional conditions.

Harmful obstruction to or alteration of the natural flow of the navigable waters.

Harmful or increased erosion, shoaling of channels, or the creation of stagnant areas of water.

Interference with the conservation of fish, marine life and wildlife, or other natural resources.

Destruction of oyster beds, clam beds, or marine productivity, including, but not limited to, destruction of natural marine habitats, grass flats suitable as nursery or feeding grounds for marine life, including established marine soils suitable for producing plant growth of a type useful as nursery or feeding grounds for marine life.

Reduction of the capacity of receiving body of water for shellfish propagation or for recreational or commercial harvesting of shellfish.

Reduction in the capability of habitat to support a well-balanced fish and wildlife population.

Impairment of the management or feasibility of management of fish and wildlife resources.

This intent to deny and proposed order of denial shall be placed before the Secretary for final action, unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida

Statutes, is filed within fourteen (14) days from receipt of this letter. The petition must comply with the requirements of Section 28-5.15, Florida Administrative Code, (copy attached) and be filed with the Secretary of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301. Petitions which are not filed in accordance with the above provisions will not be accepted by the Department. At such formal hearing all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of facts and order, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel.

Executed this 31st day of October, 1978, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION:

for JAMES R. BRINDELL, Director
Division of Environmental
Permitting

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Attachment

Copies furnished to:

Dave Scott, DER, Gainesville
John Adams, Corps of Engineers, Jacksonville
Bradley J. Hartman, Florida Game and Fresh Water Fish Commission
Tallahassee
Carole Barice, DER, Tallahassee
Vince McQuillen, SJRWMD, Palatka

APPENDIX B

SAMPLE DOCUMENTS FROM DRI FILES

STATE OF FLORIDA

Department of Administration

Division of State Planning

660 Apalachee Parkway · IBM Building

TALLAHASSEE

32304

(904) 488-4925

Reubin O'D. Askew
GOVERNOR

R. G. Whittle, Jr.
STATE PLANNING DIRECTOR

Lt. Gov. J. H. "Jim" Williams
SECRETARY OF ADMINISTRATION

July 7, 1977

Coral Gables, Florida 33134

Re: Application for a Binding Letter of
Development of Regional Impact Status
File No. 1177-030

Dear Mr.

The Division of State Planning has evaluated your application for a Binding Letter dated May 4, 1977, and received May 18, 1977, for the proposed Marina located in the City of Miami, Dade County, Florida, and based on the information contained in the application, Federal Permit Application Numbers 77J-0283 and 76J-0437, and applicant's letters dated April 15; May 24; and June 13, 1977, enters the following findings of fact, conclusions of law and order:

FINDINGS OF FACT

1. The applicant is Mr authorized representative for , which proposes to develop the Marina (Phase Two) as a part of the

2. The proposed Marina is on property located within Section 31, Township 53S, Range 42E, approximately 800 feet north of the Venetian Causeway (N.E. 15th Street) consisting of 19,640 square feet extending 480 feet eastward into Biscayne Bay, 1,000 feet west of the Intracoastal Waterway, Dade County, Florida.

3. The applicant proposes to develop 83± boat slips within the Marina (Florida Department of Environmental Regulation Application No. 13-30-3984) immediately adjoining the planned Marina

(Florida Department of Environmental Regulation Permit No. 13-30-0364-6E approved May 4, 1976). The is planned to contain 80+ boat slips. Thus when constructed, the Marina will form the northern section of a marina complex along with the Marina, both of which are within the Biscayne Bay Aquatic Preserve.

4. represented by is also the notarized applicant for other applicable permits to the Army Corps of Engineers (Permit No. 76J-0437 and No. 77J-0283), Florida Department of Environmental Regulation and Florida Department of Natural Resources (four permits, two leases) pertaining to the proposed Marina. These permits establish the fact that the two marinas are part of one design and when constructed, will complete a 180° arc extending 480 feet into the Biscayne Bay and abutting approximately 750 feet along the seawall and property owned by Florida East Coast Properties, Inc.

5. Notarized Affidavits of Ownership, dated April 26, 1976, for the Marina, and January 25, 1977, for the Marina, establish that is the certified record owner of property contiguous to and landward of the area in which the marinas are proposed to be constructed.

6. On this property owned by Florida East Coast Properties, Inc., the (residential phase) and (commercial phase) have been constructed as part of the overall

7. On May 20, 1977, notice of this request for a declaratory statement was published in the Florida Administrative Weekly. No comments were received in response to this notice as of July 7, 1977.

CONCLUSIONS OF LAW

The proposed Marina providing 83+ boat slips, when considered cumulatively with the adjacent Marina of 80 boat slips, exceeds the threshold for Port Facilities as set forth in Chapter 22F-2.09, Florida Administrative Code. Therefore, the proposed two phases to be developed by one developer, constitute one marina, a Development of Regional Impact which is subject to the provisions of Section 380.06, Florida Statutes.

ORDER

It is hereby determined that the proposed Marina and the proposed Marina constitute a Development of Regional Impact and are required to comply with the review requirements of Section 380.06, Florida Statutes.

Binding Letter determinations are made pursuant to the procedural requirements of §120.57(2) or §120.57(1), if appropriate. See Rule 22F-1.16, Florida Administrative Code (copy enclosed). If you want to submit additional evidence in opposition to this determination or to establish an appropriate record for appeal, you may do so pursuant to §120.57(2)(a)2. If you think a material issue of disputed fact is involved in this determination, you may request a proceeding under §120.57(1).

This determination does not obviate the need to comply with other applicable state or local permitting procedures. Any questions regarding this determination may be directed to Alex Sokolik, Bureau of Land and Water Management.

Sincerely,

R. G. Whittle, Jr.
State Planning Director

RGWjr/APS/kf
Enclosure

cc:

12. The applicant has claimed the following as argument for vested rights:

a) The City Commission of Coral Gables, when enacting Ordinance No. 1993 which repealed Ordinance No. 1907 (which included the authorization for marina zoning), did so allegedly from opposition to the multi-family zoning. Rezoning the development to single family was the primary purpose of enacting Ordinance No. 1993.

b) The owner, partially in reliance on the zoning approval (during the period between March 23, 1971 and March 14, 1972) of the marina, spent considerable amounts of money in environmental studies, planning work and other related development costs for the marina prior to July 1, 1973.

c) The owner has relied in good faith upon an act of government and has made a substantial change in position and incurred extensive obligations and expenses.

d) City Commission of Coral Gables Ordinance No. 19251, the Preliminary Master Development Plan, enacted on December 27, 1973, approved in the plan the marina which site was the same as in Ordinance No. 1907 passed in 1971.

e) At the request of governmental agencies, the marina site was moved to a new location in 1974.

13. On September 23, 1977, notice of receipt of this request for a Binding Letter of Determination was published in the Florida Administrative Weekly. In addition, the South Florida Regional Planning Council and the City of Coral Gables have received actual notice. No comments have been received in response to this notice as of November 16, 1977.

14. On November 4, 1977, the Division received a request for an extension of the 60 day deadline to November 16, 1977.

CONCLUSIONS OF LAW

1. Based on the above findings of fact, the proposed Yacht Club (Marina) of the Development is a Port Development of Regional Impact as defined in Chapter 22F-2.09, Florida Administrative Code.

2) Based on the information contained in Paragraphs 3, 4, 5, 6 and 7 of the Findings of Fact there is no evidence that authorization and zoning existed for the marina as of July 1, 1973.

3) Reliance and change of position through Master Plan Approval granted on December 27, 1973, without authorization or zoning approval prior to July 1, 1973, is not sufficient evidence for vesting developmental rights of the applicant, and, therefore, the Yacht Club (marina) of the Development owned by has not acquired vested rights under Chapter 380.06(12), Florida Statutes.

ORDER

It is hereby determined that the Development is a Port Development of Regional Impact which has not acquired Vested Rights pursuant to §380.06(12), Florida Statutes, and therefore will be required to comply with the review requirements of Chapter 380.06, Florida Statutes.

Binding letter determinations are made pursuant to the procedural requirements of §120.57(2) or §120.57(1), Florida Statutes, if appropriate. See Rule 22F-1.16, Florida Administrative Code (copy enclosed). If you want to submit additional evidence in opposition to this determination or to establish an appropriate record for appeal, you may do so pursuant to §120.57(2)(a)2, Florida Statutes. If you think a material issue of disputed fact is involved in this determination, you may request a proceeding under §120.57(1), Florida Statutes.

This determination does not obviate the need to comply with other applicable state or local permitting procedures. Any questions regarding this determination may be directed to Bureau of Land and Water Management.

Sincerely,

R. G. Whittle, Jr.
State Planning Director

RGWjr/APS/ss
Enclosure
cc:

/bar

Impact Assessment
prepared by
South Florida Water
Management District

PROJECT DESCRIPTION

NAME:
I.D. NO.: 77-72
LOCATION: City of Miami, Dade County
TYPE OF DEVELOPMENT: Marina
SIZE: 2.2 acres
DOCKING FACILITY: 300 (maximum)

The is to be constructed in Biscayne Bay within the City of Miami (see attached Exhibits 1 through 3). The marina complex is designed to accommodate a maximum of 300 pleasure craft that are not utilized as residences.

We note that the following questions listed on the DSP application form have been waived: 14A, B and C; 17B; 21B (the last two sentences) and 21C; 22A, B and D and 23A, B, C and E. These questions pertain to portions of the various elements regarding the land (soils, topography, etc.), flood plains, wastewater management, drainage and water supply. It is for this reason that we have prepared the abbreviated report contained herein.

art II. A.

2. Water Resources

a. Water Quality.

According to the ADA, the following water quality management practices will be implemented at the marina site: (1) the utilization of a floating oil boom or other spill prevention devices at the fueling dock, (2) spilled fuels are to be retained on the fuel platform, (3) there will be no discharging of liquids into the Bay except for marine engine cooling water, (4) turbidity screens will be installed during the construction phase, (5, the upland bulkhead cap swale area is intended to retain one-inch sheet flow, and (6) sewage pump out facilities are to be provided and an additional hook-up is proposed for transient boats. We note that at this point in time the majority of private boats do not have holding tanks for onboard containment of sewage. Current local, state and federal regulations prohibit the discharging of sewage into coastal waters. The applicant has indicated that signs will be posted warning boaters "... that all boats are prevented from discharging any sewage into Biscayne Bay under penalty of law ...". Although the abutting land area is highly urbanized, the project is

located in the Biscayne Aquatic Preserve. For this reason, the regulations regarding the discharging or sewage must be strictly enforced.

If these measures are adhered to, minimal adverse water quality impacts are expected to result from this project.

b. Water Quantity.

(1) Drainage System. Based on the information presented in the ADA, a drainage system will not be necessary. However, we note that certain elements of surface water management practices are proposed and are enumerated in the Water Quality section of this report.

(2) Water System. There is no proposal for an on-site water supply system. The water supply needs will be met by an off-site facility (see discussion under Public Facilities/Water Supply section).

3. Natural Resources

a. Topography.

The ADA indicates that there will be no dredging, filling, clearing or grading of the site, as a result, minimal impact on topography is anticipated.

b. Soils.

Not applicable.

c. Natural Vegetation.

The ADA states the following:

1. There are no wetland areas on the site.
2. There are no rare or endangered species of plants on the bay bottom.
3. The area does not constitute a migrating or feeding location for wildlife.
4. There are no species of wildlife located on this site which are considered to be endangered or threatened.
5. Adjoining properties are both commercially developed and are bounded by a seawall with upland vegetation which consists mainly of grasses.
6. There will be no clearing or grading.
7. There will be no dredging or filling.

Based on the information presented, no significant adverse environmental impact is anticipated as a result of this development.

Part II. C. Impact on Public Facilities of the Region:

1. Wastewater Treatment and Disposal

Wastewater treatment and disposal is to be provided by the City of Miami,

utilizing the regional treatment facility.

No adverse impacts are anticipated to result from this project.

2. Storm Water Disposal

Not applicable.

3. Water Supply

As previously noted, question 23 (A,B,C, and E) was waived. Because of this, the elements concerning water supply cannot be properly evaluated. A major concern is the lack of a commitment by a public facility to supply water, regardless of quantity, to the project.

rt III. SUMMARY

The which is to be located in the Biscayne Bay Aquatic Preserve area, is designed to accommodate a maximum of 300 pleasure craft.

According to the information presented in the ADA, adequate measures will be taken to insure that adverse water quality impacts will be held to a minimum. Local, state and federal regualtions regarding the discharging of sewage into the Bay must be strictly enforced in order to protect the estuary.

In reviewing the Application for Development Approval for the Marina, the District has determined that there are no issues of adverse impact pertaining to the water and natural resources elements of the region requiring resolution.

B. RECOMMENDATIONS

It is the recommendation of the South Florida Regional Planning Council that the proposed be approved, subject to the following conditions:

1. The present configuration of the marina basin has been permitted.
2. Elimination of the three proposed piers in the southwest corner of the marina unless construction of the piers is permitted by Coral Gables.
3. Wastewater resulting from the periodic washing of impervious surfaces to be channeled to natural filter or swale areas prior to soil infiltration.
4. Turbidity screens or other appropriate precautions as approved by Department of Environmental Regulation and the Corps of Engineers to minimize dispersal of sediment during construction.
5. The applicant obtain a written commitment for the supply of potable water to the marina during the construction and operation phases.
6. The Application for Development Approval be incorporated by reference into the Development Order of the City of Coral Gables as follows:

   > "the Application for Development Approval is incorporated herein by reference and relied upon by the parties in discharging their statutory duties under Chapter 380 Florida Statutes. Substantial compliance with the representations contained in the Application for Development Approval is a condition for approval unless waived or modified by agreement among the parties."

7. Consistent with the representations of the applicant, a "no live-aboard" provision be included in the lease agreements for marina slips.

DEVELOPMENT ORDER

Let it be known that pursuant to Section 380.06(7) of the Florida Statutes, the Commission of the City of Miami, Florida, has heard, at a Public Hearing held on December 15, 1977, a development of regional impact consisting of a large-scale marina to be located in the City of Miami.

Pursuant to Section 380.06, and after due consideration of the consistency of this development with the regulations and the regional report, this body made the following Findings of Fact, Conclusion of Law and took the following action:

FINDINGS OF FACT

1. There is no adopted state land development plan applicable to this area.

2. This development is consistent with local land development regulations.

3. This development is consistent with the report and recommendations of the regional planning agency.

CONCLUSION OF LAW

This project is in conformance with all applicable state and local land-use regulations and all other applicable state and local law.

ACTION TAKEN

Approval of this development subject to the following conditions:

1. That the applicant dedicate 0.5 parking spaces at the Marina parking facilities for each boat berthed at the marina.

2. That the applicant locate and mark any shoal grass beds within the vicinity of the marina.

3. That non-emergency access to the marina from N. E. 15th Street, east of N. Bayshore Drive shall be prohibited.

4. That the water quality be monitored on a quarterly basis from the beginning of construction until one year after construction is completed.

5. That the application for development approval be incorporated into this Development Order by reference and relied upon by the parties in discharging their statutory duties under Chapter 380, Florida Statutes. Compliance with the representations contained in the application for development approval is a condition for approval unless waived or modified by agreement with the parties.

6. That the applicant report compliance with Items 1 and 3 to the City of Miami Planning Department and compliance with Items 2 and 4 to the Dade County Department of Environmental Resources Management and South Florida Regional Planning Council.

7. That the Development Order shall expire three years after issuance, unless substantial construction has started.

8. That this Development Order is further subject to the provisions of the City of Miami Comprehensive Zoning Ordinance and any Conditional Uses or Variances required thereunder.

MAYOR

COMMISSIONER

COMMISSIONER

COMMISSIONER

* 1 COMMISSIONER ABSTAINED (REV. GIBSON) MEMO OF VOT... * CONFLICT FILED WITH City Cl...

COMMISSIONER

December 15, 1977
DATE

CITY CLERK

77-02

DRI DEVELOPMENT ORDER

Let it be known that pursuant to Section 380.06 (7), Florida Statutes the Planning Board of the City of Coral Gables has heard at a public hearing held on April 5, 1978 the application for development approval for a development of regional impact consisting of a Yacht Basin of 197 Boat Slips to be located in Coral Gables, Dade County, Florida.

Pursuant to Section 380.06 and after due consideration of the consistency of this development with regulations, and the regional report, this body took the following action on June 26, 1979 for approval of said development subject to the following recommendations of the Planning and Zoning Board made at its meeting June 5, 1979:

1. That the following be deleted:
   (a) Clubhouse and swimming pool
   (b) Fuel supply capability at dockmaster's quarters
   (c) Coin operated laundry facilities at dockmaster's quarters
   (d) Food and alcoholic beverage capabilities at dockmaster's quarters
2. That the number of boat slips be reduced from 211 to 197.
3. That the parking facilities be reduced from 266 spaces to 230 spaces.
4. That the area of the proposed uses be as follows:

	Percent of Project
Water	55.5
Paving	16.6
Walks	6.9
Landscape Grass	19.0
Natural Growth	1.6
Building	0.4

5. That the name be changed to
6. That the west property line south of Prado Boulevard extend 60 feet further to the west being 207.50 feet west of the section line.
7. That all boat slips in Lago Monaco be deleted.
8. That the waste water resulting from the periodic washing of impervious surfaces to be channeled to natural filter or swale areas prior to soil infiltration.
9. That turbidity screens or other appropriate precautions as approved by Department of Environmental Regulation and the Corps of Engineers be provided to minimize dispersal of sediment during construction; and
10. That the Application for Development Approval is incorporated herein by reference and relied upon by the parties in discharging their statutory duties under Chapter 380 Florida Statutes. Substantial compliance with the representations contained in the Application for Development Approval is a condition for approval unless waived or modified by agreement among the parties.

STATE OF FLORIDA

Department of Administration

Division of State Planning

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R.G. Whittle, Jr.
STATE PLANNING DIRECTOR

Reubin O'D. Askew
GOVERNOR

Wallace W. Henderson
SECRETARY OF ADMINISTRATION

OCT 16 1978

PERMLE

October 12, 1978

Dept. Of Environmental Regulation
RECEIVED
OCT 16 1978
OFFICE OF SECRETARY

Mr.

Ft. Myers, Florida 33908

RE: Application for a Binding Letter
of Development of Regional Impact
File No. BLID-979-003

Dear Mr

The Division of State Planning has evaluated your application for a Binding Letter dated August 10, 1978, and received August 14, 1978, for the proposed Marina, located in Lee County, Florida. Based on information contained in the application and other information obtained from various agencies, the Division of State Planning enters the following findings of fact, conclusions of law, and order:

FINDINGS OF FACT

1. The applicant is Mr. , owner of , which proposes to develop Marina.

2. The Marina is located on property described as follows: A tract or parcel of land lying in Government Lots 1 and 2, Section 35, Township 45 South, Range 23 East, Lee County, containing approximately 4.8 acres.

3. The proposed development will provide an additional 107 slips to the existing 44 slip marina. The existing marina is over 40 years old with the last slip built in 1958. Since the 44 boat slips existed prior to July 1, 1973, they are not subject to review under Section 380.06, Florida Statutes.

4. The applicable guideline for the proposed development is Port Facilities, Chapter 22F-2.09, Florida Administrative Code. "The proposed construction of any waterport except those designed primarily for the mooring or storage of a watercraft used exclusively for sport or pleasure of less than one hundred (100) slips for mooring", is presumed to be a Development of Regional Impact.

5. Since the addition of 107 slips to the existing marina exceeds the presumptive threshold for marina developments, the applicant has submitted evidence on the development to rebut the presumption.

6. The following information has been presented by the applicant to indicate that the marina proposal will not be of multi-county impact.

A. The existing marina is an old, poorly maintained marina with a debris filled basin (trash, automobile bodies, etc.) that is shoaling badly.

B. The dredging and cleaning of the debris from the basin and construction of a navigational channel has been previously permitted by the Trustees of the Internal Improvement Trust Fund in March, 1968, permit number 253.123-48. Since no work was done this permit expired in 1971. A new Department of Environmental Regulation/Corps of Engineers permit is presently being obtained.

C. Living aboard will not be allowed at the marina.

D. The project is a maintenance dredge project that will require no filling of wetland area. A two acre upland spoil retention site with grassed culverts for dewatering of spoil will be built adjacent to the marina. Dry spoil will be transported off the site.

E. The applicant has obtained three letters from Lee County finding the project to be in compliance with the county's zoning, traffic, and environmental goals. They include letters from Mr. Donald P. Malloy, Director, Division of County Development; Mr. Michael Carroll, P.E., County Engineer; and Mr. Norman H. Thompson, Jr., Planning Director.

7. Additional information has been found by the Division to support the applicant's information.

A. The water quality in the marina basin should not be adversely affected according to the preliminary hydrological report made by district Department of Environmental Regulation staff. This information was obtained from a telephone conversation with Dan Garlick on October 3, 1978. The site conditions include:

1. a natural cove area with high dissolved oxygen levels and a diverse benthic community. Some interior areas of the basin have minor stagnation due to the shoaling of the channel;

2. high tidal exchange rates due to location of the cove near the mouth of the Caloosahatchee River;

3. existing bulkheaded banks and grassed lawns adjacent to the marina that reduce the upland runoff problems;

4. areas of natural vegetation including mangroves that will be maintained by the applicant; and

5. improvement of the basin's overall water quality and flushing capability upon completion of dredging of the shoaling areas.

B. Department of Environmental Regulation will require a turbidity curtain during dredging to reduce impacts on the Caloosahatchee River. A water quality monitoring program to check for dissolved oxygen and turbidity in the basin will be established while dredging occurs and periodically thereafter.

C. Mr. Don Brame of the Lee County Department of Transportation finds that the project will not burden the capabilities of the affected road systems (telephone conversation 9/13/78). The project may produce 230 to 460 cars per day during peak periods. This conversation substantiates the findings of Mr. Carroll's letter.

8. On August 18, 1978, notice of this request for a Binding Letter of Determination was published in the Florida Administrative Weekly. In addition, the South West Florida Regional Planning Council and Lee County have been notified. No comments have been received in response to this notice as of October 12, 1978.

CONCLUSIONS OF LAW

1. The Marina proposal providing 107 slips, bringing the total marina capacity to 151 slips as described in Findings of Fact #3, 6 and 7 does exceed the presumptive threshold for sport and pleasure craft, Port Facilities, pursuant to Chapter 22F-2.09, Florida Administrative Code. The applicant however, has presented sufficient substantial competent evidence which shows that the proposed expansion does not have multi-county impact.

2. Furthermore, no evidence was presented to show that this development would have regional impact pursuant to Chapter 380, Florida Statutes.

3. Therefore, the evidence is sufficient to rebut and overcome the presumption in Chapter 22F-2.09, Florida Administrative Code, and the development is not a Development of Regional Impact.

ORDER

The proposed Marina expansion of 107 slips to the existing 44 slips will not be required to comply with the review requirements of Section 380.06, Florida Statutes.

Binding letter determinations are made pursuant to the procedural requirements of §120.57(2) or §120.57(1), Florida Statutes, if appropriate. See Rule 22F-1.16, Florida Administrative Code (copy enclosed). If you want to submit additional evidence in opposition to this determination or to establish an appropriate record for appeal, you may do so pursuant to §120.57(2)(a)2, Florida Statutes. If you think a material issue of disputed fact is involved in this determination, you may request a proceeding under §120.57(1), Florida Statutes.

This determination does not obviate the need to comply with other applicable state or local permitting procedures. Any questions regarding this determination may be directed to Barbara R. Henderson, Bureau of Land and Water Management.

Sincerely,

R. G. Whittle, Jr.

R. G. Whittle, Jr.
Director

RGWjr/BRH/ba

Enclosure

cc: Mr. John Davidson
Mr. Joseph W. Landers
Mr. Roland Eastwood