# Florida's Ocean Future

A Report

# TOWARD A STATE OCEAN POLICY



Prepared for the Governor's Office of Planning and Budgeting, Environmental Policy Unit

# FLORIDA'S OCEAN FUTURE:

# TOWARD A STATE OCEAN POLICY



by

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TABLE OF CONTENTS

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## GLOSSARY OF ACRONYMS

**AICC** - Aquaculture Interagency Coordinating Council.

**AMI** - Associated Marine Institute.

**ARC** - Aquaculture Review Council.

**BAAC** - Beach Access Advisory Committee.

**Board of Trustees (or Trustees)** - The Board of Trustees of the Internal Improvement Trust Fund.

**BOD** - Biological Oxygen Demand.

**CAC** - Coastal Resources Citizens Advisory Committee.

**CC-OTEC** - Closed-Cycle Ocean Thermal Energy Conversion.

**CERCLA** - Comprehensive Environmental Response, Compensation, and Liability Act.

**CLEAN WATER ACT** - Federal Water Pollution Control Act.

**CRISTAL** - Contract Regarding an Interim Supplement to Tank Liability.

**CWA** - Clean Water Act.

**CZMA** - Federal Coastal Zone Management Act.

**CZMS** - Coastal Zone Management Section of the Florida Department of Environmental Regulation.

**DACS** - Department of Agriculture and Consumer Services.

**DCA** - Department of Community Affairs.

**DER** - Department of Environmental Regulation.

**DHRS** - State Department of Health and Rehabilitative Services.

**DNR** - Department of Natural Resources.

**DOC** - Department of Commerce.

**DOI** - Department of Interior.

**DOS** - Department of State.

**DOT** - Department of Transportation.

**EA** - Environmental Assessment.

**EEZ** - Exclusive Economic Zone.

**EOG** - Executive Office of the Governor.

**EPA** - Environment Protection Agency.

**EIS** - Environmental Impact Statement.

**FAP** - Florida Aquaculture Plan.

**FCCEE** - Florida Council on Comprehensive Environmental Education.

**FCMP** - Florida Coastal Management Program.

**FCZ** - Federal Fishery Conservation Zone.

**FDA** - Food and Drug Administration.

**FIO** - Florida Institute of Oceanography.

**FMC** - Fisheries Management Council.

**FSEC** - Florida Solar Energy Center.

**FWPCA** - Federal Water Pollution Control Act.

**GFWFC** - Game and Fresh Water Fish Commission.

**HRS** - Federal Department of Health and Rehabilitative Services.

**IAC** - Interagency Advisory Committee.

**IGCS** - Intergovernmental Coordination Section.

**IMC** - Interagency Management Committee.

**LDC** - London Dumping Convention.

**LOS Treaty** - Law of the Sea Treaty.

**MADA** - Marine Archaeological Divers Association.

**MARPOL** - International Convention for the Prevention of Pollution By Ships.

**MFC** - Marine Fisheries Commission.

**MFCMA** - Magnuson Fishery Conservation and Management Act.

**MMS** - Minerals Management Service.

**MOU** - Memorandum of Understanding.

**MPPRCA** - Marine Plastic Pollution Research and Control Act.

**MPRSA** - Marine Protection, Research, and Sanctuaries Act.

**MSU** - Management Support Unit.

**NEP** - National Estuary Program.

**NEPA** - National Environmental Policy Act.

**NMFS** - National Marine Fisheries Service.

**NOAA** - National Oceanic and Atmospheric Administration.

**NPDES** - National Pollutant Discharge Elimination System.

**OC-OTEC** - Open-Cycle Ocean Thermal Energy Conversion.

**OCRM** - Office of Ocean and Coastal Resource Management.

**OCS** - Outer Continental Shelf.

**OCSLA** - Outer Continental Shelf Lands Act.

**ODA** - Ocean Dumping Act.

**OFF** - Organized Fishermen of Florida.

**OFW** - Outstanding Florida Waters.

**OPB** - Office of Planning and Budgeting.

**OTEC** - Ocean Thermal Energy Conversion.

**PART** - Paleontological and Archaeological Research Team of Florida.

**POTW** - Publicly-Owned Treatment Works.

**SCH** - State Clearinghouse.

**SEFLOE** - Southeast Florida Outfall Experiment.

**SLDP** - State Law Development Plan.

**STATE PLAN** - The State Comprehensive Plan.

**SWIM** - Surface Waters Improvement and Management Program.

**SWUP** - State Water Use Plan.

**TED** - Turtle Excluding Devices.

**TOVALOP** - Tank Owner's Voluntary Agreement concerning Liability for Oil Pollution.

**Trustees** - Board of Trustees of the Interal Improvement Trust Fund.

**TSS** - Total Suspended Solids.

**UNEP** - United Nations Environmental Program.

**USCG** - U.S. Coast Guard.

**WMD** - Water Management Districts.

# EXECUTIVE SUMMARY

Florida, surrounded by the sea, is truly an ocean state. From its geologic origin, historical discovery and settlement to its economic development and worldwide reputation, Florida has evolved and benefited from the sea. As Florida's increasing population, recreation, and economic interests and needs turn to the sea there is an increasing need to better understand and manage this multi-purpose resource in a comprehensive and self-sustaining way.

Ocean areas and the resources they encompass offer a wide range of uses to both the state and nation. The maritime industry relies on safe shipping channels for importing and exporting goods to and from Florida and throughout the world. The commercial and recreational fishing industries reap the benefits of productive marine habitats, including offshore coral reefs, seagrass beds, and artificial reefs. Universities and other academic research institutions rely on a natural marine environment to conduct research and provide educational and economic opportunities for future generations. Mineral resources off Florida's coast prompt industry interest in oil and gas leasing and ocean mining of sand and gravel, phosphates, and heavy mineral reserves. Sites of historical and archeological significance abound here. Our marine waters are also sites for sewage effluent discharges, ocean dumping, and proposed incineration of wastes.

Unfortunately, Florida has no comprehensive policy for ocean resource use. Laws, management, and policy are presently fragmented and sometimes contradictory. The competing demands for marine resource use and conflicting governmental jurisdictions between and among a myriad of federal and state agencies responsible for ocean management is becoming more complex and confusing.

Coastal states, including Florida, must be prepared to participate in the development of a national ocean policy by clarifying and developing state ocean policy. This report is intended to be a first step in that direction. It attempts to compile and summarize Florida's present laws, management, and policies dealing with ocean issues to provide background and recommendations necessary for policy synthesis and development. Because of the broad scope of the issues seaward of the beach, this report could not focus on many of the upland development and fresh water management issues that affect Florida's estuaries and territorial seas.

In identifying issues and making recommendations, this report points out matters that, in some instances, appear to be short-term concerns of managers and regulators. In sum, these issues are significant, but obviously comprehensive ocean policy development must take a broad perspective. Overall consideration of both short- and long-term needs for ocean resource management and policy development, however, reveals common problems. First, intergovernmental and interagency cooperation and coordination must be enhanced. This may

be accomplished by establishing better mechanisms, ensuring that existing mechanisms are used, and clarifying jurisdictional issues and applicable policies.

Of even more importance is the need for information to develop and implement ocean policy. The management of 6.7 million acres of the state's offshore lands is an ambitious task. It cannot be accomplished without a sound foundation of marine research and education in the state. It is also necessary that the research and information be accessible to policy makers, managers, and regulators.

Florida's ocean future depends on a clearly defined policy to guide future development and activities, and education for understanding of our relationship to our seas and research to provide the knowledge to preserve that relationship.

# INTRODUCTION

Florida is often referred to as an ocean state. The title is well deserved. Florida has the second longest coastline of the fifty states. The ocean has made Florida unique. The surrounding warm waters have created year-round climate that has made the state a major agricultural producer, as well as the ideal vacation spot. Nearly all the state's population lives within an hour's drive of the coast. More than 75 per cent of Florida's population lives in coastal counties, and over 80 per cent of the state's population growth during this decade has been concentrated in coastal areas.

The coastline of Florida is often recognized as the state's most important asset. Yet, just beyond the sandy beaches lies an ocean area of resource potential of equal or greater importance to the state: the submerged offshore lands of Florida extending three geographic miles into the Atlantic Ocean and 10.36 miles (three leagues or nine geographic miles) into the Gulf of Mexico. Florida holds title to 6.7 million acres of offshore land, making it the second largest "ocean-owning" state.

Ocean areas and the resources they encompass offer a wide range of uses to both the state and nation. The maritime industry relies on safe shipping channels for importing and exporting goods to and from Florida and throughout the world. The commercial and recreational fishing industries reap the benefits of productive marine habitats, including offshore coral reefs, seagrass beds, and artificial reefs. Universities and other academic research institutions rely on a natural marine environment to conduct research and provide educational and economic opportunities for future generations. Mineral resources off Florida's coast prompt industry interest in oil and gas leasing and ocean mining of sand and gravel, phosphates, and heavy mineral reserves. Sites of historical and archeological significance are also found here. Our marine waters are also sites for sewage effluent discharges, ocean dumping, and proposed incineration of wastes.

Nearshore and coastal impacts from these activities can also affect estuaries, land uses, local services, and economies. Offshore resource development can result in various forms of pollution that can affect estuarine and other coastal systems. Land-based support facilities, whether for fisheries, petroleum, or other offshore development, directly affect local land uses and the level of local service requirements. The impacts of ocean resource development are an inherent part of the problem of multiple-use conflict on the coast.

Marine resource management involves responsibilities of every level of government and, at the state and federal levels, a myriad of agencies. Management of the oceans means reconciling a broad array of conflicting uses, jurisdictional claims and competencies, and policies. Effective territorial sea policy development and management should be as important to Florida as an "ocean state" as management of shorelines is to Florida as a coastal state.

## Background

As early as 1978, Robert Knecht, then Assistant Administrator of NOAA for Coastal Zone Management, encouraged states to consider more active involvement in what he referred to as the "wet side" of coastal management. Knecht emphasized the importance of managing territorial seas from the perspective of intrastate uses and conflicts, as well as providing opportunities for the states to exert positive management influences over outside activities and policies influencing waters of the territorial sea. During the 1980s, international and national ocean law and policy have been developing extremely rapidly. Without clearly enunciated ocean resource policies, states will be in the position of merely reacting on an ad hoc basis to these developments. This approach inevitably leads to conflict rather than

cooperation. Rarely is a state in its strongest posture when viewed as reactionary. Well-defined state policy precludes such a perception and provides opportunities for positive state input into developing federal policy.

A recent report of the Coastal States Organization, "Coastal States and the U.S. Exclusive Economic Zone," recognizes that ocean management is the logical extension of coastal management. Several states have already accepted that proposition and have developed or begun to develop comprehensive State Ocean Policy plans. A number of rationales for development of state ocean policies have been advanced:

> Demands on . . . ocean resources are steadily increasing. Growth in . . . resident and visitor populations, increasing affluence, and changes in consumption patterns have intensified the demands for recreation, oceanic transshipment of goods and supplies, harvesting of products from the sea, and places to dispose wastes.
>
> - Hawaii Dept. of Planning and Economic Development, **State of Hawaii Ocean Management Plan** (April 1985).

> There are several reasons for . . . new interest in ocean resource planning and management. First, the ocean . . . is a valuable economic resource that supports a commercial and recreational fishing industry, pleasure boating, commercial navigation, and waste disposal. Other uses are on the horizon or have potential, among them oil and gas development, marine mineral mining and increased waste disposal. While these new uses present opportunities for economic diversification, they also have potential for causing adverse environmental effects, and for creating disputes over use of ocean space and resources.
>
> - Good, Hildreth, Rose and Skilman, **Executive Summary: Oregon Territorial Sea Management Study** (1987).

> [W]e believe it behooves the states to pursue their own independent analyses of their individual and collective policy relationship to ocean and coastal issues, not only for their own benefit but also to prepare their contributions for future federal-state dialogues.
>
> - Ocean Policy Committee of the North Carolina Marine Science Council, **North Carolina and the Sea: An Ocean Policy Analysis** (November 1984).

With the aid of coastal management grants, North Carolina and Hawaii have taken the lead in defining state ocean policies. Oregon's and Washington's plans are nearing completion; Massachusetts, Mississippi, and Alabama are now in the early stages of ocean policy studies.

Florida's Coastal Management Program (FCMP) recognizes that ocean management and ocean policy development are logical extensions of coastal management in Section II of the FCMP "Final Environmental Impact Statement." Many of the "Issues of Special Focus" relate directly to ocean resources and their uses. Coral reefs, navigation, ocean disposal of dredged or waste material, commercial and recreational fisheries, and water-related energy facilities all relate directly to offshore management.

To a large extent, however, the FCMP addresses these primarily offshore issues from a "land-planner" perspective and pays insufficient attention to the "wet side" of the coastal zone. Development of a State Ocean Policy would reinforce and enhance the state's efforts to deal with these issues. Better coordination of agency efforts and more efficient decision making will result from broadening the focus of analysis and identifying state policy that relates to the territorial sea. Development of a State Ocean Policy would be one more step toward reasoned management of the coastal zone.

Florida has no comprehensive policy for ocean resource use. The competing demands and conflicting governmental jurisdictions over ocean resources continue to become more complex and confusing. The desire to mitigate the negative impacts of offshore uses on estuaries and shores, while reaping the many benefits of offshore resources, grows increasingly difficult without a defined, comprehensive State Ocean Policy. Management of coastal resources, including those of the territorial sea, require definition and coordination through a State Ocean Policy.

In January 1988, the Environmental Policy Unit of the Governor's Office of Planning and Budgeting contracted with the Policy Studies Clinic of the Florida State University College of Law to conduct research and produce a report and recommendations on the development of ocean policy for the state of Florida. The grant was funded through the Florida Coastal Management Program's federal Coastal Zone Management Act grant program as a project to improve coastal management. The creation of a State Ocean Policy was recommended by the Governor's Coastal Resources Citizens Advisory Committee and others in 1986. This project was approved for funding by the Interagency Management Committee and then the federal office of Ocean and Coastal Resources Management.

The first stage of the project involved the identification of major ocean policy issue areas for the state. This was accomplished by research and review of legislation and regulation, interviewing managers and user groups, and conducting a public workshop for informational purposes to bring agencies, user groups, and interested citizens into the process of issue identification and policy recommendation at an early stage of the project.

The research and commentary from the workshops formed the basis for a working paper which was reviewed by state agencies and user groups. The final report was extensively revised based on the comments of these groups.

This study is intended to form the basis for development of a comprehensive State Ocean Policy for Florida. As the study shows, there are a myriad of pieces to the puzzle of ocean management in Florida. This final report is a first step at laying out the pieces. It does not, however, provide the degree of analysis of those pieces to propose a comprehensive ocean policy. Rather it provides background and recommendations with which the state can better begin to articulate its policies.

## Objectives

This final report reflects the three major objectives of the study:

1) to provide a review and summary of the state government's role in coastal and ocean management within Florida's boundaries and in the adjacent seas; and

2) to identify problem areas in ocean and coastal management, such as gaps, overlaps, or duplication of responsibilities; outmoded laws; need for more intergovernmental coordination and cooperation in planning and programs; increased enforcement and public education programs, and a mechanism to guide research on coastal and ocean management problems.

3) to identify issues that must be addressed in ocean policy development and make recommendations for resolutions.

SUMMARY:

POLICIES APPLICABLE TO FLORIDA'S SEAS
AND RECOMMENDATIONS

## Policies Applicable to Florida's Offshore Waters

The following list attempts to glean clearly-enunciated statements from statutes, rules, plans, and caselaw that reflect policies applicable to Florida's offshore waters and submerged lands. The sources are indicated. It should not be assumed that these summaries represent a complete picture, because there has been no attempt in this section to elaborate or to extrapolate additional policies from other state activities, by interpreting or applying policies, or by reading policies together. There has also been no attempt to resolve any potentially conflicting policies in this section. It is recommended that the reader consult the discussion in the relevant chapter of this report for a more complete identification of policy issues and conflicts.

### State Agencies and State Planning

1. Florida shall ensure that development and marine resource use and beach access improvements in the coastal areas do not endanger public safety or important natural resources. Florida shall, through acquisition and access improvements, make available to the state's population additional beaches and marine environment, consistent with sound environmental planning. (State Comprehensive Plan, Goal 9)

2. The state of Florida shall:

   4. Protect coastal resources, marine resources, and dune systems from the adverse effects of development.

   6. Encourage land and water uses which are compatible with the protection of sensitive coastal resources.

   7. Protect and restore long-term productivity of marine fisheries habitat and other aquatic resources.

   8. Avoid exploration and development of mineral resources which threaten marine, aquatic, and estuarine resources. (State Comprehensive Plan, Goal 9, Policies)

3. The Florida coastal management plan, based on existing state authorities, shall be part of the state comprehensive plan. (Florida Coastal Management Act of 1978)

4. Through local government planning, development activities should be managed to restrict activities which would damage or destroy coastal resources, to protect human life, and to limit public expenditures in areas subject to destruction by natural disasters. (Local Government Comprehensive Planning and Land Development Regulation Act of 1985)

### Submerged Lands and Jurisdiction

1. Florida holds "all right, title, and interest" to the land and natural resources of the lands beneath navigable waters within the boundaries of the state. (Submerged Lands Act of 1953)

2. Florida's boundaries extend three nautical miles in the Atlantic Ocean and three marine leagues (nine nautical miles or 10.36 land miles) in the Gulf of Mexico. (*United States v. Florida*, 425 U.S. 791 (1976))

3. Land below navigable waters within the boundaries of the state is held for the people and may be sold when authorized by law, but only when in the public interest. Private use of portions of such lands may be authorized by law, but only when not contrary to the public interest. (Florida Constitution, article X, section 1)

4. All state lands are to be managed to "provide the greatest combination of benefits to the people of the state," and *all* submerged lands are to be considered single-use lands, "managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation." (Florida Statutes, section 253.034)

5. Submerged land management policies include:

1) Discourage all private exclusionary uses of submerged lands.
2) Limit use of state-owned submerged lands to water-dependent uses unless the Board of Trustees finds that a greater public purpose would be served by a specific exception.
3) Prohibit all future leases for stilt houses on state submerged lands.
4) Terminate all unauthorized uses of state submerged lands.
5) Ensure that all activities on state submerged lands avoid adverse impacts on other authorized uses.

(Board of Trustees of the Internal Improvement Trust Fund, Conceptual State Lands Management Plan)

6. DNR's goals in managing marine and coastal resources include:

-Protect and restore long-term productivity of marine fisheries habitat and other aquatic preserves.

-Avoid the exploration and development of mineral resources which threaten marine, aquatic and estuarine resources. (DNR Agency Functional Plan 1987-1991)

7. The title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust for all the people. (Florida Constitution, article X, section 11)

**Marine Salvage, Finds, and Historic Preservation**

1. In *in rem* admiralty cases, federal courts have no power to adjudicate the state's interest in the shipwreck or antiquities without the states consent. (*Florida Dept. of State v. Treasure Salvors*, 458 U.S. 668 (1982))

2. The state holds title to historic shipwrecks within its boundaries. (The Abandoned Shipwreck Act of 1987; The Florida Historical Resources Act)

3. Historic properties are irreplaceable, nonrenewable resources and should be managed to preserve the legacy for future generations. (Florida Historical Resources Act)

4. Exploration, excavation, or salvage of archaeological materials from state sovereignty submerged lands may only be conducted pursuant to an agreement with the Division of Historical Resources, Florida Department of State. (Florida Administrative Code, chapter 1A-31)

**The Florida Coastal Management Program**

1. Federal agency activities which "directly affect" the state's coastal zone must "to the maximum extent practicable" be consistent with the Florida Coastal Management Program (FCMP); federally-permitted activities which affect the coastal zone must be consistent with the FCMP. (Coastal Zone Management Act of 1972)

**Management of Marine Habitat and Protected Species**

*Florida Aquatic Preserves*

1. Policies for use and management of aquatic preserves include:

1) No sale, lease or transfer of state-owned submerged lands within aquatic preserves shall be approved unless it is in the public interest.

2) No bulkhead line shall be established or relocated waterward of the mean high water line in an aquatic preserve unless necessitated by a public road or bridge construction project where no reasonable alternative exists and the project is not contrary to the public interest.

3) There shall be no drilling of gas or oil wells within any aquatic preserve.

4) There shall be no excavation of minerals within aquatic preserves.

5)(a) There shall be no dredging of state-owned lands within aquatic preserves for the sole purpose of providing upland fill.
(b) There shall be no dredging or filling of submerged lands within aquatic preserves except as may be deemed necessary by the Trustees for the following activities:

(i) public navigation projects
(ii) maintenance of existing navigation channels
(iii) creation and maintenance of marinas, piers, docks and their attendant navigation channels
(iv) public utility installation or expansion
(v) installation and maintenance of fuel transportation facilities
(vi) alterations necessary to enhance the quality or utility of the preserve or the public health generally

6) No structures shall be erected within a preserve except:

(a) Private docks for reasonable ingress and egress of riparian owners.
(b) Commercial docking facilities shown to be not contrary to the use or management criteria of the preserve.
(c) Shore protection structures, approved navigational aides, or public utility crossings authorized under policy 5(b).

7) No wastes or effluents which substantially inhibit the accomplishment of the purposes of the Aquatic Preserve Act shall be discharged into an aquatic preserve.

8) Management of human activities within aquatic preserves will not unreasonably interfere with traditional public uses such as fishing, boating and swimming.

9) Management of aquatic preserves shall not infringe upon the traditional rights of riparian land owners within or adjacent to an aquatic preserve.

10) Other uses of an aquatic preserve may only be approved subsequent to a formal finding of compatibility with the purpose of the Aquatic Preserve Act and rules, and of the type designation of the preserve in question.

(Aquatic Preserves Act of 1975; Board of Trustees of the Internal Improvement Trust Fund, Conceptual State Lands Management Plan)

*Estuarine Research Reserves and Marine Sanctuaries*

2. Estuarine research reserves are to provide natural field laboratories to study the processes of estuaries. (Coastal Zone Management Act of 1972)

*Endangered, Threatened, and Protected Marine Species*

3. It is the policy of the state to provide for research and management to conserve and wisely manage endangered and threatened species. (Florida Endangered and Threatened Species Act of 1977)

4. Harming or possessing any endangered or threatened species is prohibited except by permit and under circumstances that will enhance the potential for survival of an endangered species or will not have a negative impact on the survival of a threatened species. (Florida Administrative Code, section 39-27.002(2))

5. The state of Florida is a refuge and a sanctuary for manatees. (Florida Manatee Sanctuary Act)

6. The taking, disturbing, or killing of marine turtles is prohibited except by accident in the course of fishing operations. (Florida Statutes, section 370.12(1))

*Other Protection and Restoration Programs*

7. Land use planning in the Florida Keys must protect coral reef systems. (Florida Statutes, section 380.0552(7)(b))

8. The taking, possession, destruction, and sale of sea fans, stony coral, and fire coral is prohibited, except in limited circumstances when permitted for educational or scientific purposes. (Florida Statutes, section 370.114)

9. Waters designated Outstanding Florida Waters will receive the highest degree of protection. (Florida Administrative Code, section 17-4.242)

10. It is the policy of DER that waters within national parks, estuarine research reserves, marine sanctuaries, wildlife refuges, state parks, aquatic preserves, and areas purchased under Save Our Coast Program be designated Outstanding Florida Waters. (Florida Administrative Code, section 17-4.242)

**Marine Fisheries Management**

1. Florida's renewable marine fisheries resources shall be managed and preserved based on the best available information, emphasizing protection and enhancement of marine and estuarine environments, and in a manner that provides optimum sustained benefits and use to present and future generations. (Florida Statutes, section 370.025(1))

2. Marine fisheries resources shall be managed based on the following principles:

1. The paramount concern of conservation and management measures shall be the continuing health and abundance of the marine fisheries resources of this state.

2. Conservation and management measures shall be based upon the best information available, including biological, sociological, economic, and other information deemed relevant by the Commission.

3. Conservation and management measures shall permit reasonable means and quantities of annual harvest, consistent with maximum practical sustainable stock abundance on a continuing basis.

4. When possible and practicable, stocks of fish shall be managed as a biological unit.

5. Conservation and management measures shall assure proper quality control of marine resources that enter commerce.

6. State marine fisheries management plans shall be developed to implement management of important marine fisheries resources.

7. Conservation and management decisions shall be fair and equitable to all the people of this state, and carried out in such a manner that no individual, corporation, or entity acquires an excessive share of such privileges.

8. Federal fishery management plans and fishery management plans of other states or interstate commissions should be considered when developing state marine fishery management plans. Inconsistencies should be avoided unless it is determined that it is in the best interest of the fisheries or residents of this state to be inconsistent.

(Florida Statutes, section 370.025(1))

3. The state may regulate a fishing vessel outside territorial waters if the vessel is registered in Florida. (Magnuson Fishery Conservation and Management Act of 1976)

4. It is state policy to foster aquaculture when it is consistent with state resource management goals, proprietary interest, environmental protection and antidegradation goals. (Florida Administrative Code, section 18-21.004(2)(1))

5. In aquatic preserves, aquaculture is presumed to be in the public interest. (Florida Statutes, section 258.42)

**Marine Pollution**

1. It is the policy of the state to conserve and protect natural resources. Adequate provision shall be made by law for abatement of water pollution. (Florida Constitution, article II, section 7)

2. It is the public policy of the state to protect, maintain, and improve the quality of waters for the propagation of fish and other aquatic life and for industrial, recreational, and other beneficial uses. (Florida Air and Water Pollution Control Act)

3. The highest protection will be provided to waterbodies designated Outstanding Florida Waters. (Florida Air and Water Pollution Control Act)

4. The EPA may issue permits for ocean dumping of materials that "will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems, or economic potentialities." (Ocean Dumping Act)

5. Discharges of oil and other hazardous substances into the navigable waters of the United States or into Florida waters is prohibited. (Clean Water Act; Florida Pollutant Spill Prevention and Control Act)

6. Spillers of oil or other hazardous substances in state or U.S. waters are responsible for reporting any spill to federal and state authorities and for cleaning up, or paying to clean up, the spill. (Clean Water Act; Florida Pollutant Spill Prevention and Control Act)

7. No state monies shall be expended for pollutant clean up until federal funds have been depleted or the federal government declines to clean up the spill. (Florida Coastal Oil Spill Handbook)

8. Dischargers of petroleum products are strictly liable for state clean up costs for damages to any person or property. (Florida Pollutant Spill Prevention and Control Act)

9. Disposal into the sea of all plastics is prohibited. (Marine Plastics Pollution Research and Control Act of 1987)

**Ocean Energy**

1. The federal offshore leasing program for development of oil and gas is intended to reflect, "to the extent practicable . . . a proper balance between the potential for environmental damage, the potential for discovery of oil and gas, and the potential for adverse impact on the coastal zone. (Outer Continental Shelf Lands Act)

2. The recommendations of governors of affected states on OCS lease sales and development and production plans must be accepted by the Department of Interior if the recommendations provide for "a reasonable balance between the national interest and well-being of the citizens of the affected state." (Outer Continental Self Lands Act)

3. OCS exploration plans and development and production plans must be consistent with the coastal zone management plans of affected states. (Outer Continental Shelf Lands Act; Coastal Zone Management Act)

4. The state of Florida does not oppose OCS oil and gas development as long as assurances can be made that the state's uniquely sensitive and economically important marine and coastal resources will not be adversely affected. (Executive Office of the Governor; Governor and Cabinet Resolution of June 2, 1987)

5. It is state policy to "conserve and control the natural resources of [the] state . . . and to encourage and cause the development of . . . [the] natural resources of oil and gas . . . ." (Regulation of oil and gas resources, Florida Statutes, section 377.06)

6. Unless the governing authority of a municipality agrees, oil and gas leases are prohibited in the following areas:

(a) lands within the corporate limits of any municipality . . . .
(b) lands in the tidal waters of the state, abutting on or immediately adjacent to the corporate limits of a municipality, or within three miles of such corporate limits . . . .
(c) any improved beach located outside an incorporated town or municipality, or . . . lands in the tidal waters of the state abutting or immediately adjacent to any improved beach, or within three miles of an improved beach . . . . (Florida Statutes, section 253.61)

7. The Board of Trustees sovereignty lands management rule prohibits oil and gas leasing less than "one mile seaward of the outer coastline as defined in *United States v. Florida*, 425

U.S. 791 (1840) . . . unless the lease stipulates that any drilling will be conducted from outside said area." (Florida Administrative Code, section 18-21.004(2)(k)(1987))

8. No drilling of oil or gas wells is allowed within areas designated as Aquatic Preserves. (Florida Statutes, section 258.42(3)(c)(1987))

9. Florida law prohibits any structure intended for drilling, or production of oil, gas, or other petroleum products to be permitted or constructed one mile seaward of the coastline of the state. (Florida Statutes, section 377.242(1)(a)4 (1987))

10. No petroleum product drilling structures may be constructed within one mile of the seaward boundary of any state, local, or federal park, or aquatic or wildlife preserve. (Florida Statutes, section 377.242(1)(a)3 (1987))

11. No petroleum products drilling structure may be permitted or constructed within any bay or estuary. (Florida Statutes, section 377.242(1)(a)1 (1987))

12. Oil and gas leases on submerged sovereignty lands of the state will be approved only "upon adequate demonstration that the proposed activity is *in the public interest*, that the impact upon aquatic resources has been thoroughly considered, and that every effort has been made to minimize potential adverse impacts upon sport and commercial fishing, navigation, and national security." (Florida Administrative Code, section 16Q-21.04(2)(k))

13. Geophysical testing in territorial sea waters requires a permit and use agreement that includes conditions to protect aquatic life and habitat, ensure safe navigation in an operations area, protect commercial fishing operations, and provide for data sharing with the state. (Florida Administrative Code, section 16C-007; section 18-21.005(g))

**Marine Minerals Mining**

1. Management of state-owned mineral resources should be subject to more careful scrutiny than is normally the case for the other types of natural resources. The stewardship of these nonrenewable resources must insure that their extraction and utilization serves the best long-range public purposes. Additionally, active extraction of many types of minerals often results in drastic changes to the physical integrity of a parcel of land. A decision to mine must be made with the full realization that most future management options available for that parcel of property will be eliminated. (Conceptual State Lands Management Plan)

2. There shall be no excavation of minerals in aquatic preserves. (Florida Statutes, section 258.42(d))

3. Extraction of state-owned minerals in environmentally sensitive areas should be allowed "only upon demonstration that the extraction is of overriding public importance, that all reasonable steps will be taken to minimize adverse environmental impacts, and that there are no reasonable alternatives." (Conceptual State Lands Management Plan)

**Ports, Marine Terminals and Marinas**

1. It is "essential to preserve and maintain authorized water depths in the existing navigation channels, port harbors, turning basins, and harbor berths . . . to provide for the continued safe navigation of deepwater shipping commerce." (Florida Statutes, section 403.021(9)(a))

2. Local government comprehensive plans must include the master plans of deep water ports within their jurisdictions. (Local Government Comprehensive Planning and Land Development Regulation Act)

3. Marine terminals must be registered and demonstrate satisfactory containment and cleanup capabilities. (Florida Oil Spill Prevention and Control Act)

4. The coastal element of local government comprehensive plans must contain a "shoreline use component which . . . addresses the need for water-dependent and water-related facilities, including marinas . . . ." (Local Government Comprehensive Planning and Land Development Regulation Act)

**Marine Recreation**

1. DNR has authority to establish by rule restricted boating areas "for any purpose deemed necessary for the safety of the public." (Florida Statutes, section 327.46(1))

2. Because beach erosion is a serious menace to the economy and general welfare of the people of this state and has advanced to emergency proportion, it is . . . a necessary governmental responsibility to properly manage and protect Florida beaches from erosion and that the Legislature make provision for beach restoration and renourishment projects. (Florida Statutes, section 161.088 (1987))

3. A beach management program shall be developed for all the state's sandy beaches which selects and recommends management measures. (Florida Statutes, section 161.161(1)(l))

4. Beaches below the mean high water line belong to the state and are open to the public. (Florida Constitution, article X, section 1)

5. If the recreational use of the sandy area adjacent to mean high tide has been ancient, reasonable, without interruption and free from dispute, such use, as a matter of custom, should not be interfered with by the owner. (Florida Supreme Court, *City of Daytona Beach v. Tona Rama*, 294 So. 2d 73, 78 (1974))

6. Where the public has established an accessway through private lands to lands seaward of the mean high tide or water line by prescription, prescriptive easement, or any other legal means, development or construction shall not interfere with such right of public access unless a comparable alternative accessway is provided. (Florida Statutes, section 161.55(6))

## Summary of Recommendations

Each section of this report concludes with a discussion of important unresolved issues, areas of potential or current conflict, or critical management needs. In each case, recommendations are made for dealing with those issues. The following list summarizes the recommendations. Reference to specific sections provides discussion of the issues the recommendations are intended to address. Future development of ocean policy should consider these recommendations.

**State Planning**

**Recommendation I.** The goals, objectives, and policies of Florida's coastal management program should be articulated in a coastal management plan that is fully incorporated into the state's planning scheme. The plan would provide a frame of reference for all state agencies in attempting to coordinate activities affecting the coastal zone and would provide guidance for local governments in development and implementation of the coastal element of local comprehensive plans.

**Recommendation II.** The Governor's Office should explore mechanisms for cooperation with other states, including an interstate agreement or compact, to provide coordination of coastal and ocean planning, policy development, and state action in the region.

**Submerged Lands and Jurisdiction**

**Recommendation I.** The state of Florida should continue to assert full jurisdiction over the state territorial sea in the Gulf of Mexico. To assure recognition of Florida's authority within its seaward boundaries, the state should:

1) attempt to negotiate memoranda of understanding with the EPA and the Corps of Engineers that provide that the EPA and the Corps: a) will recognize state water quality standards and authority to regulate beyond three miles, and b) will find that federal activity within the boundaries of the state may "directly affect" the coastal zone within the meaning of the consistency provisions of the CZMA.

2) petition the state's U.S. legislators to introduce a CWA amendment requiring water quality certification by the state of Florida for federal NPDES permits issued in the three-mile to three-league zone of the Gulf.

3) petition the state's U.S. legislators to introduce a CZMA amendment that redefines coastal zone boundaries to include all lands under tidal waters within the states' seaward boundaries; or alternatively, to provide that federal activities within a state's seaward boundaries may directly affect the coastal zone within the meaning of the consistency provisions.

4) if necessary, litigate federal attempts to limit the nature of the state's title to tidal lands within its seaward boundaries or the authority of the state to regulate that area through its police power.

**Recommendation II.** Florida should support legislation that more definitively addresses issues raised by extension of the territorial sea. Federal legislation should also extend a 24-mile contiguous zone to enhance drug enforcement and environmental protection. The state should support the establishment of a commission for a national ocean policy study. The study would provide a forum and an opportunity to review the application of federal laws both within and beyond three miles and to reexamine the federal/state relationship offshore.

**Marine Salvage, Finds and Historic Preservation**

**Recommendation I.** The ability to control state submerged lands and the resources of the territorial sea, including historic shipwrecks, is essential to the principle of state sovereignty. The state must establish its right to control the use of its lands, and state officials feel that litigation efforts have been worthwhile and must continue.

**Recommendation II.**

(1) Florida should attempt to conform to federal guidelines for management of abandoned shipwreck sites to the extent the guidelines reflect the factual realties that exist in the state and needs of Florida's citizens and the affected user groups.

(2) The Division of Historical Resources should continue the present direction and policies to: a) expand education efforts for the public and user groups about the historical significance of underwater archaeological sites; b) establish additional underwater archaeological parks; and c) cooperate and coordinate with the National Park Service and NOAA in research and program development in national parks and marine sanctuaries.

(3) Rules or legislation should be developed to formalize criteria for designation of archaeological reserves and underwater parks or preserves.

(4) Legislation or more explicitly articulated rules should be developed to deal with recovery of artifacts from abandoned shipwreck sites and the rights of finders. This legislation or rule should, at a minimum, provide incentives for discovery and reporting of wrecks including priorities or rewards for finders, opportunities for controlled recovery and protection of

artifacts consistent with the preservation of historical values, and clear authority for the state to assert claims for specific items of historical significance.

**Recommendation III.** The Division should continue to explore mechanisms to coordinate with user groups, local governments, and private parties to locate, record, develop, and maintain sites. The Division should also negotiate with DNR's Division of Recreation and Parks to include underwater archaeological preserves within the state park system. The prospect of funding for such parks through grants under the National Historic Preservation Act should make a joint effort of the agencies a more attractive proposition.

**Florida Coastal Management Program**

**Recommendation I.** Because the IMC is the vital bond for an effectively functioning coastal management program, the IMC and its functions should be codified. Although this step may not functionally alter the IMC, it would signify legislative support for the program and bolster participation of agencies in the FCMP.

**Recommendation II.** Federal consistency correspondence should be carefully drafted when the state reviews projects in early stages to clarify that consistency at a particular stage does not mean that the project will continue to be consistent at later stages. Projects that are not planned in accordance with comments made during early reviews may be found inconsistent during subsequent reviews. Comments on potential impacts of a project are intended to aid in the planning of the project and are not to be construed as conditional consistency determinations.

The state should continue to support legislation and litigation intended to reestablish a broad definition of federal activities "directly affecting" the coastal zone and, therefore, requiring consistency with state coastal plans.

DER should develop a consistency procedures rule.

**Management of Marine Habitat and Protected Species**

*Aquatic Preserves*

**Recommendation I.** Management plans for all aquatic preserves should be completed and approved by the Board of Trustees. Preserves need adequate staffing and operational funding. More effective mechanisms for intergovernmental coordination must be developed, including local government coordination. Submerged lands rules and aquatic preserve rules should be combined to develop a comprehensive submerged land rule that incorporates the management needs and natural resource requirements of aquatic preserves, and reflects recent actions of the Board of Trustees.

**Recommendation II.** The public interest test in Florida Statutes must be broad enough to include the state's proprietary and public trust interests in submerged sovereignty lands and navigable waters. The permitting test for effluent discharges should be amended to provide a broad public interest test which will reflect, not only pollution control standards, but also other legitimate state interests in its navigable waters and affected submerged lands.

*Estuarine Research Reserves and Marine Sanctuaries*

**Recommendation I.** The state of Florida should continue to complement national sanctuary and reserve programs, taking full advantage of the opportunities for habitat protection, resource management, research coordination and the funding these programs provide.

**Recommendation II.** Additional areas need the coordinated management and research provided by the marine sanctuaries and research reserves program. The state should make recommendations to NOAA to initiate the designation of additional sanctuaries and reserves,

e.g., the Marqueses Keys, the Big Bend Seagrasses Area, and the Florida Middle Grounds as marine sanctuaries, and Indian River Lagoon as an estuarine research reserve. The state should also encourage designation of the Dry Tortugas as a national aquatic park.

*Corals*

**Recommendation I.** Federal and state governments have parallel efforts, however, they are not coordinated and are too fragmented. More interagency cooperation is needed to improve management and research efforts.

**Recommendation II.** During the 1970s there was a high level mapping project, but it was not detailed enough for researchers and managers. Technology has developed enough now that a similar project could provide information that could be of great use in management and protection of corals. Additional monitoring is also an important element of reef management that needs to be improved.

**Recommendation III.** Reefs off Key West from Pelican Shoals to Western Dry Rocks are a highly vulnerable area of major concern. This is an area of high activity and numerous vessel groundings located within state waters. Additional protective measures need to be adopted for these areas.

**Recommendation IV.** A strategy and mechanism is needed to identify stressed coral reef systems and to apply protective and restorative measures to these systems. One approach might be the establishment of an advisory body to DNR that would be responsible for recommending research needs, restoration activities, and management strategies.

**Recommendation V.** All state waters in the Gulf of Mexico and South Atlantic south of 26° north should be considered for designation as Outstanding Florida Waters to prevent degradation of water quality and preserve corals.

Cooperation with Federal Initiatives

**Recommendation I.** Florida should take full advantage of the opportunities offered by NEP, the Gulf Initiative, and the Near Coastal Water Initiatives. In addition to participating fully in plan development and implementation in designated estuaries, near shore areas, and the Gulf, the state should use existing programs to complement these federal initiatives. Sarasota Bay should be designated a "water of national significance" under the state's Outstanding Florida Water rule. In addition, the management plan that is developed for Sarasota Bay should be incorporated into the state's coastal management program.

**Marine Fisheries Management**

**Recommendation I.** The Governor should continue to take steps to deal with the issue of balancing interests at both the state and regional levels. In order for the MFC to meet its mandate, the commission must be truly representative of the groups it is regulating or affecting, and appointments should continue to consider the broad variety of affected interests in the state. The Governor should also attempt to gain additional at-large seats on the regional councils so that the state's management needs will be more adequately addressed at the regional level. Additional appointments to the regional councils should also be sensitive to the importance of a representative balance in interest group participation.

**Recommendation II.** Saltwater sportfishing licenses can provide funding and information necessary to solve many of the problems surrounding salt water fisheries management. The licenses will provide important information about the "human side" of Florida's fisheries, and the funds generated can be used for staffing, research, and fisheries enhancement.

**Recommendation III.** A truly comprehensive state artificial reef program should be established to coordinate research and establish criteria for siting, materials, construction,

management, and monitoring of artificial reefs. This may be accomplished through a centralized authority at the state level, or by the establishment of mandatory state guidelines that would be implemented by local artificial reef siting committees. In either case, consultation with local sport and commercial fishermen must be a key element to assure accessibility to sports fishermen and avoid conflict with traditional commercial fishing.

The Florida Artificial Reef Summit emphasized many of these recommendations by concluding:

> 1) Florida needs a statewide artificial reef plan that addresses all Florida aquatic habitats and local user needs.
>
> 2) Florida should have an expanded state artificial reef program that would assist county level reef-building programs in implementing the statewide plan through administration of funds, resources, and guidance.
>
> 3) Florida needs a centralized permitting system which utilizes uniform criteria for review of all permits (state and federal), trains staff on artificial reef minimum standards, and establishes stiffer enforcement procedures.
>
> 4) Florida should require state and local reef-building programs to set management goals prior to reef construction and to established monitoring and maintenance procedures and criteria.
>
> 5) Florida needs a statewide association, or network, of artificial reef interests to establish better communication between government agencies and local programs and among local programs statewide.[1]

**Recommendation IV.** Artificial reefs should not be considered as mitigation for wetlands destruction.

**Recommendation V.** At a workshop held on October 12, 1988, DNR made the following recommendations to the Governor and Cabinet:

1. Adjustment of chapter 370 lease fees to provide parity with chapter 253 fees.
2. Encourage voluntary conversion of chapter 370 shellfish leases to chapter 253 aquaculture leases.
3. Cancellation of uncultivated leases.
4. Expansion of the aquaculture program.
5. Establish an aquaculture demonstration project.
6. Continue maintenance by DNR of public oyster reefs.
7. Allow strictly regulated mechanical oyster harvesting on private leases.

**Recommendation VI.** Upland development and fresh water resource management decisions have a great impact on fisheries habitat. There are many mechanisms that exist for coordination and consultation among agencies to protect habitat and marine species, including DER's permitting processes and review of developments of regional impact. DNR must have adequate staff and resources to use these mechanisms effectively.

**Marine Pollution**

*Ocean Dumping*

**Recommendation I.** DNR should continue to work with the Corps of Engineers and with Congress to tie navigation projects and beach nourishment, and to reformulate methods of

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[1]**Florida Artificial Reef Summit** iii (S. Andree ed. 1988).

calculating the least costly means of disposal to reflect the hidden costs of damage to beaches from inlet construction and maintenance and the price to renourish those beaches.

**Recommendation II.** The state should continue to seek the cooperation of federal agencies in recognizing state environmental standards and resource protection interests in the territorial sea. However, if cooperative efforts are unsuccessful in achieving state goals, it should be recognized that the principles involved are directly related to fundamental issues of state sovereignty and should be litigated if appropriate.

**Recommendation III.** The state should develop a policy opposing the designation of ocean disposal sites in specially designated waters. State policy should also be developed to oppose the designation of dumpsites off Florida for the disposal of wastes other than dredged materials.

*Oil Spills and Vessel Discharges*

**Recommendation I.** Florida needs to continue to refine information on appropriate use of dispersants. The state should carefully monitor research in the development of oil dispersant technology as to its effectiveness under different conditions and its environmental impacts. The state's *Oil Spill Sensitivity Atlas* and *Oil Spill Dispersant Atlas* should be regularly reviewed to assure that these documents provide the most current information to spill coordinators on sensitive habitats and dispersant use and effects.

The Florida OCS representative should continue to encourage the Minerals Management Service of the Department of the Interior to include comprehensive dispersant-effects studies in its Environmental Studies Program.

*Persistent Marine Debris*

**Recommendation I.** There are a number of legal mechanisms already available to control the dumping of persistent marine debris. The greatest problem is enforcement of existing prohibitions. Enhancing enforcement efforts may take two forms: 1) identification of the primary sources of persistent marine debris on Florida's shores; and 2) enactment of penalties that will eliminate economic incentives to dump. The state should continue to encourage intergovernmental programs for education, cleanup, and enforcement.

**Recommendation II.** The difficulties in enforcement necessitate the cooperation and participation of private organizations and local governments. Examples of the kind of private group participation needed are the statewide beach cleanup effort of the Center for Environmental Education and the recent resolution of the Organized Fishermen of Florida (OFF), that "OFF members . . . will strive to accomplish the following: all non-biodegradable waste ... will be brought back to port for disposal; also any non-biodegradable waste recovered during fishing activities will be returned to port . . .; additionally, . . . OFF will encourage all land based facilities (i.e., fish houses, boatyards, marinas, etc.) to provide containers for disposal & recycling of all non-biodegradable materials."

**Recommendation III.** If disposal of many types of solid wastes at sea is no longer to be an option for vessels, ports and marinas must have facilities to deal with these wastes. Florida's solid waste legislation should be amended to deal with the issue of waste facilities at ports and marinas.

**Ocean Energy**

**Recommendation I.** The state should develop long-term strategies for research, comprehensive living resource inventories, and mapping for Florida's territorial seas. A possible approach is discussed further in the chapter, Marine Research and Education.

**Recommendation II.** Funds received from the federal government under section 8(g) of the OCSLA should be dedicated to a trust fund for developing information on marine living resources and protecting those resources from the effects of offshore development.

**Recommendation III.** The scope of the provisions of §§ 377.2408-.2409, Florida Statutes, should be broadened to protect the confidentiality of information of federal permittees and lessees who conduct research and geophysical testing on the OCS. Protection of this information would provide greater access to data by state agencies.

**Recommendation IV.** Although certain blocks in the sensitive areas near the Florida Keys have been deleted from the most recent federal oil and gas lease sale, the issue of protecting the area is a recurring one. Certain areas off Florida are so sensitive or contain such significant living resources that stop-gap measures should not have to be continually applied to preserve them. Research and mapping is necessary to identify those areas. Federal legislation is necessary to provide permanent protection of sensitive areas and assurances that lease sales will be consistent with coastal management objectives. In addition, the state should assure that oil and gas activities within the territorial sea are consistent with demands on the federal government's management of the OCS. For example, the state should, by rule or legislation, exclude all submerged lands south of 26° north latitude from oil and gas leasing and development.

**Recommendation V.** The state should support continued attempts to pass federal legislation requiring sharing of OCS revenues with coastal states.

**Recommendation VI.** The state should continue to refine policies concerning geophysical testing requirements to reflect advances in technologies and greater knowledge of effects on resources.

**Recommendation VII.** In general, OCS pipeline siting should follow the same policy direction and coordination policies that apply to OCS oil and gas development. In addition, the state should not consider OCS pipeline proposals merely from the standpoint of how to develop the pipeline in the least environmentally damaging manner. Such proposals should be viewed in the context of the state's entire energy resource needs, energy availability, and transport systems. Evaluation should specifically consider and evaluate less environmentally-damaging alternatives.

**Recommendation VIII.** A great deal of research is still needed to develop OTEC. Because the investment is very long term and high risk, private industry cannot be expected to carry out the necessary research and development alone. The minimal federal government funding that continues for test projects seems to be more effectively spent in Hawaii, because it provides the better "laboratory." Florida should, however, carefully monitor research and technology development. Like many other alternative energy options, the viability of OTEC depends on the cost of other energy sources - primarily, oil. The prospect of an efficient, renewable energy source should not be discarded simply because the cost of nonrenewable energy sources is inexpensive - for now.

**Marine Minerals Mining**

**Recommendation I.** DNR and the Board of Trustees should clarify whether the *Conceptual State Lands Management Plan* policy to encourage creation of an exploration lease program for all minerals is intended to apply to territorial sea lands. If such a program is intended to encourage mineral exploration in marine waters, stringent criteria, similar to geophysical permit requirements, should be established to protect marine resources and other ocean uses. Further, the legislature should direct the state to develop a current policy to provide guidelines for regulating marine mining.

**Recommendation II.** The state should continue to support attempts to introduce and pass separate federal legislation for minerals mining, either as an amendment to the OCSLA or as

part of comprehensive legislation addressing the 200-mile Exclusive Economic Zone. The legislation should expressly incorporate provisions for participation by coastal states in the leasing and development process, environmental protections, reclamation, and recognition that prospecting and mineral development should be consistent with affected states' coastal zone management plans. The state should also consider supporting proposals that coastal states share in revenue generated from OCS mining activities to deal with impacts of such development on marine and coastal resources.

**Ports, Marine Terminals and Marinas**

**Recommendation I.** A statewide marina siting policy should be implemented to assure continued access and storage of boats in Florida. The information provided by such a plan would greatly assist local governments in insuring that local comprehensive plans will adequately consider water-depending uses like marinas and the needs of the boating public. DNR is currently working on rules that will address appropriate marina siting from an environmental and state lands management perspective. DNR should work with local government to assure the need for marinas, storage, and access are adequately addressed in local plans.

**Recommendation II.** The exemption of coastal terminal facilities from regulation by DER under the Water Quality Improvement Act of 1983 should be repealed. Alternatively, DNR should adopt DER standards for construction, installation, and maintenance of storage tanks so that uniform standards apply in all areas of the state.

**Recommendation III.** Regulations should be promulgated requiring solid waste storage and disposal facilities in ports to accommodate the needs of ocean going vessels.[2]

**Marine Recreation**

*Swimming and Snorkeling*

**Recommendation I.** Nearshore areas need to be better protected for swimmers and snorkelers. Speed zones should be established where diving and snorkeling sites are accessible from the shore. In certain heavily used and shallow areas, boating traffic should be diverted from the diving area. Divers and snorkelers, on the other hand, should be diverted from areas of heavy boating traffic.

**Recommendation II.** Artificial reefs and under water archeological parks can provide even more diving and snorkeling opportunities in Florida. The state should work with diving groups and operators to continue to develop this growing part of Florida's tourist industry by creating new underwater parks and making artificial reefs accessible to divers.

*Recreational Boating*

**Recommendation I.** Local governments should be particularly sensitive to giving priority to water dependent uses in the coastal element of their comprehensive plans. In the local government plans, shoreline access should address the issue of getting boats, as well as people, to the water. DNR should pursue its proactive marina siting policy and give guidance to local governments in development of shoreline use components of local plans.

**Recommendation II.** The state should initiate more and better boater education programs to protect swimmers and divers, manatees, coral reefs, and other boaters. The state should continue to work with marine industry groups to educate the public in boating safety.

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[2]*See Persistent Marine Debris* in the Marine Pollution chapter for background discussion of this recommendation.

*Beaches*

**Recommendation I.** DNR should be provided the resources to complete the statewide beach management plan as soon as possible. Funding is also needed to fully explore the environmental impacts of restoration projects.

**Recommendation II.** The statewide beach management plan should be completed as soon as possible and used to coordinate with local governments in development of the coastal element of local comprehensive plans. Because the plan will establish a "retreat" policy in some areas, a mechanism should be established to apprise property buyers that the beach in that area will not be restored nor will armoring be possible. That is, property buyers should know the risk they are assuming.

**Recommendation III.** DNR should receive adequate funding to address research needs, which include studies concerning:

1) mitigation of the impacts of inlets on beaches and identification of the effects of stabilizing natural inlets;
2) effects of vegetation on dune systems;
3) cumulative effects of coastal development;
4) turbidity in restoration projects and natural turbidity levels;
5) coastal construction policies for redevelopment and for dealing with increased construction prior to reestablishment of coastal construction control lines;
6) additional studies for the CCCL erosion line model.

**Recommendation IV.** More automation and computerization is needed to process properly and make the best use of information that is available to DNR for regulation and management. Mechanisms should be explored to assure interagency access to relevant studies, reports, or other data. Information sharing arrangements, such as those included in the current erosion study by the U.S. Army Corps of Engineers, should be encouraged.

**Recommendation V.** The legislature should create a cause of action for removal of obstructions that impair access to beaches where members of the public have created an easement by legal means. DNR, the Attorney General, local governments, *and affected citizens* should have standing to enforce the statute. The legislature should also consider comprehensive beach access legislation based on the Beach Access Advisory Committee Report.

Citizens should also have standing to enforce the beach access protection requirements of section 161.55(6), Florida Statutes.

**Marine Education and Research**

**Recommendation I.** The state needs to assume leadership in integrating marine environmental education into Florida's schools. Designing curricular materials, making them broadly available, and training teachers should be priorities.

**Recommendation II.** The state should encourage the development of programs in coastal management and related areas at the college levels.

**Recommendation III.** Florida should work and consult with the U.S. Department of State in the federal governments's negotiations and participation in Caribbean Action Plan and Cartagena Convention Activities. The state should encourage federal government contribution to the funding of research activities and participation of Florida's research institutions in cooperative efforts. Existing programs that link Florida and the Caribbean, such as the Caribbean Basin Initiative, DNR's participation as a member of the Association of Marine Laboratories of the Caribbean, and the newly established Caribbean Law Institute

at Florida State University, should be explored as means of establishing relationships in the marine science and policy fields.

**Recommendation IV.** Figure 14 illustrates a model for marine research planning and coordination in Florida. The Florida Marine and Coastal Resources Advisory Council would have the responsibility for establishing the state's research needs and priorities. The Council would be composed of the chairs of the House and Senate Natural Resources Committees, the heads or designees of the Governor's Office, DNR, DER, and the Department of Agriculture, the Executive Director of the MFC, and gubernatorially-appointed representatives of ports, marine industry, and marine conservation. The Council would be staffed by the Governor's Office of Planning and Budgeting. Input concerning marine resource research needs would come primarily from DNR and the MFC. The IMC, IAC, and CCAC would provide information on coastal research needs. In addition to establishing research needs and priorities for the Marine Research Consortium, these recommendations would also be provided to all state agencies to aid in guiding their research and funding priorities.

A Marine Research Consortium would be made up of representatives of DNR's Institute of Marine Research, private research institutions and foundations, state universities and FIO, and private consultants and contractors. It would be staffed by Sea Grant and funded by the legislature. This group would be responsible for administration of research programs based on the Council's recommendations. In addition to staffing the Consortium, Sea Grant would be responsible for dissemination of information generated by the research to the public, public education, and reporting progress on meeting research priorities to the Committee.

**Recommendation V.** A Florida Ocean and Coastal Policy Studies Program should be created and funded within the Sea Grant College Program, which includes the Florida State University and University of Florida.

**Recommendation VI.** DNR should be charged with the responsibility and funding to establish an offshore marine resources inventory. The Texas approach, which divides the offshore into a grid for information gathering and analysis, may be an appropriate model to consider.

To assure that research and monitoring will provide information in a form that will be useful to the inventory, DNR should:

1) work with the proposed Marine Science Consortium to design a reporting format for grants and contracts administered by the Consortium;
2) work with DER on a reporting format for reports and tests done by permit applicants and monitoring done by permittees in offshore areas; and
3) require that information and reporting associated with geophysical testing conform to the needs of the offshore resources inventory.

## Summary of State Agency Authorities

### Department of Natural Resources (DNR)

DNR is Florida's major conservation agency, directing programs in land conservation and reclamation, recreational lands, animal and plant protection, and saltwater fisheries protection. DNR manages Florida's natural resources (Florida Constitution art. II, § 7) and the following program areas: management of all state-owned lands, including sovereignty submerged lands administered through the Board of Trustees of the Internal Improvement Trust Fund (Florida Constitution art. X, § 11; Fla. Stat. § 253.03): management of recreation and conversation areas, aquatic preserves, state parks and wilderness areas (Fla. Stat. ch. 258), environmentally endangered lands, and recreational trails (Fla. Stat. § 260); shoreline use and protection (Fla. Stat. §§ 161.041 and 161.053(1)), beach nourishment, erosion control projects, assurances of adequate beach access, and establishment of coastal construction control lines; conservation and management of marine fishery resources; mineral resources management and geological survey; and oil and gas exploration and production regulation.

DNR is headed by the Governor and Cabinet and administered by an Executive Director appointed by the Governor and Cabinet. DNR is made up of the following divisions: Division of Administration; Division of Beaches and Shores; Division of Law Enforcement; Division of Recreation and Parks; Division of Resource Management; Division of Marine Resources; and Division of State Lands. The Institute of Marine Research within the Division of Marine Resources conducts research necessary for management of Florida's state waters.

The Marine Fisheries Commission, a rulemaking body appointed by the Governor (subject to confirmation by the Senate), is located within DNR. The Commission develops marine fisheries management rules and makes recommendations on priorities and funding for marine fisheries research.

The Division of State Lands is responsible for performing all staff duties and functions relating to the acquisition, administration, and disposition of state lands, title to which is in the Board of Trustees (Fla. Stat. § 253.002). The Board of Trustees establishes rules for the state's aquatic preserves and reviews requests to use state sovereignty lands. The Board is also vested with funds arising from the sale of state lands.

Applicable Statutes: Beach and Shore Preservation Act, Fla. Stat. ch. 161; Coastal Zone Protection Act, Fla. Stat. §§ 161.52-58; Land Reclamation, Fla. Stat. ch. 378 and §§ 211.30-.332; State Lands, Fla. Stat. ch. 253; Florida State Wilderness System Act, Fla. Stat. §§ 258.17-.332; Biscayne Bay Aquatic Preserve, Fla. Stat. § 258.397; Florida Aquatic Preserve Act of 1975, Fla. Stat. §§ 258.17-.332; Florida Land Conservation Act of 1972, Fla. Stat. ch. 259; Florida Recreational Trails Act of 1979, Fla. Stat. ch. 260; Aquatic Plants Control, Fla. Stat. §§ 369.20-.25; Saltwater Fisheries and Conservation, Fla. Stat. ch. 370; Florida Manatee Sanctuary Act, Fla. Stat. § 370.12; Florida Endangered and Threatened Species Act of 1977, Fla. Stat. § 372.072; Canal Authority Act, Fla. Stat. ch. 374; Pollutant Spill Prevention and Control Act, Fla. Stat. ch. 376; Land Reclamation, Fla. Stat. ch. 378; Division of Resource Management; Geological Functions, Fla. Stat. § 377.075; and Oil and Gas Resources, Fla. Stat. §§ 377.01-.41.

**Department of Environmental Regulation (DER)**

DER is Florida's lead agency involved in regulation of air, water, dredge and fill, and resources recovery, and in the coastal management program. DER administers Florida's environmental permitting programs, including: air and water pollution sources; dredging and filling on submerged lands, waters of the state, and wetlands; electric power plant siting (Fla. Stat. § 403.503(7)), transmission line siting (Fla. Stat. § 403.52-.535), and industry siting (Fla. Stat. § 288.501-.518); drinking water (water wells) (Fla. Stat. ch. 403); solid and hazardous wastes (Fla. Stat. §§ 403.703(9) and 403.852(2)); and public works program.

DER is headed by a Secretary appointed by the Governor. DER is made up of the following divisions: Division of Administrative and Technical Services; Division of Waste Management; Division of Water Management; Division of Water Facilities; and Division of Air Resources Management. The Coastal Zone Management Section is located in the Division of Water Management. The Environmental Regulation Commission the is rulemaking body of DER.

Applicable Statutes: State Lands, Fla. Stat. ch. 253; Florida Industry Siting Act, Fla. Stat. §§ 288.501-.518; Drainage and Water Control, Fla. Stat. ch. 298; Florida Coastal Management Act of 1978, Fla. Stat. §§ 380.20-.25; Florida Air and Water Pollution Control Act, Fla. Stat. §§ 403.011-.4153; Water Resources Restoration and Preservation Act, Fla. Stat. § 403.0615; Environmental Protection Act of 1971, Fla. Stat. § 403.412; Florida Litter Law of 1971, Fla. Stat. § 403.413; Florida Electric Power Plant Siting Act, Fla. Stat. §§ 403.501-.517; Florida Resource Recovery and Management Act, Fla. Stat. §§ 403.701-.7721; Florida Safe Drinking Water Act, Fla. Stat. §§ 403.850-.864; Transmission Line Siting Act, Fla. Stat. §§ 403.52-.535; and Warren S. Henderson Wetlands Protection Act of 1984, Fla. Stat. §§ 403.91-.929.

**Game and Fresh Water Fish Commission (GFWFC)**

Florida Constitution art. IV, § 9 provides for the creation of GFWFC and its exercise of "the regulatory and executive powers of the state with respect to wild animal life and fresh water aquatic life . . . ." The GFWFC is one of the few state agencies created by the Florida Constitution. The agency is headed by a five-member commission appointed by the Governor. GFWFC has exclusive jurisdiction over fresh water fish, birds, game and nongame upland species, and endangered species. Fla. Stat. § 372.001(10).

GFWFC is made up of the following divisions: Division of Administrative Services; Division of Law Enforcement; Division of Fisheries; and Division of Wildlife.

The Division of Fisheries provides for the regulation of promotion of marketing and quality control of freshwater organisms; regulates the processing of commercial freshwater organisms; provides documentation standards and statistical record requirements for freshwater organisms; regulates aquaculture facilities; and conducts scientific, economic, and other studies and research on freshwater organisms (Fla. Stat. ch. 372).

The Division of Wildlife is a particularly important actor in the protection of endangered and nongame species. Protection of habitat through review of coastal construction is a significant activity of this section.

**Department of State (DOS)**

The Florida DOS has a wide range of duties, but its major impact on ocean resource policy is in protecting and managing historic, undersea archeological sites, primarily historic shipwrecks.

Within DOS are the Historical Preservation Boards, which acquire, restore, preserve, maintain, reconstruct, and operate for the use, benefit, education, recreation, enjoyment, and general welfare of the people of the state and nation certain ancient or historic landmarks, sites, cemeteries, graves, military works, monuments, locations, remains, buildings, and other objects of historical or antiquarian interest. (Fla. Stat. ch. 266).

The DOS is headed by an elected Secretary. DOS is made up of the following divisions: Division of Elections; Division of Historical Resources; Division of Corporations; Division of Library and Information Services; Division of Licensing; Division of Cultural Affairs; and Division of Administration.

The Division of Historical Resources may designate archaeological sites for scientific study (Fla. Stat. § 267.11), may issue permits for excavation and surface reconnaissance on state lands (Fla. Stat. § 267.12), and regulates salvage and archeological research on historic wrecks in state waters (Fla. Admin. Code Ann. §§ 1A-31, 1A-32).

Within the Division of Library and Information Services of the DOS is the Florida State Archives, which preserves public records of historical value (Fla. Stat. § 257.35 and ch. 267 (1987)).

Applicable Statutes: The Florida Historical Resources Act, Fla. Stat. ch. 267; Historic Preservation Boards, Fla. Stat. ch. 266.

**Department of Agriculture and Consumer Services (DACS)**

DACS has regulatory jurisdiction through registration of all pesticides distributed, sold, or offered for sale in Florida. DACS regulates the purchase or use of restricted pesticides by permitting and licensing. DACS also plays a role in water conservation and the care and management of forests and woodlands in Florida through the Soil and Water Conservation Districts and the Division of Forestry. DACS also has regulatory jurisdiction over the removal of endangered native Florida plants. DACS is the lead agency for aquaculture development in the state.

DACS is headed by an elected Secretary and is made up of the following divisions: Administration; Animal Industry; Chemistry; Consumer Services; Dairy Industry; Forestry; Fruit and Vegetable Inspection; Inspection; Marketing; Plant Industry; and Standards.

Applicable Statutes: Florida Pesticide Law, Fla. Stat. ch. 487; Plant Industry, Fla. Stat. ch. 581; Soil and Water Conservation, Fla. Stat. ch. 582; Forestry, Fla. Stat. ch. 589; Forest Protection, Fla. Stat. ch. 590; and the Florida Food Act, Fla. Stat. ch. 500.

**Department of Commerce (DOC)**

DOC is headed by a Secretary appointed by the Governor and is made up of the following divisions: Division of Economic Development and Division of Tourism. An important function of the Division of Economic Development is the promotion of Florida's seaports. The Division of Tourism highlights Florida's marine recreational opportunities.

The purpose of the Division of Economic Development is to guide, stimulate, and promote the coordinated, efficient, and beneficial development of the state and its regions, counties, and municipalities. Some of the Division's numerous powers include the power to create and build industry, to promote the sale of Florida products, to advertise, to conduct research, to encourage research designed to further more extensive uses of natural and other state resources with the view toward the development of new products and industrial processes, to cooperate with planning and development agencies for the physical and economic development of Florida, and to study trends (Fla. Stat. § 288.03 (1987)).

Under Fla. Stat. § 403.414, DOC administers a Pollution Control Awards program, which recognizes efforts in the prevention or cleaning up of pollution.

**Department of Community Affairs (DCA)**

DCA is the lead state land use and planning agency. DCA is responsible for reviewing and commenting on local government comprehensive plans (Fla. Stat. ch. 163). DCA also has general supervision over the administration, rule promulgation, and enforcement of Fla. Stat. ch. 380, and exercises jurisdiction over "developments of regional impact" and "areas of critical state concern." DCA administers the following activities related to the Florida Coastal Management Plan: coordination of the State' s responsibilities related to the Development of Regional Impact and Areas of Critical State Concern programs; primary agency responsibility for the implementation of the Coastal Energy Impact Program; implementation of the state disaster preparedness program to reduce vulnerability to damages, injury, and loss to life and property from natural or manmade hazards (Fla. Stat. ch. 252); and review of the ten-year siting plans for state electrical utilities.

DCA is headed by an appointed Secretary and is made up of the following divisions: Division of Emergency Management; Division of Housing and Community Development; and Division of Resource Planning and Management.

Applicable Statutes: Florida State and Regional Planning Act of 1984, Fla. Stat. ch. 186; Local Government Comprehensive Planning and Land Development Regulation Act, Fla. Stat. §§ 163.3161-.3243; State Emergency Management Act of 1974, Fla. Stat. §§ 252.31-.60; and The Florida Environmental Land and Water Management Act of 1972, Fla. Stat. §§ 380.012-.12.

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

DHRS regulates, in conjunction with county health departments, water and sewer systems. DHRS has control and supervision over all private water systems not covered by Florida's Safe Water Drinking Act. DHRS is authorized to license and regulate manufacturing, production, transportation, use, handling, storage, disposal, sale, lease, or other disposition of radioactive material and machines (Fla. Stat. § 404.051).

DHRS is headed by a Secretary appointed by the Governor.

Applicable Statutes: Public Health, General Provision, Fla. Stat. ch. 381; Nuisances Injurious to Health, Fla. Stat. §§ 386.041-.051; Pollution of Waters, Fla. Stat. ch. 387; Mosquito Control, Fla. Stat. ch. 388; Sewer Disposal Units, Fla. Stat. § 403.085; Sewer Disposal Facilities, Fla. Stat. § 403.086; Florida Radiation Protection Act, Fla. Stat. ch. 404; Southeast Interstate Low-Level Radioactive Waste Compact, Fla. Stat. § 404.30.

**Department of Transportation (DOT)**

The DOT is responsible for developing and maintaining a balanced and efficient state transportation system. Under Fla. Stat. § 337.25, DOT may purchase, lease, exchange, or otherwise acquire land which will be held in the name of the state. Under Fla. Stat. § 337.405, DOT shall adopt rules to achieve the protection of vegetation while at the same time assuring safe utilities operation. Under Fla. Stat. § 403.061(14)(a), DER may authorize DOT to perform activities requiring a permit. DOT is also responsible for the State Transportation Plan which is referred to in Fla. Stat. ch. 187, the State Comprehensive Plan, the purpose of which is to provide for long-range policy guidance for orderly social, economic, and physical growth of Florida.

DOT is headed by a Secretary appointed by the Governor and is made up of the following Divisions: Division of Administration; Division of Construction; Division of Maintenance; Division of Preconstruction and Design; and Division of Public Transportation Operations.

**Governor's Office of Planning and Budgeting (OPB)**

The Governor's Office of Planning and Budgeting provides a rational and systematic approach to integrated planning, policy development, budgeting, and evaluation.

OPB is composed of eight policy units: Education, Health and Human Services, Criminal Justice, General Government, Environmental Policy Unit, Budget Management and Planning, Systems Design & Development, and Revenue and Economic. The Environmental Policy Unit and the Budget Management and Planning Policy Unit are most closely involved in marine policy development and implementation.

The objectives of the Environmental Policy Unit include:

1) to continue strong protection of Florida's natural resources through effective policy planning, budgeting, and legislative interaction and through implementation of the Governor's agenda, programs, and initiatives (*e.g.*, Save Our Everglades, Ocean Policy, Wekiva River, Environmental Education);

2) to continue timely and effective state coordination and review of all federal, state, and regional permitting and planning projects pursuant to the National Environmental Policy Act, the Outer Continental Shelf Lands Act, and the Coastal Zone Management Act; and

3) to continue staffing and timely scheduling, as required by law, for the Florida Land and Water Adjudicatory Commission and the Administration Commission, as well as assist in staff research and development of environmental issues for the Governor and Cabinet (Board of Trustees of the Internal Improvement Trust Fund) agendas.

The Budget Management and Planning Policy Unit houses the Clearinghouse function of the Governor's Office. Coordination of consistency review under the Coastal Zone Management Act is a major clearinghouse responsibility. The Unit is also responsible for growth management policy and reviews agency functional plans.

Under Fla. Stat. ch. 313, OPB is also responsible for the licensing of harbor masters.

Applicable Statutes: Florida State and Regional Planning Act of 1984, Fla. Stat. § 186.006; Executive Office of the Governor, Fla. Stat. § 216.151; Energy Resources, Fla. Stat. ch. 377; Information Resource Commission, Fla. Stat. § 282.304.

**Planning and Coordination in Florida**

Florida's comprehensive planning is a decentralized process involving planning at the state, regional, and local levels. Planning at the regional and local levels implements state policies and must be consistent with the State Comprehensive Plan (State Plan).

The State Plan was developed by the Executive Office of the Governor (EOG) pursuant to the State and Regional Planning Act of 1984[1] and enacted by the legislature in 1985 as chapter 187, Florida Statutes. The plan is intended to provide policy guidance by identifying long-range goals and specific policies for attaining orderly "social, economic, and physical growth" in the state. The statement of legislative intent provides:

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[1]Fla. Stat. ch. 186 (1987).

> The State Comprehensive Plan is intended to be a direction-setting document. Its policies may be implemented only to the extent that financial resources are provided pursuant to legislative appropriation or grants. . . . The plan does not create regulatory authority or authorize the adoption of agency rules, criteria or standards not otherwise authorized by law.[2]

The State Plan comprises 26 goals and associated policies. The Coastal and Marine Resources Goal states that:

> Florida shall ensure that development and marine resource use and beach access improvements in the coastal areas do not endanger public safety or important natural resources. Florida shall, through acquisition and access improvements, make available to the state's population additional beaches and marine environment, consistent with sound environmental planning.[3]

Policies intended to provide direction in implementing this goal relate primarily to coastal development. The policies relevant to marine planning and management include:

> 4. Protect coastal resources, marine resources, and dune systems from the adverse effects of development.
>
> 6. Encourage land and water uses which are compatible with the protection of sensitive coastal resources.
>
> 7. Protect and restore long-term productivity of marine fisheries habitat and other aquatic resources.
>
> 8. Avoid exploration and development of mineral resources which threaten marine, aquatic, and estuarine resources.
>
> 10. Give priority in marine development to water-dependent uses over other uses.[4]

Through state agency functional plans, agencies set out policy directives to guide programs and functions and to implement the State Plan. Functional plans must be consistent with the State Plan and must not conflict with other agency functional plans. The EOG has the responsibility to review agency functional plans for consistency with the State Plan and to mediate conflicts between agencies concerning programs, policies, or functional plans. There is no specific requirement that rules adopted by agencies or permits that are issued be consistent with the state plan or the agency's plan.

The State Water Use Plan (SWUP),[5] the State Land Development Plan (SLDP),[6] and the State Strategic Plan for Information Resources Management[7] comprise a special category of agency functional plans. These plans must be prepared in advance of other agency plans and are intended to provide guidance to all state agencies in development of their plans.

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[2]Fla. Stat. § 187.101(2) (1987).
[3]Fla. Stat. § 187(9)(a) (1987).
[4]Fla. Stat. § 187(9)(b) (1987).
[5]Fla. Stat. § 373.036 (1987).
[6]Fla. Stat. § 380.031(17) (1987).
[7]Fla. Stat. § 282.3061 (1987).

The Florida Coastal Management Act of 1978 also provides that the "state coastal management plan shall be a part of the state comprehensive plan."[8] At the time of enactment, this provision referred to the state plan mandated by the State Comprehensive Planning Act of 1972. The SWUP and SLDP were also plans required by laws passed prior to the State and Regional Planning Act of 1984. Those plans, however, were specifically incorporated into the new planning process as agency functional plans. There is no reference in the 1984 act to the Florida coastal management program (FCMP). The current State Plan is defined in the act as the "goals and policies contained within the State Comprehensive Plan initially prepared by the [EOG] and adopted pursuant to [a process involving review by the Administration Commission and enactment by the legislature]."[9] Because these procedures are not applicable to the FCMP and it is not incorporated into the 1984 act in any manner, the current status of the FCMP in the state's planning process is not clear. Conversely, however, the State and Regional Planning Act *is* part of Florida's coastal management program.

Regional policy plans have been developed by each of the state's eleven regional planning councils. These plans are reviewed by the EOG for consistency with the State Plan and adopted by rule. Along with the State Plan, regional policy plans serve as a basis of review for local government plans.

Local comprehensive plans for coastal communities under the Local Government Comprehensive Planning and Land Development Regulation Act[10] must contain a coastal element. As would be expected, the requirements deal primarily with land use, but several components directly or indirectly concern the offshore. The coastal element requires an analysis of the impacts of point and nonpoint systems on estuarine water quality.[11] The comprehensive master plan of any deepwater port within the jurisdiction is also a component of the coastal element. Rules of the Department of Community Affairs (DCA) require that when several local governments have jurisdiction over parts of a bay, estuary, or harbor, coastal elements should be "consistent and coordinated."[12]

### Issues and Recommendations

**I. Status of the Coastal Management Plan in the State Planning Process.** Although Florida has a coastal management program that has been approved by the federal government under the Coastal Zone Management Act of 1972, it may be stretching the facts to say that the state has a coastal management *plan* that identifies the program's goals and policies. Florida's program has integrated numerous state programs and attempted to coordinate agency activities that will affect the coastal zone. In order for this program to become a plan, the goals, policies, and objectives of the coastal management program in the state must be articulated in a manner that can be meaningfully incorporated into the state's planning processes.

**Recommendation.** The goals, objectives, and policies of Florida's coastal management program should be articulated in a coastal management plan that is fully incorporated into the state's planning scheme. The plan would provide a frame of reference for all state agencies in attempting to coordinate activities affecting the coastal zone and would provide guidance for local governments in development of the coastal element of local comprehensive plans.

**II. Interstate Coastal Management Planning.** Although the federal Environmental Protection Agency (EPA) has developed a number of national and regional programs addressing coastal

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[8]Fla. Stat. § 380.21(3)(b) (1987).
[9]Fla. Stat. § 186.003(8) (1987).
[10]Fla. Stat. §§ 163.3161 *et seq.* (1987).
[11]Fla. Stat. §163.3178(2)(c) (1987).
[12]Fla. Stat. § 163.3177(9)(d) (1987).

pollution and habitat destruction,[13] the coastal states of the Southeast and Gulf regions have not attempted to deal with areawide coastal management issues in a coordinated manner.

The 1980 amendments to the federal Coastal Zone Management Act of 1972 encouraged interstate cooperation in "coordinating . . . coastal zone planning, policies, and programs [and] implementing unified coastal zone policies."[14] In addition to providing for the possibility of federal funding for such efforts, the amendments also gave prior congressional consent to interstate agreements or compacts to carry out those purposes.[15]

**Recommendation.** The Governor's Office should explore mechanisms for cooperation with other states, including an interstate compact, to provide a coordination of coastal planning, policy development, and state action in the region.

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Division of Resource Management; Geological Functions, **Fla. Stat.** § 377.075.

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[13] *See* Federal Initiatives section in chapter, **Management of Marine Habitat and Protected Species.**

[14] 16 U.S.C.A. § 1456b(a) (1985).

[15] 16 U.S.C.A. § 1456b(b) (1985).

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## SUBMERGED LANDS AND JURISDICTION

### Jurisdiction

#### Federal

Prior to 1945, the only United States claim to the ocean was a three-mile territorial sea. In 1945, however, the United States started an era of expansive ocean claims by asserting jurisdiction and control over the continental shelf through the famous Truman Proclamation. Although the extent of the claim was not specifically delimited, a State Department press release suggested that the claim encompassed the seabed within a depth of 200 meters. The United States later became a party to the 1958 Convention on the Continental Shelf which recognized claims to the shelf bounded only by the limits of technology and exploitability.

During the 1960s, ocean claims proliferated internationally. The majority of coastal nations claimed twelve-mile territorial seas. The United States continued to claim a three-mile territorial sea, but also claimed a contiguous zone and fishery zone extending to twelve miles offshore.

A decade of international negotiations during the 1970s culminated in the comprehensive Law of the Sea Treaty (LOS Treaty) in 1981. Although the United States has not signed or ratified the treaty, it has adopted many of the treaty's principles: In 1976, the United States extended exclusive fishery jurisdiction to 200 miles through the Magnuson Fishery Conservation and Management Act; in 1983, a 200-mile Exclusive Economic Zone was claimed by proclamation of President Reagan; and in December 1988, President Reagan proclaimed a twelve-mile territorial sea.

#### Florida

Prior to 1947, the State of Florida had exercised its jurisdiction to manage territorial sea resources and to regulate citizens and registered vessels even beyond the territorial sea.[1] In 1947, however, the United States Supreme Court found that the coastal states did not own the lands or resources of territorial sea seaward of the mean low water line and that the federal government had "paramount rights" in and "full dominion over the resources" of the territorial sea.[2] A Florida court interpreted this as authorizing state concurrent jurisdiction over the territorial sea in areas where the federal government had not exercised its paramount rights.[3]

Congress attempted to clarify the interests of the state and federal governments in the Submerged Lands Act of 1953.[4] The states were given "all right, title, and interest" to the land and natural resources of the lands beneath navigable waters within the boundaries of the states. The federal government retained its navigational servitude and constitutional authority

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[1]*See* Skiriotes v. Florida, 313 U.S. 69, 77 (1941), in which the United States Supreme Court stated:

> If the United States may control the conduct of its citizens upon the high seas, we see no reason why the State of Florida may not likewise govern the conduct of its citizens upon the high seas with respect to matters in which the State has a legitimate interest and where there is no conflict with acts of Congress. . . .

[2]U.S. v. California, 332 U.S. 19 (1947).

[3]Carnasion v. Paul, 53 So. 2d 304 (Fla. 1951).

[4]43 U.S.C.A. §§ 1301 *et seq.* (West 1985 & Supp. 1988).

to regulate and control commerce, navigation, national defense, and international affairs. The legislation also confirmed federal jurisdiction over the seabed and natural resources of the continental shelf beyond the territorial sea boundaries.

### Boundaries

The seaward boundaries of the states were declared in the Submerged Lands Act to be three geographic miles for each of the original coastal states. States admitted subsequently could claim the three-mile boundary, or the boundary as it existed before it entered the Union, or a more expansive claim if it was approved by Congress. The term "boundaries" was specifically limited to three miles in the Atlantic Ocean and three marine leagues in the Gulf of Mexico.

In two separate suits against the United States, Florida claimed extended jurisdiction in the Gulf of Mexico and the Atlantic Ocean. In the 1960 decision, the U.S. Supreme Court upheld the three-marine-league claim in the Gulf of Mexico based on approval by Congress of Florida's 1868 Constitution.[5] The subsequent action resulted in a consent decree in 1976 which: 1) limited Florida's boundary to three miles in the Atlantic Ocean; 2) reaffirmed the three-league boundary in the Gulf of Mexico, but limited its measurement to the coastline as it existed in 1968; 3) recognized no historic waters or historic bays on Florida's coast; and 4) delimited the boundary between the Gulf of Mexico and the Atlantic Ocean.[6] A 1986 amendment to the Submerged Lands Act provided that any boundary between a state and the United States that is fixed by a final decree of the United States Supreme Court will remain immobile; that is, the boundary will not be ambulatory and will not reflect changes in the coastline from which the boundary is measured.

Florida's lateral seaward boundaries - the boundaries between the territorial sea of Florida and the waters of the states of Alabama and Georgia - have been established by interstate compact and approved by Congress. The boundaries are described both in the Florida Constitution, art. II, section 1, and in Florida Statutes at chapter 6. The Alabama-Florida boundary was approved by Congress in 1954 and extends in a generally southerly direction from the mouth of the Perdido River to the limit of the territorial sea. The Georgia-Florida boundary, approved in 1970, extends due east from the mouth of the St. Marys River through the territorial sea.

### The Territorial Sea as State Lands

The Board of Trustees of the Internal Improvement Trust Fund is vested with title to all state lands under chapter 253, Florida Statutes. The Board of Trustees was established in 1855 to administer internal improvement lands conveyed to Florida by the United States at statehood and lands acquired under the federal Swamp and Overflowed Lands Act of 1850. In 1919, sovereignty tidal lands were also conveyed by the legislature to the Board of Trustees. Currently, the Trustees are charged with acquisition, administration, management, control, supervision, conservation, protection, and disposition of state lands including all lands owned by the state by virtue of its sovereignty (lands under navigable waters), tidal lands, and all lands covered by shallow waters of the ocean and gulf, including bays and lagoons.[7]

Florida Statutes, section 253.77, prohibits use of sovereign lands without permission of the Trustees. There are both constitutional and statutory limitations on the sale or use of tidal lands. Article X, section 1, of the Florida Constitution provides that lands below navigable

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[5]United States v. Florida, 363 U.S. 121 (1960).
[6]United States v. Florida, 425 U.S. 791 (1976).
[7]**Fla. Stat.** § 253.03 (1987).

waters within the boundaries of the state may be sold when authorized by law, but only when in the public interest. Private use of portions of such lands may be authorized by law, but only when not contrary to the public interest.

Chapter 253, Florida Statutes, requires the Department of Natural Resources (DNR) to prepare a written report on the conservation effects of any conveyance of submerged tidal lands. Sale or transfer of the land requires a finding that the conveyance is in the public interest,[8] a vote of at least five of the seven Trustees, and public notice of sale. If objections to the sale are filed, the Board of Trustees must determine the merits of the objections and withdraw the tidal lands from sale if the board finds the sale would:

> (a) Be contrary to public interest;
> (b) Interfere with the lawful rights granted riparian owners;
> (c) Be, or result in, a serious impediment to navigation;
> (d) Interfere with the conservation of fish, marine and other wildlife, or other natural resources, including beaches and shores, to such extent as to be contrary to the public interest; or
> (e) Result in destruction of oyster beds, clam beds, or marine productivity, including, but not limited to, destruction of marine habitats, grass flats suitable as nursery or feeding grounds for marine life, and established marine soils suitable for producing plant growth of a type useful as nursery or feeding grounds for marine life to such an extent as to be contrary to the public interest.[9]

The current policy of the Board, however, is not to sell additional submerged lands. The state will continue ownership and management of such lands, but allow private use through leases, easements, or other forms of conveyances.

**Management of Submerged Tidal Lands**

Although Florida Statutes require that all state lands be managed to "provide the greatest combination of benefits to the people of the state,"[10] the law also mandates that *all* submerged lands be considered single-use lands, "managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation."[11]

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[8]**Fla. Stat.** § 253.12(2)(a) (1987).
[9]**Fla. Stat.** § 253.12(4) (1987).
[10]**Fla. Stat.** § 253.034(2) (1987).
[11]Single use management is "management for one particular purpose to the exclusion of all other purposes." State agencies may include compatible secondary purposes that do not detract from or interfere with the primary management purpose. **Fla. Stat.** § 253.034(1)(b) (1987).

*Cf.*, however, subsection (6) of the same section, which provides that:

> (6) This section [§ 253.034] shall not be construed so as to affect:
> (a) Other provisions of this chapter relating to oil, gas, or mineral resources.
> (b) The exclusive use of state-owned land subject to a lease authorized and executed by the Board of Trustees . . . leasing state-owned land for private uses and purposes.

It is not clear how to reconcile this subsection with the concept of single use management. This appears to be a clear inconsistency.

Policy for planning and management of the territorial sea is affected by at least three documents: 1) the Conceptual State Lands Management Plan; 2) the Department of Natural Resources Agency Functional Plan; and 3) state agency land management plans.[12]

The Conceptual State Lands Management Plan was adopted by the Board of Trustees in 1981 as the first phase in development of a comprehensive plan for all state lands. In addition to incorporating the concept of single use management, the Program Element Policy addressing submerged lands includes the following policies:

1) Discourage all private exclusionary uses of submerged lands.
2) Limit use of state-owned submerged lands to water-dependent uses unless the Board of Trustees finds that a greater public purpose would be served by a specific exception.
3) Prohibit all future leases for stilt houses on state submerged lands.
4) Terminate all unauthorized uses of state submerged lands.
5) Ensure that all activities on state submerged lands avoid adverse impacts on other authorized uses.

Resource and Program Element Policies of the Conceptual Plan dealing with other aspects of marine habitat and marine species will be discussed in other sections of this document.

The DNR Agency Functional Plan was developed to set out how DNR will carry out the goals and policies of the State Comprehensive Plan.[13] The functional plan does not specifically address submerged lands management. The Coastal and Marine Resources Goal of the agency plan touches on submerged lands management in the Protection of Marine Resources policy cluster:

- Protect and restore long-term productivity of marine fisheries habitat and other aquatic preserves.
- Avoid the exploration and development of mineral resources which threaten marine, aquatic and estuarine resources.

The Protection of Natural Systems policy cluster also touches on submerged lands management issues and reflects the single-use management strategy required for submerged lands:

- Conserve forests, wetlands, fish, marine life, and wildlife to maintain their environmental, economic and recreational value.

In addition to the above plans, all state agencies are required to submit land management plans to the Division of State Lands for lands managed by the agency.[14] Land management plans that affect submerged tidal lands include plans for aquatic preserves, state parks (especially, John Pennekamp Coral Reef State Park), marine sanctuaries (Key Largo and Looe Key), and estuarine research reserves (Rookery Bay and Apalachicola River and Bay). The Agency Functional Plan sets 1991 as a target date for completion of management plans for all Florida's state parks and reserves.

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[12]Policy for planning and management of state lands also relies on Fla. Stat. chs. 253 and 258, Fla. Admin. Code parts 16-18 and 16-20, and the Blue Ribbon Committee Report, *Towards a Proactive Marina Siting Policy.*

[13]**Fla. Stat.** ch. 187 (1987). *See* section on State Agencies and State Planning.

[14]**Fla. Stat.** § 253.034(4) (1987).

## The Public Trust Doctrine

The public trust doctrine in Florida has flowed from the English and United States common law theory that the sovereign holds title to lands beneath navigable waters in trust for the people for "at least the purposes of navigation and fishing, and other implied purposes."[15] Two early cases, *State v. Black River Phosphate Co.*[16] and *Broward v. Mabry*,[17] firmly established the trust doctrine in Florida common law. More recently, the Florida Supreme Court buttressed the doctrine in *Coastal Petroleum v. American Cyanamid Co.*,[18] and the U.S. Supreme Court reiterated the doctrine in *Phillips Petroleum Co. v. Mississippi*.[19] Art. X, Section 11, now incorporates the trust doctrine in Florida constitutional law: "The title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust for all the people."

The public trust concept, as reflected in Florida caselaw, statutes, and rules, incorporates at least the following principles:

1) Both tidal lands under the territorial sea and inland submerged lands under navigable waters are sovereignty lands subject to the public trust. Lands under navigable waters conveyed by the Submerged Lands Act are lands held by the state "by virtue of its sovereignty" in the same manner as submerged lands that passed from the United States to Florida upon statehood.

2) The Board of Trustees has the duty to hold sovereignty lands in the public trust.

3) The trust in which sovereignty lands are held is governmental and cannot be wholly alienated.

4) The public trust in Florida extends to protection of public interests beyond the traditional uses of navigation and fishing. Florida courts have specifically mentioned "bathing" as a public trust use and have discussed trust uses in terms of "navigation, fishing, bathing, and *other easements* allowed by law"[20] and "navigation and *other useful purposes* afforded by the waters over such lands."[21]

5) Sovereignty lands are held by the state primarily for the use of the people in common and not for conversion to other values or reduction to private ownership.

6) The state may make limited disposition of portions of submerged lands when in the public interest, but not so as to divert the lands from their proper uses or materially impair the rights of the people as a whole as to navigation and other public trust uses.

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[15]State v. Black River Phosphate Co., 32 Fla. 82, 106, 13 So. 640, 648 (1893).
[16]*Id.*
[17]58 Fla. 398, 50 So. 826 (1909).
[18]492 So. 2d 339 (1986).
[19]108 S. Ct. 1760 (1988).
[20]Broward v. Mabry, 58 Fla. 398, 50 So. 826 (1909).
[21]State v. Gerbing, 47 So. 353 (1908).

## Local Government Jurisdiction[22]

Florida's coastal counties are described in chapter 7, Florida Statutes, as including waters of the Atlantic and the Gulf within state jurisdiction. Apparently, there are conceivable circumstances under which a municipality may annex coastal waters, but the issue is not specifically addressed in any Florida legislation or caselaw.

Local governments can substantially influence offshore activities through land use regulation and input into state leasing decisions. Offshore uses generally require onshore support facilities. Local government planning and zoning to include or exclude such facilities from their jurisdictions can greatly influence offshore development.

Local land use decisions also greatly impact the ability of the state to protect and manage aquatic preserves, estuarine research reserves, and other fragile habitats. In addition, municipalities have a veto power over state oil and gas leases in the limits of the cities and within three miles of the cities' limits. County consent is required for state oil and gas leases within three miles of an improved beach.

## Issues and Recommendations

**I. Effect of inconsistencies in the state and federal territorial sea boundaries.** Until recently, the United States government claimed only a three-mile territorial sea jurisdiction in international relations, but the federal government recognized a three-marine-league boundary for Florida in the Gulf of Mexico. This situation has made the relationship of the federal government and the state in the area from three miles to three leagues offshore often unclear.

On December 27, 1988, President Reagan proclaimed the extension of the territorial sea of the United States to twelve miles. The proclamation primarily affects the U.S. government in international relations and purports to leave domestic relations unchanged. The statement provides:

> "Nothing in this Proclamation: (a) extends or otherwise alters existing Federal or State law or any jurisdiction, rights, legal interests, or obligations derived therefrom . . . ."[23]

The terms "territorial sea" and "navigable waters" of the United States occur frequently in federal legislation. In acts dealing directly with allocation of resources, such as the Outer Continental Shelf Lands Act[24] (OCSLA), federal legislation recognizes Florida's three-league jurisdiction in the Gulf. The Magnuson Fishery Conservation and Management Act[25]

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[22]For a complete discussion, *see* Hamann, *Florida Local Governments and Oil and Gas Leasing in the Territorial Sea*, in Miller & Rinkel, **A Report on Oil and Gas Leasing in Florida Offshore Waters**, Appendix B (1984).

[23]Presidential Proclamation of December 27, 1988, Territorial Sea of the United States.

[24]43 U.S.C.A. §§ 1331 *et seq.* (West 1986 & Supp. 1988). In § 1331(a), outer continental shelf is defined as submerged lands lying seaward of navigable waters as defined in the Submerged Lands Act. The Submerged Lands Act definition of lands under navigable waters, at 43 U.S.C.A. § 1301(a)(2), includes submerged lands within a seaward state "boundary as it existed at the time such State became a member of the Union, or heretofore approved by Congress" beyond three miles.

[25]16 U.S.C.A. § 1811 (1982). The MFCMA is generally inconsistent in distinguishing "territorial sea of the United States" from the "seaward boundary of a coastal state." The fishery conservation zone is also described as being "contiguous to the territorial sea of the United States." High seas is defined in 16 U.S.C.A. § 1802 "all waters beyond the territorial

delimits the interior boundary of the federal fishery conservation zone as a "line coterminus with the seaward boundary of each of the coastal states." Other federal legislation treats the territorial sea only in terms of the asserted United States jurisdiction. For example, the general definitions of the Clean Water Act provide:

> (7) The term "navigable waters" means the waters of the United States, including the territorial seas.
> (8) The term "territorial seas" means the belt of seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and *extending seaward a distance of three miles.*[26] (Emphasis added.)

The federal Coastal Zone Management Act (CZMA) defines the seaward extent of the coastal zone as the limit the United States territorial seas, *i.e.*, three nautical miles at the time of enactment. The CZMA does not, however, explicitly limit the definition of territorial sea to three miles. Florida's Coastal Management Program recognizes the federal three-mile limit,[27] but the state's operating procedures have treated the entire territorial sea as part of the state's coastal zone.

Because territorial sea and navigable waters of the United States mean quite different things in different contexts and because Florida's and the federal government's interpretations of what was transferred by the Submerged Lands Act differ, conflicts have arisen. The essence of the federal government position is that the Submerged Lands Act boundary defines only the limits within which the state has "resource rights" that are paramount to the federal government. The Submerged Lands Act could not convey title or rights the United States did not claim or have.

The state of Florida asserts that the Submerged Lands Act did much more than allocate mineral rights. 41 U.S.C. § 1311(a) of the Act "recognized, confirmed, established, and vested . . . title to and ownership of" lands and natural resources beneath navigable waters and the "right and power to manage, administer, lease, develop, and use" the lands in "accordance with applicable State law." As a consequence of the state's title, ownership, right and power, Florida claims authority to regulate, through its police power, uses of the territorial sea land and waters that affect the natural resources.

If the presidential proclamation has no effect on domestic claims and interest, extension of the federal territorial claim does not address these issues. These conflicting assertions will continue to raise a number of questions:

> 1) What did the Submerged Lands Act convey to Florida - "title and ownership" or merely "all right, title, and interest of the United States, if any it has, in and to all said lands"?
>
> 2) Does the Submerged Lands Act create a sort of "legal estoppel" requiring federal recognition of Florida's *title* to the three-league territorial sea upon the U.S. claiming the area?

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sea of the United States and beyond any foreign nation's territorial sea, to the extent such sea is recognized by the United States." The section on State Jurisdiction, 16 U.S.C.A. § 1856, however, is clear in stating that the act does not affect jurisdiction of a state *within its boundaries.*

[26]*See* 33 U.S.C.A. § 1362 (West 1986 & Supp. 1988). [Florida is currently contesting rules under these provisions.]

[27]U.S. Dept. of Commerce and Florida Dept. of Environmental Regulation, **The Florida Coastal Management Program, Final Environmental Impact Statement** II-11 (Aug. 1981).

3) Should Florida's entire territorial sea be recognized for purposes of the Clean Water Act and consistency provisions of the Coastal Zone Management Act?

4) Do all Florida laws that apply to the territorial sea within three miles also apply to the area from three miles to three marine leagues?

5) Does the public trust doctrine apply to Florida's entire territorial sea?

**Recommendation.** The state of Florida should continue to assert full jurisdiction over the state territorial sea in the Gulf of Mexico. To assure recognition of Florida's authority within its seaward boundaries, the state should:

1) attempt to negotiate memoranda of understanding with the EPA and the Corps of Engineers that provide that the EPA and the Corps: a) will recognize state water quality standards and authority to regulate beyond three miles, and b) will find that federal activity within the boundaries of the state may "directly affect" the coastal zone within the meaning of the consistency provisions of the CZMA.

2) petition the state's U.S. legislators to introduce a CWA amendment requiring water quality certification by the state of Florida for federal NPDES permits issued in the three-mile to three-league zone of the Gulf.

3) petition the state's U.S. legislators to introduce a CZMA amendment that redefines coastal zone boundaries to include all lands under tidal waters within the states' seaward boundaries; or alternatively, to provide that federal activities within a state's seaward boundaries may directly affect the coastal zone within the meaning of the consistency provisions.

4) if necessary, litigate federal attempts to limit the nature of the state's title to tidal lands within its seaward boundaries or the authority of the state to regulate that area through its police power.

**II. Federal legislation addressing extension of the twelve-mile territorial sea.** Until recently, the United States was one of only twelve nations that continued to claim a three-mile territorial sea. Defense Department concerns for navigation of strategic international straits had historically been the basis for maintaining the three-mile jurisdiction, but the prospect of states demanding jurisdiction and control of resources in the three- to twelve-mile area had also been a factor in continuation of the limited claim.

One of the anticipated benefits of an expansion of the U.S. territorial sea was the concurrent extension of a 24-mile contiguous zone for customs, drug enforcement jurisdiction, and environmental protection. Unfortunately, the presidential proclamation does not address the issue.

Federal extension of jurisdiction also does not clarify the federal/state relationship in the extended territorial sea. Because state territorial sea limits are expressed in specific distances in the Submerged Lands Act, the legislation would not automatically extend state jurisdiction to limits of the federal territorial sea. Because the proclamation purports to affect only international relations, domestic relations remain unclear. Numerous federal laws require detailed analysis to determine whether their application should be extended to twelve miles.

**Recommendation.** Florida should support legislation that more definitively addresses issues raised by extension of the territorial sea. Federal legislation should also extend a 24-mile contiguous zone to enhance drug enforcement and environmental protection. The state should support the establishment of a commission for a national ocean policy study. The

study would provide a forum and an opportunity to review the application of federal laws beyond three miles and to reexamine the federal/state relationship offshore.

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United Nations Convention on the Law of the Sea, *done* December 10, 1982, U.N. Doc. A/CONF.62/122.

### Federal Statutes, Regulations, and Proclamations

Clean Water Act, 33 U.S.C.A. §§ 1251 *et seq.* (West 1986 & Supp. 1988).

Coastal Zone Management Act, 16 U.S.C.A. §§ 1451 *et seq.* (West 1982 & Supp. 1988).

Magnuson Fishery Conservation and Management Act, 16 U.S.C.A. §§ 1811 (West 1985 & Supp. 1988).

Outer Continental Shelf Lands Act, 43 U.S.C.A. §§ 1331 *et seq.* (West 1986 & Supp. 1988).

Submerged Lands Act, 43 U.S.C.A. §§ 1301 *et seq.* (West 1986 & Supp. 1988).

Truman Proclamation on the Continental Shelf, Proclamation No. 2667, 3 C.F.R. 67 (1947).

U.S. Ocean Policy, 19 **Weekly Comp. Pres. Doc.** 383 (Mar. 10, 1983), Proclamation on the Exclusive Economic Zone.

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## MARINE SALVAGE, FINDS AND HISTORIC PRESERVATION

### Background

Florida's most important offshore historic sites are shipwrecks. In spite of the fact that shipwrecks within the territorial sea are located on or in state lands, these sites may be among the least protected historical and archaeological features of the state. New technologies and improved research techniques have led to the discovery of numerous vessels and triggered major disputes among private salvors, recreational divers, historians and archaeologists, and the state of Florida.

George R. Bass, president of the Institute of Nautical Archeology, states the view of many marine archaeologists succinctly:

> Early shipwrecks are being looted at an alarming rate around the world. There is no public outcry. The public, in fact, usually applauds the looters. Intelligent people who would stoutly defend land monuments such as Mount Vernon from being dismantled for private gain, by the sale of bricks and stones as souvenirs, feel that shipwrecks are resources to be mined in the name of free enterprise.[1]

Private salvors do not perceive themselves as "looters." They point out that shipwrecks are not usually found by archaeologists; states and institutions, in general, lack the funding for the archival research and the expensive expeditions that are used to find or excavate historic wreck sites. Wrecks are most often found by sport divers or professional salvors. State archaeologists are largely dependent on the cooperation of these groups to document, recover, and preserve artifacts of historical significance. Salvers assert that a large percentage of privately salvaged artifacts become part of museum or research collections through donation or sale. Private salvors take the position that the discovery of shipwrecks and the use of proper archaeological procedures in recovery and preservation of artifacts benefits historians, public and private archaeologists, and as such it should be encouraged and rewarded.

"Treasure hunting" is perceived by the public as a glamourous and exciting life, filled with prospects of wealth beyond one's wildest dreams.[2] Even courts have contributed to the aura of romance and adventure surrounding the treasure hunters. In *Cobb Coin Co. v.*

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[1]Bass, *The Men Who Stole the Stars*, **Early Man Magazine**.

[2]In an article, treasure salvor Bob Marx has stated:

> Now I would like to state in the most forceful way possible that I have learned that no one, no matter how lucky or skillful, can ever make a reasonable living from the commercial salvage of ancient shipwrecks. I have been one of the most successful salvers in the field and have found millions of dollars worth of treasures and artifacts, yet after paying all the costs involved in the search, recovery, and preservation, not to mention the shares to financial backers, governments, and divers employed on each venture, I have not made a proper living from this work. . . . The only people who make any big money in this field are those who get gullible people to invest in wildly hyped, highly publicized treasure hunt schemes which grossly exaggerate the actual amounts of treasure.

Giesecke, *The Abandoned Shipwreck Bill: Protecting Our Threatened Cultural Heritage*, **Archaeology** 50, 53 (July/August 1987).

*Unidentified, Wrecked and Abandoned Sailing Vessel*,[3] for example, the federal district court dramatically described the historical background of the case as follows:

> In the early morning hours of July 31st [1715], the wind suddenly shifted to the east-northeast, and the hurricane struck with all its fury. . . . Ultimately, as the oaken hulls of the once proud and mighty Spanish Treasure Fleet were ripped by the cruel coral of the Florida coast, the seawater poured into the smashed ships and they heeled over and sank. . . . Destiny brought the ghosts of these Spanish Galleons, that had set sail bravely from Havana Harbor July 24, 1715, to a rendezvous in an Admiralty Court at the United States Courthouse in Key West, Florida, two hundred and sixty-six years later on July 27, 1981.[4]

During the last two decades, numerous shipwreck cases have addressed the appropriateness of the application of the maritime law of salvage or finds and issues of jurisdiction, preemption, ownership, and eleventh amendment immunity of states from suit. The courts have not been entirely consistent in their conclusions. The most important principle to emerge from these cases is that in *in rem* admiralty cases, federal courts have no power to adjudicate a state's interest in the shipwreck or antiquities without the state's consent.[5] It also appears that the United States government cannot claim ownership of wrecks on the continental shelf outside the territorial sea based on the Abandoned Property Act or the Antiquities Act (beyond the jurisdiction of the acts), or based on the Truman Proclamation or based on the OCS Lands Act (no intent to control shipwrecks).[6] The federal government does, however, under the Antiquities Act[7] protect shipwreck sites on lands owned or controlled by the federal government, including national parks and national marine sanctuaries.[8]

Even in the application of federal maritime and admiralty law, questions persist concerning whether the law of salvage or of finds applies, and how the tests for these laws are to be applied. Under the law of salvage, the original owner retains title to goods saved from peril by a salvor. However, the salvor who meets certain requirements is entitled to a reward for rescuing the goods from marine peril based on the labor, expense, skill, degree of peril to the salvors and the property, and value of the property involved. In the case of ancient shipwrecks, many courts, including the Fifth Circuit[9] and the Eleventh Circuit[10] Courts of Appeals, reject the legal fiction of salvage law that the "owner intends to return" and the application of salvage law. Under the law of finds, a finder who takes possession and exercises control over lost or abandoned property acquires title. Two exceptions to the law of finds are that the property is not considered legally lost if it is embedded in the soil, or if the owner of the land has constructive possession of the property.[11]

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[3]525 F. Supp. 186 (S.D. Fla. 1981).

[4]*Id.* at 190.

[5]*See* Florida Dept. of State v. Treasure Salvors, 458 U.S. 670 (1982).

[6]*See* Treasure Salvors, Inc. v. Unidentified Wrecked and Abandoned Vessel, 569 F.2d 330, 337-40 (1978).

[7]16 U.S.C.A. §§ 431-433 (West 1982 & Supp. 1988).

[8]*See id.* at 337. *See also* Klein v. Unidentified, Wrecked and Abandoned Sailing Vessel, 758 F.2d 1511 (11th Cir. 1983).

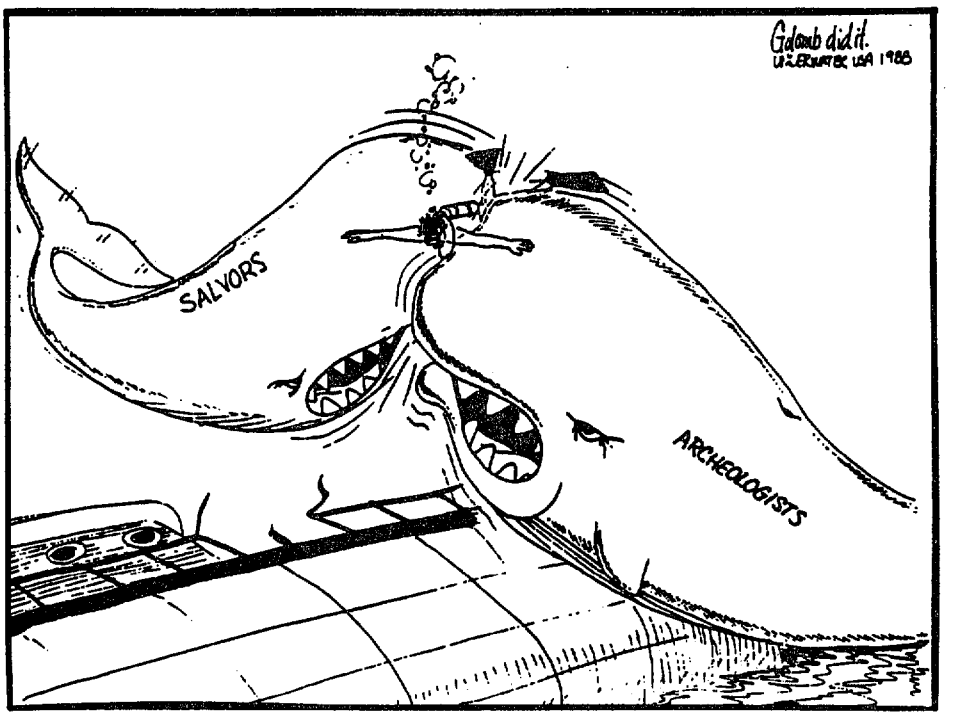
[9]*See* Treasure Salvors, Inc. Unidentified, Wrecked and Abandoned Sailing Vessel, 569 F.2d 330 (5th Cir. 1978).

[10]*See* Klein v. Unidentified, Wrecked and Abandoned Sailing Vessel, 758 F.2d 1511 (11th Cir. 1985).

[11]*See* Klein v. Unidentified, Wrecked and Abandoned Sailing Vessel, 758 F.2d 1511 (1985), in which the court found that the United States had constructive possession of a ship embedded in the soil of Biscayne Bay National Park and a "finder" was entitled to no salvage award. *See also* Chance, Chance & Topper v. The Rattlesnake, 53 Amer. Mar. Cl. 609 (1985)

Common law principles do not specifically address the issue of preservation of historical and archaeological artifacts during salvage operations, but admiralty courts have begun to fashion rules. For example, in *The Rattlesnake*,[12] the court refused any salvage award because the handling of the property by the salvors was increasing the likelihood of deterioration of the antiquities rather than "rescuing" them from marine peril. The court in *Cobb Coin v. Unidentified, Wrecked and Abandoned Sailing Vessel*[13] held "that in order to *state a claim* for salvage award on ancient vessels of historical and archaeological significance, it is an essential element that the salvor document to the Admiralty Court's satisfaction that it has preserved the archaeological provenance of a shipwreck." In other words, these courts have found that evidence of preservation is not just a standard for determining the amount of or enhancing the salvage award, but a threshold requirement for determining entitlement to any salvage award.

Caught in the middle of the emotional, highly technical, and enormously expensive legal dispute between the private salvors and the state are the recreational and sport divers. Preservation is clearly in the interest of divers who enjoy the opportunity and excitement of "diving on" historic wrecks, and teams of archaeologists and recreational divers often jointly research wreck sites. However, divers are often on the side of salvors because of fear that state management will mean registration requirements, fees, and restricted access and, perhaps, because there is still the anticipation of finding an unexpected treasure trove. Since the transition from sport diver to private salvor may take place quite rapidly upon the discovery of a gold doubloon, it has been suggested that the sport diver/salvor dichotomy is a false one.

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where the state of Georgia was declared owner of a Confederate raider embedded in the Ogeechee River.

[12]*See* note 11 *supra.*

[13]549 F. Supp. 540, 559 (1982).

## The Abandoned Shipwreck Act of 1987[14]

After several years of debate, Congress enacted the Abandoned Shipwreck Act in the spring of 1988. Congress exercised its sovereign prerogative in claiming title to any abandoned shipwreck embedded in submerged lands or coralline formations of a state. Congress then transferred that title to the state in or on whose submerged lands the wreck lies. Federal admiralty jurisdiction over salvage activities will no longer apply to such shipwrecks within a state's territorial sea, but the legislation does not affect salvage actions in federal courts that were instituted prior to April 28, 1988.[15]

The act creates no complex jurisdictional problems since the definition of "submerged lands" of a state relies on Submerged Lands Act definitions that recognize Florida's extended jurisdiction in the Gulf. That is, under this act, even shipwrecks in the area of the Gulf of Mexico between three-miles and three-leagues are undisputedly the property of the state.

Congress found that certain abandoned shipwrecks are the type of resources that states should manage, because they are "irreplaceable state resources for tourism, biological sanctuaries, and historical research," and offer unique recreational and educational opportunities.[16] The act attempts to address the multi-use aspects of the situation by directing states to develop "appropriate and consistent" policies to:

(A) protect natural resources and habitat areas;
(B) guarantee recreational exploration of shipwreck sites; and
(C) allow for appropriate public and private sector recovery of shipwrecks consistent with the protection of historical values and environmental integrity of the shipwrecks and the sites.[17]

States are encouraged to create underwater parks to provide additional protection and make programs available for funds under the National Historic Preservation Act.

The Director of the National Park Service, Department of Interior, is to issue guidelines within nine months of enactment of the Abandoned Shipwreck Act to "encourage the development of underwater parks and . . . administrative cooperation." The guidelines will seek to:

(1) maximize the enhancement of cultural resources;
(2) foster a partnership among sport divers, fishermen, archaeologists, salvors, and other interests to manage shipwreck resources of the States and the United States;
(3) facilitate access and utilization by recreational interests;
(4) recognize the interests of individuals and groups engaged in shipwreck discovery and salvage.[18]

The guidelines will be "available to assist" states in developing legislation and management programs for shipwreck sites covered by the legislation. The federal government is not given authority to review state programs, and the transfer of ownership of shipwrecks is not dependent on federal approval of state management schemes.

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[14]Public Law 100-298, 102 Stat. 432 (1988).
[15]*Id.* § 6.
[16]*Id.* § 7.
[17]*Id.* § 4(a)(2).
[18]*Id.* § 5 (a).

> It is . . . declared to be the public policy of the state that all treasure trove, artifacts, and such objects having intrinsic or historical and archaeological value which have been abandoned on state-owned lands or state-owned sovereignty submerged lands shall belong to the state with the title thereto vested in the Division of Historical Resources of the Department of State for purposes of administration and protection.
>
> -- Florida Statutes § 267.061(1)(a)6(b)(1987), The Florida Historical Resources Act

Through these provisions of the Florida Historical Resources Act,[19] Florida has claimed title to shipwrecks and other submerged antiquities since 1967. The Division of Historical Resources, in which title to historic wrecks abandoned on state lands is vested, has the responsibility to survey and maintain an inventory of historic resources and develop a comprehensive statewide historic preservation plan. The Division, which was established to develop and administer a state program meeting the requirements of the National Historic Preservation Act of 1966,[20] also cooperates with federal and state agencies, local governments, organizations, and individuals in planning, development, programs, and public education and information. The Division is given broad authority to "take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources . . . ."[21] Of great significance is that the Division also has authority to establish professional standards for preservation of historic resources in state ownership or control.

State policy in the Florida Historical Resources Act emphasizes that historic properties are irreplaceable, nonrenewable resources and should be managed to preserve the legacy for future generations. State-owned and state-controlled historic resources, therefore, should be administered in "a spirit of stewardship and trusteeship."[22]

The Division of Historical Resources carries out its responsibilities with respect to shipwreck sites primarily through: 1) permitting and standards for exploration and salvage on historic shipwreck sites; 2) permitting standards for archaeological research; 3) establishing archaeological reserves within which no salvage may occur; 4) creating underwater archaeological parks; 5) encouraging public education and public participation; and 6) protecting historic sites and recovering property through litigation when necessary.[23]

Under Chapter 1A-31, Florida Administrative Code, any person wanting to explore, excavate, or salvage archaeological materials from sovereignty submerged lands must enter into an agreement with the Division. Finders are not guaranteed any priority to a salvage agreement nor are they provided any reward or protection. An agreement will not be entered into by the Division unless the applicant demonstrates both professional qualifications to conduct salvage operations and archaeological expertise to recover, process, and preserve artifacts in accordance with accepted archaeological practice. The state asserts ownership of all artifacts recovered pursuant to an agreement, but awards a substantial part of the artifacts for salvage services based on the terms of the salvage agreement. There are no criteria within the act or rules for determining compensation for salvage. The state's standard form contract, however, provides that the state retains a one-fifth, representative cross-section of the

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[19]**Fla. Stat.** ch. 267 (1987) (formerly the Florida Archives and History Act).
[20]16 U.S.C.A. § 470 (West 1982 & Supp. 1988).
[21]**Fla. Stat.** § 267.061(3)(i) (1987).
[22]**Fla. Stat.** § 267.061(1)(a)2 (1987).
[23]Salvage of a shipwreck site also requires a use agreement from DNR and a permit from DER.

artifacts. The division of the artifacts is largely dependent on the state's commitment to retain artifacts that are historically significant, that are well-suited to public display, and that are unique or unrepresented in the state's collection.

In *Cobb Coin*, Florida's salvage requirements have been held to be inconsistent with federal maritime principles and preempted by federal admiralty law.[24] However, the most recent case in the Eleventh Circuit, *Jupiter Wreck, Inc. v. Unidentified, Wrecked and Abandoned Sailing Vessel*,[25] has upheld Florida's statutory scheme and found it not inconsistent with federal maritime law. More than thirty cases involving salvage of shipwrecks in Florida's territorial seas are still pending in federal courts. Two cases involve shipwrecks located within archaeological reserves. Although the current provisions of Florida law would appear to be an allowable exercise of state management authority under the Abandoned Shipwreck Act of 1987, cases filed prior to the act may not be affected by its passage.

Chapter 1A-32, Florida Administrative Code, sets out criteria for archaeological research permits. Institutions which permanently possess professional archaeological staff meeting standards set out by the Division are considered accredited and need not obtain a permit for each project on state lands. Accredited institutions must, however, notify the Division of projects prior to initiation, and the Division reserves 15 days to approve or disapprove the project. Other institutions must apply for a research permit for every project.

Four broad areas of the territorial sea have been set aside by order of the Governor and Cabinet as archaeological reserves. See figure 1. In those areas, no salvage contracts will be granted. Reserve areas are set aside exclusively for research by properly qualified institutions. Neither the criteria for establishment of reserve areas nor the basis for the designation of the current reserves has been established by statute or rule.

The first underwater archaeological park, *Urca de Lima* Underwater Archaeological Preserve, opened in September 1987 near Fort Pierce Inlet. The site is marked by a buoy and sunken plaque setting out regulations for divers. State archaeologists hope the site will be educational as well as provide recreational opportunities for divers. The federal Abandoned Shipwreck Act will provide encouragement and potential funding for additional underwater parks.

The Division plans to open a second underwater park in the middle Keys this year and hopes to open additional parks in the future. The requirements for establishing an underwater archaeological park are as follows: 1) a lease or management agreement to the Division by the Board of Trustees; 2) a buoy for marking the site and providing mooring so that anchors do not damage the site; 3) an underwater plaque or trail markers; 4) a brochure; and 5) public cooperation in not defacing the site. Enforcement of regulations to protect a site is virtually impossible without the involvement and cooperation of local diving groups. This participation will be fostered in the development of future parks by designating sites based on the interests of diving groups, local governments, and the public.

Public participation in archaeological research is encouraged by the Division. Currently two private groups, Paleontological and Archaeological Research Team of Florida (PART) and the Marine Archaeological Divers Association (MADA), participate in state underwater archaeological research.

Interpretive museum displays, traveling exhibit of collections, and publication of research comprise the public education element of the Division's efforts. Working with dive

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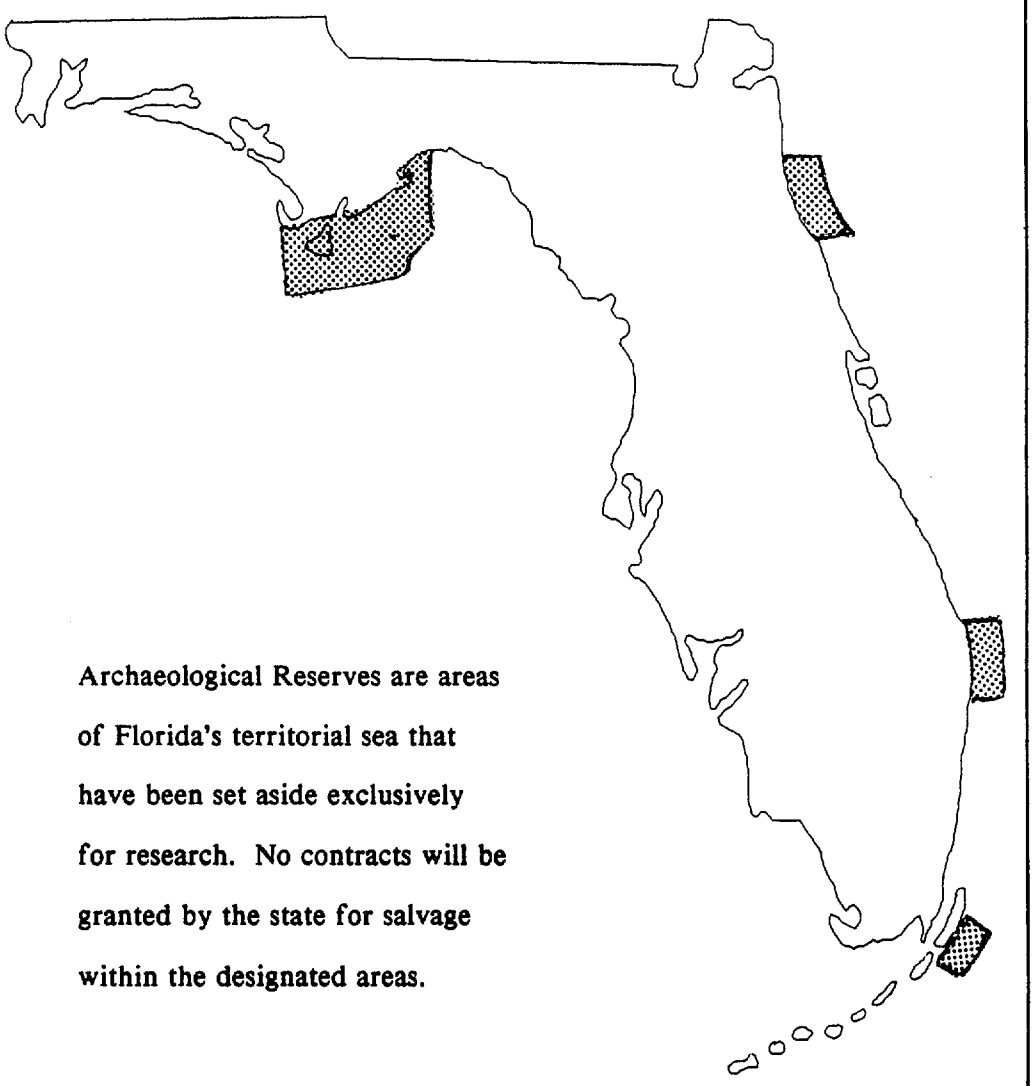
[24]*Cobb Coin*, 525 F. Supp. at 204.
[25]691 F. Supp. 1377, 1381 (1988).

**Figure 1. Florida's Archaeological Reserves**



Archaeological Reserves are areas of Florida's territorial sea that have been set aside exclusively for research. No contracts will be granted by the state for salvage within the designated areas.

shops and diving organizations in the establishment of underwater archaeological parks will greatly increase public educational and recreational opportunities in the future.

## Issues and Recommendations

**I. Pending admiralty cases concerning shipwrecks in Florida's territorial seas.** At least thirty cases are pending that will not be affected by the passage of the Abandoned Shipwreck Act. The state's position is that these cases involve fundamental issues of state sovereignty and must be pursued. In *Jupiter Wreck*,[26] the court stated that "our recognition that the State may assert ownership in the vessel by virtue of its dominion over the territory in which the res rests, necessarily indicates that the State may control the manner in which the res is salved," and federal courts are consistent in upholding that state sovereign immunity precludes determination of state property rights without state consent. Application of the law of finds rather than the law of salvage, also means application of the principle that the owner can dictate the terms of salvage or refuse salvage and deny a "trespassing" salvor an award. The emergence of these principles demonstrates that the state is clearly not involved in a purely quixotic quest to attempt to protect and recover historic artifacts.

**Recommendation.** The ability to control state submerged lands and the resources of the territorial sea is essential to the principle of state sovereignty. The state must establish its right to control the use of its lands. State officials feel that the litigation has been necessary and worthwhile and must continue.

**II. Prospect of continued litigation under the Abandoned Shipwreck Act.** Even though federal legislation now transfers title to abandoned, embedded shipwrecks within territorial waters to the state, in certain cases litigation may continue. First, it is very likely that the Abandoned Shipwreck Act itself will be subject to constitutional challenge. If the act is upheld, questions may also arise as to whether a shipwreck has been "abandoned" or whether the owner has "relinquished ownership rights," whether the vessel is the type of historic vessel intended to be protected, i.e., whether a particular shipwreck is affected by the act. Under the federal act, "embedded" means firmly affixed in the submerged lands or in coralline formations such that the use of tools of excavation is required in order to move the bottom sediments to gain access to the shipwreck, its cargo, and any part thereof.[27] Florida claims artifacts and shipwrecks "*on* submerged lands." The difference may be academic in the case of ancient shipwrecks, but litigation may continue even now that the Abandoned Shipwreck Act is in effect.

**III. Implementation of the federal Abandoned Shipwreck Act.** The state's program already goes far to meet the standards articulated in the federal legislation. However, federal regulations to be promulgated within nine months of April 1988, will provide further "guidance" to the state in program enhancement. It is likely that the guidelines will suggest that the rights of finders and, user groups be more explicitly defined and that designation of special areas, like underwater archaeological preserves and reserve areas be formalized in rules or legislation. The Shipwreck Act does not, however, condition state ownership of shipwrecks on concurrence with federal guidelines. Of course, access to federal funds for new underwater parks, and public education and participation programs may be affected by failure to comply with federal guidelines.

**Recommendations.**

(1) Florida should attempt to conform to federal guidelines for management of abandoned shipwreck sites to the extent the guidelines reflect the factual realties that exist in the state

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[26] *Id.*

[27] Public Law 100-298, § 3(a), 102 Stat. 432 (April 28, 1988).

and needs of Florida's citizens and the affected user groups.

(2) The Division of Historical Resources should continue the present direction and policies to: a) expand education efforts for the public and user groups about the historical significance of underwater archaeological sites; b) establish additional underwater archaeological parks; and c) cooperate and coordinate with the National Park Service and NOAA in research and program development in national parks and marine sanctuaries.

(3) Rules or legislation should be developed to formalize criteria for designation of archaeological reserves and underwater parks or preserves.

(4) Legislation or more explicitly articulated rules should be developed to deal with recovery of artifacts from abandoned shipwreck sites and the rights of finders. This legislation or rule should, at a minimum, provide incentives for discovery and reporting of wrecks including priorities or rewards for finders, opportunities for controlled recovery and protection of artifacts consistent with the preservation of historical values, and clear authority for the state to assert claims for specific items of historical significance.

**IV. Coordination and cooperation in development of underwater archaeological parks.** Within the Division of Historical Resources, only four staff people are involved directly with underwater archaeological resources. With the current level of staffing and funding, it is impossible to even inventory prospective sites. Although the requirements for establishing underwater archaeological sites as parks are minimal, it is clear that additional undertakings, such as onshore exhibits in the vicinity, would extend the educational experience to non-divers. In addition, as more parks are established, maintaining buoys and interpretive displays will require staff and expense. It has already been mentioned that enforcement of regulations and protection of sites can only be achieved by cooperation of the user groups.

**Recommendations.** The Division should continue to explore mechanisms to coordinate with user groups, local governments, and private parties to locate, record, develop, and maintain sites. The Division should also negotiate with DNR's Division of Recreation and Parks to include underwater archaeological preserves within the state park system. The prospect of funding for such parks through grants under the National Historic Preservation Act should make a joint effort of the agencies a more attractive proposition.

## References


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The Submerged Lands Act, 43 U.S.C.A. §§ 1301 *et seq.* (West 1982 & Supp. 1988).

Outer Continental Shelf Act, 43 U.S.C.A. §§ 1331 *et seq.* (West 1982 & Supp. 1988).

National Historic Preservation Act, 16 U.S.C.A. §§ 470 *et seq.* (West 1982 & Supp. 1988).

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*Chance, Chance, & Topper v. The Rattlesnake*, 53 Amer. Mar. Cl. 609 (1985).

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*Florida Dept. of State v. Treasure Salvors Inc.*, 458 U.S. 670 (1982).

*Jupiter Wreck, Inc. v. Unidentified, Wrecked and Abandoned Sailing Vessel*, 691 F. Supp. 1381 (1988).

*Klein v. Unidentified, Wrecked and Abandoned Sailing Vessel*, 758 F.2d 1511 (11th Cir. 1983).

*Martha's Vineyard Scuba Headquarters, Inc. v. Unidentified, Wrecked and Abandoned Steam Vessel*, 833 F.2d 1059 (1st Cir. 1987).

*Maritime Underwater Surveys, Inc. v. Unidentified, Wrecked and Abandoned Sailing Vessel*, 717 F.2d 6 (1st Cir. 1987).

*Romero v. International Terminal Operating Co.*, 358 U.S. 354, 79 S. Ct. 486, 3 L. Ed. 2d 368 (1959).

*Subaqueous Exploration & Archeology, Ltd., Inc. v. Unidentified, Wrecked and Abandoned Vessel*, 577 F. Supp. 597 (D. Md. 1983).

*Treasure Salvors Inc. v. Unidentified, Wrecked and Abandoned Vessel*, 569 F.2d 330 (5th Cir. 1978).

*Welch v. Texas Dept. of Highways and Public Transportation*, ___ U.S. ___, 107 S. Ct. 2941 (1987).

## THE FLORIDA COASTAL MANAGEMENT PROGRAM

### Background

In 1972, the federal Coastal Zone Management Act[1] (CZMA) was passed "to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations."[2] These purposes are accomplished by development of state coastal management programs that meet certain federal standards and guidelines. Participation by states in the coastal zone management program is voluntary. However, the CZMA provides substantial inducements for participation. Federal funding for development and administration of programs has been available, and the act asserts that federal activities and federally-permitted activities will be consistent with state coastal management plans that meet the act's requirements.

The CZMA is implemented by the Office of Ocean and Coastal Resource Management (OCRM) within the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA).

Although coastal planning efforts had been ongoing in the state prior to 1978, development of the current Florida coastal management program (FCMP) was authorized by legislation in that year. Often referred to as the "No New Nothing Act," the Florida Coastal Management Act of 1978[3] assigned the Department of Environmental Regulation (DER) as lead agency and authorized DER to "compile a program based on existing statutes and existing rules."[4] The resulting plan received federal approval in September 1981. The FCMP networks 26 acts and their implementing rules and involves 16 state agencies, with DER, DNR, and the Department of Community Affairs (DCA) responsible for the majority of the day-to-day program administration.

### Florida Statutes in the Approved FCMP

Chapter 119 Public Records
Chapter 120 Administrative Procedure Act
Chapter 161 Beach and Shore Preservation
Chapter 186 State & Regional Planning
Chapter 201.02-.15 Excise Tax on Documents
Chapter 252 Emergency Management
Chapter 253 State Lands
Chapter 258 State Parks and Preserves
Chapter 259 Land Conservation Act of 1972
Chapter 260 Recreational Trails
Chapter 267 Archives, History & Records Management
Chapter 288 Commercial Development
Chapter 315 Port Facilities Financing
Chapter 334 Transportation
Chapter 339 Transportation Finance
Chapter 366 Public Utilities
Chapter 370 Saltwater Fisheries
Chapter 372 Wildlife
Chapter 373 Water Resources
Chapter 375 Outdoor Recreation & Conservation
Chapter 376 Pollutant Discharge
Chapter 377 Energy Resources
Chapter 380 Land & Water Management
Chapter 388 Mosquito Control
Chapter 403 Environmental Control
Chapter 582 Soil & Water Conservation

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[1] 16 U.S.C.A. §§ 1451 *et seq.* (West 1985 & Supp. 1988).
[2] *Id.* at § 1452(1).
[3] **Fla. Stat.** §§ 380.19-380.27 (1987).
[4] **Fla. Stat.** § 380.21(2) (1987). DER's Coastal Zone Management Section (CZMS) is responsible for day-to-day administration of the CZMP.

The key to transforming the network of Florida laws into a program is the Interagency Management Committee (IMC). The IMC, created by Joint Resolution of the Governor and Cabinet in 1980, is composed of the heads of ten agencies responsible for major programs affecting coastal management. The committee is responsible for integration and coordination of agency policies and coastal activities, identification and resolution of jurisdictional conflict and overlap, and recommendations for rules, legislation, and memoranda of understanding.[5]

The IMC receives staff support from DER's Coastal Zone Management Section (CZMS) and input from the state Interagency Advisory Committee (IAC) on coastal management and the Governor's Coastal Resources Citizens Advisory Committee (CAC).

The IAC, which includes representatives of all agencies with coastal management responsibilities, was originally conceived in 1975 to provide agency input into development of the FCMP. Since program approval, the IAC serves as the interagency liaison for implementation of the FCMP and prepares background and issue papers for the IMC.

The CAC is the mechanism for public participation in the coastal management process. The members of the CAC are appointed by the Governor for two-year terms and represent various regions of the state, private and public interest groups, and different levels of government in the state. The committee serves as an advisory group for CZM the IMC, the Governor, and the legislature.

### State Coastal Program Achievements

While coordination of agency activities affecting the coastal zone is a major function of the coastal management program, the program has also supported and coordinated activities intended to carry out the purposes of the CZMA and developed new initiatives to preserve and protect the state's coastal resources.

The FCMP grants have assisted agencies in addressing a wide variety of coastal issues. Although it is not possible to include a complete listing in this report of activities supported, coordinated, or conceived as part of the FCMP, the following have been particularly important for protection of Florida's ocean resources:

- Florida's aquatic preserves program has benefited greatly from FCMP grants for development of management programs.

- The FCMP's estuarine initiative has been an ongoing program to develop a statewide perspective on estuarine pollution, establish policies for estuary management, and develop practical management and regulatory tools.

- Hurricane evacuation and hazard mitigation have been a major focus of the FCMP.

### Federal Consistency

Although federal funding was an initial impetus for states to participate in coastal zone planning, the so-called federal consistency provision of the CZMA is the primary incentive to continue and maintain state coastal programs.[6] Section 307(c) of the CZMA provides that federal agency activities which "directly affect" the state's coastal zone must "to the maximum

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[5]U.S. Dept. of Commerce & Fla. Dept. of Environmental Regulation, **The Florida Coastal Management Program** II- 256-260 (1981) [hereinafter **FCMP**].

[6]Funding from the federal government for coastal programs is likely to continue to decline or eventually to disappear. If this happens, the federal consistency requirement will be the only "carrot" for continued state participation.

extent practicable" be consistent with the FCMP. In addition, federally-permitted activities which affect the coastal zone must be consistent with the FCMP. Specific provisions concerning oil and gas exploration and development plans also require consistency with the state coastal program if the activity affects the coastal zone.[7]

The diagram, figure 2, illustrates how the federal consistency provision is applied.

The consistency provision contains a number of terms that are subject to interpretation. One of the most troublesome phrases is the language in § 307(c)(1) concerning consistency of federal agency activities that "directly affect" the coastal zone. The CZMA does not define the term. A U.S. Supreme Court case, *Secretary of Interior v. California*,[8] reviewed the term in the context of oil and gas lease sales of outer continental shelf (OCS) lands. The narrow reading of the holding of the case is that OCS oil and gas lease sales do not directly affect the coastal zone and, therefore, require no determination of consistency with a state coastal plan. Unfortunately, the Court was ambiguous as to its basis for this conclusion, and one possible interpretation is that federal activities must be conducted or supported *within* the coastal zone to directly affect the coastal zone.

NOAA regulations currently reflect the more narrow interpretation. The regulations state that, except for OCS oil and gas lease sales, federal activities within *and* outside the coastal zone "are subject to . . . review to determine whether they directly affect the coastal zone."[9] However, federal agencies themselves decide whether their activities require consistency determinations. Recent Army Corps of Engineers regulations implementing the Clean Water Act and Ocean Dumping Act, for example, adopt the position the consistency provisions of § 307(c)(1) apply only to activities in the coastal zone. The analysis of the regulations includes the Corps' position that "the CZMA and case law leave some doubt regarding the authority of a state to control Corps dredging and disposal activities not located 'within' a state's coastal zone . . . ."[10]

The Corps regulations also question the relationship of the CZMA to the Ocean Dumping Act (ODA). The Corps' analysis which accompanied the final regulations states that the Corps will "voluntarily and as a matter of comity" seek water quality certification and determine consistency for disposal within the three-mile territorial sea. The Corps retained its legal rights, however, and maintained its opinion that the ODA may preempt the CZMA even within the territorial sea.[11]

Another issue that has arisen concerning application of the consistency requirement relates to so-called "conditional" consistency determinations by the state. Rather than merely concur with or object to consistency determinations, states often find that an activity will be consistent with the coastal plan if certain additional conditions are met. NOAA regulations seemed to anticipate and support the state use of conditions to ensure consistency by requiring that state objections to a consistency determination must describe what measures could be taken to make the activity consistent with the state management plan.[12] OCRM's most recent interpretation, however, is that the state is only authorized to "concur in or object to consistency certifications." Comments to the Corps of Engineers ocean disposal regulations

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[7]16 U.S.C.A. § 1456(c)(3)(B) (West 1985).
[8]464 U.S. 312 (1984).
[9]15 C.F.R. § 930.33 (1988).
[10]53 Fed. Reg. 14902, 14905 (April 26, 1988).
[11]*Id.* at 14908. *See also* chapter on Submerged Lands and Jurisdiction.
[12]15 C.F.R. § 930.64(B) (1988). For a complete discussion, *see* Archer & Bondareff, *Implementation of the Federal Consistency Doctrine -- Lawful and Constitutional*, 12 **Harv. Envtl. L. Rev.** 115, 127-36 (1988).

Figure 2.

FEDERAL CONSISTENCY MATRIX

| CZMA Section | 307(c)(1)&(2) | 307(c)(3)(A) | 307(c)(3)(B) | 307(d) |
|---|---|---|---|---|
| Federal action | Direct federal activities including development projects. | Federally licensed and permitted activities | Federally licensed and permitted activities described in OCS plans | Federal assistance to state and local gov'ts |
| Coastal Zone Impact | Directly affecting the coastal zone | Affecting the coastal zone | Affecting the coastal zone | Affecting the coastal zone |
| Responsibility to notify state agency | Federal agency proposing the action | Applicant for federal license or permit | Person submitting OCS plan | Intergov'tal review procedure |
| Notification procedure | Chosen by federal gov't | Consistency certification | Consistency certification | Intergov'tal review procedure |
| Consistency requirement | Consistent to the maximum extent practicable with CZM program | Consistent with CZM program | Consistent with CZM program | Consistent with CZM program |
| Consistency determination | Made by federal agency (review by state) | Made by state agency | Made by state agency | Made by state agency |
| Federal agency responsibility following a disagreement | Federal agency not required to disapprove action following state agency disagreement (unless judicially impelled to do so) | Federal agency may not approve license or permit following state agency objection | Federal agency may not approve federal licenses or permits for activities described in OCS plan following state agency objection | Federal agency may not grant assistance following state objection |
| Administrative conflict resolution | Mediation by the Secretary | Appeal to the Secretary by applicant or independent secretarial review | Appeal to the Secretary by person or independent secretarial review | Appeal to the Secretary by applicant agency or independent secretarial review |

provided that "the NOAA Office of Coastal Resource Management has advised the Corps that the NOAA regulations do not contemplate conditional concurrences."[13]

### State Consistency Review Process[14]

The state reviews over 1,000 consistency determinations each year. The complexity of dealing with this large number of reviews, applying the policies of a networked program, and meeting time limitations imposed by federal regulations[15] requires clear procedures and a high level of agency cooperation. State consistency reviews are coordinated in accordance with a Memorandum of Understanding (MOU) designating DER as lead agency and the Governor's Office of Planning and Budgeting (OPB) as coordinator.

In coordinating intrastate federal consistency review, OPB is assisted by two units -the Budget Management and Planning Unit (BMPU) and the Environmental Policy Unit (EPU). The BMPU, which includes the State Clearinghouse (SCH), initially receives the documentation, logs it, and routes it to agency reviewers. The SCH reviews the documentation to determine if it meets program eligibility criteria and compiles agency comments. The EPU also reviews consistency documents and agency comments. The EPU summarizes agency comments and formulates a recommended state response.

Consistency evaluations are routed by the SCH to the Intergovernmental Coordination Section (IGCS) of DER and other agencies for review. IGCS staff review may include consultation with other sections of DER and with DER district offices. The agency's comments are returned to SCH.

If the state concurs with a project, the final consistency letter is prepared by the SCH and signed by the BMPU Coordinator. If a finding of inconsistency is recommended, a letter is prepared in cooperation with DER and signed by the Secretary of DER.

If there is disagreement between state agencies concerning a consistency review, OPB is responsible for initiating conflict resolution discussions. OPB may recommend that the IMC mediate serious interagency conflicts.

The Federal Consistency Manual is outdated and in need of revision to incorporate new statutes and reflect changes in agency organization. The manual is currently being revised.

### Recurring Issues

On April 18, 1988, OCRM issued its most recent evaluation of the Florida coastal management program for the period from February 1985 through October 1987.[16] The director of OCRM found that Florida has "not complied with several requirements of the CZMA's implementing regulations." Many of the problems cited in the director's report were minor and unsubstantive. However, other issues are more fundamental and are shared by many states in the implementation of their coastal programs. The review cited two problems that are inherent to a networked program. First, how does DER as the lead agency function to monitor and coordinate the FCMP? Second, do the IMC and IAC actually carry out the

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[13]53 Fed. Reg. 14902, 14906 (April 26, 1988).

[14]Information in the section is taken primarily from Department of Environmental Regulation, **Response to the NOAA Section 312 Evaluation of the Florida Coastal Management Program**, Item 5 (Aug. 30, 1988).

[15]*See* 15 C.F.R. part 930 (1988).

[16]Section 312 of the CZMA requires continuing review of the performance of state programs by the federal Office of Coastal Resources Management (OCRM). 16 U.S.C.A. § 1458 (West 1985 & Supp. 1988).

role of interagency coordination, policy implementation, and conflict resolution? OCRM's third concern focuses primarily on the state's interpretation and application of principles of consistency review.

Agency interaction and program coordination have been recurring problems cited in all three OCRM reviews of the state program. The report for the review period 1983-1985 primarily recommended that agency interaction through the IMC be increased and that the state "needs to consider a broad range of actions to further strengthen the interagency approach." The evaluation report for the 1985-1987 period was much more critical, questioning the ability of DER to provide program leadership and coordination, and finding that the IMC is not functioning and should be "reassess[ed] . . . as the principal coordinating mechanism for the FCMP by August 30, 1988."

Part of the problem is that agency coordinating mechanisms, MOUs and the resolution to establish the IMC, are out of date and do not reflect current realities. The IAC has been charged by the IMC to review resolutions and agency MOUs for needed changes to improve coordination among agencies and the functioning of the IMC. This review should be finished in the near future.

OCRM's criticisms concerning conduct of federal consistency review were much the same for Florida as for other states that have recently undergone federal review and are fundamentally related to the nature of the federal consistency doctrine. OCRM objected to the "unauthorized use of conditional concurrences," and "invalid requirements that federal agenc[ies] obtain state . . . permits" for consistency.

### Issues and Recommendations

**I. State Program Coordination and Agency Interaction.** Redefinition of agency coordination responsibilities in revised MOUs is an important step toward better cooperation and interaction. However, mechanisms such as the IMC and the IAC require more than documentary guidelines to make them effective - they require the political will to make them work.

**Recommendations.** Because the IMC is the vital bond for an effectively functioning coastal management program, the IMC and its functions should be codified. Although this step may not functionally alter the IMC, it would at least signify legislative support for the program and bolster participation of agencies in the FCMP.

**II. Conditional Consistency Concurrences and State Permit Requirements.** Florida's position on conditional consistency opinions and applicability of state permits to federal activities is one shared by a number of coastal states and is the subject of national debate. A group of authors recently stated that "Congress made a troublesome mistake when it enacted what it conceived to be the innovative consistency process."[17] In their argument for repeal of federal consistency provisions of the CZMA, the authors went on to say that "states have used the consistency process to nullify directly unwanted federal programs and to impose and unending procession of dilatory data requirements as a means of bargaining for the imposition of terms and conditions beyond those that federal statute requires."[18]

The requirement that states may only concur or object to consistency certifications may create additional arguments for repeal. If states are forced to object to activities that could be made consistent by minor, but justifiable and necessary conditions, an inordinately high

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[17]Whitney, Johnson & Perles, *State Implementation of Coastal Zone Management Provisions: Ultra Vires or Unconstitutional?*, 12 **Harv. Envtl. L. Rev.** 67, 111 (1988).
[18]*Id.* at 112.

number of activities would be found to be inconsistent with state coastal plans, reinforcing arguments that state consistency implementation is undermining federal regulatory programs.

These arguments and the current OCRM interpretation misconceive the nature of the federal consistency provisions. The federal consistency doctrine is a substantive requirement imposed on federal agencies and federal permittees by Congress, subjecting actions affecting the coastal zone to state land and water use management programs. Requirements necessary for consistency with a state program are, therefore, not merely additional state terms and conditions. For example, consistency with the FCMP is as much a substantive *federal* requirement for a federal dredge and fill permit affecting Florida's coastal zone as the relevant provisions of the Clean Water Act.

The practice of issuing conditional consistency determinations has been common practice and furthers the purposes of the CZMA which include encouraging federal-state cooperation and resolving conflicts expeditiously. Prohibiting conditional concurrences forces the state or a federal permit applicant to use more formal, adversarial, expensive, and time-consuming appeal processes that neither further the purposes of the CZMA nor the interests of the parties.

The relationship of state requirements made applicable to federal activities through the federal consistency doctrine or other federal legislation has also been a source of debate. In essence, the issue is whether the federal government must obtain state permits for certain activities for the federal action to be consistent with the FCMP. The federal government often rejects state permitting authority by broad claims of sovereign immunity or federal preemption. But recent federal cases highlight the facts that: a) many federal statutes, including the Clean Water Act, waive sovereign immunity in requiring federal activities to comply with all state and local requirements;[19] and b) federal preemption must be determined on a case-by-case basis.[20]

**Recommendation.** Federal consistency correspondence should be carefully drafted when the state reviews projects in early stages to clarify that consistency at a particular stage does not mean that the project will continue to be consistent at later stages. Projects that are not planned in accordance with comments made during early reviews may be found inconsistent during subsequent reviews. Comments on potential impacts of a project are intended to aid in the planning of the project and are not to be construed as conditional consistency determinations.

The state should continue to support legislation and litigation intended to reestablish a broad definition of federal activities "directly affecting" the coastal zone and requiring consistency with state coastal plans.

DER should develop a consistency procedures rule.

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[19]*See* Friends of the Earth v. U.S. Navy, 841 F.2d 927 (9th DCA 1988), where the Navy was enjoined from dredge and fill activities until it received a permit under Washington's Shoreline Management Act.

[20]*See* California Coastal Commission v. Granite Rock, 107 S. Ct. 1419 (1987). The U.S. Supreme Court reiterated the test that state law is preempted only where Congress has evidenced intent to occupy a certain field, and where Congress has not entirely displaced state regulation, only if state law conflicts with federal law.

## References


### State Statutes and Rules

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## MANAGEMENT OF MARINE HABITAT AND PROTECTED SPECIES

As the state of Florida moves into the 21st century, population growth and resultant development will have an ever increasing impact on the environment. The protection of the state's natural resources will become even more critical as the demands of population encroach on an already diminished wildlife habitat. This encroachment has already taken a tremendous toll on the coastal areas of the state. The state has already begun to address this problem of protection of wildlife and its habitat through legislation to set aside and manage designated preserves and sanctuaries. In addition to the creation and regulation of habitats, the state has also recognized the need for protecting the various species which inhabit the preserves and sanctuaries.

### Florida Aquatic Preserves

By the time the 1975 Aquatic Preserves Act was passed by the Florida legislature, the aquatic preserves program was already firmly established with 35 preserves designated by the Board of Trustees. The Act set out the legislative intent that "state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value . . . be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations."[1]

The Aquatic Preserves Act also establishes uniform criteria for the maintenance of preserves. These criteria are reflected in rules adopted by the Board of Trustees[2] and in the aquatic preserve policies of the Conceptual State Lands Management Plan, which provides:

1) No sale, lease or transfer of state-owned submerged lands within aquatic preserves shall be approved unless it is in the public interest.

2) No bulkhead line shall be established or relocated waterward of the mean high water line in an aquatic preserve unless necessitated by a public road or bridge construction project where no reasonable alternative exists and the project is not contrary to the public interest.

3) There shall be no drilling of gas or oil wells within any aquatic preserve.

4) There shall be no excavation of minerals within aquatic preserves.

5)(a) There shall be no dredging of state-owned lands within aquatic preserves for the sole purpose of providing upland fill.

(b) There shall be no dredging or filling of submerged lands within aquatic preserves except as may be deemed necessary by the Trustees for the following activities:

(i) public navigation projects
(ii) maintenance of existing navigation channels
(iii) creation and maintenance of marinas, piers, docks and their attendant navigation channels
(iv) public utility installation or expansion
(v) installation and maintenance of fuel transportation facilities
(vi) alterations necessary to enhance the quality or utility of the preserve or the public health generally

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[1]Fla. Stat. § 258.36 (1987).
[2]Fla. Admin. Code ch. 18-20 (1987).

6) No structures shall be erected within a preserve except:
(a) Private docks for reasonable ingress and egress of riparian owners.
(b) Commercial docking facilities shown to be not contrary to the use or management criteria of the preserve.
(c) Shore protection structures, approved navigational aides, or public utility crossings authorized under policy 5(b).

7) No wastes or effluents which substantially inhibit the accomplishment of the purposes of the Aquatic Preserve Act shall be discharged into an aquatic preserve.

8) Management of human activities within aquatic preserves will not unreasonably interfere with traditional public uses such as fishing, boating, and swimming.

9) Management of aquatic preserves shall not infringe upon the traditional rights of riparian land owners within or adjacent to an aquatic preserve.

10) Other uses of an aquatic preserve may only be approved subsequent to a formal finding of compatibility with the purpose of the Aquatic Preserve Act and rules, and of the type designation of the preserve in question.[3]

There are currently 41 aquatic preserves designated in the state, mostly in coastal waters. (See figure 3.) Most of the state's aquatic preserves have been designated legislatively. The Aquatic Preserves Act does, however, contain provision for establishment of preserves by the Board of Trustees, subject to confirmation by the legislature. The process requires: (1) a proposal for designation as an aquatic preserve, (2) a public hearing in the county where the proposed preserve is located, (3) adoption of a resolution by the Board of Trustees, (4) confirmation by the legislature, and (5) recording the description of the aquatic preserve in public records of the affected county.[4]

Management plans, which must be adopted by rule by the Trustees, are currently being developed for all aquatic preserves. DNR's functional plan projects that all 41 plans will be completed by 1991. DNR intends to have 28 aquatic preserve management plans by the end of 1987-88. Funds for completion of the plans are provided through Coastal Zone Management grants. Plans are implemented in two ways: implementation of plan objectives by DNR through rule and on-site management; and coordination with other agencies, primarily through review of permit applications and coastal development planning.

On-site managers carry out the directives of management plans, develop comprehensive resource inventories, provide oversight for research projects, monitor the preserves' natural systems, provide for enforcement of statutes and rules, and determine the impacts of natural and man-made activities on preserves. Educational programs for local schools and the public are also developed for staffed preserves. DNR currently has 25 full-time, legislatively-funded environmental specialists, law enforcement, and administrative staff positions to staff the preserves. DNR provides on-site management for 26 of the 41 preserves. The DNR functional plan calls for an increase in on-site management staff at the preserves.

Intergovernmental coordination is a vitally important element in protection and management of aquatic preserves. Although the Trustees hold title to the preserves and DNR has management authority, the Department of Environmental Regulation (DER) has the statutory responsibility for water quality in aquatic preserves, including the issuing of permits for effluent discharges. For dredging and filling activities, DNR receives copies of

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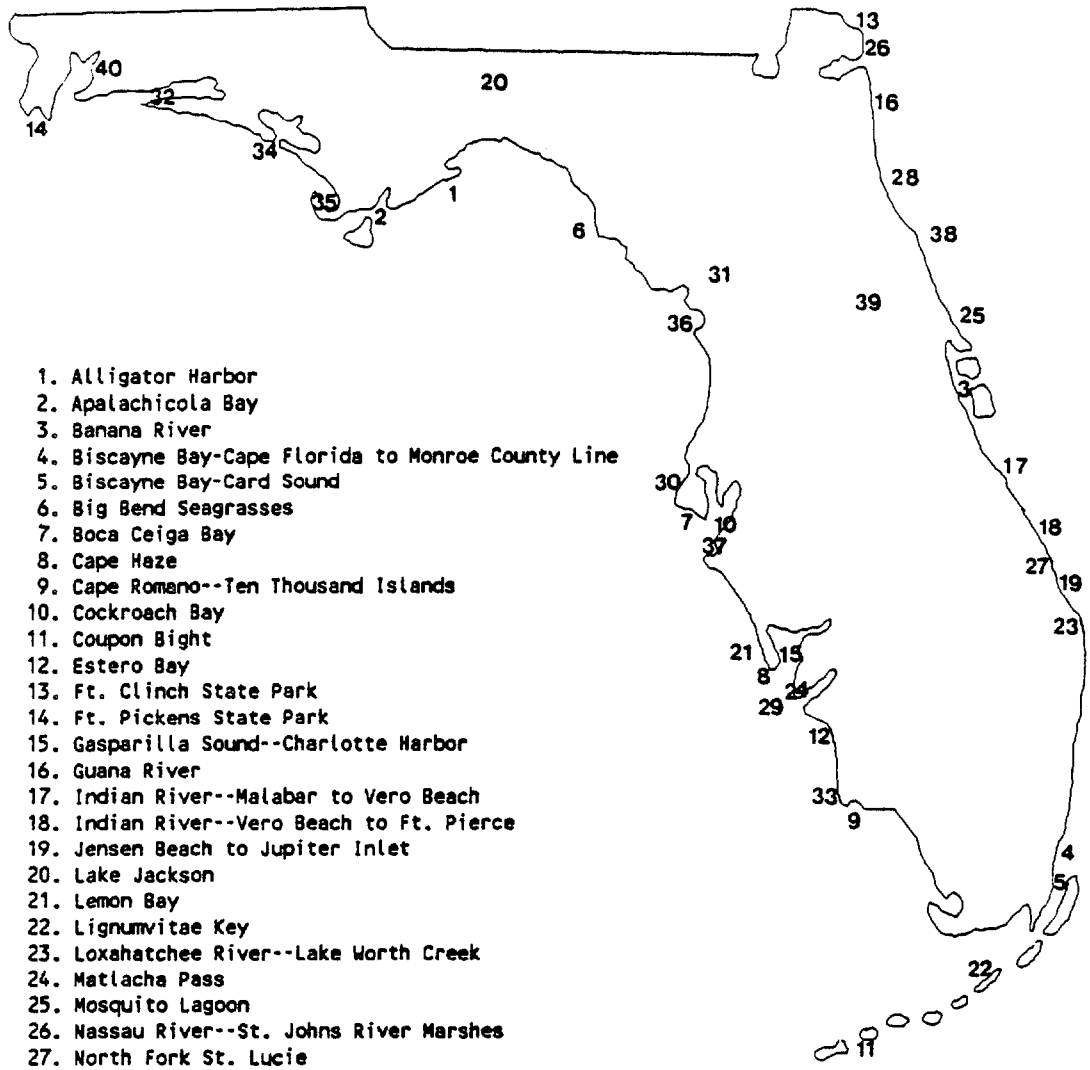
[3]Department of Natural Resources, **Conceptual State Lands Management Plan** 57-59 (adopted by the Board of Trustees of the Internal Improvement Trust Fund March 17, 1981).
[4]**Fla. Stat.** § 258.41 (1987).

## FLORIDA'S AQUATIC PRESERVES




1. Alligator Harbor
2. Apalachicola Bay
3. Banana River
4. Biscayne Bay-Cape Florida to Monroe County Line
5. Biscayne Bay-Card Sound
6. Big Bend Seagrasses
7. Boca Ceiga Bay
8. Cape Haze
9. Cape Romano--Ten Thousand Islands
10. Cockroach Bay
11. Coupon Bight
12. Estero Bay
13. Ft. Clinch State Park
14. Ft. Pickens State Park
15. Gasparilla Sound--Charlotte Harbor
16. Guana River
17. Indian River--Malabar to Vero Beach
18. Indian River--Vero Beach to Ft. Pierce
19. Jensen Beach to Jupiter Inlet
20. Lake Jackson
21. Lemon Bay
22. Lignumvitae Key
23. Loxahatchee River--Lake Worth Creek
24. Matlacha Pass
25. Mosquito Lagoon
26. Nassau River--St. Johns River Marshes
27. North Fork St. Lucie
28. Pellicer Creek
29. Pine Island Sound
30. Pinellas County
31. Rainbow Springs
32. Rocky Bayou State Park
33. Rookery Bay
34. St. Andrews State Park
35. St. Joseph Bay
36. St. Martins Marsh
37. Terra Ceia
38. Tomoka Marsh
39. Wekiva River
40. Yellow River Marsh

Authorities:
Chapter 258 Florida Statutes
Chapter 18-20 & 18-18 Florida Administrative Code

**Figure 3.**

DER/Corps of Engineers joint permit applications and biological assessments, and conveys recommendations to DER and the Board of Trustees.[5]

DER is required to apply a public interest test in reviewing permit applications.[6] DER's public interest test for dredge and fill permitting is extremely broad[7] and, in general, DER has authority to take into account most concerns that DNR may have with a particular project. However, for water quality permitting of discharges DER's public interest test is not elaborated in the statute.[8] Court cases and DER interpretation currently limit the public interest test to factors relating to environmental impact.[9] This more limited test may fail to take into account DNR's broader proprietary concerns for sovereignty lands subject to the public trust and aquatic preserve management. Moreover, DNR has little recourse because, unlike dredging or filling of submerged lands, discharges are not necessarily a "use" of submerged sovereignty lands requiring consent of the Trustees.

State legislation passed in 1988 provides for delegation of authority to issue National Pollutant Discharge Elimination System (NPDES) permits, federal pollutant discharge permits.[10] In addition, the provision requires DER to respond *in writing* to comments received from DNR and the Game and Fresh Water Fish Commission (GFWFC) on pending NPDES permits.[11]

Because permission from the Trustees is required for nontraditional use of sovereignty lands, *e.g.*, dredging and filling, the Trustees can condition or prohibit activities within the preserves or in navigable water near preserves to minimize impacts on natural systems. Upland development can have significant adverse effects on adjacent water bodies, but, in most cases, is beyond the jurisdiction of the aquatic preserves program. DNR staff review applications and make recommendations to the agencies responsible for permitting of upland development. Coordination with local planning and zoning staff are the primary means of carrying out the management and protection goals of the preserves.

DNR review of upland developments that impact aquatic preserves have been targeted by advocates of "environmental efficiency." The basis for most argument has been, that additional review and conditions are inconsistent with upland permit requirements, and that DNR review duplicates DER review for water quality and biological impacts. These advocates often confuse the state's police power authority over private land with the proprietary and public trust interests of the state on adjacent submerged sovereignty lands

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[5]This process is the same for dredge and fill projects on all sovereignty lands, but is particularly important in the case of projects within aquatic preserves.

[6]Most aquatic preserves are also designated by DER as Outstanding Florida Waters which require a determination that the project is "clearly in the public interest."

[7]**Fla. Stat.** § 403.918(2)(a) (1987) provides that determination of the public interest in dredge and fill permitting shall include: 1) effects on public health, safety, welfare, and property of others; 2) effects on fish, wildlife, endangered species, and their habitats; 3) effects on fishing and marine productivity; 4) water flow, erosion, and navigation impacts; 5) effect on historical and archeological resources.

[8]**Fla. Stat.** § 403.088(2)(b) (1987) provides only that when DER finds that a proposed discharge will not pollute waters beyond the established classification for the water body, "it may issue . . . a permit if it finds that such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest." It is arguable that a broad public interest test is justified under the language section 403.021, Florida Statutes, which provides an expansive public policy basis for chapter 403.

[9]Grove Isle Ltd. v. Department of Environmental Resources, 454 So. 2d 571 (Fla. 1st DCA 1984).

[10]The Clean Water Act requires that the EPA delegate NPDES permitting to a state when the state requests the authority and can demonstrate adequate authority to carry out the program. 33 U.S.C. § 1342(b) (1982).

[11]Fla. Laws 88-393 (1988).

and in public navigable waters. DNR participation in upland development decisions is extremely important to assure that other agencies and local governments use their police power authority to protect the state's proprietary interests and the public trust.

In addition to the reviews already discussed, several other mechanisms exist for interagency and intergovernmental coordination to protect aquatic preserves. Within the state's coastal management program, there is opportunity for coordination through both the Interagency Management Committee and the Interagency Advisory Committee. A fundamental part of the coastal management program is a memorandum of understanding between DER, DNR, and the Department of Community Affairs (DCA) setting out agency responsibilities and procedures for a coordinated approach to programmatic issues. The state's planning processes also provide additional opportunities for DNR participation. These include review of the State Land Use Plan, review of developments of regional impact, and review of local government comprehensive plans. It should be emphasized, however, that all these mechanisms provide only *opportunities* for coordination and cooperation, and require institutional and political will to be effective.

**Issues and Recommendations.**

**I. DNR has identified several major objectives for aquatic preserves.** These include:

1. Management plans for all aquatic preserves must be completed.
2. Preserves need adequate staffing and operational funding.
3. More effective mechanisms for intergovernmental coordination must be developed, including local government coordination.
4. Submerged lands rules and aquatic preserve rules should be combined to develop a comprehensive submerged land rule that incorporates the management needs and natural resource requirements of aquatic preserves, and reflects recent actions of the Board of Trustees.

**II. The public interest test in Florida Statutes must be broad enough to include the state's proprietary and public trust interests in submerged sovereignty lands and navigable waters.** The permitting test for effluent discharges should be amended to provide a broad public interest test which will reflect, not only pollution control standards, but also other legitimate state interests in its navigable waters and affected submerged lands.

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Fla. Laws 88-393 (1988).

Florida Aquatic Preserves, **Fla. Admin. Code Ann.** §§ 18-20.001-.017 (1987).

Florida Aquatic Preserves Act of 1975, **Fla. Stat.** §§ 258.35-258.394 and 258.40-258.46 (1987).

**Fla. Stat.** § 403.918(2)(a) (1987) [criteria granting/denying permits under the Warren S. Henderson Wetlands Protection Act of 1984].

**Fla. Stat.** § 403.088(2)(b) (1987)[water pollution operation permits under the Florida Air and Water Pollution Control Act].

## Estuarine Reserves and Marine Sanctuaries

### Estuarine Research Reserves

The National Estuarine Sanctuaries Program, now the National Estuarine Reserves Research System, was created in 1972 as a part of the Coastal Zone Management Act.[12] The National Oceanic & Atmospheric Administration (NOAA) in the Department of Commerce has the responsibility to administer the program and work with states in establishing and managing reserves. Under this program, the federal government provides matching start-up funds for acquiring estuarine areas and developing and operating research facilities and educational programs.

The purpose of the reserve system is to create "natural field laboratories in which to study and gather data on the natural and human processes occurring within the estuaries of the coastal zone." Reserves are to be used primarily for research and education. NOAA is responsible for developing estuarine research guidelines to establish common research principles and objectives for the national reserve research system.

Eighteen estuarine research reserves have been designated nationally (two proposals are pending) that are characteristic of different coastal regions and estuarine types. Florida has two designated reserves - Rookery Bay and Apalachicola River and Bay. Florida does not have specific legislation or rules addressing these areas as estuarine reserves. State management of these reserves is currently conducted in concert with the legal authorities of the aquatic preserves program.

### Marine Sanctuaries

The National Marine Sanctuaries Program was created in 1972 as part of the Marine Protection, Research and Sanctuaries Act.[13] The purpose of the program is to identify marine areas of special national significance due to their resource or human-use values, and to provide authority for comprehensive conservation and management of such areas where existing regulatory authority is inadequate to assure coordinated conservation and management. National significance is determined by assessment of the "conservation, recreational, ecological, historical, research, educational, or esthetic qualities" of a marine area.

Key Largo National Marine Sanctuary encompasses 100 square miles off the Atlantic coast of Key Largo, adjacent to John Pennekamp Coral Reef State Park. It was designated in 1975 "to protect and preserve the coral reef ecosystem in its natural state and to regulate uses within the Sanctuary to ensure the health and well-being of the coral and associated flora and fauna."[14] A number of activities are regulated or prohibited to achieve these purposes. No natural features, marine life, and archaeological and historical resources may be removed or destroyed. This includes a prohibition on handling or standing on coral. Operation, anchoring, and mooring of watercraft is strictly regulated. The discharge of pollutants and dredging, filling, and excavating are generally prohibited.

Looe Key National Marine Sanctuary, designated in 1981, only includes a five-square mile area southwest of Big Pine Key. The purposes for providing special protection to this area are broader than for the Key Largo sanctuary and include availability of the area for public education and as a commercial, ecological, research and recreational resource. The

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[12] 16 U.S.C.A. §§ 1451-1464 (West 1985 & Supp. 1988).
[13] 16 U.S.C.A. §§ 1431-1434 (West 1986 and Supp. 1988).
[14] 15 C.F.R. § 929.2 (1987).

prohibitions are substantially the same, except that in the Looe Key Sanctuary, historical and archaeological resources are not protected, and fishing is generally allowed.

The National Marine Sanctuaries Program has recently been reauthorized by Congress with provisions to improve timeliness and predictability in the sanctuary designation process. New provisions for promotion and coordination of research were also included. The legislation requires NOAA to investigate three areas off Florida's coast - American Shoal, Sombrero Key, and Alligator Key - and report to Congress within two years on the suitability of the sites for marine sanctuaries.[15]

**Issues and Recommendations**

**I. There are no state statutes or rules specifically addressing estuarine reserves or marine sanctuaries.** Federal and state officials interact informally on issues relating to estuarine reserve and marine sanctuaries research programs and management. DNR has recently reorganized and created the Bureau of Sanctuaries and Research Reserves within the Division of State Lands. Although the aquatic preserves program is compatible with the federal programs, aquatic preserve management is not as specifically directed as the federal programs.

**Recommendation.** The state of Florida should continue to complement the federal sanctuary and reserve programs, taking full advantage of the opportunities for habitat protection, resource management, and research coordination and funding these programs provide.

**II. Additional areas need the coordinated management and research provided by the national park, marine sanctuary, and research reserve programs.** The state should also make recommendations to NOAA to initiate the designation of additional sanctuaries and reserves, *e.g.*, the Marqueses Keys, the Big Bend Seagrasses Area, and the Florida Middle Grounds as marine sanctuaries, and Indian River Lagoon as an estuarine research reserve. The state should also encourage designation of the Dry Tortugas and surrounding waters as a national aquatic park.

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Articles

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Looe Key National Marine Sanctuary Regulations, 15 C.F.R. §§ 937.1-937.10 (1987).

Marine Protection, Research and Sanctuaries Act, 16 U.S.C.A. §§ 1431-1434 (West 1986 & Supp. 1988).


**Endangered, Threatened, and Protected Marine Species**

The Florida Endangered and Threatened Species Act of 1977 was enacted in recognition of the fact that Florida possesses more native endangered and threatened species of animals than any other continental state and to establish a state policy to provide for research and

[15]Public Law 100-627 (1988).

management "to conserve and wisely manage these resources."[16] The Act calls for a coordinated effort between the Game and Fresh Water Fish Commission (GFWFC), whose jurisdiction includes freshwater and upland species, and DNR, whose jurisdiction is marine species. All endangered, threatened, and special concern species listed by those agencies, in addition to those listed by the United States Department of Interior under the federal Endangered Species Act[17] are protected.

The state of Florida has 110 animals and 422 plants listed as protected species under the Act.[18] The following marine species are included:[19]

*Endangered Marine Species:*

| | | |
|---|---|---|
| Pillar coral | Atlantic green turtle | Sei whale |
| West Indian manatee | Kemp's Atlantic ridley turtle | Sperm whale |
| Atlantic right whale | Humpback whale | Finback whale |
| Atlantic hawksbill turtle | Shortnose sturgeon | |

*Threatened Marine Species:*

| | |
|---|---|
| Loggerhead sea turtle | Key silverside |

*Marine Species of Special Concern:*

| | |
|---|---|
| Atlantic sturgeon | Common snook |

State policy, as reflected in GFWFC rules, is that "[n]o person shall pursue, molest, harm, harass, capture, or possess any endangered or threatened species or parts thereof of their nests or eggs . . . ." Thus a total prohibition against the further destruction of the animal populations is intended.[20] GFWGC and DNR may issue permits to take or move endangered species in limited circumstances, *e.g.*, "when the permitted activity will clearly enhance the survival potential of the species."[21] Permits for activities involving threatened species require a showing that the activity "will not have a negative impact on the survival of the species."[22]

DNR adopts and enforces rules necessary to ensure compliance with efforts to protect endangered and threatened species.[23] "Over the last three and one-half years, . . . the Florida Marine Patrol has spent 120,201 manhours of effort on designated species law enforcement."[24]

To aid in the enforcement of protective provisions, the Endangered and Threatened Species Reward Trust Fund[25] was created in 1979. As operated by the GFWFC, the fund "is for the primary purpose of posting rewards to persons responsible for providing information

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[16]**Fla. Stat.** § 372.072(2) (1987).

[17]16 U.S.C. §§ 1531-1543 (1982).

[18]Dept. of Natural Resources, **Agency Functional Plan 1987-1991**, 111 (1988).

[19]*See* **Fla. Admin. Code Ann.** §§ 39-27.003-005, respectively for a list of designated endangered species, designated threatened species, and designated species of special concern. For the list of federally designated endangered and threatened species *see* 50 C.F.R. Part 17.

[20]**Fla. Admin. Code Ann.** § 39-27.002(1) (1988).

[21]*See* **Fla. Admin. Code Ann.** § 39-27.002(1) (1987). Examples are captive breeding and foster-parenting. DNR may only issue permits for the designated marine species. *See also* **Fla. Admin. Code Ann.** ch. 16R-1 - 16R-4 (1988).

[22]**Fla. Admin. Code Ann.** § 39-27.002(2) (1988).

[23]**Fla. Stat.** §§ 370.021(1) and (5) (1987).

[24]DNR Agency Functional Plan at 112.

[25]**Fla. Stat.** § 372.073 (1987).

leading to the arrest and conviction of persons illegally killing or wounding or wrongfully possessing any of the endangered and threatened species listed on the official Florida list . . . ."[26]

The DNR Agency Functional Plan calls for the agency to increase the level of protection of endangered and threatened species as the habitats of most species continue to decline in quality and/or quantity. These goals include: plans to increase research activities and interpretive efforts, increase the time spent by law enforcement personnel patrolling park lands inhabited by endangered species, and increase resource management activities to protect and enhance designated species.[27]

Under the Warren S. Henderson Wetlands Act of 1984,[28] the Department of Environmental Regulation (DER) permitting criteria include consideration of the effect of dredge and fill activities on endangered and threatened species and their habitats.[29] Because DER jurisdiction extends to dredge and fill activities in virtually all state waters,[30] the legislature intended that a high degree of protection be afforded these species. When assessing a permit, if DER believes that the project is within the habitat of an endangered or threatened species, the expert agency[31] will be consulted. Denial or modification of the project may occur if recommended by the expert agency. However, it should be noted that consideration of endangered and threatened species is only one aspect of a broad public interest balancing test. Effects on these species are not necessarily grounds for denying a permit, particularly if other public interest aspects are strong or the applicant offers convincing mitigative action.

DNR is currently establishing a procedure for review of sovereignty submerged land lease applications by other affected agencies and other regulatory and management divisions to ensure adequate protection of endangered species.[32]

*Manatees*

The West Indian manatee (*Trichechus manatus latirostris*) is listed as an endangered species and is specifically protected under the Florida Manatee Sanctuary Act.[33] Under this act, Florida is declared a refuge and sanctuary for the manatee. Areas of manatee concentration where protection is mandated include warm water discharge points for power plants[34] and designated manatee sanctuary areas. As of 1988, twenty-three manatee sanctuaries exist, with two additional designations planned for 1989.[35] The GFWFC plays an integrated part with DNR in manatee protection[36] because manatees are concentrated in Florida's coastal fresh and marine waters.

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[26]**Fla. Stat.** § 372.073(1) (1987).

[27]DNR Agency Functional Plan at 111, 123.

[28]**Fla. Stat.** §§ 403.91-403.929 (1987).

[29]*See* **Fla. Stat.** § 403.918(2)(a)(2): "Whether the project will adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats."

[30]**Fla. Stat.** § 403.913 (1987).

[31] The expert agencies are the GFWFC and DNR. DNR is often asked to make analyses of the effects of the proposed project on manatees.

[32]DNR Agency Functional Plan at 124-125. This will be carried out by the Division of State Lands under the authority of **Fla. Stat.** § 253.03.

[33]**Fla. Stat.** § 370.12(2) (1987).

[34]**Fla. Stat.** § 370.12(2)(i) (1987).

[35]DNR Agency Functional Plan at 119.

[36]**Fla. Stat.** § 370.12(2)(l) (1987).

In 1988, a record number of manatees deaths (133) occurred. To reduce manatee mortality, it is necessary to understand the cause of death. DNR and the U.S. Fish and Wildlife Service have ongoing programs to salvage manatee carcasses, document sources of manatee mortality, and transfer detailed information to a computerized data base for analysis. The data revealed boat collisions, water control structures, fishing gear entanglement, cold-related death, and vandalism as the primary causes of manatee mortality.

DNR is authorized by the Act to promulgate and enforce rules "regulating the operation and speed of motor boat traffic only where manatee sightings are frequent . . ." regardless of the time of year.[37] As boating-related deaths and injury are a significant contributor to the manatee's declining population, this legislation is an important tool for their protection. However, DNR's power to promulgate boating regulations is limited: Restrictions cannot "unduly interfer[e] with the rights of fishermen, boaters, and water skiers using the areas for recreational and commercial purposes."[38]

Because manatees cannot read signs, designating some areas for boating with special care will not completely protect them. DNR has also attempted to protect the manatee through public education and information programs. The greatest success has been the assimilation of manatee educational materials into primary and secondary school curriculums. DNR asserts that it is "difficult for any child to attend a Florida school without at least obtaining a minimal awareness of manatees."

Educating adults concerning manatees is a more difficult task. DNR's Office of Communications is currently reviewing all existing manatee materials and creating new materials aimed at boaters. DNR hopes to give boaters a better understanding of manatee habitat and behavior, and ways to avoid collisions with manatees.

*Sea Turtles*

Five species of marine turtles are protected under Florida's saltwater fisheries statutes.[39] The Kemp's ridley turtle is the most imperiled species, with only about 600 nesting females remaining in the Atlantic Ocean and Gulf of Mexico. Since October 1988, turtle strandings and mortality in northeast Florida have occurred in extremely high numbers. While only thirty-two strandings of Kemp's ridley turtles were reported for northeast Florida and Georgia for the 1980-1986 period, 149 strandings, including fifty-five Kemp's ridley turtles, were reported in Florida north of Cape Canaveral during the period from October 1988 to January 1989.[40]

Section 370.12(1), Florida Statutes, prohibits the taking, disturbing, or killing of any marine turtle, but a broad exception applies to situations where the act is "by accident in the course of normal fishing activities." Accidentally captured turtles must be returned "alive" to the water, but turtles caught in shrimping nets during long duration trawls often do not survive.

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[37]**Fla. Stat.** §§ 370.12(2)(f)-(h) (1987). The Act also sets areas where "it can be generally assumed that they [manatees] inhabit . . . areas on a regular or continuous basis."

[38]**Fla. Stat.** § 370.12(2)(j) (1987).

[39]**Fla. Stat.** § 370.021(2)(c)(5) (1987) lists Atlantic loggerhead turtles, Atlantic green turtles, leatherback turtles Atlantic hawksbill turtles, and Atlantic (Kemp's) ridley turtles as protected species.

[40]Department of Natural Resources, Marine Fisheries Commission, Emergency Required Tow Times and Use of Turtle Excluder Devices in Trawls, Northeast Florida (January 24, 1989) [hereinafter Emergency Rule].

The federal Endangered Species Act[41] requires the use of Turtle Excluding Devices (TEDs) on nets or tow time restrictions.[42] These federal restrictions, which will enter into effect in May 1989, apply to both state and federal waters. The restrictions only apply, however, to trawling in the period from May 1 to August 31 to protect turtles during the pink and brown shrimp fishing season. Turtles present in Florida waters during the fall and winter white shrimp fishing season will not be protected by the federal TED or tow time duration requirements.[43]

In January 1989, Florida's Marine Fishery Commission adopted a 90-day emergency rule (effective January 24, 1989) that, in state waters north of the Brevard-Volusia county line, trawls be limited to a maximum time of seventy-five minutes until February 15, 1989. After February 15, the use of approved TEDs will be required for the remainder of the emergency rule period. The Marine Fishery Commission will consider permanent rules to address the issue of protection of sea turtles during the white shrimp fishing season.

Penalties for taking, harvesting, or possession of marine turtles or eggs can be relatively minor if only one or two turtles are involved. The legislation provides, however, that violation of the turtle protection provisions adds $100 per each wildlife unit, *or part thereof*, to the penalty applicable to any violation of a saltwater fisheries rule.[44] Since a turtle nest typically contains 100-150 eggs, this fine could be quite sizeable when imposed upon an egg poacher.

DNR also attempts to protect nesting sea turtles through its regulatory and management programs. Applications for coastal construction must adequately consider turtle nesting season and provide a method for ensuring the protection of nests. Beach restoration and renourishment projects must consider enhancement of turtle nesting.

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[41]16 U.S.C. §§ 1531 *et seq.* (1982).

[42]National Marine Fisheries Service regulations generally require that shrimpers with vessels of 25 feet or longer operating in offshore waters use a qualified TED. If the vessel is less than 25 feet or trawling in inshore waters, the shrimper may limit the tow to 90 minutes rather than use a TED. *See* 50 C.F.R. § 227.72 (1987).

[43]Emergency Rule, *supra* note 40.

[44]The penalty for a first conviction is imprisonment for not more than sixty days or a fine of not less than $100 or more than $500. **Fla. Stat.** § 370.021(2) (1987).

## Other Protection and Restoration Programs

### Coral Reefs

The Florida Reef Tract, the most extensive living coral reef system in the continental United States, extends along the Florida Keys from the Miami area to the Dry Tortugas. The most luxuriant concentrations are in the northern tract (Miami-Key Largo) and the southern tract (Big Pine Key-Dry Tortugas). Corals in the middle tract area are relatively scarce, and although they do not provide the visual spectacle of the other tracts, they are equally important to the ecosystem.

The coral reefs are an essential part of the marine ecosystem of the Keys, providing habitat and supporting a diverse population that includes over 500 species of fish. The reefs also protect the Keys from storms, produce sand for beaches, and contribute to the economy of the Keys by attracting divers, snorkelers, and fishermen. Because coral reefs are a tropical phenomenon and the Florida Reef Tract is the most northern range, the reefs are fragile and already stressed by natural events. They are extremely vulnerable to additional external stresses on the system from man's activities.[45]

Damage to coral reefs is done in numerous ways and recovery by the reef is very slow. One of the primary sources of reef damage is anchor damage caused by small boats. In an attempt to mitigate accidental anchor damage, an anchor-buoy system has been devised. The anchor-bouy system consists of marking coral reefs with a bouy and thereby alerting boaters to the location of the reefs and providing alternative mooring. This system has been successfully used on many reefs off of Key Largo and Looe Key. In addition to anchor damage, Florida reefs have traditionally been damaged by ships running aground. Examples of this type of damage include everything from freighters like the "Wellwood" (which ran aground in August of 1984 causing severe damage to extensive areas of reef), to small boats which scrape and imbed the reefs with paint and fiberglass.[46]

Vessel damage is not the sole cause of physical damage to the reefs. Deployment and recovery of lobster and fish traps also contribute to the crushing and scarring of the reefs. Traps that are placed on reefs, or pulled across reefs until they clear the bottom, often abrade or dislodge corals and other reef organisms.[47] In addition, snorkling and scuba diving take their toll on the reefs. Although, the harvesting of coral is controlled by both the state and the federal governments,[48] the pressures placed on the reef community by divers is still extensive. In response to these pressures, possible options include: creating additional artificial reefs, closing some reefs to allow recovery by the reef, limiting public use of overburdened reefs, and directing divers to reefs which experience less use.[49]

There is an additional threat to Florida's reefs, which is not as apparent as ships running aground. However, this threat is as destructive, if not more so. The increases in coastal population have begun to wear away terrestrial protections which are vital to the growth of the reef communities. Vegetation, such as mangroves and seagrasses provide a sequential filtration system which traps and slows potentially harmful land run-off from reaching the

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[45]U.S. Department of Commerce, **Final Environmental Impact Statement of the Proposed Coastal Zone Management Plan for the State of Florida** II - 172-177 (August 1981).

[46] Jaap and Hallock, *Reef Ecosystems*, in **Florida Ecosystems** (R. Myer & J. Ewel eds.) (in press)[hereinafter **Jaap & Hallock**].

[47]*Id.*

[48]State and federal statutes protect stony coral and sea fan Gorgonia from harvest or sale. In addition, DNR requires permits for coral collecting within state waters, and the National Marine Fisheries service requires permits for federal waters. *Id.*

[49]*Id.*

reefs. Moreover, the same urbanization which is destroying the filtration system, is creating a greater need for the filtration system by dredging and dumping waste into the oceans. As the concentration of silt, organic debris and nutrients increases, the depth at which sea grasses and corals can live decreases. This combination of turbidity and eutrophy stimulates microorganisms and decreases oxygen in the marine environment, thereby reducing larval corals from recruiting.[50]

Florida Statutes address protection of corals from several perspectives. The legislative Principles for Guiding Development within the Florida Keys area of critical state concern require that the local comprehensive plan and any plan amendments must protect coral reef formations.[51] The permitting criteria for dredge and fill projects do not specifically mention corals, but the public interest test does require consideration of the effects of a project on fish and wildlife and their habitats, and the effects on recreational values and marine productivity in the vicinity of the project.[52] The taking, possession, destruction, and sale of sea fans, stony coral, and fire coral is prohibited, except in limited circumstances when permitted for educational or scientific purposes.[53]

Finally, the Area of Critical State Concern Trust Fund was created by the legislature to provide moneys for restoration and rehabilitation of injured or destroyed coral reefs and other natural resources.[54] The fund may also be used to provide funds for DNR costs in obtaining damages for injury and destruction of corals.[55] A recent amendment to the federal Marine Protection, Research, and Sanctuaries Act also imposes liability for damages to natural resources in marine sanctuaries and national parks. The provisions would cover damage from any source, including pollution, vessel groundings and intentional destruction. The Secretary of Commerce is directed to initiate civil actions to recover response costs and damages. Recovered funds will be in a special account to be used for resource restoration.[56]

Five portions of the Florida reef tract are under authorities that provide an additional degree of protection and management, but this management authority is spread between two levels of government and among three agencies.

1) John Pennekamp Coral Reef State Park is located in state waters off Key Largo and is managed by DNR's Division of Recreation and Parks.

2) Key Largo Coral Reef Marine Sanctuary is adjacent to and seaward of Pennekamp. The sanctuary is the responsibility of the U.S. Department of Commerce, Office of Coastal Resources Management, but day-to-day management responsibility has been delegated to DNR.

3) Looe Key National Marine Sanctuary is under the jurisdiction of the federal Office of Coastal Resources Management, with day-to-day management assigned to DNR.

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[50] *Id.*

[51] **Fla. Stat.** § 380.0552(7)(b) (1987).

[52] *See* **Fla. Stat.** § 403.918(2)(a)2 & 4 (1987).

[53] *See* **Fla. Stat.** § 370.114 (1987). All taking or damaging of coral is prohibited within John Pennekamp Coral Reef State Park. **Fla. Stat.** § 258.083 (1987).

[54] **Fla. Stat.** §§ 380.0558 (5)-(6) (1987).

[55] For a description of how damages to a coral reef might be estimated, *see* Mattson and DeFoor, *Natural Resource Damages: Restitution as a Mechanism to Slow Destruction of Florida's Natural Resources*, 1 **J. Land Use & Envtl. L.** 295 (1985).

[56] Public Law 100-627 (1988).

4) Biscayne National Park includes waters of south Biscayne Bay the northern Florida Keys, and offshore waters that extend to outer bank reefs. The U.S. Department of Interior National Parks Service has management responsibility.

5) Fort Jefferson National Monument is located at the Dry Tortugas, 68 miles west of Key West, and is the responsibility of the Department of Interior's National Park Service.

**Issues and Recommendations**

**I. Florida's reefs need additional protection and more coordinated management and research.** The issues at stake are both short-term and long-term. They affect the economic wellbeing of the state in the short-term, *i.e.*, the vitality of the state's commercial and recreational marine activities depends upon the quality of our reefs. In addition, the safety of the state's coastal development in the long-term is also dependent on the quality of the reefs. The sea level is rising at a rate of several centimeters per year; healthy reefs can sustain an equal growth rate to that of the rising sea. However, when coral is dying and the foundations of the reef are being broken-down by pollution, the reef's natural function as a breakwater is diminished and the rise in sea level becomes critical to coastal development.[57]

**Recommendations.** Actions which will help execute current laws include the following:

1. Federal and state governments have parallel efforts, however, they are not coordinated and are too fragmented. More interagency cooperation is needed to improve management and research efforts.

2. During the 1970s there was a high level mapping project, but it was not detailed enough for use by researchers and managers. Technology has developed enough now that a similar project could provide information that could be of great use in management and protection of corals.

3. An area of major concern are the reefs off Key West from Pelican Shoals to Western Dry Rocks. This is an area of high activity and numerous vessel groundings located within state waters. Additional protective measures need to be adopted for these areas.

4. A strategy and mechanism is needed to identify stressed coral reef systems and to apply protective and restorative measures to these systems. One approach might be the establishment of an advisory body to DNR that would be responsible for recommending research needs, restoration activities, and management strategies.

5. All state waters in the Gulf of Mexico and South Atlantic south of 26° north should be considered for designation as Outstanding Florida Waters to prevent degradation of water quality and preserve corals.

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[57]**Jaap and Hallock.**

**Fla. Stat.** § 370.114 (1987)[regulations and penalties for taking coral and sea fans].
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**Seagrass Systems**

Seagrasses are the only land plants that have totally returned to the sea.[58] They are flowering plants that live completely submerged in the state's coastal waters. Seagrasses grow in shallow estuaries and nearshore coastal waters. Since they require light to produce oxygen, the depth where they are found is limited by water clarity.

Seagrasses serve an important function in coastal marine ecosystems. They are important sources of organic matter for food webs. Their leaves support plant organisms which serve as food for marine animals, including manatees. Seagrass beds serve as nursery and protective grounds for fish, shellfish and turtles. As seagrass dies and decays, it serves as a source of nutrients for fish and shellfish which feed on decayed leaves. Seagrass roots hold soil and prevent erosion, and also retard currents which improves water clarity. They also absorb nutrients from the soil which pass to marine animals which eat their leaves. Seagrass systems also support sport and commercial fisheries.

There are about 525 species of seagrass found worldwide.[59] Of the seven species of seagrasses found in Florida, the four most common are turtle-grass, widgeon-grass, shoal-grass and manatee-grass. Other more sparsely distributed seagrasses are star-grass, paddle-grass, and Johnson's sea-grass.

Florida's coastal waters and estuaries are one of the largest seagrass resources on earth.[60] Florida's seagrass beds are only a part of "an extensive system of submerged aquatic vegetation that extends around the Gulf of Mexico, through the Caribbean Sea, and into northern coastal areas of South America.[61] Seagrass beds are located throughout the state's coastal areas. The largest seagrass beds are found in "Florida Bay and behind the Florida Reef Tract, which spread from just south of Key Biscayne to west of Key West."[62] Abundant meadows are located in the Big Bend area of the northwest coast of Florida.[63] They are also found in protected bays and lagoons, behind reefs and barrier islands as well as in the protected waters from the "Indian River, on the central east coast, to Santa Rosa Sound on the northwest coast."[64] Seagrass beds are abundant in the estuaries and coastal lagoons of Charlotte Harbor and were once abundant in Tampa Bay.

In 1987 Florida had an estimated 502,000 acres of seagrasses.[65] "Seagrass meadows are among the richest and ecologically most important coastal habitats."[66] Nevertheless, they are being altered and destroyed by the development of coastal areas. Threats to seagrasses include

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[58]Florida Department of Natural Resources, Bureau of Marine Research, Turtlegrass (Thalassia testudinum Banks ex Konig) - A Seagrass (Durako 1988).
[59]Florida Department of Natural Resources, Bureau of Marine Research, *The Underwater World of Florida's Seagrasses* (Oct. 1987).
[60]Florida Marine Research Publications, Proceedings of the Symposium on Subtropical-Tropical Seagrasses of the Southeastern United States, Florida Department of Natural Resources, Bureau of Marine Research 54 (No. 42 June 1987) [hereinafter Symposium].
[61]*Id.* at 141.
[62]*Id.*
[63]*Id.*
[64]*Id.*
[65]*The Underwater World of Florida's Seagrasses*, *supra* note 59.
[66]Symposium, *supra* note 60, at 53.

agricultural activities, upland runoff, thermal pollution, dredging, offshore oil drilling, sewage discharges, industrial discharges, and commercial fishing.

Florida's massive population increase over the last 30-40 years has adversely affected the productivity and distribution of seagrass systems. The trend in Florida's population increase along coastal areas will continue to have a significant detrimental impact on the state's remaining seagrass beds.

Seagrass beds have been reduced or destroyed in Ten Thousand Islands and Apalachicola Bay because excess runoff and turbidity have created unfavorable conditions.[67] Likewise, Pensacola Bay and Tampa Bay seagrass systems have been almost eliminated. Seagrass losses over the past years have also occurred in Choctawhatchee Bay, Apalachee Bay, Charlotte Harbor, Biscayne Bay, and Indian River.[68]

Since 1960 there has been an increase in research and interest in seagrass systems in such areas as seagrass distribution and production, human impacts, and habitat restoration and creation.[69] Research on seagrass is conducted at the Mote Marine Laboratory, Sarasota, Florida, Florida State University, Tallahassee, Florida, and the Marine Research Institute of the Florida Department of Natural Resources, St. Petersburg, Florida.[70]

A 1985 assessment of the habitat of Charlotte Harbor, one of the state's largest and least impacted estuaries, revealed a 29% decrease in its seagrass beds. In 1945 Charlotte Harbor contained 82,959 acres of seagrass and by 1982 this number had been reduced to only 58,495 acres.[71] The decline is believed to have resulted largely from "dredging the intercoastal waterway, building and placement of the Sanibel causeway; and channeling the Caloosahatchee River."[72]

> In the late 1960's the Charlotte Harbor area was the focus for effective state regional and local planning. A part of this plan was the acquisition, through purchases, mitigation and donation, of a buffer zone of wetlands around the harbor. . . . From a management perspective, the development of a wetland buffer zone in Charlotte Harbor has been a success, but the loss of seagrasses suggests a failure in managing the entire harbor as a system.[73]

**Issues and Recommendations**

**I. Seagrass beds are being threatened, yet protection of the systems is not adequate.** Even though much is known about local impacts of developmental, industrial, and agricultural activities on destruction of seagrass beds, information is needed on the system-wide cumulative effects of such activities. Specific causes of long-term decline in certain seagrass systems have been identified. However, in order to manage seagrass resources effectively, the effects of numerous activities must be determined.[74] For example, it is estimated that 56,000 acres of seagrasses have died of an unknown disease in Everglades National Park. The cause of the continuing death of these beds is unknown. "A pathogenic slime mold has been identified on the affected grass but it is not known whether this is a primary or secondary

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[67] *Id.* at 54.
[68] *Id.* at 139.
[69] *Id.* at 1.
[70] *Id.*
[71] Haddad and Hoffman, Florida Department of Natural Resources, Bureau of Marine Research, *Charlotte Harbor Habitat Assessment* (Oct. 1985).
[72] *Id.* at 175.
[73] *Id.* at 185.
[74] *Id.* at 190.

cause of the die-back or is a natural phenomenon, or if it has been induced through man-made environmental stress."[75]

Direct protection of seagrass areas by designation of marine sanctuaries and aquatic preserves is an important step, however, restoration and creation of seagrass meadows is also needed to mitigate habitat damage and increase marine productivity. However, large scale restoration projects are not always ecologically or economically effective.[76] Natural seed production of seagrasses is not completely understood, and laboratory production of seagrasses is difficult and expensive.[77]

As indicated by the Charlotte Harbor Study, management strategy must not be limited to local and direct impacts. The cumulative impacts on marine habitats must also be addressed. Most of the seagrass loss in Charlotte Harbor resulted from indirect cumulative impacts which could not be specifically identified.[78]

Better land planning and resource management efforts are needed to protect seagrass habitats. The need for such protection has been recognized in the Florida Keys. One of the principles for guiding development in the Florida Keys is "to protect shorelines and marine resources, including . . . seagrasses . . . and their habitat."[79] All units of government, whether state, regional, or local, must coordinate their plans and regulatory activities to protect seagrasses in the Florida Keys.[80]

A Seagrass Task Force has recently been appointed by the Secretary of DER. The Task Force is preparing a report (expected to be completed in June of 1989) that will address such issues as the ecology and stresses of seagrass systems, biological potential for slowing, stopping, and reversing the trend of seagrass loss, management issues, programs and problems, and educational management and research recommendations.[81]

**Outstanding Florida Waters**

Florida Statutes § 403.061(27)(a) authorized DER to create a special category of waters, Outstanding Florida Waters (OFWs), to receive special protection. DER rules provide that OFWs will be afforded the "highest protection" in the permitting process. The OFW designation is essentially a nondegradation policy for waters determined to be "worthy of special protection." In general, the rules require that direct pollutant discharges to OFWs must not lower existing water quality; indirect pollutant discharges must not significantly degrade OFWs.[82] In addition, dredge and fill activities must be "clearly in the public interest."[83]

It is the policy of DER to incorporate a number of important marine and coastal areas in the OFW designation, including waters within:

1) national parks, wildlife refuges, seashores, marine sanctuaries, estuarine research reserves, and

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[75]Report to Florida Division of Marine Resources by the Commission on the Future of Florida's Environment, *What's Happening to Florida's Marine Environment?* 4 (Feb. 14, 1989).
[76]*Id.* at 13.
[77]*Id.* at 13.
[78]*Supra* note 71, at 190, 191.
[79]**Fla. Stat.** § 380.0552(7) (1987).
[80]*Id.*
[81]Seagrass Task Force by Appointment of the Secretary, *Draft Seagrass Task Force White Paper, A Report to the Secretary of the Department of Environmental Regulation, State of Florida* (Feb. 5, 1989).
[82]**Fla. Admin. Code Ann.** § 17-4.242 (1987).
[83]**Fla. Stat.** § 403.918(2) (1987).

2) state parks, wilderness areas, aquatic preserves, and areas purchased under the Save Our Coast Program.[84]

Other water bodies can be designated "Special Waters" and receive OFW protection if the Environmental Regulatory Commission finds the waters are of exceptional recreational or ecological significance and that the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.[85]

Currently, DER rules for OFWs are being revised to include a category for waters of national significance as required by the Clean Water Act.[86] No variances from a strict nondegradation policy will be allowed for these waters, but at this time no water bodies are proposed for this category.

**Surface Waters Improvement and Management (SWIM) Program**

On June 29, 1987, the Surface Water Improvement and Management Act (SWIM) was signed into law.[87] Two of the primary concerns of the legislature which prompted the enactment of SWIM were surface water degradation and habitat destruction for native plants, fish, and wildlife. To accomplish the goals of SWIM, the legislature designated the state's five regional water management districts (WMDs) and the Florida DER as the lead agencies responsible for the act's administration.

The SWIM's key provision is the mandate to the WMDs to prepare a priority list of water bodies of regional or statewide significance. The act required this list to be prepared in cooperation with DER, GFWFC, and DNR. Additionally, the legislature specifically targeted six water bodies for study and clean-up - Lake Okeechobee, Lake Apopka, Indian River, St. Johns River, Biscayne Bay, and Tampa Bay. Once the priority list is adopted, each WMD will develop and implement a surface water improvement and management plan for each of its listed water bodies. Each plan shall include a schedule for restoring the water bodies on the list, as well as enumerate preventive measures which need to be taken to augment surface water improvement and management efforts. Each plan shall be reviewed and, if necessary, revised annually by each WMD. DER is currently reviewing these plans.

A Surface Water Improvement and Management Trust Fund, administered by DER, was created. WMDs may use funds to implement their SWIM Plans. SWIM specifically provides that no SWIM Fund money may be used for the planning, construction, expansion, or operation of treatment facilities for domestic or industrial waste disposal.

The legislature appropriated $15 million to fund the implementation of SWIM. Two million dollars was appropriated for Biscayne Bay, of which up to $500,000 was targeted for the Miami River, and $1.5 million was designated for stormwater retrofitting. The legislature designated $2.0 million for Tampa Bay and its estuaries, with up to $850,000 allocated for a water quality assessment and scientific information compilation. The sum of $1.5 million was allocated to the Indian River Lagoon System, of which up to $178,000 was recommended for the Marine Resource Council. Another $15 million was appropriated by the 1988 Legislature. However, these funds will not be touched until the original $15 million have been depleted.

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[84]**Fla. Admin. Code Ann.** § 17-4.242 (1987).
[85]*Id.*
[86]The Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. § 1251 (1982).
[87]**Fla. Stat.** §§ 373.451-373.4595 (1987).

**Federal Initiatives**

*National Estuary Program*

For several years the EPA has been implementing demonstration programs in an attempt to determine how to best control pollution in estuaries with limited funds. The earliest efforts were the Great Lakes Program and the Chesapeake Bay Program. In 1985, Congress directed EPA to conduct programs in Buzzards Bay (Massachusetts), Long Island Sound (New York and Connecticut), Narragansett Bay (Rhode Island), and Puget Sound (Washington). EPA added Albemarle/Pamlico Sound (North Carolina) and San Francisco Bay in 1986 to extend the program to new coastal areas and diversify the kind of problems being addressed.

The 1987 amendments to the Clean Water Act (the Water Quality Act of 1987) added a new National Estuary Program[88] (NEP) to institutionalize the estuary program and create the framework for a cooperative federal-state approach to control of pollution in significant estuaries.

Estuaries may become part of the program by nomination of the governor of a state as an estuary of national significance, or by initiative of the Administrator of EPA if he finds that protection of an estuary requires the control of point and nonpoint sources of pollution in more than one state. Sarasota Bay was specifically listed in the act as a priority for consideration.[89]

When an estuary is selected by EPA, a management conference will be convened to develop a comprehensive conservation and management plan for the estuary that recommends corrective actions and a compliance schedule. The management conference will include representatives of the state, regional agencies, federal agencies, local governments, affected industries, public and private educational institutions, and the public.

The National Oceanic and Atmospheric Administration (NOAA), which administers the Coastal Zone Management Act, and EPA have reached an agreement which will coordinate the National Estuary Program with the states' Coastal Zone Management (CZM) programs. The intent of this agreement is to "avoid duplication of effort, unnecessary expenditures of federal funds and the development of conflicting regulatory mechanisms." The agencies have agreed that estuary plans should be incorporated into the states' coastal zone management programs.[90]

In July 1988, Sarasota Bay was designated an estuary of national significance. The management conference agreement has been reached between DER and Region IV of the EPA, and the conference will be convened with the Southwest Florida Water Management District as chair.

The Governor has also nominated Tampa Bay for the program, and the Indian River is also being considered. Because these estuaries, unlike Sarasota Bay, received no presumption of "national significance" by being listed in the legislation, further designations will probably not proceed until EPA has promulgated regulations defining the qualities necessary for nomination to the program. EPA has also indicated that there is no funding for additional designations during the 1989 fiscal year.

*The EPA Gulf Initiative*

The EPA has also begun a program to focus on environmental issues in the Gulf of Mexico. EPA has identified problems including nutrient over-enrichment, toxics and pesticide contamination, habitat degradation, freshwater diversion, and public health

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[88]Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C.A. § 1330 (West Supp. 1988).

[89]*Id.*

[90]**Coastal Zone Management Newsletter,** Vol.19, No.26 (Sept. 20, 1988).

concerns, that are common to the entire Gulf of Mexico region. Many of these problems can best be approached on a Gulf-wide basis. Through the Gulf Initiative, the EPA intends to provide a regional forum for user groups and the public, and provide a regional perspective in prioritizing research needs. Rather than creating a new management regime, the Gulf Initiative will provide an institutional structure to address complex interjurisdictional issues and improving coordination among federal, state, and local programs affecting the Gulf.[91]

*EPA's Near Coastal Waters Initiative*

A third long-term strategic planning initiative begun by the EPA in 1985 is the Near Coastal Waters Initiative. In workshops held in 1986, participants identified five major national environmental problems affecting near coastal waters. These included: toxics contamination, eutrophication, pathogens, habitat loss or alteration, and changes in living resources. The workshops were also used to generate concepts for maintaining and enhancing nearshore water quality.

Pilot projects have recently begun in three representative areas of the country to demonstrate means of dealing with the identified problems. The Delaware, Oregon, and Perdido Bay (which borders both Florida and Alabama) projects are still in early stages. In the Perdido Bay project, which has received initial funding of $250,000, the U.S. Fish and Wildlife Service is working with the EPA to identify pollution sources and propose management techniques. Coastal Zone Management grants have provided funding for initial water quality surveys. A citizen's group, Friends of Perdido Bay, is participating in the project by developing a citizen's initiative and public education program intended to involve the public directly in restoring and protecting Perdido Bay.

*EPA National Coastal and Marine Policy*

In January 1989, EPA released a draft of its National Coastal and Marine Policy. The draft policy recognizes the importance of coastal and marine resources to the nation's growth, economy, and security and states that EPA will protect human health and sustain living resources. Policy goals include:

- recovering recreational use of beaches and waters by reducing sources of contamination and debris.

- restoring fisheries and protecting marine mammals and other living resources by controlling pollution and habitat loss.

- minimizing waste disposal at sea.

- expanding research and monitoring programs to better understand the effects of pollution on complex ecosystems.

- promoting international efforts to reduce pollution and protect marine resources and habitat.

EPA has identified specific objectives to carry out the goals of the coastal and marine policy. Accomplishing the objectives will require the cooperation and efforts of all levels of government. Implementation of other EPA initiatives, such as the NEP and the Near Coastal Waters Initiative, are an integral part of reaching the policy goals.

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[91]Environmental Protection Agency, **The Gulf Initiative**, (informational pamphlet) (undated).

Issues and Recommendations

**I. Florida should take full advantage of the opportunities offered by NEP, the Gulf Initiative, and the Near Coastal Water Initiatives.** In addition to participating fully in plan development and implementation in designated estuaries, near shore areas, and the Gulf, the state should use existing programs to complement these federal initiatives.

**Recommendation.** Sarasota Bay should be designated a "water of national significance" under the state's Outstanding Florida Waters rule. In addition, the management plan that is developed for Sarasota Bay should be incorporated into the state's coastal management program.

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## MARINE FISHERIES MANAGEMENT

### Florida's Fisheries Resources and its Users[1]

Development of the commercial fishing industry in Florida coincided with settlement of the region. The seafood producing industry has had an important role in the economic development of the state, but has remained in most aspects "small business" oriented in that the independent fisherman is the primary economic unit. Approximately 12,000 commercial fishermen operate in Florida using 6,200 boats.[2]

Florida's commercial fish landings, which are in excess of 200 million tons per year, are well behind many coastal states, but Florida ranks high in dockside value of fish. Florida's harvest includes numerous high value species and is not dependent on a single high volume, low value species as in many states. Only Texas, which produces shrimp almost exclusively, has a higher value per pound. Estimates of the impact of commercial fishing on Florida's economy are quite dated. One author, using 1981 landing figures and methodology from a 1976 study, estimated a total impact of $1.1 billion, not including impacts on the retail sector.[3]

Recreational anglers began to discover Florida in the late 1800s. By the early 1900s, Florida had become well known for "big game angling." Today, tourists come from more than thirty-nine states and nine countries to fish Florida waters and contribute to the almost 60 million angler days spent fishing. One in every 4.5 residents also participates in recreational fishing[4]. A fairly good estimate of freshwater activity can be determined from license sales. Because there is no license required for saltwater sportfishing, information on marine recreational fishing is generally inadequate and must be extrapolated from other data.[5] There have been numerous studies, however, of the impact of recreational fishing on the Florida economy. The contribution to the state's economy has been estimated at $1.871 billion in direct expenditures and $3.187 billion in indirect expenditures.[6]

Florida's most important commercial marine species are: shrimp, mullet, blue crab, scallops, menhaden, grouper, oysters, king and spanish mackerel, spiny lobster, swordfish, and red snapper. Recreational fishermen generally target trout, king mackerel, spanish mackerel, amberjack, red drum, dolphin, grouper, and snapper. In recent years, declines in king and spanish mackerel, grouper, red snapper, and red drum stocks, have required management constraints which have led to conflicts over allocation of catch between commercial and recreational fishermen.

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[1]Cato, *An Overview of the Economics of Fisheries and Habitat in Florida*, **Florida Aquatic Habitat and Fishery Resources** 21 (W. Seaman, Jr. ed. 1985), is the primary source for this section.

[2]*Id.* at 31. There are, however, about 25,000 boats registered commercially in Florida.

[3]*Id.* at 25.

[4]*Id.*

[5]The 1988 legislature did establish a licensing program for the harvest of tarpon. Fla. Laws ch. 88-170 (1988).

[6]Cato, *supra* note 1.

## Federal Fisheries Management

The Magnuson Fishery Conservation and Management Act of 1976[7] (MFCMA) created a federal fishery conservation zone (FCZ) extending from state territorial sea boundaries out to 200 miles from shore. In the FCZ, the United States claims authority to manage and regulate all fisheries, except highly migratory species (*e.g.*, tuna). The policies and purposes of the act are directed toward both conservation, development, and management of fisheries resources and development of domestic commercial and recreational fishing.[8]

The MFCMA established eight regional fishery management councils to formulate management plans which are enforced through regulations of the U.S. Department of Commerce (DOC). The councils include the regional director of the DOC's National Marine Fisheries Service (NMFS) and state fisheries management officers, as well as individuals from each state who are representative of different fisheries interests. These individuals are recommended by state governors and appointed by the Secretary of Commerce. Florida is represented on two regional councils - the South Atlantic Fishery Management Council and the Gulf of Mexico Fishery Management Council.[9] Florida has two voting appointees and the voting Director of the Marine Fisheries Commission on each council.

Management plans are developed for fisheries based on national standards set out in the MFCMA. In summary, the seven national standards require plans to establish nondiscriminatory conservation and management measures based on the best scientific knowledge to assure optimum yield. Fisheries should be managed throughout their range and measures should be taken to promote efficiency and avoid duplication.[10] Plans must be approved by the Secretary of Commerce, who must promulgate regulations to implement each fishery management plan. Federal fisheries regulations are enforced by the Coast Guard at sea and by NMFS in port.

To date, the following fishery management plans have been developed by the South Atlantic and Gulf management councils:

| | | |
|---|---|---|
| Migratory Pelagics (mackerels) | - | Joint |
| Coral and Coral Reefs | - | Joint |
| Reef Fish (snapper, grouper, sea basses) | - | Gulf |
| Snapper/Grouper | - | South Atlantic |
| Shrimp | - | Gulf |
| Stone Crab | - | Gulf |
| Spiny Lobster | - | Joint |
| Swordfish | - | Joint |
| Billfish | - | Joint |
| Summer Flounder (in preparation) | - | South Atlantic |

The MFCMA recognizes state authority to regulate fisheries within the territorial sea and, under certain circumstances, in the FCZ. Section 1856 of the MFCMA provides that nothing in the act "shall be construed as extending or diminishing the jurisdiction or authority of any state within its boundaries." The section goes on to provide that a state "may not directly or indirectly regulate any fishing vessel outside its boundaries, *unless the vessel is registered under the law of that state.*" (Emphasis added.) This section has been the source of a great deal of confusion concerning exactly what authority states may exercise beyond the

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[7] 16 U.S.C.A. §§ 1801 *et seq.* (West 1985 & Supp. 1988).
[8] *See* 16 U.S.C.A. §§ 1801-1813 (West 1985 & Supp. 1988).
[9] *See id.* § 1852.
[10] *Id.* §§ 1851(a)(1)-(7).

territorial sea and what means may be used to enforce fishery regulations.[11] The most generally accepted interpretation of the section recognizes continuing state management involvement in areas where there is a legitimate state interest. This interpretation is summarized in an article by Eldon Greenberg:

> [T]he Magnuson Act allows the exercise of state police power over FCZ fishing where:
>
> 1. The state regulation is not in conflict with any applicable federal fishery regulation, *i.e.*,
>    a. There are no federal fishery regulations for the subject fishery and there is no affirmative decision by the federal government that any regulation in such fishery would be inappropriate; or
>    b. Compliance with both federal and state regulation is possible; or
>    c. Enforcement of the state regulation would not interfere with the fulfillment of the objectives of the applicable federal regulations; and
>
> 2. The vessel from which the fishing took place is "registered" under state law; and
>
> 3. The state's legitimate interest in the fishery justifies the direct or indirect effect of its regulation of fishing in the FCZ; and
>
> 4. The regulation neither discriminates against vessels from other states nor constitutes an undue burden on interstate commerce nor violates any other federal right or authority.[12]

The federal government may also exert authority over territorial sea fisheries when a federal fishery management plan is in place for a predominantly FCZ fishery, and a state takes an action, or fails to take an action, which results in substantial and adverse effects on the implementation of the fishery management plan.[13] This authority has been used infrequently and only has involved salmon fisheries in the Pacific northwest.

In 1986, Congress took initial steps to link fisheries management and habitat protection. The 1986 amendments to the MFCMA require fishery management plans to contain habitat information and assessments of the effect of habitat change on the marine resource. Of perhaps even more significance, councils are given authority to "comment on, or make recommendations concerning, any activity undertaken, or proposed to be undertaken, by any state or federal agency that, in the view of a council, may affect the habitat of a fishery resource under its jurisdiction."[14] Both the Gulf and South Atlantic councils have established Habitat Advisory Committees. The South Atlantic committee is still in the organizational phase and had its first meeting in August 1988. The Gulf advisory committee has been actively involved in review of several Corps of Engineers projects.

### Florida Marine Fisheries Management

Although Florida has managed fisheries since 1861, management responsibilities have been shuffled among numerous agencies and authorities for over a century. In 1969, the Department of Natural Resources (DNR) was created and charged under chapter 370, Florida Statutes, with the responsibility "to preserve, manage, and protect the marine, crustacean,

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[11] *E.g.*, landing and possession laws indirectly regulate non-Florida fishing vessels outside of state boundaries.

[12] Greenberg, *Federalism in the Fishery Conservation Zone: A New Role for the States in an Era of Federal Regulatory Reform*, 55 **S. Cal. L. Rev.** 641, 683 (1982).

[13] 16 U.S.C.A. § 1856(b) (West 1985 & Supp. 1988).

[14] *Id.* § 1852(i).

shell and anadromous fishery resources of the state." DNR had general rulemaking authority, but fishery management was largely accomplished through detailed legislation. Through the years, the legislature had responded to specific issues with little or no consideration of a comprehensive fishery management policy. The result was a mass of confusing and sometimes conflicting statutes, including over 220 local laws.[15]

In 1980, the legislature created the Saltwater Fisheries Study and Advisory Council to develop a comprehensive saltwater fishery conservation and management policy for the state's territorial waters. The recommendations of the Council resulted in legislation in 1983 which established policies and standards for marine fisheries management[16] and created the Marine Fisheries Commission within DNR.[17]

The Marine Fisheries Commission (MFC) is composed of seven members appointed by the Governor to give consideration to various "affected interests." The MFC has full rulemaking authority over marine life, except endangered species, subject to approval by the Governor and Cabinet.[18] Although only authorized a staff of four under the legislation,[19] the MFC's initial directive under the legislation was to review all of Florida Statute chapter 370's fishery provisions and recommend management measures to the Governor and Cabinet, and review all local laws and determine whether each should be repealed, consolidated into statewide rules, or retained. However, the inconsistencies in management that led to the creation of the MFC still exist, because most the MFC's efforts have had to be directed toward emergency management and dealing with stressed stocks.

As of September 1988, 52 sets of rules recommended by the MFC had been approved by the Governor and Cabinet. The primary fisheries currently managed through MFC rules are:

| | |
|---|---|
| Spiny & Slipper Lobster | Stone Crab |
| Snapper, Grouper, & Sea Bass | Sturgeon |
| Queen Conch | Hard Clams |
| Bay Scallops | Cobia |
| Spearfishing | Snook |
| Red Drum | Oysters |
| King Mackerel, Spanish Mackerel | Shrimp |
| Billfish | Bonefish |

Chapter 370 requires that all rules adopted by the MFC and approved by the Governor and Cabinet be consistent with state statutory policy and standards, which provide:

1. The paramount concern of conservation and management measures shall be the continuing health and abundance of the marine fisheries resources of this state.

2. Conservation and management measures shall be based upon the best information available, including biological, sociological, economic, and other information deemed relevant by the Commission.

3. Conservation and management measures shall permit reasonable means and quantities of annual harvest, consistent with maximum practical sustainable stock abundance on a continuing basis.

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[15]Saltwater Fisheries Study and Advisory Council, **Final Report** 1-2 (reprinted 1982).
[16]**Fla. Stat.** § 370.025 (1987).
[17]**Fla. Stat.** § 370.026 (1987).
[18]**Fla. Stat.** § 370.027 (1987).
[19]Staff now includes six professional positions.

4. When possible and practicable, stocks of fish shall be managed as a biological unit.

5. Conservation and management measures shall assure proper quality control of marine resources that enter commerce.

6. State marine fisheries management plans shall be developed to implement management of important marine fisheries resources.

7. Conservation and management decisions shall be fair and equitable to all the people of this state, and carried out in such a manner that no individual, corporation, or entity acquires an excessive share of such privileges.

8. Federal fishery management plans and fishery management plans of other states or interstate commissions should be considered when developing state marine fishery management plans. Inconsistencies should be avoided unless it is determined that it is in the best interest of the fisheries or residents of this state to be inconsistent.[20]

The Florida standards differ from the federal management standards in one very important respect. The optimum yield approach of the federal government uses quotas based on the scientifically determined maximum sustainable yield, *modified by "any relevant economic, social, or ecological factor."*[21] Chapter 370, Florida Statutes, sets as a paramount management objective "the continuing health and abundance of the marine fisheries resources of this state," untempered by social or economic considerations.

Although the MFC has been designated rulemaking authority for marine fisheries management, DNR continues to be charged with administration, supervision, development, and conservation of fishery resources, and enforcement of fishery laws and rules. DNR implements fishery management plans and rules, and regulates all fishermen and fishing vessels. DNR also has authority to regulate public health aspects of harvesting, processing, and shipping oysters, clams, mussels, and crabs.[22]

The Bureau of Marine Research of DNR, recently reorganized into the Institute of Marine Research, is directed to "conduct scientific, economic, and other studies and research . . . directed toward the broad objective of managing such fisheries in the interest of all people of the state, to the end that they shall produce the maximum sustainable yield consistent with the preservation and protection of the breeding stock."[23] To meet these responsibilities, the Institute provides research data and management plan proposals to the MFC. Unfortunately, the legislature does not fund research at the level necessary to prepare adequately the numerous plans that are pending. Management plans for stressed or over-utilized fisheries often cannot wait for complete information, but plans based on incomplete and insufficient data are difficult to support and lead to stricter regulation and public dissatisfaction with the plans and the management process.

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[20]**Fla. Stat.** §§ 370.025(2)(a)-(h) (1987).
[21]16 U.S.C.A. § 1802(18)(B) (West 1985 & Supp. 1988).
[22]*See* **Fla. Stat.** § 370.02 (1987).
[23]**Fla. Stat.** § 370.02(2)(a) (1987).

## Artificial Reefs

### Background

"Anything you throw in the water will develop a fish population."

-Professor William Alevizon, Florida Institute of Technology
(Reporter Weekly, Tavernier, FL, June 23, 1988).

Materials deposited on sandy ocean bottom have been found to attract fish populations and to create an alternative to rocky or coral bottoms as a basis for development of fisheries habitat. This fact has been known for over a hundred years, but the drastic decline in many fisheries in the past few decades has recently led to a great deal of enthusiasm by recreational fishermen for establishment of artificial reefs and to serious consideration of artificial reefs as a fisheries management tool.

Florida, with over 200 permitted artificial reef sites, probably already has more artificial reefs than all other states combined. Everything from old freighters and oil rigs to a Rolls Royce has been sunk off the Florida coast to enhance fisheries. Dade County has one of the country's most active programs, creating a new reef about every ten days.[24]

Economic benefits of artificial reefs are difficult to ascertain. The benefits must be measured according to the particular user groups and local communities. There are no user fees imposed on artificial reefs. Thus, it is difficult to measure the actual use of the various facilities and to determine how much people will pay to use artificial reefs. The main benefactors of the reefs include charter boat fishermen, divers, and private boaters.

In 1988 a study was conducted in Dade County to determine the economic benefits to public boat users (*i.e.*, recreational fishermen and sport divers of artificial reef sites.[25] Although the economic benefits of the artificial reefs are not directly measurable, economic valuation on methods enabled the study to provide several dollar estimates. For example, individual users of the reef system appear to be willing to pay between $18.04 and $26.57 in annual fees for a new artificial reef site.[26] Annual benefit estimates for a new reef site ranged from $17,500,000 to $128,333,333.[27]

Although there is no doubt that artificial reefs enhance recreational and some commercial fishing opportunities, there have been criticisms of artificial reef development. The most critical issue has been the question of whether the reefs actually contribute to the total fish population, or merely draw fish from other areas. It has been argued that by creating concentrated "hot spots" where fish are more easily caught, artificial reefs may actually contribute to the further depletion of stocks. A recent study by biologists of the Florida Institute of Technology has found preliminarily, however, that artificial reefs do contribute to the total biomass of a reef system.[28]

Other criticisms concerning artificial reefs have concerned construction and siting. Reefs that are improperly constructed can disappear or break apart and cause damage to natural

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[24] *Artificial Reefs Boost Fish Population*, Reporter Weekly, Tavernier, Florida, June 23, 1988.

[25] J. Milon, The Economic Benefits of the Artificial Reefs: An Analysis of the Dade County, Florida Reef System, (Sea Grant Project Report No. 90, Dec. 1987).

[26] *Id.* at 59.

[27] *Id.* at 57.

[28] *Id.* The study reported that rather than simply redistributing fish, artificial reef construction doubled the population of fish within a reef system within two years by providing shelter for fish larvae and protection from predators.

habitat.[29] More emphasis is now being given to design and composition of artificial reefs. Research is currently underway to determine the most effective materials and design. Both proponents and critics have objected to the idea that reef creation be used as merely a convenient means of disposing of large solid waste.

Siting of reefs has been an extremely controversial issue. Poorly sited reefs, particularly ones placed too far offshore, have limited benefits for recreational fishermen. Occasionally, reefs have been placed in areas traditionally used for commercial fishing activities and have created user conflicts. Reefs can also create navigational and safety hazards. In the worst instance, materials may be deposited on live bottoms, destroying existing natural habitat. There is also some concern that not enough is known about the role of sandy, barren bottoms in the ecosystem to evaluate the impact of use of those areas for artificial reef construction.

**The Federal Artificial Reef Program**

In 1984, Congress passed the National Fishing Enhancement Act[30] to enhance fishery resources, increase fishery production, and benefit coastal economies by encouraging "properly designed, constructed, and located artificial reefs" based on the best scientific evidence.[31] The act required the Secretary of Commerce to develop a long term National Artificial Reef Plan. The plan includes general criteria and guidelines for siting, materials, design, and construction of artificial reefs, and mechanisms and methodologies for permit compliance monitoring and management of reefs. The act emphasizes that siting, construction, and management of reefs must address the interests of a wide variety of users, not just reef developers.[32]

The National Artificial Reef Plan is general in scope and is intended to provide a framework for development of more detailed, site-specific plans by state, regional, and local planners. Federal regulators view the states role in the artificial reef development process to be:

> to develop, or participate in developing, site-specific plans and to retain and strengthen regulatory and quality control to ensure that all reef construction (1) has biological justification to meet present and future fishery management needs; (2) minimizes negative effects on, and conflicts with, existing fisheries and uses; (3) minimizes negative impacts on other natural resources and their future use; (4) uses materials that have long-term compatibility with the aquatic environment; (5) is subsequently monitored to determine if it meets permit terms and conditions and the original enhancement justification.[33]

The development of artificial reefs is often dependent on the donation of materials for reef construction. Although costs to donors are largely offset by tax benefits for charitable donations, lower disposal costs and public relations benefits, unresolved questions concerning future legal liability had discouraged such donations. The National Fishing Enhancement Act provides that a person who transfers title to materials which meet the requirements of the National Artificial Reefs Plan and are not otherwise defective when conveyed is not liable for damages arising from the use of the materials in an artificial reef. The person or entity issued a federal permit for construction of the reef (usually the state or a local government)

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[29]Stone, *The Federal Role in Artificial Reef Development*, **The 6th Annual Gulf of Mexico Information Transaction Meeting** 105-06 (U.S. Department of The Interior October 1985) [hereinafter **Stone**].

[30]33 U.S.C.A. §§ 2101 *et. seq.* (West Supp. 1988).

[31]*Id.*

[32]*Id. See also*, **Stone** *supra* note 29, at 106.

[33]**Stone** *supra* note 29, at 106.

is liable for damages, except those caused by activities undertaken to meet permit conditions.[34]

The South Atlantic Regional Fisheries Management Council has attempted to optimize the use of artificial reefs by providing in its Snapper-Grouper Fishery Management Plan for Special Management Zones around artificial reefs. Persons holding a Corps permit for an artificial reef may request the Council to prohibit the use of specific gears that offer exceptional advantage and are not compatible with the purpose of the reef.[35]

**The Florida Artificial Reef Program**

The Florida Legislature established the Florida Artificial Reef Program in 1981 to provide grants to local governments for the establishment of artificial reefs.[36] Local governments can apply for up to $30,000 for a reef project. Rules to implement the program are entitled the Comprehensive Artificial Reef Program Control Code[37] and provide the criteria, priorities, and standards for project evaluation in allocating state funds. The title is misleading, because the rules are hardly comprehensive and control only the allocation of state funds for reef building.

All applications by local governments and other reef developers for the lease of submerged lands for construction of artificial reefs are reviewed by DNR, whether the state contributes funds or not. The DNR evaluates the public benefit from the use of submerged lands and encourages the use of inert materials which will not affect water quality or otherwise negatively influence the environment. Except for state-funded projects, however, DNR has no specific standards for evaluation of siting, construction, and management of artificial reefs.

Funding to coastal states for marine programs, including reef projects has been made available through Wallop-Breaux federal grants. In the fiscal year 87/88, DNR received approximately $300,000 in federal Wallop-Breaux funds to develop reefs in conjunction with local governments. The federal legislation requires the state to provide a $1 match for every $3 it requests in federal funds.

**Permitting**

At the federal level, permits for the construction of artificial reefs must be obtained from the Corps of Engineers. The National Fishing Enhancement Act requires that these permits designate the siting, construction, and types of materials to be used, based on the National Artificial Reef Plan and must also include provision for subsequent management and monitoring of the reef. The Corps must consult with affected or concerned state and local agencies in its permitting process.[38] Section 2106 of the act provides that states have ultimate control over regulation of siting and construction of artificial reefs within their boundaries.[39]

A permit from the Coast Guard is also necessary for marking the location of an artificial reef. The Eighth District, U.S. Coast Guard, which includes the Panhandle, has promulgated

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[34]33 U.S.C.A. § 2104 (West 1985).

[35]Waugh, *Application for Special Management Zones around Artificial Reefs*, **Florida Artificial Reef Summit** 26-28 (S. Andree ed. 1988).

[36]**Fla. Stat.** § 370.25 (1987).

[37]**Fla. Admin. Code Ann.**, Chapter 16R-9 (1987).

[38]33 U.S.C.A. § 2104 (West 1985).

[39]*See generally* Adams, *Federal Artificial Reef Permitting Requirements: U.S. Army Corps of Engineers*, **Florida Artificial Reef Summit** 16-17 (S. Andree ed. 1988).

specific requirements for markings reefs. The Seventh District, which comprises the rest of the state, determines marking requirements on a case by case basis.[40]

DER has authority for permitting the construction of artificial reefs in state waters under section 403.814(1), Florida Statutes, and section 17-12.807, Florida Administrative Code. A general permit will be granted to any person to construct an artificial reef using certain specified materials and which will not harm the environment.[41] Criteria used to analyze the effect of the proposed project include the determination of materials to be used, along with the method of anchoring the materials and assurances that navigation will not be impeded. The applicant must provide DER with a bathymetric survey "demonstrating that the bottom does not have grassbeds, or hardbottom or other corals. No reefs are to be "constructed in shallow bay or estuarine bottoms" and no "'whitegoods,' asphalt material, tires or other pollutant materials used in construction of the reef."[42] These general permits are also subject to the conditions in section 17-12.807, Florida Administrative Code.[43]

At times artificial reefs permitted by the Corps have been in conflict with the state's policies. The state is concerned that the effects of potentially harmful reef materials, construction of reefs on environmentally sensitive areas such as grassbeds, corals, and spongebeds, and careless construction methods may not be adequately addressed in the Corps' permitting review. Although the State of Florida has jurisdiction over the construction of reefs in state waters, hazardous projects in federal waters adjacent to state waters have a potentially harmful effect on resources in state waters. More effective consultation procedures are needed to assure that state concerns are reflected in the federal permitting process as required by the National Fishing Enhancement Act and the Coastal Zone Management Act.

## Aquaculture

### Background

Aquaculture involves the controlled cultivation of fish, shellfish, and plants in fresh, brackish, or salt water. It is a relatively underdeveloped industry in the United States compared to the rest of the world. Interest in aquaculture has increased, however, as certain fisheries have become depleted and as new markets for aquaculture products have developed.

Florida's aquaculture industry has some unusual products. In addition to catfish, which are raised commercially worldwide, Florida also boasts alligator farms. Saltwater aquaculture yields the expected products - oysters and clams - but these contribute a very small percentage of the total sale value of aquaculture products. Tropical fish dominate Florida's aquaculture industry.[44] In 1987, sales of Florida-produced tropical and ornamental fish reached $21.7 million, with an additional $6.9 million in sales of tropical fish imported for resale. Aquatic plants had the second highest net sales.

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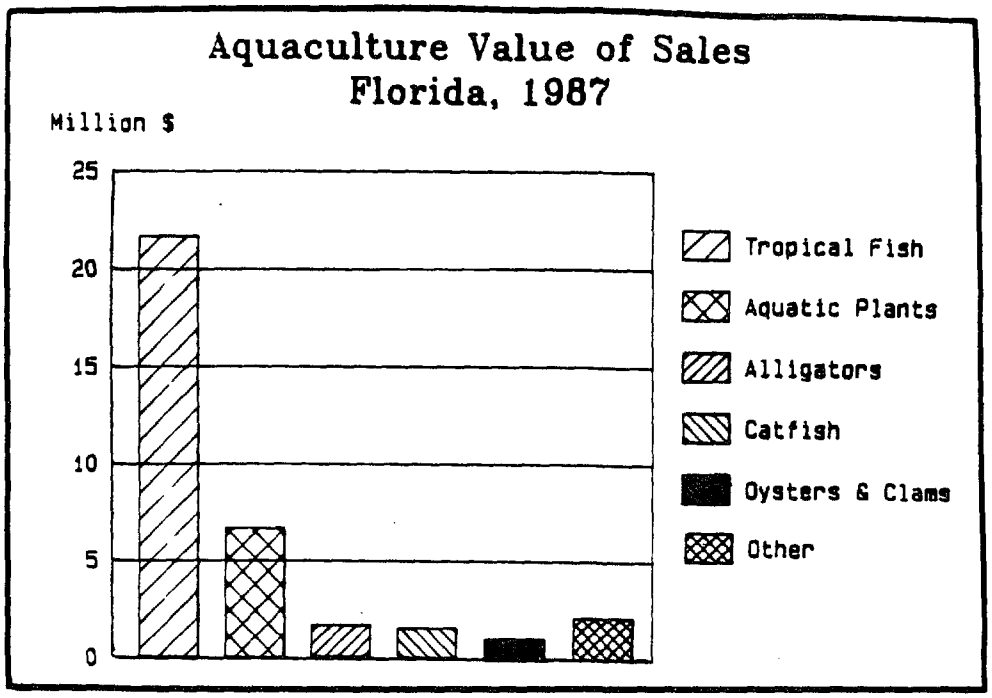
[40] *See generally* Protz, *Federal Artificial Reef Permitting Requirements: U.S. Coast Guard Criteria*, **Florida Artificial Reef Summit** 18-21 (S. Andree ed. 1988).

[41] Permits for reefs using other materials must go through regular procedures for deposition of fill materials in state waters.

[42] **Fla. Admin. Code Ann.** § 17-12.807 (1988).

[43] *See generally* O'Donnell, *Florida Artificial Reef Permitting Requirements: Department of Environmental Regulation*, **Florida Artificial Summit** 22-23 (S. Andree ed. 1988).

[44] Tropical plants and fish, however, are almost all fresh water. Florida's only marine tropical fish operation is forty miles from the ocean and has no discharge.




Source: Florida Aquaculture (newsletter), Florida Agricultural Statistics Service, May 1988.

Much of Florida's aquaculture does not take place in the ocean. Tropical fish production, fish and shrimp hatcheries, and aquatic plant farms are among types of aquaculture production that are actually shore-based industry. Some of these industries use salt water and discharge into the ocean, but are technically not ocean space users, do not contribute species to the ocean environment, and do not compete with other ocean users. The main problems encountered by certain onshore aquaculture facilities are competition with coastal development for sites, the current DER permitting system which treats discharges from aquaculture operations as industrial discharges, and dredge and fill regulations.

Hatcheries are also onshore facilities. A state hatchery is currently located at Port Manatee producing red drum fish.[45] Marine hatcheries are also located at the University of Miami, MOTE Marine Laboratory, and Harbor Branch Oceanographic Institution. These facilities are not considered part of the aquaculture industry, because they are noncommercial, and their purpose is to study the feasibility of enhancing fishery resources. Such hatcheries may aid in restoration of species and complement other fisheries research, but they are not a panacea. The release of juvenile fish will not help stocks if the habitat for protection and development of the young fish has not been preserved.

Nearshore aquaculture is limited primarily to clam and oyster production. State-owned submerged lands designated as approved shellfish waters by DNR provide clean waters to relay and microbiologically purify oysters and clams from polluted waters. State lands are also used to create new oyster reefs by placing clutch on the substrate. Commonly used clutch materials include oyster, clam, and scallop shells.

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[45]DNR also plans to use the hatchery for snook and spotted sea trout in the future.

New technologies for oyster and clam culture involve the use of trays and racks in shallow waters. Harbor Branch Oceanographic Institution is actively involved in the development of technologies and in production of seed for oyster and clam aquaculture projects. Although only 28 oyster growers sold product in 1987, it is estimated that 62 oyster growers and 72 clam growers will contribute to the production of clams and oysters during 1988.

**Aquaculture Development and Regulation**

In 1984, the Florida legislature enacted the Florida Aquaculture Policy Act[46] for the purpose of enhancing the growth of aquaculture while protecting the environment. The Department of Agriculture and Consumer Services (DACS) was given the responsibility to coordinate research and development and to provide development and permitting assistance to persons in the aquaculture industry.

Aquaculture development in the state has several components:

1) The Aquaculture Review Council is a nine-member council which includes representatives of different sectors of the aquaculture industry; the ARC studies aquacultural issues in order to formulate recommendations to the Commissioner of Agriculture for rules and policies to assist the aquaculture industry and to implement the state aquaculture plan.[47]

2) The Aquaculture Interagency Coordinating Council is an advisory body composed of the heads of eight state agencies and representatives of a statewide consortium of universities, the Institute of Food and Agricultural Services at the University of Florida, the Florida Sea Grant Program, the regional planning councils, and the water management districts. The AICC is charged with fostering interagency cooperation in aquaculture development activities and formulating solutions and policies to facilitate aquaculture development.[48]

3) Memoranda of Agreement have been developed with Florida Sea Grant, DNR, and the Game and Fish Commission to facilitate aquaculture activities.

4) The Florida Aquaculture Plan was written by the ARC, in cooperation with DACS and the AICC, and is considered the blueprint for developing aquaculture in the state. It is intended that the FAP policies be integrated into regional and local planning.

DER issues permits for onshore aquaculture operations as pollutant dischargers and permits operations on submerged lands under its dredge and fill jurisdiction.

All aquaculture activities on state-owned submerged land below the mean high water mark (salt water) or the ordinary high water mark (fresh water) must have a lease from the Board of Trustees pursuant to chapter 253, Florida Statutes.[49] Because private, exclusionary uses of state submerged lands are generally discouraged, aquaculture leases are only issued upon careful review and upon conditions that protect the public interest. A 1988 amendment to section 258.42, Florida Statutes, provides that in aquatic preserves, aquaculture is presumed to be in the public interest.

Florida Administrative Code, section 18-21.004(2)(l), provides that it is state policy to foster aquaculture when it is "consistent with state resource management goals, proprietary

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[46]**Fla. Stat.** ch. 597 (1987).
[47]Fla. Laws ch. 88-377 (1988).
[48]*Id.*
[49]Previously, there were two provisions for leasing state submerged lands for aquaculture. Section 370.16, **Fla. Stat.**, applied specifically to oyster and clam cultivation, while chapter 253 applied to aquaculture, generally.

interest, environmental protection and antidegradation goals." Oyster and clam leases are not allowed in areas that would preempt public access to "significant harvestable resources" or within state parks. Leases within an aquatic preserve must be consistent with the preserve's management plan. The rule also contains provisions to assure that leases will not unreasonably interfere with rights of riparian owners.

Although potential lease areas may be designated by DNR, areas are generally nominated by aquaculturists. Leases may be for no more than 10 acres for oysters and 5 acres for clams. The lease term is for no more than 10 years. There is a minimum fee of $15 per acre or $30 per acre if the lease includes the water column. DNR now proposes a $50 per acre lease fee with cost of living adjustments in years 6-10 and royalties based on $1.00 per bag of clams and $.50 per 60 pound bag of oysters. Leases are transferable with written permission of the Board of Trustees. Failure to perform aquaculture activities may result in forfeiture of the lease and improvements in and on the parcel.[50]

Under earlier legislation, oyster and clams leases were perpetual and transferable. One hundred thirteen (113) of these leases still exist. Another 48 leases under chapter 370 are for 10-year terms with the right of first refusal to renew. A few of these leases are quite large, and all of the lease fees are far below the current minimum rental fee. An attempt to require conversion of these leases to chapter 253 aquaculture leases was blocked by rule challenge.[51] Figure 4 summarizes and compares leases under chapter 253 and 370.

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[50]**Fla. Admin. Code Ann.** § 18-21.008(2) (1987).

[51]**Department of Natural Resources, Report to the Governor and Cabinet on Shellfish Leases** (July 25, 1988).

**Figure 4. Comparison of Conditions of Chapter 370, Fla. Stat., Shellfish Leases, and Chapter 253, Fla. Stat., Aquacultural Leases**

| Condition | Shellfish Leases | Aquacultural Leases |
|---|---|---|
| Lease Term | Perpetuity[52] | 10 years |
| Lease Fees:<br>Base Fees: | $5/acre/year | $50/acre/year |
| Additional Rental Production Fees (Royalties) | None | Oyster Culture:<br>$0.50/60-pound bag[53]<br>Clam Culture:<br>$1/250-count container |
| Cultivation Requirements | Year 2-25%<br>Year 3-50%<br>Year 4-75%<br>Year 5-100% | Minimum Production Requirements |
| Transferability | Transferable[54] | Transferable[55] |
| Acreage Limitations | Unlimited | Maximum Acreage:<br>Oyster Culture: 10 Acres[56]<br>Clam Culture: 5 acres |
| Setback Requirements | None | Riparian:<br>25 feet from adjacent riparian rights lines<br>Nonriparian:<br>100 feet offshore from mean or ordinary high water line |
| Experimental Lease | Not Available | Fees may be waived[57] |

[52]Shellfish leases issued after January 1, 1981 are for a ten-year term with right of first refusal to renew (48 leases).

[53]Based on annual production during years six through ten.

[54]With approval of the Department of Natural Resources.

[55]With approval of the Board of Trustees of the Internal Improvement Trust Fund.

[56]Larger areas may be leased if applicant can demonstrate the ability to develop larger acreage.

[57]Lessee must be a noncommercial research institution.

## Issues and Recommendations

**I. Representation in fishery management and policy making.** Fisheries policy and regulation are driven at both the federal and state levels by bodies intended to represent a broad variety of interests including management, conservation, consumers, recreational fishing, and commercial fishing. To a large extent, many conflicts, such as those concerning management techniques and stock allocations, can be alleviated if the policy-making body *is* well-balanced and representative, and bases decisions on the best scientific evidence available.

A second side of the representation issue involves Florida's participation on the South Atlantic and Gulf Fishery Management Councils. Florida's representation on each FMC (three voting members) is grossly out of proportion to the area of the fishery conservation zone off the state and the level of fishing.[58] This disproportionate level of representation has been particularly detrimental in the Gulf FMC, where federal plans have generally not been geared to or responsive to Florida's fisheries management problems. In general, Gulf fishery plans are driven by shrimp and menhaden management philosophy. Florida managers assert that those species are not as sensitive to overharvesting as Florida's finfish (snapper, grouper, mackerel) and its unique fisheries like lobster and stone crab, which require "sound, conservative management."[59] Management issues for these species are often not appropriately addressed at the regional level.

**Recommendations.** The Governor should continue to take steps to deal with the issue of balancing interests at both the state and regional levels. In order for the MFC to meet its mandate, the commission must be truly representative of the groups it is regulating or affecting, and appointments should continue to consider the broad variety of affected interests in the state. The Governor should also attempt to gain additional at-large seats on the regional councils so that the state's management needs will be more adequately addressed at the regional level. Additional appointments to the regional councils should also be sensitive to the importance of a representative balance in interest group participation.

**II. Information, research, and staffing and funding of the MFC.** Although each of these points represent independent issues, they are inextricably interrelated. The MFC is extremely understaffed considering the scope of its job. More professional staff is needed if the MFC is to carry out its legislative mandate to deal *comprehensively* with the state's fishery management needs.

The MFC also needs more information to make its management decisions including not only scientific research on fishery stocks, but also social science research on the impacts of fishery regulation and reliable information on the number of fishermen and their landings. Ironically, DNR was recently criticized in an Auditor General's Report for dedicating too

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[58] In a report to the Governor and Cabinet, the Marine Fisheries Commission staff explained:

> By most measures, Florida should have more Council appointments, especially when considering length of coastline, the resident and tourist population in the coastal zone, and total fishery production. As an example, Florida has roughly 50% of the South Atlantic coastline and 40% of the Gulf's. We also have the largest coastal population. We are the primary harvesters of lobster, stone crab, king mackerel, Spanish mackerel, grouper and snapper. When shrimp and menhaden are excluded, we accounted for 75% of Gulf commercial production and 50% of the South Atlantic production. In 1985 (the most recent data available), we accounted for 63% of all recreational fishing trips in the South Atlantic and 55% of those in the Gulf.

**Marine Fisheries Commission Staff, A Report to the Governor and Cabinet: Florida's Role in Federal Fisheries Management** at 3 (Sept. 1988).

[59] *Id.*

much of its research to "fish." Yet, this information is critical for MFC decision making. If DNR is to adequately support the MFC, more research funds and staff, including social scientists, must be allocated to DNR.

**Recommendation.** Saltwater sportfishing licenses are viewed as the solution to many of the problems surrounding salt water fisheries management. The licenses will provide important information about the "human side" of Florida's fisheries, and the funds generated can be used for staffing, research, and fisheries enhancement.

**III. The construction of artificial reefs has created a continuing controversy among scientists and recreational and commercial fishermen.** Artificial reef programs are established for the purpose of enhancing the diversity and population of fishery resources. A recent study by Florida Institute of Technology biologists has provided some evidence that the artificial reefs do actually increase the total biomass of fish by providing shelter for fish larvae and offering protection from predators, thereby raising the larvae survival rate. However, a management strategy cannot be based on a single piece of preliminary research. More research is necessary to determine overall effects of artificial reefs on fishery resources and to determine the optimum structure and materials which should be used in constructing the reefs.

Local governments and recreational fishermen have strongly supported construction of artificial reefs. The recreational benefit of increased fishing opportunities translates into dollars for local governments from sport fishermen and tourists. And although disposal of solid wastes should not be a justification for artificial reefs, reef construction does provide a disposal option in some limited circumstances.

The Organized Fishermen of Florida (OFF), representing commercial fishing interests, has expressed concern about several aspects of artificial reef siting, construction, and management:

1) uncontrolled, unpermitted dumping by fishing enthusiasts has a negative effect on fishery resources and water quality;

2) overharvesting of concentrated fish populations may contribute to stock depletion;

3) improperly sited artificial reefs may have adverse impacts on existing natural reefs and fisheries habitat; and

4) conflicts arise when artificial reefs encroach on commercial fishermen's access or use of traditional productive fishing grounds.

**Recommendation.** A truly comprehensive state artificial reef program should be established to coordinate research and establish criteria for siting, materials, construction, management, and monitoring of artificial reefs. This may be accomplished through a centralized authority at the state level, or by the establishment of mandatory state guidelines that would be implemented by local artificial reef siting committees.[60] In either case, consultation with

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[60]Many counties and local governments already have programs to advise on the siting and use of artificial reefs in their regions. Brevard County, for example, has the Artificial Reef Advisory Committee which advises any entity which wants to construct a reef in the county's coastal waters. The Committee believes in the controlled siting and construction of reefs. Brevard County works closely with "the Florida Sport Fishing Association, the Florida Sea Grant Program, and the U.S.Corps of Engineers, and with other state environmental agencies to conduct site reviews and obtain permits and funding for artificial reefs offshore from Brevard." Brevard County Artificial Reef Plan, Chapter 1.

local sport and commercial fishermen must be a key element to assure accessibility to sports fishermen and avoid conflict with traditional commercial fishing.

The Florida Artificial Reef Summit emphasized many of these recommendations by concluding:

1) Florida needs a statewide artificial reef plan that addresses all Florida aquatic habitats and local user needs.

2) Florida should have an expanded state artificial reef program that would assist county level reef-building programs in implementing the statewide plan through administration of funds, resources, and guidance.

3) Florida needs a centralized permitting system which utilizes uniform criteria for review of all permits (state and federal), trains staff on artificial reef minimum standards, and establishes stiffer enforcement procedures.

4) Florida should require state and local reef-building programs to set management goals prior to reef construction and to established monitoring and maintenance procedures and criteria.

5) Florida needs a statewide association, or network, of artificial reef interests to establish better communication between government agencies and local programs and among local programs statewide.[61]

**IV. Artificial reefs as mitigation.** Under the Henderson Wetlands Act, mitigation measures proposed by a permit applicant must be considered in evaluating a dredge or fill permit for altering wetlands.[62] Because the destruction of fisheries habitat is an issue in permit evaluation, a proposal to provide new or enhanced fisheries habitat could be proposed as a mitigative action. However, since the fisheries benefits of offshore benthic habitat and coastal wetlands are very different and not interchangeable, artificial reefs are not appropriate mitigation for wetlands.

**Recommendation.** Artificial reefs should not be considered as mitigation for wetlands destruction.

**V. Oyster and clam marine aquaculture on submerged sovereignty lands.** The harvest of shellfish has been declining in recent years due to storms, low fresh water flows, and overworked natural reefs. Aquaculture is viewed by its proponents as a means to rehabilitate the shellfish industry. These proponents believe it is the role of the state to create an economic and regulatory environment that will make shellfish culture a reasonable business investment.

Recent conflict in Apalachicola Bay concerning use of mechanical harvesters to harvest oysters on private leases has led the Governor and Cabinet to reconsider its policy on leasing submerged lands for aquaculture and reevaluate the public interest in private shellfish aquaculture.

**Recommendations.** At a workshop held on October 12, 1988, DNR made the following recommendations to the Governor and Cabinet:

1. Adjustment of chapter 370 lease fees to provide parity with chapter 253 fees.

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[61]**Florida Artificial Reef Summit** iii (S. Andree ed. 1988).
[62]**Fla. Stat.** § 403.918(2)(b) (1987).

1. Adjustment of chapter 370 lease fees to provide parity with chapter 253 fees.
2. Encourage voluntary conversion of chapter 370 shellfish leases to chapter 253 aquaculture leases.
3. Cancellation of uncultivated leases.
4. Expansion of the aquaculture program.
5. Establish an aquaculture demonstration project.
6. Continue maintenance by DNR of public oyster reefs.
7. Allow strictly regulated mechanical oyster harvesting on private leases.

**VI. Effects of upland development and fresh water resource management on fisheries habitat.** Florida's fisheries habitats seem to be particularly sensitive to activities landward of the mean high water line. Mangrove swamps, seagrass beds, and estuaries continue to be destroyed by filling, siltation, and pollution. Fresh water resource management strategies do not take adequate account of the effects of low levels of fresh water on estuaries as fisheries habitat. If habitat is not properly protected, fisheries management plans, restoration programs, and attempts to revitalize declining fisheries through development programs are wasted efforts.

**Recommendation.** There are many mechanisms that exist for coordination and consultation among agencies to protect habitat and marine species, including DER's permitting processes and review of developments of regional impact.[63] DNR must have adequate staff and resources to use these mechanisms effectively.

[63] *See* the section on Aquatic Preserves in chapter on Management of Marine Habitat and Protected Species.

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## MARINE POLLUTION

### Pollution Control - In General

Florida's estuaries, territorial waters, and open seas are used extensively for waste disposal. Point source discharges of industrial and municipal effluents flow from pipes to the marine environment. Nonpoint sources - runoff from urban areas, agriculture, mining, and industrial and construction sites - further contribute to the pollution of the nearshore. Ocean dumping many include the disposal of sewage sludge, industrial wastes, and dredged materials in designated offshore sites. Oil and other hazardous materials may enter the ocean by intentional or accidental discharges from vessels or oil platforms. Vessels and oil platforms also contribute to the problem of persistent marine debris by disposal of plastics and nonbiodegradable solid wastes at sea.[1]

Regulation of ocean pollution in Florida is a task undertaken by both federal and state agencies. On the federal level, the Environmental Protection Agency (EPA) is primarily responsible for implementing and monitoring those provisions of the Clean Water Act (CWA)[2] which regulate the quality of the nation's waters. Incidental to the federal navigation servitude, the U.S. Army Corps of Engineers is responsible for conducting and permitting dredging projects designed to enhance the navigability of the nations waters. The Corps is also authorized to permit dredge and fill activities under the CWA and ocean dumping under the Marine Protection Research and Sanctuaries Act (MPRSA).[3] MPRSA assigns EPA the responsibility to designate ocean disposal sites and to issue permits for the disposal of wastes other than dredged material. At the state level, the Board of Trustees of the Internal Improvement Trust Fund and the Department of Natural Resources (DNR) administer policies dealing with pollution as it relates to resource rights. The Department of Environmental Regulation (DER) regulates the water quality aspects of ocean pollution and implements state dredge and fill law.

#### The Clean Water Act Framework

The CWA, as it developed over a number decades and through numerous amendments, creates a dual regulation system for protection of waters. The Act first set standards and guidelines for states to establish water use categories and water quality standards for those categories. It is the responsibility of each state to maintain water quality within its designated parameters. Because this system was not entirely successful and water quality across the country continued to deteriorate under this system, Congress created an additional nationwide permitting system to implement uniform national pollution standards for effluent discharges from point sources. Rather than focusing on the site specific issue of the quality of a certain water body, the federal effluent limitations are based on the extent of technological capability to remove pollutants from discharges.[4]

Section 101 of the CWA sets forth the objectives of eliminating pollutant discharges, encouraging and financing publicly-owned treatment works (POTWs) and areawide waste

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[1] *See generally* Office of Technology Assessment, **Wastes in the Marine Environment** 57-77 (1987).

[2] 33 U.S.C.A. §§ 1251-1376 (West 1986 & Supp. 1988).

[3] 33 U.S.C.A. §§ 1401-1445 (West 1986 & Supp. 1988).

[4] *See* 33 U.S.C.A. §§ 1311-1330 (West 1986 & Supp. 1988).

treatment, and controlling nonpoint sources of pollution.[5] The declaration of policy also addresses interaction between federal and state regulation:

> It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. *** It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution, and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.[6]

The primary mechanism for implementing congressional goals and policy is a requirement that every point source of pollution be permitted under the National Pollutant Discharge Elimination System (NPDES) outlined in section 402 of the CWA.[7] State water quality certification under section 401 is also required of all applicants for federal licenses or permits to conduct any activity which may result in any discharge into state waters.[8] States may administer their own NPDES permit programs upon approval by the EPA Administrator of the state program.[9]

At this time, federal NPDES permitting within Florida is carried out by Region IV of the EPA. Under the NPDES permitting system Region IV has the authority to regulate the discharge of numerous kinds of pollutants. "Pollutants" falling under the NPDES regulatory system include dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials,[10] heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.[11]

EPA Region IV also has within its jurisdiction designation, monitoring, and managing of 30 dredge disposal sites, representing approximately 25% of the national total. Although Congress is only now considering legislation to ban all ocean dumping of sewage sludge by 1992, EPA Region IV has already committed to a policy of no dumping of sludge or industrial waste in the oceans in the Southeast. EPA has also not allowed any ocean outfalls in the Gulf of Mexico.

**The State Pollution Control Framework**

Article II, Section 7 of the Florida Constitution requires abatement of water pollution. Florida's statutory policy regarding state waters is set out in section 403.021, Florida Statutes. In sum, it is state policy to conserve waters and to protect, maintain, and improve water quality. For those purposes, sources of water pollution must be controlled, regulated, and abated. Florida has established its own water quality standards and permitting requirements for sources of pollution,[12] but does not administer its own approved NPDES permit

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[5] *Id.* § 1251.
[6] *Id.*
[7] *Id.* § 1342.
[8] *Id.* § 1341.
[9] *Id.* § 1342.
[10] Pollutants do not include radioactive materials regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2011 *et seq.*).
[11] 40 C.F.R. § 122.2 (1987).
[12] **Fla. Stat.** ch. 403 (1987).

program.[13] However, the 1988 legislature passed HB 1671 which provides for the delegation to Florida of federal NPDES permitting.[14] Delegation of an NPDES program to the state of Florida could change dramatically the regulation of pollution within the state. The reason given for passage of the bill was that operation of an NPDES program by the state would streamline regulation by eliminating the need for dischargers to obtain two permits - one from the state and one from the EPA.

For the purpose of establishing water quality standards, all of the surface waters of the state have been classified according to designated uses as follows:

| | |
|---|---|
| CLASS I | Potable Water Supplies |
| CLASS II | Shellfish Propagation/Harvesting |
| CLASS III | Recreation, Fish and Wildlife |
| Class IV | Agricultural Water Supplies |
| Class V | Navigation, Utility and Industrial Use |

These water quality classifications are arranged in order of the degree of protection required, with Class I water having the most stringent water quality criteria and Class V the least.[15] A water body may also be designated as an Outstanding Florida Water (OFW) in addition to its above classification. It is DER policy to afford the highest protection to OFWs and, in general, not allow significant degradation of water quality.[16]

The Florida permitting system for sources of pollution and NPDES permitting are directed at point sources of pollutants. However, nonpoint sources, such as aquaculture and silvature, mining, and construction, are major contributors of pollutants to estuaries and nearshore waters. Perhaps the major source of nonpoint source pollutants is urban stormwater runoff.

> In Florida, rapid urbanization, with its associated land clearing and paving of pervious areas, has accelerated the problem over the last several years. While some amount of runoff from rainfall is a natural occurrence, the problem lies in the kind of land on which the rain falls. As the amount of paved, impervious surfaces increases, the volume and rate of runoff and the accompanying pollutant loads also increases. Stormwater flowing over roofs, streets, lawns, commercial sites, industrial areas and other permeable and impermeable surfaces transports many pollutants into surface and ground waters. Rain washes sediments from bare soil; heavy metals and oils and greases deposited on streets and parking lots by motor vehicles; nutrients from fertilized lawns and crops; and coliform bacteria from animal wastes into receiving waters.[17]

DER has developed a regulatory program to control nonpoint sources to better protect and manage the State's waters. DER's current stormwater management program is aimed at "prevent[ing] stormwater problems through sound land use management and site planning" by

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[13]Florida's permit system differs from the NPDES in the basis of the regulatory standards. The federal system limits the amount of pollutant discharged by a source based on technology standards for that industry. Receiving water quality is, generally, not relevant. Florida's limitations are based on receiving water quality.

[14]**Fla. Laws** ch. 88-393 (1988).

[15]The specific water quality criteria corresponding to each surface water classification are listed in **Fla. Admin. Code Ann.** §§ 17-3.091 to 17-3.141 (1987).

[16]*Id.* § 17-3041. *See* **Fla. Stat.** § 403.061(27) (1987).

[17]Livingston, **The Stormwater Rule: Past, Present and Future** (July 1985).

focusing on both flood control and water quality.[18] Historically, the state's focus was on flood control and protection which was accomplished by a drainage program to lower groundwater levels. Consequently, this program degraded water quality of existing waterbodies. As a result, existing systems need to be modified and water bodies restored to reduce their pollutant loads.

DER's management policy is reflected in the rules regulating the discharge of stormwater.[19] The objective of the rules is to prevent pollution of Florida's waters from new stormwater facilities constructed after February 1, 1982. The rules are based on performance standards which focus on the best management practices to control pollution sources in an attempt to prevent and reduce nonpoint pollution before it reaches the waters. DER rules provide "no discharge from a stormwater discharge facility shall cause or contribute to a violation of water quality standards in waters of the state."[20]

Permits are required for all new development plans. General permits are the most common permits issued by both DER and the Water Management Districts.[21] Although general permits do not expire, they can be suspended or revoked for noncompliance.[22] Construction permits and wetland permits are required when there is limited knowledge about the effects of certain discharge activities. In all situations, the permit applicants must provide the permitting authority with reasonable assurances that discharges will meet water quality standards.[23]

**Ocean Outfalls**

Federal regulation of ocean outfalls is the responsibility of the EPA under section 403 of the Clean Water Act.[24] No section 402 NPDES permit for a discharge into the territorial sea, the waters of the contiguous zone, or the oceans may be issued except in compliance with section 403 guidelines established by the administrator.[25] State water quality certification or waiver of such certification is required for each permit.[26]

Under section 403(c), the EPA Administrator has promulgated guidelines for determining the degree of degradation of marine waters by ocean outfalls. Permits may be issued only when in compliance with the guidelines, which include consideration of:

> (A) the effect of disposal of pollutants on human health or welfare, including but not limited to plankton, fish, shellfish, wildlife, shorelines, and beaches;
> (B)the effect of disposal of pollutants on marine life including the transfer, concentration, and dispersal of pollutants or their byproducts through biological, physical, and chemical processes; changes in marine ecosystem diversity, productivity, and stability; and species and community population changes;
> (C)the effect of disposal, of pollutants on esthetic, recreation, and economic values;
> (D) the persistence and permanence of the effects of disposal of pollutants;

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[18]E. Livingston, Environmental Administrator, Nonpoint Source Management Section, Florida Department of Environmental Regulation, *Overview of Stormwater Management* (undated).

[19]**Fla. Admin. Code Ann.** ch. 17-25 (1988).

[20]**Fla. Admin. Code Ann.** § 17-25.025 (1988).

[21]To date, DER has delegated its permitting authority for stormwater to the South Florida, Southwest Florida, St. Johns, and Suwannee Water Management Districts.

[22]**Fla. Admin. Code Ann.** § 17-25.035.

[23]*Id.* § 17-25.025. Special treatment is afforded to OFWs. *Id.* § 17-25.025(9).

[24]33 U.S.C.A. § 1343 (West 1986).

[25]*Id.*

[26]*Id.* § 1342(d).

(E)the effect of the disposal at varying rates, of particular volumes and concentrations of pollutants;
(F) other possible locations and methods of disposal or recycling of pollutants including land-based alternatives; and
(G)the effect on alternate uses of the oceans, such as mineral exploitation and scientific study.[27]

The EPA may issue an NPDES permit if it determines that the discharge will not cause unreasonable degradation of the marine environment after application of any necessary conditions. If information is insufficient to determine before a permit is issued that there will be no unreasonable degradation of the marine environment, then no discharge of pollutants into the marine environment will be permitted. However, a permit may be issued if the EPA determines that the discharge will not cause irreparable harm to the marine environment while monitoring is undertaken, and there are no reasonable alternatives to the on-site disposal of these materials.[28] Such a permit may be modified or revoked at any time based on new data.

In order to obtain a permit issued under sections 402 and 403 of the CWA, a sewage treatment plant discharging effluents through ocean outfalls must achieve the effluent limitations based upon secondary treatment as defined by the EPA, or any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any state law or regulations, or any other federal law or regulation, or required to implement any applicable water quality standard established pursuant to the Act.[29]

The EPA may, however, with the concurrence of the state, issue a permit which modifies the secondary treatment requirements regarding a pollutant discharge from a publicly-owned treatment works into marine waters, if certain criteria are met.[30] Region IV of the EPA has not granted any waivers based on this authority. Florida's DER has also adopted, on February 19, 1987, rules for permitting ocean outfalls. Florida Administrative Code, section 17-4.244(4)(c) provides:

> For open ocean discharges, the effluent when diluted to 30% full strength, shall not cause more than 50% mortality in 96 hours in a species significant to the indigenous aquatic community. Rapid dilution shall be ensured by the use of multiport diffusors. The discharge shall otherwise comply with federal law.

In addition to meeting the above toxicity and diffusor requirements, outfalls must meet Florida's water quality criteria.

Florida also has established special effluent limitations for surface water disposal via ocean outfall. New treatment plants and modifications of existing plants must be designed to achieve an effluent *prior to discharge* in open ocean waters which meets the same Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) standards required under the federal NPDES system. These criteria are more lenient than the criteria for other surface water disposal. Treatment plants discharging into Class III coastal waters, however, must meet the more stringent criteria. In addition, appropriate disinfection and pH control of the effluents are required for all discharges based on state requirements.[31]

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[27]*See* 40 C.F.R. § 125.122 (1987).
[28]40 C.F.R. § 125.123 (1987).
[29]33 U.S.C.A. § 1311(b)(1) (West 1986).
[30]*See id.* § 1311(h).
[31]**Fla. Admin. Code Ann.** § 17-6.060 (1986).

There are currently seven ocean outfalls located off the coast of Florida:

**Figure 5. Ocean Outfalls in Florida**

| Location | Distance Offshore (Ft.) | Outfall Depth (Ft.) | Discharge in millions of gallons per day |
|---|---|---|---|
| Key West | 3,645 | 33 | 4 |
| Virginia Key /Miami | 18,835 | 90 | 143 |
| North District /Miami | 11,000 | 100 | 85 |
| Hollywood | 10,000 | 110 | 33 |
| Broward County | 6,600 | 95 | 57 |
| Boca Raton | 5,000 | 90 | 10 |
| West Palm Bch. | 5,200 | 100 | 12 |

-source: Richard W. Smith and David W. York, *Disposal of Recovered Water in Florida* (April 7, 1987).

With the exception of the Key West outfall, all the effluent from Florida's outfalls receive at least secondary treatment prior to ocean disposal. Key West continues to pipe untreated sewage into the ocean while awaiting completion of its new sewage treatment plant. The receiving water for the Key West Outfall is classified as Class III coastal water. The area surrounding the outfall is also classified by DER as an OFW.[32] Between September 1984 and August 1985, the average concentration of the Key West outfall for BOD was approximately five times the allowable level.

For years the Key West outfall has been the subject of controversy. The only city in the east coast that dumps raw sewage into the sea, Key West discharges three to eight million gallons per day of untreated waste through a pipe to a ship channel 3,645 feet offshore. The City of Key West entered into an agreement with the EPA in 1986 to pay $500,000 in fines and to complete and start a treatment plant by July 1988.[33] It is currently estimated that the treatment plant will be in operation by February 1989.[34]

Each of the other five outfalls is operating under a five-year NPDES permit, several of which are under review for renewal. There is currently some debate as to whether NPDES permits for outfalls outside Florida's territorial waters must include compliance with state water quality criteria. Persons associated with the involved wastewater treatment plants argue that the dilution effect and natural disinfecting action of tropical seawater obviate the need for disinfection of effluents as required by Florida's rules.[35] This argument is based upon data obtained through the Southeast Florida Outfall Experiment (SEFLOE), a study now being conducted in conjunction with the U.S. National Oceanographic and Atmospheric Administration (NOAA). Unless the SEFLOE study produces unequivocal evidence of the disinfecting capabilities of ocean water, it is likely that state criteria incorporated in existing NPDES permits will be retained. The anti-backsliding provision of the 1987 amendments to the CWA requires that a permit may not be renewed, reissued, or modified to contain

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[32]*Id.* § 17-3.041(4)(i) (1988).

[33]City of Key West, Florida, Wastewater Facilities Plan (Jan. 1986).

[34]Half of the Key West plant was operational on February 15, 1989. The plant is expected to be fully on line by mid-April.

[35]Letter to Marshall Hyatt from Garrett Sloan, Director Miami-Dade Water and Sewer Authority Department (June 7, 1988).

effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.[36]

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### State Statutes and Rules

**Fla. Stat.** ch. 403 (1987), Environmental Control.

Fla. Laws ch. 88-393 (1988), State NPDES Permitting.

**Fla. Admin. Code Ann.** §§ 17-3.091 to 17-3.141 (1987), Water Quality Standards.

**Fla. Admin. Code Ann.** § 17-6.060 (1987), Wastewater Facilities.

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Marine Protection Research and Sanctuaries Act, 33 U.S.C.A. §§ 1401-1445 (West 1986 & Supp. 1988).

National Pollutant Discharge Elimination System (NPDES), 33 U.S.C.A. § 1342 (West 1986 & Supp. 1988).

40 C.F.R. § 125.122, Ocean Outfall Permit Guidelines.


## Ocean Dumping

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention)[37] is the primary international agreement dealing with marine disposal of wastes. Ocean "dumping" is defined in the Convention as:

> (i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea; (ii) any other disposal at sea of vessels, aircraft, platforms or other man-made structures at sea.[38]

Under the London Dumping Convention those countries ratifying the treaty have agreed to prohibit the dumping of certain "black list" wastes, including mercury, cadmium, organohalogens, oil, persistent plastics, and high-level radioactive wastes. Special permits are required for ocean disposal of "gray list" materials set out in Annex II of the Convention. All other substances require a general permit for ocean disposal. The treaty provides general criteria for site designation and permitting.

In 1972, Congress enacted the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA)[39] to implement the London Dumping Convention. The first two titles of MPRSA are commonly known as the Ocean Dumping Act (ODA). The ODA was enacted "to regulate the dumping of all types of materials into ocean waters,"[40] and grants the Environmental Protection Agency and the Secretary of the Army[41] the authority to regulate ocean dumping.

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[36] 33 U.S.C.A. § 1342(o) (West Supp. 1988).

[37] Dec. 29, 1972, 26 U.S.T. 2406, T.I.A.S. No. 8165.

[38] *Id.* art. III.

[39] 33 U.S.C.A. §§ 1401-1445 (West 1986 & Supp. 1988).

[40] *Id.* § 1401.

[41] The authority of the Secretary of the Army has since been delegated to the Army Corps of Engineers.

The ODA defines ocean "dumping" broadly as "a disposition of material."[42] Material may include solid wastes, industrial waste, radioactive waste, sewage sludge, incinerator residue, and dredged materials.

As with the CWA, the Administrator of the EPA is charged with the duty of enforcing the provisions of the ODA. Under the ODA, the Administrator may grant permits for ocean dumping of nondredged materials that "will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems, or economic potentialities."[43] Furthermore, the Administrator designates recommended sites and times for ocean dumping after consideration of the criteria established for review of permit applications.[44]

There are currently fourteen Ocean Dredged Material Disposal Sites that have been designated by the EPA off Florida's coasts (Figure 6). Four of these sites are permanent designations (Pensacola [nearshore and deepwater], Jacksonville, and Fernandina); the other ten are interim designations with indefinitely extended expiration dates. The interim sites (with the exception of Key West, which is likely to be cancelled) are undergoing the necessary study for permanent designation. Two additional sites, Fort Myers and Tampa, are being studied in preparation for designation proposals.

Since disposal site designation was moved to the regional level of the EPA, designation of sites has become a coordinated effort with DER, DNR, and the Governor's Office of Planning and Budgeting (OPB) involved in every stage of the EPA's designation process. This cooperative effort has resulted in avoidance of the conflict that epitomized the designation process earlier. A potential for legal conflict still exists, however, concerning the issue of whether site designations are subject to the consistency provisions of the CZMA.

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[42] *Id.* § 1402(f). Exceptions to the broad definition of material include:

> [A] disposition of any effluent from any outfall structure to the extent that such disposition is regulated under the provisions of the [CWA], as amended [33 U.S.C.A. § 1251 *et seq.*] under the provisions of section 407 of this title, or under the provisions of the Atomic Energy Act of 1954, as amended [42 U.S.C.A. § 2011 *et seq.*] nor does it mean a routine discharge of effluent incidental to the propulsion of, or operation of motor-driven equipment on, vessels: *Provided further*, [t]hat it does not mean the construction of any fixed structure or artificial island nor the intentional placement of any device in ocean waters on or in the submerged land beneath such waters for a purpose other than disposal, when such construction or such placement is otherwise regulated by Federal or State law or occurs pursuant to an authorized Federal or State program: *And provided further*, [t]hat it does not include the deposit of oyster shells, or other materials when such deposit is made for the purpose of developing, maintaining, or harvesting fisheries resources and is otherwise regulated by Federal or State law or occurs pursuant to an authorized Federal or State program. *Id.*

[43] *Id.* § 1412.

[44] *See id.* § 1412 (which sets out permit criteria).

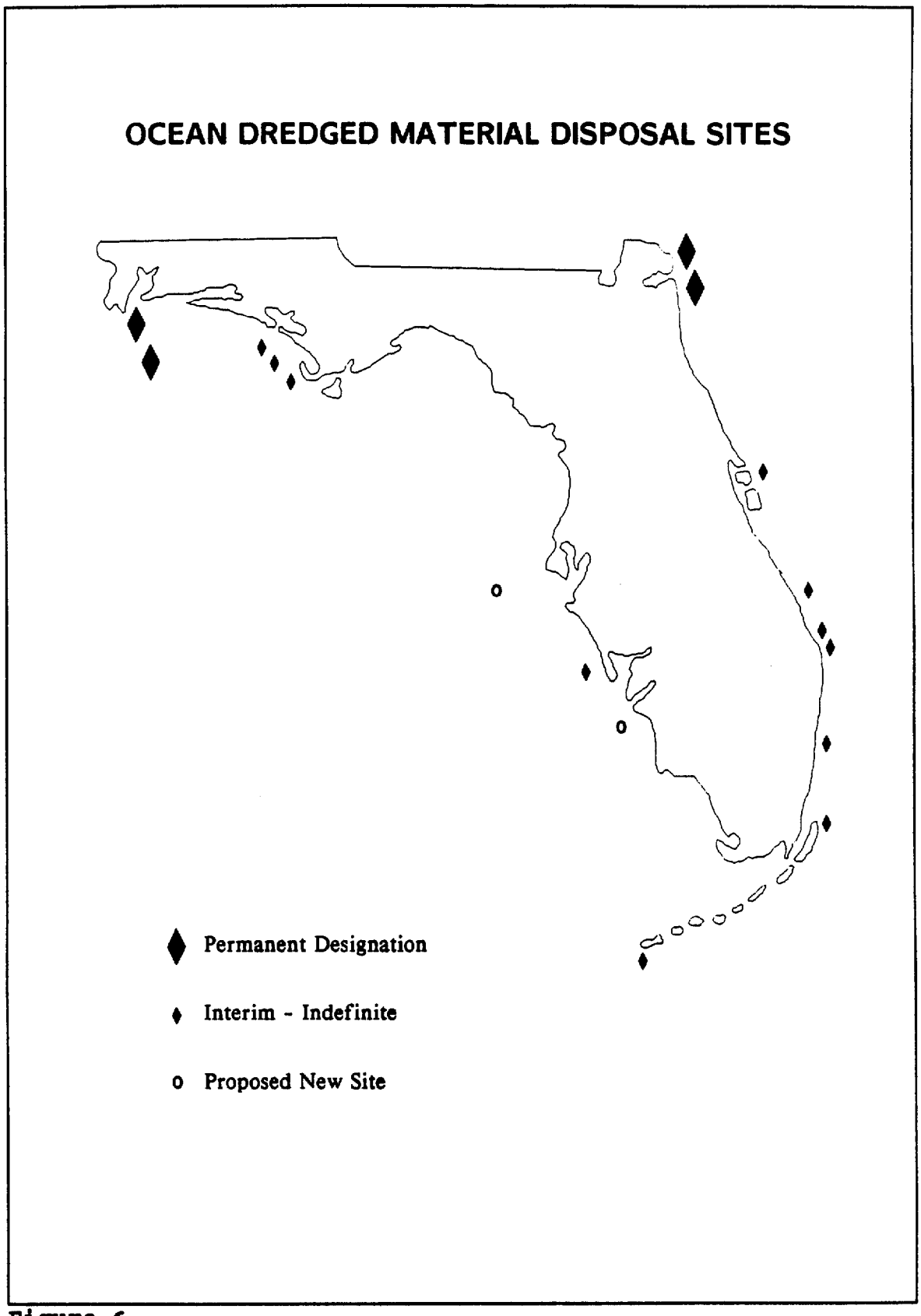
OCEAN DREDGED MATERIAL DISPOSAL SITES
Permanent Designation
Interim - Indefinite
Proposed New Site

**Figure 6.**

In contrast to the CWA authorization of state NPDES programs, section 106(d) of the ODA forbids states from adopting or enforcing any rule or regulation relating to any activity regulated by the ODA.[45] Florida's statutes do not define "dumping" for purposes of state regulation, but ocean disposal clearly comes within the state's definition of "filling."[46] Also, ocean dumpsite designations in state waters require consent of the Trustees. In addition, many of the provisions in Florida's federally-approved coastal management plan may affect federal regulation of ocean disposal.

In 1986, Congress amended the ODA by adding a new subsection (g) to section 106 of the 1972 Act. Arguably, subsection (g) limits the preemptive effect of subsection (d) by declaring:

> (g) Nothing in this [Act] shall restrict, affect or modify the right of any person (1) to seek damages or enforcement of any standard or limitation under State law, including State common law, or (2) to seek damages under other Federal law, including maritime tort law, resulting from noncompliance with any [permit under this Act].[47]

Subsection (g) has yet to be interpreted by the courts. Thus, it is unclear whether the phrase "any standard or limitation under [s]tate law, including [s]tate common law" can be used effectively by those states attempting to regulate ocean activities within their boundaries under the authority of federally-approved coastal management programs or other state environmental statutes.

Section 103 of the ODA authorizes the Secretary of the Army to issue permits for the *dumping of dredged material.*[48] The Secretary's authority has been delegated to the United States Army Corps of Engineers (Corps). Under section 404 of the CWA, the Corps also has authority to permit the *discharge of dredged materials* into navigable waters.[49] Since dredged materials (up to three percent of which are considered to be highly contaminated with toxics) constitute over 90 percent of all material dumped in the nation's ocean waters, section 103 of the ODA and section 404 of the CWA give the Corps of Engineers tremendous regulatory authority in the area of ocean pollution.[50]

In permit reviews under section 103 of the ODA, the Corps is required to consider environmental impact criteria established by the EPA, along with "the potential effect of a permit denial on navigation, economic and industrial development, and foreign and domestic commerce of the United States." The Corps must also consider other methods and sites for disposal, and must "to the extent feasible, utilize the recommended sites designated by the [EPA]."[51]

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[45] *Id.* § 1416(d).

[46] **Fla. Admin. Code Ann.** § 17-4.020(15) (1988) defines filling as "the deposition, by any means, of materials in waters of the state."

[47] 33 U.S.C.A. § 1416 (West 1986).

[48] *Id.* § 1413.

[49] 33 U.S.C.A. § 1344 (West 1986).

[50] In addition to authority over the disposal of dredged material under the CWA and MPRSA, the Corps also has to regulate any activity in navigable waters which interferes with navigability under the Rivers and Harbors Act of 1899, 33 U.S.C.A. § 407 (West 1986).

[51] If the Corps is unable to find an economically feasible method or alternative site which would comply with EPA criteria, the Corps may seek a waiver of the specific involved requirements from the EPA Administrator. The Administrator must grant the waiver "unless . . . the dumping of the material [would] result in an unacceptably adverse impact on municipal water supplies, shell-fish beds, wildlife, fisheries (including spawning and breeding areas), or recreational areas. 33 U.S.C.A. § 1413 (West 1986).

While the Corps of Engineers does not administratively issue itself permits for its own disposal operations, the requirements that must be met before dredged material derived from federal projects can be discharged into ocean waters are the same as those where a permit would be required.

Section 402 NPDES permits are not required for the discharge of dredged or fill materials regulated under 404 of the Clean Water Act. Under section 404, the Corps of Engineers evaluates permits based on ocean discharge criteria developed by the EPA.[52] Permits must specify the disposal site, and the EPA may veto any proposed site. The 404 permitting program is delegable to the states,[53] however, Florida has not been delegated that authority.

In 1977, Congress amended section 404 of the Act by adding subsection 404(t) which provides:

> **Navigable waters within State Jurisdiction.** Nothing in this section shall preclude or deny the right of any State or interstate agency to control the discharge of dredged or fill material in any portion of the navigable waters within the jurisdiction of such State, including any activity of any Federal agency, and each such agency shall comply with such State or interstate requirements both substantive and procedural to control the discharge of dredged or fill material to the same extent that any person is subject to such requirements. This section shall not be construed as affecting or impairing the authority of the Secretary to maintain navigation.[54]

The legislative history of the 1977 amendment indicates that Congress added section 404(t) to overcome the Corps' refusal to submit itself to state water pollution controls and to overrule the decision of the Eighth Circuit Court of Appeals in *Minnesota v. Hoffman*[55] which concluded that section 404 exempted the Corps from state requirements relating to the discharge of dredged spoil. Today, the Corps does seek state water quality certification, but it does not consider itself bound by the constraints of other state substantive and procedural requirements. The Corps has taken the position that the language in the last sentence of section 404(t), declaring that subsection (t) is not to "be construed as affecting or impairing the authority of the Secretary [of the Army] to maintain navigation," overrides the preceding language.[56] A recent case, *Friends of the Earth v. U.S. Navy*,[57] upheld the view that section 404(t) required the Navy to get a state permit under Washington's Shoreline Management Act before continuing with dredging and filling related to a homeport project.

Conflict between federal and state regulation also exists with regard to congressionally-authorized Corps projects. The Corps uses section 404(r) of the Clean Water Act as the basis of its contention that congressionally-authorized projects are exempt from all state permit requirements. Section 404(r) provides:

> **Federal projects specifically authorized by Congress.** The discharge of dredged or fill material as part of the construction of a Federal project specifically authorized by Congress, whether prior to or on or after December 27, 1977, is not prohibited by or otherwise subject to regulation under this section, or a State program approved under this section, or section 1311(a) or 1342 of this title (except for effluent

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[52]33 U.S.C.A. § 1343 (West 1986).
[53]*Id.* § 1344.
[54]*Id.*
[55]543 F.2d 1198 (8th Cir. 1976).
[56]This position is taken by the Corps despite language in the legislative history of the provision indicating that "the burden is clearly on the Corps to make every effort in every project to dredge in compliance with the same standards private dredgers and other discharges [sic] must adhere to." Senator Anderson of Minnesota in Senate Comm. on Environmental and Public Works, A Legislative History of the Clean Water Act of 1977, Comm. Rep. Serial No. 95-14, Vol. 3, 95th Cong. 2nd Sess. at 537.
[57]841 F.2d 927 (9th Cir. 1988).

standards or prohibitions under section 1317), if information on the effects of such discharge, including consideration of the guidelines developed under subsection (b)(1) of this section, is included in an environmental impact statement for such project pursuant to the National Environmental Policy Act of 1969 and such environmental impact statement has been submitted to Congress before the actual discharge of dredged or fill material in connection with the construction of such project and prior to either authorization of such project or an appropriation of funds for such construction.[58]

Subsection (r) has been the source of much debate between the Corps and Florida's DNR, particularly with regard to a DNR rule which mandates that all beach-quality material dredged in Florida be placed on Florida beaches, rather than out at sea. Federal legislation dictates that the Corps dispose of the dredged sand in the least costly manner, which generally translates to offshore disposal.

It is DNR's position that the problems of erosion, dumping of dredged material, and beach renourishment should be dealt with simultaneously, because they are uniquely related. Inlet construction and maintenance has been estimated to cause 80 to 85% of human-related coastal erosion.[59] Placing dredged beach quality sand on the beach would help to mitigate the damage caused by dredging of nearby inlets. The cost of beach placement of dredged sand would not be out of proportion to other disposal methods if the costs associated with erosion and beach restoration were also factored into the formula. The cost of dumping beach-quality materials out at sea when combined with expenses incurred by the Corps in later beach renourishment projects could produce a final cost which far exceeds what it would cost to place the sand on the beach in the first place. It is for this reason that DNR hopes to work with the Corps toward getting congressional authorization to pair dredging and beach renourishment projects. The two jobs could be carried out simultaneously in a manner which would be both cost effective and environmentally sound.

On April 26, 1988 the Corps published its Final Rule for Operation and Maintenance of Army Corps of Engineers Civil Works Projects Involving the Discharge of Dredged Material Into the Waters of the U.S. or Ocean Waters.[60] In the regulations, the Corps addressed the issue of the overlapping jurisdiction of section 404 of the CWA and section 103 of the ODA in the territorial sea. All disposal in the ocean or territorial sea of material that has been excavated or dredged from navigable waters will be evaluated under the ODA. Only materials determined to be deposited primarily for the purpose of fill will be evaluated under the section 404 of the CWA.[61] Criteria for evaluation for evaluation of permits under each authority are compared in figure 7.[62]

Several states, including Florida, have objected strongly to the Corps regulations. In permitting discharges under the CWA, the Corps recognized that both the state water quality certification requirements of the CWA and federal consistency requirements of the CZMA are applicable to activities within three miles of the coast. The Corps rejected comments that federal consistency should apply to projects located within three leagues of the coast or beyond that point that "directly affect" the coastal zone. The Corps also rejected Florida's contention that state water quality certification should be sought for projects within the state's territorial sea beyond three miles.[63] The Corps asserted that the ODA may preempt both the CWA certification provisions and the CZMA. *As a matter of comity*, the Corps will

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[58]33 U.S.C.A. § 1344(r) (West 1986) (citations omitted).

[59]Sellers, *The Natural Cost of the Federal Navigational Servitude - Who Ultimately Pays?* 3 **J. Land Use & Envtl. L.** 133 (1987).

[60]53 Fed. Reg. 14902 (Apr. 26, 1988).

[61]53 Fed. Reg. 14912 (April 26, 1988) (to be codified at 33 C.F.R. § 336.0).

[62]Office of Technology Assessment, **Wastes in the Marine Environments** 150 (1987).

[63]*See* 53 Fed. Reg. 14905 and 14908 (April 26, 1988).

continue to seek state water quality certification and consistency determinations, but specifically reserved its legal rights on the issue.[64]

**Figure 7. Comparison of Factors To Be Considered Before Issuing Permits Under MPRSA Section 103 and CWA Section 404**

| Ocean Dumping Permits - MPRSA Section 103 | Ocean Discharge Permits - CWA Section 404 |
|---|---|
| Effect of dumping on human health and welfare, including economic, esthetic,and recreational values. | Effect of disposal of pollutants on esthetic, recreation, and economic values. |
| Effect of dumping on fisheries resources, plankton, fish, shellfish, wildlife, shorelines, and beaches. | Effect of disposal of pollutants on human health or welfare, including plankton, fish, shellfish, wildlife, shorelines, and beaches. |
| Effect of dumping on marine ecosystems, particularly the concentration and dispersion of such material; potential changes in marine ecosystem diversity, productivity, and stability; and species and community population dynamics. | Effect of disposal of pollutants on marine life including concentration and dispersal of pollutants; changes in marine ecosystem diversity, productivity, and stability; and species and community population changes. |
| Persistence and permanence of the effects of the dumping. | Persistence and permanence of the effects of disposal of pollutants. |
| Effect of dumping particular volumes and concentrations. | Effect of the disposal of varying rates, of particular volumes and concentrations of pollutants. |
| Appropriate locations and methods of disposal or recycling, including land-based alternatives and the probable impact of alternatives upon the public interest. | Other possible locations and methods of disposal or recycling of pollutants including land-based alternatives. |
| Effect on alternate uses of the oceans, such as scientific study, fishing, and other living and non-living resource exploitation. | Effect on alternate uses of the oceans, such as mineral exploitation and scientific study. |
| Need for the proposed dumping. | [No comparable consideration under CWA Section 404] |
| In designing recommended sites, the Administrator shall use, wherever feasible, locations beyond the edge of the continental shelf. | [No comparable consideration under CWA Section 404] |

Source: Office of Technology Assessment, **Wastes in the Marine Environments** 150 (1987).

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[64] *Id.* at 14915. Objections to the regulations include numerous other issues involving procedures, timing, and interpretation of CWA and CZMA provisions, but the two sections discussed involve the fundamental sovereignty and federalism issues that lie at the heart of the debate.

## Issues and Recommendations

**I. Ocean disposal of beach quality sand.** Because so much of Florida's beach erosion problem can be traced to the construction and maintenance of navigation inlets, restoration of beaches should be tied to such navigation projects.

**Recommendation.** DNR should continue to work with the Corps of Engineers and with Congress to tie navigation and beach nourishment projects, and to reformulate methods of calculating the least costly means of disposal of dredged beach-quality sand to reflect the hidden costs of damage to beaches and the price to renourish those beaches.

**II. Federal recognition of state environmental laws.** This section gives several examples of areas where the Corps and the EPA are claiming federal preemption of state environmental laws through interpretation of statutes that are, perhaps, ambiguous, but on their face seem to recognize state authority to regulate certain uses of the territorial sea. These statutes involve ocean uses that can severely impact marine resources, and the interpretations bear philosophically on the nature of state sovereignty over its territorial seas.

**Recommendation.** The state should continue to seek the cooperation of federal agencies in recognizing state environmental standards and resource protection interests in the territorial sea. However, if cooperative efforts are unsuccessful in achieving state goals, it should be recognized that the principles involved are directly related to fundamental issues of state sovereignty and should be litigated if appropriate.

The state should develop a policy opposing the designation of ocean disposal sites in specially designated waters. State policy should also be developed to oppose the designation of dumpsites off Florida for the disposal of wastes other than dredged materials.

## References


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*Minnesota v. Hoffman*, 543 F.2d 1198 (8th Cir. 1976).

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33 U.S.C.A. § 1344, Permits for dredged or fill material.
33 C.F.R. Parts 320-328 Corps Regulations.
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## Oil Spills and Vessel Discharges

### In General

Florida's coast has not been subjected to many major oil spills of 100,000 gallons or more, but the frequency of smaller spills is increasing. During the 1980s, an average of one incident every two days has been reported. Florida is potentially vulnerable to oil spills from tankers, use of marine terminals and ports, and offshore oil production.[65]

Vessels to, from, and around the state present the greatest threat. Florida's burgeoning population has greatly increased the state's energy demands and need for petroleum and, as a result, has increased vessel traffic delivering oil and the need for marine terminals for servicing vessels and storing petroleum products. Oil from all over the world passes through the Florida Straits enroute to Louisiana and Texas refineries. Conversely, oil and petroleum products from the Gulf of Mexico must pass Florida's coast to reach northeastern United States' ports and terminals. Figure 8 illustrates that the bulk of oil transported along the United States coast passes Florida.[66]

Three of Florida's largest oil spills - 50,384 gallons in the Keys in 1975, 33,589 gallons in Tampa Bay in 1978, and 108,000 gallons on the east coast from Atlantic Beach to Guana

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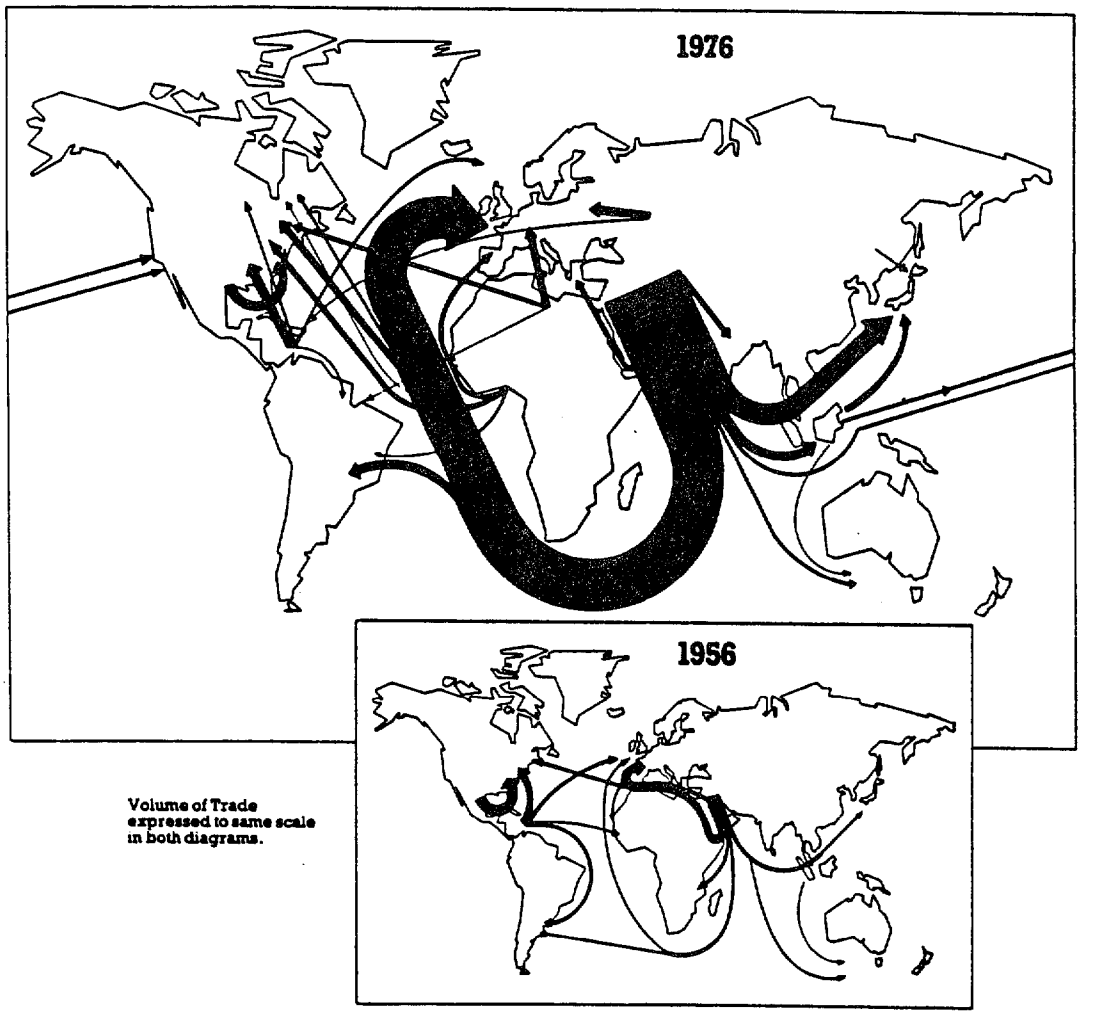
[65]Florida Department of Community Affairs, **Florida Coastal Oil Spill Handbook** 1-2 (Feb. 1987)[hereinafter **Handbook**].
[66]R. M'Gonigle & M. Zacher, **Pollution, Politics, and International Law** 26 (1979).

State Park in 1987 - were incidents involving vessels. However, accidental or negligent discharges are not the only sources of oil pollution from vessels. Intentional, operational discharges from ballasting, tank cleaning, and bilge pumping contribute significantly to oil pollution problems.[67]

**Figure 8**




Main Oil Movements by Sea, 1956 and 1976

Source: R. M'Gonigle & M. Zacher, **Pollution, Politics, and International Law** (1979).

### International

Recognizing that pollution of the seas by oil is a truly international issue, nations have negotiated a number of treaties to control intentional discharges and in an attempt to minimize accidental discharges. The major treaties are:

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[67]**Handbook**, at 1-2.

1. 1954 Convention for the Prevention of Pollution of the Sea by Oil as amended in 1962, 1969, and 1971. This treaty, as amended in 1962, prohibited the discharge of oil and oily mixtures into the sea in certain areas. Prohibited zones were defined to include all sea areas within 50 miles of a coast, but a number of special areas extended to 100 miles offshore. An Oil Record Book was required to document discharges of oil and the surrounding circumstances. The 1969 amendments added a rule that discharges must be *en route* and proscribed a rate of discharge in addition to the distance from land rule. 1971 amendments related to tank size and arrangement, and created a 50-mile prohibited zone around the Great Barrier Reef.

2. 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties and the 1973 Protocol. This treaty gives contracting parties the authority to "take such measures on the high seas as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil, following upon a maritime casualty . . . which may reasonably be expected to result in major harmful consequences." The 1973 protocol relates to pollutants other than oil.

3. 1969 International Convention on Civil Liability for Oil Pollution Damage. This treaty provides a legal basis for claims for damages to the territorial sea or coast of a state. The convention also provides a limitation of liability and defenses for shipowners, and requires that all ships carrying over 2,000 tons oil have financial security or insurance to the limit of liability.

4. 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution. The Fund Convention is a supplement for the 1969 Liability Convention. It supplements the liability compensation limits and provides compensation to individuals who suffer pollution damage. The Fund is maintained by oil companies in each treaty state rather than by the oil tanker owners and operators.

5. 1973 International Convention for the Prevention of Pollution from Ships (MARPOL). MARPOL supercedes the 1954 convention and extends the scope of the international pollution prevention effort to discharges of any harmful substance and to virtually all vessels and oil platforms. Tankers over 150 gross tons and other ships over 400 gross tons must be inspected and certified that they meet convention requirements. MARPOL emphasizes improved technology. Port reception facilities are required to eliminate the necessity of flushing tanks at sea.[68]

In addition to these public law treaties, private oil companies have created a worldwide insurance syndicate for compensation of damages arising from tanker oil spills. The Tank Owners' Voluntary Agreement concerning Liability for Oil Pollution (TOVALOP) provides cleanup costs to governments up to $10 million, and the Contract Regarding an Interim Supplement to Tanker Liability (CRISTAL) extends coverage to other governmental costs and private damages. Liability is based on negligence, but the burden of proof is on the charterer or shipowner.[69]

Although international efforts have had a significant effect in the area of liability and cleanup costs for pollution from oil and hazardous substances, many commentators believe that the conventions have actually provided very little relief from chronic discharges from vessels. The major weakness of the conventions is inadequate coastal state enforcement authority, even within "prohibited" zones. Enforcement is the responsibility of the flag

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[68]R. Soni, **Control of Marine Pollution in International Law** 179-95, 199-201 (1985).
[69]*Id.* at 195-97.

country, and unfortunately, there is very little economic incentive for a country to engage in vigorous enforcement of the treaty obligations against its ships in distant waters. The 1982 Law of the Sea Convention offers increased opportunities for coastal state enforcement, but the United States is unlikely to become a party to the treaty.[70]

The United States and twelve other countries[71] are also parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region and the Protocol concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region, commonly called the Cartagena Convention. An additional sixteen countries are participating in a Caribbean Action Plan to implement the treaty. The convention is intended to address a number of sources of marine pollution including vessels, dumping, seabed activities, airborne pollution, and land-based sources, and to provide a dispute resolution procedure. In addition to adopting the protocol on oil spills, the parties have adopted a resolution urging nations in the region to refrain from ocean incineration, dumping, and disposal of nuclear wastes except in accordance with the 1972 London Dumping Convention. The United States has proposed that the oil spill protocol be extended to include other hazardous substances.[72]

**Federal Legislation and Regulation**

The Clean Water Act (CWA) prohibits the discharge in harmful quantities of oil and other hazardous substances into or upon the navigable waters of the United States.[73] A "harmful quantity" is any amount that creates a film or sheen on the water or shoreline or causes a sludge to be deposited below the surface or on the shore. For purposes of the oil spill provisions of the act, navigable waters include the U.S. contiguous zone, *i.e.*, 12 miles offshore. Civil penalties up to $5,000 are assessed against the owner or operator of a vessel or facility for each violation.

Spillers have two obligations: 1) to report the spill to the U.S. Coast Guard; and 2) to contain and remove the oil or hazardous substance. Criminal penalties apply for failure to report a spill. The federal government must monitor the cleanup. If the cleanup is not being properly done or the spiller does not attempt to cleanup the spill or cannot be identified, the federal government is responsible for removal or arrangements for removal of the pollutants.

In addition to civil penalties and possible criminal penalties, the CWA provides for strict liability for the federal government's cleanup costs. Liability can only be avoided when the discharge is proven to be caused by an act of God or an act of war, negligence by the government, or an act of a third party.[74] Limitations on liability are set for owners or operators of vessels from which oil is discharged, but the limit will be lifted if the government establishes that the discharge was the result of "willful negligence." Oil tankers and barges must show proof of financial responsibility up to the limits of liability to operate in U.S. waters. These limitations, however, apply only to federal cleanup costs and do not affect liability for damages or preempt states from imposing liability for their cleanup costs and damages.

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[70]*See* Dempsey, *Compliance and Enforcement in International Law - Oil Pollution of the Marine Environment by Vessels*, 6 **Nw. J. Int'l L. & Bus.** 459, 557-61 (1984).

[71]Antiqua and Barbuda, Barbados, France, Grenada, Jamaica, Mexico, the Netherlands on behalf of Aruba and the Netherlands Antilles, Panama, Saint Lucia, Trinidad and Tobago, the United Kingdom on behalf of the Cayman Islands, the Turks and Caicos, and the British Virgin Islands, and Venezuela are the other nations that have ratified the convention.

[72]*Current Legal Developments*, 2 **Int'l J. of Estuarine and Coastal L.** 240-56 (1987).

[73]33 U.S.C.A. § 1321 ( West 1982 and Supp. 1984).

[74]These exceptions have been *very narrowly* construed by the courts.

To facilitate the rapid cleanup of spills of oil and hazardous substances, the CWA establishes a "revolving fund" to finance state and federal costs. In addition, the CWA required the development of a National Oil and Hazardous Substances Contingency Plan. Under this plan, EPA and the U.S. Coast Guard worked with state and local agencies to develop methods for oil spill containment, dispersal, and removal, and establish federal regional response teams to respond immediately to oil spills.

In some circumstances, the Coast Guard and EPA have the option of conducting a cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act[75] (CERCLA). CERCLA does not apply to oil spills, but the coverage of hazardous substances is much broader than under the CWA provisions. CERCLA procedures, *i.e.*, notification and primary responsibility for cleanup on the private party, are similar to the CWA. The strict liability requirement and exceptions to liability are also similar. Potential liability for cleanup costs and environmental damages, however, is much greater under CERCLA than under the CWA and potentially liable parties extend beyond the owner or operator of the facility or vessel.

**Florida's Oil Spill Legislation and Regulation**

Florida's Pollutant Spill Prevention and Control Act[76] largely parallels provisions of the federal CWA in that it prohibits coastal and ocean discharges of pollutants and any person discharging a pollutant[77] into Florida waters[78] is responsible for the immediate cleanup of the substance.

Liability of vessels for state cleanup costs is $14 million or $100 per gross ton, whichever is the lesser. Strict liability for spills applies to both cleanup and damages to individuals, however, there is no limitation on the private property damages. Spiller's defenses and the standard for lifting cleanup liability limitations are identical to federal exceptions. Vessels must establish and maintain proof of financial responsibility as required by federal law.

The act regulates terminal facilities as well as vessels. Terminals are defined to include pipelines and every shore facility from a gas pump at a small marina to the largest tank farms and refineries. All terminal facilities must be registered by DNR. Registration is based on a showing of satisfactory containment and cleanup capabilities. Cleanup liability for terminals for state costs is limited to $8 million, and terminals must also maintain evidence of financial responsibility.[79]

The Department of Natural Resources has responsibility for oil spill control in the state's coastal waters. To complement the national and regional oil spill contingency plans, DNR has developed the *Florida Coastal Pollutant Spill Contingency Plan* and a response team, the State Hazardous Materials Task Force. In most cases, the Coast Guard and DNR will coordinate the response, with the federal On-Scene Coordinator taking the lead. The state Task Force will generally only be activated in the case of a major spill episode. It is Florida's policy that *no state monies be expended* on pollutant spill cleanup until federal funds have been depleted or the federal government declines to cleanup the spill.[80]

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[75]42 U.S.C.A. §§ 9601-9657 (West 1982 & Supp. 1988).

[76]**Fla. Stat.** §§ 376.011-376.17, 376.19-376.21 (1987).

[77]Pollutant is defined to be petroleum in any form, pesticides, ammonia, chlorine, and derivatives. **Fla. Stat.** § 376.031(12) (1987).

[78]Discharges outside of Florida territorial waters that affect the waters or lands within the state are subject to the provisions of the act.

[79]*See* the section on Ports, Marine Terminals, and Marinas for additional discussion of marine terminals.

[80]**Handbook** at 8-11.

In addition to the state Task Force, Florida has a statewide spill control association, the Florida Spillage Control Association, Inc. The association is composed of regional cooperatives representing government agencies, ports, oil companies, and waterfront industries. The association maintains information on the availability of pollution control equipment and cleanup organizations, and serves as a technological and educational clearinghouse for cleanup information for the members, government agencies, and the public.[81]

Florida's Coastal Sensitivity Atlases comprise an important element of the oil spill planning effort. Developed through the Department of the Community Affairs, the atlases use an environmental sensitivity index which is based on geomorphic, biologic, and other resource information to identify critical feeding and reproduction habitat. The index provides a scientific basis for setting priorities for response and protection.[82]

Like the federal government, Florida has established a fund to assure prompt and adequate response to oil spills. In addition to having funds available for emergency response, the Florida Coastal Protection Trust Fund monies may be used for rehabilitation of natural resources, to compensate private parties for damages, and to provide grants to local governments to remove derelict vessels from public waters. DNR is responsible for recovering monies expended from the fund from the persons responsible for the spill or from the federal government.[83]

### Issues and Recommendations

**I. Use of chemical dispersants.** Florida's policy is that the preferred method of cleanup for oil spills is mechanical containment and removal. However, removal is not always feasible or physically possible. Chemical dispersants provide an alternative means of treating oil spills, but the use of such chemicals can have adverse environmental consequences.

In 1979, an advisory task force made recommendations regarding the use or non-use of chemical dispersants in Florida. These guidelines were incorporated in an interagency agreement between DER and DNR, and in a letter of agreement between the U.S. Coast Guard (USCG), the EPA, and DER. In summary, the guidelines provide :

1) Dispersants will not be used in fresh water.
2) Dispersants may be used to save human life.
3) Dispersants may be used at least 3 miles offshore where the water depth is at lease 20 meters.
4) Dispersants should generally not be used nearshore unless the esthetic/economic value of a recreational area far outweighs the environmental value, and the use has a high probability of preventing the spill from accumulating on the shore.
5) Dispersants shall not be used in or on shellfish propagation or harvesting waters, aquatic preserves, waters over reefs, nursery areas for aquatic species, Outstanding Florida Waters, coastal marshes, or mangrove forests except with express, prior authorization of the state of Florida or the EPA.
6) Only EPA-approved dispersants may be used, and only after a determination that there is no feasible alternative.

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[81] *Id.* at 14.
[82] *See id.* at 11-14; Research Planning Institute, Inc., **The Sensitivity of Coastal Environments and Wildlife to Spilled Oil in Florida** (1983).
[83] **Fla. Stat.** § 376.11 (1987).

The agreements provide that in a state cleanup operation, DER has authority to approve or disapprove the use of dispersants, and in a federal cleanup, the USCG On-Scene Coordinator has the nondelegable authority to make such a decision.

At this time, an industry-sponsored study of dispersant use is underway. Its goal is to develop a thorough and reasoned dispersant use decision making process in which all levels of government will participate. It is specifically designed to facilitate complicated and timely decisions during emergency circumstances.

**Recommendation.** Florida needs to continue to refine information on appropriate use of dispersants. The state should carefully monitor research in the development of oil dispersant technology as to its effectiveness under different conditions and its environmental impacts. The state's *Oil Spill Sensitivity Atlas* and *Oil Spill Dispersant Atlas* should be regularly reviewed to assure these documents provide the most current information to spill coordinators on sensitive habitats and dispersant use and effects.

The Florida OCS representative should continue to encourage the Marine Minerals Service of the Department of the Interior to include comprehensive dispersant-effects studies in its Environmental Studies Program.

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## Persistent Marine Debris

### Aesthetics of Beaches

In recent years problems caused by garbage, particularly plastics and other synthetic materials in the marine environment, have resulted in increased public concern. Nowhere is the problem more visible than on the beaches of coastal communities throughout the United States. The summer of 1988 will be remembered as the summer the environment fought back. Throughout the northeastern U.S., marine debris washed ashore, and the public became outraged. Clearly, the problem is neither limited to hospital waste nor confined to the Northeastern coast. Throughout the U.S., coastal states are experiencing severe problems due to beach litter, attributed primarily to the disposal of plastics and other marine debris from ships. The term ships includes every type of marine craft, including small recreational boats, commercial fishing boats, cruise ships, supertankers, cargo vessels, military craft and oil platforms. However, ship-generated waste is not the sole source of marine debris. Debris also emanates from the dumping of municipal waste and the discharge of materials into inland waterways and outfalls from plants which manufacture plastics and plastic products.[84] Hence, we must view the marine debris problems, particularly plastics, as a part of the nation's municipal solid waste stream.[85]

In 1986, the U.S. produced approximately 158 million tons of municipal waste. Plastics composed seven percent or ten million tons of the total. Plastic packaging accounted for approximately six million tons or four percent of the total. In the year 2000, total plastics are expected to rise nine percent or 16 million tons, with plastic packaging comprising eight million tons. This represents a 60% increase in plastic waste in the next 14 years. These projected increases are reaching a crisis level, when viewed with the projection that 1/3 of the nation's landfills will reach capacity by 1992.[86]

On a recent Florida statewide beach cleanup, 192.7 tons of debris were picked up by 10,676 volunteers along 914.5 miles of coastline. This debris included 279 miles of monofilament line on the coast and 26.4 miles on reefs. In addition, several entangled marine birds were found dead, and several sea turtles were also found dead. Medical waste which consisted primarily of syringes and vials, was found in 17 of 36 sites statewide.[87] Unfortunately, marine debris is a problem that is likely to get worse, and beach aesthetics are only the tip of the iceberg.

### The Danger

It is estimated that over one million birds and over 100,000 marine mammals and sea turtles die each year from ingestion of or entanglement in plastic debris. Sea birds often become entangled in fishing gear while attempting to retrieve fish. Along Florida's coasts,

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[84]Blumberg, *The Shipshape Debate on Mitigating Marine Litter*, **The 6th Annual Gulf of Mexico Information Transaction Meeting** 340-44 (U.S. Department of The Interior November 1986) [hereinafter **Blumberg**].

[85]*Testimony of Sylvia K. Lowrance Director, Office of Solid Waste, U.S. Environmental Protection Agency* before the Subcommittee on Fisheries and Wildlife Conservation and the Environment of the Committee on Merchant Marine and Fisheries and the Subcommittee on Transportation, Tourism and Hazardous Materials of the Committee on Energy and Commerce, U.S. House of Representatives, July 26, 1988, [hereinafter *Hearings*](testimony of Tudor Davies).

[86]*Id.*

[87]Center for Environmental Education, Data Tabulation from the September 24, Statewide Cleanup, (unpublished 1988).

hundreds of brown pelicans die in mangroves each year due to monofilament entanglement.[88] Mammals such as porpoises and seals are attracted to floating debris in the same manner that children are attracted to toys. Sea turtles which mistake plastic bags for jellyfish [a natural food source] ingest the bags. The results of this plastic debris on the marine animal population are lethal. Entanglement in plastic strapping and "six-pack" yokes results in infected lesions, strangulation or starvation. Ingestion of plastics blocks digestion, impairs the absorption of nutrients, and causes bacterial infections. If the ingestion continues, the final result is death.[89]

The problem becomes even more critical when seen in the light of the non-biodegradability of plastics. For example, a non-biodegradable plastic "six-pack" yoke is believed to have a marine life of several hundred years.[90]

Marine animals are not the only ones who use the oceans and hence are not the only ones exposed to the dangers. There are reported cases of divers who have become entangled in discarded monofilament line and gill nets. Vessels may become disabled as a result of plastic debris fouling propellers or clogging engine intake systems. In addition, there are the unknown dangers found in containerized substances; the Florida Marine Patrol has documented 26 incidents, since January 1988, of drums with unknown substances washing up on Florida Beaches.[91] Medical wastes that are illegally dumped in the oceans create a particularly alarming hazard.

In addition to the physical dangers attributable to marine debris, there are economic dangers. The impact of persistent marine debris on the coastal communities is significant now and will continue to be as coastal populations increase.[92] The Padre Island National Seashore Park in Texas spends $10,000 per year on cleaning roughly a one-half-mile stretch of beach. The beaches between New Jersey and Virginia were closed in the summer of 1987 as a result of marine debris washing ashore. The cost of the first cleanup was $100,000. However, the real economic toll was paid by the recreational industry of the area. The loss of revenue by businesses such as hotels, beach restaurants, fishing piers, and bait and tackle shops has been estimated to be in excess of $30 million.[93] Hence, the dangers are real, both physical and economic, and affect all living things that use the oceans.

**Sources of Debris**

Marine debris originates from two possible sources: 1) land-based and 2) ocean-based. Land-based debris originates from the dumping of municipal waste, discharge of materials into inland waterways,[94] discharge from combined sewer outflow during heavy rainfall and wind blowing over landfills or littered beaches.[95] However, the U.S. State Department believes that these land-based sources are more appropriately dealt with through domestic arrangements.[96] In Florida, marine debris incidents do not appear to be associated with

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[88]Department of Natural Resources, Report to the Governor and Cabinet on Refuse Washing Up on Florida Beaches, September 27, 1988.

[89]Regulations Implementing the Pollution Prevention Requirement of Annex V of MARPOL 73/78, 53 Fed. Reg. 23,884 (1988) (to be codified at 33 C.F.R. §§ 151, 158) [hereinafter **MARPOL**].

[90]*Id.* at 23885.

[91]DNR Report to the Governor (Sept. 1988).

[92] It is estimated that by the year 1990 approximately 75% of the U.S. population will live within 50 miles of the coast. *Hearings* at 7.

[93]**MARPOL** at 23885.

[94]**Blumberg** at 341.

[95]**MARPOL** at 23885.

[96]**Blumberg** at 341.

large-scale near-shore or ocean dumping.[97] Although land-based sources are a major contributor, this report is focusing on ocean users and will not attempt to address the issue of debris from land-based sources.

The second source is ocean-based or ship-generated. The world community believes that a significant portion of plastic marine debris originates from ocean sources.[98] These ocean sources include, the dumping of plastics and other waste by commercial and military vessels as a part of their standard operating procedure. In Florida, the medical debris which has surfaced on beaches throughout the state is believed to be attributable to cruise ships and military vessels.[99] A 1975 study concluded that an estimated 6.4 million metric tons of waste are dumped annually into the oceans from these sources. About one million metric tons of this is plastics.[100] The U.S. fishing fleet is believed to generate an estimated 92,160 metric tons of waste, not including lost synthetic fishing equipment.[101] In addition to commercial and military vessels there are an estimated 9.6 million recreational boats in the U.S. which the U.S. Coast Guard estimates are generating about 34,000 metric tons of waste per day.[102]

Commercial, recreational, and military vessels are believed to be the primary offenders. However, this is not to say that oil platforms do not contribute to the debris of the oceans. Oil company officials admit that there is a problem on oil platforms,[103] primarily in the Gulf of Mexico because of the platform proximity to land and Gulf currents depositing debris on Texas beaches. Nonetheless the problem is minor when compared to the ship-generated debris. In Florida, in addition to the commercial, recreational, and military vessels, the cruise ship industry is also believed to be a source.[104] Consequently, we will focus on the primary source of marine debris - ship-generated.

**Federal Legislation**

The following are a list of the federal laws which deal with marine waste. Also included is a synopsis of the individual laws.

1. The Refuse Act of 1899 (33 U.S.C. §§ 407 *et seq.*) - This Act prohibits the disposal of any refuse matter, including garbage such as plastics, from any source into the navigable waters of the U.S., including territorial seas. However, the statute is limited in geographical application, and its enforcement mechanism is too weak to be effective.

2. The Federal Water Pollution Control Act (FWPCA) (33 U.S.C. §§ 1251 *et seq.*) - Under the FWPCA [as amended] and the National Pollutant Discharge Elimination System (NPDES), waste discharge is allowed, provided the discharge meets federal effluent limitations and an EPA permit is acquired. This Act, however, is primarily designed to deal with effluent discharges, sewage, and dredge and fill activities - not solid waste.

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[97]DNR Report to the Governor (Sept. 1988).

[98]**MARPOL**.

[99]Additional sources of medical debris, specifically syringes, include intravenous drug users who discard their needles on beaches and "copy-cat" criminals. DNR Report to the Governor (Sept. 1988).

[100]**MARPOL** at 23885.

[101]D. Pybas, *New Law on Plastics: How Will It Affect The Commercial Fishing and Marine Industries, Organized Fishermen of Florida*, June, 1988, at 31.

[102]Sea Grant Program, *Marine Litter: More Than a Mess* (undated pamphlet).

[103]W. Kewley, **Stashing Trash Without a Splash**, 344-47 (U.S. Department of The Interior, The 6th Annual Gulf of Mexico Information Transaction Meeting, November 1986).

[104]DNR Report to the Governor (Sept. 1988).

3. The Marine Protection, Research, and Sanctuaries Act (MPRSA) (33 U.S.C. §§ 1407 *et seq.*) which implements the 1973 Convention on the Prevention of Marine Pollution by dumping of waste and other matter (London Dumping Convention - LDC), prohibits unlawful dumping and transporting of materials, including plastics, for dumping. The LDC, as implemented by MPRSA, prohibits the transport of persistent plastics and other specified pollutants for the purpose of dumping at sea. In addition, MPRSA prohibits material from outside the U.S., being dumped in our territorial waters or contiguous zone. However, MPRSA does not apply to ship-generated garbage, because such garbage is considered incidental to the operation of a ship.

It is clear that none of the above conventions or acts adequately address the problem of ship-generated waste at sea. However, on December 29, 1987, the President signed into law Pub. L. 100-220, including Title II, known as the "Marine Plastics Pollution Research and Control Act of 1987." This Act adopted Annex V of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution by Ships, 1973 (MARPOL 73/78) for prohibiting uncontrolled discharges of pollutants from ships into the oceans of the world. Annex V will apply to U.S. ships anywhere in the world and to foreign ships while operating in the navigable waters of the U.S. or the 200-mile Exclusive Economic Zone (EEZ). Unlike the previously adopted MARPOL Annexes I and II, Annex V will apply to all ships over which the U.S. has jurisdiction, from the largest supertanker or oil platform to the smallest recreational craft. In addition, Annex V will require reception facilities at all ports or terminals in the U.S. In brief, Annex V prohibits the disposal into the sea of all plastics including, but not limited to, synthetic ropes, synthetic fishing nets, and plastic garbage bags. It also provides for disposal facilities in port and minimum distances from land in which other types of garbage may be dumped.[105]

**State Regulation**

In 1988 the State of Florida set a goal for itself to reduce solid waste in the state by 30% by 1994.[106] The provisions of the state's new Solid Waste Management Act which may impact marine debris are as follows: a) effective July 1, 1989, each county in the state must initiate a recycling program to recycle - among other things - plastic; b) effective July 1, 1989, "six-pack" yokes must be composed of material capable of degrading within 120 days; c) effective January 1, 1990, plastic bags used to carry purchased items must degrade within 120 days; d) all polystyrene foam or plastic-coated paper used in connection with human consumption of food must degrade within 12 months; (effective date is 12 months after FDA approval - compliance is encouraged by January 1, 1992); and e) the Board of Regents is directed to coordinate research, by the state universities, in among other areas - product packaging.[107]

Penalties for illegal dumping under the state's new legislation includes the following: a) $50 civil penalty for dumping 15 lbs. or 27 cubic feet or less [noncommercial]; b) dumping more than 15 lbs. or 27 cubic feet [noncommercial], but less than 500 lbs. or 100 cubic feet

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[105]Minimum distances from land under Annex V of MARPOL are as follows: 1) Plastics - disposal is prohibited. 2) Floating dunnage, lining and packing materials - disposal is allowed 25 miles or more from nearest island. 3) Paper, rags, glass, metal, bottles, crockery and similar refuse - disposal is allowed 12 miles or more from nearest island. 4) Paper, rags, glass, etc. - disposal is allowed 3 miles or more from nearest island provided, material is comminuted or ground so as to pass through a screen mesh no larger than 25 mm. 5) Food waste - disposal is allowed 12 miles or more from nearest island. 6) Food waste which has been comminuted or ground [see part 4 of this footnote] - disposal is allowed. 6) Mixed refuse, i.e., different classifications of waste - the disposal requirements for the most restricted classification in the mix will apply. **MARPOL.**

[106]Fla. Laws 88-130 (1988).

[107]*Id.*

is a first degree misdemeanor. If violation occurs with the use of a motor vehicle, 3 points may be assessed to the individuals drivers license; c) Dumping more than 500 lbs. or 100 cubic feet of commercial waste is a third-degree felony. In addition, any motor vehicle, vessel, aircraft, container, crane, winch, or machine used to dump more than 500 lbs. or 100 cubic feet of waste will be considered contraband and subject to forfeiture; d) effective October 1, 1992, the Department of Environmental Regulation (DER) shall make a determination as to whether recycling of plastic and other type containers has reached the rate of 50% of quantities sold. If DER determines that this rate has not been achieved, an advanced disposal fee of one cent shall be assessed on each container. If the 50% rate is not achieved by October 1, 1995, then a two-cent disposal fee shall be assessed.[108]

The state's new Solid Waste Management Act also addresses the problem of medical waste. At the present time medical waste is a relatively minor when compared to areas in the Northeast; however, the threat is real and Florida is certainly not immune. Under the new Act, DER and HRS are presently drafting rules to implement the biohazardous or medical waste provisions of the Act. The new rules will address the segregation, identification, packaging, storage, transportation, treatment, and disposal of medical waste.[109]

**Problems**

1. INTERNATIONAL - All treaties have an inherent flaw and Annex V is no different. The flaw is one of enforcement and loopholes. There are three exceptions to the prohibitions on waste discharge. Two of the three deal with emergency situations at sea, in which life-saving is at issue. However, the third exception deals with "accidental loss" of synthetic fishing material during maintenance of fish nets.[110] This accidental loss exception is a loophole which the U.S. proposed to change in April of 1985. The proposed amendment closed the loophole only slightly by prohibiting disposal of the material used to repair the nets.[111]

Enforcement has traditionally been a problem with international treaties, and even more so when a treaty concerns conduct at sea. It is very difficult to monitor the millions of ships which operate within the U.S.'s EEZ, let alone all the other oceans throughout the world. This problem is compounded further by the jurisdictional limitations placed on Annex V.

2. NATIONAL - Nationally the U.S. is in a better position for enforcement, than internationally. The Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA) which adopts Annex V allows the U.S. to enforce the provisions of the Annex to all navigable waters in the U.S. In addition, the MPPRCA extends U.S. enforcement to the 200-mile EEZ. The MPPRCA also requires ports and terminals to provide waste reception facilities.[112] However, while the MPPRCA facilitates the ability of responsible ship-owners and operators to dispose of their waste on land, it is in effect moving debris ashore and compounding the already critical landfill problem.

Penalties under MPPRCA will be enforced against ship owners and operators, both foreign and domestic. U.S. owners and operators will be subject to either civil or criminal sanctions or both. Foreign violators will be referred by the State Department to their respective countries. However, if no action is taken against the violator by his foreign country, the Coast Guard may initiate action against the violator. Violations of either Annex V or its rules

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[108] *Id.*
[109] DNR Report to the Governor (Sept. 1988).
[110] **Blumberg** at 342.
[111] *Id.*
[112] **MARPOL.**

may result in $25,000 in civil penalties. Willful violation may result in a $50,000 criminal fine and/or a prison term not to exceed five years.[113]

The MPPRCA is also designed to encourage research and development of biodegradable plastics. In response to section 2202 of MPPRCA, the EPA will be submitting a report to Congress addressing among other things: U.S. production of plastics, characteristics of plastics, plastics in the solid waste stream, source reduction, recycling and use of biodegradable plastics. In addition the EPA has established an interagency work group with representatives from the U.S. Departments of Navy and Treasury, the Coast Guard, FDA, and NOAA. According to EPA officials, the report will be ready in June of 1989.[114]

**Issues and Recommendations**

**I. Enforcement.** It is clear that there are a number of legal mechanisms available to control the dumping of persistent marine debris. The greatest problem is enforcement of existing prohibitions. Enhancing enforcement efforts may take two forms: 1) identification of the primary sources of persistent marine debris on Florida's shores; and 2) enactment of penalties that will eliminate economic incentives to dump.

The departments of Transportation, Environmental Regulation and Natural Resources, along with local governments, should use and coordinate funds allocated under the State's new Solid Waste Management Act to educate Floridians about the litter problem. On September 24, 1988 the Center for Environmental Education sponsored a statewide beach cleanup day. This cleanup day was the follow up to the pilot program which was conducted in May of this year at Sebastian Inlet State Recreational Area. The Sebastian pilot program incorporated volunteers who cleaned a four-mile stretch of beach for over three hours, and collected more than 1,000 pounds of debris, 62 percent of which was plastics.[115] The statewide cleanup covered over 900 miles of beach and gathered almost 193 tons of debris. The purpose of beach cleanup programs is three fold. First, they help remedy the debris problem on an immediate, but short-term, basis.[116] Second, they help create public awareness of the debris problem, particularly plastics, facing the world's oceans. Finally, collection of debris can help identify the sources of the debris, and thus facilitate enforcement efforts.

Enforcement and penalties go hand in hand. If there is to be a significant impact on violators, we must have severe penalties to back-up enforcement. Enforcement agencies must feel that their hard work will result in tough sanctions which will actually deter violators. For example, Florida's new solid waste law[117] places the relatively minor penalty of a misdemeanor on violators who dump less than 500 lbs. or 100 cubic feet of waste. When this penalty is weighed by the violator against the greater cost of legal disposal, disposal at sea becomes a manageable risk. Thus, without severe penalties it becomes difficult for the public and the enforcement agencies to take illegal disposal seriously. However, when a violator

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[113] *Id.* at 23893

[114] *Hearings.*

[115] DNR Report to the Governor (Sept. 1988).

[116] Beach cleanups around the country have turned up an incredible amount of debris. For example: New Jersey (1987) - 1,000 bags of waste were collected, Delaware (1987) - 1.5 tons of waste collected by 700 volunteers, North Carolina (1987) - 1,000 volunteers collected 14 tons of waste along a 150 mile stretch of beach, Mississippi (1988) - 450 volunteers collected six tons of waste on an eight mile stretch of shoreline, Louisiana (1987) - 200 tons of waste collected on 17 beaches, Texas (1986) - 100 tons of waste collected on 120 miles of beach. Sea Grant Program, **Marine Litter: More Than A Mess** (undated pamphlet).

[117] Fla. Laws 88-130 (1988).

enforcement incentive to the agencies. For example, a cruise ship which dumps more than 500 lbs. or 100 cubic feet of waste is subject to having its ship forfeited to the enforcing state agency.[118] Hence, the Marine Patrol should develop and seek additional funding for a zealous enforcement program. In addition, coastal sheriff's departments and other law enforcement agencies should actively participate and implement enforcement programs.[119]

The difficulties in enforcement necessitate the cooperation and participation of private organizations and local governments. This concern is evident in the state's new Solid Waste Management Act[120] which calls for state agencies to encourage local programs. For example, the Keep Florida Beautiful Corporation is a non-profit, community-based, volunteer, anti-litter program which was created by the Act. Similarly, the Act created the Clean Florida Commission which, through the DOT, coordinates a statewide litter prevention program.[121] An example of the kind of private group participation which is needed is the recent action of the Organized Fishermen of Florida (OFF), [a statewide commercial fishermen's association]. On April 18, 1988, OFF passed a resolution which states in pertinent part: " That OFF members . . . will strive to accomplish the following; all non-biodegradable waste . . . will be brought back to port for disposal; also any non-biodegradable waste recovered during fishing activities will be returned to port . . . ; additionally, . . . OFF will encourage all land based facilities (i.e., fish houses, boatyards, marinas, etc.) to provide containers for disposal & recycling of all non-biodegradable materials."[122]

**Recommendation.** The state should continue to encourage intergovernmental programs for education, clean-up, and enforcement. Penalties should be specifically designed to remove economic incentives to dispose of wastes at seas.

**II. Waste facilities in ports and marinas.** If disposal of many types of solid wastes at sea is no longer to be an option for vessels, ports and marinas must have facilities to deal with these wastes.

**Recommendation.** Florida's solid waste legislation should be amended to deal with issue of waste facilities at ports and marinas.

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**W. Kewley, Stashing Trash Without a Splash** 344-347 (U.S. Department of The Interior, The 6th Annual Gulf of Mexico Information Transaction Meeting, November 1986).


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[118]Any motor vehicle, vessel, aircraft, container, crane, winch, or machine used to dump waste is contraband and as such is subject to forfeiture. *Id.*

[119]DNR Report to the Governor (Sept. 1988).

[120]*Id.*

[121]DNR Report to the Governor (Sept. 1988).

[122]D. Pybas, **New Law on Plastics: How will it affect the Commercial Fishing and Marine Industries** (1988).

D. Pybas, *New Law on Plastics: How will it affect the Commercial Fishing and Marine Industries, Organized Fishermen of Florida*, June, 1988, at 31.

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**State Statutes**

Solid Waste Management Act, 1988 Fla. Laws 88-130.

## OCEAN ENERGY

### Oil and Gas Leasing and Development

**Background**

By the early 1940s, potential oil and gas reserves off the coasts of the United States had been identified, and the technology to exploit that petroleum was already being developed.[1] To assure that other nations would not exploit that potential, President Truman proclaimed United States jurisdiction over the resources of the adjacent continental shelf in 1945. In the subsequent dispute over whether the federal government or the states had control of the resources beneath the territorial sea, the federal government won in the U.S. Supreme Court, only to have Congress vest coastal states with title to territorial sea resources in the Submerged Lands Act of 1953.[2]

In 1953, Congress also passed the Outer Continental Shelf Lands Act (OCSLA),[3] reaffirming United States' exclusive jurisdiction over its continental shelf resources and creating authority for the Department of the Interior (DOI) to encourage discovery and development of oil through a leasing program. From 1954 through 1986, 479 million acres of continental shelf were offered for lease; 41 million acres were actually leased. At the end of 1986, 5,068 offshore leases existed; 83% of the leases were in the Gulf of Mexico. The oil industry has produced 7.5 billion barrels of oil and 74.7 trillion cubic feet of gas from federal offshore leases. Approximately 95 per cent of the oil and over 99 per cent of the gas produced from federal leases came from the Gulf of Mexico.[4]

In proportion to the amount of oil produced and the number of wells drilled (over 26,000), the amount of oil spilled is relatively low. The amount also continues to decline as safer technologies are developed and more stringent regulatory safeguards are applied.

**CRUDE OIL SPILLS FROM FEDERAL LEASES IN THE GULF OF MEXICO, 1970-86[5]**

| | Number of Spills: | | |
|---|---|---|---|
| Year | 1-50 Barrels | More than 100 Barrels | Total Spillage in Barrels |
| 1970 | N/A | 7 | 83,823 |
| 1971 | N/A | 10 | 1,110 |
| 1972 | N/A | 2 | 181 |
| 1973 | N/A | 3 | 21,935 |
| 1974 | N/A | 8 | 23,973 |
| 1975 | N/A | 0 | 0 |

[1]The 1938 discovery of the Creole field, one and one-half miles off the Louisiana coast, was the first successful offshore petroleum venture. U.S. Dept. of Interior, **Leasing Energy Resources on the Outer Continental Shelf** 3 (1987) [hereinafter **Leasing**].

[2]*See* chapter on Submerged Lands and Jurisdiction, *supra.*

[3]43 U.S.C.A. §§ 1331 *et seq.* (West 1986 & Supp. 1988).

[4]**Leasing** at 4.

[5]U.S. Dept. of Interior, **Federal Offshore Statistics: 1986** 90 (1988) [hereinafter **Federal Statistics**].

## CRUDE OIL SPILLS (continued)

| Year | Number of Spills: 1-50 Barrels | More than 100 Barrels | Total Spillage in Barrels |
|---|---|---|---|
| 1976 | 57 | 3 | 4,740 |
| 1977 | 58 | 2 | 919 |
| 1978 | 59 | 3 | 1,382 |
| 1979 | 92 | 2 | 536 |
| 1980 | 40 | 2 | 1,775 |
| 1981 | 46 | 4 | 5,503 |
| 1982 | 42 | 0 | 124 |
| 1983 | 57 | 2 | 520 |
| 1984 | 46 | 1 | 224 |
| 1985 | 36 | 2 | 581 |
| 1986 | 36 | 1 | 227 |

In the period from 1964 to 1981, only 20 major spills of over 1,000 barrels were reported from offshore oil wells on federal leases. However, all but one of those spills occurred in the Gulf of Mexico.[6] Accidental tanker spills present a far greater risk than releases from offshore oil facilities. From 1969 to 1986, oil spills from tankers amounted to about 3.2 tons (23.5 million barrels) of oil worldwide.[7] In addition, nine of the twenty major OCS spills were vessel-related.[8]

The most concentrated offshore leasing and oil and gas development in the Gulf of Mexico has been off the coasts of Texas and Louisiana. In its 1985 estimate of undiscovered, economically recoverable oil reserves, however, DOI estimated a marginal probabilility for exploitable hydrocarbons offshore of Florida as 0.25 for the South Atlantic region, 0.11 for the Florida Straits region, and 1.00 for the Eastern Gulf. The marginal probability expresses the chance of the occurence of hydrocarbons in commercial volumes, with 1.00 indicating known occurences.[9] Of the 26 planning areas currently being used for federal offshore planning, the South Atlantic region is ranked seventh, the Eastern Gulf of Mexico region is ranked ninth, and the Florida Straits region is ranked nineteenth in potential for undiscovered, economically recoverable amounts of hydrocarbons.[10]

Since May 1959, there have been 42 wells drilled on federal leases off the coasts of the state - all nonproducing. In spite of this "long history of drilling dry holes off Florida,"[11] interest remains high in certain areas, particularly the Destin Dome and the South Florida Basin. Indeed, three wells off the Florida panhandle have been reported to have "shows" of hydrocarbons, but have been temporarily plugged and abandoned. Currently, 225 blocks or about 1.3 million acres are under lease in the Eastern Gulf of Mexico Planning Area. There are no active leases off Florida in the South Atlantic or the Straits of Florida Planning Areas.[12]

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[6] *Id.* at 91.

[7] **Federal Statistics** at 93.

[8] Accidents involved anchor damage to pipelines and vessels striking pipelines.

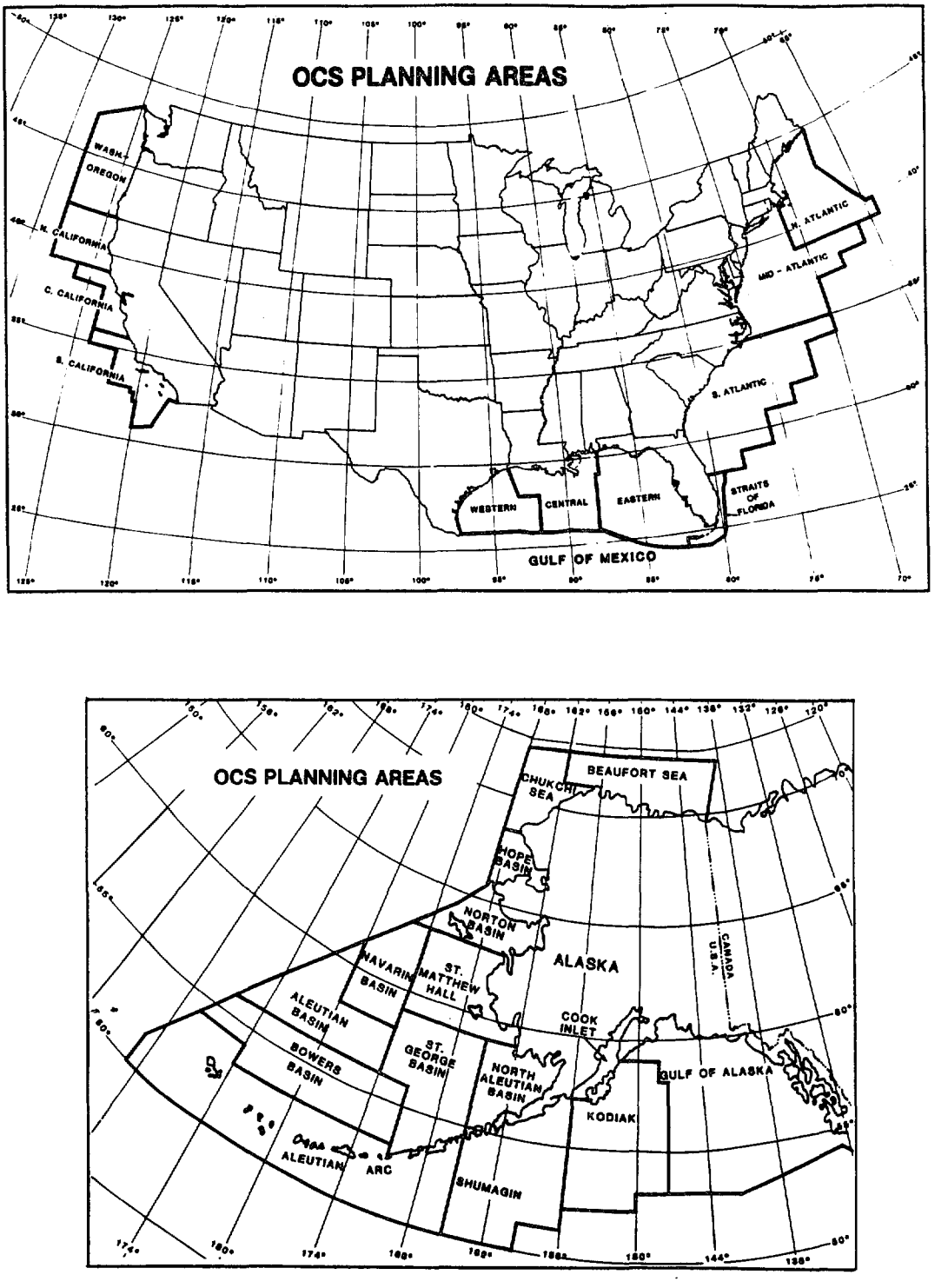
[9] U.S. Dept. of Interior, **Outer Continental Shelf Oil & Gas Leasing/Production Program: Annual Report/FY 1987** 11-12 (1988).

[10] **Federal Statistics** at 89.

[11] A. Applegate & J. Lloyd, **Summary of Florida Petroleum Production and Exploration, Onshore and Offshore, through 1984** 29-33, 53-58 (1985).

[12] Johnson & Tucker, The Federal Outer Continental Shelf Oil and Gas Leasing Program: A Florida Perspective (February 1987).

Figure 9. OCS Planning Areas




Source: U.S. Dept. of Interior, **Leasing Energy Resource on the Outer Continental Shelf** (1987).

**The Federal Leasing and Development Program**

The gas and oil leasing program under the OCSLA was substantially changed through amendments in 1978 which incorporated environmental safeguards and created a role for states in OCS planning and development. The leasing procedure now comprises four phases: (1) a five-year leasing program; (2) the lease sale; (3) exploration; and (4) development and production.

The Secretary of Interior is charged by the OCSLA with preparation of an oil and gas leasing program which consists of five-year schedules of proposed lease sales indicating, as precisely as possible, size, timing, and location of such activities. To facilitate preparation of the program, the OCS has been divided into 26 planning areas (Figure 9). Three of these planning areas - the South Atlantic, the Florida Straits, and the Eastern Gulf of Mexico - border Florida.

The 1978 amendments to the OCSLA enumerated the considerations that must be taken into account in development of the lease program. These include:

- existing information concerning the geographical, geological, and ecological characteristics of such regions;

- an equitable sharing of development benefits and environmental risks among the various regions;

- the location of such regions with respect to other uses of the seabead . . . and other anticipated uses of the resources and space of the [OCS];

- the interest of Potential oil and gas producers . . . ;

- laws, goals, and policies of affected States[13] which have been specifically identified by the Governors of such States as relevant matters for the Secretary's consideration;

- the relative environmental sensitivity and marine productivity of different areas of the [OCS]; and

- relevant environmental and predictive information for different areas of the [OCS].[14]

The lease program is intended to reflect, "to the extent practicable . . . a proper balance between the potential for environmental damage, the potential for discovery of oil and gas, and the potential for adverse impact on the coastal zone."[15]

Development and adoption of the Five-Year Leasing Program involves extensive planning, review, and consultation with other agencies, the oil and gas industry, the public,

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[13]An "affected State" includes: 1) a state connected to an artificial island or structure; 2) a state that will receive oil from the OCS; 3) a state designated by the Secretary of Interior because of probability of significant impact or damage to the coastal, marine, or human environment from OCS development; or 4) a state that the Secretary finds is subject to considerable risk from oil spills, blowouts, or other releases because of such factors as prevailing winds or currents. 43 U.S.C.A. § 1331(f) (West 1986).

[14]43 U.S.C.A. § 1344(a)(2)(A)-(H) (West 1986).

[15]*Id.* at § 1344(4).

and affected state and local governments.[16] The procedural requirements of both the OCSLA and the National Environmental Policy Act[17] (NEPA) must be met. NEPA requires DOI to prepare an Environmental Impact Statement (EIS)[18] and consider the environmental effects and alternatives to the proposed federal action. NEPA provides states and the public an additional opportunity to participate in the OCS lease process through commenting on the draft and final EIS.[19]

After publication of a proposed Five-Year Lease Program, states and local governments have an additional 90 days to make comments and recommendations. At least 60 days before approving the program, the Secretary must submit the program to Congress along with any comments and the Secretary's justification for rejecting the recommendations of a state or local government.[20] After approval, the Secretary must review the leasing program yearly and may revise and reapprove it. A new program must be developed, however, every five years.

In July 1984, DOI initiated development of the third five-year OCS leasing program to cover the period from mid-1987 through mid-1992. The new five-year program was approved on July 2, 1987. The four sales scheduled off Florida include two in the Eastern Gulf of Mexico Planning Area, one in the South Atlantic Planning Area, and one in the Straits of Florida Planning Area.

Before DOI may initiate a lease sale, environmental studies of the lease area must be conducted in cooperation with affected states.[21] Through 1986, over $425 million have been spent on OCS environmental and socioeconomic studies. Data is used to predict, assess, and manage the possible effects of OCS development on human, marine, and coastal environments. The Secretary is to consider relevant environmental information in developing regulations, issuing operating orders, and in making decisions relating to exploration, drilling, and development and production plans. The Secretary is also directed in the OCSLA to carry out post-development environmental studies to monitor changes resulting from OCS activities.[22] An additional EIS is also required for each individual lease sale.

The leases are granted to the highest responsible bidder through a competitive bidding process. The bidding is done by sealed bids based upon a notice of sale published in the Federal Register. The lease term is for a five- to ten-year period depending on the depth of the water. DOI has the express power to temporarily suspend or cancel leases if the lessee fails to comply with the terms of the lease, or if "there is threat of serious, irreparable, or immediate harm or damage to life (including fish and other aquatic life) . . . or to the marine, coastal, or human environment . . . ."[23]

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[16]Governors of affected states are given several opportunities to review and comment on the proposed leasing program both before and after publication of the proposed program in the Federal Register. The Secretary must reply to the governors, in writing, explaining his decision to grant or deny the governors' requested modifications. The submission of the lease program to Congress and the President must include copies of all correspondence between the Secretary and the governors of affected states. 43 U.S.C.A. § 1344 (c) (West 1986).

[17]42 U.S.C.A. §§ 4321 *et seq.* (West 1977 & Supp. 1988).

[18]Usually a draft and a final EIS are done.

[19]States or individuals may also judicially challenge the sufficiency of a completed EIS. *See, e.g.*, NRDC v. Morton, 458 F.2d 827 (1972).

[20]43 U.S.C.A. § 1344(d) (West 1986).

[21]*Id.* § 1346(c).

[22]*Id.* § 1346.

[23]*Id.* § 1334.

Before embarking on exploration, the lessee must submit an exploration plan to DOI for approval. The plan must include a schedule of exploration activities, description of the equipment to be used, location of the well, and other information. An oil spill contingency plan and an environmental report must accompany the plan. DOI may conduct an environmental assessment (EA) to determine if an EIS must be prepared. However, "mature areas" of the OCS, such as the Central and Western Gulf, DOI has determined the EAs are generally not required. A Categorical Exclusion Review is done to support a finding of no significant environmental impact. EAs are generally done for frontier areas, such as those off Florida. EAs have been prepared for all the plans in the Eastern Gulf, but no EISs have been prepared based on the assessments.

DOI has 30 days to approve, approve with modifications, or disapprove an exploration plan once it is complete.[24] However, DOI cannot issue a permit for exploration until the state has concurred, or is presumed to concur, with the consistency certification that must be submitted with the plan.[25] A consistency certification asserts that the exploration plan is consistent with the state coastal management program.[26] This process may involve an additional three to six months.

Once a discovery has been made, a development/production plan must be submitted to DOI for approval before production activities can begin. The plan includes: a description of the activity; drilling facilities to be used; location and depth of wells; geological and geophysical data; environmental and safety standards; and a timetable for development and production. This plan must also be accompanied by an oil spill contingency plan and an environmental report. The plan is reviewed for environmental impacts to determine whether another EIS must be prepared. In the Western and Central Gulf, DOI generally finds it unnecessary to prepare an EA or an EIS, because of the experience in that area. Federal regulations require, however, that DOI must determine, at least once in each planning area, that an EIS is required for a production/development plan.[27] Therefore, at least one EIS must be prepared for each planning area off Florida.

The federal review process for development and production plans is summarized in Figure 10. DOI can disapprove a plan if it is determined that: the lessee has failed to demonstrate compliance with applicable laws; activities threaten national security or defense; or serious harm is threatened to life, including aquatic life, property, or to the marine, coastal, or human environment.[28]

The Secretary must provide notice and copies of documents for proposed lease sales and proposed exploration and development production plans to the governors of affected states. Governors of affected states and executives of local governments may submit recommendations to the Secretary on the size, timing, and location of proposed lease sales or with respect to a proposed development and production plan.[29] The Secretary must accept the timely recommendations of a governor on lease sales if he determines that the recommendations provide for "a reasonable balance between the national interest and the well-being of the citizens of the affected state." The Secretary must respond to a governor,

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[24]U.S. Dept. of Interior, **Managing Oil and Gas Operations on the Outer Continental Shelf** 15-16 (1986) [hereinafter **Managing Oil and Gas**].

[25]43 U.S.C.A. § 1351(d) (West 1986).

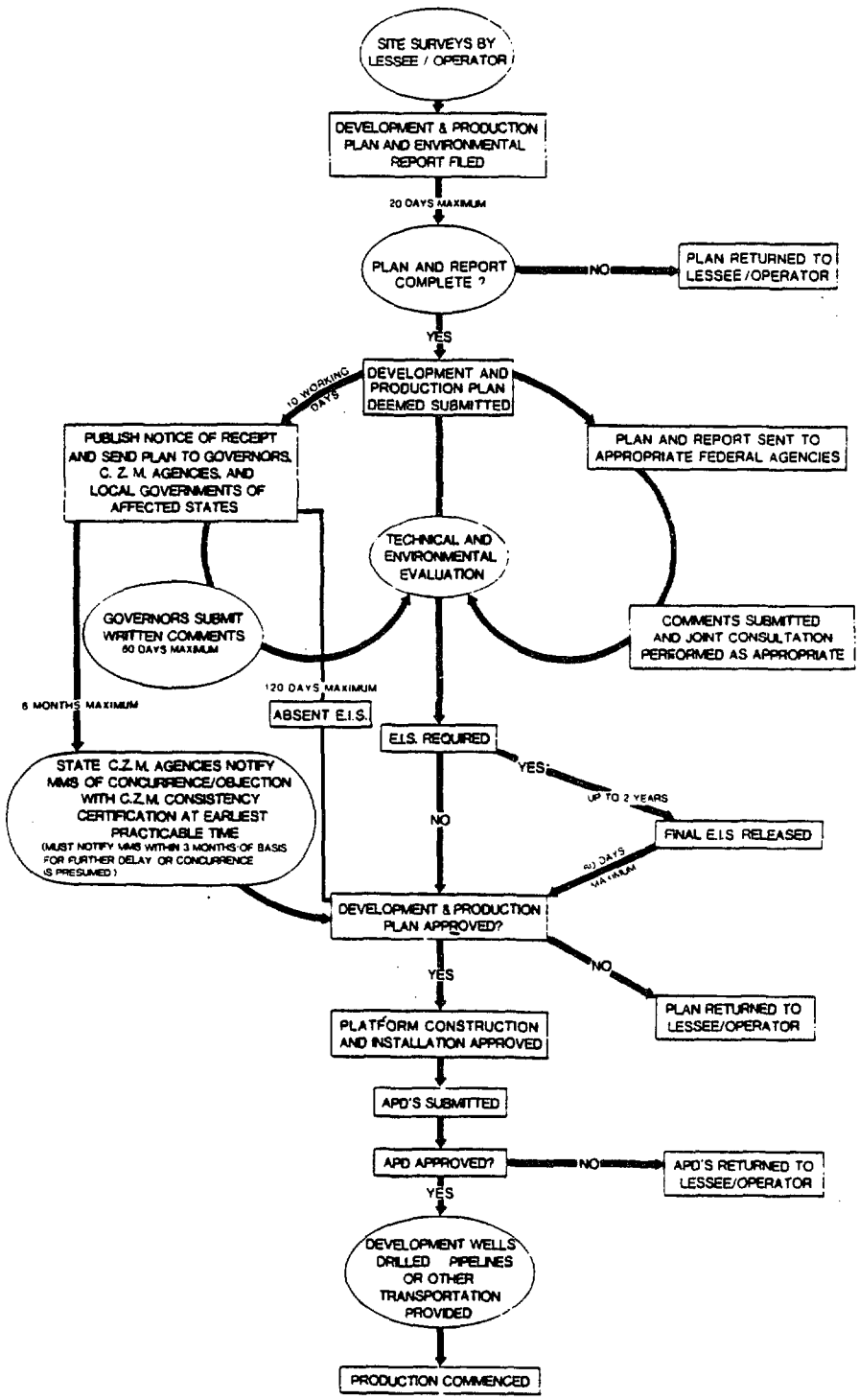
[26]*See* chapter on the Florida Coastal Management Program for a discussion of the consistency requirement.

[27]30 C.F.R. § 250.34-4(d) (1987).

[28]*Id.* at 17-21.

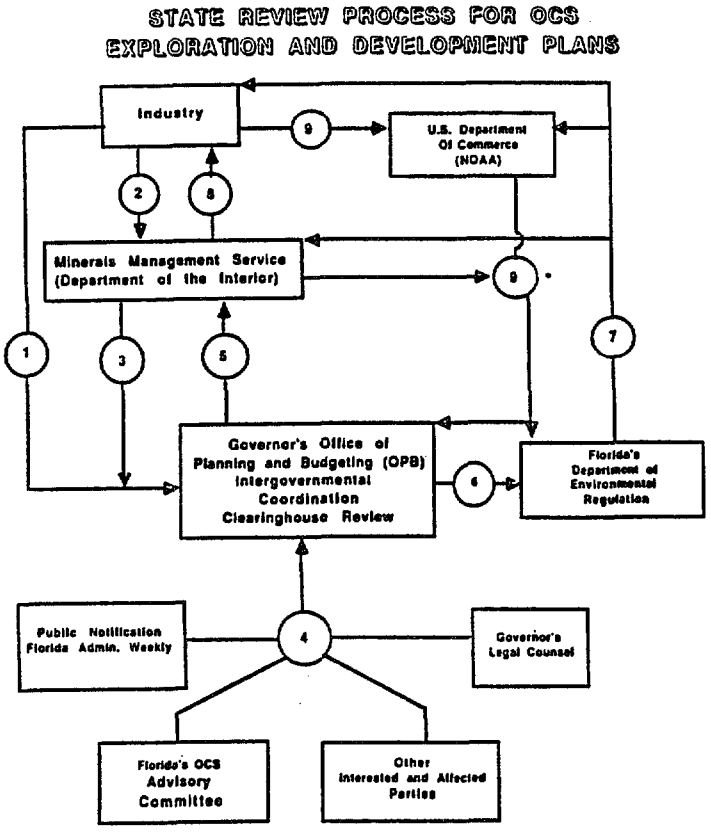
[29]43 U.S.C.A. § 1345 (West 1986).

**Figure 10. Federal Review Process for Development and Production Plans.**




Source: U.S. Dept. of Interior, **Managing Oil and Gas Operations on the Outer Continental Shelf (1986).**

## Figure 11.




(1) Industry Contacts Governor's Office with intent to drill and discusses information necessary for State review.

(2) Industry Submits Plan to MMS along with permit application and supportive information for review.

(3) MMS Deems Plan Complete and submits to Governor's Office for review. CZM consistency certification also sent to DER.

(4) Governor's Office Reviews and Distributes Information and, with the comments received, develops the State's position on plan and CZM consistency certification.

(5) Governor Submits OCS Lands Act Comments on plan to MMS. MMS either approves, conditionally approves, or disapproves plan.

(6) Governor's Office Transmits Recommended State Position on the Consistency Certification to DER.

(7) DER Forwards State's Position on the CZM Consistency Certification to MMS, industry, and the U.S. Secretary of Commerce.

(8) State Concurs with Plan, MMS grants applicable licenses and state permits to industry.

(9) State Objects with Plan, parties may pursue State mediation and/or appeals to U.S. Secretary of Commerce, the Governor and Cabinet or the courts.

in writing, concerning his reasons for accepting or rejecting the recommendations.[30] Federal regulations require that written comments by states will be considered by DOI in evaluating exploration plans.[31] The state review process is summarized in Figure 11.

State review of exploration and production/development plans under OCSLA provisions is generally conducted concurrently with review under the Coastal Zone Management Act (CZMA). The CZMA requires that both exploration plans and development and production plans be consistent with a state's approved coastal zone management program.[32] This has been an important tool in assuring that the state's concerns about oil and gas development off its coasts are met.[33]

In order to determine consistency with the state's coastal management plan, Florida requires that each plan be accompanied by such information as site specific oil spill trajectory analyses and containment and cleanup plans. The trajectory analyses use worst case meterological and physical oceanographic conditions to identify state waters and resources that might be negatively affected by an oil spill. The containment and cleanup plans must include equipment, procedures, and timeframes to ensure that the industry can react to contain the spill before it affects state resources. For example, Conoco's exploration plan for Destin Dome Area Block number 56 was initially found to be inconsistent with Florida's coastal program, because the time reported by Conoco to contain a spill was not adequate. Subsequent negotiations led to Conoco's relocating its equipment to reduce response time.

Information provided for consistency reviews can greatly enhance the state's knowledge of its resources and the measures necessary to protect them. For example, in review of SOHIO's plan of exploration for Gainesville Block 707, it was found that the site was covered with a significant live bottom community.[34] Because the state did not have sufficient information on the effects of exploratory drilling on these communities, DNR found the plan would not be consisent with its statutory authorities that are included in the coastal management program. The state concurred with the consistency certification when SOHIO agreed to conduct a multidisciplinary environmental monitoring program concurrent with the exploratory drilling.

As a general statement, Florida's policy since 1979, as developed through the Governor's Office, has been: **The state of Florida does not oppose OCS oil and gas development as long as assurances can be made that the state's uniquely sensitive and economically important marine and coastal resources will not be adversely affected.** Florida's state policy concerning

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[30]*Id.* § 1345. The requirement of acceptance of a governor's recommendations, except under limited conditions, appears to give states a preemptive power. This is not necessarily the case. Judicial review of a determination of the Secretary of Interior *not* to accept such recommendations is extremely limited and based on whether a determination was "arbitrary and capricious." *See, e.g.*, California v. Watt, 520 F. Supp. 1359 (9th Cir. 1982).

[31]30 C.F.R. § 250.34-1(d) (1987).

[32]*See* 43 U.S.C.A. § 1351 (West 1986) and 16 U.S.C.A. § 1456(c)(3)(B) (West 1982 & Supp. 1988). Until recently, there was a great deal of controversy concerning whether sales of offshore leases were subject to the consistency requirements of the CZMA. The United States Supreme Court settled this question in the negative, thereby relieving DOI of the responsibility to review federal oil and gas lease sales for consistency with state coastal plans. Secretary of the Interior v. California, 104 S. Ct. 656 (1984).

[33]*See* the chapter on the Florida Coastal Zone Management Program for a discussion of the state's consistency review process.

[34]Live bottom areas are seagrass communities; or those areas which contain biological assemblages consisting of such sessile invertebrates as sea fans, sea whips, hydroids, anemones, ascidians, sponges, bryozoans, or corals living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; or areas whose lithotope favors the accumulation of turtles, fishes, and other fauna.

specific OCS activities is developed by the Governor's Office of Planning and Budgeting (OPB), Environmental Policy Unit. In 1980, OPB formed the Florida OCS Advisory Committee to provide a forum for members to express concerns and interests in response to federal OCS activities, leases, and permitting. The Committee also provides an interagency forum for review of consistency certifications. The Committee is composed of representatives of the following agencies and interest groups:

| | |
|---|---|
| Office of Planning and Budgeting (Chair) | Governor's Energy Office |
| Department of Commerce | Game and Freshwater Fish Commission |
| Department of Community Affairs | County Commissioner's Association |
| Department of Environmental Regulation | Florida Petroleum Council |
| Department of Natural Resources | Sierra Club |
| Department of State | Florida Audubon Society |
| Department of Transportation | Florida Public Interest Reserach Group |

The Environmental Policy Unit analyzes the concerns and recommendations of the Committee and other interested or affected parties to provide the Governor with options and recommendations for responding to federal OCS intiatives.

**OCS Revenues**

Revenues from OCS leasing include bonuses, royalties, and rentals, all of which are deposited in the U.S. Treasury. During the period from 1954 through 1986, the federal government received over $52.9 billion in bonuses, $541.2 million in rentals, and $30.7 billion in royalties from OCS oil and gas activites.[35] From 1959 through 1986, the federal government received over $1.5 billion in bonus payments and over $10 million in rentals for leases off Florida's coasts.[36]

There is no true revenue sharing of OCS-generated funds with the states. That is, coastal states receive no funds directly from the federal OCS lease activities. Unlike the policy for onshore federal leasing activities on federally-owned lands, coastal states do not share in royalties, cannot impose severence taxes, and do not receive payments in lieu of taxes to mitigate the impact of federal OCS leasing activities. There have been several attempts in Congress to address the problem of revenue sharing.[37] However, no bills have been successful in resolving this issue.

Section 8(g) of the OCSLA[38] does provide for states to claim a fair and equitable share of revenues (27%) if a federal lease within three miles of the territorial sea boundary may tap ya resource pool that underlies both federal and state lands. Florida has received $30,000 in 8(g) funds for leases within three miles of the territorial sea boundary. These funds are not technically a sharing of OCS revenues, but are compensation to the adjacent state for recovery of state territorial sea oil resources.

Part of the revenues from OCS activities are credited to two special funds - the Land and Water Conservation Fund and the National Historic Preservation Act. The National Historic Preservation Act has received $150 million per year of OCS-generated funds since 1980. The Land and Water Conservation Act created a program to fund conservation and recreation projects at the federal, state, and local level. The legislation required that the fund be credited with $900 million annually. From 1984-1986 (latest reported period), OCS activities provided over $750 million per year toward the fund.[39] Since establishment of the

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[35]**Leasing** at 35.

[36]**Federal Statistics** at 63.

[37]*See* Fitzgerald, *Outer Continental Shelf Revenue Sharing: a Proposal to End the Seaweed Rebellion*, 5 **UCLA J. Envtl. L. & Pol'y** 21-29 (1985).

[38]43 U.S.C.A. §1337(g) (West 1986 & Supp. 1988).

[39]**Leasing** at 35.

Land and Water Conservation Fund in 1964, Florida has received almost $975 million for recreation and conservation projects.[40]

**Oil and Gas Policy for Florida's Territorial Sea**

On June 2, 1987, the Governor and Cabinet adopted a resolution which stated that:

> the State of Florida does not object to ecologically sound exploration and development of offshore petroleum resources, provided that such exploration, extraction and transportation activities can be undertaken without endangering Florida's sensitive marine and coastal resources . . . .

This resolution memorialized the state's position since 1979 that Florida does not object to offshore oil and gas development if protection of the marine and coastal resources can be assured.

Legislative policy direction has been less clear and slightly schizophrenic. 1945 legislation concerning the Energy Resources of the state enunciates state policy to "conserve and control the natural resources of [the] state . . . and to encourage and cause the development [of the] natural resources of oil and gas . . . ."[41] A more recent statement of policy is in the Energy Goal of the State Comprehensive Plan, adopted by the legislature in 1985. The Energy Goal emphasizes conservation of energy and promotes increased use and development of *renewable* energy resources.[42]

The legislature has, however, established some clear policies by specifically limited or prohibited oil and gas development in certain areas. The following areas have been declared to be off-limits for oil and gas leases unless the governing authority of the municipality consents:

(a) lands within the corporate limits of any municipality . . . .

(b) lands in the tidal waters of the state, abutting on or immediately adjacent to the corporate limits of a municipality, or within 3 miles of such corporate limits . . . .

(c) Any improved beach, located outside of an incorporated town or municipality, or . . . lands in the tidal waters of the state abutting on or immediately adjacent to any improved beach, or within 3 miles of an improved beach . . . .[43]

Additional prohibitions include:

(1) The Board of Trustees sovereignty lands management rule prohibits oil and gas leasing less than "one mile seaward of the outer coastline as defined in *United States v. Florida*, 425 U.S. 791 (1840) . . . unless the lease stipulates that any drilling will be conducted from outside said area."[44]

(2) No drilling of oil or gas wells is allowed within areas designated as Aquatic Preserves.[45]

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[40]The Nature Conservancy, **The Land & Water Conservation Fund: A Legacy for America** 60-65 (undated).
[41]**Fla. Stat.** § 377.06 (1987).
[42]**Fla. Stat.** § 187.201 (12) (1987).
[43]**Fla. Stat.** § 253.61(1)(a)-(c) (1987).
[44]**Fla. Admin. Code Ann.** § 18-21.004(2)(k)(1987).
[45]**Fla. Stat.** § 258.42(3)(c) (1987).

(3) Florida law prohibits any structure intended for drilling, or production of oil, gas, or other petroleum products to be permitted or constructed one mile seaward of the coastline of the state.[46]

(4) No petroleum product drilling structures may be constructed within one mile of the seaward boundary of any state, local, or federal park, or aquatic or wildlife preserve.[47]

(5) No petroleum products drilling structure may be permitted or constructed within any bay or estuary.[48]

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has title to and administrative jurisdiction over all state sovereignty submerged lands.[49] These lands are held in trust for the people of Florida.[50] The legislature has given the Trustees specific authority to lease state bottom lands for royalties or other compensation for the discovery and production of petroleum and natural gas.[51]

All sovereignty lands management decisions must conform to the public interest standard in Article X, Section 11 of the Florida Constitution:

> Sovereignty lands. - The title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held for all people. Sale of such lands may be authorized by law, but only when in the public interest. Private use of portions of such lands may be authorized by law, but only when not contrary to the public interest.

However, the Trustees have adopted an even more stringent test for oil and gas leases of sovereignty submerged lands. Florida Administrative Code, section 16Q-21.04(2)(k), provides that such leases will only be approved "upon adequate demonstration that the proposed activity is *in the public interest*, that the impact upon aquatic resources has been thoroughly considered, and that every effort has been made to minimize potential adverse impacts upon sport and commercial fishing, navigation, and national security."

In addition to the above limitations, DNR proposes in its agency functional plan to develop rules that will prohibit mineral resource development which may threaten aquatic or estuarine resources. DNR has drafted a proposed rule which would incorporate the legislatively proscribed areas discussed above and also prohibit drilling: 1) in any area occupied by living coral reefs, artificial reefs, patch reefs, and associated communities; and 2) in any other area for which a biological survey, sufficient to enable the Department to determine whether such communities are present, has not been made.

**Florida's Leasing and Regulation for Offshore Oil and Gas**

Oil and gas exploration interests in Florida's territorial waters date back to the early 1940s when several leases were granted. Three major leases include virtually the entire offshore area from Pensacola to Naples. These leases were modified in 1976 and will remain

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[46]**Fla. Stat.** § 377.242(1)(a)4 (1987).
[47]**Fla. Stat.** § 377.242(1)(a)3 (1987).
[48]**Fla. Stat.** § 377.242(1)(a)1 (1987). Note that this section seems to conflict with section 253.47, **Fla. Stat.**, which gives the Trustees the authority to "dispose of the right to drill wells for the discovery and the production of [oil] and . . . gas . . . [in] bays, lagoons, straits, [and] sounds . . . ."
[49]**Fla. Stat.** § 253.03(1) (1987).
[50]**Fla. Stat.** § 253.001 (1987).
[51]**Fla. Stat.** § 253.47 (1987).

in effect until 2016.[52] Since 1945, a total of 29 wells have been drilled in the state's territorial waters - all of which have been non-producing. Hydrocarbons have never been produced commercially in Florida's territorial waters.[53]

Florida does not have an offshore oil and gas leasing program. Chapters 253 and 377, Florida Statutes provide for onshore and offshore oil and gas leasing. These statutes, along with chapter 403, Florida Statutes, create the legal framework for the regulation of oil and gas development activities in submerged lands. Leases are offered in response to a proposal for a lease from a potential lessee. Each lease nomination requires a $200.00 non-refundable processing fee.[54] The bids are sealed in a competitive bidding process. The primary lease term is for five years, but the Trustees of the Internal Improvement Trust Fund are authorized to grant leases for up to ten years. The lease term can be extended and, with the state's permission, is transferable. Lessees are required to submit an annual report.[55]

Royalties are set at a minimum amount of 1/8th of the gross production. Rental payments are established prior to the advertising for a lease sale and are specified in the lease agreement. DNR is the agency responsible for collecting the revenues. All royalties, rentals, and bonuses are paid to the state. Counties receive a portion of oil and gas severance taxes; municipalities do not.

There is no environmental review process specifically for offshore oil and gas activities in state waters. However, existing state environmental laws and the Trustees' ability to condition use of state lands provide substantial authority to regulate oil and gas leasing and development. The 1982 permit issued to Getty Oil for drilling in East Bay, Santa Rosa County, is ample evidence of how Florida's current regulatory regime can protect marine and coastal resources. The permit imposed a no discharge standard, required additional crew and equipment to assure protection of the bay and containment of possible spills, and required environmental monitoring of the project at all stages.

### Issues and Recommendations

**I. Florida has no program for offshore oil leasing and development.** Hydrocarbons have never been produced commercially in Florida's territorial waters. However, there are active mineral leases in state waters and, therefore, the potential for development exists. The state cannot ignore the possibility of hydrocarbon development in the territorial sea, but there seems to be little reason to create leasing and development programs when existing laws provide both leasing procedures and environmental protections. However, without adequate knowledge of the state submerged resources, protection of those resources cannot be assured. An objective of the 1987 Agency Functional Plan of the Governor's Office is to increase the state's knowledge of its ocean and coastal waters through a comprehensive environmental studies program.

**Recommendations.** The state should develop long-term strategies for research, comprehensive living resource inventories, and mapping for Florida's territorial seas. A possible approach is discussed further in the chapter, Marine Research and Education.

Funds received from the federal government under section 8(g) of the OCSLA should be dedicated to a trust fund for developing information on marine living resources and protecting those resources from the effects of offshore development.

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[52]If the leases are generating oil, gas, or minerals in economically sustainable quantities at the end of the lease period, the leases will continue until production becomes uneconomic.

[53]Miller & Rinkel, **Oil and Gas Leasing in Florida Offshore Waters** FL- 4-9 (1985).

[54]For application requirements *see* **FLa. Admin. Code Ann.** § 18-21.008(3) (1987).

[55]*See generally* **Fla. Stat.** §§ 377.22-377.41 (1987).

The scope of the provisions of §§ 377.2408-.2409, Florida Statutes, should be broadened to protect the confidentiality of information of federal permitees and lessees who conduct research and geophysical testing on the OCS. Protection of this information would provide greater access to data by state agencies.

**II. State concerns with lease sales and oil and gas development on the OCS.** In March 1988, DOI removed 11 million acres of OCS from the federal leasing program until 1993 and cancelled a proposed 1992 lease sale off the Keys in the Straits of Florida Planning Area. Although large areas off the Keys and Naples are now deleted and areas near Cape San Blas will receive extra protections, the state continues to be concerned about all areas south of 26.0 degrees North latitude. Because of concerns raised by Governor Martinez and the review of the adequacy of environmental information necessary to make decisions, Secretary of the Interior Donald Hodel in June 1988 agreed to delay further leasing off southwest Florida (south of 26° north latitude) until at least March 1989. Subsequently, Congress imposed a moratorium which prevents further leasing or drill in this area until after September 30, 1989.

As part of the agreement to delay further leasing off southwest Florida, the Governor and Secretary agreed to form two task forces to address issues that remain of concern to the state. One task force will address oil spill risks in the area and the other will address the impacts that may result from all aspects of offshore oil and gas exploratory drilling.

**Recommendations.** Although certain blocks in the sensitive areas near the Florida Keys have been deleted from the most recent federal lease sale, the issue of protecting the area is a recurring one. Certain areas off Florida are so sensitive or contain such significant living resources that stop-gap measures should not have to be continually applied to preserve them. Research and mapping is necessary to identify those areas. Federal legislation is necessary to provide permanent protection of sensitive areas and assurances that lease sales will be consistent with coastal management objectives. In addition, the state should assure that oil and gas activities within the territorial sea are consistent with demands on the federal government's management of the OCS. For example, the state should, by rule or legislation, exclude all submerged lands south of 26° north latitude from oil and gas leasing and development.

**III. OCS revenue sharing.** States including federal lands have shared *both* the fiscal benefits and the potential environmental detriment of mineral production on the federal lands within their boundaries. Coastal states share some indirect economic benefit from offshore development, but primarily bear major environmental risks (and resulting economic effects) of OCS oil and gas development. One cannot compare the economic and environmental impacts of an oil well blowout on an Oklahoma prairie to a similar blowout off a major tourist beach or near a coral reef. Yet Oklahoma receives 50% of the royalties for oil produced on federal lands in that state and may also impose a severance tax. Existing programs do not guarantee states even minimal funding to deal with the impacts of OCS development.

**Recommendation.** The state should support continued attempts to pass federal legislation requiring the sharing of OCS revenues with coastal states.

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ch. 16C-30 Wetlands and submerged lands

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## Geophysical Testing and Exploration

### Development of Florida Policy

The *Conceptual State Lands Management Plan* suggests that the state has been hindered in development of policy and planning for mineral development by lack of a correct, updated mineral interest inventory.[56] The *Plan* notes that improved inventories can aid in planning for optimum resource development in terms of rate and location of development considering public interest, environmental concerns, and economic and social factors. It is not clear, however, that the discussion in the *Plan* was directed to submerged lands as well as upland mineral development.

In general, information on exploitable minerals has been gathered piecemeal from lease applications for particular parcels. As a matter of fiscal practicality, DNR will have to continue to rely on private sources for mineral resource information, but information from testing and exploration that does not result in requests for leases or permits is also an important element in completing the picture. Monitoring of geophysical testing is also necessary for the state to assure that testing and exploration are consistent with environmental protection and state policy and planning.

### Permits and Use Agreements for Offshore Testing

In 1984, DNR adopted rules to require permitting of geophysical testing in the state.[57] In summary, a permit application must contain plat maps showing the locations where geophysical operations will be conducted, a detailed discussion of the proposed geophysical activities, and a bond to protect areas where operations are conducted. The Governor and Cabinet has the authority to grant, grant with conditions, or deny a geophysical testing permit in territorial sea waters. Permits can be revoked for failure to comply with requirements.

Operational requirements for geophysical testing are rigorous and are intended to protect aquatic life and habitat, ensure safe navigation in an operations area, and protect commercial fishing operations.[58] The limits on the use of explosive charges are strictly circumscribed, and independent observers are required to assure compliance.[59] Among the standards imposed are requirements that:

- no vessel be operated within one mile of an area designated by DNR to be an active manatee habitat.

- all reasonable precautions be taken to prevent injury or destruction of marine mammals, turtles, oysters, shrimp, fish, and other aquatic life and natural resources. This includes not detonating explosive charges within 500 feet of shellfish areas or within one-half mile of an active rookery or eagle's nest, and frightening away schools of fish and other marine life before an explosive is discharged.

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[56]**Department of Natural Resources, Conceptual State Lands Management Plan** 49 (adopted by the Board of Trustees of the Internal Improvement Trust Fund March 17, 1981).

[57]**Fla. Admin. Code Ann.** § 16C-26.007 (1987).

[58]*Id.* at § 16C-26.007(5).

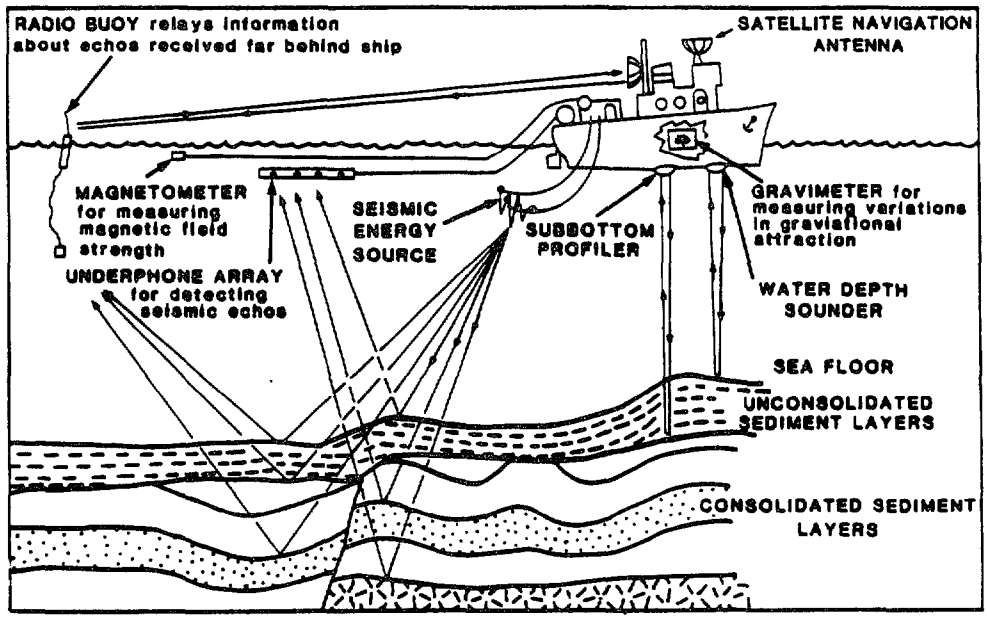
[59]DNR has proposed a rule to prohibit the use of explosives on or in any sovereign waters of the state.

- no explosives be discharged within one mile of a recreational beach or within one-half mile of a private or charter fishing boat.

- no explosives be detonated within one-half mile of an operating commercial fishing vessel or within one-half mile of unattended gear, such as lobster or crab lines. Grouper and snapper banks are to be avoided.[60]

It should be noted, however, that explosives are not used in modern seismic operations offshore. Compressed is the primary source of seismic energy.

**Figure 12. Geophysical Survey Methods**




Source: U.S. Dept. of Interior, **Leasing Energy Resources of the Outer Continental Shelf** (1987).

Sovereignty Submerged Lands Management rules were also amended in 1987 to address geophysical testing in state waters.[61] A use agreement from the Board of Trustees is required for any geophysical testing in bays, estuaries, and territorial sea waters, unless the testing is conducted by a current leaseholder on lands subject to valid lease from the State.

An application for a use agreement must contain, in addition to a copy of the geophysical testing permit, information concerning the research vessel and a letter certifying the mileage to be surveyed. DNR's Division of State Lands will solict comments from agencies whose jurisdictions may be affected, including written comments from the Office of the Governor concerning state oil and gas policy and DNR's Bureau of Land and Aquatic Resource Management if any testing is proposed in an aquatic preserve. A biological assessment from DER will be solicited, if applicable. The Division is also to ensure that the proposed testing

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[60]**Fla. Admin. Code Ann.** § 16c-26.007(13)(2) (1987).
[61]*Id.* at § 18-21.005(g).

will not conflict with public use, nearshore management policies, the protection of marine resources, and adopted management criteria. The Division provides its recommendation to the Board of Trustees, which may approve, approve with conditions, or deny the use agreement. An approved use agreement for geophysical testing becomes operative only when the geophysical testing permit is issued.[62]

Use agreements require extensive data submissions. A field operations report must be submitted to the Bureau of Geology which contains a narrative description of the project, including dates and times, types of data obtained, and any environmental hazards or damage resulting from the activities. Charts, maps, or plats referencing the areas of exploration and data obtained must also be submitted. In addition, the Bureau of Geology must be provided copies of certain data and have access to other uninterpreted data.[63]

Although geophysical testing on submerged lands already subject to valid lease does not require a use agreement, Florida law requires that uninterpreted information be furnished to DNR's Division of Resource Management on request.[64] Information from geophysical testing is confidential for a minimum of 10 years on request of the person conducting the operation.

**Recommendation.** The state should continue to refine policies concerning geophysical testing requirements to reflect advances in technologies and greater knowledge of effects on resources.

### References

**State Statutes and Rules**

**Fla. Stat.** § 377.2408 (1987), Application to conduct geophysical operations.
**Fla. Stat.** § 377.2409 (1987), Confidential information.
**Fla. Admin. Code Ann.** § 16C-26.007 (1987), Geophysical Permits.
**Fla. Admin. Code Ann.** § 18-21.005(g) (1987), Use agreements.
**Fla. Admin. Code Ann.** § 18-21.0056 (1987), Procedures for the Review of Applications to Conduct Geophysical Testing.

**Agency Plans**

Department of Natural Resources, **Conceptual State Lands Management Plan** (adopted by the Board of Trustees of the Internal Improvement Trust Fund March 17, 1981).

### Ocean Pipelines

Two federal statutes govern the safety standards, design, installation, operation, and maintenance of pipelines and facilities. The Natural Gas Pipeline Safety Act[65] controls pipelines for natural gas and liquefied natural gas; the Hazardous Liquid Pipeline Safety Act[66] applies primarily to pipeline transportation of petroleum and petroleum products. In Florida, the Department of Insurance has authority to promulgate standards for handling and transportation of liquified natural gas.[67] Both federal acts provide that although states may impose more stringent standards for intrastate pipelines, federal standards preempt all state safety standards for interstate pipeline facilities and the associated transportation of oil or gas.

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[62] *Id.* § 18-21.0056.
[63] *Id.* at § 18-21.0056(2)(d).
[64] **Fla. Stat.** § 377.2409 (1987).
[65] 49 U.S.C.A. §§ 1671 *et seq.* (West 1980 & Supp. 1988).
[66] 49 U.S.C.A. §§ 2001 *et seq.* (West 1980 & Supp. 1988).
[67] **Fla. Stat.** § 527.055(1) (1987).

These acts do not control associated siting requirements, easements, or environmental permits for pipelines and facilities. At the federal level, offshore pipelines may require dredge and fill permits from the Corps of Engineers, consistency with the Endangered Species Act, water quality (NPDES) and air quality permits from EPA, and an easement across the outer continental shelf (OCS) from the Minerals Management Service (MMS) of the Department of the Interior.

Applicants for an OCS pipeline right-of-way must comply with any stipulations imposed for assuring maximum environmental protection and must use the best available and safest technologies economically feasible.[68] An environmental assessment must include consideration of the impacts of the pipeline right-of-way on the "human, marine, and coastal environments, life, including aquatic life, property and mineral resources in the entire area during the construction and operational phases."[69] Presumably, the granting of a right-of-way across a significant portion of the OCS would be considered a "major federal action significantly affecting the human environment" and require an Environmental Impact Statement under the National Environmental Policy Act. In general, pipelines are excluded from areas that have been withdrawn from designation as disposal sites or restricted for oil and gas activities.

States are involved in the OCS siting process if the right-of-way "adjoins and subsequently cross[es]" any state submerged land or if it "affect[s] any land or water use in the coastal zone." Applicants must submit proposals for OCS right-of-ways that will connect with state lands to the state for review and comment. The MMS will coordinate any recommendations, particularly recommendations for relocating the route, with the state. If the granting of the right-of-way affects a state's coastal zone, the project must be consistent with the state coastal zone management plan.[70]

At the state level, a pipeline may require dredge and fill permits and water quality certification from DER, and an easement and coastal construction permits from DNR. At landfall, the pipeline facilities must conform to local planning and land use regulations and may require review as a development of regional impact. Additional state and local review procedures and permits may be applicable depending on the location and nature of the facilities.

**Issues and Recommendations**

**I. OCS pipeline delivery system to Florida.** ANR Pipeline Company has proposed the construction of a 608-mile pipeline to deliver natural gas from Mobile Bay to south Florida. Three hundred ninety-two (392) miles of the proposed pipeline will cross the entire northeastern Gulf of Mexico.

Early consultation between ANR and state agencis have identified several potential impacts of pipeline construction and operation. The major offshore environmental concerns include impacts on:

- the Florida Middle Grounds;

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[68]30 C.F.R. § 256.89 (a)(1) (1987). It is not clear whether MMS safety and technology could preempt standards of the acts specifically regulating pipeline safety.

[69]30 C.F.R. § 256.94(a) (1987).

[70]30 C.F.R. § 256.94(c)-(d) (1987). There are criteria for overriding a state's finding that a pipeline project is inconsistent with its coastal management plan. The Secretary of Commerce must make a decision that the project is consistent with the objectives and purposes of the federal CZMA or the project is necessary in the interest of national security.

- scattered live bottom on the West Florida Shelf;
- seagrass beds in the Big Bend area;
- artificial reefs and offshore fishing grounds; and
- endangered species, including sea turtles all along the pipeline route and manatees in the Anclote Key area.

In the nearshore area around the Anclote Keys, impacts may occur to scallop beds, manatees, the Pinellas County Waters Aquatic Preserve, and Outstanding Florida Waters. Current rules require that pipelines in less than 200 meters of water must be buried. The effects of the blasting required to carry this out must be evaluated. If an exemption is acquired, then the impacts on fisherman and migrating aquatic species (*e.g.*, blue crab) must be considered.

Florida's state comprehensive plan does not address importation of fuels or pipelines in the energy policy.[71] Chapter 377, Florida Statutes, however, does set out public policy for energy resources which includes "to encourage the continuous and economic supply of the demand" for oil and gas.

**Recommendation.** In general, OCS pipeline siting should follow the same policy direction and coordination policies that apply to OCS oil and gas development. In addition, the state should not consider OCS pipeline proposals merely from the standpoint of how to develop the pipeline in the least environmentally damaging manner. Such proposals should be viewed in the context of the state's entire energy resource needs, energy availability, and existing transport systems. Evaluation should specifically consider and assess less environmentally-damaging alternatives.

### References

#### State Statutes


**Fla. Stat.** § 187.201(12) (1987), State Comprehensive Plan - Energy.

**Fla. Stat.** § 527.055(1) (1987), general powers and duties.


#### Federal Statutes and Regulations


Natural Gas Pipeline Safety Act, 49 U.S.C.A. §§ 1671 *et seq.* (West 1980 & Supp. 1988).

Hazardous Liquid Pipeline Safety Act, 49 U.S.C.A. §§ 2001 *et seq.* (West 1980 & Supp. 1988).

30 C.F.R. part 256, subpart N (1987), Grants of Pipeline Rights-of-Way on the Outer Continental Shelf (1987).


## Ocean Thermal Energy Conversion (OTEC)

### Background

Ocean Thermal Energy Conversion is a technology that takes advantage of the thermal gradient between surface and deep ocean waters to produce energy. Power generated by OTEC can be transmitted to shore by cables. The federal government has described OTEC as technically feasible but having important technical problems to resolve. Presently, there are two technologies that have been developed: (1) closed-cycle (CC-OTEC); and (2) open-

[71] **Fla. Stat.** § 187.201(12) (1987), the Energy Goal, addresses only the reduction of energy requirements and increased use of renewable energy resources.

cycle (OC-OTEC).[72] Most early research was conducted on CC-OTEC, but OC-OTEC has more potential for Florida because of the capability to produce fresh water as a by-product of the process. Because the temperature differential necessary to make the process feasible only exists in tropical latitudes, Florida is the only continental state that can reasonably expect to benefit directly from OTEC technology.

**Federal Legislation and Programs**

The federal government addressed OTEC in two statutes in 1980, the Ocean Thermal Energy Conversion Research, Development and Demonstration Act[73] and the Ocean Thermal Energy Conversion Act.[74] The purpose of the first act was to accelerate OTEC technology development and set power production goals for the future. It intended to encourage technology that would demonstrate OTEC's power-producing capability, and commercial potential. The second statute set up a legal and regulatory regime for OTEC permitting and administration.

Progress under the Demonstration Act has been very slow following the Reagan administration decision to stop funding for research and development of CC-OTEC and rely on the private sector for continuation of OTEC development. In a May 1986 report to Congress, NOAA detailed some of the reasons why the private sector participation in OTEC development has lagged:

- Although OTEC has been experimentally demonstrated, the reliabilty of performance has not been proven on a commercial scale.

- OTEC is capital intensive, and lending and investment institutions have been reluctant to invest in commercial plants.

- Expiration of certain tax credits provides a discentive to investors.

- Current low fossil fuel prices impact OTEC's ability to compete with other forms of electrical generation.[75]

At present, only one private company continues to offer OTEC plants.

The regulatory scheme of the OTEC Act creates a one-stop licensing system administered by NOAA. Other agencies are to review the licences and make recommendations. Adjacent state governors are also consulted, and their comments are taken into account in conditioning the license to make it consistent with the state's coastal management program. An environmental impact statement is required. The Coast Guard is responsible for promulgating regulations and enforcing procedures concerning safety, navigation, and pollution for OTEC facilities; the Department of Energy (DOE) must establish standards and regulations for submarine electric transmission.

**Florida and OTEC**

Although Florida has no legislation or rules directly relating to OTEC, the state has actively supported the development of the technology since the mid-1970s. In 1980, the

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[72]U.S. Dept. of Energy, **Federal Ocean Energy Technology Program, Multiyear Program Plan FY 85-89** 3-4 (1985).

[73]42 U.S.C.A. § 9001 *et seq.* (West 1980).

[74]42 U.S.C.A. § 9101 *et seq.* (West 1980 & Supp. 1988).

[75]U.S. Dept. of Commerce, NOAA, **Report to Congress: Export Potential Ocean Thermal Energy Conversion Components, Facilities, and Plantships** (May 1986).

Florida Ocean Thermal Energy Consortium, a corporation of public and private sector members, was formed in an effort to gain DOE approval for a pilot CC-OTEC project for the city of Key West. The project was not funded, and the consortium subsequently disbanded.

OC-OTEC continues to be explored in Florida by the Governor's Energy Office and the Florida Solar Energy Center (FSEC), a statewide agency within the university system that studies alternative energy sources. The FSEC has been funded by the state since the 1970s to analyze the technical and economic feasibility of OTEC plants. Its most recent funding for OTEC research and development consisted of $45,000 from the Solar Energy Research Institute to identify potential sites for an OTEC research project. However, no OTEC research has been conducted in Florida in the past year.

At one time an OTEC Act was proposed for the state, but was not enacted. Florida's state comprehensive plan and legislation can be viewed, however, as affirmatively supporting continued development of OTEC technology. The state plan advocates increased use of renewable energy resources[76] and calls for promoting development of renewable energy resources.[77]

The Planning and Development part of chapter 377 Florida Statutes, Energy Resources, also sets out Florida policy to encourage research, development, demonstration, and applications of renewable energy resources.[78] Renewable energy resources are defined to include "ocean thermal gradient power."[79]

**Issues and Recommendations**

**I. Should OTEC continue to be explored as a potential energy source for Florida?** OTEC research in Florida has identified a basic resource problem - warm and cold water are just not in close enough proximity near Florida's shores. At this point, it is not cost effective to consider means to bring cold water to a project site. Other technology problems continue to exist, and all the environmental impacts of the technology have not yet been assessed.

Other types of ocean energy, such as wave energy or tidal energy, are even less feasible for Florida. Florida has less resource potential for those options unless low energy technology is developed. These other forms also do not have the potential to provide fresh water as a byproduct.

**Recommendation.** A great deal of research is still needed to develop OTEC. Because the investment is very long-term and high-risk, private industry cannot be expected to carry out the necessary research and development alone. The minimal federal government funding that continues for test projects seems to be more effectively spent in Hawaii, because it provides the better "laboratory." Florida should, however, carefully monitor research and technology development. Like many other alternative energy options, the viability of OTEC depends on the cost of other energy sources - primarily, oil. The prospect of an efficient, renewable energy source should not be discarded simply because the cost of nonrenewable energy sources is inexpensive - for now.

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[76]**Fla. Stat.** § 187.201(12)(a) (1987).
[77]**Fla. Stat.** § 187.201 (12)(b)(9) (1987).
[78]**Fla. Stat.** § 377.601(4)(i) (1987).
[79]**Fla. Stat.** § 377.703(2)(j) (1987).

## References

### State Statutes


**Fla. Stat.** § 187.201 (12)(a)-(b) (1987), State Comprehensive Plan - Energy.

**Fla. Stat.** § 377.601(4)(i) (1987), Energy Resources - planning and development.

**Fla. Stat.** § 377.703(2)(j) (1987), Renewable energy sources.


### Federal Statutes


Ocean Thermal Energy Conversion Act, 42 U.S.C.A. §§ 9101 *et seq.* (West 1980 & Supp. 1988).

Ocean Thermal Energy Conversion and Research, Development and Demonstration Act, 42 U.S.C.A. §§ 9001 *et seq.* (West 1980).


### Reports


U.S. Dept. of Commerce, NOAA, **Report to Congress: Export Potential Ocean Thermal Energy Conversion Components, Facilities, and Plantships** (May 1986).

U.S. Dept. of Energy, **Federal Ocean Energy Technology Program, Multiyear Program Plan FY 85-89** (1985).

## MARINE MINERALS MINING

### Florida

Florida's nearshore and the adjacent outer continental shelf (OCS) contain deposits of phosphate, heavy minerals, calcium carbonate sands, and quartz sands, in addition to other minerals. However, as in the case of oil and gas development, Florida has no specific regulatory process for development of *offshore* mineral resources. In fact, Florida's laws and DNR rules are generally directed at land reclamation requirements for phosphate, limestone, heavy minerals, and Fuller's earth mining activities.[1]

Section 253.45, Florida Statutes, gives the Board of Trustees authority to "sell or lease any phosphate, earth or clay, sand, gravel, shell, mineral, metal, . . . , or any other substance similar to the foregoing, in, on, or under, any land the title to which is vested in the state . . . ." The statute also provides that the Trustees or DNR specify in a lease precisely the mineral for which the lease is permitted and the manner in which it may be extracted.[2] DNR has not adopted specific rules for geological testing or for use agreements for mineral development of state lands. Mineral mining leases are not subject to the water dependent criteria of standard leases of submerged lands and are considered on a case by case basis.[3] In aquatic preserves, however, the legislature has mandated that there "shall be no excavation of minerals."[4] At the present time, there are no state leases for offshore minerals mining.

The Conceptual State Lands Management Plan[5] addresses minerals mining from both a resource element and programmatic perspective. In discussing the state's mineral resources, the plan provides:

> Management of state-owned mineral resources should be subject to more careful scrutiny than is normally the case for the other types of natural resources. The stewardship of these nonrenewable resources must insure that their extraction and utilization serves the best long-range public purposes. Additionally, active extraction of many types of minerals often results in drastic changes to the physical integrity of a parcel of land. A decision to mine must be made with the full realization that most future management options available for that parcel of property will be eliminated.[6]

State resource policy encourages locating and inventorying state-owned mineral resources and assuring that management of state lands will not preclude the ability to recover

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[1] *See* **Fla. Stat.** ch. 378, Land reclamation (1987); and **Fla. Admin. Code Ann.** §§ 16C-16001 *et seq.* and 16C-17.001 *et seq.* (phosphate); §§ 16C-36.001 *et seq.* (limestone); §§ 16C-37.001 *et seq.*; §§ 16C-37.001 *et seq.* (heavy minerals); §§ 16C-38.001 *et seq.* (Fuller's earth) (1987).

[2] **Fla. Stat.** § 378.401-378.804 (1987), the Resource Extraction Reclamation Act, gives DNR additional authority to regulate reclamation of mine sites, even on private lands. This section is directed, however, to *land* reclamation.

[3] Department of Natural Resources, **Agency Functional Plan 1987-1991** 64 (January 1988).

[4] **Fla. Stat.** § 258.42(7)(d) (1987).

[5] Department of Natural Resources, Bureau of State Lands Management, **Conceptual State Lands Management Plan** (adopted by the Board of Trustees of the Internal Improvement Trust Fund March 17, 1981).

[6] *Id.* at 27.

significant mineral resources. However, extraction of state-owned minerals in environmentally sensitive areas should be allowed "only upon demonstration that the extraction is of overriding public importance, that all reasonable steps will be taken to minimize adverse environmental impacts, and that there are no reasonable alternatives." All future releases of state-owned mineral reservations are discouraged except for right-of-entry and exploration.[7]

State program policy encourages the establishment of an exploration lease program for all minerals to aid the Board of Trustees in future management of mineral resources. The Conceptual State Lands Management Plan also recommends the consideration of active exploitation of state-owned minerals when consistent with market economics, projected mineral reserve requirements, land use needs, environmental compatibility, and other public interest factors."[8]

The DNR Functional Plan sets 1990 as a target date for development of rules which would prohibit development of mineral resources which threaten aquatic or estuarine resources.[9]

### Marine Minerals Mining on the OCS

The federal government has claimed jurisdiction over mineral resources of the outer continental shelf since 1945. This claim was codified in Outer Continental Shelf Lands Act of 1953 (OCSLA).[10] More recently, the Deep Seabed Hard Mineral Resources Act[11] set up a licensing scheme for mining of the seabed of the high seas beyond United States jurisdiction.

The majority of offshore minerals mining has occurred near Alaska for sand and gravel. In addition to sand and gravel, however, the Minerals Management Service (MMS) of the Department of Interior believes there is the economic potential to mine other OCS mineral reserves including heavy mineral placers (gold, chromium, platinum, tin, and titanium), phosphorite crusts and nodules, and phosphate. Technology and discoveries during the last two decades have also instigated interest in the mining of manganese nodules and polymetallic sulfides. Manganese nodules exist on the Blake Plateau off the east Florida coast.

Increased attention to minerals mining of the OCS during the last decade brought an increased awareness of the lack of comprehensive legislation or policy in the area. The OCSLA authorizes the leasing and development of OCS lands for oil, gas, and sulfur exploitation. But only one sentence in the entire act, section 8(k), mentions the *leasing* of "any mineral other than oil, gas, and sulphur."[12] The extensive regulatory guidelines and procedures for OCS oil and gas development found in Title 30, CFR, do not exist for hard minerals mining.

In 1978, the OCSLA was extensively amended to provide environmental protections, state participation in the leasing process, and state consistency determinations for exploration, development, and production plans. All these provisions, however, were applicable specifically to oil and gas leases. States cannot presume that the participation requirements and environmental protections incorporated in the 1978 amendments will apply to development of minerals other than oil and gas.

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[7] *Id.* at 28.
[8] *Id.* at 50.
[9] DNR Functional Plan at 84-85.
[10] 43 U.S.C.A. §§ 1331 *et seq.* (West 1982 & Supp. 1988).
[11] 26 U.S.C.A. §§ 1401 *et seq.* (West 1980 & Supp. 1988).
[12] 43 U.S.C.A. §1337(k) (West 1982).

During the 1980s, the federal government began to encourage development of offshore minerals as part of the National Minerals and Materials Program Plan. The government position was that the lack of comprehensive regulations for prospecting, leasing, and recovering of marine minerals had inhibited development of a domestic marine mining industry. In July 1988, MMS published final regulations on the prelease prospecting of minerals other than oil, gas, and sulphur.[13] General leasing regulations were issued on January 18, 1989.[14]The provisions are intended to encourage offshore mining by demonstrating a governmental commitment to OCS mineral development. The regulations also state that they are intended to provide for sound resource management and environmental protection.

The prospecting and leasing regulations are two steps of a proposed three-tiered program which will consist of (1) prelease prospecting, (2) leasing, and (3) post lease operations. No prospecting can be undertaken without the required three year permit. Leases would be sold through a competitive bidding process.[15]

Both commercial prospectors and certain scientific researchers will be required to have a permit and approved plan before conducting OCS prospecting activities. Although the regulations provide that "the potential of the proposed prospecting or scientific research activities for adverse impact on the environment will be evaluated by MMS to determine the need for mitigation measures,"[16] no environmental guidelines or standards are established. MMS presumes that most routine exploration activities will require no environmental assessment.[17] Environmental monitoring is required only when the activity occurs in an "environmentally sensitive area." That term is not defined in the regulations.

The governors of adjacent states[18] will receive copies of permit applications and plans upon submission. However, states will not have the authority to comment upon the activities unless the MMS determines to prepare an environmental assessment. In addition, plans that do not require an environmental assessment will be acted upon by MMS in 30 days. Comments by governors on leases will be "considered by the Secretary" only.

MMS specifically refused to address the issue of whether OCS prospecting permits would require federal consistency determinations under the CZMA. In the leasing regulations, however, MMS stated that "coastal zone consistency concurrence is not required prior to a lease sale of OCS minerals . . . ."[19]

MMS' discussion of both the prospecting and leasing regulations indicates the agency's position that state/federal coordination and consultation will be carried out by task forces, through which "[s]tates are being encouraged to participate jointly in planning for the development of a marine mineral program."[20] Ten states are currently involved in six federal/state task forces. Florida has declined to participate in the either the Gulf of Mexico or South Atlantic task force. Florida has taken the position that the state is surrounded by such a large area of continental shelf area that a task force exclusively for Florida's offshore area is justified.

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[13]53 Fed. Reg. 25242 (July 5, 1988).
[14]54 Fed. Reg. 2042 (Jan. 18, 1989).
[15] 53 Fed. Reg. at 25242-25243.
[16]*Id.* at 25259, § 280.10.
[17]*Id.*
[18]An adjacent state is defined in the regulations as a state that will be used as a support base, or a state in which there is a "reasonable probability of significant effect on land or water uses" from the activity.
[19]54 Fed. Reg. 2042, 2046 (Jan. 18, 1989).
[20]53 Fed. Reg. 25242, 25244 (July 5, 1988); 54 Fed. Reg. 2042, 2046 (Jan. 18, 1989).

The regulations have generated a great deal of controversy. The most fundamental objection is that the MMS lacks authority to promulgate the regulations under the OCSLA. Most state comments have pointed out that the 1953 act and its amendments dealt virtually exclusively with oil and gas development, and that one sentence in an act is inadequate to provide a statutory basis for a comprehensive regulatory program. Several states, including Florida, prefer to suspend exploration and development pending new legislation regulating hard mineral development in the U.S. Exclusive Economic Zone.

**Issues and Recommendations**

**I. No state policy for marine minerals development of rules for geological testing.** Florida currently has no clearly enunciated policy or program to address marine mining within state waters. The *Conceptual State Lands Management Plan* encourages creation of an exploration lease program for all minerals. It is not at all clear whether DNR or the Trustees intended for such a program to apply to ocean waters as well as uplands or inland submerged lands. Sand is Florida's most common mineral resource, routinely mined onshore for construction and offshore for beach renourishment. Ocean deposits of phosphates, heavy minerals, calcium carbonate sands, and gravel off Florida will also prompt industry interests in the future.

**Recommendation.** The Trustees should clarify whether DNR policies apply to marine minerals mining. If such a program is intended to encourage mineral exploration in marine waters, stringent criteria, similar to geophysical permit requirements, should be established to protect marine resources and other ocean uses. Further, the legislature should direct the state to develop a current policy to provide guidelines for regulating marine mining.

**II. Florida's position concerning OCS mining.** MMS is continuing development of its three-stage program for development of OCS minerals in spite of numerous objections by coastal states. Florida's position is that the state does not object to OCS activities so long as it can be demonstrated that they will not adversely affect the marine and coastal environment and the economies they support. Many of Florida's concerns about the regulations' failure to reflect the level of cooperation and environmental protection needed to provide these assurances are still unanswered. In particular, the current regulations:

-do not incorporate the state participation procedures and environmental protections of the 1978 amendments to the OCSLA or equivalent procedures;
-exempt prospecting and leasing from CZMA consistency requirements;
-broadly exempt activities from even the requirement of an environmental assessment;
-obligate permitees to carry out activities so as not to create an "unreasonable risk" of pollution, damage to the marine and coastal environment, and other uses of the ocean, without defining what constitutes an unreasonable risk; and
-may not provide for adequate information sharing with coastal states.

**Recommendation.** The state should continue to support attempts to introduce and pass separate federal legislation for minerals mining, either as an amendment to the OCSLA or as part of comprehensive legislation addressing the 200-mile Exclusive Economic Zone. The legislation should expressly incorporate provisions for participation by coastal states in the leasing and development process, environmental protections, reclamation, and recognition that prospecting and minerals development should be consistent with affected states' coastal zone management plans. The state should also consider supporting proposals that coastal states share in revenue generated from OCS mining activities to deal with impacts of such development on marine and coastal resources.

## References


### State Statutes and Rules

**Fla. Stat.** § 258.42 (1987), Maintenance of aquatic preserves.

**Fla. Stat.** § 378.401-378.804 (1987), Resources Extraction Reclamation Act.

**Fla. Stat.** ch. 378 (1987), Land reclamation.

**Fla. Admin. Code Ann.** §§ 16C-16001 *et seq.* and 16C-17.001 *et seq.* (phosphate); §§ 16C-36.001 *et seq.* (limestone); §§ 16C-37.001 *et seq.*; §§ 16C-37.001 *et seq.* (heavy minerals); §§ 16C-38.001 *et seq.* (Fuller's earth) (1987).

### Federal Statutes and Regulations

Deep Seabed Hard Minerals Resources Act, 30 U.S.C.A. §§ 1401 *et seq.* (West 1980 & Supp. 1988).

Outer Continental Shelf Lands Act of 1953, 43 U.S.C.A. §§ 1331 *et seq.* (West 1982 & Supp. 1988).

Marine Mineral Services, Geological and Geophysical Exploration of the Outer Continental Shelf: Prospecting for Minerals Other than Oil, Gas, and Sulphur, 53 Fed. Reg. 25242 (July 5, 1988).

Marine Mineral Services, Outer Continental Shelf Minerals and Rights-of-Way Management; General Leasing of Minerals Other Than Oil, Gas, and Sulphur in the Outer Continental Shelf, 54 Fed. Reg. 2042 (Jan. 18, 1989).

### Publications and Agency Plans

Department of Natural Resources, **Agency Functional Plan 1987-1991** (January 1988).

Department of Natural Resources, Bureau of State Lands Management, **Conceptual State Lands Management Plan** (adopted by the Board of Trustees of the Internal Improvement Trust Fund March 17, 1981).

Rains, **Marine Minerals and State Interests** (1988).

## PORTS, MARINE TERMINALS AND MARINAS

### Background

Florida's seaports are found along the state's 8,000 miles of coastal area. Port facilities are easily accessible to the state's major rivers, inland waterways, highway system, rail lines, and airports. Not only are Florida's ports economically beneficial to the state and to the local entities that operate them, but they are also attractive to manufacturers who rely on waterborne transportation for their goods and to the cruise industry. Several ports have foreign trade zones. "Florida is the focal point for the Caribbean Basin Initiative (CBI)."[1] The CBI initiative is a federal program developed to stimulate the economies of the Caribbean countries and to improve trade between the United States and the Caribbean countries. Therefore, Florida's ports serve as a major gateway for goods destined to Latin America and North America.[2]

In 1986, the dollar value of exports through Florida's major ports was in excess of $9 billion, according to U.S. Bureau of the Census Statistics. 1986 figures also show that Florida's waterborne imports totaled more than $10 billion, representing more than 16 million tons of cargo.[3] Between July 1987 and June 1988 actual tonnage, including imports and exports, through Florida's ports exceeded 36.7 million metric tons.[4]

Florida's major deepwater seaports are: Port Everglades, Port of Jacksonville, Jaxport, Port of Miami, Port Canaveral, Port of Palm Beach, Port Manatee, Port of Panama City, Port of Pensacola, Port of Tampa. Florida's other ports include Boca Grande, Fernandina Beach, Jacksonport, Key West, Fort Pierce, St. Petersburg, and Sanford. These ports are used for the cruise industry; as distribution centers for trade; to ship phosphate; to export general cargo, such as citrus produce and scrap metals; and to import commodities, such as coal, petroleum products, cement, lumber, and construction materials.

The commerce clause grants Congress constitutional power to regulate commerce and navigation on the waters of the United States.[5] However, states have the power to establish and regulate ports. Each of Florida's seaports was created by a special act of the state legislature allowing the ports to operate as separate legal entities. These special acts, as amended, set forth the powers, responsibilities, constraints, and jurisdiction of each individual port. Port facilities are owned, operated, and maintained by local governing bodies, generally organized as port authorities or port districts.[6] Through the Port Facilities Financing Law, these governing bodies are empowered to develop and maintain, promote, advertise, and finance their port facilities.[7]

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[1]Florida Department of Commerce, Division of Economic Development, *Florida Seaports* (undated).

[2]*Id. See* Beenhakker, **A Kaleidoscopic Circumspection of Florida Ports**, vol. I at 1-3 (July 1982).

[3]Florida Department of Commerce, **1986 Summary of Florida's International Trade** (Mar. 1988).

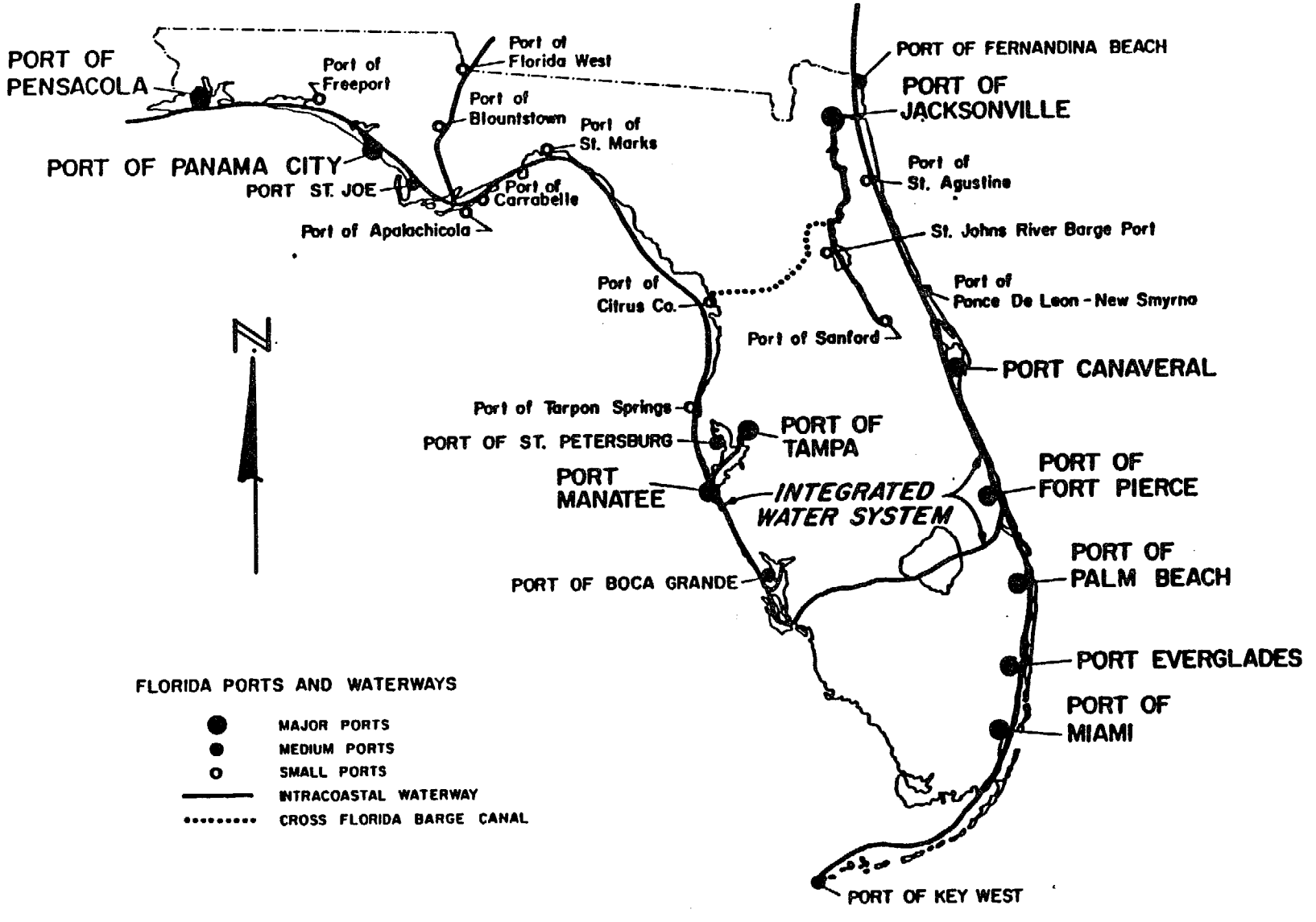
[4]Florida Department of Commerce, **P.I.E.R.S. System of the J. of Com.** (Sept. 19, 1988).

[5]**U.S. Const.** art. II, § 8, cl. 2.

[6]**Fla. Stat.** ch. 315 (1987). Each port organization is different. Some have special taxing powers, others don't. All were created at different times with different governing bodies.

[7]*Id.*

# FLORIDA PORTS AND WATERWAYS



Florida's ports operate in the private market system. Competition is vigorous not only among individual state ports, but also between Florida ports and the ports of other states. Florida's ports compete for a share of ocean commerce, general cargo transportation, and passengers for the cruise industry. Ports with foreign trade zones compete to lure manufacturers to use their facilities.[8]

Revenues for ports are derived through various means. Some ports are special taxing districts. Ports are organized as either operating or non-operating entities. Operating ports generate revenue through stevedoring, storage and handling, as well as dockage and wharfage fees. Non-operating ports lease their facilities to terminal operators and derive revenues through lease fees, and dockage and wharfage fees. Because ports are very capital intensive, they carry a great deal of debt revenue.[9] Additional revenues are continually needed to carry out the ports' economic development and expand existing facilities to meet berthing and cargo needs and to accommodate the state's growing cruise ship industry.[10] Capital for development is generally raised by means of either general obligation or special purpose bonds.

## Port Operations

Dredging and filling operations are necessary for ports to improve and maintain navigation channels, extend dockage, and construct additional facilities such as turning basins and slips. Such port activities can affect water quality and the environment. Approximately 180 million wet metric tons of dredged materials are disposed of in marine environments each year.[11] Of those materials dredged from estuaries and coastal areas, about three percent of the material is heavily contaminated with pollutants such as metals and organic chemicals. These pollutants are derived from point and nonpoint sources.[12] Ports must operate within a framework of federal, state, and local laws and regulations relating to both promotion of navigation and commerce and protection of the environment.

### Federal Regulation

Congress' authority over navigation and commerce allows the federal government to regulate construction activities in navigable waters. In order to protect and improve navigability, Congress has delegated responsibility to the Secretary of the Army to regulate the use, administration, and navigation of the navigable waters of the United States.[13] Section 10 of the Rivers and Harbors Act[14] prohibits the unauthorized obstruction or alteration of the navigable waters of the United States. The Secretary of the Army, through the District Engineer of the United States Army Corps of Engineers (Corps), regulates construction and dredge and fill activities in the nation's waters through a permit process. Unless a Corps permit is obtained, ports are prohibited from: constructing any structure in

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[8]Beenhakker, *supra* note 2. *See* URS/Coverdale & Colpitts, **Florida Waterport Systems Study**, vol. 1 (1978).

[9]Telephone interview with Joe LaPolla, Deputy Executive Director, Canaveral Port Authority, Cape Canaveral, Fla. (Sept. 22, 1988).

[10]Telephone interview with Nancy Schubert, Director of Public Relations, Tampa Port Authority (Aug. 2, 1988).

[11]U.S. Congress, Office of Technology Assessment, *Wastes in Marine Environments*, OTA-O-334, Wash. D.C. G.P.O (Apr. 1987). Upland sites are also used for disposal of dredged materials.

[12]*Id.*

[13]33 U.S.C.A. § 1 (West 1986). However, it is United States policy to leave the administration and disposition of the sovereign rights in navigable waters and in the solid under them to the control of the states. *See* Shively v. Bowlby, 152 U.S. 1 (1894).

[14]33 U.S.C.A. § 403 (West 1986).

or over navigable water of the United States; excavating from or depositing materials in such waters; or conducting any work that will affect the condition or capacity of such waters.[15]

Permits are also required under section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA)[16] before dredged materials can be discharged into offshore waters at Environmental Protection Agency (EPA) designated offshore spoil disposal sites. The EPA, charged with the responsibility to control water pollution, has to select spoil sites and develop guidelines for the use of such disposal sites. When the EPA designates a spoil site, it does not convey to a permit applicant consent to use the site. The Administrator of the EPA has authority to prohibit the use of a disposal site upon determining that the discharge of the dredged materials will have an unacceptable adverse effect on municipal water supplies, shellfish beds, fishing areas, wildlife, or recreational areas.

Federal permits are required for ports involved in both federal and non-federal projects. The Corps undertakes dredge and fill activities for federally authorized navigation projects. The public port authorities act as sponsors of the operation and are required to dredge access channels or berthing facilities in conjunction with the project. Ports are also subject to the non-federal project permit process when they expand existing facilities, construct new facilities, and dredge and fill.

Although originally focused only on navigation, today the Corps permit program for dredge and fill is intended to "reflect the national concern for both the protection and utilization of important resources."[17] All permits are processed by the Corps in accordance with the requirements of both Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act or Section 103 of MPRSA.[18] To accomplish this the Corps conducts a "public interest review" evaluation for each permit activity. The Corps rules set forth a number of evaluation factors to be considered for all permit applications:

> The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonable foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erasion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.[19]

Discharges of dredged materials into the waters of the United States must comply with section 404 of the Clean Water Act and dumping of dredged material in the sea must meet the requirements of the MPRSA.[20] (For a complete discussion of review under these provisions, see the section on Ocean Dumping in the Marine Pollution chapter.) The Corps must also evaluate the discharge activities to determine if the permit will have any impact on

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[15] *Id.*

[16] 33 U.S.C.A. §§ 1401-1445 (West 1986 & Supp. 1988). *See also* section 404 of the Clean Water Act, 33 U.S.C.A. § 1344 (West 1986).

[17] 33 C.F.R. § 320.1 (1987).

[18] The CWA applies to disposal in rivers, estuaries, bays, and other internal waters; MPRSA applies to ocean waters.

[19] 33 C.F.R. § 320 (1987).

[20] 33 U.S.C.A. §§ 1401-1445 (West 1986 & Supp. 1988).

navigation or anchorage.[21] Mere "de minimis incidental soil movement occurring during normal dredging operations" is not subject to the regulatory process.

In conjunction with a federal permit, section 307 of the Coastal Zone Management Act of 1972 (CZMA)[22] requires permit applicants conducting activities affecting water uses in a state's coastal zone to receive state certification that the activity will be consistent with Florida's coastal management program.[23] When the Corps undertakes navigation projects that directly affect Florida's coastal zone, the CZMA requires compliance "to the maximum extent practicable" with Florida's coastal zone management program.[24] There is currently a debate waging between the federal agencies, the Corps and EPA, and coastal states as to whether provisions of MPRSA preempt the CZMA and whether activities outside a state's coastal zone "directly affect" the area.[25]

**State Regulation**

The Florida Constitution mandates "adequate provisions shall be made by law for the abatement of . . . water pollution."[26] The Florida Air and Water Pollution Control Act declares as the public policy of the state "to conserve the waters of the state and to protect and improve the quality [of the waters] . . . for the propagation of wildlife and fish and other aquatic life, and for domestic, agricultural, industrial, recreational and other beneficial uses."[27] Water quality standards have been established by DER to protect these designated uses. To protect the public interest the legislature has found "that control, regulation, and abatement of the activities which are causing or may cause pollution of the . . . water resources in the state and which are or may be detrimental to human, animal, aquatic, or plant life . . . be increased to ensure conservation of natural resources."[28]

The Florida legislature has also declared, however, that "it is essential to preserve and maintain authorized water depths in the existing navigation channels, port harbors, turning basins, and harbor berths . . . to provide for the continued safe navigation of deepwater shipping commerce."[29] Balancing these state policies can often be difficult.

*Construction and Maintenance Dredging Permits*

Seaport construction, operation, and expansion activities involving excavation, dredging, filling, and disposing of dredged material are subject to state regulation. At the state level, DER is responsible for supervising, administering, and enforcing those laws and rules pertaining to the control of water quality and pollution.[30] DER is authorized to establish water quality standards and criteria for waters used for deepwater commercial navigation.[31] DER has permitting authority over activities that may be sources of water pollution such as

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[21]33 C.F.R. § 322 (1987).
[22]16 U.S.C.A. § 1456(c) (West 1985).
[23]The Florida Department of Environmental Regulation (DER) administers and coordinates coastal zone management consistency reviews and conducts consistency reviews for federal permitting projects. DER cannot make a determination of consistency if another state agency "with significant analogous responsibility makes a determination of inconsistency." **Fla. Stat.** §§ 380.22 and 380.23 (1987).
[24]*See* **Fla. Stat.** §§ 380.22 and 380.23 (1987).
[25]*See* chapter on Florida Coastal Management Program.
[26]**Fla. Const. art.** II, § 7.
[27]**Fla. Stat.** § 403.021 (1987).
[28]*Id.* § 403.021(2).
[29]*Id.* § 403.021(9)(a).
[30]*Id.* § 403.061(6).
[31]*Id.* § 403.061(26)(a).

the maintenance and dredging of permitted navigation channels, port harbors, turning basins, and harbor berths.[32] DER is further authorized to grant permits to port authorities, acting as local sponsors of federal projects, to deposit, at designated spoil sites, the materials dredged from navigation channels, port harbors, turning basins, and harbor berths.

DER is also charged with regulatory responsibilities to enable appropriate commercial navigation channel depths to be maintained in the ports of Jacksonville, Tampa, Port Everglades, Miami, Port Canaveral, Ft. Pierce, Palm Beach, Port Manatee, Port St. Joe, Panama City, St. Petersburg, and Pensacola.[33] Since water quality may be affected by maintenance dredging, the law requires such activities be conducted in an environmentally sound, expeditious, and efficient manner.[34] DER is authorized to issue 25-year maintenance dredging permits to those ports primarily involved in deepwater commercial navigation.[35] To date, DER has only issued a 25-year maintenance permit to the Tampa Port Authority. However, the Jacksonville Port Authority has entered into a preapplication agreement with DER in preparation for a 25-year permit.[36]

In reviewing applications for both construction and maintenance permits, Florida law prohibits DER from issuing a permit unless the applicant provides the department with reasonable assurance that water quality standards, as set forth by department rule, will not be violated.[37] Permit applicants must also assure DER that the project is not contrary to the public interest. However, for a project which significantly degrades or is within an Outstanding Florida Water, as provided by department rule, the applicant must provide reasonable assurance that the project will be clearly in the public interest.[38]

In determining whether a project is not contrary to the public interest, or is clearly in the public interest, DER considers and balances the following criteria:

1. Whether the project will adversely affect the public health, safety, or welfare or the property of others;

2. Whether the project will adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their inhabitants;

3. Whether the project will adversely affect navigation or the flow of water or cause harmful erosion or shoaling;

4. Whether the project will adversely affect the fishing or recreational values or marine productivity in the vicinity of the project;

5. Whether the project will be of a temporary or permanent nature;

6. Whether the project will adversely affect or will enhance significant historical and archaeological resources under the provisions of § 267.061; and

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[32]*Id.* § 403.816.
[33]*Id.* § 403.021(9)(b).
[34]*Id.* § 403.021.
[35]*See* **Fla. Stat.** §§ 403.816 and 403.021(9)(b) (1987); **Fla. Admin. Code Ann.** § 17-45 (1988).
[36]Comments of David A. Arnold, Environmental Specialist, Division of Water Management, Florida Department of Environmental Regulation (Sept. 22, 1988).
[37]**Fla. Stat.** § 403.918 (1987).
[38]*Id.* § 403.918.

7. The current condition and relative value of functions being performed by areas affected by the proposed activity.[39]

DER rules require biological surveys, ecological studies and hydrographic surveys be conducted to aid DER in their decision whether to issue or deny a permit.[40] DER cannot issue a permit unless the surveys show the proposed activities will not interfere with natural resources or create a navigational hazard to the extent that the outcome of the balancing test would be negative.[41]

DER has classified the state's waters according to the use of a particular waterbody. Most ports are located in those waters classified as Class III Waters: Recreation - Propagation and Maintenance of a Healthy Well-Balanced Population of Fish and Wildlife.[42] Class III water quality criteria are not as stringent as the criteria set out for Class I - Potable Water Supplies or Class II - Shellfish Propagation or Harvesting. Port operations *cannot violate* the state water quality standards established for state waters. Ports activities and operations generally raise fewer water quality concerns than would the initial construction of marinas which are often located in Class II waters or in Outstanding Florida Waters (OFWs). Marinas in OFWS are subject to more stringent water quality criteria because activities in OFW waters are generally prohibited if they will lower existing ambient water quality in the OFW.[43]

*The Port Trust Fund*

Ports receive no monies from the state to assist in their operations.[44] Local port authorities and governing bodies involved in deepwater commercial navigation incur expenses in complying with state and federal permit requirements. The legislature established a Port Trust Fund to defray some of the costs to acquire or improve spoil sites and to comply with environmental mitigation requirements.[45] DNR administers the fund. Grants from the trust fund pay up to one half of the cost for acquisition, improvement, or mitigation projects. To date, the trust fund has had adequate funds to meet all projects approved by DNR. However, when necessary, DNR has authority to prioritize the trust fund projects. In setting fund priorities, DNR may consider such factors as the existing needs of each port for spoil disposal sites; the frequency and volume of maintenance dredging at each port; the protection of recreational and environmental quality; whether the project meets DNR and DER permit requirements; and whether the proposed project is required as a condition of a local, state, or federal permit.

The trust fund has no source of funding. The statute provides that recipients are to reimburse the fund from certain revenues and sales made with fund moneys. Currently the trust fund has $6 million of uncommitted funds, but it is anticipated that the funds will be exhausted by 1990.[46]

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[39]*Id.* § 403.918.

[40]**Fla. Admin. Code Ann.** § 17-12.160(5) (1988).

[41]*Id.* § 17-12.160(6)(a).

[42]Interview with David Arnold, Environmental Specialist, Wetland Resource Regulation, Florida Department of Environmental Regulation, Tallahassee, Florida (Aug. 4, 1988)

[43]**Fla. Admin. Code Ann.** § 17-4.242 (1988).

[44]To assist ports in maintaining their autonomy the legislature does prohibit the state from taxing materials dredged from state lands to improve, construct, maintain, or operate a port facility. **Fla. Stat.** § 253.03(10) (1987).

[45]**Fla. Stat.** ch. 376 (1987).

[46]Telephone interview with Jack Woodard, Division of Resource Management, Florida Department of Natural Resources, (Aug. 2, 1988).

*DNR Responsibilities*

The Board of Trustees of the Internal Improvement Trust Fund holds title to the land under navigable waters in trust for the benefit of the people of the state.[47] The Board is required to manage and protect state lands for maintenance of natural conditions, propagation of fish and wildlife, and traditional recreational uses such as fishing, boating, and swimming.[48] The Board has a proprietary interest in submerged lands, and it is the Board's goal to manage the lands "with recognition that the land is a resource and not a commodity."[49] The Division of State Lands has responsibility for performing the duties related to the acquisition, administration, and disposition of state lands.[50] Ports not holding title to the lands under the port's waters must receive consent from the Board before beginning excavation or construction activities on the sovereign lands. The type of consent required may be in the form of a lease, easement, use or management agreement, or letter of consent.

The Board's authority enables it to grant consent for such activities if it is not contrary to the public interest. DNR rules define "public interest" as:

> [D]emonstrable environmental, social, and economic benefits which would accrue to the public at large as a result of a proposed action, and which would clearly exceed all demonstrable environmental, social and economic costs of the proposed action. In determining the public interest in a request for use, sale, lease, or transfer in interest in sovereignty lands, the board [of trustees] shall consider the ultimate project and purpose to be served by said use, sale, lease, or transfer of lands or materials.[51]

Before the Board can grant a lease it must receive a recommendation from DNR. DNR must assess "the probable effect of the proposed leasing arrangement on the lawful rights of riparian owners, navigation, commercial and sport fishing, and the conservation of fish or other wildlife or other natural resources, including beaches and shores."[52]

Through the special acts creating port authorities, the legislature has vested title to the submerged lands under the navigable waters in some of the port authorities, thereby divesting the Board of Trustees of its authority over such lands.[53] Even though an actual formal consent (i.e., lease or easement) from the Board of Trustees is not needed, it is DER policy to request comments from DNR and other agencies that may be affected by the activity. For example, DER intended to deny a permit requested by the Corps for the maintenance dredging of Fernandina Harbor channel because DNR objected to the proposed offshore dumping of dredged material. DNR found the action to be inconsistent with Florida's coastal management program since beach quality sand was to be disposed of offshore. DER issued the permit when the Corps agreed to use the sediment for shore stabilization.

*Other State Regulations Affecting Port Operations*

To protect the ports and harbors, Florida law regulates the types of materials allowed to be deposited in the tide and salt waters of the bays, ports, and harbors of the state.[54]

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[47]**Fla. Const. art. X, § 11.**
[48]**Fla. Admin. Code Ann. § 18-21.001 (1988).**
[49]Florida Department of Natural Resources, **Conceptual State Lands Management Plan** (Mar. 17, 1981).
[50]**Fla. Stat. § 253.03 (1987).**
[51]**Fla. Admin. Code Ann. § 18-21.003(38) (1988).**
[52]**Fla. Stat. § 253.75 (1987).**
[53]*Id.* § 253.03(1)(g).
[54]**Fla. Stat. § 309.01 (1987).**

The legislature recognizes that the state's waters, harbors, and ports are important resources. To protect these resources, Florida law regulates the piloting of vessels on the state's navigable waters.[55] The legislature created a Board of Pilot Commissioners with authority to take actions necessary to protect the waters, harbors, and ports of the state. Pilots are responsible for conducting the vessels entering and leaving state ports. They are licensed by the state and operate as independent contractors. Florida law also requires a harbormaster be appointed for each port to regulate traffic and assign berths at the wharves for all arriving vessels.[56]

Chapter 370, Florida Statutes, sets out DNR's power in protecting and regulating the state's saltwater fisheries. The Florida Territorial Waters Act was enacted to enable the state to "exercise and exert full sovereignty and control" over its territorial waters.[57] The Act prohibits the Division of Marine Resources of DNR from issuing a salt water license to alien fishing vessels owned by persons who support international communism. An unlicensed alien vessel is further prohibited from taking any natural resources in territorial waters. To enforce the Act, harbor masters have authority to monitor the presence of alien commercial fishing vessels in the state waters.

The Act also grants all law enforcement agencies of the state, including sheriffs and agents of DNR, authority to seize, detain, arrest, and restrain vessels and their crews who violate the Act. If necessary, the state can request assistance from the United States Coast Guard.

**Marine Terminal Facilities**

The Florida Pollution Spill Prevention and Control Act[58] was passed to monitor and regulate discharges of pollutants, such as oil, gasoline, and pesticides, into the coastal waters of the state. The Legislature has found that:

> The transfer of pollutants between vessels, between onshore facilities and vessels, between offshore facilities and vessels, and between terminal facilities within the jurisdiction of the state and state waters is a hazardous undertaking;
>
> Spills, discharges, and escapes of pollutants occurring as a result of procedures involved in the transfer, storage, and transportation of such products pose threats of great danger and damage to the environment of the state, to owners and users of shore front property, to public and private recreation, to citizens of the state and other interests deriving livelihood from marine-related activities, and to the beauty of the Florida coast;
>
> Such hazards have frequently occurred in the past, are occurring now, and present future threats of potentially catastrophic proportions, all of which are expressly declared to be inimical to the paramount interests of the state.[59]

The Florida Department of Natural Resources (DNR) is charged with the responsibility to exercise the police powers of the state to deal with pollutant spill prevention and control within the agency's coastal jurisdiction. This includes coordinating and administering pollution incidents in coastal waters involving vessels, offshore drilling, and terminal

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[55]**Fla. Stat.** § 310.001 (1987).
[56]**Fla. Stat.** ch. 313 (1987).
[57]**Fla. Stat.** § 370.21 (1987).
[58]**Fla. Stat.** ch. 376 (1987).
[59]*Id.* § 376.021(3).

facilities.[60] The Florida Department of Environmental Regulation's (DER) responsibilities are to determine and approve the locations of pollutant disposal sites and to maintain control of the use of chemical dispersants in combating a pollution incident.[61]

A terminal facility is any:

> '[W]aterfront or offshore facility' . . . which in the normal course of business has the capability to drill for, pump, store, handle, transfer, process or refine [petroleum products, pesticides, and ammonia] either over, under or across any coastal water, estuaries, tidal flats, beaches and lands adjoining the seacoast of the state . . . . A vessel shall be considered a terminal facility only in the event of a vessel-to-vessel transfer of pollutant, and only that vessel going to or coming from the place of transfer and the terminal facility.[62]

According to DNR definitions, marinas with gasoline service stations are terminal facilities. On a larger scale, an oil company's oil terminal (a/k/a tank farms), would also be a terminal facility. All owners and operators of terminal facilities in the state's ports and harbors must register with DNR.[63] Currently DNR estimates there are about 836 registered terminal facilities.[64]

As a response to pollution spills in coastal waters, DNR has developed a Coastal Pollutant Spill Contingency Plan. The state's plan is intended to supplement the National Oil and Hazardous Materials Pollution Contingency Plan which was developed in accordance with the Clean Water Act of 1977.[65] The state's plan provides for a statewide response to a pollution spill in coastal waters. The plan also contains containment and removal procedures, and emergency cleanup guidelines when a coastal discharge occurs.[66]

### Marinas

Florida's waterfront lands are used as recreational and public marine facilities. Marine and boatyard operations are a major shorefront commercial activity in Florida.[67] A DNR study conducted in 1985 found that of the state's 1,533 marinas (defined as docking facilities of ten or more slips): 45 percent were commercial facilities, open to the public; 25 percent were associated with condominium complexes; and 6.6 percent were government-owned.[68] The same study analyzed the projected demand for marinas through the year 2005. The study found "that demand represents 78.3% of capacity."[69] Supply was estimated to be at 110,709 slips. Further, there was a projected 61 percent increase in demand between the years 1982 and 2005.[70] Also anticipated was a 49 percent increase in boat registrations (from 481,614

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[60]*See id.* § 376.021(4); **Fla. Admin. Code Ann.** §§ 16N-16.009(3) and (9) (1988).
[61]*Id.* § 376.303 (1987).
[62]**Fla. Admin. Code Ann.** § 16N-16.009(3).
[63]**Fla. Stat.** § 376.06 (1987).
[64]Telephone interview with Carolann De Ford Bowen, Oil Spill Coordinator with Florida Department of Natural Resources, Division of Law Enforcement (Aug. 26, 1988).
[65]Florida Department of Natural Resources, **Florida Coastal Pollution Spill Contingency Plan** (1986-87).
[66]*Id.*
[67]The Florida Coastal Management Program, **Final Environmental Impact Statement**, Aug. 1981.
[68]Florida Department of Natural Resources, Division of State Lands, **Toward a Proactive Statewide Marina Siting Policy** (1985) [hereinafter **Marina Siting Policy**].
[69]*Id.* at 4.
[70]*Id.* at 5.

in 1982 to 712,349 in 2005),[71] thereby increasing the demand for marina services. As of June 30, 1988, DNR vessel registration statistics showed there were 675,471 vessels registered in the state of Florida. Of those registered, 644,807 were pleasure craft vessels and the remaining 30,667 were commercial vessels.[72] Vessel registration fees generated $6,426,052 in revenues for the 1987-1988 fiscal year.[73]

Florida's coastal areas also provide valuable natural resources. Estuaries along the Atlantic and Gulf Coasts support extensive marshes and mangrove wetlands which provide nursery areas for fish and shellfish, provide food for birds and other wildlife, and support many protected plants and animals.[74] Mangroves also protect inland areas from hurricane and storm damage caused by high winds and tides.

The federal-state environmental regulatory programs are designed to protect and conserve water resources of the coastal areas which are sensitive to the impacts of marina development. When pollutants from marina construction and operation projects are discharged into the waters, marine habitat, fish, and shellfish are destroyed and water quality is degraded. Dredging to create marina basins and access channels may result in wetland loss and disruption in benthic habitat. Boat traffic may adversely affect manatees and their habitats.

Extra caution and consideration is given by state agencies before allowing activities in waters that are environmentally sensitive such as aquatic preserves, Outstanding Florida Waters, and marine and estuarine sanctuaries.[75] DNR has established special criteria to protect those waters classified by DNR as shellfish harvesting waters.[76] Chapter 258, Florida Statutes, mandates proposed projects within aquatic preserves be in the public interest. DNR rules set out a stringent public interest test.[77] Public interest is determined by a balancing test to determine whether the social, economic, or environmental benefits of the proposed activity exceed the costs, such as preempting public lands for a private purpose by constructing a private marina. Because of this test, "[s]everal types of activities, including multislip docking facilities, which would otherwise be allowed on sovereignty lands, are prohibited or severely curtailed in these areas.[78]

In 1988, the legislature amended the statutory provisions relating to the erection of docking facilities in Aquatic Preserves. Private residential docks can be constructed to allow riparian owners reasonable access. Private residential multislip docks and commercial docking facilities can be constructed, upon approval, if located within a reasonable distance of a publicly maintained navigation channel, or a natural channel of adequate depth and width to allow operation of the watercraft . . . without the craft having an adverse impact on marine resources.[79]

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[71]*Id.* at 26.

[72]Florida Department of Natural Resources, **Statistics for Vessels Registered in Florida for the 1987-88 Fiscal Year.**

[73]Florida Department of Natural Resources, **Vessel Titling and Registration System,** Fiscal Year 1987-88.

[74]U.S. Environmental Protection Agency, **Coastal Marina Assessment Handbook** (April 1985).

[75]See **Fla. Stat.** §§ 403.061(27) and (28) (1987).

[76]Florida Department of Natural Resources, Division of Marine Resources, Bureau of Marine Resource, Regulation and Development Shellfish Environmental Assessment Section, **Shellfish Harvesting Water Classification and Marina and Docking Facilities** (Sept. 1987).

[77]**Fla. Admin. Code Ann.** § 18-20.004(2) (1987).

[78]**Marina Siting Policy,** *supra* note 68, at 38. *See* **Fla. Admin. Code Ann. § 18-20.004(2)(c) (1987).**

[79]Fla. Laws ch. 88-414 (1988).

*DER Responsibilities*

DER's permitting jurisdiction over dredge and fill activities applies to the construction of marinas and the installation and maintenance of private docks exceeding 1,000 square feet, or 500 square feet within an OFW. "Marinas and the boats that use them are demonstrated sources of a variety of pollutants. Boats may discharge sewage which is a source of bacteria and causes an increase in biological oxygen demand, which in turn causes a decrease in dissolved oxygen levels. Boat engines are sources of oil, grease, and fuel additives such as lead. Toxic metals are known to leach out from marine paints, especially those used as antifouling agents on boat bottoms."[80] Marinas are subject to the same water quality and public interest criteria as port operations and all other dredge, fill, and construction activities in waters of the state. Activities which would significantly degrade or which are located within OFWs are prohibited unless the permit applicant provides reasonable assurance that existing ambient water quality in the OFW will not be degraded and that the project is clearly in the public interest.[81]

For non-OFW areas, if an evaluation suggests a proposed project is expected to degrade water quality in the marina or adjacent waters and where reasonable assurance has not been provided that the immediate and long-term impacts of the project will not result in a violation of water quality standards, DER will deny the permit. For example, DER has denied a request to expand an existing marina where: water quality data showed violations of dissolved oxygen standards in the entrance channel and the canal of the marina; a hydrographic review indicated the basin waters and the canals exhibited long and/or poor flushing; and the addition of proposed piers and docks would further degrade water quality by increasing pollutants.[82]

Certain activities are exempt from the permit process. For example, private docking facilities in Outstanding Florida Waters with 500 square feet or less of over-water surface area or, for those areas not designated as such, with 1000 square feet or less of over-water surface area are exempt from the permitting process.[83] Regardless of the exemption, all projects must meet the State Water Quality Standards set out in Fla. Admin. Code Ann. § 17-3.4, and must also comply with the Board of Trustees lease requirements for use of state-owned lands under chapter 253, Florida Statutes.

*DNR Responsibilities*

Section 253.77, Florida Statutes, requires all marina operators to obtain consent from the Board to authorize the use of sovereignty lands prior to constructing docks, piers, or wharves in the navigable waters of the state. In 1985, DNR's Division of State Lands conducted a study and produced a report *Toward a Proactive Statewide Marina Siting Policy*. The study was undertaken to "enable the State to identify where marinas should and should not be developed, and to direct marina development toward appropriate locations."[84] By developing such policy, DNR anticipated it would be able to respond to the needs of the marina industry, provide consistency in the permitting process, and provide guidance to marina developers.[85] Moreover, a proactive siting policy would enable the state to allocate a portion of the state's

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[80]Application for Permit, Costain Florida, Inc., before the Florida Department of Environmental Regulation, Intent to Deny, File No. 131170899, Dade County, Florida, 3 (May 13, 1987) [hereinafter Application].

[81]*See* **Fla. Stat.** §§ 403.061(27)(a), 403.918 (1987); **Fla. Admin. Code Ann.** § 17-3.041 (1988).

[82]Application, *supra.*

[83]**Fla. Stat.** § 403.813(2)(b) (1987).

[84]**Marina Siting Policy**, *supra* note 77, at i.

[85]*Id.* at 48.

shoreline to marina facilities and monitor their use to ensure environmental protection. To implement a proactive statewide marina siting program, the study set forth a number of recommended actions for all participants in the siting process. Those recommendations are summarized as follows:

Recommendations for the Board of Trustees and Department of Natural Resources include:

> Establish[ing] more specific standards and criteria for determining the acceptability of marina sites;
>
> Maintain[ing] a current, comprehensive marina inventory data base;
>
> Develop[ing] a series of lease fee incentives for suitable marina sites/designs including partial fee waivers or discounts for highly desirable expansions; for areas specifically designated by local governments for marina development; and, for the most environmentally suitable sites. The list of incentives should be developed with input from the [marina] industry;
>
> Establish[ing] a state incentive plan for publicly owned marinas and boat ramps. The Board should request that DNR consider giving a higher priority to the funding of publicly owned (municipal/county) marinas using Boating Improvement Trust Fund monies . . . to develop/expand publicly owned marinas.
>
> In promoting publicly owned marinas, DNR should not overlook the fact that some state parks already contain multislip facilities. To accommodate boating needs over the next 20 years and in accordance with a protective approach, DNR should analyze the potential for siting such facilities within the state parks, based on site suitability and projected supply and demand.
>
> Coordinat[ing] with legislative growth management efforts for siting marinas. The Board should . . . coordinate with local governments and DCA to ensure consistency of local land use elements with coastal zone protection/ management elements so that zoning will conform to the marina facilities plan.
>
> Encourag[ing] development and passage of legislation providing preferential tax assessments ("blue-belting") for water-oriented/dependent activities.
>
> Designat[ing] Marina Areas of Significance to the State (MASTS) . . . to protect . . . waterbodies of concern to the state experiencing or expected to experience marina siting pressures which have not been designated aquatic preserves . . . MASTS would receive special management attention as in the Florida Keys--in order to provide added coordination of existing resource management programs.
>
> Revis[ing] rules to codify/formalize interagency coordination [in marina leasing] efforts.
>
> Complet[ing] Aquatic Preserve Management Plans for the remaining 29 aquatic preserves without plans.

Recommendations for other state agencies include:

> DER should send DNR a list of permitted multislip facilities twice a year . . . to be reconciled with the [recommended] current marina inventory and so that existing marina siting policies on privately-owned and state-owned lands can be fully assessed. For consistency, DER should be actively involved in helping develop [recommended]

siting standards and use DNR's proposed standards in reviewing marina applications whenever possible.

The Interagency Management Committee should support a Coastal Zone Management grant application for DER to sample sediments from selected marinas throughout the state. This method could indicate the environmental impacts of marinas in a more reliable manner than water quality monitoring.

As soon as it becomes available, [the Department of Community Affairs] (DCA) should send DNR a list of proposed residential DRI's with multislip docking facilities, as well as commercial marina DRI's.

DCA should encourage marina development at acceptable sites within Commercial Enterprise Zones. This would include coordinating with DER and DNR to ensure that proposed sites are suitable and educating members of the marina industry about the tax incentives available under this program.

The Department of Commerce (DOC) should incorporate some of the marina demand questions into its annual tourist surveys. DOC should assist DNR in distributing an inventory of docking facilities on an annual basis as a means of promoting the marina industry and better serving the State's boating population.

DOC should also encourage marina development wherever economically and environmentally appropriate by means of any applicable economic development programs.

Recommended actions for Regional Planning Councils include:

[Developing] regional marina siting elements . . . as integral components of regional plans. These elements should include:

-- Resource constraint maps, featuring any MASTS or Aquatic Preserves as well as the siting standards and criteria . . . [for determining the acceptability of marina sites];

-- Ground-truthing of the DNR marina inventory;

-- Recommended ordinances for local adoption consistent with the state siting program;

-- Assessment of the effects of local policies that discourage/encourage various docking facilities.

Recommended actions for local governments include:

Local governments should work with their respective regional planning council to develop meaningful marina siting ordinances, consistent with state concerns and criteria, as developed; and with regional plans.

Local recreation agencies in cooperation with DNR should actively pursue Boating Improvement Trust Fund monies to develop and/or expand publicly owned marinas. These agencies should also continue to seek funds for boat ramps, docks, and other boating-related facilities to supplement the supply of marinas and to meet the needs of recreational boaters.

Local governments should coordinate with the other participants in the efforts to develop tax incentives to ensure continued operation of existing "open to the public" marinas and for the future marina development, with special consideration of preferential tax assessments similar to those provided for agricultural preservation.

Recommended actions for the marina industry include:

Members of the marina industry should actively participate in the proposed marina siting workshops and in drafting and distributing a siting manual.

Marina interests should assist the state in maintaining an accurate inventory of existing and proposed marinas.

Industry members should work with state, regional and local governments to achieve equitable incentives for marina development and to publicize those incentives upon adoption by the state.[86]

Commercial docking facilities are subject to the same public interest assessment as port facilities and operations. With respect to private marina facilities, it is DNR's policy to "[d]iscourage, to the extent practicable, all private, exclusionary uses of state owned lands."[87] As a result, private marina facilities, such as yacht clubs or condominium docks, have more difficulty in demonstrating to the Board that a private facility is in the public interest.

In deciding whether to grant consent DNR evaluates applications from a proprietary and a resource management aspect. In conducting its proprietary analysis DNR is concerned with: the current and proposed upland and submerged land use; the magnitude of the proposed preemption relative to shoreline ownership, location of the applicant's riparian area, navigation related data such as the proximity to inlets, the location of existing channels and width of the affected waterbody; and public opinion.[88] Resource management analysis involves determination and evaluation of: special designation of the project site such as Aquatic Preserves, Marine Sanctuary, and Shellfish Harvesting areas; location and densities of benthic communities; whether the area is frequented by manatees; the sizes, types, and drafts of boats anticipated; and ambient water depths.[89]

When a lease is granted, DNR rules require the lease to contain provisions and restrictions necessary to protect and manage state sovereignty lands. DNR can require the lessee to: install manatee caution signs; restrict the number of long-term liveaboards allowed at a marina; provide sewage pumpout system service to boats moored at a marina; and plant mangroves or other vegetation to mitigate damages.

**Developments of Regional Impact and Local Planning**

The Florida Environmental Land and Water Management Act of 1972 requires development of regional impact (DRI) review be conducted when a development project is expected to have "a substantial effect upon the health, safety, or welfare of citizens of more than one county."[90] The Florida Department of Community Affairs administers the act. Florida law provides that the construction of waterport and marina facilities are generally

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[86]**Marina Siting Policy**, *supra* note 68, at 5-9.

[87]Bureau of State Lands Management, Department of Natural Resources, **Conceptual Lands Management Plan, Adopted by the Board of Trustees of the Internal Improvement Trust Fund**, at 46 (Mar. 17, 1981).

[88]**Marina Siting Policy**, *supra* note 68, at 19.

[89]*Id.*

[90]**Fla. Stat.** ch. 380 (1987).

presumed to be DRIs.[91] This presumption does not extend to certain small scale construction projects. For example, wet storage or mooring facilities to be used exclusively for sport, pleasure, or commercial fishing, with less than 150 water craft need not undergo the development of regional impact review.[92] DRI review includes review by the appropriate Regional Planning Council and recommendations to the local government concerning whether and under what conditions a project should receive development approval.

At the local level, governments bordering on navigable waters must incorporate into their local government plans information relating to water dependent activities such as marinas and shipyards. With respect to local coastal management elements, the legislature intends for "local government comprehensive plans [to] restrict development activities where such activities would damage or destroy coastal resources."[93] Local governments are currently including marina siting policies or plans for development of siting procedures in drafts of local government plans. Florida law requires all local government comprehensive plan's coastal element to contain a component which includes the master plan of the deepwater ports within the local government's jurisdiction.[94] The ports' master plans are to address existing port facilities as well as proposed expansions.[95]

**Navigation and Related Conflicts**

Congress' statement of policy relating to ports and waterway safety is set out in the Ports and Waterway Safety Act:[96]

> [T]hat navigation and vessel safety and protection of the marine environment are matters of major importance;
>
> that increased vessel traffic in the Nation's ports and waterways creates substantial hazard to life, property, and the marine environment;
>
> that increased supervision of vessel and port operation is necessary in order to --
>
> > reduce the possibility of vessel or cargo loss, or damage to life, property, or the marine environment;
> >
> > prevent damage to structures in, on, or immediately adjacent to the navigable waters of the United States or the resources within such waters;
> >
> > insure that vessels operating in the navigable waters of the United States shall comply with all applicable standards and requirements for vessel construction, equipment, manning, and operational procedures;
> >
> > and insure that the handling of dangerous articles and substances on the structures in, on, or immediately adjacent to the navigable waters of the United States is conducted in accordance with established standards and requirements; and
>
> that advance planning is critical in determining proper and adequate protective measures for the Nation's ports and waterways and the marine environment, with

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[91]**Fla. Stat.** § 380.0651 (1987).
[92]Fla. Laws ch. 88-164 (1988).
[93]**Fla. Stat.** § 163.3178 (1987).
[94]*Id.*
[95]*Id.*
[96]33 U.S.C.A. § 1221 (West 1986).

continuing consultation with other Federal agencies, State representatives, affected users, and the general public, in the development and implementation of such measures.

To implement this act, the United States Coast Guard regulates vessel traffic, and establishes safety and security zones in the nation's ports.[97]

Generally, the Coast Guard is required to enforce all federal laws pertaining to the nation's high seas and waters, and to promote safety on such waters.[98] For example, federal law requires bridges be kept in proper working order and prohibits bridges from obstructing the free navigation of waters.[99] The Coast Guard can require bridge owners and operators to remove a bridge that obstructs navigable waters. The Coast Guard can also act to prevent damage to structures, such as bridges, in navigable waters,[100] protect navigable waters and resources;[101] and investigate all acts which may effect the safety or environmental quality of ports, harbors, and navigable waters.[102]

To ensure safe navigation, anchorage grounds for vessels in harbors are established by the Secretary of Transportation.[103] The Coast Guard enforces all rules and regulations relating to anchorage grounds. The Coast Guard also issues permits for all bridges and causeways[104] and coordinates and consults with the Corps on the placement of aids to navigation which are necessary to prevent collisions and wrecks of vessels.

In addition to maintenance projects, the Corps can undertake harbor improvement projects for flood control and shore protection.[105] When making improvements, federal law requires "a due regard for wildlife conservation."[106]

Navigational safety, public health, recreation and harborfront environments are sometimes threatened by drift and debris, such as sunken vessels, in harbor waters. The Corps is charged with responsibility to collect and remove such objects to prevent damage to the commercial and recreational vessels using navigable waters.[107]

State responsibilities include the authority to regulate the Intercoastal Waterways by monitoring the placement of buoys, markers, and other aids to navigation, including speed limit signs.[108]

## Issues and Recommendations

**I. The proactive marina siting policy studied by DNR has not been implemented.** The recommendations developed by DNR concerning development of a proactive marina siting policy at the state level were an important step in recognizing the potential for growth of Florida's boating population and the need for planning to meet the needs of this group. The appropriateness of certain areas for siting marinas from an environmental perspective is also

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[97]33 U.S.C.A. § 1223 (West 1986). *See* 33 C.F.R. § 160.1 (1987).
[98]14 U.S.C.A. § 2 (West Supp. 1988).
[99]33 U.S.C.A. § 502 (West 1986).
[100]33 U.S.C.A. § 1225 (West 1986).
[101]*Id.*
[102]33 U.S.C.A. § 1227 (West 1986).
[103]33 U.S.C.A. § 471 (West 1986).
[104]33 U.S.C.A. § 401 (West 1986).
[105]33 U.S.C.A. § 540 (West 1986).
[106]*Id.*
[107]33 U.S.C.A. § 426m (West 1986).
[108]*See* **Fla. Stat.** § 370.21 (1987); **Fla. Admin. Code Ann.** § 16N-18 (1986).

an important consideration in siting policy. Because coastal property is both one of the state's most environmentally sensitive areas and the property in greatest demand, long-range planning to assure accommodation of this water-dependent use in areas that are appropriate from both the aspect of need and the environment should be a priority.

**Recommendation.** A statewide marina siting policy should be developed to assure continued access and storage of boats in Florida. The information provided by such a plan would greatly assist local governments in insuring that local comprehensive plans will adequately consider water-dependent uses like marinas and the needs of the boating public. DNR is currently working on rules that will address appropriate marina siting from an environmental and state lands management perspective. DNR should work with local governments to assure the need for marinas, storage, and access are adequately addressed in local plans.

**II. Marine terminals and storage tanks are not regulated under the same legal regime as other storage tanks in the state.** Coastal oil tank facilities are regulated by DNR primarily because of the agency's authority for coastal oil spill prevention and containment. Transfer of petroleum to and from these tanks in coastal areas presents a significant risk to surface waters. However, standards for construction and storage are just as important. DER has broad authority under the Water Quality Assurance Act of 1983[109] to regulate permitting, construction, installation, and maintenance of stationary storage tanks with a capacity of 550 gallons or more. However, if a tank is a "terminal facility" regulated by DNR, it is exempted from DER rules. There seems to be little justification of dual standards, and the confusion that results from application of different standards seems unnecessary. It seems reasonable for DNR to maintain authority for standards relating to transfers of products and containment and cleanup of spills, while DER rules would apply to all tank construction, installation, and maintenance.

**Recommendation.** The exemption of coastal terminal facilities from regulation by DER under the Water Quality Improvement Act of 1983 should be repealed. Alternatively, DNR should adopt DER standards for construction, installation, and maintenance of storage tanks so that uniform standards apply in all areas of the state.

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[109]1983 Fla. Laws ch. 83-310 (codified at scattered sections of Fla. Stat. ch. 373 and 403).

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*Shively v. Bowlby*, 152 U.S. 1 (1894).

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**Fla. Stat.** § 380.22 (1987), DER authority and duties.

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33 U.S.C.A. § 1225 (West 1986), Waterfront Safety.
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33 C.F.R. § 320.1 (1987), U.S. Army Corps policies and permit authority.
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## MARINE RECREATION

Marine recreational activities may be Floridians' favorite pastimes, but they are also the most significant segment of Florida's biggest industry --- tourism. Florida's beaches and coastal waters have worldwide appeal. Sun bathers and swimmers enjoy the 1,016 miles of sandy beaches; snorkelers and scuba divers marvel at the beauty of coral reef systems and the mystery of ancient shipwrecks; sport fishermen relish the bounty of Florida's waters; and recreational boaters know the joy of cruising the state's coastal seas. As an important part of the state's economy, enhancement of marine recreational opportunities must be an essential element of the state's ocean policy perspective.

### Scuba Diving and Snorkeling

Not only is Florida the number one dive destination in the continental United States, but it also contains four out of five of the most popular dive destinations in the world. John Pennekamp State Park, alone, attracts over 750,000 divers per year. Of course, divers are attracted to the state's clear waters, coral reefs, historic wrecks, and 300 fresh water springs, but the accessibility of dive sites, the availability of dive shops and services, and the cost effectiveness of dive trips also contribute to the popularity of Florida as a dive destination.[1]

Diving is a growing part of the state's tourist industry. It is estimated to pump $1 billion a year into the state's economy. The average diver is a well-educated professional with an average income of $51,000. He or she takes one major dive trip per year at a cost of $1600 and spends about $1900 on diving equipment. There are approximately 2.6 million divers in the world, and most of them consider Florida a top-rated destination.[2] In addition, Florida has the highest concentration of certified divers of any state. In 1986, 17.8% of all certified divers in the U.S. were certified in Florida.[3]

Florida also has over 400 dive shops. The Florida Association of Dive Operators (FADO) is the largest retail diving industry organization in the world.[4]

### Issues and Recommendations

**I. Diver safety.** Each year divers, snorkelers, and other swimmers are injured or killed by boats in Florida. There are several reasons: Inexperienced snorkelers do not know that state law requires that a diving flag be placed so boaters can avoid them. Since many dive sites are accessible from the shore, there is not even a moored or anchored boat to signal that there is anyone in the vicinity. Inexperienced boaters may not recognize the flag or may be going too fast to avoid the area. Even educated and seasoned scuba divers experience problems, because although boats can be heard in the water, it is often difficult or impossible to tell the direction of the boat before it is upon the diver.

**Recommendation.** Nearshore areas need to be better protected for swimmers and snorkelers. Speed zones should be established where diving and snorkeling sites are accessible from the shore. In certain heavily used and shallow areas, boating traffic should be diverted from the

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[1]Interview with Russell Teal, Florida Association of Dive Operators.

[2]Speech of Governor Bob Martinez, International Dive and Travel Show, Orlando, Fl. (Sept. 30, 1988).

[3]Grizzard, *Responsible Reef Development: A Sport Diver's Perspective*, in **Florida Artificial Reef Summit** 38 (S. Andree ed. 1988).

[4]Teal Interview *supra* note 1.

diving area. Divers and snorkelers, on the other hand, should be diverted from areas of heavy boating traffic.

**II. Enhancing diving opportunities.** Two other sections deal with programs that relate to enhanced diving opportunities. The Marine Fisheries Management chapter discusses artificial reefs in Florida and the Marine Salvage, Finds, and Historic Preservation chapter discusses underwater archaeological parks. Artificial reefs attract fascinating and beautiful fish to delight divers. Underwater archaeological parks share a unique part of Florida history with the public.

**Recommendation.** Artificial reefs and underwater archeological parks can provide even more diving and snorkeling opportunities in Florida. The state should work with diving groups and operators to continue to develop this growing part of Florida's tourist industry by creating new underwater parks and making artificial reefs accessible to divers.

## Recreational Boating

On almost any sunny day, Florida's coastal waters are dotted with colorful sails and fast-moving power boats. Floridian's love of the sun and sea is epitomized in the sport of recreational boating. There are about 650,000 registered pleasure boats[5] in Florida, and over 6,400 marine businesses. Recreational boating is estimated to contribute $3.5 billion per year to Florida's economy.[6]

Recreational boating is increasing. A 1984 study for DNR estimated that registrations will increase by 48% in the period from 1982 to 2005.[7] But as boating increases, so will the need for marinas and other means of access to the water, user conflicts, and boater safety problems.

Access problems have two aspects: Larger boats must have marina berths available, and smaller boats require either dry storage facilities or boat ramps with parking for cars and trailers. The 1984 DNR report estimated that overall the supply of wet slips and dry racks was used at 78.3% capacity. That is, when considered on a statewide basis, space in marinas is not yet critical. This does not reflect, however, the concentration of boats in certain areas of the state.

Areas of high population and high recreational use also have the most severe demands on coastal property. The state's strict dredge and fill requirements and review of some marinas as developments of regional impact make new marina development difficult. The high value of coastal property also may make other uses of shoreline property more attractive to developers.

The Local Government Comprehensive Planning and Land Development Regulation Act[8] requires that local governments develop comprehensive land use plans containing a coastal management element. This element must include a "shoreline use component which identifies public access to beach and shoreline areas and addresses the need for water-

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[5]Only boats with at least 10 horsepower engines must be registered. Therefore, the actual number of pleasure boats greatly exceeds 650,000.

[6]Interview with John Lowe, Marine Industries Association of Florida. A 1983 study concluded that the recreational boating industry contributed $1.48 billion to Florida's economy in 1980. *See* Milon, Mulkey, Riddle & Wilkowskie, **Economic Impact of Marine Recreational Boating on the Florida Economy** 25 (Mar. 1983).

[7]F. Bell & V. Leeworthy, **Estimation of the Demand and Supply of Marina Services in the State of Florida** (1984).

[8]**Fla. Stat.** §§ 163.3161-163.3243 (1987).

dependent and water-related facilities, including marinas, along shoreline areas."[9] If local governments effectively implement these provisions, both marinas and other provisions for boater access would be incorporated in comprehensive plans and would be accommodated as water-dependent uses. These plans would be more effective if coordinated with state and regional efforts to address the need for marinas and access. In 1985, DNR made recommendations for a proactive state marina siting policy.[10] Implementation of this policy would greatly enhance local government planning efforts.[11]

With the proliferation of boats on Florida's waters, it is little wonder that boating safety is a major issue in the state. Florida records more boat-related deaths than other states. Inexperienced, uneducated, or intoxicated boaters are a danger not only to themselves, but also to other boaters, swimmers and divers, and natural resources of the state.

Boaters in the state are required to know and comply with navigation rules under the International Navigational Rules Act of 1977 and the Inland Navigation Rules Act of 1980. Any person guilty of a criminal violation of navigation rules or of a noncriminal violation that results in an accident or of more than one infraction in a twelve-month period must complete a boating safety course.[12] Of course, operating a boat while intoxicated or chemically impaired is unlawful. If a lawfully-arrested boat operator refuses to take a test for intoxification or impairment, the person is subject to a $500 civil penalty.[13]

Money collected from vessel registrations is deposited in the Motorboat Revolving Trust Fund to provide for "recreational channel marking, public launching facilities, law enforcement and quality control programs, aquatic weed control, and manatee and marine mammal protection and recovery."[14] In 1988, the legislature increased vessel registration fees, primarily to hire more marine patrol officers. Each year, $250,000 of the Fund is earmarked for manatee and marine mammal protection.

DNR has authority to establish by rule restricted areas "for any purpose deemed necessary for the safety of the public."[15] Restricted areas are established in consultation with the local government where the area is located. Boating restricted areas have been established in six counties and are listed in part 16N-24, Florida Administrative Code. In addition to those areas, certain areas are designated as prohibited areas or slow or idle speed zones for protection of manatees.[16] The operation of watercraft is also regulated in John Pennekamp Coral Reef State Park to protect divers and snorkelers, and also to protect the fragile coral reefs from anchor damage.[17]

**Issues and Recommendations**

**I. Marinas and other means of access by boaters must be addressed as priority water-dependent uses in local government planning.** Although space in marinas is not yet critical, in some areas of the state coastal development conflicts will soon cause problems. Access to

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[9]*Id.* § 163.3178(2)(g).

[10]Florida Department of Natural Resources, Division of State Lands, **Toward a Proactive Statewide Marina Sating Policy** (1985).

[11]*See* the chapter on Ports, Marine Terminals, and Marinas for a discussion of the recommendations on marina siting.

[12]1988 Fla. Laws ch. 88-133.

[13]*Id.*

[14]**Fla. Stat.** § 327.28 (1987).

[15]**Fla. Stat.** § 327.46(1) (1987).

[16]**Fla. Admin. Code** part 16N-22 (1987).

[17]**Fla. Admin. Code** § 16D-2.011 (1987).

the water by boaters who also need a place to park cars and trailers is already a major problem in most areas of the state.

**Recommendation.** Local governments should be particularly sensitive to giving priority to water-dependent uses in the coastal element of their comprehensive plans. In the local government plans, shoreline access should address the issue of getting boats, as well as people, to the water. DNR should pursue its proactive marina siting policy and give guidance to local governments in development of shoreline use components of local plans.

**II. Florida's tremendous population of boaters can create dangers for swimmers, divers, and natural resources.** Boaters that drive recklessly, too fast, or too close to shore can pose great danger to themselves, other boaters, swimmers, and manatees. The legislature has already taken action to provide more law enforcement, but boater education is just as important. Boaters need to understand the habits of manatees and the effect of dragging anchors on coral reefs; to know how to recognize a diver's flag and where heavily-used snorkeling and diving areas are; and in general, to show care and courtesy to other ocean users. Boats are "dangerous instrumentalities"[18] and must be operated conscientiously.

**Recommendation II.** The state should initiate more and better boater education programs to protect swimmers and divers, manatees, coral reefs, and other boaters. The state should continue to work with marine industry groups to educate the public in boating safety.

### Sport Fishing

Fishing is one of America's favorite sports, and "big game" fishing has attracted anglers to Florida since the turn of the century. The available data on saltwater recreational fishing is slightly dated at this point, but clearly reflects that this segment of the state's tourist economy is flourishing.

A 1982 study, *The Economic Impact and Valuation of Saltwater Recreational Fisheries in Florida*,[19] found that about 5.2 million fishermen spent 58.6 million "angler days" per year fishing in Florida. That translated to approximately $5.058 billion in directly and indirectly generated income to the state. In the Florida Keys alone, it is estimated that the direct economic impact of sport fishing is around $200 million per year.[20]

Sport fishermen are very sensitive to declining stocks, gear conflicts, and competing pressures on fisheries and habitat. They have been active participants in fisheries management at both the federal and state levels.[21] Of great importance, is that recreational fishermen in Florida support the adoption of a saltwater recreational fishing license to generate funds for fisheries research and management.[22]

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[18]**Fla. Stat.**, section 327.32 (1987), provides that "[a]ll vessels . . . shall be considered dangerous instrumentalities in this state . . . ."

[19]Bell, Sorensen & Leeworthey, **The Economic Impact and Valuation of Saltwater Recreational Fisheries in Florida** (Aug. 1982).

[20]Letter of Dr. David Rockland, Director of Economics, The Sportfishing Institute, to Mr. Pat Sheldon, The Flying Fisherman, Mar. 4, 1987.

[21]*See* the chapter on Marine Fisheries Management for a discussion of the federal and state management regimes.

[22]*See, e.g.*, Forsgren, *Responsible Reef Development: A Recreational Fisherman's Perspective*, in **Florida Artificial Summit** 39 (S. Andree ed. 1988).

## Beaches

Florida's most prominent natural feature and biggest attraction remains her beaches. In 1984, beach users generated over $4.581 billion in beach-related sales, provided 179,256 jobs, and yielded about $164 million in state taxes. By 1995, beach generated income from sales is expected to increase to $50 billion and provide almost $2 billion in taxes.[23] These projections presume that Florida's beaches remain a prominent natural feature and that people can physically get to the beaches.

### Beach Renourishment and Beach Management

Florida's beaches have been eroding or retreating at an alarming rate. The attraction for tourists as well as the property of coastal residents have been threatened by the ocean's encroachment. On Thanksgiving Day, 1984, a rather routine storm hit the eastern coast of Florida, causing a great deal of property damage and washing away hundreds of feet of beach. This Thanksgiving Day storm was the impetus for Florida to take a hard look at the alternatives for managing the state's beaches.[24]

After the Thanksgiving Day storm, the Governor and Cabinet appointed a task force to develop comprehensive recommendations for beach restoration and renourishment. The recommendations of the task force led to legislation in 1986 in which the legislature enunciated state policy on beach erosion control:

> Because beach erosion is a serious menace to the economy and general welfare of the people of this state and has advanced to emergency proportion, it is hereby declared to be a necessary governmental responsibility to properly manage and protect Florida beaches from erosion and that the Legislature make provision for beach restoration and renourishment projects.[25]

The 1986 legislature also found that beach erosion is a statewide problem, best addressed by a program in which DNR determines which beaches are critically eroding and administers state Beach Management Trust Fund expenditures for beach restoration or renourishment. DNR was also instructed to develop a "comprehensive long-term management plan for the restoration of the state's critically eroding beaches."[26] In 1987, the unidimensional aspect (restoration) of the mandated 1986 beach management plan was revised. The legislature required the identification of alternative management responses and the consideration of such approaches as armoring, relocation and abandonment, and dune and vegetation restoration, in addition to restoration and renourishment.[27] The 1987 law also required that DNR "select and recommend . . . management measures for *all the state's sandy beaches* in a beach management program."[28]

The state has been divided into seven beach management districts for purposes of development of the state plan. Beach restoration management plans, which must now be expanded into broader management plans, have been developed for three districts. DNR is currently preparing rules for development of beach management plans and evaluation of restoration and renourishment projects.

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[23]Florida Dept. of Natural Resources, **Florida's Beach Access** (Apr. 1987).
[24]Policy Studies Clinic, **Restoring Florida's Eroded Beaches** 9-10 (1987).
[25]**Fla. Stat.** § 161.088 (1987).
[26]**Fla. Stat.** § 161.161(1) (Supp. 1986).
[27]**Fla. Stat.** § 161.161(1)(j) (1987).
[28]**Fla. Stat.** § 161.161(1)(l) (1987) (emphasis added).

Beach management can take three basic approaches: 1) restoration; 2) armoring; and 3) retreat. In important tourist areas of the state, restoration and renourishment of beaches is an economic necessity for the local communities and the state. The high cost of this management technique is justified by the revenue generated by those beaches. Those communities are also the most likely to be prepared to share in the cost of beach restoration projects. It is important to note, however, that because of environmental or physical conditions, all beaches are not candidates for restoration.

Armoring, the erection of seawalls or other barriers, is a second technique. Although armoring can provide short-term protection to endangered structures, there is evidence that armoring may increase the rate of erosion of adjacent beaches. In general, armoring is not a preferred management tool, but is often the only solution when a storm leaves a structure teetering on the brink of destruction. On one level, it is easy to take the position that all permits for armoring should be denied, because shoreline property owners have assumed this risk of erosion, and armoring is a potentially dangerous approach for long-term management and arguably generates even more need for armoring. On another level, it is difficult to apply such a policy in individual cases because of the moral, economic, and political dilemmas that arise.

Recent federal legislation somewhat alleviates the conflicts involved in instituting a no-armoring policy. Congress amended the National Flood Insurance Act of 1968 to extend coverage of flood insurance to include the cost of relocation or demolition of a structure that is "certified by an appropriate state or local land use authority to be subject to imminent collapse or subsidence as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels."[29] In general, relocation costs up to 40% of the value of the structure will be paid, and 100% of the value of the structure plus 10% or the actual cost for demolition will be paid if the structure must be demolished. By removing much of the economic impact associated with state refusal to allow armoring to protect structures, Congress has created the opportunity for states to consider beach management from a long-term, environmental perspective rather than in terms of short-term economic impacts.

The third beach management option - retreat - is one that is necessary where beach and dune systems are so dynamic that neither restoration nor armoring is feasible,[30] areas where the economic costs of restoration cannot be justified, or where environmental concerns outweigh justifications for armoring or restoration. An example of an area with a dynamic beach and dune system is Cape San Blas on the Florida Panhandle. It is unlikely that restoration or armoring will be considered for those beaches, but it is doubtful that property owners will realize that their options are so limited until the ocean is encroaching on their structures. It is very important that the state's beach management plan be completed, with beach management techniques identified, so that a mechanism can be devised for apprising property buyers of the risk they are assuming in purchasing certain coastal property.

In addition to long-term planning, DNR's Division of Beaches and Shores is responsible for day-to-day preservation, protection, and regulation of the state's beach-dune resource. The Division is divided into four areas: the Bureau of Coastal Data Acquisition; the Bureau of Coastal Engineering and Regulation; the Office of Beach Erosion Control; and the Office of Administrative Enforcement.

The Bureau of Coastal Data Acquisition is responsible for the acquisition of historical and field shoreline change data. That data, which is integrated into a computerized shoreline

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[29]Pub. L. 100-242, 101 Stat. 1940 (1988).

[30]Retreat may also be necessary as a general policy if theories concerning sea level rise prove to be valid.

change database, is used in the coastal construction control line reestablishment process,[31] to develop long-term shoreline change reports on a county basis; and in the thirty-year erosion projection calculations performed by Division engineers as part of the permitting process.[32] Additionally, the Bureau coordinates with contracted consultants from the Florida State University and the University of Florida research, development, and promulgation of coastal construction control line reestablishments in 24 program coastal counties.

The Bureau of Coastal Engineering and Regulation administers the Division's permitting program. The program is responsible for the regulation of specified construction and excavation activities upon sovereignty lands below the line of mean high water of any state tidal water.[33] The Bureau also regulates construction and excavation activities seaward of established coastal construction control lines:

> to preserve and protect the beach-dune system from imprudent construction which can jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access.[34]

The Office of Beach Erosion Control is responsible for the development of a statewide comprehensive beach management plan.[35] Additionally, the Office is responsible for the administration of state matching funds from the Beach Management Trust Fund for beach management planning, erosion control, beach preservation and restoration, and hurricane protection.[36]

The Office of Administrative Enforcement is the violations enforcement unit of the Division. The Office coordinates the investigation and resolution of violations of chapter 161, part I, Florida Statutes. Refusals to comply with, or the willful violation of, the provisions of sections 161.041 and 161.053 or rules or orders prescribed by the Department thereunder, subject the violator to possible administrative fines of up to $10,000 per day, liability for damage, and liens.[37] In addition, refusal to comply or willful violation subjects the violator to criminal sanctions.[38]

**Issues and Recommendations**

**I. There is no stable source of funding for beach planning and management.** Beach management planning and implementation have no stable sources of funding. Individual projects have been funded through various sources including the Infrastructure Trust Fund

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[31] *See* **Fla. Stat.** § 161.053 (1987). Coastal construction control lines (CCCLs) are established by DNR on a county basis along the sand beaches of state. Within CCCLs, construction requires a DNR permit and may be conditioned to assure protection of the beach-dune system, proposed or existing structures, adjacent properties, and public beach access.

[32] *See id.* § 161.053(6). DNR may only issue a permit for a single family dwelling if a site is located, based on DNR's erosion projections for an area, seaward of the seasonal high water line within thirty years after the date of application for the permit.

[33] *Id.* § 161.041.

[34] *Id.* § 161.053(1).

[35] *See id.* §§ 161.088-161.211.

[36] *See id.* §§ 161.091. Projects that may be authorized by DNR include project design; biological monitoring; inlet sand transfer projects; dune revegetation and stabilization; restoration, renourishment, or feeder beach costs; public access easement and vehicle parking areas; sand source studies; and enhancement of marine turtle propagation. *Id.* § 161.101(8).

[37] *Id.* § 161.054.

[38] *Id.* §§ 161.053(8) and 161.121.

and the Land Acquisition Trust Fund. However, there is no independent funding for the planning process or environmental studies, nor any continuing funding for beach restoration and renourishment projects.

**Recommendation.** DNR should be provided the resources to complete the statewide beach management plan as soon as possible. Funding is also needed to fully explore the environmental impacts of restoration projects.

**II. The statewide beach management plan is needed to aid local governments in development of the coastal element of comprehensive plans and to apprise property owners of the risk assumed in purchasing coastal property.** Local governments are in the throes of developing local comprehensive plans with stringent coastal element requirements. The guidance that could be provided by the state beach management plan would be invaluable to these governments in local plan development. In addition, the plan can form the basis for development of a mechanism to apprise coastal property buyers of the risk they are assuming in purchasing coastal property, especially where retreat has been designated the preferred management technique.

**Recommendation.** The statewide beach management plan should be completed as soon as possible and used to coordinate with local governments in development of the coastal element of local comprehensive plans. Because the plan will establish a "retreat" policy in some areas, a mechanism should be established to apprise property buyers that the beach in that area will not be restored nor will armoring be possible. That is, property buyers should know the risk they are assuming.

**III. Research on regulatory issues.** The aspects of DNR's beach and shore regulatory programs are far-ranging. Numerous issues need to be addressed in the context of these programs for policy development and effective regulation.

**Recommendation.** DNR should receive adequate funding to address research needs, which include studies concerning:

1) mitigation of the impacts of inlets on beaches and identification of the effects of stabilizing natural inlets;

2) effects of vegetation on dune systems;

3) cumulative effects of coastal development;

4) turbidity in restoration projects and natural turbidity levels;

5) coastal construction policies for redevelopment and for dealing with increased construction prior to reestablishment of coastal construction control lines;

6) additional studies for the CCCL erosion model.

**IV. Information processing and analysis.** To regulate and manage Florida's vast shoreline, data must be continuously accumulated and analyzed, and this information made available to regulators and managers. In permitting, numerous conditions for information gathering are often imposed on applicants, but due to inadequate staffing, there may be no enforcement of the conditions or there may be inadequate opportunity to analyze the data received. Studies done by other agencies or the federal government may not be made available in a timely manner.

**Recommendation.** More automation and computerization is needed to process properly and make the best use of information that is available to DNR for regulation and management.

Mechanisms should be explored to assure interagency access to relevant studies, reports, or other data. Information sharing arrangements, such as those included in the current erosion study by the U.S. Army Corps of Engineers, should be encouraged.

**Beach Access**

As Florida's population grows, it continues to concentrate in coastal areas. The tourists that flock to the state want to stay "on the beach." But the homes, condominiums, and hotels that have been erected to meet the needs of residents and tourists are fast becoming a barricade to those who have traditionally used Florida's beaches. In some areas, it is virtually impossible even to find parking near a beach. In other areas, property owners have attempted to block public use of beaches.

Beaches below the mean high water line are the property of the state and are, therefore, open to use by the public. In many areas of Florida, however, the public has established the right to use the dry sand beach landward of the mean high water line, as well. The legal theories of prescription,[39] implied dedication,[40] and custom[41] have been used to explain how the public acquired these easements through long use of the beaches.

When the public is impeded from using the beach below mean high water or the dry sand in areas where the public has established an easement, the obstruction constitutes a public nuisance. The problem with this common law cause of action as a tool to enforce public beach access rights is that it is usually available only to the government. An individual can bring a public nuisance action only if the person's injury is different in kind, not just degree, from the injury suffered by the public as a whole.[42] In Florida, the state Supreme Court in *U.S. Steel Corp. v. Save Sand Key*[43] held that a citizen's group had no standing to sue for interference with the right to use a beach "absent an allegation of a special injury differing in kind from that suffered by the public generally."

Since 1986, the issue of preserving access to Florida's beaches has been the focus of increased attention of the legislature and the Governor and Cabinet. By resolution of September 4, 1986, the Governor and Cabinet recognized the "critical importance" of beach access and the duty of the Board of Trustees to preserve and enforce access rights of the public. The legislature reiterated the importance of beach access in the 1987 Surface Water Improvement and Management Act.[44]

In June 1987, the Governor and Cabinet appointed a fourteen-member Beach Access Advisory Committee (BAAC) to propose recommendations for legislative and administrative action. The BAAC report, which was adopted by the Governor and Cabinet on April 12, 1988, proposed comprehensive beach access legislation. Among the major provisions were

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[39]An easement by prescription is established by adverse, continuous use of property for a statutorily prescribed period of time under claim of right.

[40]An easement based on implied dedication is established by demonstrating that the property owner intended to dedicate property to public by acquiescing to continuous use of the property by the public for a long period of time, generally the statutory period for creation of prescriptive easements.

[41]The Florida Supreme Court in City of Daytona Beach v. Tona Rama, 294 So. 2d 73, 78 (1974) described the elements of custom as follows:

> If the recreational use of the sandy area adjacent to mean high tide has been ancient, reasonable, without interruption and free from dispute, such use, as a matter of custom, should not be interfered with by the owner.

[42]W. Prosser, **The Law of Torts** 586 (1971).

[43]303 So. 2d 9 (1974).

[44]*See* **Fla. Stat.** §§ 373.451-373.4595 (1987).

prohibitions on obstructions to public beaches and creation of a cause of action for removal of obstructions. It was recommended that broad standing apply to enforcement of these provisions. The report also included mechanisms to enhance access through tax relief and liability limitations, and by improving access for the handicapped.

The main statute currently relating to public access is section 161.55(6), Florida Statutes. The section is intended to protect beach access rights while allowing developers as much flexibility as possible in using their property. The section provides:

> PUBLIC ACCESS.- Where the public has established an accessway through private lands to lands seaward of the mean high tide or water line by prescription, prescriptive easement, or any other legal means, development or construction shall not interfere with such right of public access unless a comparable alternative accessway is provided. The developer shall have the right to improve, consolidate, or relocate such public accessways so long as the accessways provided by the developer are:
>
> (a) Of substantially similar quality and convenience to the public;
>
> (b) Approved by the local government;
>
> (c) Approved by [DNR] whenever improvements are involved seaward of the coastal construction control line; and
>
> (d) Consistent with the coastal management element of the local comprehensive plan adopted pursuant to s. 163.3178.

This section potentially provides environmental benefits as well as flexibility for developers of coastal property. In some areas, access points across dunes have damaged the vegetation and the dune system. Consolidation of access points in one area that provides walkovers to protect the dunes can benefit both the developer, the public, and the beach and dune system. There is no indication in the statute that this section was intended to create a new cause of action enforceable by the public.

DNR's regulatory program also includes safeguards to preserve public access. In issuing permits for construction within Coastal Construction Control Lines (CCCLs), DNR may require special siting and design requirements to preserve public beach access.[45] Coastal construction may not interfere with public access along the beach. If interference with public access is unavoidable to protect the beach or an endangered upland structure, DNR may require, as a permit condition, the provision of alternative access.[46]

Local government comprehensive plans are also intended to address beach access in the coastal elements of the plans. The shoreline use component of local plans will identify access to the beach and shore.[47] A land use and inventory map of existing coastal uses is also required to identify public access routes to beach and shore resources.[48] If the identification of public access routes includes access points that have been established through common law use principles, this inventory could provide an excellent basis for enforcement of the provisions of section 161.55(6), Florida Statutes, discussed above. However, it is unlikely that local governments will be willing to confront the controversy or potential litigation that

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[45]**Fla. Stat.** § 161.053(1) (Supp. 1988).
[46]*See* **Fla. Stat.** § 161.041(1) and § 161.053(5)(e) (Supp. 1988).
[47]**Fla. Stat.** § 163.3178(2)(g) (1987).
[48]*Id.* § 161.3178(2)(a).

would be involved in asserting common law access rights, either in the context of the land use map and inventory or in enforcing section 161.55(6).

**Issues and Recommendations**

**I. Beach access rights of the public that have been established by common law principles are not adequately protected by current provisions of Florida law.** Citizens of the state currently have no standing to bring actions to protect beach access rights that have been established by prescription, implied dedication, custom, or other common law principles. Although some statutory provisions address the issue, the provisions put the entire burden on local governments to identify and protect beach access. Local governments do not have the resources to carry out the task and often lack economic incentive to enforce the provisions conscientiously. In fact, in some cases, a local government may be the culprit. A clear cause of action for obstruction of legally-established beach access, and citizen standing to enforce beach access rights is needed to assure continued access for Florida's citizens and visitors.

**Recommendation.** The legislature should create a cause of action for removal of obstructions that impair access to beaches where members of the public have created an easement by legal means. DNR, the Attorney General, local governments, *and affected persons* should have standing to enforce the statute. The legislature should also consider comprehensive beach access legislation based on the Beach Access Advisory Committee report.

Citizens should also have standing to enforce the beach access protection requirements of section 161.55(6), Florida Statutes.

## Shell Collecting

It is hard to stroll down a Florida beach without coming back with a handful or pocketful of shells. Shell collecting becomes an instant hobby for many tourists. Some vacation sites, like Sanibel Island, are chosen by tourists because of the reputation for abundant and beautiful shells. Unfortunately, the passion for perfect shells has had adverse impacts on some species. Because of the overharvesting of live specimens, some restrictions on shell collecting have been imposed.

The Division of Recreation and Parks of DNR has jurisdiction over all state-owned parks and recreational areas.[49] "All state parks have been established for the protection and preservation of their natural features . . . for public use and enjoyment of the areas and facilities."[50] The division is responsible for protecting the parks by preserving their natural features.[51]

Division rules prohibit removal of marine animals from a park.[52] Further, the rules forbid a person from capturing, collecting, or harming any animal life found within a park.[53] In some instances, exceptions are made to allow animal specimens to be collected for educational or scientific purposes.[54] However, a permit must first be obtained from the division. The restriction serves to prohibit shell collecting where the shell contains live shellfish. The above restrictions apply generally to all state parks. In some areas, however, special rules have been enacted to protect marine life. For example, all coral and shell

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[49]**Fla. Stat.** § 258.007 (1987).
[50]**Fla. Admin. Code** § 16D-2.003(1) (1988).
[51]*Id.*
[52]*Id.* § 16D-2.003(5).
[53]*Id.* § 16D-2.003(7).
[54]*Id.*

collection is prohibited in the John Pennekamp Coral Reef State Park unless a DNR permit is obtained.[55] In order to protect the coral reef formation and its marine life, marine animals may not be disturbed, harmed, or removed from the park.[56]

The city of Sanibel has also adopted rules to "preserve and protect the limited resource of shellfish and shell beds." Harvesting of shells which do not contain live shellfish is unrestricted. No person can harvest more than two live shellfish of any single species, per day. DNR has authority to issue permits to harvest more than two live shellfish for experimental, scientific or exhibitional purposes.[57]

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**Fla. Admin. Code** § 16D-2.003 (1988), Park Property.

**Fla. Admin. Code** § 16D-2.011 (1987), John Pennekamp Coral Reef State Park.

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**Fla. Admin. Code** part 16N-24 (1987), Boating Restricted Areas.

**Fla. Admin. Code** § 46-26.003 (1987), Live Shellfish Regulations.

Inland Navigational Rules Act of 1980, 1988 Fla. Laws ch. 88-133.

**Fla. Stat.** § 161.088 (1987), Declaration of Public Policy for Beach and Shore Preservation.

**Fla. Stat.** § 161.161(1) (Supp. 1986), Procedure for Approval of Beach Restoration Projects.

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[55] **Fla. Admin. Code** § 16D-2.011 (1987).

[56] *Id.*

[57] **Fla. Admin. Code.** § 46-26.003 (1987).

**Interviews, Speeches, and Letters**

Speech of Governor Bob Martinez, International Dive and Travel Show, Orlando, Fl. (Sept. 30, 1988).

Interview with John Lowe, Marine Industries Association of Florida.

Interview with Lynn Nettles, Florida Scuba News.

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Letter of Dr. David Rockland, Director of Economics, The Sportfishing Institute, to Mr. Pat Sheldon, The Flying Fisherman, Mar. 4, 1987.

## MARINE EDUCATION AND RESEARCH

In 1985, Florida passed landmark growth management legislation, largely as a result of a ground swell of public opinion that Florida's tremendous growth must be managed to preserve the state's quality of life. Public education concerning coastal and ocean issues is equally important to assure public awareness of problems and potentials for ocean resources and to develop public support for resource management initiatives.

The great variety and number of ocean uses and ocean users puts tremendous stress on management systems. Management of scarsce or overutilized resources, especially, often means making difficult policy decisions. To assure that Florida's resources are conserved and managed in the best ways possible and to provide substantive bases for difficult management decisions, the best scientific information must be available.

### Marine Education

Statewide, there are several environmental education programs and opportunities offered by public schools, private and public universities, and private organizations.

#### Primary and Secondary Education Programs

The Florida Environmental Education Act was passed in 1986 to stimulate statewide appreciation for and responsibility to our environment.[1] The Act is a legislative directive to the Florida Commissioner of Education to disseminate materials and develop activities to educate students, teachers, and administrators on the environment. Environmental education is necessary to ensure an understanding of the relationships among natural resources, human activities, and the quality of life. The state education system has developed an environmental education program which includes marine education elements. As a result, environmental education has been integrated into the general curriculum of all public school grades.

The Florida Council on Comprehensive Environmental Education (FCCEE) was created as part of the state's efforts to organize and coordinate a statewide environmental education program.[2] In 1986 the FCCEE, serving as an advisory board to the Commissioner on Education, reviewed and evaluated existing environmental programs operated by nonprofit organizations, private industry, and state agencies in order to develop a comprehensive statewide environmental education plan.[3] The comprehensive plan was developed to "ensure that all citizens of Florida receive continuing education about the natural, economic, and cultural environment of Florida."[4]

In 1987, the Council's Comprehensive Plan recommended a future course of action for environmental education in Florida:

(1) That the Florida Department of Education establish a formal environmental education program in Florida's schools, colleges, and universities; and
(2) That each of the state agencies responsible for managing and providing information about the environment establish a formal organization to promote cooperation and coordination in environmental education activities. These

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[1]**Fla. Stat.** § 229.8055 (1987).
[2]*See* **Fla. Stat.** § 229.8055 (1987); **Fla. Admin. Code Ann.** § 6A-10.020 (1988).
[3]Florida Council on Comprehensive Environmental Education, **Status Report on Environmental Education** (Jan. 1987).
[4]Florida Council on Comprehensive Education, **Comprehensive Plan for Environmental Education** (Mar. 1, 1987).

agencies are Department of Agriculture and Consumer Services, Department of Community Affairs, Department of Education, Department of Environmental Regulation, Department of Health and Rehabilitative Services, Department of Natural Resources, Department of State, Executive Office of the Governor, Game and Fresh Water Fish Commission, and Water Management Districts.[5]

"To create an awareness of the importance of our environment through a relevant experience-based environmental education program in [Florida's] schools," the Florida Department of Education produced *A Florida Directory for Environmental Programs*. The directory identifies statewide environmental education centers, sites, and resources, federal environmental education resources, and private nonprofit organizations concerned with natural resources.[6]

The directory was furnished to each of Florida's public schools by the Florida Commissioner of Education to encourage teachers to supplement their classroom instruction with experience-based field trips to the federal, state, and privately-owned resources in their localities. The program describes numerous environmental educational resources including parks, sink holes, museums, wildlife sanctuaries, nature trails, solar energy centers, marine science centers, and wildlife rehabilitation centers.

The FCCEE has established an Interagency Environmental Education Coordinating Committee which has developed a speakers bureau directory and an environmental education resource directory. The Committee is currently organizing summer science institutes for teachers to study wetlands.

Encompassed in the field of environmental education is marine education-related studies. The Hillsborough County Public Schools, Office of Environmental Education, for example, prepared an interdisciplinary study unit for sixth-grade students on The Estuary. They received financial and research assistance from the Florida Department of Environmental Regulation, Office of Coastal Management and the Florida Department of Natural Resources, Bureau of Marine Research. Other counties have developed similar curricula materials under the Department of Education environmental education grants. For example, Wakulla County's seventh grade students have a Florida Marine Ecology program and Franklin County's ninth grade classes have a special Marine Science program.

**College and University Education Programs**

All of Florida's higher education institutions, which include two-year, four-year, and graduate programs, offer courses in marine-related studies. Some institutions offer specific academic programs in oceanography and marine biology. A number of institutions even have their own vessels or laboratories to conduct marine support research, while others offer only a few marine-related courses such as biology and oceanography.[7]

Graduate programs are offered by several universities. The University of Central Florida offers a Masters of Science (M.S.) in biological sciences. An M.S. degree in coastal management and Ph.D. degrees in bio-environmental and physical oceanography and marine biology can be obtained from the Florida Institute of Technology. Florida State University offers M.S. and Ph.D. degrees in oceanography. At the University of Miami, M.S. and Ph.D. degrees can be obtained in several marine science fields. Majors are offered in marine

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[5]*Id.*

[6]Florida Department of Education, Division of Public Schools, Bureau of Curriculum Services, **A Florida Directory for Environmental Programs** (Dec. 1987).

[7]Leahy, **Marine Education and Research Organizations in Florida** 1-30 (Mar. 1984). For a complete discussion of marine-related university programs in Florida, see W. Seaman, **Student Guide to Marine Degree Programs in Florida Universities** (Sea Grant 1989).

biological science, including fishery science, marine geology and geophysics, physical oceanography and applied marine science. The University of Florida's (UF) Department of Fisheries and Aquaculture offers both M.S. and Ph.D. degrees with majors in fisheries, biology, and aquaculture. UF's Zoology Department also offers courses in marine biology such as marine ecological and biology of marine animals. M.S. and Ph.D. degrees are available in zoology as well as science. The following table summarized Florida's degree programs in marine subjects.

Table 1. Florida Four-year Institutions of Higher Learning with Organized Degree Programs in Marine Subjects.

| Institution | Level of Degree and Academic Unit or Field | | |
|---|---|---|---|
| | Bachelor's | Master's | Doctoral |
| Eckerd College (EC) | B.S., Marine Sci. | -- | -- |
| Florida Atlantic University (FAU) | B.S., Ocean Eng. | M.S.E., M.E., Ocean Eng. | Ph.D., Ocean Eng. |
| Florida Institute of Technology (FIT) | B.S., Ocean Eng.<br>B.S., Oceanog.<br>B.S., Mar. Biol. | M.S., Ocean Eng.<br>M.S., Oceanog.<br>M.S., Mar. Biol. | Ph.D., Ocean Eng<br>Ph.D., Oceanog.<br>Ph.D., Mar. Bio. |
| Florida International University (FIU) | Certificate, Marine Sci. | M.S., Biol. Sci. | Ph.D., Biol Sci. |
| Florida State University (FSU) | -- | M.S., Oceanog. | Ph.D., Oceanog. |
| Jacksonville University (JU) | B.S., B.A., Marine Sci. | -- | -- |
| Nova University (NU) | B.S., Ocean Studies | M.S., Ocean Sci. | Ph.D., Oceanog. |
| University of Florida (UF) | B.S., Zoology | M.S., M. Eng., Coast. & Oc. Eng<br>M.S., Zoology | Ph.D., Eng.<br>Ph.D., Zoology |
| University of Miami (UM) | B.S., B.A., Marine Sci. | M.S., M.A., Marine & Atmos. Sci. | Ph.D., Marine & Atmos. Sci. |
| University of South Florida (USF) | -- | M.S., Marine Sci. | Ph.D., Marine Sci. |
| University of Tampa (UT) | Major, Marine Sci. | -- | -- |
| University of West Florida (UWF) | B.S., Mar. Biol. | M.S., Biol.<br>M.P.A., Coast. Studies | -- |

Source: W. Seaman, **Student Guide to Marine Degree Programs in Florida Universities** (Sea Grant 1989).

The Florida Atlantic University Pine Jog Environmental Science Center is a unique institution that serves as an environmental education center for students ages 6 to 96. However, its primary function is to teach field-oriented ecology to children in the first through twelfth grades. Pine Jog is also used as a resource and support facility by college students and the general public.

Some institutions have community involvement programs. For example, the Hillsborough Community College's Division of Community Service, Environmental Studies Center in Tampa, sponsors teachers' workshops, conducts marine ecology slide presentations for civic and community groups, and sponsors the Annual Conference on Wetlands Restoration and Creation.[8]

**Private and Public Programs**

Aside from the range of environmental programs offered by schools and universities, private and public institutions also focus on marine education.

The Associated Marine Institute, Inc. (AMI), is a nonprofit youth organization offering instruction in the areas of fisheries, aquaculture, navigation, coastal planning, erosion, diving, oceanography, and biology for delinquents placed under the Florida Department of Health and Rehabilitative Services supervision.[9] The Institute's special training program "uses the mystique of the ocean to motivate juvenile delinquents. Captains, diving instructors, ocean science instructors [and] educators . . . work with the [students] to improve their self-esteem, employability skills, vocational skills and education."[10] Another facet of the program employs the students to work in environmentally-oriented projects such as nursery growing of salt-tolerant and freshwater wetland plant species, revegetation, artificial reef construction, and vegetation surveys.

Florida's Marine Science Education Association works to improve marine science education. The Association's members are involved in some facet of marine science education, either as primary or secondary school teachers, junior college teachers, marine advisory personnel, commercial park personnel, or scout leaders. The Association believes expanding marine educator's knowledge and improving available resource materials will extend awareness and knowledge of the marine community.[11] The Florida Institute of Oceanography has an extensive education and training program for both teachers and students.

The International Oceanographic Foundation in Virginia Key operates the Planet Ocean, a science museum. This museum is open to the public and is a particularly important resource to area school groups.[12]

Another learning center is the Marine Science Education Center visited by thousands of students each year to study aquaculture, seafood technology, navigation, coastal planning, diving, oceanography, and photography. The Center has a wet lab and a wave tank as well as a 75,000 gallon viewing tank.[13]

The Marine Training Program in Key West is involved in commercial vessel and fishing training for high school and adult education students.[14]

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[8] *Id.* at 6.
[9] Leahy, *supra* note 7, at 39. There are seven AMI's statewide.
[10] *Id.*
[11] *Id.* at 40.
[12] *Id.* at 41.
[13] *Id.* at 42.
[14] *Id.* at 43.

The Museum of Science, Inc. in Miami teaches students about the local marine environment while they wade, snorkel, and scuba dive.[15]

Outdoor classroom studies of marine and terrestrial environments are conducted at the Harbor Marine Institute in Big Pine Key. Instructional facilities include wet and dry science laboratories and a museum.[16] Other public programs include the DNR Estuarine Research Reserve's education program in Apalachicola and Rookery Bay, as well as the Aquatic Preserve outreach program in the Indian River Lagoon. Also 4-H has a marine science section which prepares educational booklets for children and sponsors a marine ecology judging event.

**Issues and Recommendations**

**I. Inadequacy of marine environmental education.** In spite of the fact that the state boasts a number of excellent local programs, the level of marine education in grades K-12 is still extremely inadequate. There are a number of reasons for this. Although curricular materials are available, there is a shortage of teachers trained in marine and environmental education. School curriculums are so crowded that new courses are often not an option. However, teachers are not trained or prepared to incorporate marine environmental education into other courses.

**Recommendation.** The state needs to assume leadership in integrating marine environmental education into Florida's schools. Designing curricular materials, making them broadly available, and training teachers should be priorities.

**II. Marine and coastal programs in social science and policy.** Marine science-related courses, programs, and degrees are widely available in the state. The needs of both students and the state seem to be sufficiently addressed in the so-called "hard science" areas. Very few courses exist to prepare students to deal with the social, socioeconomic, and policy issues the state must address in management of its coasts and waters.

**Recommendation.** The state should encourage the development of programs in coastal management and related areas at the college levels.

## Marine Research

Just as marine education is necessary to instill an awareness of our ocean and coastal resources, research is necessary to properly manage, protect, and conserve Florida's marine plants, animals, and habitats. A number of state and federal agencies and organizations are involved in research and development of marine related activities.

**Department of Natural Resources**

At the state level, the major marine research participant is the former Bureau of Marine Research, Division of Marine Resources, in the Department of Natural Resources. Recently, the bureau was "reorganized" into the Florida Marine Research Institute to facilitate procurement of grants and professional assistance.[17] The Institute is charged with responsibility to "provide the basic scientific [coastal and marine] resource information upon which sound management policies must be founded."[18] In addition, the division's saltwater fisheries management program specifies that the bureau, has a duty "to conduct scientific, economic

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[15] *Id.* at 44.
[16] *Id.* at 45.
[17] Fla. Laws, Ch. 88-353 (1988).
[18] **Fla. Admin. Code Ann.** § 16-6.004(3) (1988).

and other studies and research, all of which duties and operations shall be directed to the broad objective of managing such fisheries in the interest of all people."[19]

The Institute is the only state marine research organization focused on providing information to enable the state to make informed decisions concerning the protection of the marine environment and, specifically, marine fisheries. To address the management needs of fisheries, habitat and nongame wildlife, marine research at the bureau's laboratories includes studies in the following areas: fishery stock assessments; fisheries statistics, life history studies; coastal hydrography and red tide studies; culture and rearing of marine animals; habitat characterization and restoration; ethnic community studies; endangered and threatened species; and marine animal health and contamination.

The Marine Fisheries Commission is responsible for prioritizing the department's marine fisheries research activities and administering the Marine Fisheries Commission Trust Fund.[20] License fees collected for commercial saltwater fishing licenses[21] and for harvesting tarpon[22] are deposited into the trust fund. License revenues from tarpon tags, however, must be used for research relating to "tarpon management."[23]

Both the Marine Fisheries Commission Trust Fund and the Division of Marine Resources receive proceeds from vessel licensing revenue. Revenues are also available from saltwater products licenses.[24] The division's funds are used for "marine research and statistics development."[25] Likewise, revenues accruing to the Marine Fisheries Commission Trust Fund are used "to provide for the award of funds to marine research institutions in this state for the purposes of enabling such institutions to conduct worthy marine research projects."[26] Vessel licensing revenues are also available to DNR for the Manatee Protection Program.

In 1988, the Auditor General reported on DNR's Marine Research Program.[27] The report criticized DNR for directing its research efforts toward studying fish. This focus, however, is due primarily to the priorities established by the Marine Fisheries Commission for the bureau, as required by law. The study concluded there is no system for developing statewide marine research priorities. The Auditor General found:

> No formal mechanism exists for all state agencies with marine resource management responsibilities to identify the marine research most needed; no system exists for making these needs known to the Bureau, the state universities, or the Florida Sea Grant Program. Thus, it is possible that state-supported marine research will not address the issues most critical to the preservation of the saltwater fisheries resource.[28]

The Auditor General recommended that DNR ensure that the marine research information needs of all its divisions are provided to the bureau so that it can consider those needs when it develops its budget request and five-year research plan. The Auditor General also recommended that the legislature: 1) establish a formal coordinating mechanism like an

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[19]**Fla. Stat.** § 370.02(2) (1987).

[20]**Fla. Stat.** §§ 370.026, 370.027 and 370.029 (1987). The Marine Fisheries Commission points out that DNR's research budget reflects that the majority of funds are generally not spent as requested by the Commission.

[21]**Fla. Stat.** §§ 370.06(2) and 327.28 (1987).

[22]Fla. Laws Ch. 88-170 (1988)(to be codified at **Fla. Stat.** § 370.062).

[23]*Id.*

[24]**Fla. Stat.** § 370.06(2) (1987).

[25]**Fla. Stat.** § 327.28(3)(b) (1987).

[26]**Fla. Stat.** § 370.029 (1987).

[27]Auditor General, **Report on the State's Marine Research Program administered by the Florida Department of Natural Resources**, Report No. 11002 (Mar. 22, 1988).

[28]*Id.* at vii.

interagency council to identify marine research most needed by state agencies with marine resource management responsibilities; 2) require state agencies, when developing budget requests, to consider the research priorities identified by the council; and 3) consider providing the Governor's Office with funds it can use to contract for work on the top research priorities identified by the coordinating council. Currently the Marine Fisheries Commission and DNR are responsible for marine research issue identification activities.

**Other State Programs**

A number of the state universities are involved in marine research activities. The Department of Marine Science at the University of South Florida created the Center for Nearshore Marine Science, formed to address the environmental problems of Florida's waters, from estuaries to beaches to the continental shelf. Its purposes are: to conduct research, to design and implement environmental monitoring; to have specialists provide information and guidance on state and local problems; and to provide courses, seminars, panels, and symposia to educate laypersons.

The University of Miami's Rosentiel School of Marine and Atmospheric Sciences is one of the United States four top oceanographic institutions.[29] The Center for Aquatic Research and Resources Management, located at the Florida State University, conducts basic and applied aquatic research and manages freshwater and estuarine reserves. It is a grant-funded organization. Other universities and university-based organizations include: the Institute for Sea Level Rise at the Florida State University College of Geology; Jacksonville University; and Florida International University.

Some of Florida's universities also host special marine education and research programs. One example is the Florida Institute of Oceanography (FIO) located in St. Petersburg which "serves as a focus for the pursuit of Oceanography education and research in the State."[30] State-supported research and education programs are conducted on the R/V Bellows, a vessel owned and operated by FIO, which is at sea approximately 200 days per year. FIO is involved in numerous marine science disciplines including oceanography, ocean engineering, and ecology. FIO is also involved in teachings related to ocean policy and planning, management, and education on local, state, regional and national levels.[31]

Membership in FIO is composed of each of the state universities, Florida Department of Natural Resources, Florida Marine Research Institute, Florida Sea Grant College, and the University of Miami, Rosentiel School of Marine and Atmospheric Science. The FIO is responsible to the Florida Board of Regents through the State University System.

Other state-funded institutions are the West Florida Anthropod Research Laboratory in Panama City and the Florida Medical Entomological Laboratory at Vero Beach. This institution is concerned with insect control and the effects control methods have on non-targeted organisms associated with salt marsh environments.[32]

Both the Policy Studies Clinic, located at the Florida State University College of Law, and the Center for Governmental Responsibility, located at the University of Florida Law School have been involved in coastal law and policy research. The research has not been coordinated and has generally focused upon onshore issues until this study.

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[29]Leahy, *supra* note 7, at 17.
[30]*Id.* at 33.
[31]*Id.* at 33-34.
[32]Leahy, *supra* note 7, at 50.

### The Florida Sea Grant College Program

An important educational and research program is Florida's Sea Grant College, created in 1972 as a part of the congressionally-established National Sea Grant College Program. Passage of the National Sea Grant College and Program Act charged the Office of Sea Grant of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, with promoting sound economic development and appropriate use of the nation's marine resources through marine research, education, and advisory service. The Florida Sea Grant College Program is part of the national network of university-based marine programs that conduct research, education, and extension efforts, which focus on living marine resources, coastal processes and development, marine industries, education, and sea grant extension. The Florida Sea Grant Program administers marine-related grants and education programs. The Program comprises all the state universities, two private universities, and two nonprofit research laboratories marine, and has worked with marine industries, citizens, and government.

One of the goals of the program is to make the research findings widely available to ensure awareness of the need to use the state's marine resources wisely. This is accomplished through the Sea Grant Extension Program, administered in cooperation with the Institute for Food and Agricultural Sciences, Florida Cooperative Extension Service, University of Florida. Sea grant extension agents, located in coastal county extension offices, university campuses, and other locations, serve as the Sea Grant's technology transfer arm.

Florida Sea Grant is funded by a number of sources including the federal government, the state legislature, county governments, and industry. The program's long-range plan for 1988 through 1993 gives priority to certain areas of future research including aquaculture, beaches and shores, coastal construction and ocean engineering, coastal recreation and tourism, estuarine habitat productivity and restoration, fisheries, marine and coastal policy, and seafood technology.[33]

### Federal Programs

There is a spectrum of federally-sponsored marine research activities throughout the state. The U.S. Fish and Wildlife Service and the National Parks Service have contributed significantly to research for protection and management of endangered species, fisheries, and habitat. The National Marine Fisheries Service is responsible for much of the research and statistical information necessary to manage offshore fisheries.

Studies on coastal plants are conducted by the United States Department of Agriculture Soil Conservation Service. The department's Plant Materials Center near Brooksville develops plants to revegetate our coastal areas to eliminate and reduce soil erosion.[34]

To develop water quality criteria to protect human health and aquatic ecosystems, research must be conducted to determine how pollutant exposure effects relationships in marine, coastal, and estuarine ecosystems. This research is conducted by the United States Environmental Protection Agency at its Environmental Research Laboratory in Gulf Breeze.[35]

Other federal government research activities include: estuarine and coastal zone hydrology such as water circulation, freshwater and saltwater reactions and pollution

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[33] *See* Florida Sea Grant College Program, **Long-range Plan 1989-1993 Opportunities for Faculty Leadership In Statewide Marine and Coastal Research, Education, and Extension in Florida.**

[34] *Id.* at 51.

[35] *Id.* at 52. *See* 33 U.S.C.A. § 1251 (West 1986).

aspects;[36] diving and salvage, mine and torpedo countermeasures, acoustic warfare, and coastal operations support;[37] marine forecasting conducted on oceanographic laboratories;[38] life history of marine fisheries to formulate plans to conserve and manage the fisheries;[39] and fishery management conservation research programs.[40]

**Private Research Institutions**

Complementing the roles of the public educational institutions and federal and state agencies are several nonprofit and private organizations involved in advancing both basic and applied knowledge of the state's marine and coastal resources.[41] For example, a major research contributor is the Harbor Branch Oceanographic Institution, Inc. (HBOI), a oceanographic research facility in Fort Pierce. HBOI is actively involved in publishing its findings to release its research information to the general public.[42]

Another important institution is the Mote Marine Laboratory in Sarasota. Mote conducts year-round research in several areas including bio-medical research, environmental assessment, bioassays, red tide research, and fate and effects of toxic organic chemicals.[43]

The Aqualife Research Corporation specializes in the development of techniques for the culture of marine tropical fish. The Columbia Research Corporation provides support in the areas of diving and salvage, mine countermeasures and navigation. Aquatic toxicological research in freshwater, estuarine, and marine environments is conducted by the EEG, Bionomics Marine Research Laboratory in Pensacola. The Florida Oceanographic Study is involved in the study of estuary, inlet, and near coastal reef systems.

Some organizations are involved in research-related activities. For example, instruments such as water sensors, and marine biological samplers, are manufactured by General Oceanics, Inc., in Miami. Cultures and supplies of living marine invertebrates and fishes are collected and distributed to colleges, universities, public schools, and public aquaria by Gulf Specimen Company in Panacea.

Research is also conducted by the Gulfarium marine show aquarium, Marineland of Florida oceanariums, Ocean World Marine Park, Sea World of Florida entertainment complex, and the Living Seas Pavilion at EPCOT Center.

**Regional and International Marine Research Issues**

Unlike the rest of the continental United States, Florida is uniquely a part of the Caribbean region. The state and its Caribbean neighbors share many of the same

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[36]Research is conducted by the United States Geological Survey, Water Resources Division, Tallahassee, Florida.

[37]Research is conducted by the United States Naval Coastal Systems Center, Panama City, Florida.

[38]Research is conducted by the NOAA Atlantic Oceanographic and Meteorological Laboratory, Miami, Florida. *See* 16 U.S.C.A. § 1381 (West 1985); 33 U.S.C.A. § 1702 (West 1986).

[39]Research is conducted by the National Marine fisheries Service, Panama City, Florida. *See* 16 U.S.C.A. § 1034 (West 1985).

[40]Research is conducted by the National Marine Fisheries Service, Southeast Region, St. Petersburg. *See* 16 U.S.C.A. § 1034 (West 1985).

[41]Leahy, supra note 7, at 59.

[42]Annual Report of the Harbor Branch Oceanographic Institution, Inc. (1982).

[43]Leahy, *supra* note 7, at 74.

environmental problems, and their ecologies are closely related.[44] Research and management strategies that take a regional approach to environmental issues are clearly needed.

Caribbean countries have created a framework for addressing environmental problems from a regional perspective. Under the United Nations Environment Program's (UNEP) Regional Seas Program for the Caribbean, the Caribbean Action Plan was adopted in 1981 by 22 countries. The Action Plan is intended to assist governments in the region in minimizing environmental problems and in developing sound environmental management strategies on a regional basis.

The Action Plan nations developed the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean (the Cartagena Convention) as a legal framework. The parties to the Convention have adopted a protocol on combatting oil spills and are considering extending the oil spill provisions to other hazardous substances. In addition, other protocols are being considered for specially protected areas and species, and for land-based pollution sources.

The parties to the Action Plan and the Cartagena Convention are currently reevaluating and prioritizing regional environmental problems. There is a great need for research on coastal and marine systems of the area to provide a basis for international agreements to protect and manage the environment. The Caribbean Trust Fund has been created to fund activities of the Action Plan and meetings of parties to the plan and convention. The United States, although a party to both the plan and convention, is not currently contributing to the fund.

**Funding for Marine Research**

Marine research activities in the state are funded by several sources. There is no resource, however, for identifying all the sources of funding for marine research in the state. The primary funding sources include the National Science Foundation, Sea Grant, the U.S. Office of Naval Research, and the state of Florida. Other funding sources are the U.S. Environmental Protection Agency, the Department of the Interior, the U.S. Army Corps of Engineers, and the U.S. National Oceanic and Atmospheric Administration.

In general, managers and scientists feel that the level of funding is inadequate for Florida's needs. The most likely source of additional funding for the future, particularly for fisheries research, is through saltwater fishing licenses. It has been projected that saltwater recreational fishing licenses will generate $18.8 million during the first year and $15.2 million during the second year that they are required.

## Issues and Recommendations

**I. Florida as a part of the Caribbean Region.** Florida is uniquely situated with respect to the Caribbean region. Aspects of the health of Florida's marine resources and coastal environment are affected by, and in some cases dependent on, the environmental management regimes of the Caribbean. Florida can greatly benefit from Caribbean regional initiatives and has expertise that can contribute to regional efforts. However, better consultative and collaborative mechanisms must be established.

**Recommendation.** Florida should work and consult with the U.S. Department of State in the government's negotiations and participation in Caribbean Action Plan and Cartagena Convention activities. The state should encourage federal government contribution to the funding of research activities and participation of Florida's research institutions in cooperative efforts. Existing programs that link Florida and the Caribbean, such as the

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[44]For example, Florida's commercially-important lobster fishery is totally dependent on Caribbean habitat for the early development of the species.

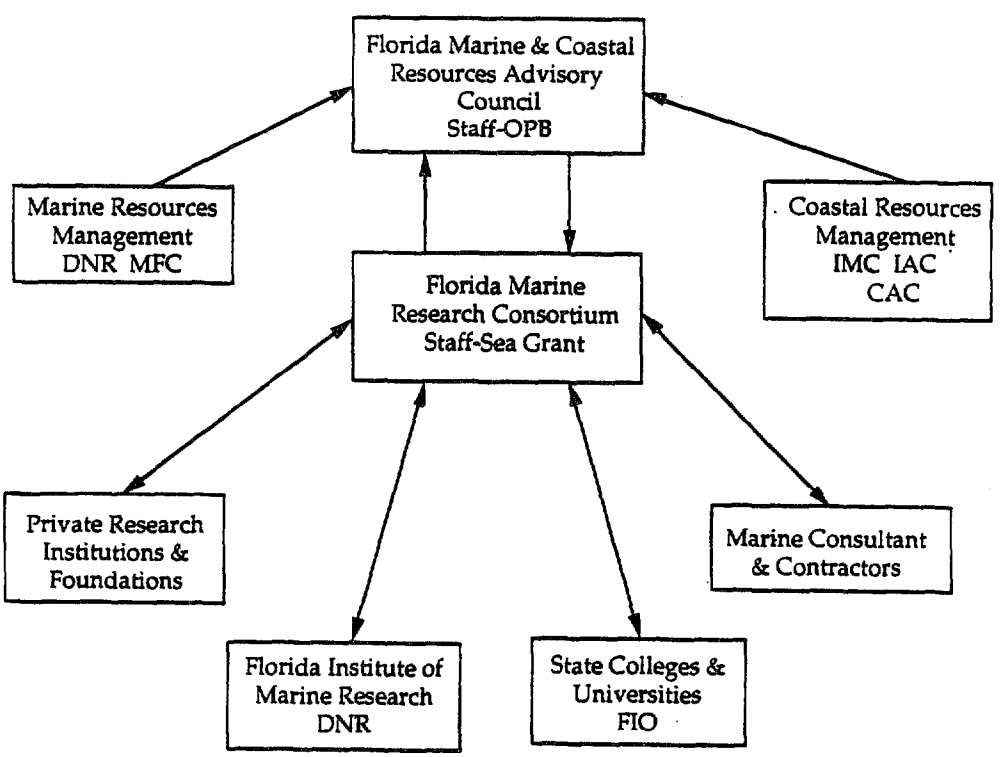
Caribbean Basin Initiative, DNR's participation as a member of the Association of Marine Laboraties of the Caribbean, and the newly-created Caribbean Law Institute at the Florida State University, should be explored as means of establishing relationships in the marine science and policy fields.

**II. Florida has no comprehensive research program to coordinate federal and state funding and research.** Marine research dollars are scarce. Even state agencies, such as DNR, must depend on outside grants for research funding. More adequate funding for marine research is a priority. It is also important to the state that the research that can be funded addresses the needs of the state's managers and policy makers.

**Recommendation.** Figure 14 illustrates a model for marine research planning and coordination in Florida. The Florida Marine and Coastal Resources Advisory Council would have the responsibility for establishing the state's research needs and priorities. The Council would be composed of the chairs of the House and Senate Natural Resources Committees, the heads or designees of the Governor's Office, DNR, DER, and the Department of Agriculture, the Executive Director of the MFC, and gubernatorially-appointed representatives of ports, marine industry, and marine conservation. The Council would be staffed by the Governor's Office of Planning and Budgeting. Input concerning marine resource research needs would come primarily from DNR and the MFC. The IMC, IAC, and CAC would provide information on coastal research needs. In addition to establishing research needs and priorities for the Marine Research Consortium, these recommendations would also be provided to all state agencies to aid in guiding their research and funding priorities.

**Figure 14.**

*FLORIDA MARINE RESEARCH MODEL*



A Marine Research Consortium would be made up of representatives of DNR's Institute of Marine Research, private research institutions and foundations, state universities and FIO, and private consultants and contractors. It would be staffed by Sea Grant and funded by the legislature. This group would be responsible for administration of research programs based on the Council's recommendations. In addition to staffing the Consortium, Sea Grant would be responsible for dissemination of information generated by the research to the public, public education, and reporting progress on meeting research priorities to the Council.

**III. Florida has no institutions dedicated to marine and coastal law and policy research.** Although the state has numerous public and private scientific institutions, dealing with virtually every facet of marine science research, there is no institution or program for marine and coastal policy or legal research. Many states have set up and provided continuing funding for coastal and ocean law programs through Sea Grant. Other states have set up programs within the law school curricula, even creating programs for advanced law degrees in the field. Both the Policy Studies Clinic at the Florida State University College of Law and the Center for Governmental Responsibility at the University of Florida College of Law have done work in these areas, however, there has been no ongoing marine and coastal program at either college, and the work that has been done has not been coordinated. Both colleges have personnel that can contribute significantly to marine and coastal policy development.

**Recommendation.** A Florida Ocean and Coastal Policy Studies Program should be created and funded within the Sea Grant College Program, which includes the Florida State University and University of Florida.

**IV. Comprehensive inventory of offshore resources.** In general, protection of Florida's delicate ecosystems and marine resources is not a case of needing more or stricter regulatory regimes. However, regulators must have sufficient information to know how to apply the current authorities to assure protection of Florida's oceans and coasts. Management regimes for the offshore are a necessity, and managers, too, need sufficient information to carry out their tasks. But information on offshore resources may not exist, may be inaccessible, or may be reported in a manner that is not useful.

**Recommendation.** DNR should be charged with the responsibility and funding to establish an offshore marine resources inventory. The Texas approach, which divides the offshore into a grid for information gathering and analysis, may be an appropriate model to consider.

To assure that research and monitoring will provide information in a form that will be useful to the inventory, DNR should:

1) work with the proposed Marine Science Consortium to design a reporting format for grants and contracts administered by the Consortium;
2) work with DER on a reporting format for reports and tests performed by permit applicants and monitoring done by permittees in offshore areas; and
3) require that information and reporting associated with geophysical testing conform to the needs of the offshore resources inventory.

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**Fla. Stat.** § 229.8055 (1987), Environmental Education.
**Fla. Admin. Code Ann.** § 16-6.004(3) (1987).
**Fla. Admin. Code Ann.** §§ 6A-10.020, .021 (1987), Environmental Education and Grants.

**Federal Statutes**

16 U.S.C.A. §§ 4001 *et seq.* (West Supp. 1988), Fish and Seafood Promotion.
42 U.S.C.A. § 4361 (West 1977 & Supp. 1988), Environmental Research.
16 U.S.C.A. §§ 1361 *et seq.* (West 1985), Marine Mammal Commission.
16 U.S.C.A. §§ 1380-1382 (West 1985), Marine Mammal Research.
16 U.S.C.A. § 1436 (West 1985), Research and Education.
16 U.S.C.A. § 1034 (West 1985), Protection of Marine Mammals.
33 U.S.C.A. §§ 1251 *et seq.* (West 1985), Research and Related Programs.
33 U.S.C.A. §§ 1701 *et seq.* (West 1986), Ocean Pollution Research.

# CONCLUSION

The nation and the coastal states are at the brink of a period of enormous changes in ocean policy and in the federal-state relationship in the offshore area. The most recent step in this area, the federal extension of the territorial sea to twelve miles, has contributed to the already confused domestic situation. There is now a void created concerning jurisdiction, application of U.S. laws, and the interests of coastal states in areas from three miles to twelve miles offshore. Coastal states must be closely involved, effective participants in the debate, policy development, and legislation necessary to fill this void.

Coastal states, including Florida, must be prepared to participate in the development of a national ocean policy by clarifying and developing state ocean policy. This report is intended to be a first step in the process of development of a comprehensive state ocean policy for Florida. Effective participation in federal-state dialogues is not, however, the only or even most important reason for the state to focus on ocean policy development. The management of the state's resources requires further definition and coordination of state policy.

This report has provided an overview and summary of Florida's fragmented laws, management, and policies dealing with ocean issues to provide background and analysis necessary for policy synthesis and development. Because of the broad scope of the issues seaward of the beach, this report could not focus on the many upland development and fresh water management issues that affect Florida's estuaries and territorial seas.

In identifying issues and making recommendations, this report points out matters that, in some instances, appear to be short-term concerns of managers and regulators. In sum, these issues are significant, but obviously comprehensive ocean policy development must take a broad perspective. Overall consideration of both short- and long-term needs for ocean resource management and policy development, however, reveals common problems. First, intergovernmental and interagency cooperation and coordination must be enhanced. This may be accomplished by establishing better mechanisms, ensuring that existing mechanisms are used, and clarifying jurisdictional issues and applicable policies.

Of even more importance is the need for information to develop and implement ocean policy. The management of 6.7 million acres of the state's offshore lands is an ambitious task. It cannot be accomplished without a sound foundation of marine research and education in the state. It is also necessary that the research and information be accessible to policy makers, managers, and regulators.

Both the nation and state of Florida have a history of environmental mistakes when resource management decisions have been made with inadequate information. We are only now beginning to understand the long-term and indirect effects of many of these decisions. The political, economic, and legal reality is, however, that not knowing or not fully understanding the potential effects of an activity may not be sufficient justification for prohibiting or strictly regulating the activity. The state must have the information necessary to develop sound policy to manage the state's ocean resources and to implement that policy through scientifically justifiable measures. Florida's ocean future depends on education to assure an understanding of our relationship to our seas and research to provide the knowledge to preserve that relationship.