

Florida's Rationale for Coastal Zone Management

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The coastal zone of Florida is the state's most important and valuable asset. It contains the richest and most diverse combination of plants and animals, is the focus of our industrial and economic activity, and attracts the vast majority of our visitors and new residents. In fact, over 70% of our population is concentrated in only 16 coastal counties, and these, for the most part, are clustered along the narrow coastal fringe. If present trends continue, the coastal counties will contain over 10 million residents by the year 2000 — only a generation away.

This growth, however, is not without side effects. Man does not hold a monopoly on the coastal zone; he is, in fact, an intruder into an area that, through the functioning of countless natural checks and balances and millions of years of evolution, became one of the most biologically productive areas on earth. But the fragile strands that make up the web of checks and balances were woven by forces of nature, without interference by man. Thus, when the weight of man's activities are thrust upon one strand, repercussions are often felt in portions of the web quite remote from the area acted upon, and may remain unseen until other strands break under the stress. Unless strands can be rewoven, by nature, the end result is complete collapse of the system.

The wide range of effects of man's activities in our coastal zone is rudely illustrated throughout Florida. Attempts at flood control and land development have amplified water shortages in the Everglades and pose a threat to estuarine resources dependent upon receipt of fresh water in the proper amounts, quality and timing. Escambia Bay suffers repeated massive fish kills because of secondary effects of man. Boca Ciega Bay was sacrificed for houses. Miami River, Lake Worth, Banana River and the St. Johns are open sewers, in danger of being destroyed completely. Major shellfish beds are now unsafe to utilize; others have been killed outright. Once popular swimming areas can no longer be used. Development has caused severe erosion of many of our once-beautiful beaches. . . . The list goes on and on, interrupted occasionally by uncoordinated stop-gap remedies instituted by single-purpose agencies.

The solutions to these problems do not require condemnation of all developers and industry. Neither do they call for a house-cleaning of all governmental agencies. What they do call for, however, is an awareness of the trends that have developed, anticipation of consequences resulting from the trends and the creation of a system for altering trends toward more favorable end products.

The state now has a number of tools that can be utilized to help alleviate adverse effects of coastal development. These tools, although inadequate in several respects, provide Florida with a relatively good foundation upon which to build an effective coastal zone management program. Some of the primary ones include:

State control of most submerged lands and water column use — results in permits and/or leases for such activities as bulkheading, dredge and fill, docks, aquaculture or living and non-living resource extraction.

Beach development control — designed to prevent construction practices, even on private property, which might induce or accelerate erosion of Florida's beaches.

State establishment of water quality standards — this action, though subtle in character, can have very wide-ranging repercussions on coastal development, for any activity that may degrade surface water quality is subject to regulation.

State establishment of special use areas — includes the Aquatic Preserve System, State Wilderness System, Parks and Wildlife Refuges.

In spite of the many tools Florida has to work with, it has become apparent that past coastal zone management efforts simply are not adequate to the task. There are several reasons for this, but the primary ones are that past efforts, for the most part, have been too narrow in scope, uncoordinated and reflect the limited interest of the individual agencies involved. They have primarily been reactions to problems that already exist. There has never been a serious attempt in Florida to analyze at the state level the resources of our coastal zone and the demands on those resources and to comprehend the interfaces between various land uses, water uses and the natural environment. Such analysis and understanding is a basic step toward realizing orderly development and optimum use of our coastal areas.

The Florida Coastal Coordinating Council, which was created by the 1970 Florida Legislature, unites in one body the directors of the three state departments with primary concern for the coastal environment, namely the Department of Natural Resources, Department of Pollution Control and the Trustees of the Internal Improvement Trust Fund. The Executive Director of the Department of Natural Resources serves as chairman. The Council, which has its own staff, has four primary assignments: (1) develop a comprehensive coastal zone management plan for Florida; (2) coordinate state coastal zone research; (3) coordinate federal, state and local agencies with responsibilities in the coastal zone and (4) act as a clearinghouse for coastal zone information.

The key words in these charges are research, coordination and plan. Accomplishment of these tasks will allow the state to make crucial policy decisions based on facts, in advance, rather than reacting to individual problems after they occur. It is important to note that, even though the Council is placed under the Department of Natural Resources, it is inter-departmental in its functioning. This allows maximum input from those agencies having a direct interest in the coastal zone, yet prevents domination by any one interest group. It is also important to note that the Council's efforts will involve a continuous program, rather than be stop-gap in character.

In order to carry out its charges, the Council adopted a set of general guidelines to be used in management efforts in the coastal zone. These are as follows:

The Coastal Coordinating Council is to be considered the future coastal zone authority for Florida as the term is used in pending Federal legislation.

The principal consideration in all coastal resource use allocations will be maintenance and, where indicated, improvement of environmental quality.

Public interest will be the primary consideration against which all uses will be measured.

Policies and criteria will be established to provide joint use of resources by compatible activities and for allocation of exclusive use by non-compatible activities.

All criteria established for allocation of coastal resources will provide for maximum retention of options for the future.

The Florida Coastal Zone Master Plan will promulgate policy and criteria as guidelines for regional and local planning for allocation of local coastal resources.

Past resource-use planning has lacked coordination, comprehensiveness and follow through. It has generally been centered around straight-line projections of population growth trends and per capita needs. After projecting these needs to a certain point in time, we have usually tried to determine the most technically and economically feasible method of meeting the demands, whether it be inter-basin transfer of municipal water supplies, creation of reservoirs, construction of highways, acquisition of recreation lands or development of nuclear power plants. The President's National Goals Research Staff addressed itself to the results of such actions:

"Historically we have tended to do that which was technically possible, if it were economically advantageous, on the simple ground that this represented 'progress'. However, as technology has increased with great rapidity, it has forced on us increasing unplanned social and environmental problems we did not anticipate and do not want."

This procedure is problem solving by reaction, or at best by projection, and has been a major cause for many of Florida's social and environmental ills.

Realizing that planning on the basis of projected population increase or on contemplated increase is fraught with a multitude of built-in perils, the Council has decided to attempt a relatively new approach to the problem. This approach does not concern itself primarily with anticipated conditions by the year 2000 or any other time frame. Rather, it attempts to determine the type and degree of use that the various portions of the coastal zone can withstand without degradation of its basic resources. With this approach, planning will consider the "optimum" conditions and then support measures which will help obtain them, whether it be city size and shape, population distribution or direct allocation and use of resources.

Unlike previous planning approaches that often actually encouraged continuation of past trends and subsequent unnecessary destruction of resources, the Council's approach attempts to alter trends by identifying those areas especially sensitive to development; those areas where limited development is compatible; those areas where carefully guided intensive development can occur without serious consequences. By basing plans on the use tolerance of the land and water resources, and providing a mechanism for analyzing and solving conflicts, serious second and third order consequences of development within our coastal zone can be avoided or at least anticipated by those responsible for decision-making at the various levels of government.

One of the first problems encountered by the Council was to decide on a working definition of Florida's coastal zone. As defined in the creating state bill, "coastal zone means that area of land and water from the territorial limit seaward to the most inland extent of maritime influences." Speaking in very general terms, this definition seems fairly reasonable. But speaking in terms of coastal zone management, such an area defies delineation. If maritime influences on the atmosphere are considered, this area would include all of Florida. If considerations are restricted to the most inland extent of salt water surface flow, then management efforts are far too narrow in scope. It is obvious that, for working purposes, the most favorable boundary location lies somewhere between these two extremes. The Florida coastal zone has been defined on the basis of selected Census Enumeration Districts with the inland boundary varying from approximately 5 to 25 miles inland from the coast or from the shoreline of

estuaries. The use of the Census Districts allows planners to use census data giving population totals, distribution, housing and income patterns. No other system of defining a coastal zone allows such ease in utilizing available statistics and computer support.

In recent years, man's understanding and appreciation of environmental sciences has increased to the point of realization that certain shoreline areas must be preserved in their natural state if marine resources and the quality of life in Florida are to be maintained. Working on this premise, the coastal zone of Florida may basically be classed in one of three general land and water use categories: (1) Preservation — no development; (2) Conservation — limited development and (3) Development — intensive development. It is felt that this scheme is general enough to allow local government to perform adequately, yet specific enough to encourage wise use of our coastal resources.

The primary areas of concern to the Council will be those designated as preservation or conservation. Within these areas, state criteria and guidelines should be relatively strict and will emphasize maintenance of future options. On the other hand, areas designated for development with certain exception will be subject primarily to local and state controls now in effect or created for purposes other than direct management of natural resources. The Coastal Coordinating Council, working with an interdisciplinary team, is developing the criteria for defining such areas.

Preservation areas are recommended to be protected from any further development except in extreme cases of overriding public interest authorized by the Cabinet or the Legislature. The preservation concept includes considerations of ecologically sensitive flora and fauna as well as fragile topographic features such as beaches, marshes and dunes. Included are historical and archaeological sites and any unique environmental features peculiar to the region such as selected springs, caves, waterfalls and reefs. This resulting environment would offer enhanced aesthetic values, recreational opportunities and substantial hurricane protection to the residents. It is further recommended that this be a state-level zoning responsibility because of the often intensive development pressures brought to bear at the local level.

The Council has selected the Escambia-Santa Rosa counties of western Florida as a pilot study area in which to work out the format and methodology to be followed in developing a coastal zone management plan for the entire Florida coastal zone. For convenience, we collectively refer to this area as Escarosa. Locations within Escarosa that should be preserved in their natural state have been mapped.¹ Some of these areas have already been developed and are thus in conflict. Little can be done about existing conflict areas, at least until man's effects are washed away in a good storm. There remains approximately 6.5% of the land on which any development should be discouraged.

Conservation areas are recommended to be used for extensive land uses as opposed to intensive uses. The conservation concept includes lands inherently unsuited to high density, intensive development because of physical limitations of the soil and/or high flooding probability. They are not considered critical to ecological balance but do provide buffer zones for preservation areas and represent a retention of use options for future generations. The lands with soil

¹ Reproduction of figures showing type of land and water use was not possible for this paper. After February 15, 1971, a detailed report may be obtained by requesting "Coastal Zone Management in Florida, 1971" from: Coastal Coordinating Council, Room 682, Larson Building, Tallahassee, Florida 32304.

limitations, herein called "marginal lands", could in the future be used for development but would require a considerable expenditure of capital based on present technology and engineering.

Conservation lands can be utilized for open space recreation, greenbelts, forestry, game management, wildlife refuges and for certain types of agriculture as well as grazing. Development should be limited to low density uses, bearing in mind that ground floor elevations of new construction situated in flood prone areas must be above the 100-year flood level to qualify for federal flood insurance. Scenic easements are recommended for the immediate foreground of locations with an outstanding view of the landscape. Construction of marinas and other shoreline recreational facilities would be permitted provided environmental safeguards are complied with.

The water areas are Class III as delineated by the Department of Pollution Control and designated for fish and wildlife propagation with pollution levels compatible with body-contact water sports. The water areas also include special uses such as aquatic preserves and aquaculture leases.

The conservation zoning category is recommended to be primarily a state-level responsibility, since the majority of the subcategories are established by state or federal action. County and local zoning participation would be encouraged for parks (other than state owned), scenic vistas, marginal lands and controls of the limited development.

In delimiting conservation areas in Escarosa, the first step is to note the hurricane flood zone. In the absence of historical information, an elevation contour is normally used. For river basin flood zones, it is often assumed that alluvial soils are a valid indicator of the 50-year flood zone (areas having a 2% probability of flood occurrence in any year). Marginal lands or those lands with limited capabilities for development are determined through analysis of aerial photographs and maps providing: topography, surface geology, general vegetation, general soils, available ground water, permeability, wetness and natural resources.

Within Escarosa, 30% of the land area is not in conflict with preservation or development land uses and should be considered within the conservation category.

Allocation of land use within designated development areas of Escarosa is primarily the responsibility of local government. Local, state and federal governments do, of course, provide a spectrum of criteria, guidelines and regulations for such development. The Coastal Coordinating Council is attempting to consolidate and summarize a great portion of this information. The state will maintain an active interest in the development of "key facilities". Key facilities are facilities, including proposed large-scale private development, which tend to induce development having an impact of more than local significance upon the environment, including major airports, highways and highway interchanges, recreational facilities and such other public and private facilities as may be designated by the State. It can be anticipated that the State will also take a direct interest in development immediately on the shoreline and for some fixed distance inland, perhaps on the order of 1,000 feet. It is obvious that something more than just local controls are needed but what direction they might take requires considerably more research, analysis and discussion before a logical and reasonable plan can be recommended.

With limited shoreline and increasing competitive demands, agencies with advisory or controlling powers over shoreline development must consider

priorities of land use. Those activities that can only function through use of waterfront property or access to it must have first priority for inclusion in shoreline areas designated for development. Of second priority are those activities that can function without a shoreline but a shoreline location significantly enhances the land use on an economic or aesthetic basis. Any waterfront use, of course, must still make every effort to minimize environmental impact. Land uses not requiring a coastal location, or that are not economically or aesthetically enhanced to a significant degree should not be allowed waterfront usage as there are sufficient inland areas. Multi-uses of a locale are to be encouraged. A considered priority of shoreline uses can be summarized as follows:

1. Preservation
2. Conservation (including recreation)
3. Development (a) military (where necessary to assure the security of the area and country); (b) transportation (when waterfront location is mandatory); (c) utilities (when waterfront location is mandatory) -- (transportation and utilities are fundamental to the development of any area); (d) water related industry; (e) water related commercial; (f) residential; (g) commercial enhanced by waterfront and (h) industry enhanced by waterfront.

One of the most serious defects of past planning has been the inability to follow through with implementation. The State of Florida will face the same problem in its coastal zone management program unless it receives support from the citizens, the Legislature, the Cabinet and the various state and local agencies involved. This is a formidable challenge, considering the diversity of interests represented. However, widespread interest at all levels of government indicates that effective coastal zone management in Florida can move from the status of pipe dream to reality if the State shows the necessary leadership. In light of this, recommendations for implementing the plans will be developed by the Council, with participation by all levels of government and the private sector.

In the interim, the mere identification of Florida coastal zone areas that should be preserved can be effective. Traditionally, areas of Florida coastal zone are being preserved as the exception rather than the rule. It is not infrequent that extensive plans are made, monies expended and, in some cases, construction begun before opposition to a development is apparent. The results are conflict and confrontation with further expenditure of energy and dollars on both sides. Such an approach is unfortunate, impractical and needless.

Without exception, each state agency and many representatives of private industry have expressed the same thought: "Tell me what areas are not to be disturbed early enough so that we may plan to avoid them. We wish to avoid controversial areas, where possible, and not expend monies and energy needlessly."

It is considered that the most immediate and meaningful contribution the Florida Coastal Coordinating Council can make is to coordinate the documentation of those areas of Florida's coast (submerged lands, wetlands and uplands) on which any development should be restricted or at least reviewed and controlled, thus making development the exception rather than nondevelopment the exception. This results in development agencies, industry and individuals knowing the path of least resistance. It is our intention to have recommended preservation areas for the entire coastal zone completed by July of 1972.