

REPORT ON
FLOOD OF 20-21 SEPTEMBER 1962
SOUTHWEST FLORIDA

U. S. ARMY ENGINEER DISTRICT, JACKSONVILLE

OFFICE OF THE DISTRICT ENGINEER

CORP OF ENGINEERS
JACKSONVILLE, FLA.

NOVEMBER 1962

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U. S. ARMY ENGINEER DISTRICT, JACKSONVILLE
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SAKWY (Floods)

November 1962

REPORT ON
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SOUTHWEST FLORIDA

1. General.--Exceptionally heavy rains covered the Florida west coast area south of Tampa 20-21 September 1962, including some 5,000 square miles of six counties. Over 1,000 residences were flooded, many to depths of 3 feet or more. Automobiles, streets and roads, and bridges were severely damaged. Numerous roads were under water several hours and many were impassable. Over 100 families were evacuated. Thousands of acres of farmlands in the six-county area were flooded. Only one death was reported and that occurred from heart seizure. From 10,000 to 12,000 persons were directly affected by the flood.

2. Area affected generally extended from the Tampa area in Hillsborough County south to Collier County and from the gulf coast easterly to Lakeland, Wauchula, Arcadia, La Belle, and Immokalee. Major river basins in the area are the Myakka, Peace, and Caloosahatchee; also affected is Big Cypress Swamp in Collier County. Among the smaller basins are the Alafia, Manatee, and Little Manatee Rivers, Phillippi Creek, and Cow Pen Slough. The greatest damages occurred in the residential area of Sarasota, which comprises much of the 58-square-mile drainage area of Phillippi Creek. Four counties received the major brunt of flooding. In Sarasota County alone, in addition to the urban areas, about 60,000 acres of ranchland--including 7,900 acres of improved pastures and 10,700 acres of woodlands--sustained damages. Areas of major flooding are shown on figure 1.

3. Rainfall.--Circulation around a low pressure area off the lower west coast of Florida, coupled with a weak stationary front lying across the peninsula, caused extremely heavy rainfall in the coastal area from Tampa to Naples between midnight of 19 September and noon of 21 September 1962. The highest amount reported in a 24-hour period--14.5 inches--fell at Mansota Tower. That amount and others in areas of heaviest rainfall have an estimated expected occurrence frequency of about once in 100 years. For the total storm period, rainfall depths averaged about 10 inches over about 5,000 square miles. Figure 2 shows an isohyetal map for the storm. Mass curves of rainfall for four representative stations are shown on figure 3.

4. Streamflow and stages in the overall area, though severe, were generally of lesser magnitude than some of the past occurrences. However, they were the highest stages of known record in the lower Manatee River and Phillippi Creek Basins. Table 1 lists the available information on peak discharges and stages as well as data on previous maximums. The flooded area along Phillippi Creek--where the greatest damages occurred--is shown on figure 4. Flood-profile data for lower Phillippi Creek are shown on figure 5. Large areas in adjoining counties were also completely covered by floodwaters that remained for only a few hours. Areas adjacent to streams and drainage works were flooded for 1 to 3 days, while the back-country farms and pasturelands remained flooded several weeks. Virtually all streets and roads in and around Sarasota were under water. Several feet of water stood over main highway bridges crossing Phillippi Creek and drainage canals. Stores, homes, and streets in Sarasota were flooded by 3 to 7 feet of water for 4 to 6 hours. Table 2 lists locations and depths of flooding. Photographs of typical flooding and damages from the heavy rainfall are included in this report following page 6. A list of titles appears in the table of contents.

TABLE 1
Southwest Florida area
Observed maximum stage and discharge data

Station	Drainage area (sq. miles)	Maximum during flood of Sept. 1962			Maximum during previous known floods		
		Date	Elevation (ft., m.s.l.)	Discharge (c.f.s.)	Date	Elevation (ft., m.s.l.)	Discharge (c.f.s.)
Little Manatee River near Wimauma-----	145	9-21-62	18.79	11,600	9-11-60	19.76	14,000
Manatee River near Bradenton-----	90	9-21-62	37.47	9,200	9-11-60	37.39	8,410
Phillippi Creek at S.R. 785-----	23	9-21-62	22	1,950	1	-	-
Phillippi Creek at Sarasota-----	58	9-21-62	14.4	6,000+	9-10-60	(1) 11.04	3,800
Cow Pen Slough at S.R. 72-----	55	9-21-62	-	(2) 4,200	-	-	-
Myakka River at Myakka City-----	-	9-21-62	-	(2) 6,580	-	-	-
Myakka River near Sarasota-----	235	9-23-62	19.52	7,500	8-1-60	19.50	8,670
Joshua Creek at Nocatee-----	115	9-22-62	22.96	8,300	10-10-53	22.74	8,670
Alligator Creek near Punta Gorda-----	31	9-21-62	(1) 11.30	3,400	9-10-60	(1) 7.87	1,620
Orange River near Fort Myers-----	70	9-21-62	(1) 12.43	2,120	1-15-36	15.11	5,300
Caloosahatchee River at Olga-----	906	9-21-62	4.28	-	9-23-47	5.9	-

NOTES: (1) Gage height.
(2) Measured near peak.

TABLE 2

Sarasota County

Flood depths at various locations in September 1962

Map reference No.	Location*	Floodwater depth (ft.)
1	Oak Shores	6
2	Bellevue Terrace	7
3	Pinecraft	3
4	DeSoto Lakes	3
5	Newtown	3
6	Phillippi Shores	3
7	South Gate	4-6
	Phillippi Creek and U.S. Hwy. 41	6
	Bahia Vista bridge	4

NOTE: *See figure 4 for locations.

5. Damages in excess of \$2,680,000 occurred in three river basins from flooding caused by the September storm. Sarasota County suffered about \$2.3 million damages in Phillippi Creek Basin, followed by Manatee County with \$250,000 in Manatee River Basin and Charlotte County with \$174,000 in Peace River Basin. Personal property--homes, lawns, automobiles, and personal effects--suffered the greatest loss from the flood, followed by public property--roads, bridges, and culverts--with agriculture next. County agents reported a 2- to 5-week delay in planting. A summary of estimated flood damages--according to river basins--is given in table 3.

TABLE 3
Estimated damages,
Flood of 20-21 September 1962

Type	Estimated damages				Total
	Phillippi Creek Basin	Manatee River Basin	Peace River Basin	Other basins	
	Sarasota County	Manatee County	Charlotte County	Lee County	
Private property, including homes, lawns, automobiles, and personal effects-----	\$1,385,000	\$150,000	\$50,000	-	\$1,585,000
Public property, including municipal buildings-----	236,000	-	24,000	-	260,000
Roads, bridges, culverts, and canals-----	342,000	100,000	-	\$66,500	508,500
Agriculture-----	300,000	-	100,000	25,000	425,000
Total-----	2,263,000	250,000	174,000	91,500	2,778,500

6. Activity of the Corps of Engineers.--A District Office engineer made a reconnaissance of the affected area 21-25 September 1962 to obtain information on the flooded area and to collect flood-damage data. Conferences were held with Civil Defense Directors and personnel, Red Cross Directors, County Engineers, Public Works Department personnel, County Agricultural Agents, Soil Conservation Service officials, news reporters, and others. The assistance of the following in furnishing estimates of damages and other data is gratefully acknowledged:

Colonel H. W. Tarkington, State Director of Civil Defense
James H. Simmons, Charlotte County Director of Civil Defense
William F. Kuhn, Sarasota County Director of Civil Defense
Leland T. Tinsley, Coordinator of Civil Defense
William J. Miracle, Manager, American Red Cross
N. H. McQueen, Charlotte County Agricultural Agent
Ken Clark, Sarasota County Agricultural Agent
W. H. Kendrick, Manatee County Agricultural Agent
Charles Morgan, Sarasota County Engineer
Smally, Wellford, and Nalven, Inc., Consulting Engineers for
Sarasota County

7. Local activity.--Local Civil Defense and Red Cross organizations and all local and State government representatives in the affected and bordering counties responded quickly to the emergency flood conditions resulting from the torrential rains. First aid, food, and evacuation centers were established throughout the area. Several hundred persons were evacuated, clothed, and fed by the Red Cross and other groups. Health officials advised the public to take emergency health precautions, especially with regard to proper treatment of water before using it for drinking or cooking. The area was not declared a disaster area despite the existence of emergency conditions. The State Director of Civil Defense submitted a report to the Governor of Florida on the flood conditions and resultant damages in Sarasota, Charlotte, and Manatee Counties. The Director furnished a copy of that report to the District Engineer as information in connection with this report.

8. Flood control plans.--a. S.C.S. cooperative plan.--A watershed work plan has been developed for the western part of Sarasota County and a small acreage in Manatee County. The design or work plan for the Sarasota West Coast Watershed--an area of about 242 square miles--was prepared under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 84th Cong. 68 Stat. 666), as amended, by the cooperative effort of the Sarasota Soil Conservation District, the Sarasota County Board of Commissioners, and the Manatee River Soil Conservation District, with assistance by the U. S. Department of Agriculture, Soil Conservation Service. Construction of the cooperative project is scheduled to begin in 1963.

b. The Corps of Engineers is making an investigation for a survey report on Phillippi Creek Basin to determine the advisability of providing improvements for flood control and allied purposes. A public hearing is scheduled for 30 November 1962 at Lido Beach Casino, Sarasota, Fla., to obtain information on flood problems of the watershed and desirable plans of improvement.



PHOTO 1. FLOODED RESIDENTIAL AREA ALONG PHILLIPPI CREEK AT WEBBER STREET. (SEPT. 1962)

(Photo from Sarasota Herald-Tribune)



PHOTO 2. FLOODED RESIDENTIAL AREA ON PHILLIPPI CREEK DOWN-STREAM FROM TUTTLE AVENUE BRIDGE. (SEPT. 1962)

(Photo from Sarasota Herald-Tribune)



PHOTO 3. FLOODED AREAS ALONG PHILLIPPI CREEK IN VICINITY
OF BAHIA VISTA STREET BRIDGE. (SEPT. 1962)

(Photo from Sarasota Herald-Tribune)

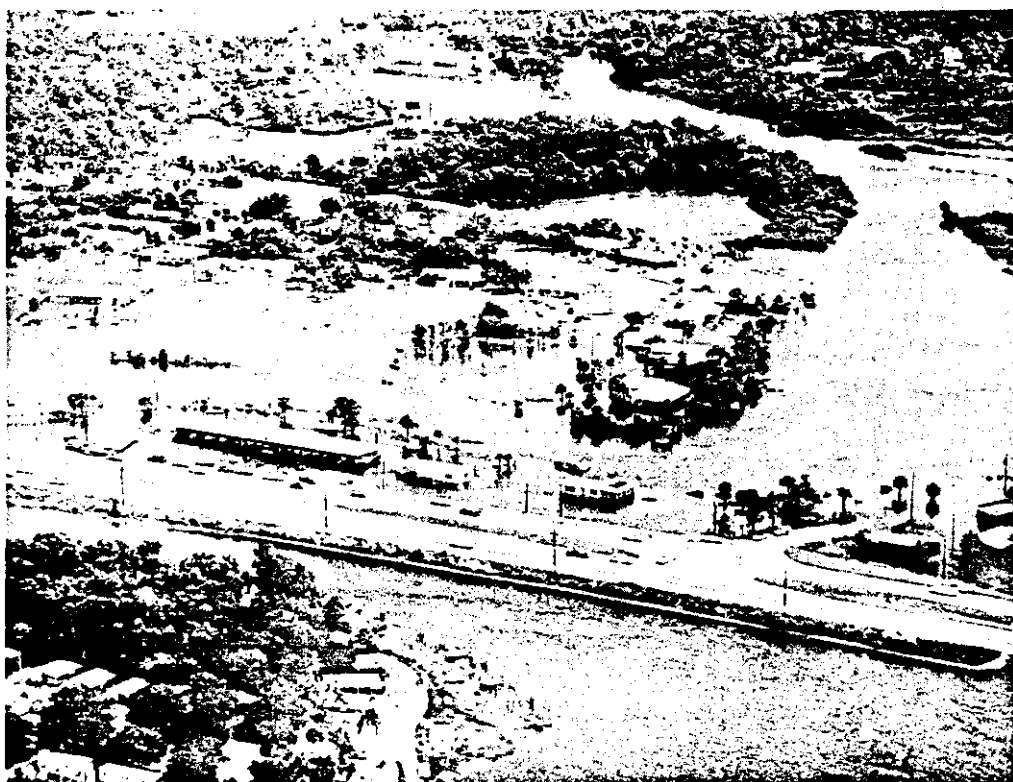


PHOTO 4. PHILLIPPI CREEK AT U. S. HIGHWAY 41 BRIDGE.
FLOODED BUSINESSES AND RESIDENCES. (SEPT. 1962)

(Photo from Sarasota Herald-Tribune)



PHOTO 5. FLOODED AREA ALONG LATERAL 52--TRIBUTARY
TO PHILLIPPI CREEK. (22 SEPT. 1962)



PHOTO 6. SLOUGH AREA AND PASTURE FLOODED--M. CARLTON RANCH,
BIG SLOUGH WATERSHED. (22 SEPT. 1962)

(Photos courtesy of Sarasota County Agricultural Agent)



PHOTO 7. FLOODED PASTURE, BIG SLOUGH WATERSHED.
(22 SEPT. 1962)



PHOTO 8. PHILLIPPI CREEK IN VICINITY OF BAHIA VISTA STREET
BRIDGE, LOOKING SOUTH. (22 SEPT. 1962)

(Photos courtesy of Sarasota County Agricultural Agent)

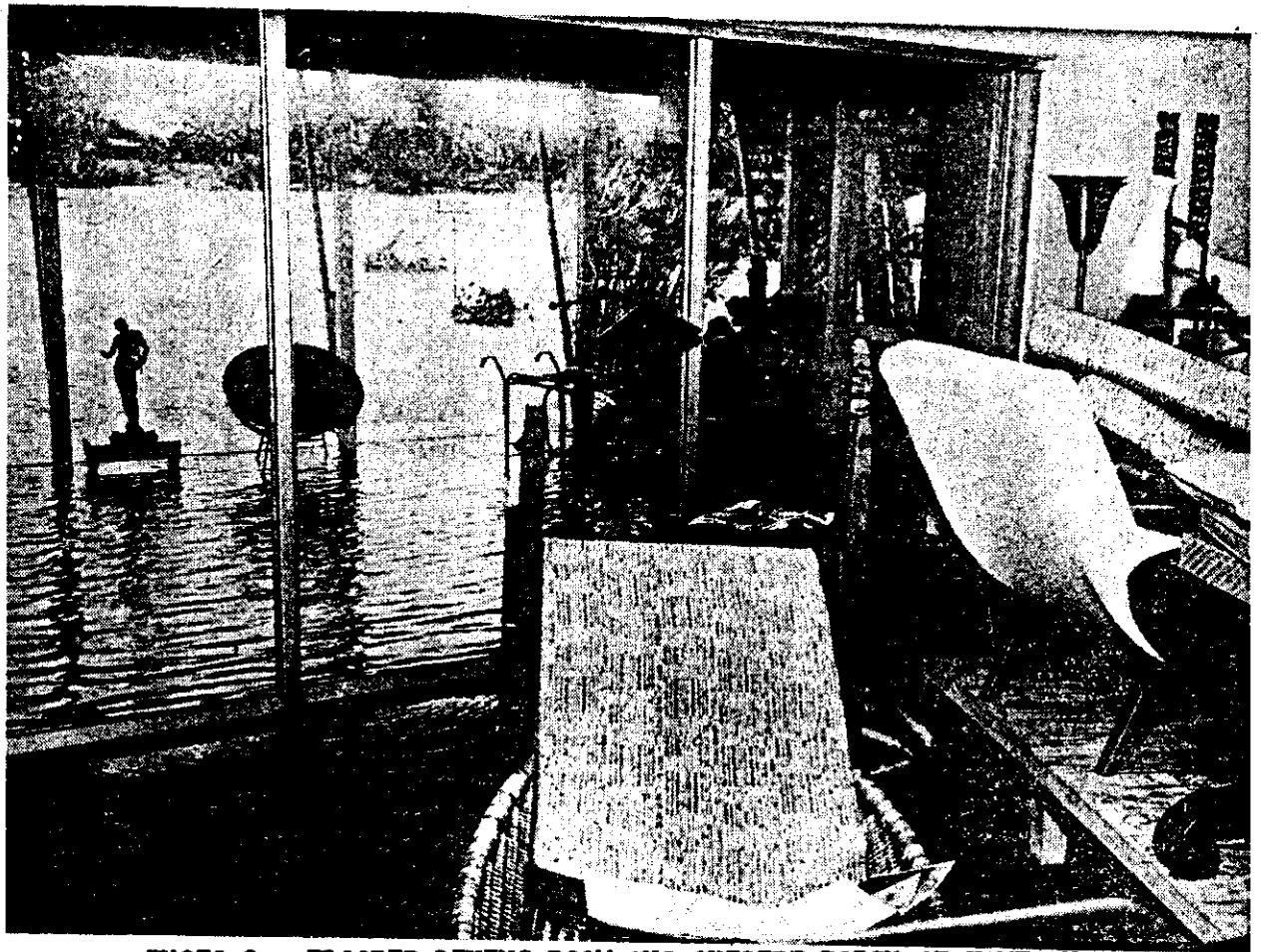


PHOTO 9. FLOODED LIVING ROOM AND OUTSIDE PORCH OF HOME ON LOWER PHILLIPPI CREEK, IN RIVER FOREST ESTATES.

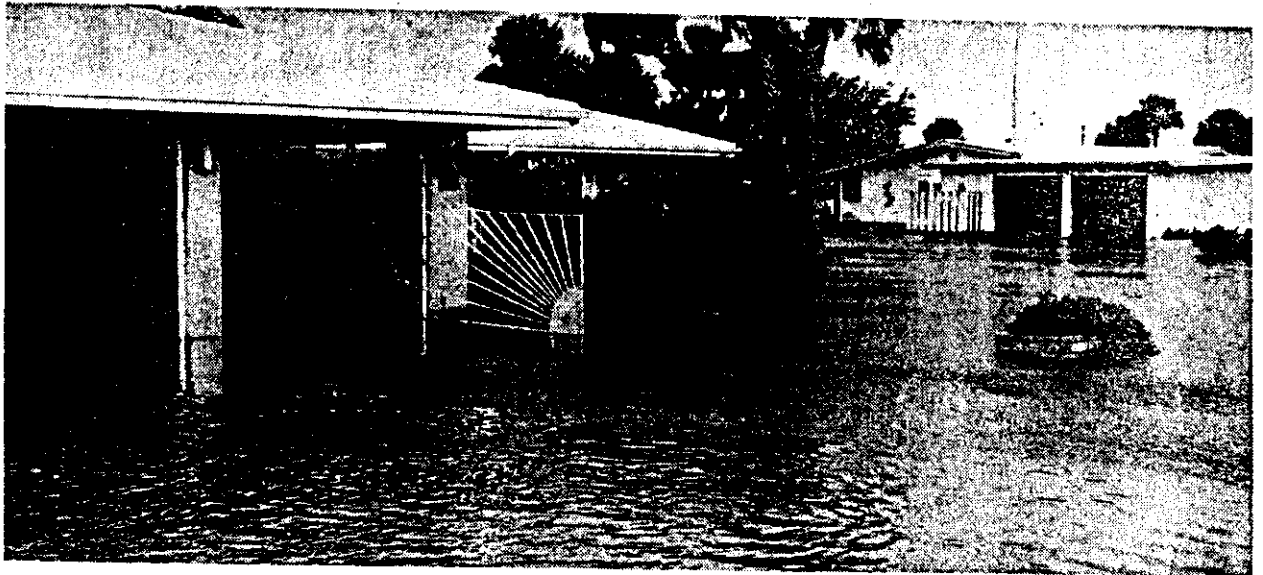


PHOTO 10. OUTSIDE OF ABOVE HOME.

(Photos from St. Petersburg Times, 22 Sept. 1962)



PHOTO 11. RESIDENTS BEING EVACUATED, CONRAD AVENUE AND IRVING STREET, SARASOTA. (SEPT. 1962)

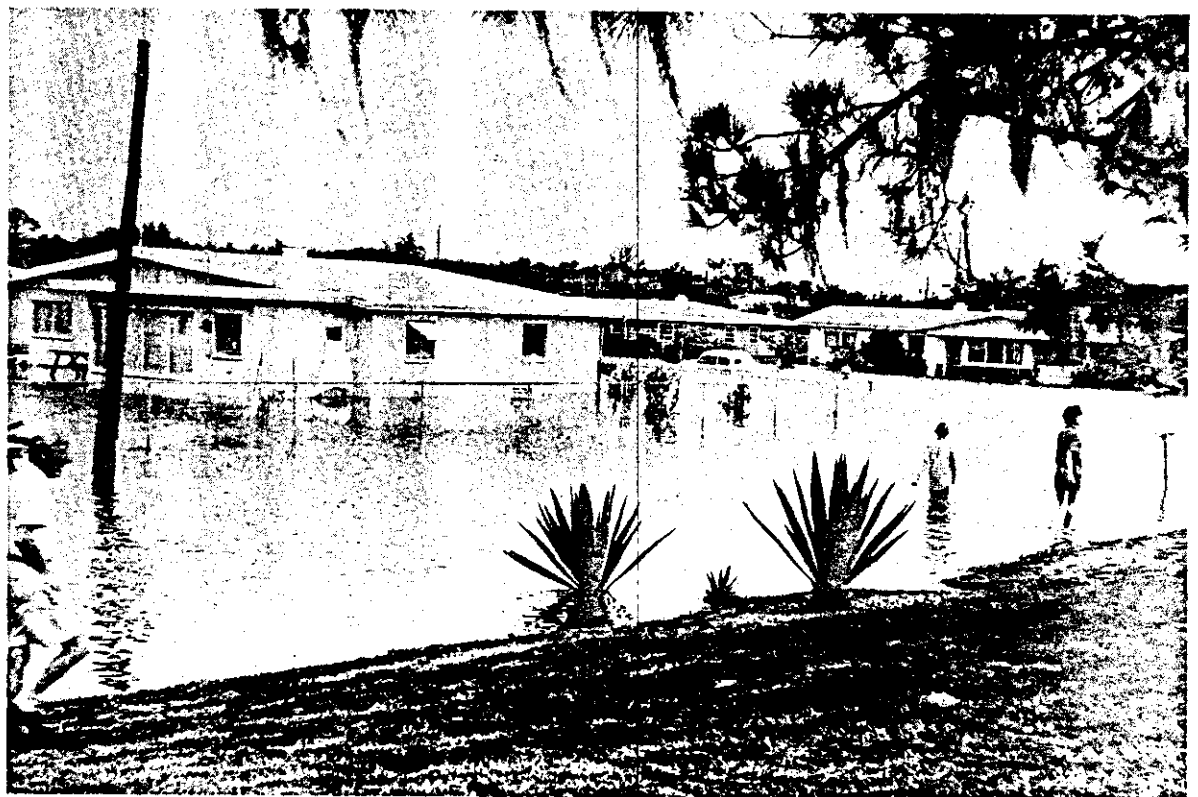


PHOTO 12. RESIDENTIAL FLOODING, CONRAD AVENUE AND HATTON STREET, SARASOTA. WATER DEPTH ESTIMATED TO BE 5 FEET DURING STORM. (SEPT. 1962)

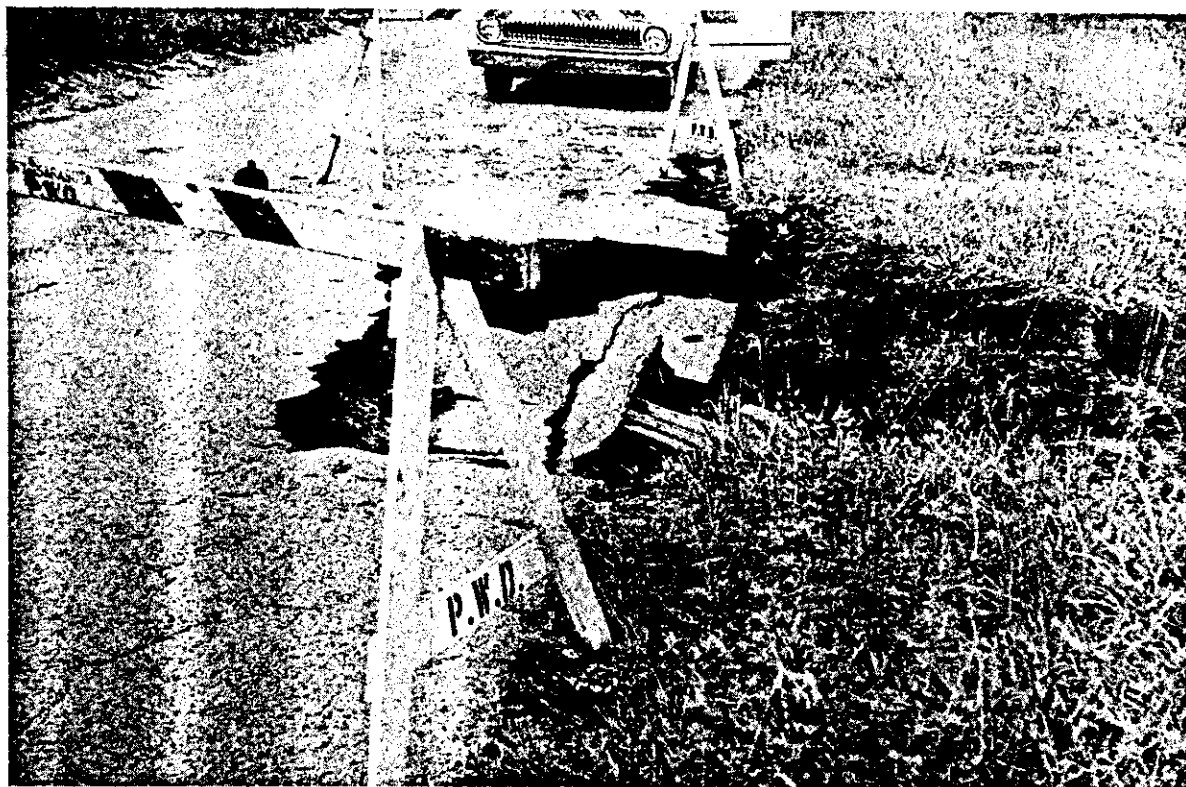


PHOTO 13. WASHOUT AT SMALL BRIDGE NEAR WEBBER STREET
ON PHILLIPPI CREEK, SARASOTA. (SEPT. 1962)

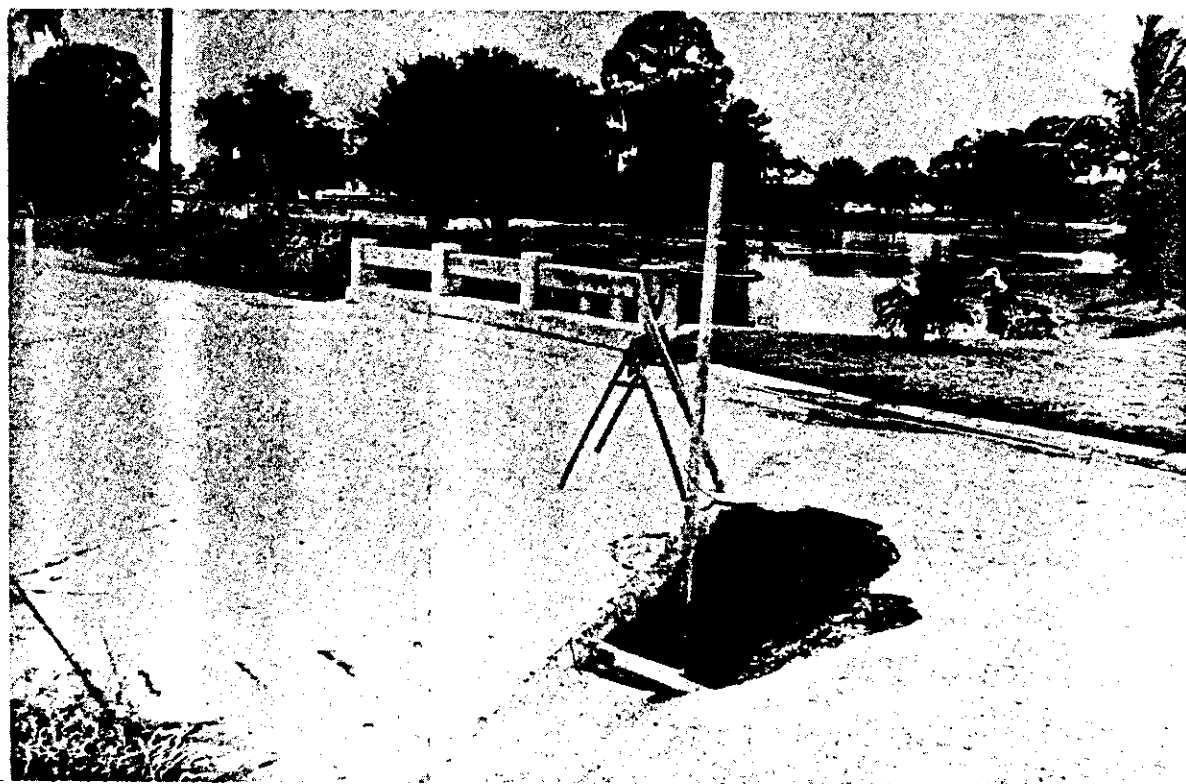


PHOTO 14. DRAINAGE DITCH AT FRUITVILLE ROAD NEAR
SARASOTA--WASHOUT AT BRIDGE. (SEPT. 1962)

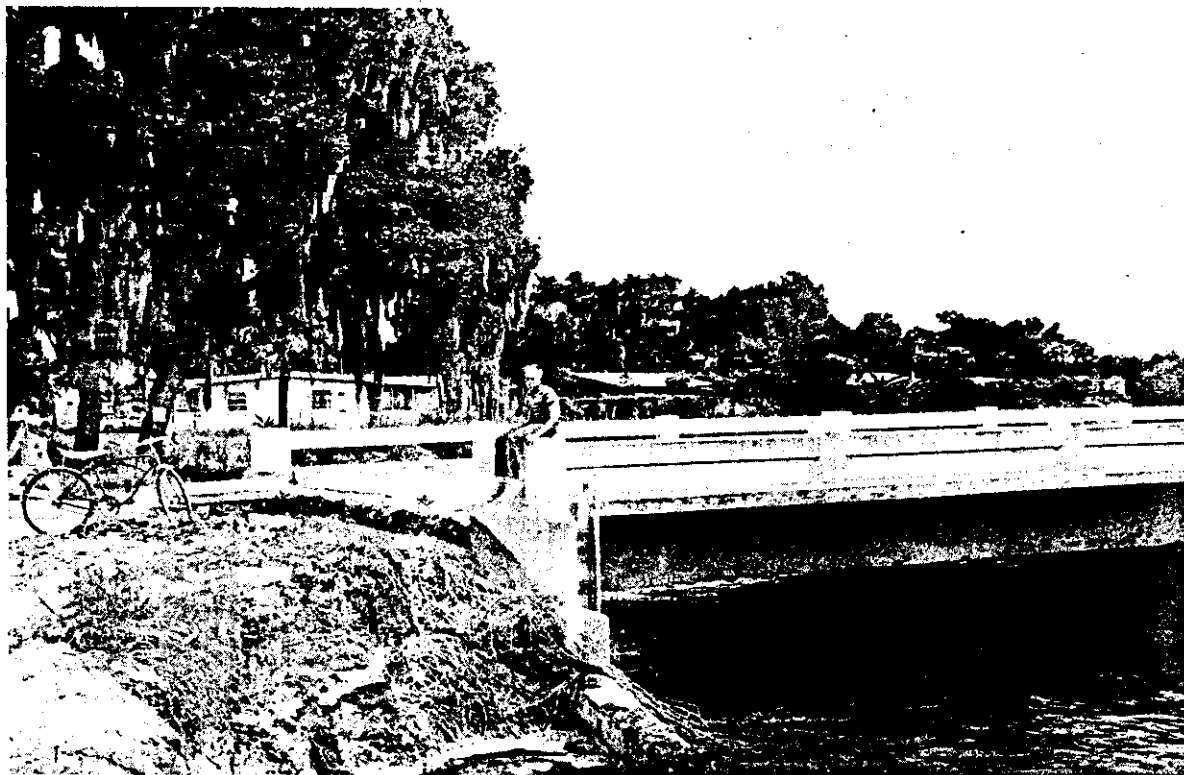


PHOTO 15. BAHIA VISTA STREET BRIDGE WASHOUT ON PHILLIPPI CREEK. FLOOD PEAKED 2 TO 3 FEET ABOVE DECK OF BRIDGE. (SEPT. 1962)



PHOTO 16. HIGH-WATER MARK, ABOUT 5 FEET ABOVE GROUND, ON SARASOTA HOME IN BELLEVUE TERRACE. (SEPT. 1962)

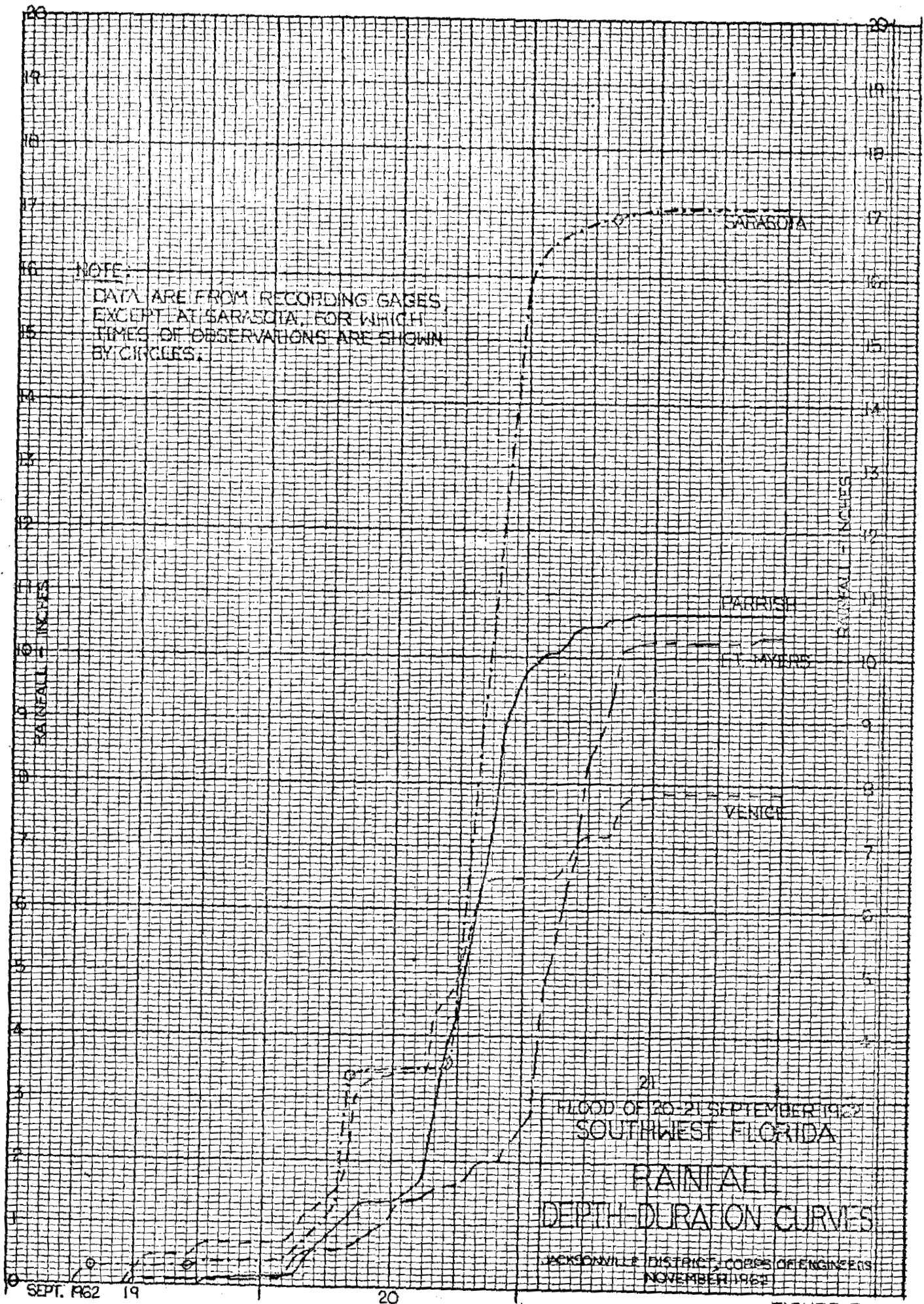
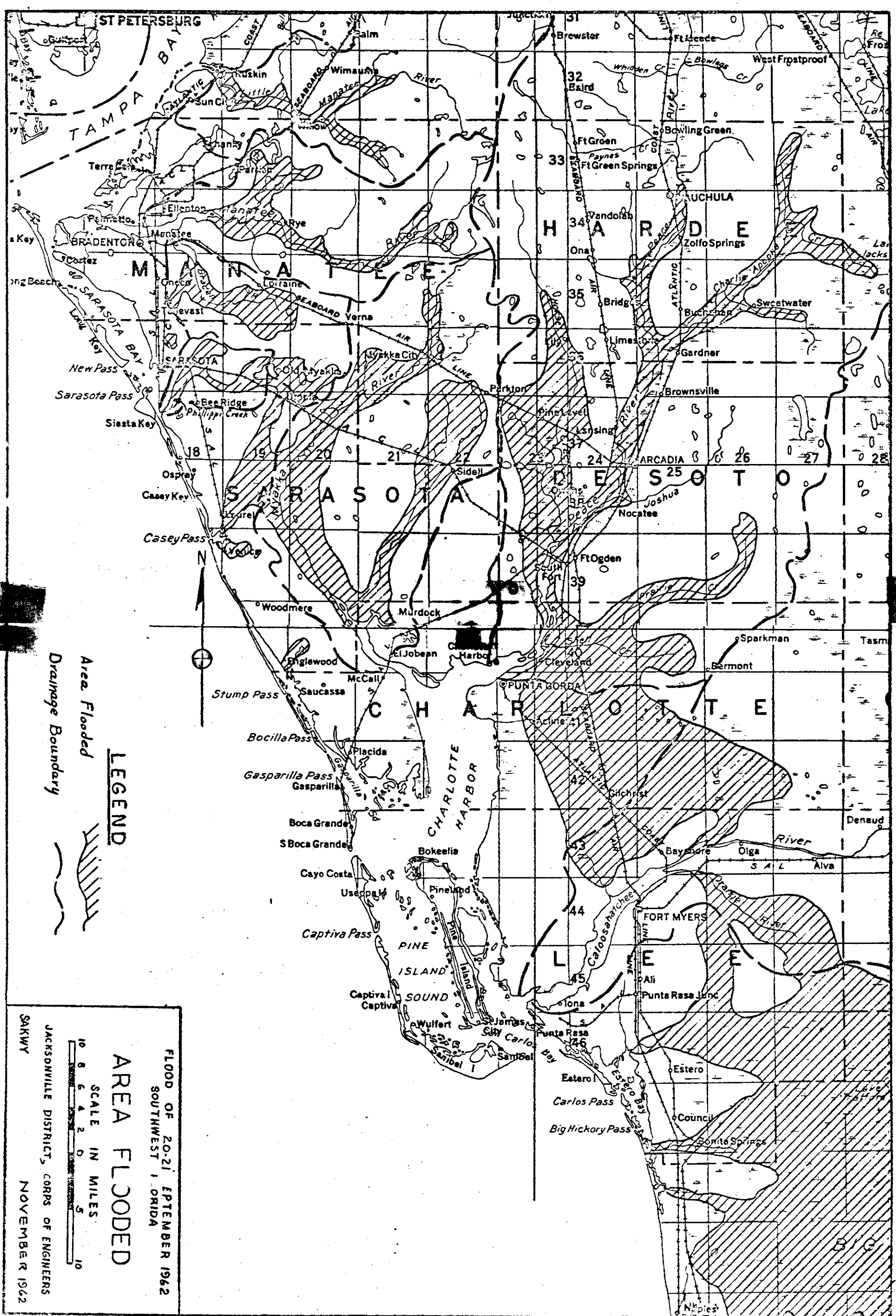
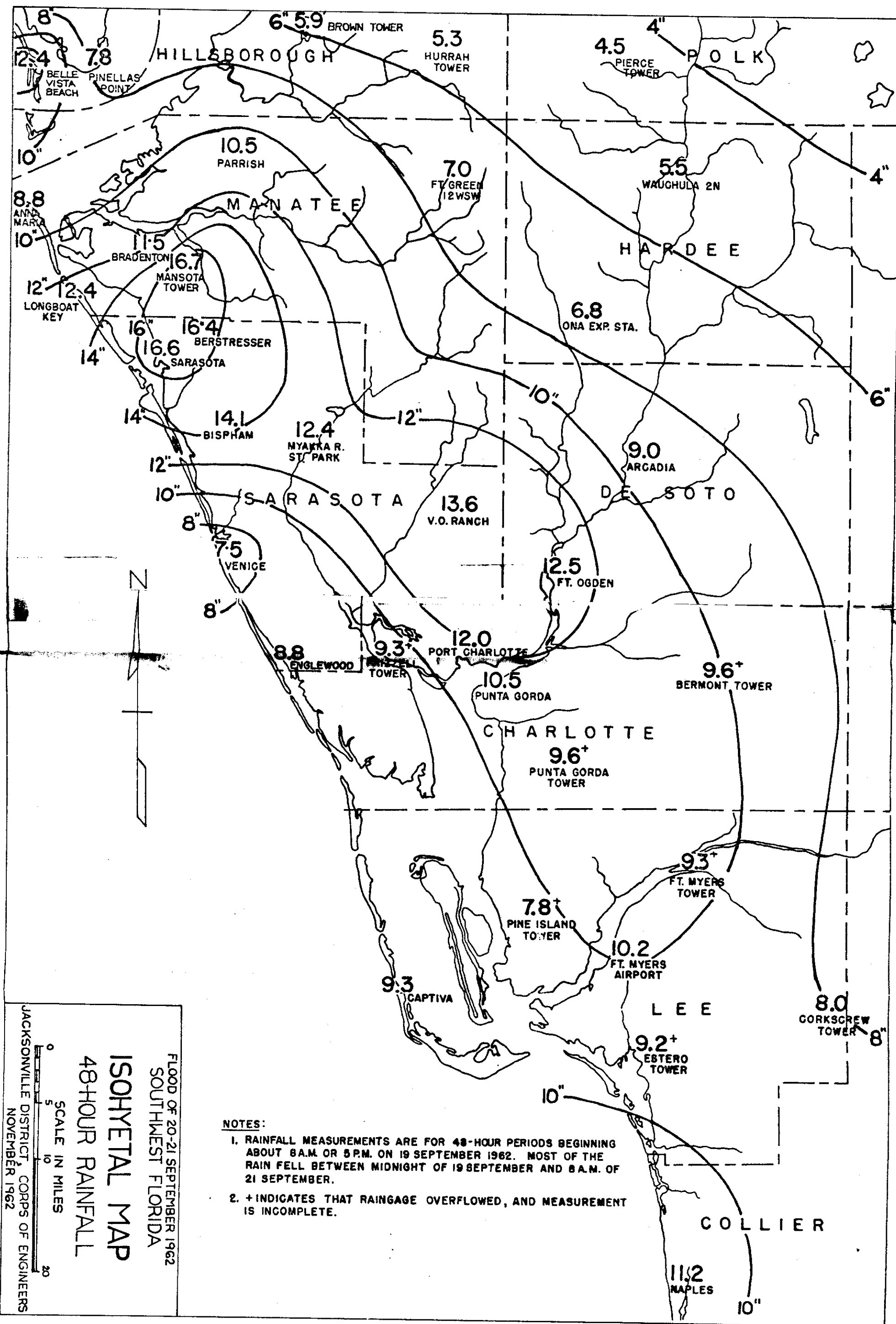
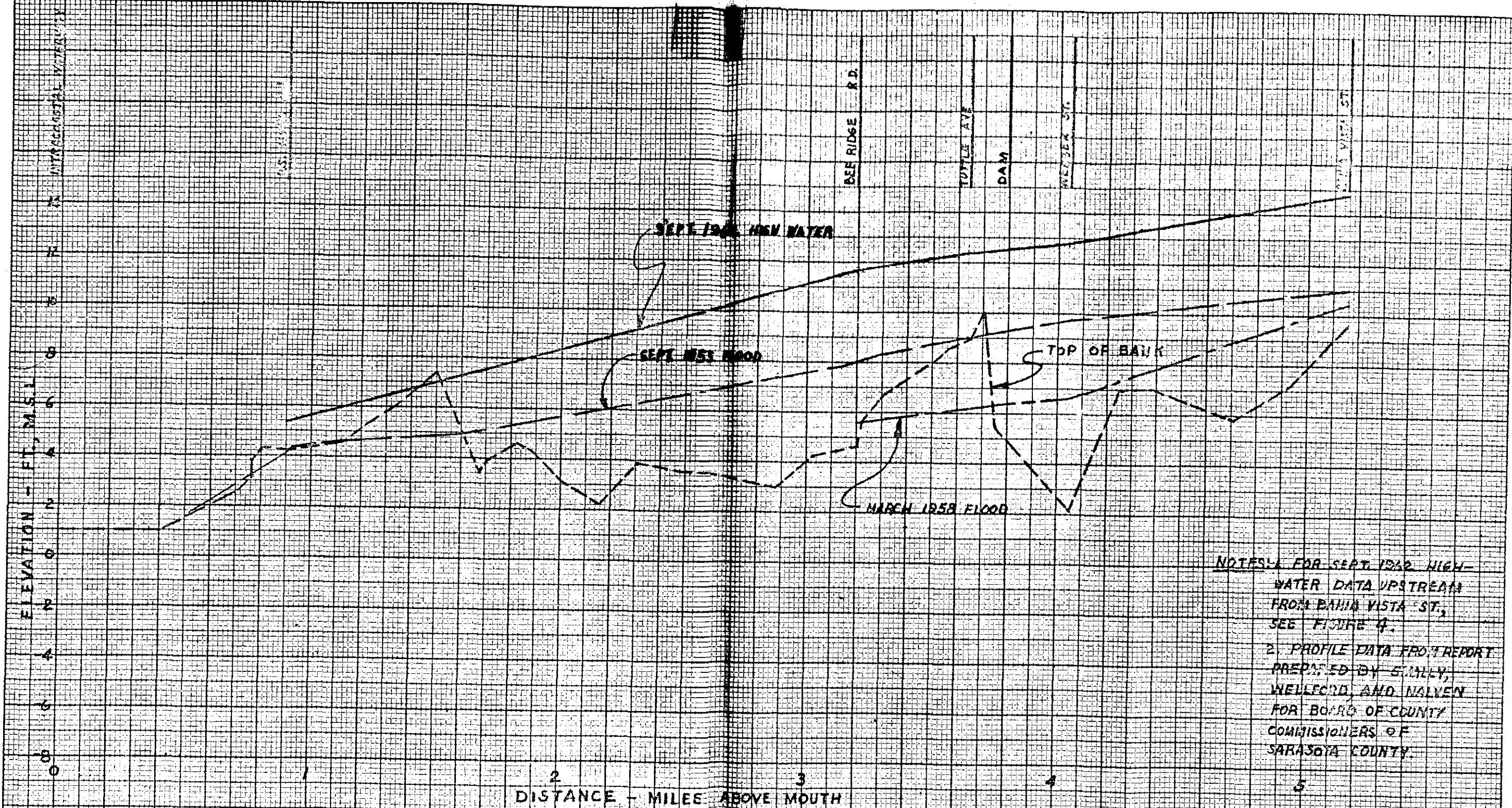


FIGURE 3







NOTES: 1. FOR SEPT 1962 HIGH-WATER DATA UPSTREAM FROM DANA VISTA ST., SEE FIGURE 4.
2. PROFILE DATA FROM REPORT PREPARED BY SMILLY, WELLCORD, AND HALVEN FOR BOARD OF COUNTY COMMISSIONERS OF SARASOTA COUNTY.

FLOOD OF 20-21 SEPTEMBER 1962
SOUTHWEST FLORIDA
HIGH-WATER PROFILE
PHILLIPPI CREEK
JACKSONVILLE DISTRICT COOPS OF ENGINEERS
SAHMY NOVEMBER 1962

FLORIDA COASTAL ZONE MANAGEMENT ATLAS:

A Preliminary Survey and Analysis

by the
Florida Coastal Coordinating Council

309 Magnolia Office Plaza
Tallahassee, Florida 32301

December 1972

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"This public document was promulgated at a
cost of (\$25,462.00), or (\$36.37) per copy to
disseminate information for coastal management decisions."

Preface

The basic purpose of this publication is to provide decision-makers and concerned citizens with an overview of the components that make up the coastal environment of Florida. Governmental bodies throughout Florida, from the Legislature, the Governor and the Cabinet to local city councils, are almost daily confronted with management decisions involving development versus preservation considerations.

It is hoped that the maps contained within this atlas will provide the facts and rationale for these decision-makers to direct future developments into areas that are suitable for development and away from areas that are environmentally sensitive.

The atlas delineates the areas already developed by our rapidly expanding coastal populations at this point in time. It also indicates those areas physically suited to accommodate future development where such development will have a minimum detrimental effect on the environment. Moreover, the atlas contains an inventory of the natural features still relatively undisturbed and recommends that essential, indicated segments of these be "preserved" in order to insure the maintenance of living marine resources, the aesthetic qualities of the coast and the physical integrity of the shorelands. A buffer or "caution zone" between the development and the preservation areas is recommended for "conservation" where limited development with controls can occur but wherever possible, such conservation lands should be considered as a land bank for future generations.

From a practical standpoint, development interests should be aided by the atlas because the "preservation" maps will show where they may expect the maximum delays and difficulties in receiving the necessary development permits from local, state and federal agencies. Conversely, the areas shown as suitable for "development" should receive the minimum in permitting delays and would be the least expensive to develop from a construction standpoint.

The Florida Coastal Coordinating Council wishes to express its thanks to the many cooperating federal, state, regional, and local agencies that have provided essential information and constructive criticism to this project, as well as to the hundreds of private individuals who have provided significant inputs and substantial encouragement.

Need for the Florida Coastal Zone Management Atlas

- Deterioration of our coastal resources caused by rapidly expanding population, 80% of which is in the coastal counties.
- Coastal location of incompatible commercial and industrial activities without environmental safeguards, resulting in air and water pollution problems.
- Intensive coastal residential developments, often without environmental safeguards, as of public access to recreational shorelands.
- Destruction by dredging and filling of marine grass beds, marsh and mangrove vegetation seriously depleting the base of the food chain for living marine resources.
- Loss of life and property from hurricane flooding.
- Lack of sufficient recreational lands in public ownership in the coastal zone.
- Fresh water sources endangered by salt-water intrusion caused by overpumping or poor canal designs.
- Depreciation of the aesthetics and amenities of the coasts of Florida, its strongest attraction to residents and tourists alike.

Goals of the Florida Coastal Zone Management Atlas

- Provide an inventory of biophysical coastal resources.
- Provide decision-makers with a rationale for balancing preservation and development pressures.
- Indicate areas suitable for future development.
- Indicate sensitive environmental areas which should be preserved if the attractions of coastal living are to be maintained.
- Provide an overview of the complicated interrelationships between land use and the marine environment as they apply to a statewide coastal management system.

FLORIDA COASTAL ZONE MANAGEMENT ATLAS:

A Preliminary Survey and Analysis

Introduction

The importance of Florida's coastal zone is well documented. As was emphasized in the report *Coastal Zone Management in Florida — 1971*, this area is our most important and valuable asset. Biologically rich and aesthetically pleasing, the coastal zone is the prime attraction for visitors and permanent residents. It is also the focus of our economic activities and, unfortunately, the location of most of our social and environmental ills.

The problems and opportunities of our coastal zone have become the topic of widespread concern at all levels of government in recent years, with practically every coastal state getting involved to one degree or another. This concern has resulted in passage by Congress and subsequent presidential approval of the *Coastal Zone Management Act of 1972*. In light of this, increased governmental involvement in coastal zone activities can be anticipated.

Much of the impetus for this involvement was provided by the President's Commission on Marine Science, Engineering and Resources, which addressed itself to the broad array of marine problems ranging from the preservation of our coastal shores and estuaries to more effective use of the vast resources that lie within and below the sea. In their final report to the President and Congress in 1969 (*Our Nation and the Sea*), they concluded:

"The key to more effective use of our coastland is the introduction of a management system permitting conscious and informed choices among development alternatives, providing for proper planning, and encouraging recognition of the long-term importance of maintaining the quality of this productive region in order to insure both its enjoyment and the sound utilization of its resources. The benefits and the problems of achieving rational management are apparent. *Something must be done.*"

This need for a management system — one which would incorporate marine resources management techniques, land use planning and controls, port and harbor requirements, an improved, coordinated system for laws ensuring environmental protection and enhancement, an adequate role for local interests, and enforceable state and federal guidelines — has gained recognition and will become increasingly important to Florida as development pressures intensify. The diversity of interests involved in the coastal zone and the innumerable conflicts that are occurring and intensifying daily demand that action be taken on a broad front as soon as possible.

Florida's Present Situation

The State of Florida has been involved in some aspects of coastal zone management for many years. During this period, a number of tools have been developed which can be utilized in a complete coastal zone management system. These tools, which are included in Tables A, B, and C, provide Florida with a relatively good foundation upon which to build such a system.

It is now realized, however, that Florida's past efforts at coastal zone management have been hindered by being too narrow in scope, uncoordinated, and reflecting the limited interests of individual agencies involved. They have also 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, 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.

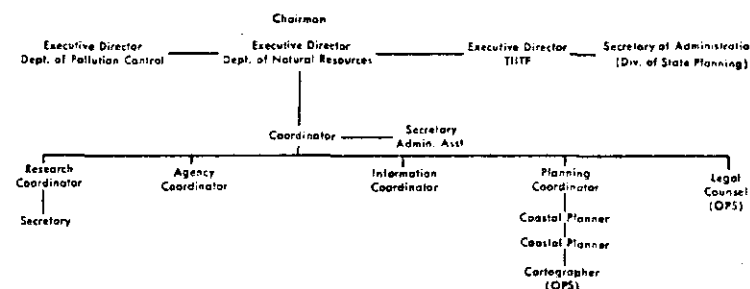
Role of the Coastal Coordinating Council

The Florida Coastal Coordinating Council, which was created by the 1970 Florida Legislature and recently enlarged by administrative action, unites in one body the directors of the four state departments with primary concern for the coastal environment, namely, the Department of Natural Resources, Department of Pollution Control, The Trustees of the Internal Improvement Trust Fund, and the Department of Administration (Division of Planning). The Executive Director of the Department of

Natural Resources serves as chairman. The Council, which has its own staff (see Figure 1), 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 involve a continuous program, rather than being stop-gap in character. The Coastal Coordinating Council effort could be compared with the task of putting together parts of a complex jigsaw puzzle which has some of the pieces missing. After putting the parts together as well as possible, attempts are then made to fashion parts which will fit the empty spaces and assure that the whole functions as one integrated system.

Figure 1. ORGANIZATIONAL CHART
COASTAL COORDINATING COUNCIL



Delineation of the Florida Coastal Zone

One of the first problems encountered by the Council was to decide on a working definition of Florida's coastal zone. Lengthy research revealed that the most practical method for defining the coastal zone is to use physical features in combination with boundaries of areas for which socio-economic data is readily available. On this basis, then, it was decided to use physical characteristics in combination with boundaries of selected census enumeration districts. Defined in this way, Florida's coastal zone has an inland boundary varying from two to twenty-five miles from the coastline, with the seaward boundary being the limit of Florida's territorial sea.

The use of such a definition allows planners to utilize over 400 data items such as population totals and distribution, housing and income patterns, etc. No other system of defining the coastal zone has as much flexibility or allows such ease in utilizing available data and computer support.

Summary of Escambia Pilot Study

The Council selected Escambia and Santa Rosa counties of western Florida (collectively referred to as Escarosa) 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.

Successful completion of the pilot study resulted in development of concepts which are now being applied to the entire coastal zone and an outline for developing a final coastal zone management plan. This outline is based upon the following five major segments:

1. Biophysical Environment
2. Human Adaptations
3. Environmental Quality
4. Planning
5. Management

Inventory of Existing Conditions

The Coastal Coordinating Council's Approach to Coastal Zone Planning

The Council has decided to attempt a relatively new approach to the problem of coastal zone planning. Unlike most previous planning, 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.

Many planning approaches because they are based upon projected trends often actually encourage continuation of past trends and subsequent unnecessary destruction of resources. The Council's approach, in contrast, attempts to alter trends toward more favorable end products. The basis for this approach is formed by identifying those areas especially sensitive to development; those areas where limited development is compatible; and 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 can be avoided or at least anticipated by those responsible for decision-making at the various levels of government within our coastal zone.

The initial phase of the Council's planning process, which is represented in this atlas, involves classifying the coastal areas into three categories or zones of concern which reflect natural suitability for development and present use. These zones are:

- Preservation — no development suitable
- Conservation — carefully controlled development suitable
- Development — intensive development suitable.

Eight basic factors are considered before including any given area in a category:

1. Ecological significance of the area and its tolerance to alteration
2. Water classification of adjacent water bodies
3. Soils suitability of the area
4. Susceptibility of the area to flooding, both from storm surge and runoff
5. Archaeological and historical significance of the area
6. Unique environmental features that may warrant protection
7. Geological information, where available
8. Present use of the area.

The following chart indicates the subcategories included in each category and depicted on the maps for this atlas (also see Tables A, B and C for detailed information).

ZONING SUB-CATEGORIES		
PRESERVATION	CONSERVATION	DEVELOPMENT
Class I Waters	Class III Waters	Class IV Waters
Class II Waters	Aquatic Preserves	Class V Waters
Marine Grass Beds	Aquaculture Leases	Presently Developed Areas
Selected Coastal Marshes	Spill Islands	Non-Conflict
Selected Coastal Mangroves	Scenic Views	Conflict
Selected Freshwater Swamps	Forestry and Game	Undeveloped Lands
and Marshes	Management Areas	Suitable for Intensive
Gulf and Atlantic Beaches	Wildlife Refuges	Development
and Dunes	Parks and Recreation	Undeveloped Lands
Selected Estuarine Beaches	Areas	Suitable for Intensive
Designated Wilderness Areas	River Flood Plains	Development with
Historical and	Marginal Lands	Corrections
Archaeological Sites	Portions of Hurricane	Portions of Hurricane
Other Unique	Flood Zone	Flood Zone
Environmental Features		
Portions of Hurricane		
Flood Zone		

Purpose and Uses of Maps

As was stated earlier, there has never been a serious attempt in Florida to analyze at the state level the resources of our coastal zone, the demands on those resources, and to comprehend the interfaces between various land uses, water uses and the natural environment. The maps included in this atlas are the beginning of such an attempt. They are designed to furnish much of the information necessary for understanding the interfaces involved in the coastal zone and to form a basis for developing the comprehensive plan called for in the Coastal Coordinating Council enabling legislation. They are also intended to furnish a rather broad spectrum of information in a form that will assist in land use planning and decision-making at the regional and local levels of government.

The maps, although designed primarily for regional and state planning purposes, can be of significant value to local governments, developers, civil engineers, and others. The maps should be considered as a general descriptive analysis of the coastal zone and may be used as an interim land use plan by some local governments. Used in this way, they can point out areas that need further investigation before development is permitted. They also point out the areas where development is compatible with the environment and where it is not compatible. In addition, they should aid in defining problem areas where development has already occurred and suggest possible solutions. The use of these maps should allow local government to incorporate a greater number of factors in its decision-making than has usually been possible in the past. This should aid in more rapid determination of available development options and help reduce the pressure of various self-interest groups that have often been the basic motivation behind decisions concerning development.

The maps can also be of use to developers, engineers and prospective land purchasers. They not only indicate the relative degree of technical problems that are going to be encountered in developing various portions of the coastal zone, but also indicate those areas where the general public has a significant interest. Development activities in the latter areas can consequently be expected to encounter considerable governmental red tape before any major project is allowed.

The composite maps for each county are color coded similar to a traffic signal: red indicates preservation or "stop" areas; yellow indicates conservation or "use with caution" (i.e. careful investigation and planning needed); and green indicates development or "continue safely". Tables A, B, and C and the preceding maps in each series indicate why these areas should be so used.

Limitations of the Maps

Functional Limitations:

The maps cannot by themselves be considered as a state comprehensive plan; rather, they represent a preliminary investigation into segment I of the plan (Biophysical Environment). This information is subject to further refinement before final inclusion into the State Coastal Zone Master Plan.

Scale Limitations:

The maps are designed to survey factors of regional or state importance. For this reason, it is impossible to adequately depict small areas of strictly local importance. Generally speaking, the maps do not show areas smaller than forty acres in size. Exceptions to this are some unique environmental features as well as historical and archaeological sites. These items are shown by point symbolism. The maps incorporate information which was gathered at a much greater scale but which required reduction for publication purposes to a scale of one inch equals two miles. This scale allows them to be utilized as overlays in conjunction with the standard D.O.T. County Highway Maps. It is recommended that they be used in that manner.

Data Accuracy Limitations:

It must be recognized that detailed information is not available for many areas of the coastal zone. For example, detailed flood zone data exists for only small, disjointed segments of our shoreline. However, an extrapolation of this known information to adjacent areas allows a reasonable approximation of where hurricane flooding can be anticipated. Another example is the lack of detailed soils information for much of the coastal zone. This is especially important regarding the "marginal lands" category of the conservation maps. It may appear from the maps that such areas are uniform in character, but on the contrary, there are varying degrees of marginality associated with such areas. Further investigation will allow these areas to be classified for local planning purposes according to the severity of physical limitations for development. If detailed soils information becomes available, there may even prove to be small pockets of suitable lands associated with the marginal lands.

Still another example is the lack of readily available information concerning the category "conflict areas". These are areas that would have been classified preservation or conservation had they not already been developed, but in many of them further investigation may reveal that the physical limitations have been overcome and the area should be removed from the "conflict" category. For instance, if development without central sewers occurred in an area where the only drawback is that the area is unsuitable for septic tanks, the development will appear as conflict on the maps. If sewers and adequate treatment facilities were subsequently added, the development would no longer be in conflict. However, such determination will require more detailed investigation than was possible for this atlas. The same situation exists in other "conflict" areas within the hurricane flood zone, river flood plains and other areas subject to predictable flooding.

An important advantage of the types of information presented in this atlas is that they lend themselves well to further refinement for county, municipal or even site planning purposes utilizing the basic methods employed in developing these maps.

Summary

The maintenance of environmental quality in Florida's coastal zone demands that a broader spectrum of factors be incorporated into development decisions than has been possible in the past. This atlas is designed to present, in a readily usable form, a variety of information necessary for greater understanding of the interfaces involved between various land uses, water uses and the natural environment. Although designed primarily for regional and state management considerations, the maps should prove useful for a variety of private and public interests of strictly local importance. Upon refinement, the information included in this atlas is intended to form a basis for developing the comprehensive coastal zone management plan called for in the Coastal Coordinating Council enabling legislation.

This atlas, as well as other projects the Council will be undertaking in the near future, are intended to be steps toward introduction of a management system which will permit conscious and informed choices among development alternatives, provide proper planning, and encourage recognition of the long-term importance of maintaining the quality of the coastal zone to insure both enjoyment of its amenities and sound utilization of its resources.

TABLE A: PRESERVATION CRITERIA AND POLICY

PRESERVATION CATEGORY

Those portions of the coastal zone which have overriding ecological, hydrological, physiographic, historical, or socio-economic importance to the public at large. Preserving the natural integrity of these areas enhances the aesthetics and quality of life for residents and tourists, provides a measure of natural hurricane protection, helps maintain a minimum ecological balance, and promotes maintenance of our invaluable commercial and sport fisheries. Public policy should attempt to protect these areas from development to the maximum degree legally possible consistent with private property rights as determined by the courts. In cases where private property rights are involved and all other legal alternatives for achieving preservation goals have proven inappropriate, public funds should be expended for purchase of areas in immediate jeopardy of destruction.

Subcategory	Class I Waters (fresh water)	Class II Waters (coastal waters)	Marine Grass Beds	Selected Coastal Marshes	Selected Coastal Mangroves	Gulf and Atlantic Beaches and Dunes	Estuarine Beaches	Wilderness Areas	Selected Fresh Water Swamps and Marshes	Historical and Archaeological Sites	Other Unique Environmental Features
Priority Use	Public water supplies	Shellfish harvesting and propagation of marine life.	Propagation of sport and commercial fisheries, waterfowl and wading bird food production.	Propagation of marine life Hurricane protection Aesthetics Waterfowl and wading bird habitat	Propagation of marine life Hurricane protection Prevention of shore erosion Aesthetics Propagation of bird life	Prevent beach erosion Protection of properties from erosion Recreation Aesthetics Hurricane protection (dunes)	Prevent beach erosion Recreation Aesthetics	Protection of the biophysical environment Aesthetics Scientific research Recreation Fish and Wildlife habitat	Ecological balance Fresh water retention Possible water recharge	Culture Aesthetics Recreation	Environmental protection Aesthetics Recreation Wild rivers
Description	Surface fresh water used as a potable source of public water supplies or withdrawn for treatment as such.	Coastal waters which have the capability of supporting shellfish harvesting. Class II waters are the most stringent marine classification.	Submerged grassy areas essential to the propagation and nourishment of fisheries. Generally limited in depth to 6-10' but could be deeper in clearer water.	Low coastal areas covered by grassy, salt-tolerant vegetation subject to tidal ebb & flow during any part of the tidal cycle. Includes the "high marsh" beyond the mean high water line. These areas constitute the basis of Florida's valuable marine fisheries. Such coastal marshes that have regional significance to marine ecology would be selected for preservation. Lesser marshes would be classified as "marginal lands" under conservation areas.	Shore-fringing strands of red, black and/or white mangrove having regional significance regarding maintenance of biological productivity, stabilization of shorelines, or aesthetics.	Ocean-fronting beaches along the Gulf and Atlantic shorelines. The beach zone extends inland beyond the MHW line to the coastal construction setback line and may extend inland one or more dunes.	Selected estuarine beaches suitable for shore recreation with appropriate public access.	Areas selected by the Interagency Advisory Committee on the State Wilderness System to be preserved in their natural state. Wilderness areas are characterized as being of one or more of the following principal types: 1) Biological 2) Aesthetic 3) Scientific Federal Wilderness Areas are included in this subcategory.	Low, poorly-drained areas characterized by water tolerant vegetation and predominantly internal drainage.	Areas of outstanding historical or archaeological significance designated by either the federal government or the Florida Division of Archives and History of the Dept. of State.	Unusual and natural features characteristic of a coastal region and occupying a comparatively small geographic area. Examples would be selected reefs, waterfalls, caves or caverns, sinkholes, springs, bluffs, rivers, etc.
State's Objectives	To preserve and protect sources of potable waters in the coastal zone.	To preserve shellfish resources by protecting designated marine areas from pollution and to allow natural development and growth of animal and vegetative organisms, such as areas acting as breeding and feeding grounds for marine organisms.	To protect from pollution and preserve breeding and feeding areas essential to maintain and enhance the sport and commercial fisheries and bird life of the state.	To protect from pollution and preserve coastal marshes necessary for maintenance of the basic elements of the food chain.	To protect from pollution and preserve stands of coastal mangrove of regional significance from destruction by coastal development.	To preserve the state's beaches from unnecessary erosion caused by construction in the beach zone and to preserve coastal dunes as natural hurricane barriers and as sources of natural beach replenishment material, thereby enhancing recreational and aesthetic values. To encourage participation in beach restoration programs.	To protect estuarine beaches from erosion caused by indiscriminate construction and to utilize same for public recreation.	To protect the natural environment in selected state-owned areas, to restrict further development except that necessary for administration and management, and to permit recreational uses that are not ecologically disruptive. To protect such areas from pollution.	To protect from pollution and preserve selected fresh water swamps as natural ecological units, as natural retention mechanisms and surface water storage. To protect such areas from outside development or pollution and enhance the natural growth cycles of flora and fauna.	To preserve, protect and allow public access and display of sites important to Florida history and archaeology.	To protect from pollution and preserve and protect unique environmental features not otherwise protected.
Responsible State Agencies *	1. Dept. of Pollution Control 2. Division of Health, Dept. of Health and Rehabilitative Services 3. Dept. of Natural Resources, Div. of Interior Resources	1. Dept. of Pollution Control 2. Division of Health, Dept. of Health and Rehabilitative Services 3. Trustees of Internal Improvement Trust Fund 4. Dept. of Natural Resources (Survey & Management, Div. of Marine Resources, Div. of Interior Resources).	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control 4. Game & Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control 4. Game & Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Agriculture and Consumer Services, Division of Forestry 4. Dept. of Pollution Control 5. Game & Fresh Water Fish Commission	1. Dept. of Natural Resources, Bureau of Beaches and Shores 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Division of Forestry 4. Dept. of Community Affairs, Flood Insurance Program	1. Dept. of Natural Resources, Bureau of Beaches and Shores 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Trustees of the Internal Improvement Trust Fund 2. Interagency Advisory Committee: TITF DNR-Recreation and Parks; CCC Q&FWFC Agriculture DNR 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Department of Natural Resources 2. Game and Fresh Water Fish Commission 3. Dept. of Agriculture and Consumer Services, Division of Forestry	1. Division of Archives and History, Secretary of State's Office 2. Department of Community Affairs	1. Trustees of the Internal Improvement Trust Fund 2. Department of Natural Resources 3. Department of Pollution Control 4. Game and Fresh Water Fish Commission
How Identified	By Dept. of Pollution Control Planning Div. according to state water quality criteria.	By Dept. of Pollution Control according to federal water quality criteria. Shellfish areas are further certified by the Div. of Health, Dept. of Health & Rehabilitative Services before the product can be marketed.	By aerial photography and by field surveys conducted by the Dept. of Natural Resources, the CCC and/or the National Marine Fisheries Service of NOAA, and other governmental or scientific groups.	Selected by the CCC in conjunction with other DNR agencies, by means of aerial photography, soil surveys, topographic maps and field surveys.	Selected by the CCC in conjunction with other DNR agencies, by means of aerial photography and field surveys.	By Dept. of Natural Resources, & C.C.C. using aerial photography, field engineering and topographic surveys.	From aerial photography, topographic maps and field surveys by C.C.C.	By the Interagency Advisory Committee on the State Wilderness System using aerial photography, topographic maps, and field surveys.	Identified from aerial photography, topographic maps and Soil Conservation Service soil maps by the Coastal Coordinating Council in cooperation with other state agencies.	By Division of Archives and History, Office of Secretary of State, through research of literature, historical surveys conducted by the state, and information from local historical groups.	By aerial photography, topographic maps and field investigations by the Coastal Coordinating Council in cooperation with other agencies.
State Policy/Criteria	Definitive criteria for Class I Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters, and in Chapter 373, Florida Statutes. Chapter 72-299, Laws of Florida places management responsibility for the state's water resources with the Div. of Interior Resources.	Definitive criteria for Class II Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters, and in Chapter 373, Florida Statutes. Chapter 72-299, Laws of Florida places management responsibility for the state's water resources with the Div. of Interior Resources. The Survey & Management Section of Dept. of Natural Resources is required to make biological reports on all construction and dredging projects seaward of the M.H.W. line.	Submerged lands are under the control of the TITF, except those previously sold to private owners or transferred to municipalities. Recent TITF and Cabinet policy has been not to disturb marine grass beds except in cases of overriding public interest. Reference: Chapter 253, Florida Statutes.	Recent state agency and Cabinet decisions have generally disapproved permit applications which would destroy coastal marshes. However, the "high marsh" landward of the MHW line is not protected and may be in private ownership. Reference: Chapter 253, Florida Statutes.	Recent state agency and Cabinet decisions have generally disapproved permit applications which would destroy significant areas of mangrove. Reference: Chapter 253, Florida Statutes.	Establishment of a coastal construction setback line based on beach processes. Reference: Chapter 161-053, Florida Statutes. Any new coastal construction or change of existing structures for shore protection purposes must obtain a DNR permit. State policy favors public access to state-owned beaches below the mean high water line which are managed by the TITF as part of state lands. Reference: Chapter 161-041, Florida Statutes.	Any new coastal construction or change of existing structures for shore protection purposes must obtain a DNR permit. State policy favors public access to state-owned beaches below the mean high water line which are managed by the TITF as part of state lands. Reference: Chapter 161-041, Florida Statutes.	State criteria for wilderness areas are based on rules adopted by the TITF after considering those applied to federal wilderness areas and wilderness systems of other states. There will be no commercial development and no additional development for the comfort and convenience of users. The primary use is to protect the natural environment. Public use is limited to hiking, bathing, boating, sport fishing, hunting, picnicking, sight-seeing, and other recreational uses and research to the extent compatible with the purpose for which the wilderness area was established. Reference: Chapter 70-355, Florida Statutes.	Except for those swamps currently protected as a part of national, state or county parks, or wildlife refuges or wilderness areas, such swamps are not state protected. The Coastal Coordinating Council recommends those of regional significance be preserved.	The state's policy is to protect and preserve historic sites and properties including buildings and objects of scientific and historical value relating to the history, government and culture of the state. Reference: Chapter 267, Florida Statutes.	The state has, in the past, incorporated many unique environmental areas into its state park system. However, there remain areas having unusual environmental features that the CCC recommends be protected by the state to enhance the aesthetic and recreational values of the coastal zone. These would, in general, be of comparatively small geographic area. Reference: CCC/Coastal Zone Resources Corporation Contract.
Existing Support and Controls	Dept. of Pollution Control and Div. of Health monitors Class I waters and DPC has enforcement powers to stop pollution if the purity standards are not being maintained. The Florida Div. of Interior Resources is charged with regulating the use & development of the state's water resources, (Ch. 72-299, Laws of Florida).	Dept. of Pollution Control has enforcement powers to maintain quality standards of Class II Waters. Div. of Health approves harvested shellfish for human consumption. Div. of Marine Resources carries out shellfish research, enforces fishing regulations and leases shellfish beds. The Florida Div. of Interior Resources is charged with regulating the use & development of the state's water resources, (Ch. 72-299, Laws of Florida).	TITF process dredge and fill permit requests and make recommendations for action to the Cabinet. DNR (Survey & Management) must make biological report on each dredge and fill request. If significant marine grass beds are involved, such reports are advised and may cause denial of request.	Coastal marshes seaward of the MHW line are under the control of the TITF, unless previously sold to private owners or transferred to municipalities. All such lands are subject to state regulations with regard to dredging and filling and development, which requires a permit based on: 1) Local authority approval 2) Biological (ecological) report 3) Hydrographic survey (if required by DNR) 4) TITF approval 5) DPC approval	The biological reports required by dredge & fill or coastal construction permitting procedures would be adverse if significant damage to mangroves would result. However, the state's present jurisdiction is only seaward of the MHW line.	Dept. of Natural Resources, Bureau of Beaches & Shores establishes the setback line after surveys and public hearings. The setback line is then recorded in the public records of the Clerk of the Circuit Court of the county and municipality affected. Objecting upland owners are granted a review of the setback line upon written request to Dept. of Natural Resources. DNR decision is subject to judicial review. Violations are classified as a public nuisance and will be removed at expense of the owner or by DNR and cost becomes a lien on the property. DNR may exempt parts of the coastline not endangered by erosion. If setback line has not yet been established, the 50-foot setback from MHW applies. Permits are required for construction of any erosion control structures.	DNR shore protection construction or modification permits are required only for construction on state-owned lands; there are no existing supports and controls on privately-owned estuarine beaches and shores.	Identification and control of wilderness areas are under the supervision of the TITF, who are advised by an Interagency Advisory Committee, and who after public hearings, may set aside state lands by resolution. Rules and regulations for wilderness areas are not under study by the TITF.	These areas are largely unprotected except in special use areas such as wildlife refuges, wilderness areas and parks. Under Ch. 72-299, Laws of Florida, the Div. of Interior Resources will have jurisdiction over such areas.	The Bureau of Historic Sites and Properties has the responsibility to locate, acquire, protect and promote the location, acquisition and preservation of historic sites and properties. The Bureau of Historic Museums has the responsibility to promote and encourage throughout the state, knowledge and appreciation of Florida history.	There is no existing support or control for "other unique environmental features" which are not included in wilderness areas or parks or aquatic preserves.

* The agencies designated may or may not have statutory powers with regard to responsibility to the subcategories at this time.

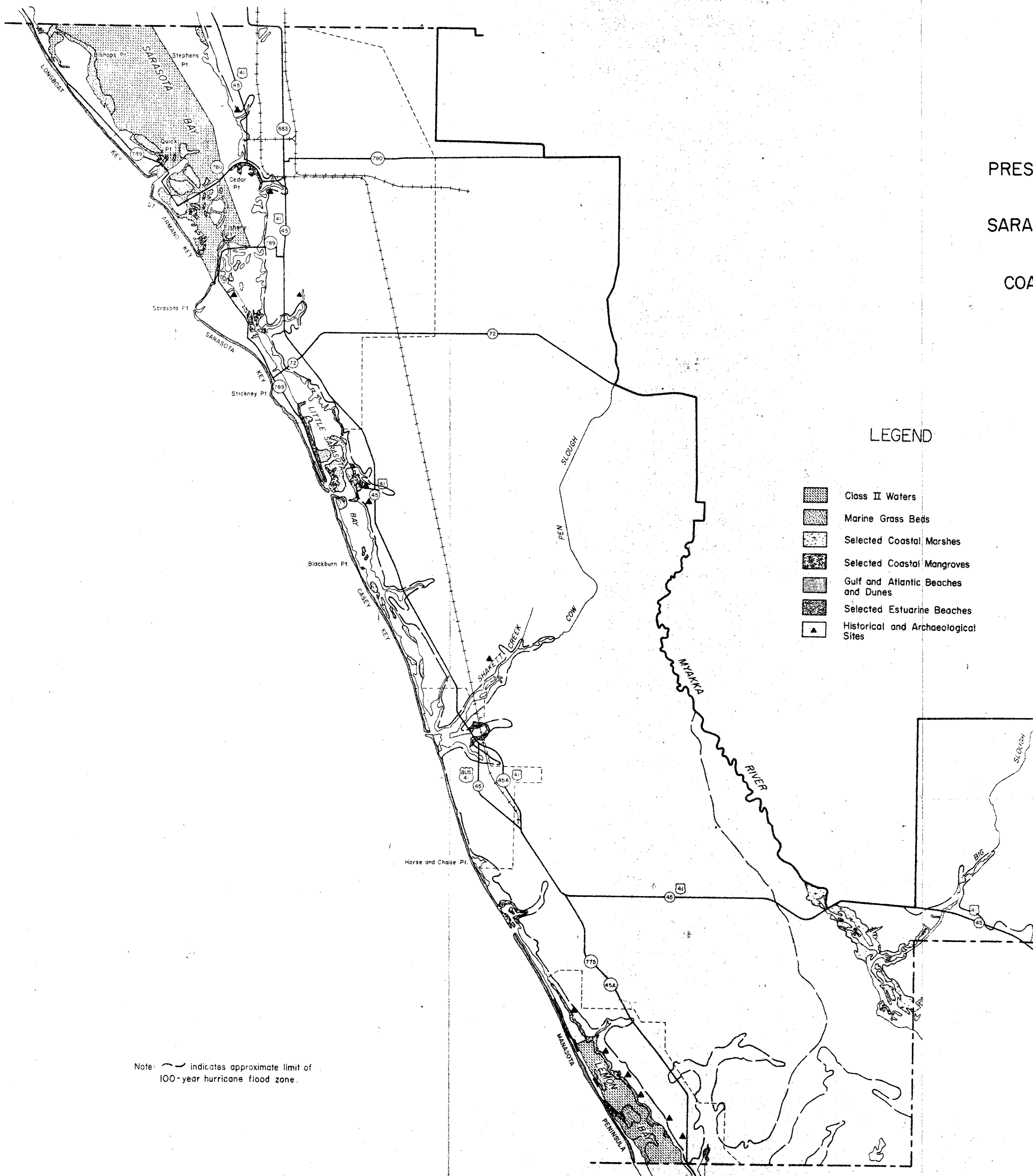
PRESERVATION MAP

SARASOTA COUNTY

COASTAL ZONE

LEGEND

-  Class II Waters
-  Marine Grass Beds
-  Selected Coastal Marshes
-  Selected Coastal Mangroves
-  Gulf and Atlantic Beaches and Dunes
-  Selected Estuarine Beaches
-  Historical and Archaeological Sites



Note: — indicates approximate limit of 100-year hurricane flood zone.

Note: Information presented is in generalized form. Local application will require mapping in greater detail.

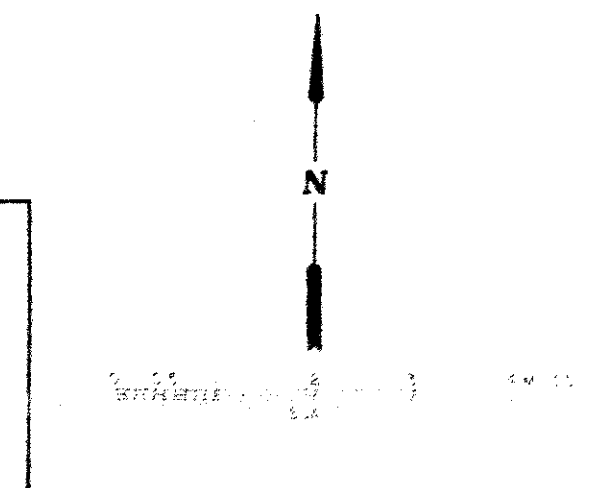


TABLE B: CONSERVATION CRITERIA AND POLICY

CONSERVATION CATEGORY											
These areas of the coastal zone that are not absolutely critical to regional ecological integrity (except certain wildlife refuges), but because of their physical character or present use provide "buffer zones" for preservation areas and represent retention of use options for future generations. These areas also require special precautions when being converted to development in order to avoid direct or indirect consequences harmful to the public health, safety and welfare.											
Subcategory	Class III Waters	Aquatic Preserves	Aquaculture Leases	Publicly-owned Spoil Islands	Hurricane Flood Zone	River Flood Plains	Scenic Vistas	Forestry & Game Management Areas	Wildlife Refuges	Parks and Recreation Areas	Marginal Lands
Priority Use	Fish & wildlife propagation Water contact sports	Recreation Research & education Aesthetics Maintenance of marine productivity Propagation of wildlife	Cultivation of animal and/or plant life.	Aesthetic Bird/wildlife habitat Recreation	Uses which require waterfront locations Public Recreation Uses that will not unnecessarily jeopardize human life or economic welfare.	Timber management Greenbelts Recreation Aquifer recharge Wildlife habitat	Aesthetics	Timber production Hunting	Wildlife habitat Recreation, not including hunting	Recreation Aesthetics	Recreation Greenbelts/Open Space Timber Production Extensive agriculture/grazing, if these activities do not require draining or pumping. Wildlife habitat
Description	All coastal waters not otherwise classified. Includes bays, rivers, lakes, estuaries and open waters of the territorial sea.	Coastal and marine areas of exceptional biological, aesthetic, educational and/or scientific value.	Leases granted for exclusive use of submerged bottom areas and the overlying water column for the purpose of cultivating animal and/or plant life. Traditional oyster leases are not included in this subcategory.	Artificial islands created with material dredged from state-owned lands to create or deepen channels in passes, bays, lagoons, bayous, etc. Many such islands exist along the Intracoastal Waterway.	Lands between the shoreline and the 100 year flood line. These areas are subject to flooding during hurricane conditions.	Lands lying along drainage corridors (rivers & streams) that are subject to flooding on a regular basis. May include swampy areas; generally contain mixed alluvial, poorly drained soils.	Peripheral parcels of land and/or water having exceptional scenic or aesthetic values including rivers and highways. Such areas may include bluffs, hills, or other vantage points that afford a unique scenic perspective.	Areas having high-quality timber or good timber producing potential and/or support game populations large enough to allow inclusion into the state's game management program.	Areas specifically set aside for the protection of wildlife. Such areas may be subject to multiple use management as in the case of State Parks, all of which are game refuges.	Areas and facilities devoted to recreational activities of various types. May include historical or archaeological sites, game refuges or unique environmental features.	Lands which due to soil characteristics, drainage problems, or other physical restrictions, require major alteration in order to be made suitable for urban development. These areas should be subject to strict performance standards when being converted to urban uses.
State's Objectives	To insure wise use of our water resources. To maintain the quality of these waters at a level which will be suitable for water contact sports and propagation of fish and wildlife.	To provide adequate overall protection to coastal areas having exceptional aesthetic, biological, scientific or educational values and the establishment of a statewide system of such preserves for Florida.	To allow certain state-owned submerged bottom lands and the overlying water column to be leased for aquaculture industries or research and insure that such areas are utilized in a productive manner in the public interest.	To protect in the public interest, state-owned spoil islands for use as plant and animal habitats and limited recreational activity. To establish, where possible, natural vegetation on such manmade islands.	To discourage, in the public interest, through appropriate land use controls, any development in the Hurricane Flood Zone which would unnecessarily jeopardize human life or economic welfare. To prevent development that would have undesirable ecological effects on coastal waters and wetlands.	To prevent unnecessary flood losses caused by unwise development of flood prone areas and to preserve the ecological values of flood plains.	To conserve in the public interest certain selected areas judged to have exceptional scenic or aesthetic values.	To provide the state with a stockpile of timber resources and/or to provide areas that will support public hunting under the auspices of the Game and Fresh Water Fish Commission.	To protect wildlife in the coastal zone; to reserve lands as nature areas.	To create, maintain, and where needed, expand outdoor recreation and park facilities for the benefit of state residents and visitors; to conserve state lands for future recreation needs.	To assure that development of these areas does not result in direct or indirect consequences harmful to the public health, safety and welfare.
Responsible State Agencies *	1. Dept. of Pollution Control 2. Div. of Health 3. Dept. of Natural Resources, Div. of Marine Resources 4. Game and Fresh Water Fish Commission 5. Dept. of Natural Resources, Div. of Interior Resources.	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission 4. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Coastal Coordinating Council 4. Trustees of the Internal Improvement Trust Fund 5. State Div. of Planning 6. Dept. of Pollution Control 7. Dept. of Health and Rehabilitative Services, Div. of Health 8. Dept. of Commerce	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission 4. Trustees of the Internal Improvement Trust Fund 5. Dept. of Agriculture and Consumer Services, Div. of Forestry 6. State Div. of Planning	1. Dept. of Natural Resources 2. Dept. of Transportation	1. Dept. of Agriculture and Consumer Services, Div. of Forestry 2. Game and Fresh Water Fish Commission	1. Game and Fresh Water Fish Commission 2. Dept. of Natural Resources 3. Trustees of the Internal Improvement Trust Fund 4. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Natural Resources, Division of Recreation & Parks 2. Dept. of Transportation 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Natural Resources 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Div. of Forestry
How Identified	By the Dept. of Pollution Control according to state water quality criteria.	By the Interagency Advisory Committee on Submerged Land Management, after careful study and deliberation of the area's biological, aesthetic or scientific value.	By the applicant for a lease from the TIITF.	By the CCC and TIITF staff using aerial photography, U.S.C.G.S. navigational charts, and review of records indicating approved spoil deposition areas.	Determined through surveys currently being conducted for the U.S. Dept. of Housing & Urban Development in conjunction with its flood insurance program. Surveys are being conducted by several federal agencies.	By the CCC, Bureau of Water Resources, and U.S. Corps of Engineers, utilizing aerial photography, soil surveys, U.S.G.S. topographic maps, and past history of flooding.	By CCC and Dept. of Natural Resources in cooperation with local interests.	Forestry management areas are selected and protected by the Div. of Forestry & by private owners. Wildlife management areas are selected by the Game and Freshwater Fish Commission. These areas may be state-owned or managed through agreements with private land owners.	From maps provided by the Game and Fresh Water Fish Commission or by agencies and groups having control over such areas.	By DNR in cooperation with the agencies or governmental bodies that have established the parks.	By the CCC through use of soil surveys, topographic surveys, aerial photography and field investigations.
State Policy/Criteria	Definitive criteria for Class III Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17.3, Florida Administrative Code, and in Chapter 373, Florida Statutes.	No alteration of physical conditions within aquatic preserves except minimum dredging & spoiling for authorized public navigation projects. Reference: Report Number Two of the Interagency Advisory Committee on Submerged Land Management. TIITF resolution of November 24, 1969. Chapter 69-432, Laws of Florida.	Public notice and hearings required before lease may be granted. Such lease will not be granted if the appropriate county commission adopts and files a resolution of objection to the lease. Reference: Chapter 253, Florida Statutes. Agriculture Lease Guidelines—TIITF.	Spoil islands, unless conveyed from state ownership by deed, are under the jurisdiction of the TIITF. Any modification of spoil islands requires a Trustee permit. The Cabinet is on record as favoring nondevelopment of spoil islands. Reference: Chapter 253, Florida Statutes; Chapter 18, Florida Administrative Code. Cabinet Resolution of August 11, 1970.	National Flood Insurance Program criteria apply to all areas below the 100 year flood line. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572). Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR.	None except under the Federal Flood Insurance Program. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572). Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR.	None except when these areas are included in state-controlled special use areas such as State Parks, Wilderness Areas, Aquatic Preserves or State Forests.	Div. of forestry may acquire lands, designate reforestation areas, and manage all State Forests and reforestation areas in the public interest. Reference: Chapter 589 and 590, Florida Statutes. Criteria for Wildlife Management areas are given in the Wildlife Code of the State of Florida, Game and Fresh Water Fish Commission, July, 1971. Reference: Chapter 372, Florida Statutes.	No game may be taken or possessed on any area closed by Game and Fresh Water Fish Commission order as a wildlife refuge. No guns, dogs, traps, or other game taking devices allowed in such areas. Reference: Chapter 16E-7; Chapter 16E-8, Wildlife Code of the State of Florida, Chapter 372, Florida Statutes.	State Park authority is stated in Chapters 592, 575, and 418, Florida Statutes.	None at this time except as related to other endeavors.
Existing Support and Controls	Class III Waters are monitored on a monthly basis by the Dept. of Pollution Control and Div. of Health with assistance from the Marine Patrol. The Florida Div. of Interior Resources is charged with managing the use and development of the state's water resources (Chapter 72-299, Laws of Florida).	Cabinet approves or disapproves TIITF staff recommendations. The Marine Patrol of DNR and the Dept. of Pollution Control assist in enforcement of regulations.	Cabinet approval required for all aquaculture leases. TIITF staff responsible for enforcement, assisted by Marine Patrol and Game and Fresh Water Fish Commission.	As indicated in references cited, especially Chapter 253.12, Florida Statutes, and Chapter 18.2, Rules of TIITF.	The Dept. of Community Affairs coordinates the Flood Insurance Program which requires that local governments adopt land use controls in such areas to qualify for flood insurance. Under Chapter 253, Florida Statutes, the DNR, Div. of Beaches and Shores is charged with establishing a setback line for coastal construction along the Gulf and Atlantic beach shorelines. Pending Federal legislation would give further support to the state's objectives.	Local ordinances as authorized by Chapter 69-139, Laws of Florida. The Federal Flood Insurance Program provides for studies which identify flood prone areas. Under Chapter 72-299, Laws of Florida, the Div. of Interior Resources may have authority for flood plain zoning.	None except in state-owned special use areas, and in some instances, local zoning ordinances.	Div. of forestry has eminent domain powers for acquiring forest land rights of way or private property judged by the Div. to be suitable and desirable for State Forests. Violation of any rule or regulation adopted by the Game and Fresh Water Fish Commission is punishable as a misdemeanor.	Enforcement is primarily by wildlife officers of the Game and Fresh Water Fish Commission, assisted by local law enforcement officers, Marine Patrol officers, State Park managers, and deputy wildlife officers. National Park rangers participate in enforcement within national parks, memorials and national wildlife refuges.	The Div. of Recreation and Parks has the authority to administer and manage State Parks. A very limited power of eminent domain is available for acquisition of property. Financial assistance is available through the Land & Water Conservation Act of 1965: P.L. 88-578 (78 Stat. 897); 16 U.S.C. 4601; amended by P.L. 90-401. Financial assistance to local government is available through the Dept. of Housing & Urban Development Legacy of Parks Program (Title 4 of P.L. 91-609) and the Land Acquisition Trust Fund.	None at this time.

* The agencies designated may or may not presently have statutory powers with regard to responsibility to the subcategories.

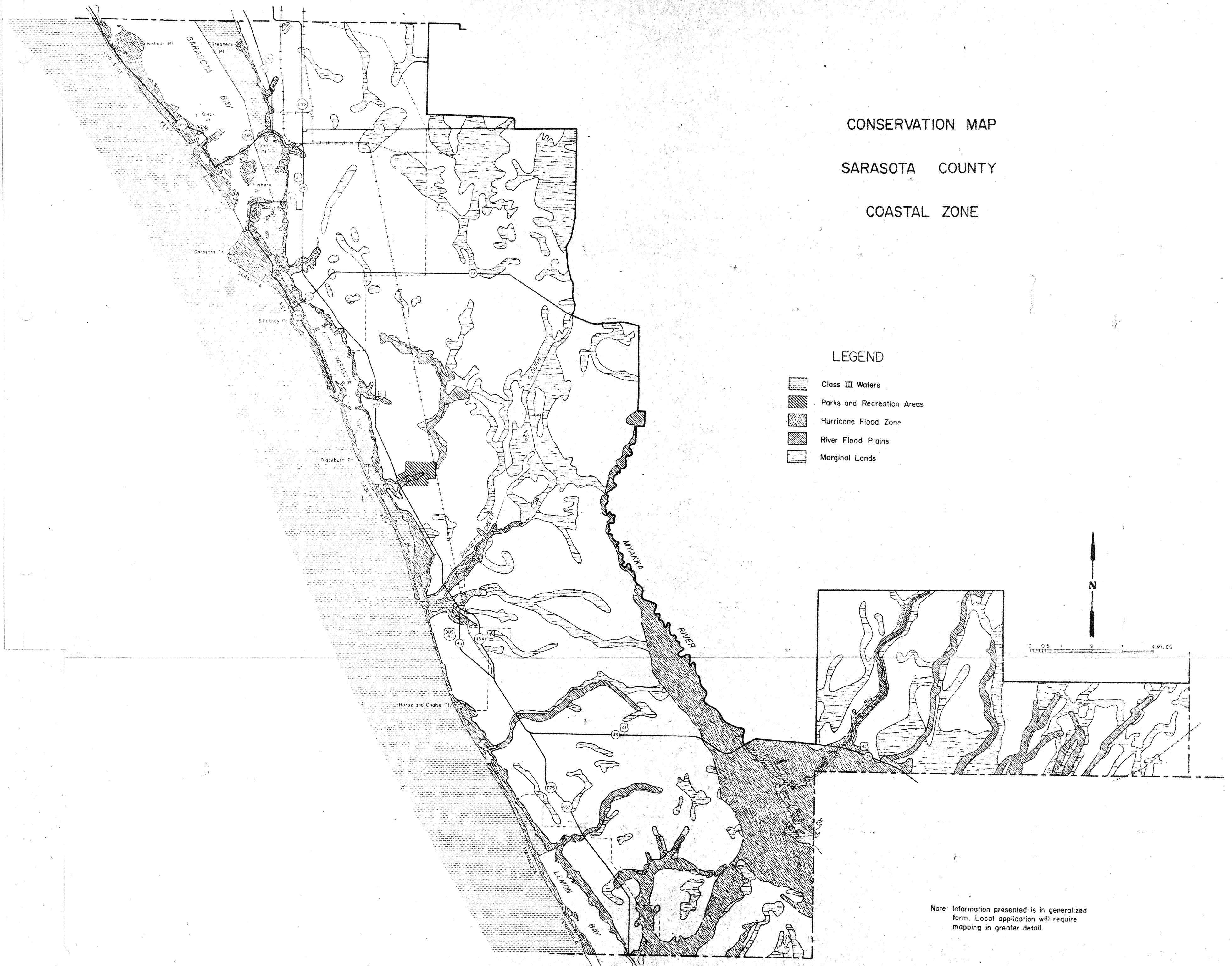
CONSERVATION MAP

SARASOTA COUNTY

COASTAL ZONE

LEGEND

-  Class III Waters
-  Parks and Recreation Areas
-  Hurricane Flood Zone
-  River Flood Plains
-  Marginal Lands



Note: Information presented is in generalized form. Local application will require mapping in greater detail.

TABLE C: DEVELOPMENT CRITERIA AND POLICY

DEVELOPMENT CATEGORY

In general, these areas are well-suited for intensive development and are not considered to be environmentally fragile. However, some presently developed areas (classified as "conflict" areas) would have been recommended for "conservation" or "preservation" had they not already been developed. The category "development" does not inherently imply complete development of areas so designated; rather, it indicates that if intensive development is to occur at all, it should be directed to these areas. Zoning for specific uses (including intensive agriculture) within "development" areas is recommended to be the responsibility of local governments, utilizing state guidelines. Specific state criteria will apply to shoreline-uses and "key facilities" and will serve as standards for local zoning authorities.

Subcategory	Class IV Waters	Class V Waters	Presently Developed Lands—Non-conflict	Presently Developed Lands—Conflict	Undeveloped Lands Suitable for Intensive Development	Undeveloped Lands Suitable for Intensive Development with Corrections	Hurricane Flood Zone
Priority Use	Agricultural and industrial water supply	Navigation, utility and industrial use.	Development, according to local desires and needs, utilizing environmental safeguards.	Those uses allowed in "conservation" areas.	Development, according to local desires and needs, utilizing environmental safeguards.	Development according to local desires and needs, utilizing environmental safeguards.	Uses which require waterfront locations. Public recreation Uses that will not unnecessarily jeopardize human life or economic welfare.
Description	Surface waters designated by the Dept. of Pollution Control for use as agricultural or industrial water supply.	Surface waters designated by the Dept. of Pollution Control for navigation, utility and industrial use. Water quality standards for Class V Waters are the lowest of any applied to surface waters in Florida.	Lands already developed in a manner compatible with the natural environment of the area.	Lands presently developed that under C.C.C. planning criteria would have been classified "preservation" or "conservation" in their natural state. Inherent physical or ecological restrictions may or may not have been adequately compensated for.	Lands needing little or no modification to make them suitable for development. These areas have elevations, soils, topography and other physical conditions favorable for development (with the addition of proper sanitary facilities).	Lands having some physical limitations but suitable for intensive development with certain modification such as improvement of drainage, installation of sewage collection systems and establishment of central water supplies.	Lands between the shoreline and the 100 year flood line. These areas are subject to flooding during hurricane conditions.
State's Objectives	To prevent degradation of surface waters used for agricultural or industrial activities, and, if possible, to enhance the quality of those waters.	To prevent further degradation of waters so classified, and, if possible, enhance the quality of these waters.	To maintain or improve quality of life in these areas, including public health and welfare.	To encourage compatible use of these areas and discourage future development that does not recognize and adequately neutralize the environmental conflicts involved.	To assist local planning and zoning officials, developers and landowners in determining those areas best suited to intensive development and assure that development occurs in a fashion that is compatible with the physical environment.	To assist local planning and zoning officials, developers and landowners in determining those areas where intensive development activities will require additional expenditures to become environmentally compatible.	To discourage, in the public interest, through appropriate land use controls, any development in the Hurricane Flood Zone which would unnecessarily jeopardize human life or economic welfare. To prevent development that would have undesirable ecological effects on coastal waters and wetlands.
Responsible State Agencies *	1. Dept. of Pollution Control 2. Div. of Interior Resources	1. Dept. of Pollution Control 2. Div. of Interior Resources	1. Dept. of Community Affairs 2. State Div. of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control 7. Dept. of Transportation 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services	1. Dept. of Community Affairs 2. Coastal Coordinating Council 3. State Div. of Planning 4. Div. of Health, Dept. of Health and Rehabilitative Services 5. Dept. of Pollution Control 6. Dept. of Natural Resources 7. Div. of Forestry, Dept. of Agriculture and Consumer Services	As development occurs in these areas, all of the local, state and federal agencies involved in urban areas will become active. Initially, however, the most involved state agencies will be: 1. Dept. of Community Affairs 2. State Div. of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control 7. Dept. of Transportation 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services	1. Dept. of Community Affairs 2. State Div. of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control 7. Div. of Health, Dept. of Health and Rehabilitative Services 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Coastal Coordinating Council 4. Trustees of the Internal Improvement Trust Fund 5. State Div. of Planning 6. Dept. of Pollution Control 7. Div. of Health, Dept. of Health and Rehabilitative Services 8. Dept. of Commerce
How Identified	By Dept. of Pollution Control, Planning Div., according to state water quality criteria.	By Dept. of Pollution Control, Planning Div., according to state water quality criteria.	By the CCC, in cooperation with other agencies, utilizing aerial photography and analysis techniques.	By the CCC, in cooperation with other agencies, utilizing aerial photography and analysis techniques.	By the CCC, in cooperation with local and regional planning agencies and utilizing analysis techniques developed by the CCC.	By the CCC, in cooperation with local and regional agencies and utilizing analysis techniques developed by the CCC.	Determined through surveys currently being conducted for the U.S. Dept. of Housing and Urban Development in conjunction with its flood insurance program. Surveys are being conducted by several federal agencies.
State Policy/Criteria	Definitive criteria for Class IV Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters.	Definitive criteria for Class V Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters. These waters must show decided and definite enhancement no later than January, 1973, and possibly will be reclassified as water quality improves.	The CCC will develop general guidelines and criteria for new shoreline uses and key facilities within these areas.	Local authorities and developers should be alerted to the environmental dangers associated with additional future development in "conflict" areas.	The CCC will develop general guidelines and criteria for shoreline uses and "key facilities" within these areas.	The CCC will develop general guidelines and criteria for "key facilities" that have regional impact.	National Flood Insurance Program criteria apply to all areas below the 100 year flood line. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572) Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR.
Existing Support and Controls	Dept. of Pollution Control monitors Class IV Waters and has enforcement powers to stop pollution if the water quality standards are not being maintained. The Div. of Interior Resources is charged with managing the use and development of the state's water resources. (Ch. 72-299, Laws of Florida).	Dept. of Pollution Control monitors Class V Waters and has enforcement powers to stop pollution if water quality standards are not maintained. The Div. of Interior Resources is charged with managing the use and development of the state's water resources. The U.S. Army Corps of Engineers is responsible for regulating dumping in navigable water bodies. Reference: Water Quality Improvement Act of 1970 (Public Law 91-224). Florida Air and Water Pollution Control Act (Chapter 403, Florida Statutes). Florida Water Resources Act (Ch. 72-299, Laws of Florida) Refuse Act of 1899 (33 U.S.C. 401-413 Sec. 407).	Chapter 70-259, Laws of Florida, charges the CCC with developing "... a comprehensive plan for the protection, development and zoning of the coastal zone ..."	National Flood Insurance Program Building Codes Chapter 70-259, Laws of Florida, charges the CCC with developing "... a comprehensive plan for the protection, development and zoning of the coastal zone ..."	Under Chapter 70-259, Laws of Florida, the CCC is charged with developing "... a comprehensive state plan for the protection, development and zoning of the coastal zone ..."	Chapter 70-259, Laws of Florida, charges the CCC with developing "... a comprehensive plan for the protection, development and zoning of the coastal zone ..."	The Dept. of Community Affairs coordinates the Flood Insurance Program which requires that local governments adopt land use controls in such areas to qualify for flood insurance. Under Chapter 253, Florida Statutes, the Trustees of the Internal Improvement Trust Fund have authority to control bulkhead lines. Under Chapter 161.053, Florida Statutes, the DNR, Division of Beaches & Shores is charged with establishing a setback line for coastal construction along the Gulf and Atlantic Beach shoreline. Pending federal legislation would give further support to the state's objectives.

* The agencies designated may or may not presently have statutory powers with regard to responsibility to the subcategories.

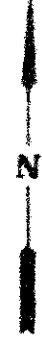
DEVELOPMENT MAP

SARASOTA COUNTY

COASTAL ZONE

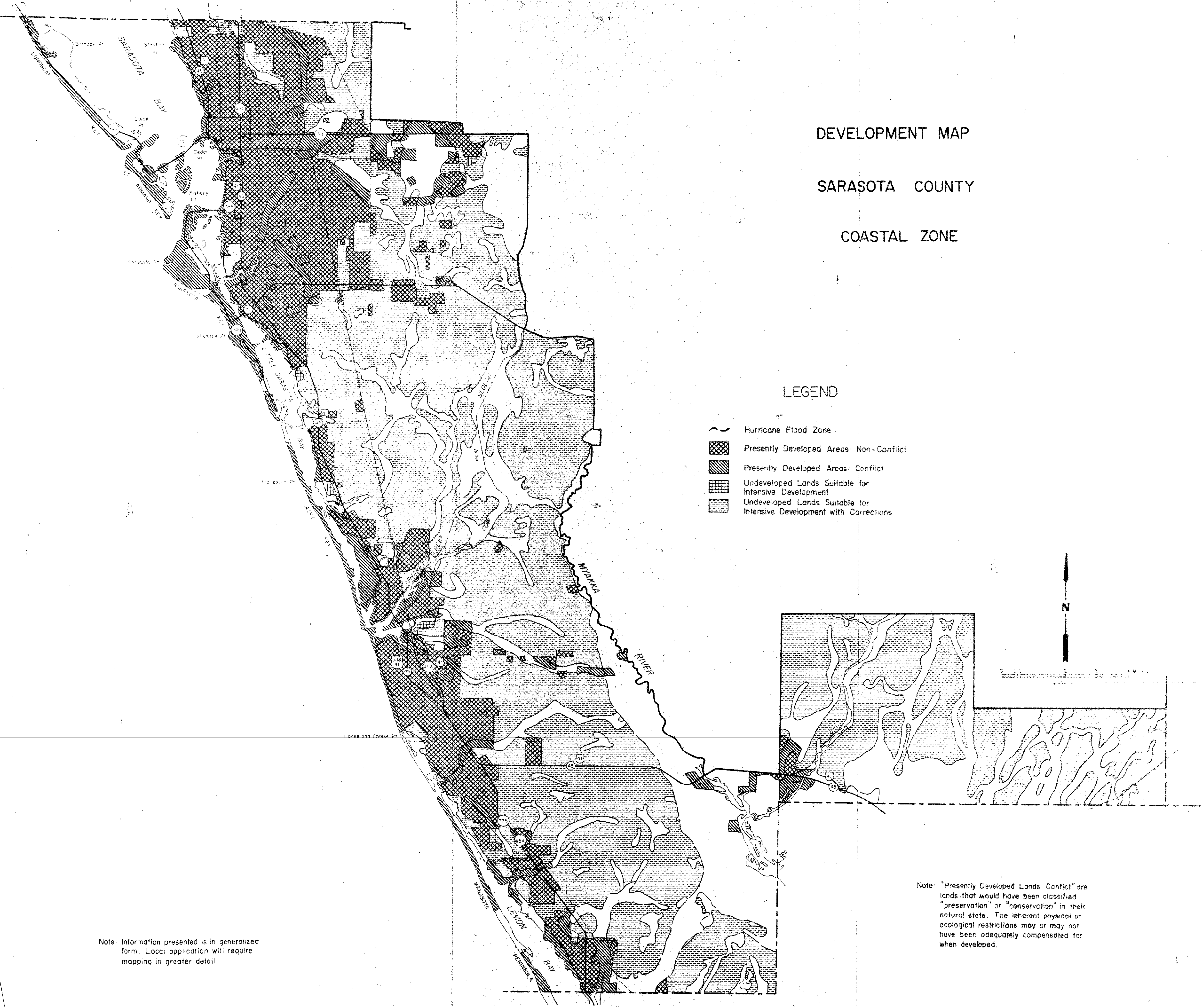
LEGEND

- ~ Hurricane Flood Zone
- Presently Developed Areas: Non-Conflict
- Presently Developed Areas: Conflict
- Undeveloped Lands Suitable for Intensive Development
- Undeveloped Lands Suitable for Intensive Development with Corrections



Note: "Presently Developed Lands Conflict" are lands that would have been classified "preservation" or "conservation" in their natural state. The inherent physical or ecological restrictions may or may not have been adequately compensated for when developed.

Note: Information presented is in generalized form. Local application will require mapping in greater detail.



ZONING SUB-CATEGORIES		
PRESERVATION	CONSERVATION	DEVELOPMENT
Class I Waters	Class III Waters	Class IV Waters
Class II Waters	Aquatic Preserves	Class V Waters
Marine Grass Beds	Aquaculture Leases	Presently Developed Areas
Selected Coastal Marshes	Sport Islands	Non-Conflict
Selected Coastal Mangroves	Scenic Vistas	Conflict
Selected Freshwater Swamps and Marshes	Forestry and Game Management Areas	Undeveloped Lands
Gulf and Atlantic Beaches and Dunes	Wildlife Refuges	Suitable for Intensive Development
Selected Estuarine Beaches	Parks and Recreation Areas	Undeveloped Lands
Designated Wilderness Areas	River Flood Plains	Suitable for Intensive Development with Restrictions
Historical and Archaeological Sites	Marginal Lands	Conflict
Other Unique Environmental Features	Portions of Hurricane Flood Zone	Portions of Hurricane Flood Zone

COMPOSITE ZONING MAP

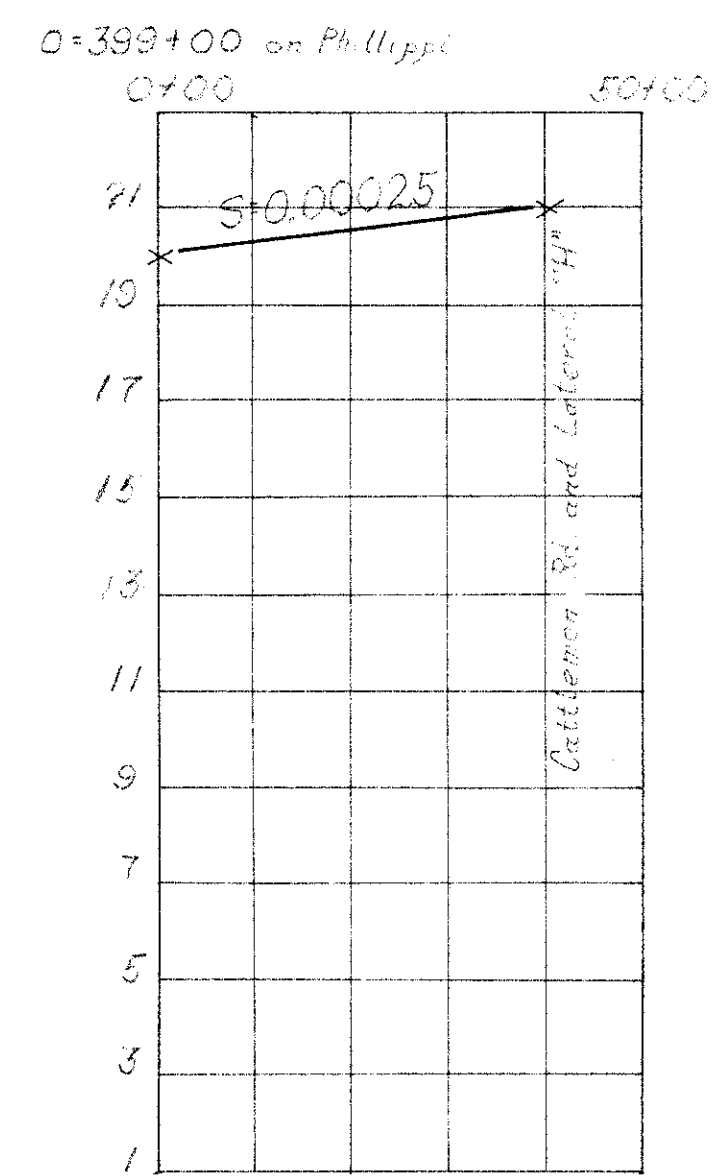
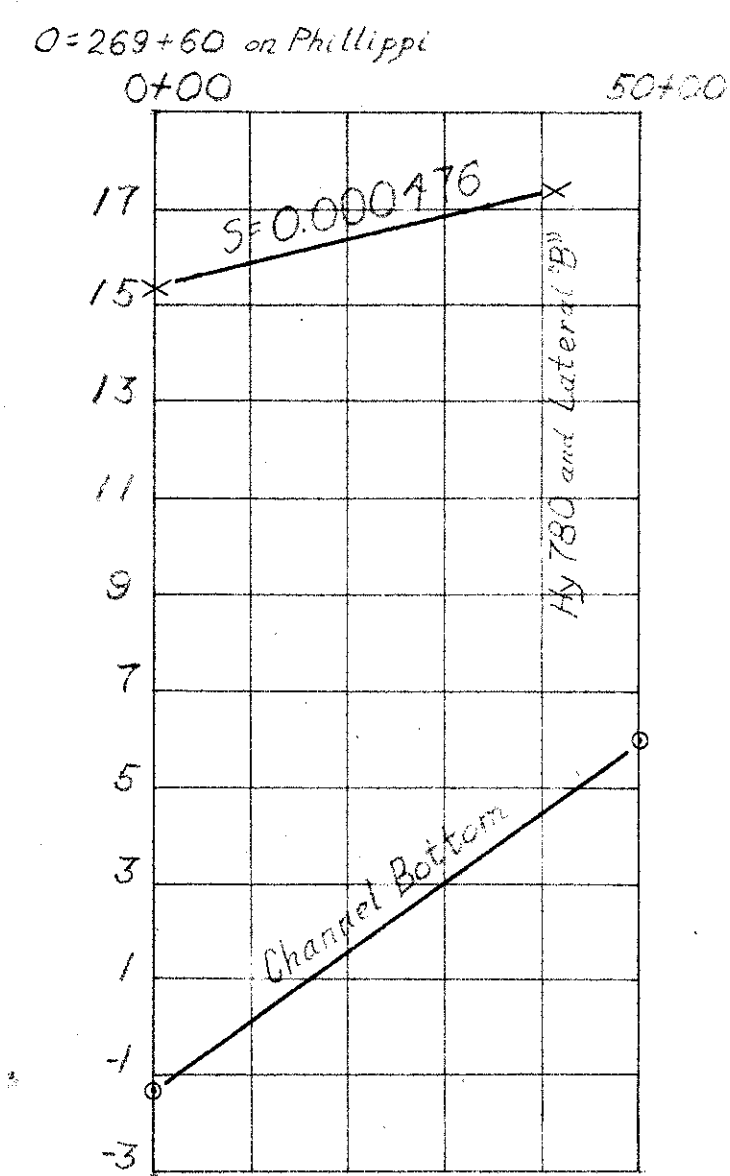
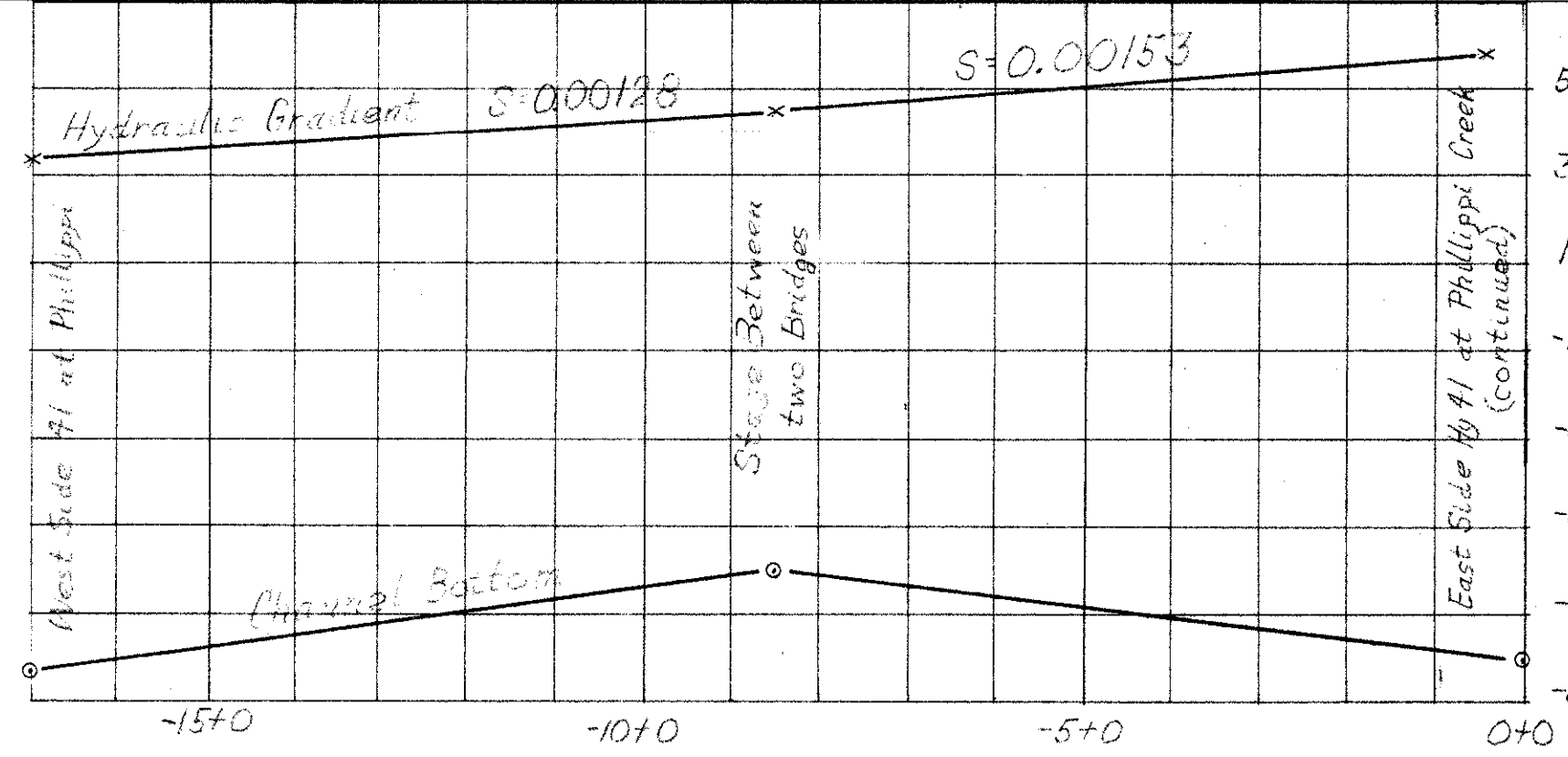
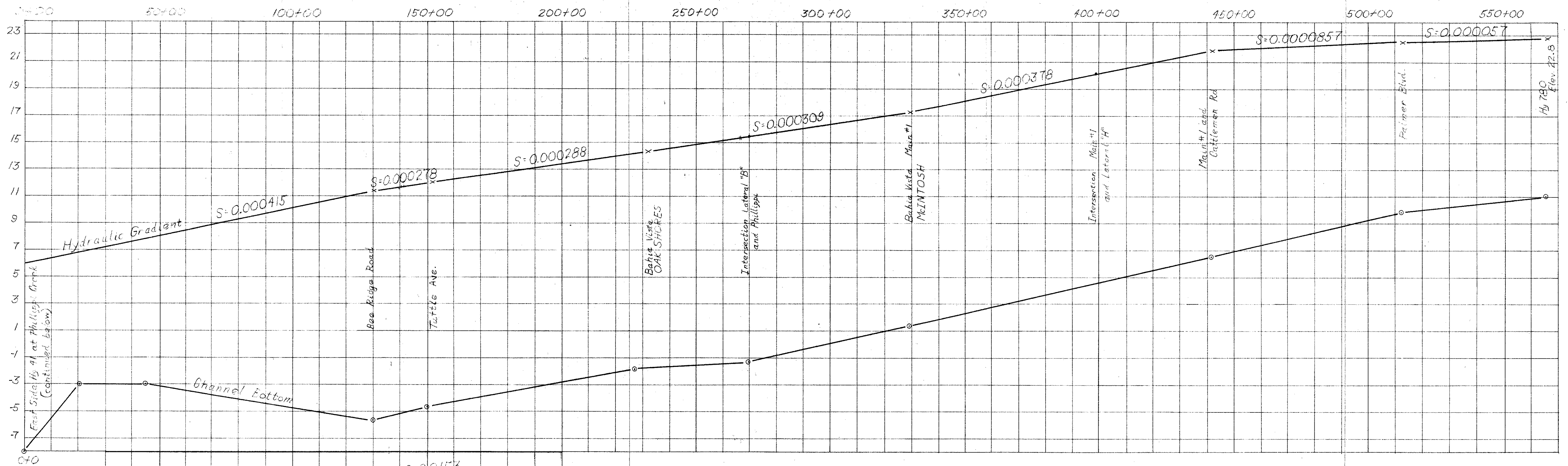
SARASOTA COUNTY

COASTAL ZONE

- LEGEND
- Development
 - Conservation
 - Preservation
 - Hurricane Flood Zone
 - Conflict Areas
 - Preservation - Development
 - Conservation - Development



Note: Information presented is in generalized form. Local application will require mapping in greater detail.



PHILLIPPI CREEK FLOOD Sept. 1962
 High Water Profile 9-29-62
 Profile Main #1, Lateral #52 9-29-62
 From: USDA Soil Conservation Service
 dated 10-3-62
 by: KH 4-11-70