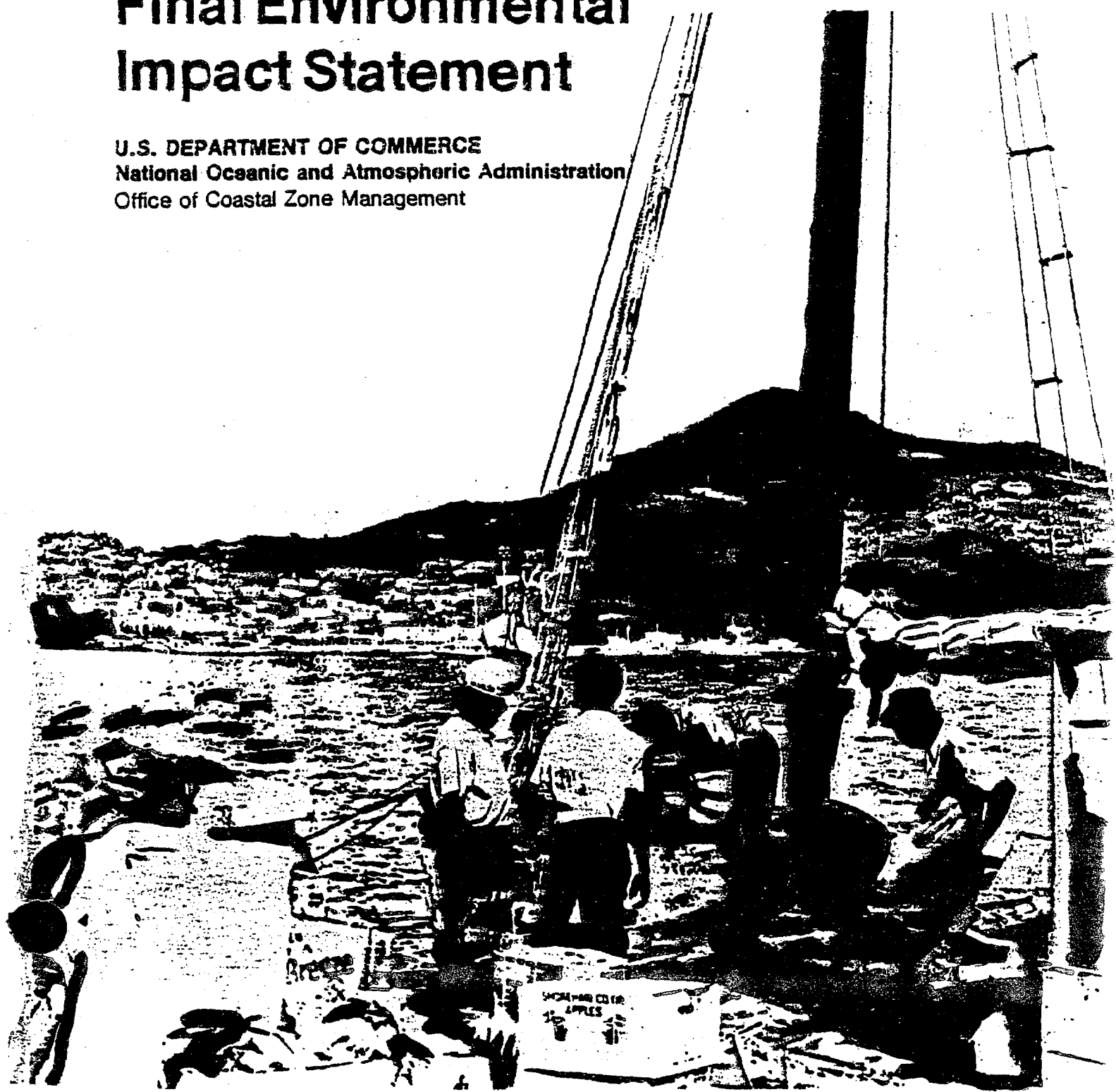


# The Virgin Islands Coastal Management Program and Final Environmental Impact Statement

U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Office of Coastal Zone Management



UNITED STATES  
DEPARTMENT OF COMMERCE

APR 1979

FINAL  
ENVIRONMENTAL IMPACT STATEMENT

PROPOSED COASTAL ZONE MANAGEMENT PROGRAM FOR  
THE VIRGIN ISLANDS

Prepared by:

Office of Coastal Zone Management  
National Oceanic and  
Atmospheric Administration  
U.S. Department of Commerce  
3300 Whitehaven Street, N.W.  
Washington, D.C. 20235



THE VIRGIN ISLANDS OF THE UNITED STATES  
OFFICE OF THE GOVERNOR  
CHARLOTTE AMALIE, ST. THOMAS

March 19, 1979

Mr. Robert W. Knecht  
National Oceanic & Atmospheric Adm.  
Office of Coastal Zone Management  
3300 Whitehaven Street, N. W.  
Page Building No. 1  
Washington, D. C. 20235

Dear Mr. Knecht:

It is with great pleasure that I submit to you for approval, the Coastal Zone Management Program for the Virgin Islands, under Section 306 of the Coastal Zone Management Act of 1972, as amended (CZMA). This management program fully complies with the intent and requirements of the CZMA.

I have reviewed the management program, and as Acting Governor, I approve the program as territorial policy and certify to the following:

1. The Territory, through the Virgin Islands Coastal Zone Management Act of 1978, associated legislative authorities and the cooperation and coordination of other governmental agencies, has the authorities and is presently implementing this management program for the Virgin Islands coastal zone.
2. The Territory has established, and is operating the necessary organizational structure to implement the coastal zone management program.
3. The Department of Conservation and Cultural Affairs is the single designated agency to receive and administer grants for implementing the coastal zone management program.

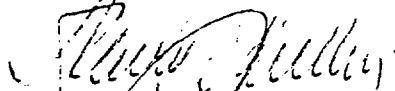
Mr. Robert W. Knecht  
Page -2-  
March 19, 1979

4. The Territory, through the Department of Conservation and Cultural Affairs and the Coastal Zone Management Commission, presently has the authority to directly control land and water uses, control development, and resolve conflicts among competing uses within the coastal zone.
5. The Territory has sufficient power to acquire lands, should that become necessary or desirable, to carry out elements of the coastal management program.
6. The policies cited in the coastal zone management program, are embodied in the Virgin Islands Coastal Zone Management Act of 1978, and are directly enforceable by the Coastal Zone Management Commission and the Department of Conservation and Cultural Affairs.
7. The Territory's air and water pollution programs, established pursuant to the Federal Clean Air Act as amended, and the Federal Water Pollution Control Act as amended, insofar as these programs pertain to the coastal zone, have been made a part of the Territory's Coastal Zone Management Program. The regulations relating to these programs, have been incorporated into the management program, and are the air and water pollution control requirements applicable to the coastal management program.
8. The Coastal Zone Management Program is now an official program of the Territory of the Virgin Islands; the Territory,

Mr. Robert W. Knecht  
Page -3-  
March 19, 1979

acting through the Coastal Zone Management Commission and the Department of Conservation and Cultural Affairs and other territorial agencies identified in the program, will continue to meet the intent of the Coastal Zone Management Act of 1972, as amended.

Sincerely,



Henry A. Millin  
Acting Governor

Enclosure:

Summary

( ) Draft Environmental Impact Statement

(x) Final Environmental Impact Statement

Department of Commerce, National Oceanic and Atmospheric Administration,  
Office of Coastal Zone Management. For additional information about this  
proposed action or this statement, please contact:

Gulf/Islands Regional Manager  
Office of Coastal Zone Management  
National Oceanic and Atmospheric Administration  
3300 Whitehaven Street, N.W.  
Washington, D.C. 20235  
Phone: 202/254-7546

Written comments should be addressed to:

Office of Coastal Zone Management  
National Oceanic and Atmospheric Administration  
Attn: Gulf/Islands Regional Manager  
3300 Whitehaven Street, N.W.  
Washington, D.C. 20235

1. Type of Action

Proposed Federal approval of the Virgin Islands Coastal Management Program (VICMP)

(x) Administrative                      ( ) Legislative

2. Brief Description of Action

It is proposed that the Assistant Administrator for Coastal Zone Management approve the Coastal Management Program application of the Virgin Islands pursuant to P.L. 92-583. Approval would permit implementation of the proposed program, allow program administration grants to be awarded to the Territory, and require that Federal actions be consistent with the program.

3. Summary of Environmental Impacts and Adverse Environmental Effects

Approval and implementation of the program will allow the Territory to coordinate and implement more effectively existing Territory and local authorities for management of its coastal zone through the establishment of policies and

standards for land and water uses in the Virgin Island's coastal zone. The effect of these policies and standards will be to condition, restrict or prohibit some uses in parts of the coastal zone, while encouraging development in other parts. This program should lead to an improved decision-making process for determining appropriate coastal land and water uses in light of resource considerations. This will lead to increased long-term predictability concerning governmental and private decisions in the Territory's coastal zone and resources therein, although there may be some adverse, short-term economic impacts on coastal users.

4. Alternatives Considered:

1. The Assistant Administrator could delay or deny program approval if the policies described in the VICZMP were not enforceable or sufficient.

2. The Assistant Administrator could delay or deny program approval if the VICZMA was not specific enough to implement the Program on at least an interim basis without formal rules and regulations.

5. DISTRIBUTION

Comments have been requested from the Federal, Territorial and local agencies and other parties. This Final Environmental Impact Statement has been forwarded to all parties who commented on the Draft EIS and all parties who requested a copy.

Federal Agencies

Advisory Council on Historic Preservation  
Department of Agriculture  
Department of Commerce  
Department of Defense  
Department of Energy  
Department of Health, Education & Welfare  
Department of Housing & Urban Development  
Department of the Interior  
Department of Justice  
Department of Labor

Department of Transportation  
Environmental Protection Agency  
Federal Energy Regulatory Commission  
General Services Administration  
Marine Mammal Commission  
Nuclear Regulatory Commission  
U.S. Coast Guard

National Interest Groups

A.M.E.R.I.C.A.N.  
AFL-CIO  
American Association of Port Authorities  
American Bar Association  
American Bureau of Shipping  
American Farm Bureau Federation  
American Fisheries Society  
American Forest Institute  
American Gas Association  
American Hotel and Motel Association  
American Industrial Development Council  
American Institute of Architects  
American Institute of Merchant Shipping  
American Institute of Planners  
American Littoral Society  
American Mining Congress  
American Oceanic Organization  
American Petroleum Institute  
American Shore and Beach Preservation Association  
American Society of Civil Engineers  
American Society of Landscape Architects, Inc.  
American Society of Planning Officials  
American Water Resources Association  
American Waterways Operators  
Amoco Production Company  
Ashland Oil, Inc.  
Associated General Contractors of America  
Association of Oil Pipe Lines  
Atlantic Richfield Company  
Atlantic States Marine Fisheries Commission  
Atomic Industrial Forum  
Barrier Islands Coalition  
Boating Industry Association  
Center for Law and Social Policy  
Center for Natural Areas  
Center for Urban Affairs  
Center for Urban & Regional Resources  
Chamber of Commerce of the United States  
Chevron U.S.A., Inc.  
Cities Service Company  
City Service Oil Company  
Coastal States Organization  
Conservation Foundation



Continental Oil Company  
Council of State Governments  
Council of State Planning Agencies  
The Cousteau Society  
Earth Metabolic Design Laboratories, Inc.  
Edison Electric Institute  
El Paso Natural Gas Co.  
Environmental Policy Center  
Environmental Defense Fund, Inc.  
Environmental Law Institute  
EXXON Company, U.S.A.  
Friends of the Earth  
Getty Oil Company  
Great Lakes Basin Commission  
Gulf Energy and Minerals, U.S.  
Gulf Oil Company  
Gulf Refining Company  
Gulf South Atlantic Fisheries Development  
Foundation  
Independent Petroleum Association of America  
Industrial Union of Marine & Shipbuilding  
Workers of America  
Institute for the Human Environment  
Institute for Marine Studies  
Interstate Natural Gas Association of America  
Izaak Walton League  
Lake Michigan Federation  
League of Conservation Voters  
League of Women Voters Education Fund  
Marathon Oil Company  
Marine Technology Society  
Mobil Oil Corporation  
Mobil Exploration & Producing, Inc.  
Murphy Oil Company  
National Academy of Engineering  
National Association of Conservation Districts  
National Association of Counties  
National Association of Dredging Contractors  
National Association of Electric Companies  
National Association of Engine & Boat Manufacturers  
National Association of Home Builders  
National Association of Realtors  
National Association of Regional Councils  
National Association of State Boating Law  
Administrators  
National Association of State Park Directors  
National Audubon Society  
National Boating Federation  
National Cannery Association  
National Coalition for Marine Conservation, Inc.  
National Commission on Marine Policy  
National Conference of State Legislatures

National Environmental Development Association  
National Farmers Union  
National Federation of Fisherman  
National Fisheries Institute  
National Forest Products Association  
National Governors Association  
National League of Cities  
National Ocean Industries Association  
National Parks and Conservation Association  
National Petroleum Council  
National Petroleum Refiners Association  
National Realty Committee  
National Recreation and Park Association  
National Research Council  
National Science Foundation  
National Science Teachers Association  
National Shrimp Congress  
National Society of Professional Engineers  
National Wildlife Federation  
National Waterways Conference  
Natural Gas Pipeline Company of America  
Natural Resources Defense Council  
The Nature Conservancy  
Nautilus Press  
New England River Basin Commission  
North Atlantic Ports Association  
Outboard Marine Corporation  
Resources for the Future  
Rice University Center for Community Design  
and Development  
Shell Oil Company  
Shellfish Institute of North America  
Shipbuilders Council of America  
Sierra Club  
Skelly Oil Company  
Society of Industrial Realtors  
Society of Real Estate Appraisers  
Soil Conservation Society of America  
Southern California Gas Company  
Sport Fishing Institute  
Standard Oil Company of Ohio  
Sun Company, Inc.  
Tenneco Oil Company  
Texaco, Inc.  
Texas A & M University  
United Brotherhood of Carpenters & Joiners  
of America  
Union Oil Company of California  
Urban Research and Development Association, Inc.  
U.S. Conference of Mayors  
U.S. Power Squadrons  
Virginia Marine Resources Commission  
Water Pollution Control Federation

Water Transport Association  
Western Oil and Gas Association  
Wildlife Management Institute  
The Wildlife Society  
World Dredging Association

Territory/Local

Carribean Research Institute  
Government of the Virgin Islands  
A-95 Clearinghouse  
Island Resources Foundation  
Virgin Islands Conservation Society  
West Indies Laboratory  
Farleigh Dickinson Laboratory

Other Parties

Mailed upon request

NOTE TO REVIEWER: The appendices have not been included in this Final EIS since they have not been changed since the Draft EIS was circulated.

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## INTRODUCTION

### A. The Federal Coastal Zone Management Act

In response to intense pressures, and because of the importance of the coastal areas of the United States, Congress passed the Coastal Zone Management Act (P.L. 92-583) (hereinafter referred to as the CZMA or the Act) which was signed into law on October 27, 1972. The Act authorized a Federal grant-in-aid program to be administered by the Secretary of Commerce, who in turn delegated this responsibility to the National Oceanic and Atmospheric Administration's (NOAA) Office of Coastal Zone Management (OCZM). The Coastal Zone Management Act of 1972 was substantially amended on July 26, 1976, (P.L. 94-370). The Act and the 1976 amendments affirm a national interest in the effective protection and development of the coastal zone, by providing assistance and encouragement to coastal States to develop and implement rational programs for managing their coastal zones.

Broad guidelines and the basic requirements of the CZMA provide the necessary direction for developing these State programs. These guidelines and requirements for program development and approval are contained in 15 CFR Part 923, as revised and published March 1, 1978, in the Federal Register. In summary, the requirements for program approval are that a State develop a management program that:

- (1) Identifies and evaluates those coastal resources recognized in the Act that require management or protection by the State;
- (2) Reexamines existing policies or develops new policies to manage these resources. These policies must be specific, comprehensive and enforceable, and must provide an adequate degree of predictability as to how coastal resources will be managed;
- (3) Determines specific uses and special geographic areas that are to be subject to the management program, based on the nature of identified coastal concerns. The basis for management uses (or their impacts) and areas should be based on resource capability and suitability analyses, socio-economic considerations and public preferences;

- (4) Identifies the inland and seaward areas subject to the management program;
- (5) Provides for the consideration of the national interest in the planning for and siting of facilities that meet more than local requirements; and
- (6) Includes sufficient legal authorities and organizational arrangements to implement the program and to insure conformance to it.

In arriving at these substantive aspects of the management program, States are obliged to follow an open process which involves providing information to and considering the interests of the general public, special interest groups, local governments, and regional, State, interstate and Federal agencies.

Section 305 of the CZMA authorizes a maximum of four annual grants to States to assist them in development of a coastal management program. After developing a management program, the State may submit it to the Secretary of Commerce for approval pursuant to Section 306 of the CZMA. If approved, the State is then eligible for annual grants under Section 306 to implement its management program. If a program has deficiencies which need to be remedied or has not received Secretarial approval by the time Section 305 program development grants have expired, a State may be eligible for preliminary approval and additional funding under Section 305(d).

Section 307 of the Act stipulates that Federal agency actions shall be consistent, to the maximum extent practicable with approved State management programs. Section 307 further provides for mediation by the Secretary of Commerce when a serious disagreement arises between a Federal agency and a coastal State with respect to a Federal consistency issue.

Section 308 of the CZMA contains several provisions for grants and loans to coastal States to enable them to plan for and respond to on-shore impacts resulting from coastal energy activities. To be eligible for assistance under Section 308, coastal States must be receiving Section 305 or 306 grants, or, in the Secretary's view, be developing a management

program consistent with the policies and objectives contained in Section 303 of the CZMA.

Section 309 allows the Secretary to make grants (90 percent Federal share) to States to coordinate, study, plan, and implement interstate coastal management programs.

Section 310 allows the Secretary to conduct a program of research, study, and training to support State management programs. The Secretary may also make grants (80 percent Federal share) to States to carry out research studies and training required to support their programs.

Section 315 authorizes grants (50 percent Federal share) to States to acquire lands for access to beaches and other public coastal areas of environmental, recreational, historical, aesthetic, ecological, or cultural value, and for the preservation of islands, in addition to the estuarine sanctuary program to preserve a representative series of undisturbed estuarine areas for long-term scientific and educational purposes.



SECTION ONE

Virgin Islands Coastal Zone Management Program

1



**OVERVIEW**

# CHAPTER ONE

## Introduction and Overview

### The Coastal Zone Management Act of 1972

In recognition of the importance of coastal resources to the nation's economic and environmental well being, and of the escalating and conflicting demands for their use, Congress enacted the Coastal Zone Management Act of 1972 (P.L. 92-583). The intent of the Act is to stimulate state and territorial leadership in planning and managing the use of coastal areas. The Act establishes grant programs to financially assist the states and territories in developing management programs (305 Planning Grants) and also provides a variety of financial aid for the implementation of approved programs (306 Administration Grants).

At the Federal level, responsibility for administering the Act has been delegated to the Office of Coastal Zone Management (OCZM) within the U. S. Commerce Department's National Oceanic and Atmospheric Administration (NOAA). Its major responsibilities involve the disbursement of grant funds and the establishment of program guidelines. Fulfillment of these guidelines (Program Elements) is necessary for program approval and receipt of Section 306 Administration Grants. The Program Elements are:

1. delineation of the boundary of the geographic area to be managed;
2. a determination of land and water uses which have a direct and significant impact on coastal waters and which will be managed. Priority of use as well as permissible coastal uses are to be identified;
3. a designation and inventory of geographic areas of particular concern;
4. public and governmental involvement;
5. consultation and coordination with relevant Federal agencies, and consideration of the national interest; and
6. development of an organizational structure and legal authorities to implement the program.

Amendments to the Coastal Zone Management Act in 1976 (P.L. 94-370) specify three new 305 elements that must be completed by October 1, 1978. They are:

1. a planning process that identifies public shorefront areas appropriate for protection

- and/or increased access;
- 2. a planning process that can anticipate and manage the impacts from energy facilities in or on the coastal zone; and
- 3. a method of assessing the effects of shoreline erosion.

Within the general Federal planning framework, each of the thirty-three coastal states and territories has considerable flexibility to create a program and develop an approach which addresses their particular coastal problems and needs. In the Virgin Islands, the Planning Office is responsible for program development.

### **What Is Coastal Zone Management**

A coastal zone program represents many different things to different people. To the conservation minded, the concept represents either a panacea for every excess of the private sector or governmental agencies, or the solution to every unsolved coastal related problem. Others fear "management" as yet another intrusion by the government into the "rights of the individual," or the imposition of additional "red tape" and bureaucratic delay. It is often interpreted as "environmental determinism," the imposition of natural environmental values over all others.

In reality, sound coastal zone management is none of these extremes. A successful program seeks to harmonize cultural, economic, and environmental values, and balanced environmental protection and economic development with a minimum of regulation. It is the intent of the Planning Office to create a dialogue which pools the knowledge of both experts and the public to produce a technically sound, and clearly stated management program that has the widespread support necessary for program approval and effective implementation.

It has been the goal to develop a management program to:

1. accommodate growth and facilitate economic gains for the Virgin Islands and at the same time protect valuable and irretrievable natural resources:
  - o manage the impact of human activity so as to maintain, and where possible, enhance the coastal environment;
  - o manage the development of renewable resources to achieve optimum sustainable yield; and
  - o manage non-renewable resources in light of long-term needs and interests.
2. promote public use and enjoyment of the shoreline as well as uses of submerged lands which are in keeping with the doctrine of public trust:
  - o insure that traditional uses are protected;
  - o insure that diverse recreational opportunities are available, affordable and reasonably convenient; and

o protect and enhance scenic quality for the benefit of residents and tourists alike.

3. acknowledge the importance of individual rights and freedoms in using the coast by establishing sound management with a minimum of regulation and administrative requirements.

### **Overview Of The Virgin Islands CZM Program**

The purpose of this section is to summarize the major aspects of the Virgin Islands CZM Program and to present a general overview of the program.

The provisions of the VICZMA can be broadly categorized into two classes: those relating to coastal use and development and those relating to the amendment of legal authorities and the revision of institutional arrangements.

#### LAND AND WATER USE POLICIES

- o The Coastal Zone Management Act (CZMA) requires that the management program include an identification of the boundaries of the coastal zone. The determination must include lands with a direct and significant impact upon coastal waters. There is a "two-tier" approach to boundary delineation (the extent of the boundary is identified on the Coastal Land and Water Use Map). The first tier comprises those areas with the strongest relationship to the "coastal waters." It extends to the limits of the territorial sea and includes all offshore islands and cays. The landward extent of the first tier is drawn along biophysical features (such as ridgelines and contours) and administrative features (property lines, roads, districts). The second tier of the boundary includes the remaining inland areas of the three main islands. As a provision of the National CZMA, all Federally owned lands are excluded from the coastal zone.
- o Highest priority will be given to water dependent uses, particularly in those areas suitable for commercial use including resort hotels and related facilities, port and marine facilities and recreation. Secondary priority will be given to those uses that are water related or have special siting needs.
- o New development should be guided into locations with, contiguous with, or in close proximity to existing developed sites and into areas with adequate public services, or in the case of well-planned self sufficient development into other suitable areas.
- o Development in areas adjacent to environmentally sensitive areas, such as endangered species habitat, significant natural areas and park and recreation areas must be sited and designed to prevent impacts which would significantly degrade such areas.
- o The function and productivity of marine resources and the high quality of coastal waters will be maintained and enhanced.

- o Public coastal recreational uses, areas and facilities and access to such areas will be protected and enhanced.
- o The Coastal Zone Commission may require, as a condition of a major Coastal Zone Management permit, that a public accessway to the shoreline be granted.

RECOMMENDED LEGAL/INSTITUTIONAL PROVISIONS

- \* New development should be guided into locations, with, contiguous with, or in close proximity to existing developed sites and into areas with adequate public services, or in the case of well-planned self sufficient development, into other suitable areas.
- \* Development in areas adjacent to environmentally sensitive areas, such as endangered species habitat, significant natural areas and park and recreation areas must be sited and designed to prevent impacts which would significantly degrade such areas.
- \* The function and productivity of marine resources and the high quality of coastal waters will be maintained and enhanced.
- \* Public coastal recreational uses, areas and facilities and access to such areas will be protected and enhanced.
- \* The Coastal Zone Commission may require, as a condition of a major Coastal Zone Management permit, that a public accessway to the shoreline be granted.

LEGAL INSTITUTIONAL PROVISIONS

Coastal Zone Management Commission

A Coastal Zone Management Commission is created that consists of 15 appointed members and the Commissioner of Conservation and Cultural Affairs and the Director of the Planning Office who shall be non-voting ex-officio members. Of the 15 appointed commission members five are to reside on St. Croix, five are to reside on St. Thomas, and five are to reside on St. John.

There are three Coastal Zone Management Commission Committees: one Committee consists of the members who reside in St. Croix, one consists of the members who reside on St. Thomas, and one consists of the members who reside on St. John.

Each Committee is to exercise the full authority of the Commission over the issuance of Coastal Zone Management permits pertaining solely to the respective island of that Committee.

#### Division of Coastal Zone Management

The present Bureau of Shoreline and Land Management within the Department of Conservation and Cultural Affairs is redesignated as the Division of Coastal Zone Management (DCZM). The duties of the Division are to assist the C Z M Commission and Commissioner in administering and enforcing the Virgin Islands C Z M Act.

#### Coastal Zone Management Permit System

All new development within the first tier of the coastal zone will require a Coastal Zone Permit. There are two types of permits required for development activities within the area of jurisdiction of the Commission. Major permits will be issued by the Committees of the C Z M Commission. Minor permits will be issued by the Commissioner of Conservation and Cultural Affairs. A small single family home is an example of the type of development requiring a minor C Z M permit.

The provisions of the Open Shorelines Act, Subdivision Law, the Trustlands, Occupancy and Alteration Act, the Earth Change Law, and the Zoning Law are consolidated into the Coastal Zone Permit:

#### Final Action Must Be Taken

Time limits, 90 days for a major permit, 60 days for a minor permit are instituted as well as an equitable appeal mechanism. The C Z M permit system is "impact oriented" with proposals being evaluated with respect to the policies contained in the C Z M Act. The Commission must hold public hearings on major permit applications and may require the dedication of a public accessway as a condition of a major C Z M permit.

#### Report Format

The report has been divided into five parts: PART I, Introduction and Overview; PART II, Context for Planning; PART III, The Management Program; PART IV, Environmental Impacts; and PART V, Appendices. PART II consists of Chapters Two, Three and Four. Chapter Two, Study Procedures, summarizes the process used in developing the coastal zone management program. The six major Federal requirements involved certain technical tasks, as well as interaction with a wide array of governmental agencies, citizens groups and individuals. These tasks include resource inventories and capability analysis, legal institutional analysis, attitude-value survey, economic and social needs-demand study, and a visual quality-aesthetic assessment. The methodologies and objectives of each are outlined. A full discussion of each of these special studies has been prepared as a separate technical report. Efforts

at Federal agency interaction and consideration of the national interest, and public and territorial governmental input are summarized in the Appendices.

Chapter Three, Context for Planning: Background and Setting, is a discussion of the context in which the program was developed. It briefly highlights the physical/natural resource attributes of the Virgin Islands and the economic base and projected use trends as they relate to the coastal zone. The last section of the chapter focuses on the existing political and institutional setting by taking a historical perspective of coastal related activities and legislation. The structure of the Virgin Islands Government, as it relates to the coastal zone management program, is also discussed.

Chapter Four, Issues and Problems to be Addressed by the CZMP, follows in the discussion of the setting and indicated those coastal related problems and issues that are addressed by the management program.

PART III is the Management Program and consists of Chapters Five, Six, Seven, Eight, Nine and Ten.

Chapter Five, Authorities and Organization sets forth the revised legal authorities and agency organizations pursuant to the Virgin Islands Coastal Zone Management Act of 1978. Coastal goals and policies, a revised coastal permit process, the establishment of a coastal commission and the role of the Department of Conservation and Cultural Affairs is outlined. In addition the extent of the zone boundary is delineated.

Chapter Six is Areas of Particular Concern and Areas for Restoration and Preservation. Site specific designations and guidelines for uses in these areas of special importance are outlined. Use recommendations are given by island.

Chapter Seven, Land and Water Use Plan and Development Guidelines illustrates a series of recommended land and water use categories and uses for the shoreline. This chapter also outlines recommended development guidelines for certain types of coastal areas.

Chapter Eight is Shorefront Access and Protection Planning - discusses provisions of the Virgin Islands Coastal Act as it relates to shoreline access and outlines the results of a shoreline/beach assessment. Subsequent recommendations are discussed and target areas pinpointed.

Chapter Nine is Energy Facility Siting and Shoreline Erosion Planning. This chapter illustrates how energy facilities are sited in the coastal zone and the approach taken to mitigate shoreline erosion.

Chapter Ten, National Interest Federal Consistency outlines the national interest aspects of coastal zone management, and how the "Federal consistency" provisions of the national Coastal Zone Management Act relates to the Virgin Islands.

Part IV contains a discussion of the environmental impacts associated with the implementation of the proposed Virgin Islands Coastal Zone Management Program as required by Section 102(2)(c) of NEPA.



2



**CONTEXT  
FOR  
PLANNING**

## CHAPTER TWO

### Study Procedures

This chapter sets forth the various procedures, methods, and processes employed by the Planning Office in the development of a Coastal Zone Management Program (CZMP) for the Virgin Islands. The first section includes a brief overview and explanation of the process employed in developing the management program. The relationship of the required program elements, a set of study procedures, the recommended CZM Program and mechanisms for implementation are diagrammed schematically. The second section outlines the program elements which are required by the Federal Coastal Zone Management Act. The third summarizes the technical work tasks and briefly explains the objectives and methods which were developed for each of the work tasks. Section Four is a summary of public participation and local governmental involvement in the planning process. Interaction with Federal agencies and consideration of the national interest are also outlined.

#### **Coastal Zone Management Program Development Process**

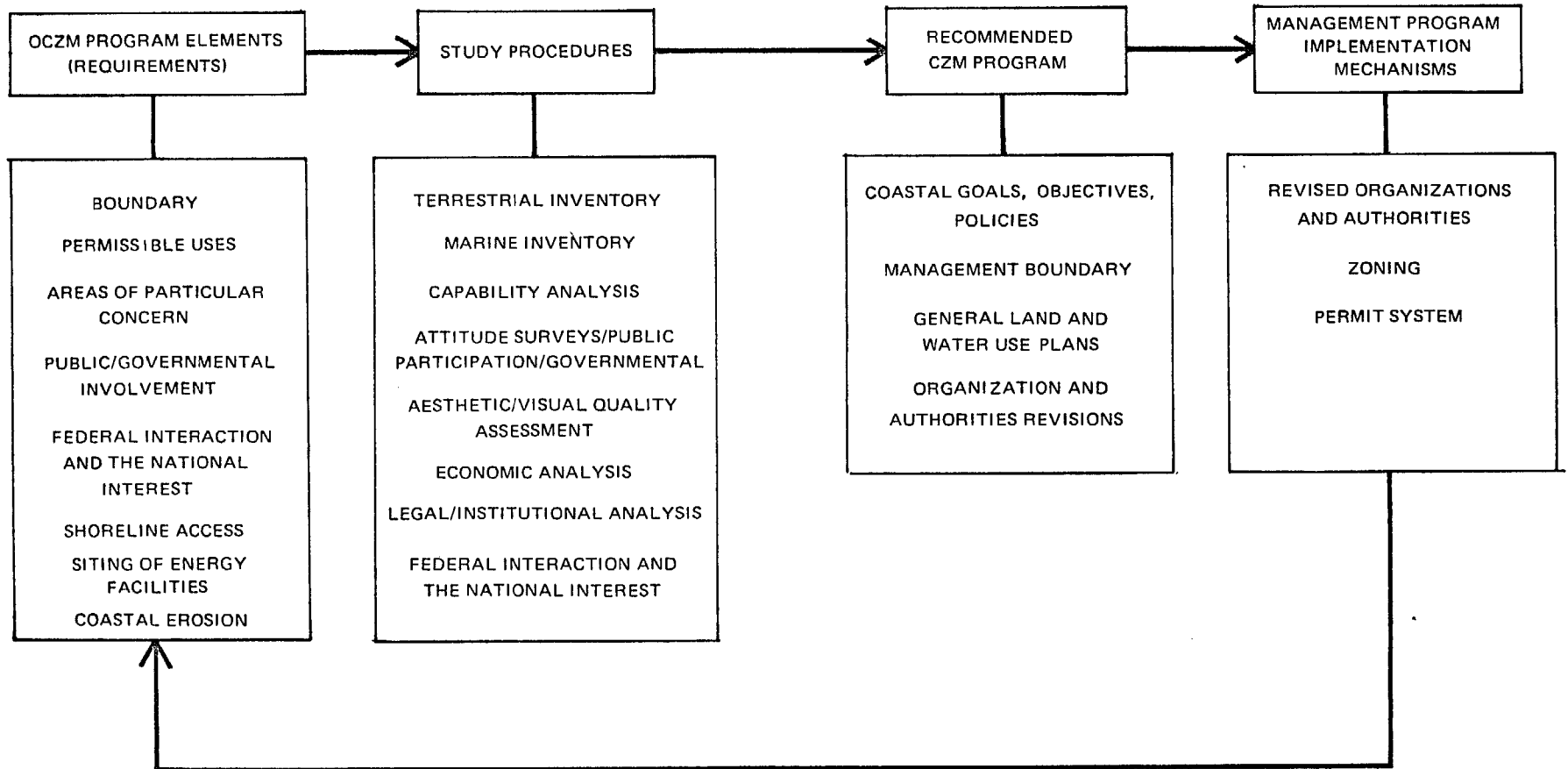
This section illustrates the relationship of the program elements, study procedures, recommendations, and final implementation mechanisms. This interrelationship is represented schematically in Figure 2.1. There are essentially four phases in the development of the Virgin Islands Coastal Zone Management Program (CZMP).

The first phase is identification of those elements statutorily required of every 305 program.

The second is the completion of a series of analyses and assessments necessary to satisfy the program elements, and to provide a data base from which informed planning decisions can be made. The study procedures are comprised of the technical tasks and two of the program elements. The inventories, capability analysis, attitude survey, visual quality assessment, and social and economic needs-demands analysis generate information that enables the requirements of the program elements to be satisfied. The legal and institutional analysis was undertaken specifically to meet the authorities and organization requirement, and leads directly to the proposed organizational and authorities revision. The program elements of

FIGURE 2.1

CZM PROGRAM DEVELOPMENT PROCESS



public and governmental involvement and Federal interaction provide mechanisms for obtaining input from the public and the various levels of government.

The third development phase is represented by this document - a set of recommendations that constitute the proposed management program. There are four major aspects to this phase: a set of proposed goals, policies and guidelines, a proposed boundary for the management area, a proposed general land and water use plan, and recommended authority and organizational changes that facilitate implementation of the program.

The recommendations result in a management program containing several implementation mechanisms. There is a revised organization, a set of new or amended authorities that delineate the coastal zone boundary and a coastal permit system, and a set of zoning revisions consistent with the general land and water use plan. The management program and the implementation mechanisms in turn have been developed in such a manner that they will satisfy and fulfill the program elements.

## **Program Elements**

The Office of Coastal Zone Management in the National Oceanic and Atmospheric Administration (NOAA) has promulgated regulations for the development of a management program under Section 305 of the CZMA and requirements for program approval (15 CFR 923). Further clarification of the intent of the Act, and guidelines for plan development, were set forth by OCZM in a series of general policy papers (Threshold Papers) regarding the statutory requirements.

The elements which must be contained in the management program are as follows:

1. an identification of the boundaries of the coastal zone subject to the management program;
2. a definition of permissible land and water uses within the coastal zone which have a direct and significant impact on the coastal waters and the guidelines for determining the priorities for those uses;
3. an inventory and designation of areas of particular concern within the coastal zone;
4. a demonstration that public and governmental participation in the planning process was encouraged and that an opportunity for participation existed;
5. a demonstration that there has been coordination and consultation with Federal agencies and that consideration of the national interest was

- included in program development;
6. a description of the organizational structure and authorities proposed to implement the management program, including the responsibilities and inter-relationships of local, area-wide, state, regional, and interstate agencies in the management process;
  7. a planning process that identifies public shorefront areas appropriate for protection and/or increased access;
  8. a planning process that can anticipate and manage the impacts from energy facilities in or on the coastal zone; and
  9. a method of assessing the effects of shoreline erosion.

### **Technical Work Tasks**

In order to adequately address the substance and spirit of the program elements, and to make balanced, informed planning decisions, six studies were undertaken; 1) a marine and terrestrial resource inventory, 2) an analysis of environmental capability, 3) a legal-institutional analysis, 4) a survey of public attitudes and values, 5) an economic and social needs-demand study, and 6) a visual quality-aesthetic assessment. The methods and objectives of each analysis are outlined below.

1. Resource Inventory. The CZMA requires that an inventory of natural and man-made resources be undertaken. Those natural and cultural resource factors located and inventoried as part of the CZM program include historic and archaeological sites, water and air quality, marine and terrestrial coastal environments, environmentally critical areas, land and water uses, wastewater treatment facilities, land and marine recreation sites, visual quality, tidal and gut flooding, and land ownership. The resource inventory has been compiled for publication as a Technical Supplement.
2. Capability Analysis. The Act also requires that use determinations be based, in part, upon "the capabilities of each resource for supporting various types of uses and the impact of various resource uses upon the natural environment." This analysis has taken the form of an assessment of the capabilities of the coastal environments to sustain various types

of development in terms of environmental impacts. This assessment was completed by the Planning Office staff in consultation with a Technical Advisory Committee made up of Virgin Islands' scientists and related professionals.

3. Legal-Institutional Analysis. A legal and institutional analysis was undertaken to assess the present legal authorities and organizational regimes with respect to the implementation of a coastal zone management program. A thorough analysis of all coastal related legislation was completed. The statutory jurisdiction and responsibilities of the various agencies of the Virgin Islands government were outlined. In addition, the report sets forth several alternatives for organizational and jurisdictional changes necessary to implement a coastal zone management program. This analysis has been compiled as a Technical Supplement to the plan.
4. Public Attitude-Value Survey. In order to ascertain public sentiment regarding current and future coastal development, a household survey was undertaken. Random sampling procedures were followed to ensure that respondents were representatives of the Virgin Islands population as a whole. Interviews were conducted covering a series of questions regarding shoreline development and amenities. Respondents were also shown a collection of photographs representing the various coastal environments, and their perceptions regarding relative scenic quality and appropriate uses for each shoretype were obtained. Shoretypes requiring protection from over-development were also indicated. Responses were analyzed on a Territory-wide, Island-wide, and sub-island basis as well as by a variety of demographic variables. This survey has been compiled as a Technical Supplement.
5. Economic and Social Needs-Demand Study. The identification of the present activities and uses and anticipated future needs for the coastal zone is included in the program development. The information which was developed as a part of this economic overview has been used primarily as a frame-work for identifying critical future needs and areas subject to acute development pressures. The principal findings

of this economic analysis will also be used in conjunction with the preparation of the Environmental Impact Assessment for the proposed management plan.

The basic elements of this work task included: 1) a review of the past performance and trends in the economy of the Territory; 2) a compilation of all pertinent data currently available detailing population, employment, and earnings estimates for the Islands; 3) a review of all recent research concerning general economic and business conditions including the tourist industry, government finances, port facilities development, cost of living, and industrial incentive programs; 4) a detailed examination of all major planned or proposed public and private projects in the coastal zone; 5) an assessment of future use requirements for the Virgin Islands' coastal zone resources.

6. Coastal Aesthetics Assessment. A series of studies were conducted to identify those shore areas of high aesthetic value most in need of protection.

After assessing variations in visual character, the entire shoreline was categorized according to character-type. These classes were then sub-divided according to amount of development and shoreline configuration. Urbanized shores were categorized as either industrial or harbors. Each segment of the shoreline was then evaluated in terms of visual quality, relative abundance or scarcity of a particular shore type, and the probable relative impact of development on existing character.

Based on these assessments, a composite evaluation was assigned to each of the segments. The evaluations were used to assist in determining areas for preservation and conservation and to identify areas which can best accommodate development.

### **Public and Governmental Involvement and Federal Interaction**

Federal interaction and public governmental involvement have served to generate input utilized in developing permissible land and water uses, designating areas of particular concern,

developing site specific recommendations and a general land and water use plan, and developing organizational and authorities mechanisms for implementing the program. The full text of these elements is found in Appendix A, and Chapter Ten National Interest and Federal consistency.

#### PUBLIC AND GOVERNMENTAL INVOLVEMENT

The CZMA requires extensive public and governmental involvement. As a part of this effort to encourage and inform a full range of interests concerning program development, several tasks were undertaken.

A mailing list of approximately 500 was compiled consisting of "affected" and other interested persons, and government personnel. Easily obtainable and comprehensible documents have been prepared to date. These include a brochure, an overview publication, forms for public nominations of areas of particular concern, and a newsletter.

A number of articles have been placed in special newsletters published by the League of Women Voters, the Department of Conservation and Cultural Affairs, and the Diving Association. Use of the media has taken several forms. Newspapers were utilized to inform the public of program status and development through a series of press releases and articles. A newspaper survey "The V.I. Coast - What Do You Think?" was also completed. A monthly CZM newsletter, "Sea Words" was initiated in February 1977. A film "It's Your Coast" (loaned from NOAA-OCZM) was adapted to the Virgin Islands context and televised locally.

Representatives of the CZM program appeared on "Midweek," a weekly television talk show produced by public television and oriented toward timely or controversial issues of local importance.

Three Advisory Committees were formed. The Technical Advisory Committee is a group of scientific and technical persons who provide input from their areas of expertise. The Open Beach Committee established pursuant to the V.I. Open Shorelines Act, advises on policy matters and the Interagency Coordinating Group (monthly meetings of mid-level V.I. agency personnel) has been used to disseminate information concerning program development.

#### FEDERAL INTERACTION AND THE NATIONAL INTEREST

The CZMA also sets forth a new relationship between Federal agencies and the coastal states and territories. As a requirement of the Act, Federal agency activities, developments, and assistance must be consistent, to the maximum extent possible, with an approved program. Accordingly, there must be consultation and coordination with relevant Federal interests, and a consideration of the "National Interest."

In meeting this requirement, all relevant agencies have been identified and formally contacted and offered the opportunity for full participation. The input and involvement has been continuous, ranging



from initial contact and request for clarification of their "interest" to nominations of areas of areas of particular concern, to review of this program (Appendix B). To date there has been no major conflict or dispute.

The national interest has been represented by the various Federal agencies in the consultation and coordination process. As with the Federal agency input, it has been a consideration in developing the program elements such as defining the boundary, designating permissible and priority uses and areas of particular concern, and developing policies.

## CHAPTER 3

### Context for Planning: Background and Setting

This chapter will focus upon the context in which the Virgin Islands CZMP has been developed. It explores the natural, social, and economic resources and the human activities which make the coastal area important and special. It also outlines the institutional-political setting within which the program has evolved. Through a historical analysis of coastal related legislation and activities, the major legislative acts and existing authorities concerned with coastal zone management are documented. Finally, the major entities of the Virgin Islands Government which are involved in coastal matters are identified and their responsibilities are outlined.

#### Resource Setting: An Image of the Virgin Islands

The Virgin Islands are culturally and environmentally distinct from the other states and territories of the United States. Since this program intends to reflect the special needs and the unusual environment of the Virgin Islands, it is important to present a description of the islands' physical setting.

The U. S. Virgin Islands are composed of three main islands: St. Croix, St. Thomas, and St. John, and more than 60 smaller islands and cays. The islands are located 1650 statute miles\* from New York City, 1150 statute miles from Miami, and 550 statute miles from Port of Spain, Trinidad. (See Figure 3.1).

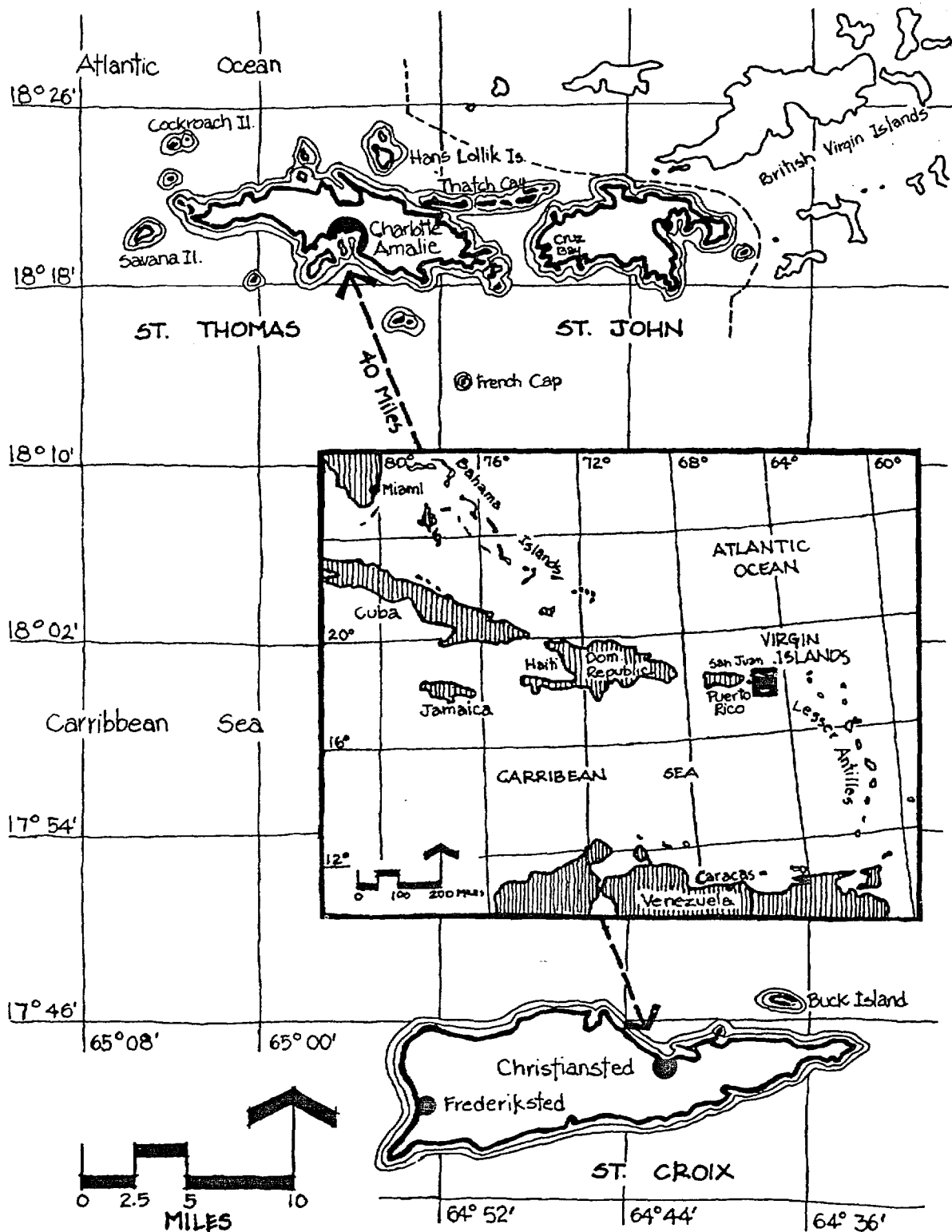
St. Thomas is located 40 miles north of St. Croix. St. John is situated 3 miles directly east of St. Thomas. Of the 60 smaller islands and cays ranging in size from under 1 acre to almost 500 acres, all but 4 are located in the waters surrounding St. John and St. Thomas.

The Island of St. Thomas covers an area of 28 square miles. The Virgin Islands Department of Health estimates the population to be about 45,000. Numerous offshore islands and cays around St. Thomas, such as Water Island, Hassel Island and Thatch Cay, add approximately 4

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\* 1 Statute Mile = 5280 feet.

FIGURE 3.1  
THE U.S. VIRGIN ISLANDS



square miles to the land area. St. Thomas is approximately 12 miles long and 3 miles wide at its widest point.

St. Croix is the largest of the U. S. Virgin Islands, 22 miles from east to west and 6 miles at its widest point for a total land area of 84 square miles. St. Croix's estimated population is 48,000.

St. John is the smallest of the three main islands with an area of 20 square miles. The Virgin Islands National Park encompasses one half of St. John's land area and much of the surrounding water. St. John's population is 2,200.

The unusual scale of the U. S. Virgin Islands (total area 135 square miles, 90,000 population) presents rigorous constraints on potential activities and limits options for planning. In small islands systems such as the Virgin Islands very little can occur in isolation. Resources are scarce and particularly fragile. Environmental, visual, social, and economic impacts can be felt immediately throughout the entire island system. It is important to note that because of the small scale of the Virgin Islands, there can be little distinction between the islands as a whole and the coastal areas.

The coastal waters surrounding the Virgin Islands are, with few exceptions, of very high quality. For the islands as a group, rainfall averages 40 inches per year. The average annual temperature is 80 F. The islands are directly in the path of the easterly trade winds, and as a result, the 40 inch rainfall does not reflect the amount of useable water due to warm temperatures, drying winds, and rapid runoff. There are no perennial streams in the Virgin Islands. Extensive alteration of the islands' ecosystems, through burning, mono-crop agriculture (sugar cane), and the subsequent regrowth of scrub vegetation have eliminated free flowing streams. During the periods of intensive rainfall, up to 6 inches in 24 hours, runoff through "guts" can produce serious lowland flooding and a temporary lowering of coastal water quality. As a general condition the coastal waters are exceptionally clear due to the lack of sediments and nutrients from rivers.

The high water quality and clarity in turn provide ideal conditions for the development of coral reefs. Excellent examples of coral reef ecosystem can be found in the waters around all three main islands and many of the offshore cays. In the numerous embayments, sand, derived mainly from the breakdown of reefs and shells, accumulates to form the beaches of the islands. In protected bays the very highly productive ecosystem of red, white and black mangrove can develop. Clear tropical water, coral reefs, white sand beaches and mangrove lagoons comprise the main physical elements that distinguish the coastal environment of the U. S. Virgin Islands.

## INTERRELATIONSHIP BETWEEN THE MAIN ISLANDS

### AND REGIONAL SETTING

Tortola and the other British Virgin Islands are only 1.5 miles northeast of St. John. The international boundary between the U. S. Virgin Islands and the British Virgin Islands also delineates the northeast coastal zone boundary. There exists a strong physical and social relationship between the U. S. and British Virgin Islands. For example, much recreational boating activity originates in St. Thomas but utilizes the excellent sailing of the Sir Francis Drake Passage of the British Virgin Islands. In addition, environmental impacts from dredging and other coastal pollution could probably be felt in the coastal waters of the U. S. Virgin Islands. Thus, stronger coordination of coastal policies between the U. S. and British Virgin Islands is needed.

The nearest point of the Island of Puerto Rico is 40 miles west of St. Thomas. On a clear day St. Thomas, St. Croix and St. John are easily visible from one another. There is, in fact, a very strong visual relationship between the U. S. Virgin Islands, the British Virgin Islands, and Puerto Rico and its islands of Culebra and Vieques.

### THREE ISLANDS - THREE PERSONALITIES

Although the three main islands are in close proximity to each other, they are distinct with respect to character and land form. St. Thomas is distinguished by rugged topography and a highly irregular coastline. Over 70 percent of the island's area is comprised of slopes over 20 percent. The steep hills rise to a maximum elevation of 1556 feet above sea level at Crown Mountain, on St. Thomas. 3 miles of shoreline is characterized by large expanses of steep rocky shoreline, an excellent and historic harbor at Charlotte Amalie, sand beaches, and a large mangrove lagoon. The island has abundant scenic hills and coasts, but there is little flat land suitable for extensive construction. It also functions as the commercial and tourist center of the Virgin Islands.

The topography of St. John is similar to St. Thomas. Over 80 percent is made up of hillsides with over 20 percent slopes. The striking aspect of St. John is the extensive areas of undeveloped hills and white sand beaches. With a population of only 2,200 and with just over one-half of the land area managed by the National Park Service, St. John presents an extraordinary scene of

tranquility and beauty. The surrounding waters deserve special mention for their colors and clarity. St. John has just over 50 miles of shoreline.

Forty miles of open sea, much of it over 1000 fathoms deep, separates St. Croix from St. Thomas and St. John. Unlike St. Thomas and St. John, which are primarily of volcanic rock, St. Croix is composed of both volcanic and the limestone of former coral reefs. In contrast to the other islands, over 50 percent of St. Croix is comprised of land with a slope of under 10 percent. The 64 miles of St. Croix's coastline are characterized by a "coastal plain" in the southwest, a drowned estuary (now a mangrove lagoon), very steep cliffs in the northwest, an extensive salt pond-sand beach at the southwest point, and fine pocket beaches in the shallow embayments. The most remarkable features of the coastal zone of St. Croix are the magnificent "barrier" coral reefs and algal ridges that fringe much of the island.

#### THE INDISPENSABLE FUNCTIONS OF THE COASTAL ZONE

It has long been recognized that the coastal zone plays a vital role in the life of every resident of the Virgin Islands. The coastal zone is not simply important: it is the essential resource that makes the islands what they are today. Such diverse demands as petroleum refining, major port activities, as well as breeding grounds for endangered species like the Hawksbill Seaturtle, the Brown Pelican and the Humpback Whale, depend significantly on the coastal resources. The Virgin Islands National Park on St. John, Magens Bay Beach on St. Thomas, and Davis Beach on St. Croix are all examples of the recreational resources of the coastal zone. Enthusiasts of big game fishing, sailing, and scuba diving find unsurpassed opportunities in the Virgin Islands coastal zone.

World record marlin catches and world famous scuba diving and snorkeling locations, such as Buck Island Reef National Monument, make the Virgin Islands Coastal Zone a resource of vast economic and recreation value. Great potential value exists in the experimental mariculture and sea thermal energy projects now on-going in the coastal zone.

Important areas of the historic towns of Charlotte Amalie, Christiansted, and Frederiksted have been designated as Architectural Districts and placed on the National Register of Historic Places. Within these historic areas one can easily view evidence of the Danish influence on the islands. The coastal zone contains 12 archaeological sites that are listed in the National Register. These sites provide a glimpse of early Indian culture on the islands. Scattered throughout the islands are the many remains of sugar plantations. These, too, are historically important and provide the visible link to the islands' agricultural past.

The coastal zone is literally the life line of the islands. From providing seawater for the

desalination plants, or the ports from which most food and goods enter the islands, to providing the resource base for the most important industry, tourism, the coastal zone performs an indispensable function to the people of the Virgin Islands. Hence, developmental potential must rely on careful cultivation of coastal assets.

### **Economic Setting**

The population of the Virgin Islands has tripled in the past sixteen years, from about 32,000 in 1960 to an estimated 95,000 inhabitants in 1976 (Virgin Islands Department of Health estimates). Population growth has been largely attributable to an influx of migrants from the nearby islands, and to a lesser extent, migration from the continental United States. The Planning Office estimates that almost 60 percent of the population growth for the 1960-1976 period was attributable to in-migration rather than natural increase.

This rapid growth has occurred largely as a result of increased employment opportunities associated with both a developing tourism industry, and numerous territorial government policies which have encouraged economic development. As a result of this economic growth Virgin Islanders enjoy a standard of living which is unsurpassed in the Caribbean. Estimated personal income per capita was \$3,200 in 1972, approximately the same as for the state of Mississippi which ranked last in per capita among the states. The national estimate for the same year was \$4,500.

### ECONOMIC BASE OF THE TERRITORY

The single most significant economic activity in the territory is tourism. In 1973, it was estimated that this industry was directly responsible for 20 percent of all employment in the islands. Indirect employment attributable to the tourist industry accounted for an additional 16 percent of the total. Expenditures by tourists in 1975-76 were about \$162 million. The industry has grown dramatically since 1960: annual visitor totals have increased from about 200 thousand to well over a million, tourist expenditures have increased to more than six times the 1960 level, and the number of overnight accommodations has grown from 1400 rooms in 1960 to more than 4000 in 1975. Territorial governmental investment incentive programs have greatly aided the development of the tourist industry, especially hotel construction activities. Approximately 40 percent of the overnight tourist accommodations in the islands have been built, or are presently operating with some form of tax exemption. In addition, very low property tax

assessments and rates have encouraged numerous second home developments by off island investors. In spite of the many tax incentives available and increasing level of tourist visitation, several large hotels on St. Croix and St. Thomas have been forced to close in recent years because of low occupancy and high operating costs. In 1976 the hotel occupancy rate for the territory as a whole was about 60 percent.

Overnight hotel visitors continue to play a central role in the tourism industry; however, the relative importance of this type of tourist activity has diminished in recent years. An increased level of day-trip shopping and sightseeing by visitors from Puerto Rico and the many cruise ships which regularly call in the islands has accounted for this relative decline. In spite of some recent shifts in charter boat activity out of the territory to the nearby British Virgin Islands, this segment of the tourist industry has also increased in importance in recent years.

St. Thomas is the focal point for most of the tourist industry in the territory. More than three-fourths of all air visitors to the islands spend some portion of their stay in St. Thomas. In addition, the vast majority of cruise ship calls are also made to St. Thomas. In 1973, tourist expenditures in St. Thomas and St. John accounted for seventy percent of the total tourist spending in the islands.

#### EMPLOYMENT SUMMARY

Total employment in 1970 was 35,000 and by 1977 it reached 40,500. The most prominent feature of the employment situation is the large local government sector, about 25 percent of total employment.

The construction and manufacturing sectors have almost doubled in size over the past 10 years. The number of workers engaged in construction has grown from about 2700 in 1965 to 5400 in 1977. Manufacturing employment increased from 1600 to 2900. Most of the manufacturing employment is accounted for by the two large industrial operations on St. Croix, Hess Oil and Martin Marietta Alumina. In addition to oil refining and alumina processing, other manufacturing activities include watch assembly, textiles, and the production of rum.

Retail trade establishments, with an estimated 1977 employment of 5600, represent the largest single industry in the private sector. Hotels and lodging places account for an additional 2900 employees; personal services, 2500; transportation, communications, and utilities, 2200; and finance, insurance, and real estate, 1500.



Self-employed, domestics, and unpaid family workers have constituted a sizable portion of the employment total in recent years, and these workers comprised about 15 percent (5400 employees) of the total in 1977. The actual size of the agricultural and fishing industries is difficult to determine since most of these workers are self-employed or part-time only. Local estimates for covered employment (estimated 200 employees) undoubtedly understate the importance of the fishing industry in particular. There are presently about 500 licensed commercial fishermen and an additional 450 helpers in the islands. The average number of days fished per month is low (5.2 days), indicating a great deal of part-time employment. The total fish catch for 1974-1975 was valued at about \$1 million. In addition, an estimated 50,000 pounds of lobster was harvested from nearby waters. With the exception of several dairy and livestock operations and some small scale truck farming, there is little commercial agricultural activity in the territory.

There have been sharp increases in the unemployment rate in the past three years, from about 5.5 percent in fiscal 1974 (weekly average 2200), to 10.8 percent in fiscal 1976 (4700 per week). By December 1976, the unemployment rate was estimated to be about 8.3 percent with about sixty percent of the jobless residing in St. Croix. The unemployment rate for 1977 was estimated to be about 8.5 percent (weekly average 3800).

#### FUTURE POPULATION AND EMPLOYMENT

Population projections for the territory indicate that, by 1985, the resident population total may reach 120,000, an increase of about 25,000 over 1976 estimates. More than 60 percent of this increase is expected to occur in St. Croix. Based upon the projected population, the territorial labor force will total more than 54,000 in 1985, and increase of 11,000 workers over the 1976 levels. About 7,000 of these new workers would reside on St. Croix with the remainder on St. Thomas and St. John. Thus, in order to maintain full employment, about 1200 new jobs must be added each year throughout the territory through 1985.

#### EXISTING SHORELINE USES AND FUTURE NEEDS

A summary of present shoreline uses and a brief assessment of likely future needs is included below.

Recreation, Conservation and Open Space - The coastal zone is perhaps most widely used for recreation. The territory's fine sand beaches are enjoyed by residents and tourists alike for swimming, snorkeling, fishing, picnicking, sunbathing, or jogging. Offshore waters provide some of the best boating, sport fishing, and diving in the world. Harbor and waterfront areas supply

a variety of recreational opportunities for island residents and visitors.

Undeveloped mangroves, salt ponds, and rocky shores provide open space and wildlife habitat and areas for observation and enjoyment of natural features. With the exception of National Park Service land on St. John, very little of the shoreline is protected for conservation use. However, a territorial park system is being planned which could increase the amount of shoreline set aside for conservation and recreation in the future.

Recreational Boating - The growth in the popularity of water sports, especially charter boat sailing and sports fishing, has resulted in the development of approximately 20 marina and boat yard facilities in the Virgin Islands over the past 15 years. While the water sports industries and related facilities are primarily tourist-oriented, they also serve many island residents.

Because of its proximity to the excellent sailing and fishing waters of the offshore cays and the British Virgin Islands, the St. Thomas boating industry has flourished. Extensive marina development has occurred in the East End, notably in the Vessup Bay and Benner Bay areas of the island. Estimated boat population in the Vessup Bay area has increased from 15 in 1962 to 105 in 1975. Increases in the Benner Bay - Lagoon Area have been more dramatic, from eight boats in 1962 to 310 in 1976. Other important boating facility developments in the territory which have experienced similar growth trends include the Charlotte Amalie Harbor area, the Christiansted Waterfront, and Cruz Bay on St. John.

Based upon projected national boating trends, potential for expansion of the boating industry in the Virgin Islands is substantial; however, existing marinas are near capacity and new facilities would be required to accommodate any large increases in activity. The development of the new Southport on St. Croix may allow for some additional marina development in the Gallows Bay area of Christiansted and along the Frederiksted waterfront. Port Authority proposals for the Crown Bay area of St. Thomas and Enighed Pond, St. John include provisions for marina facilities.

Commerce and Industry - The traditional activity centers of Charlotte Amalie, Cruz Bay, Christiansted, and Frederiksted are the locations for most of the commercial activity in the Virgin Islands. Important inland centers include the Tutu area of St. Thomas and central St. Croix. It is expected that most tourist-oriented shops will continue to locate in the existing urban areas. As a result, it is likely that downtown redevelopment will occur in St. Thomas and St. Croix. Continued traffic congestion and high rentals may encourage some dispersion of locally oriented retail shops into the developing areas of central St. Croix and eastern St. Thomas.

Light industries such as textiles and watch assembly have been encouraged to locate in the territory through a program of tax incentives; however, there are few suitable development sites presently available on St. Thomas. Aside from the public utilities operations, there is no heavy industry in St. Thomas or St. John. A limited area at Sub-Base St. Thomas is presently zoned for this type of industry.

The three large industrial operations on St. Croix are all located on the southern shore and all have adequate space for any expansion they may require. Some adjacent upland areas are currently zoned for industrial uses. A total of about 2,000 acres is zoned for heavy industry on St. Croix. The development of the new Southport may be an impetus to future industrial activity in this area of the island. Because of the port location and the existing industrial activity there, it is likely that St. Croix would be favored over St. Thomas as a location for future industrial development.

Oil Refineries - The Hess Oil Virgin Islands Corporation operates a 750,000 barrel per day oil refinery on the south shore of St. Croix. In addition to the Hess refinery, all necessary permits have been approved for the construction of a 200,000 barrel per day refinery (VIRCO) on a site adjacent to the Hess Complex.

The St. Croix facility places the Virgin Islands among the leaders in refining capacity for states and territories. In comparison, the 37 refineries in the State of California have a total refining capacity of 1.9 million barrels per day. More than one-half of this capacity is accounted for by 15 refineries in the Los Angeles area. The single Hess facility has the capacity to produce about 70 percent of total output of the Los Angeles refineries.

Tourist Accommodations - Overnight tourist accommodations in the Virgin Islands have increased from 1400 rooms in 1960 to more than 4000 in 1975. One-half of these facilities are located on St. Thomas, 45 percent on St. Croix and the remaining 5 percent on St. John. Sixty-six percent of these rooms are located on beachfront sites.

Transportation - Transportation uses are among the most crucial land and water uses in the territory. The economy of the Virgin Islands is almost completely dependent upon the tourism industry and external trade. Seaport facilities including cruise ship and commercial docking, warehousing, and distribution centers are more highly developed on St. Thomas than on the other islands. These include extensive port developments at the West Indian Company Ltd., limited V.I. Port Authority facilities at Crown Bay in Charlotte Amalie. Today's cruise ship volume and cargo tonnage are handled by substantially the same physical plant which existed in 1960.

The West Indian Company has proposed new facilities for Long Bay - Charlotte Amalie Harbor. The V. I. Port Authority has proposed new facilities for Crown Bay and Cruz Bay. Existing port facilities at Gallows Bay will be largely replaced upon completion of the new Southport development on St. Croix.

Air transport capabilities for the territory will be assured upon completion of improvements at Truman and Hamilton airports. The Charlotte Amalie waterfront also includes the main highway transportation route for the island. Future requirements for land transportation uses are dependent in part upon decisions regarding public transport. A successful public transit system will likely lessen congestion and reduce expansion needs. Increasing demands for both airboat and inter-island ferry facilities may require additional shoreline areas for parking, loading, etc.

Agriculture and Fishing - The territory produces only a small part of its own foods needs, yet it has some potential to expand production. About 85 percent of the land suitable for farming in the Virgin Islands is located on St. Croix. Crop farming has been declining consistently for a number of years and only a few small scale truck farming operations presently exist. Aside from some grazing and related livestock uses, there is little agricultural activity in the coastal areas. Territorial meat production is currently about 5 percent of total consumption. Recent studies have indicated that there is some potential for expansion of livestock operations on St. Croix.

As with agricultural products, local demand for fish and seafoods far outstrip local production. It is estimated that current harvesting of traditional species approximates the maximum sustainable yield. While some increase is possible by harvesting non-traditional species, harvest increases for most species will be modest at best. Recent studies have shown that improved equipment and marketing facilities can increase the profitability of local fishermen. Shoreline uses which are directly related to the fishing industry include the commercial marinas and boat yards throughout the territory as well as numerous areas along the urban waterfronts which are used for selling fish, boat storage, etc. In addition, there are many areas of the shoreline (including some sandy beaches) which can be considered to be traditional use areas for boat building, repair and storage.

Public Utilities - Electric power generation and desalination facilities are highly centralized and occupy only two sites in the Virgin Islands. All production facilities on St. Thomas are located at Krum Bay with water storage tanks nearby in the Subbase area\*. The Island of St. John is served by underwater electric cable and water barged from St. Thomas. Some additional water storage areas may be required there; however, no production facilities are contemplated.

\*The U.S. Army Corps of Engineers is currently studying the feasibility of an under sea water supply line between Puerto Rico and the Virgin Islands.

Groundwater supplies now being developed on St. John will eventually be used to replace the barged water supply.

The wastewater collection and treatment systems on St. Croix are nearing completion and no major extensions are planned. Two additional treatment systems will be added for the East End of St. Thomas, in the Smith Bay area, and a large treatment plant in Bovoni in the vicinity of the Mangrove Lagoon. This latter system will eventually serve most of the Turpentine Run drainage basin. The existing plant south of Truman Airport will be relocated as part of the airport improvements plan; however, the new site is in the same general area. A treatment plant for the Cruz Bay area of St. John is planned in the vicinity of Enighed Pond.

Solid waste disposal is a major problem for all three islands. The present St. Thomas landfill site at Bovoni is near capacity and a new disposal method or site must be found soon. Similar problems exist on St. John and St. Croix.

Residential Areas - Population increases have brought about dramatic changes in residential land use patterns throughout the territory. Charlotte Amalie, Cruz Bay, Christiansted, and Frederiksted continue to be important centers for commercial activity; however, their importance as residential centers has declined in recent years.

Most new housing developments in the last 10 years have located in the formerly rural countryside, contributing to urban sprawl conditions in some areas. On St. Thomas, the most striking changes are those which have occurred on the eastern end of the island. In 1960, the combined population of East End, Red Hook, Frenchman's Bay, and New Quarters was 900; the estimated population of these areas in 1975 was 18,500. Growth in the Cruz Bay area of St. John has accounted for almost all of the population increase on that island. Central St. Croix (Company, Queen, King, and Prince Quarters) has grown from 5,200 inhabitants in 1960 to an estimated 29,000 in 1975.

An increasing need for land for residential uses is a certainty. Expected population increases will result in the need for about 7200 additional housing units in the territory by 1985. Because of the costs involved, it is likely that effective demand for residential land will be drastically curtailed in the absence of Federal or territorial subsidies. Demand for retirement and second homes will continue and sites will be available only at very high prices. The topography of many coastal areas precludes their use for intensive residential development; therefore, most new housing must be located inland.

## Present and Future Shoreline Uses

The economic and population growth that has occurred in the Virgin Islands since 1960 has resulted in extensive development of many areas of the coastline. The principal mechanism which has been used to allocate and manage land uses in the territory is the Zoning Law. Since many future land and water uses will be dependent in part upon development patterns associated with the present zoning, the existing system is an integral part of any future planning process.

### ZONING

#### ZONING LAW

The Virgin Islands' Zoning Law establishes seventeen separate zoning districts, ranging from agricultural, residential, industrial, and waterfront to public use classifications. In all of the districts, a variety of uses are permitted as a matter of right, as accessory, or under specified conditions. The present Zoning Law was enacted in 1972 (Act. No. 3284). All zoning changes or amendments require legislative and gubernatorial approval.

The Department of Public Works, through a Zoning Administrator, is responsible for the administration and enforcement of the provisions of the Zoning Law. The Administrator is vested with some limited discretionary approval authority over permits for the use of land. The department reviews all permit applications, issues all certificates of occupancy, interprets the zoning district maps, institutes legal action to enforce the provisions of the law, and makes recommendations to the Planning Office and Legislature for changes in the Law.

Appeals of decisions of the Zoning Administrator and grants of variances are reviewed and decided upon by the Board of Zoning, Subdivision and Building Appeals. The Law sets specific procedures for Board action including a requirement for findings to be made on all decisions. A two-thirds majority vote of the members of the Board is required to reverse an order of the Zoning Administrator. Appeals of decisions of the Board are taken directly to the Virgin Islands District Court.

The Planning Office authority in the administration and enforcement of the Zoning Law involves the following: reviewing applications for specified types of projects and submitting its findings to the Zoning Administrator, preparing and submitting advisory opinions to the appeals body, and preparing reports and conducting public hearing on proposed amendments to the Zoning Law and Zoning District Maps.

## EXISTING ZONING

The zoning districts for the Virgin Islands are shown in Figures 3.2, 3.3, and 3.4.\* Important characteristics of the districts are summarized below. It should be noted that, in most instances, there are a wide variety of uses which are permitted as a matter of right for each zoning district.

Agricultural Districts (A-1 and A-2) - The primary purpose for the A-1 District is to maintain potential agricultural lands. Each parcel of property must have a minimum area of forty acres. There is a maximum of two dwelling units per parcel. The A-2 designation is for acres suitable for small scale agriculture such as truck farming. The minimum lot size is two acres with not more than two dwelling units per lot.

Residential Low Density (R-1 and R-2) - The minimum lot size for the R-1 District is 1/2 acre. Up to two dwelling units per lot are allowed (maximum 4 dwelling units per acre). Minimum lot size requirement for the R-2 zone is 10,000 square feet with a maximum of 2 dwelling units per lot (maximum of 8 dwelling units per acre). The maximum height for structures in both districts is 2 stories.

Residential Medium Density (R-3 and R-4) - The R-3 district is primarily for medium density hotels and multi-family dwellings. The maximum number of persons per acre for residential structures is 80. The minimum lot size per parcel is 6,000 square feet and the maximum height for structures is 6 stories. In addition, at least thirty-five percent of the parcel must be reserved for usable open space. The minimum lot size for R-4 is 3,000 square feet and the maximum number of persons per acre is 120. The height limitation is 3 stories.

Residential High Density (R-5) - The maximum number of persons per acre is 160 with a minimum lot size of 10,000 square feet. Thirty-five percent of the parcel must be reserved for usable open space. The height limit is 8 stories.

Business Districts (B-1 through B-4) - The business zones range from B-1, the central business districts, to B-4, business-residential areas. These districts cover a range of business activities from downtown shopping areas to neighborhood convenience centers.

Commercial District (C) - The commercial zone includes those uses which are business-oriented but with some characteristics of light industrial activities. For example, these uses include such activities as service stations, automobiles dealers, warehouses, and laundries. Many of the permitted uses in the commercial district are also included in the light industrial zone (I-2).

\*These figures were included in the Draft EIS 1977

Industrial Districts (I-1 and I-2) - The heavy industry zone. I-1, includes those uses such as Hess, Martin Marietta, and the Water and Power Authority plants. The light industry zone (I-2) encompasses a wide range of uses such as warehousing, light assembly, textile manufacturing, contracting, as well as many of the same uses permitted in the commercial district.

Waterfront Districts (W-1 and W-2) - The law establishes two waterfront districts, W-1 Waterfront-Pleasure and W-2 Waterfront-Industrial. The W-1 zone is primarily a recreation zone, and permitted uses include marinas, marine terminals, parks and recreation areas, hotels, and guest houses. The Waterfront Industrial District (W-2) permits a variety of marine-related and industrial uses.

Public District (P) - Publicly owned properties fall into this category. Uses may vary widely, from recreational areas to schools, airports, offices, sewage treatment and solid waste disposal.

#### OVERVIEW OF ZONING IN THE VIRGIN ISLANDS

Seventy percent of the Island of St. Thomas is zoned for low density residential uses (R-1 and R-2). The town of Charlotte Amalie is the primary business and commercial center. Less than 5 percent is zoned agricultural and less than .5 percent is zoned industrial. The waterfront districts comprise about 4 percent of the island. Most of this total is made up of small W-1 parcels. Excluding the Charlotte Amalie town area, shoreline zoning is characterized by extensive low density residential districts (R-1 and R-2) with numerous smaller enclaves of medium density residential (R-3) and waterfront-pleasure (W-1). All of the offshore islands and cays are zoned R-1 or P.

More than one-half of the land area of St. John is National Park Service land and is zoned P. There is very little development of any kind within the park. Most of the inholdings are low density residential areas (R-1 and R-2). For the island as a whole, about 42 percent is zoned R-1 or R-2. Approximately 3 percent is zoned for medium density residential (R-3 and R-4) uses. Business uses comprise about 1 percent and waterfront-pleasure districts are 2.5 percent. Aside from a few acres of W-2 zoning, there are no industrial districts on the island. Most of the shoreline is zoned P while most of the privately held coastal parcels are either low-density residential or waterfront-pleasure.

Low density residential districts comprise 54 percent of the land area of St. Croix, Medium density residential is an additional 7 percent. Almost 25 percent is zoned agricultural and about 1 percent is business and commercial. Slightly more than 5 percent is zoned for industrial uses with two-thirds of this zoned for heavy industry. The waterfront districts are about 2 percent of the total area. The W-1 district makes up almost all of this total. The St. Croix coastline is



characterized by large areas of low density residential zones with large public, industrial, and agricultural districts along the south shore. There are fewer W-1 Districts on St. Croix than on St. Thomas; however, the total W-1 acreage on St. Croix is larger.

#### MAJOR PLANS/PROPOSALS IN THE COASTAL ZONE

This section is intended to be a descriptive outline of the major development proposals currently under consideration or under construction in the coastal zone. No attempt has been made here to analyze or assess the various impacts that may be associated with each proposal. The inclusion of a project proposal within this section should not be considered as an endorsement by the Coastal Zone Management Program.

There are several major planned/proposed projects which, if carried out, will significantly impact both the economy and the coastal environment of the territory. The major development proposals for the Virgin Islands coastal areas have been identified and a brief description of each is included below. This listing includes: a) projects for which territorial and/or Federal permits have already been approved or are presently being sought; or b) projects for which extensive engineering and/or feasibility studies have been completed and which are presently being considered. There are nine major development proposals for the Virgin Islands shoreline which are now under consideration or awaiting start of construction. The location of these proposed projects is shown in Figure 3.5.

#### St. Croix

- (1) Virgin Islands Refinery Corporation (VIRCO). All permits have been approved for a 200,000 barrel per day petroleum refinery and a submarine pipeline extending 2 miles offshore to a marine terminal. The 300 acre site is located adjacent to the Hess Oil Refinery on the south shore of St. Croix.
- (2) Hess Oil Virgin Islands Corporation (HOVIC) Offshore Terminal and Submarine Pipeline. This project consists of a crude oil terminal 2 miles offshore from the existing HOVIC Refinery and a connecting submarine pipeline. Very large crude carriers (oil tankers larger than 200,000 dead weight tons) would be unloaded at the offshore terminal. U.S. Army Corps of Engineers issued a permit October 4, 1976, for the offshore terminal.
- (3) St. Croix Southshore Public Port. New public port facilities to be operated by the Port Authority will be constructed by HOVIC between the existing Hess and Martin Marietta ports. The new facilities will include: 1400 feet of pier sheet-pile to accommodate the mooring of vessels up to 32 foot draft;

**FIGURE 3.5  
DEVELOPMENT PROPOSALS**



**ST. CROIX**

- 1. Virgin Islands Refinery Corporation (VIRCO)
- 2. Hess Oil Virgin Island Corporation (HOVIC)  
Offshore Terminal and Submarine Pipeline
- 3. St. Croix South Shore Public Port

**ST. THOMAS**

- 4. Truman Airport Improvements
- 5. Port Authority Crown Bay Development
- 6. Veterans Drive Waterfront Improvements
- 7. West Indian Company Ltd.  
Long Bay Development
- 8. Mangrove Lagoon Area - Waste Water  
Treatment Facility

**ST. JOHN**

- 9. Enighed Pond - Cruz Bay

100,00 square feet of asphalt paving for the pier; complete "roll-on," "roll-off" facilities for handling containerized cargo; a 30,000 square foot warehouse; a gatehouse; facilities for U.S. Customs; and asphalt paving for the access road from the port to the Cross Island Expressway. This project will require some dredging between the existing Hess and Martin Marietta channels. Project approval by the U. S. Army Corps of Engineers is pending.

St. Thomas

- (4) Truman Airport Improvements. This project has been approved and construction is scheduled to commence in mid-1977. Eight and one-half million cubic yards of fill will be used to create a site for a lengthened runway and new terminal in the Lindbergh-Brewer's Bay area. Completion of this project will allow the St. Thomas airport to accommodate much larger jet aircraft than at present.
- (5) Port Authority Crown Bay Development. Preliminary planning and feasibility studies have recently been completed. The plans call for the development of between 29 and 59 acres of fill in the Crown Bay-Sub Base area for cruise ship docking, cargo and warehousing, commercial space and a complete marina facility.
- (6) Veteran's Drive Waterfront Improvements. The Department of Public Works has prepared a number of alternate highway improvement plans designed to correct traffic congestion problems along Veteran's Drive on the Charlotte Amalie waterfront, and to improve access between the downtown area and East End of St. Thomas. All of the alternatives would require filling a portion of the harbor and some relocation of existing facilities in the vicinity of the Senate Building and Frederiksberg Point.
- (7) West Indian Company Ltd. Long Bay Development. Extensive development proposals were outlined in 1971 including large-scale dredge and fill activities in the Long Bay area with some of the filled land being deeded to the territory. A Memorandum of Understanding was executed in 1972 between the U. S. Department of the Interior, the Virgin Islands Government, the West Indian Company Ltd., and other

parties of interest which affirmed the 1917 treaty rights of the West Indian Company Ltd. to dredge and fill specific areas of the harbor. The Memorandum was amended in 1975 to transfer certain rights and obligations of the Department of the Interior to the Virgin Islands Government.

The Memorandum of Understanding is not a self-executing document. It sets a closing date on which time periods for fulfilling obligations under the agreement begin to run. The duty of the West Indian Company to close the agreement is conditioned upon the issuance of appropriate permits by the Corps of Engineers, under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Federal Water Pollution Control Act Amendments of 1972, compliance with the Fish and Wildlife Coordination Act and other applicable laws of the United States and the U.S. Virgin Islands.

Under terms of the agreement, a total of 29 acres may be filled in the vicinity of Frederiksberg Point, Long Bay Beach, and at Havensight Point. The fill material would be taken from Long Bay to create new land for waterfront, commercial, and recreation facilities. About 2.5 acres of the filled land would be transferred from the Company to the V.I. Government for recreational uses. In addition, a portion of the filled areas would be made available to the government to widen the existing waterfront highway. All remaining lands would be owned by the Company and retained for commercial development. The company has agreed to relinquish all other claims for dredging and filling rights under their concession if allowed to carry out this project.

A Draft Environmental Impact Statement on this project dated August 1977 has been prepared by the U.S. Army Engineer District, Jacksonville, Florida. However, as of January 1979 the West Indian Company has not formally made application to the Government of the Virgin Islands for the necessary prerequisite permits.

The inclusion of the preceding discussion of the West Indian Company Project is intended to be factual and descriptive. It is no way intended to imply that the Coastal Zone Management Program of the Virgin Islands either approves or rejects the project as described.

- (8) Mangrove Lagoon Area - Waste Water Treatment Facility. The Department of Conservation and Cultural Affairs has recently completed plans for a large wastewater treatment facility to be located in the vicinity of the Mangrove Lagoon on the east end of St. Thomas. This treatment plant and its associated interceptors will allow for the eventual abandonment of the nine existing package plants which serve the Turpentine Run drainage basin.

St. John

- (9) Enighed Pond - Cruz Bay. A Port Authority proposal calls for the development of Cruz Bay, St. John, primarily as a bathing beach with passenger operations to continue at the present ferry dock. The Enighed Pond area would be developed for marina facilities, cargo handling, and recreation. The pond would be dredged, with about 12 acres filled for a recreation area. Little Cruz Bay (Creek Area) would be developed for light cargo, boat repair and maintenance.

## **Public Attitudes Regarding Shoreline Use**

Two surveys were conducted to assess public attitudes toward shoreline use, a newspaper questionnaire and a household survey. The self-administered newspaper questionnaire was carried out through the daily newspapers on St. Thomas and St. Croix. The household survey was conducted by personal interviews on all three islands. Both surveys indicate that the public appears to be divided primarily along educational lines regarding the relative importance of economic, natural and amenity values. Those with higher levels of education tend to emphasize conservation and recreational development; others tend to place greater emphasis on economic development. This division is greatest with respect to future coastal development overall, but is also reflected in differing preferences within specific categories of development. Public opinion regarding coastal development priorities is divided along geographic lines also. Differences among the islands tend to reflect differences in both resources and the feasibility of development options.

### TERRITORY-WIDE DEVELOPMENT PRIORITIES

While there is apt to be considerable disagreement among population sub-groups as to the importance of economic development, there is a consensus territory-wide that agriculture and food processing industries should be encouraged.

The extent of support for tourism varies among the islands, but respondents across the territory tend to prefer hotel/guest house and cruiseship related development over other forms of tourism.

The great majority of respondents agree that coastal recreational development is important. There is considerable support throughout the territory for the improvement of beach access and, to a lesser extent, beach facilities. The newspaper survey provided considerable information about existing patterns of recreational activity, including a listing of beaches where access is considered an issue. Poor roads or an exclusively private atmosphere are the most frequently cited obstacles, although the lack of facilities and safety are also concerns.

## ISLAND DEVELOPMENT PRIORITIES

### ST. CROIX

Recreational development, and beach access in particular, is of greater concern on St. Croix than on the other two islands. Respondents from Christiansted voiced the strongest concern. Compared with St. Thomas and St. John, concern about conservation is greater, but less interest is expressed in commerce and industry. Agriculture and light industry are clearly the most preferred and widely supported development options. However, the percentage of population favoring heavy industry is larger than on St. Thomas or St. John.

Interest in fishing and tourism is weaker in St. Croix than the other two islands. Attitudes toward tourist development are reflective of the territorial preference for hotel/guest houses and cruise ships. Support for condominium/second home development is stronger on St. Croix than on the other islands.

### ST. THOMAS

The survey data indicate that over-all development priorities are the least clear on St. Thomas. Industrial and conservation uses are a high priority and while recreational and residential development are not a high priority, they are recognized as being important. Respondents are more united in their support for agriculture, light industry, and, to a lesser extent, tourism as modes of economic development. Regarding tourism, there was agreement with the territory-wide preference for hotel/guest house and cruiseship development. Respondents also support other territorial-wide recreational concerns. Beach access is paramount, but beach facilities, fishing piers and waterfront parks are concerns in certain areas.

### ST. JOHN

With respect to overall development priorities, respondents from St. John seem to be in considerable agreement. Residential and commercial development are of greatest concern. Interest in conservation is less widespread. Respondents have very little interest in industrial use, giving strong support to the development of agriculture, tourism and fishing. Interest in fishing and tourism is stronger on St. John than anywhere else in the Virgin Islands.

With respect to tourism development, respondents express a clear support for the territory-wide preference for hotel/guest houses and cruise ships. In addition, there is equally clear and strong support for developing boating. While recreational development is rarely considered to be a first priority, it is widely acknowledged as important. There is considerable support for the development of waterfront parks and fishing piers.

#### SHORELINE PROTECTION

Seventy percent of the household respondents and ninety-seven percent of all newspaper respondents feel some shore areas need protection from over-development. Less than eight percent of those questioned were opposed to shoreline protection measures. Rationales for protection include both statements of appreciation for an area's amenity qualities and concern about possible negative effects induced by development.

When asked which areas were in need of protection, respondents nominated those areas highly valued in terms of recreation, scenic, and/or natural qualities. Sand beaches, harbors with waterfront parks, and undeveloped mangrove areas are given the highest priority. Strong support is also given to the protection of some undeveloped salt ponds and rocky shores, as well as intensively developed harbor areas. Those surveyed generally feel new construction could best be accommodated in areas which already have some development, particularly harbor or industrial areas and low relief or steep rocky shorelines. To a lesser extent, gravel or rocky beaches and saltponds are also considered suitable for development.

### **Political/Institutional Setting**

#### POLITICAL AND GOVERNMENTAL HISTORY

The Virgin Islands is an unincorporated territory of the United States which was purchased from Denmark in 1916. As such, the islands are subject to the power of the U. S. Congress which has the authority to enact suitable rules and regulations to govern the territory and to delegate powers to it. A series of Federal Rules and Regulations, Executive Orders of the President, and Congressional Acts have been instrumental in the evolution of the Virgin Islands Government. Those actions most related to land use, and coastal issues are discussed below. A "Chronology of Coastal Related Activities," Table 3.1, is found at the end of this section and illustrates the progression of events towards the development of a coastal zone management program.



From 1917 to 1936, the Islands were governed by the Temporary Government Act of 1917. The Act vested responsibility for governing the Virgin Islands with the Department of the Navy. Essentially, it continued the Danish style colonial government by retaining the Colonial Law of 1906 in full force and effect.

The Organic Act of 1936 created a civil government, transferring responsibility from the Department of the Navy and placing it within the Department of the Interior. Among other things, the Act extended the electoral franchise, created a territorial government and a new legislative assembly, and granted the territory the power to control the use of all public and private properties within the territory. Subsequently, all property acquired by the United States from Denmark but reserved by the United States for public purposes was placed under the control of the Government of the Virgin Islands by an Executive Order of the President. With it, the authority to acquire, possess, administer, govern, alienate and encumber property was granted.

As a result of the 1936 Organic Act, a 1939 amendment, and a 1942 Executive Order, most laws of the United States for the protection and improvement of the navigable waters were made applicable to the Virgin Islands, including navigation and inspection laws. Accordingly, the Legislative Assembly was granted the power to enact navigation, boat inspection, and safety laws of local application. Those laws or portions thereof not made applicable to the Virgin Islands dealt with coastwise laws of the United States, and Federal laws levying tonnage duties, light money, or entrance and clearance fees.

The Revised Organic Act of 1954 as amended, restructured the framework of the organization and operation of the government. It provides for a centralized government with the executive power vested in a Governor, and legislative power in a unicameral legislature. The Act also extended the authority of the Governor to transfer administrative and management authority between territorial agencies.

The Elective Governor Act of 1968 (P.L. 40-496) furthered self-determination for the islands. The Act amended the Revised Organic Act by providing for the popular election of the Governor and Lieutenant Governor, thus ending appointment of the territory's Governor by the President.

#### COASTAL RELATED STUDIES

In 1967, the Virgin Islands Planning Board, through its consultant Reginald Isaacs, undertook a study for the conservation of beaches. This was the first attempt to deal specifically with coastal resources in the islands. That study made several recommendations with respect to needed policies toward resources and actions required of private enterprise, citizens, and the Government

of the Virgin Islands. The Planning Board, however, failed to implement any of the recommendations contained in the report.

A report entitled The Islands - Selected Resources of the United States Virgin Islands, was prepared for the Department of the Interior in 1968. The study concluded that the resources within the shoreline zone were the islands' most important, including such assets as sand beaches, access points to the water for boating, coral reefs, and the offshore islands and cays.

In 1969, the Legislature demonstrated its interest in the marine future of the territory by supporting two undersea research programs, Tektite I and Tektite II. In early 1970, Governor Melvin H. Evans called for a program aimed at accelerating the development of the island as an international center for underseas research and development. A "Virgin Islands Year of Ocean Resource Development" was proclaimed for 1970, and a Marine Resources Council was formed. Its mandate was to prepare a report detailing how the U. S. Virgin Islands could best utilize its marine resources. The report, The U. S. Virgin Islands and the Sea (1970), substantiated the findings and recommendations of the earlier "Islands" report done for the Department of the Interior.

Specific policy recommendations were made for the use and development, conservation, and planning of the islands' coastal resources. One of the recommendations involved the initiation of a coastal zone study designed to develop a management plan for the coastal zone. Some of the recommendations contained in that report have been implemented with the passage of legislation regulating certain activities affecting, or located within, coastal areas.

#### COASTAL RELATED LEGISLATION

Upon its creation in 1950, the Virgin Islands Planning Board was made responsible for the preparation of a comprehensive plan to guide the future use of public and private lands. The Planning Board prepared a General Physical Plan for the Virgin Islands in 1964 delineating potential recreation and commercial areas along the coastline and identifying those areas with development constraints. Although the plan was never officially adopted by either the Legislature or the Governor, it was used occasionally by the Planning Board as a guide for decision-making on land use matters.

While the power to control the use of public and private properties in the territory had existed since the enactment of the Organic Act of 1936, it was not until 1963 that any land use controls (zoning regulations) became effective. The Zoning Law established several districts throughout the islands, but it did not provide for special treatment of the coastal areas. Despite

the fact that zoning had been instituted in the territory through a legislative action, no comprehensive or general development plan and policies concerning the overall growth of the islands were ever formally adopted by the Government.

A Department of Conservation and Cultural Affairs (DCCA) was established in 1968 (Act N. 2238). The Department is granted the authority and jurisdiction to exercise general control over the enforcement of laws relating to conservation and the development of natural resources. Nearly all of the territorial regulatory authorities concerning the seaward side of the coastal areas is invested in DCCA. Among its other duties, the Department has the responsibility to administer, and enforce laws relating to: fish and wildlife and water resources, air and water pollution, flood control, mineral and other natural resources, outdoor recreation and parks, and preservation of historic and architectural heritages.

The Virgin Islands Planning Office (VIPO) was created in June of 1970 (Act 2274) and replaced the V.I. Planning Board, which had similar responsibilities. The Act created the Planning Office as an administrative unit within the Executive Office of the Governor, and required the VIPO to perform a variety of functions including;

1. formulating long range plans and policies for the orderly and coordinated growth of the Virgin Islands;
2. formulating a long range comprehensive plan for the physical, economic and social development of the Virgin Islands; and
3. encouraging coordination of the planning activities of all territorial agencies and bodies.

Intense development pressures began to mount in the 1960's and continued into the 1970's. Increasing resort and second home development took place along many beaches and much of the shoreline. Concern was expressed over the burgeoning unplanned growth and threatened loss of public use and access to the coastline. The public outcry against restrictive beach policies manifested itself in a Free Beaches Committee, which sought public and legislative actions against such practices.

In response to the situation, the Legislature passed the Open Shoreline Act (Act No. 3063) in June of 1971. The Act prohibits the maintenance or construction of any obstruction within the defined shoreline area which could interfere with public rights of use, enjoyment or lateral movement. For the purpose of the Act, the shoreline is defined as the area from the seaward line of low tide inland a distance of 50 feet, or inland to the seaward boundary of natural vegetation or natural barrier, whichever is the shortest distance. Permits for such construction in these areas may only be issued under very restrictive conditions. The Act also prohibits the taking

of sand, rock, mineral, marine growth or other natural products of the ocean (except fish and wildlife) from the shoreline without first obtaining a permit. The responsibility for administering the Act and issuing permits is invested in the Department of Conservation and Cultural Affairs.

The constitutionality of the Act in general, and the public right of customary use, were upheld in the Bolongo Beach litigation (No. 75-1242, 3rd Ct., 1976). This action affirmed the public's right to utilize the beach area of a resort-hotel which sought to prohibit such activity.

In addition to the prohibitions placed upon activities within the shoreline, an Open Beaches Committee was established as a provision of the Act. The Committee was delegated responsibility to:

1. conduct a survey of shorelines to establish the boundary between public and private property;
2. prepare surveys showing routes of public access to all sandy beaches and recommendations for easements where no access exists; and
3. classify all beaches and other segments of the ocean for wildlife, marine and estuarine protection.

The Committee was not convened until January, 1976. Some of its tasks are being subsumed by the development of the CZMP by the Planning Office. This committee has assumed the role of advisory committee for the CZM program development.

In 1971, the Earth Change Law (Act. No. 2967) established an environmental protection program to control and eliminate soil erosion and to restrict land alteration activities which were adversely affecting the natural resources of the islands. The law encompasses all of the lands and waters comprising the watersheds of the islands and includes all land development Acts that affect changes in the condition of the watershed areas. As a result, practically all land alteration activities in the Virgin Islands are covered within the Act and subject to the permit requirements set forth therein. The Act clearly applies to lands within the coastal zone and to land alteration activities which affect the coastal areas. Indeed, one of the stated purposes of the Act is to conserve the coastal resources of the islands.

The Earth Change Law called for the promulgation of rules and regulations to implement the policies set forth in the legislation. These rules and regulations establish the practices and procedures for complying with the Act's requirements. This Act, together with the rules and regulations, comprises an important element in the environmental protection program of the Virgin Islands.

Revisions in the Zoning Law passed in 1972 (Act No. 3284) made that Act one of the more

important elements in the existing system of land use and environmental controls in the Virgin Islands. This zoning law, with amendments, will provide the basis for implementing the approved management program.

The Shoreline Alteration and Dredging Control Act of 1973 (Act No. 3404) was passed by the Legislature to control the dredging and mining of sand, gravel, and coral from the beaches and shorelines of the Virgin Islands. At the time of adoption, the Federal government still retained proprietary rights to the submerged lands, tidelands and filled lands adjacent to the coastlines of the islands. The 1973 Act was intended to permit the territorial government to exercise the maximum legislative jurisdiction it possessed over such lands. Subsequently, the Federal government has transferred ownership of most of these lands to the territorial government (notable exceptions to the transfer include National Park Lands on St. John, Buck Island, and Naval Operations Area near Frederiksted).

In 1975, the Legislature amended the 1973 Act, redesignating it as the Trustlands, Occupancy and Alteration Control Act (Act. No. 3667). The intent and policy of the Act declares that it is in the public interest to protect, preserve, maintain, and improve the transferred trustlands and other submerged and filled lands for the benefit of the public and to foster enjoyment of natural resources.

The 1975 Act deals primarily with submerged lands and sets up a process (administered by the Department of Conservation and Cultural Affairs) to regulate their occupation and alteration by filling, dredging, mining, construction, or other means. The area covered by its provisions also includes some fastlands. The Act is applicable to all land and water seaward of the line of mean high tide, including all artificially made, filled in, or reclaimed lands, salt ponds and marsh which were formerly permanently or periodically covered by water, and extends three geographic miles seaward. The legislation also provides for the regulation of all of the Federal submerged lands conveyed to the Virgin Islands. Regulations for these lands, including alterations or occupancy by private and public agencies, are embodied in the required permits issued by the Governor and Legislature.

The 1975 Act, together with the Earth Change Act and the Open Shorelines Act, provides substantial statutory authority for the control over use, development, and alteration of the land and water resources of the coastal zone. This Act together with the implementing regulations establishes a territorial counterpart to the Army Corps of Engineers permits which are also required for the development or alteration of certain coastal lands and waters in the territory.

Continued concern for the quality of the coastal environment of the Virgin Islands was demonstrated with the passage of the Water Pollution Control Act (Act No. 1979) and the Oil Spill Prevention and Pollution Control Act (Act No. 3568). Both are administered within the Department of Conservation and Cultural Affairs.

The Water Pollution Control Act, through a series of amendments, establishes a regulatory program to control pollution of the surface and underground waters of the Virgin Islands. The Act establishes standards of water quality and pollutant discharges throughout the Islands (including the territorial waters in the coastal zone). It also provides the authority to exercise land use controls intended to protect and preserve the islands' water quality. As such, it provides an additional independent basis for exercising territorial police power to achieve certain environmental objectives.

The Act prohibits discharges of pollutants into the waters of the Virgin Islands without treatment to a specified level and authorizes the regulation of both new and existing sources of water pollution. The Act was amended in 1976 to allow for the enforcement of the Federal Water Pollution Control Act, as amended, relating to the Virgin Islands' participation in the National Pollution Discharge Elimination System (NPDES).

The policies and objectives of the Act are carried out through a permit system as defined in the Federal Regulations and Guidelines. Discharge of pollutants without a lawful permit is illegal, as is the conduct of a variety of activities concerning the construction, increase, enlargement, expansion or modification of facilities which would discharge or cause the discharge of pollutants in amounts, volume, strength or nature in excess of that which is currently permitted. Thus, not only are discharges themselves regulated, but also facilities which discharge pollutants are regulated.

The Oil Spill Prevention and Pollution Control Act of 1974 seeks to protect the marine and coastal environments from damages caused by industrial or commercial discharges of petroleum products or other equally harmful substances. The primary objective of this Act is to preserve the waters and shorelines of the Virgin Islands as a source of public and private recreation. Additional objectives include protection of environmental resources, preservation of natural or scenic beauty, protection of property values and maintenance of economic activities dependent on marine resources.

The licensing and regulatory controls seek to prevent the discharge of such pollutants into the atmosphere or waters of the Virgin Islands by requiring sound management and operational practices, and by requiring use of appropriate equipment in the production, transfer, and transport of such products. In addition to the regulatory controls over equipment and facilities, the Act

**TABLE 3.1**  
**CHRONOLOGY OF COASTAL RELATED ACTIVITIES AND LEGISLATION**

Colonial Law of 1906 (Denmark)	1906
Virgin Islands Purchased from Denmark	1916
Temporary Government Act	1917
Organic Act	1936
Most U.S. Laws Pertaining to Navigation made applicable to the V.I.	1942
Creation of V.I. Planning Board	1950
Revised Organic Act	1954
Zoning Established in the V.I.	1963
Elective Governor Act	1968
Islands Selected Resources Report	1968
Water Pollution Control Act	1968
Department of Conservation and Cultural Affairs	1968
Tektite I and Tektite II	1969
"Year of Ocean Development" Proclaimed	1970
V.I. and the Sea Report	1970
Virgin Islands Planning Office Established	1970
Open Shoreline Act	1971
Earth Change Law	1971
Revised Zoning Law	1972
Shoreline Alteration and Dredge Control Law	1973
U.S. Government Transfers Submerged Land To Government of the Virgin Islands	1974
Oil Spill Prevention and Pollution Control Act	1974
Planning Office Initiates Development of Coastal Zone Management Program	1974
Trustland Alteration and Occupancy Control Act	1975
Bolongo Bay Litigation	1976
V.I. Coastal Zone Management Act	1978

established oil spill and pollution containment plans to control the effects of discharges of pollutants and to expedite their cleanup and removal. The Act established a coastal protection fund to finance cleanup operations.

In October of 1978 the Virgin Islands Coastal Zone Management Act (VICZMA) was passed.

#### RELATED PLANNING ACTIVITIES

Efforts by the Planning Office to provide a comprehensive land use plan for the islands, have continued. In July, 1974, this agency began to prepare a comprehensive land use plan for the territory under a 701 Comprehensive Planning Assistance Grant from the U. S. Department of Housing and Urban Development. This land use plan was to be completed by August 1977 but the HUD 701 grant has been terminated. The EPA 208 funding has been available to the Department of Conservation and Cultural Affairs. The majority of the work under the 208 grant has been subcontracted to consultants.

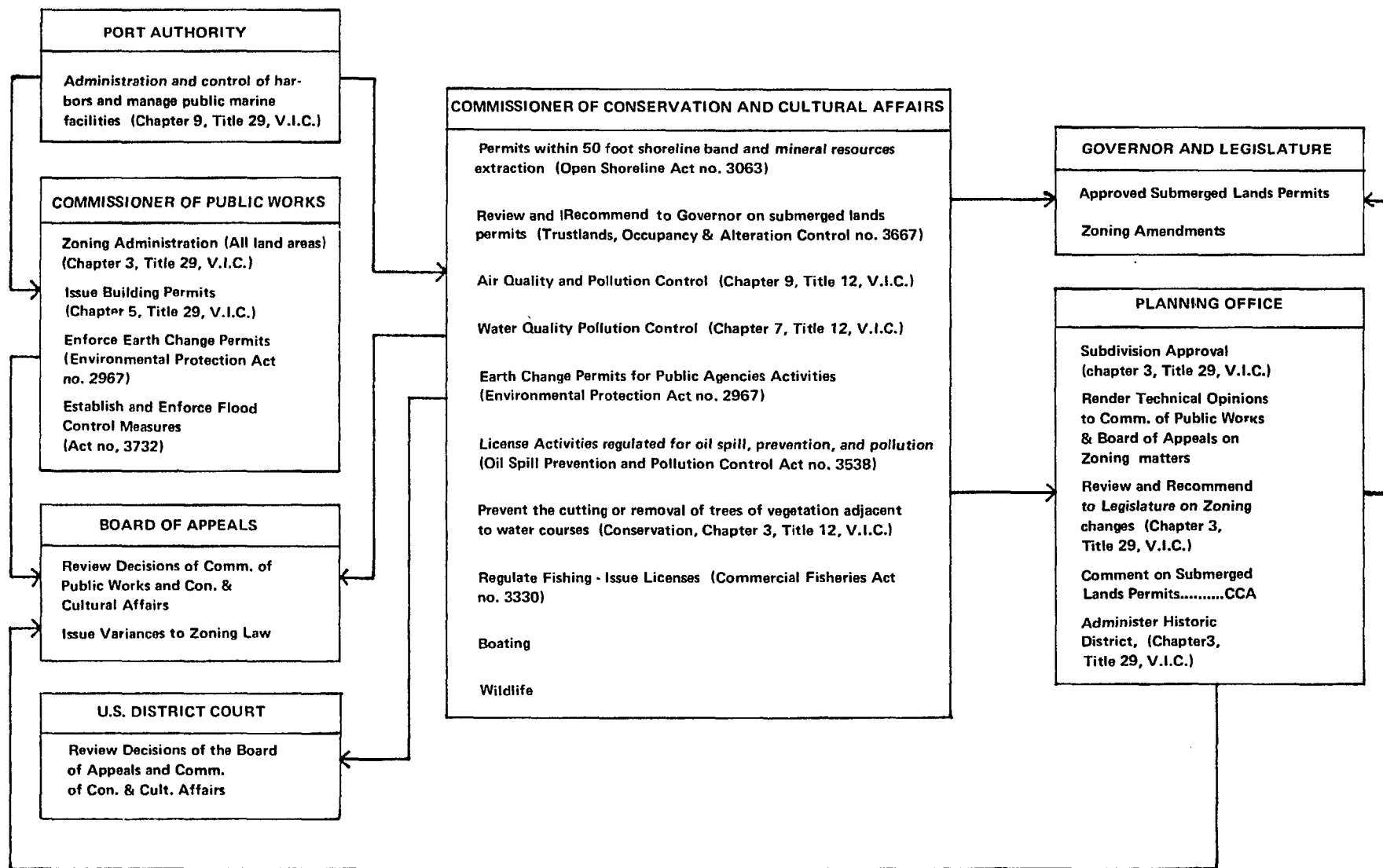
The history of coastal and coastal-related activities and legislation is extensive, as it should be for an area so inextricably bound to the sea. An adequate body of legislative authority presently exists to implement a management plan for the Virgin Islands. The major thrust of the plan development has been to streamline, consolidate and reorganize as much as possible the existing authorities to create an effective implementation tool. The development of a land and water use plan has been emphasized so that existing and amended authorities might be conducted under the aegis of a rational, explicit, and substantive management program.

#### GOVERNMENT OF THE VIRGIN ISLANDS

The principle territorial entities involved in coastal zone matters are the Governor, the Legislature, the Planning Office, the Department of Conservation and Cultural Affairs, the Department of Public Works, and the Board of Zoning, Subdivision, and Building Appeals. The various territorial agencies and legislative Acts which comprise the existing regulatory system for coastal-related land and water activities are illustrated in Figure 3.6. The basic responsibilities of these entities are outlined below.



**FIGURE 3.6**  
**PREVIOUS REGULATORY SYSTEM**  
**FOR LAND AND WATER ACTIVITIES**



Virgin Islands Planning Office (VIPO)

VIPO has the responsibility for reviewing amendments to the Zoning Law, approving land subdivision, and reviewing building proposals in Historic and Architectural Control Districts. It also reviews and makes recommendations to the Commissioner of Conservation and Cultural Affairs for all shorelands and water use permits. In addition, the Planning Office comments on all requests to the Federal government for funding permits, or licenses through the A-95 Review process. The Office also prepares comprehensive long range development plans, annual economic reports, capital improvement programs, and water resources plans.

Department of Public Works (DPW)

DPW administers and enforces the Building Code, Zoning Law, and the Earth Change Law. It also reviews and makes recommendations for all shorelands and water use permits; administers Federally assisted programs pertaining to public buildings, highways and utilities; constructs and maintains public facilities; provides solid waste disposal services; and establishes and enforces flood control measures.

Department of Conservation and Cultural Affairs (DCCA)

DCCA administers and enforces all laws pertaining to fish and wildlife, regulation and licensing of motor boats, removal of trees and vegetation adjacent to water courses, air pollution and water pollution. It is responsible for all public projects under the Earth Change, Submerged Lands, Open Shorelines and Oil Spill Prevention Laws. It also operates and maintains parks, beaches, and recreational areas and facilities.

Board of Zoning, Subdivision, and Building Appeals

The Board hears and decides upon appeals by citizens or the Commissioner of Public Works under the Zoning Law, Building Code, and Subdivision Law and has the authority to grant variances.

V. I. Port Authority

The Port Authority is responsible for the development and management of all public marine facilities including docks, piers, wharves, bulkheads, and terminals. It administers and controls the harbors of the territory and, in so doing, it may prescribe rules and regulations.

### Representative to Congress

In 1968, the Virgin Islands Legislature enacted legislation to provide for a Washington Representative. This delegate represented the people of the Virgin Islands on a full-time basis before the Congress of the United States and before the various departments and agencies of the Federal government on all matters pertaining to the Virgin Islands. In 1972, Congress provided for a non-voting Virgin Islands Delegate to the United States House of Representatives to be elected by the people of the Virgin Islands.

### Governor and Legislature

The Governor and Legislature act on all amendments to the Official Zoning Maps and Zoning Laws and approve Submerged Lands Permits for all projects sponsored by the private or public sector. They adopt rules and regulations promulgated by government agencies for the implementation of territorial laws. The Governor, as the chief executive officer of the Government of the Virgin Islands, is responsible for the supervision and control of all operational departments, agencies, and other instrumentalities under his office,

### JURISDICTION OF THE FEDERAL GOVERNMENT IN THE TERRITORY'S COASTAL ZONE

Although the Virgin Islands Government has management and regulatory control over land and water areas within the coastal zone boundary, the U. S. Government, through several Federal statutes, has regulatory authority over navigable waters and inland water areas in the territory. The following Federal statutes are applicable in the territory and significantly affect activities in the coastal zone:

- (1) Section 10 of the Rivers and Harbors Act (30 Stat. 1151, 33 U.S.C. 403) prohibits the unauthorized obstruction or alteration of any navigable waters of the U. S. This applies to erection of structures, dredge and fill material, and other activities in the navigable waters. A permit program is administered by the U. S. Army Corps of Engineers.
- (2) Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. Sec. 1344) prohibits the discharge of dredged or fill materials into primary tributaries, lakes and fresh water wetlands

contiguous and adjacent thereto. Under this provision, the U.S. Army Corps of Engineers is responsible for regulating discharges in all waters including inland waters such as ponds and wetlands. It must approve the transport of dredged materials for the purpose of dumping into ocean water under Section 103 of the Marine, Protection, Research and Sanctuaries Act of 1972.

- (3) Section 401 of the Federal Water Pollution Control Amendments of 1972 requires certification from the territory's Department of Conservation and Cultural Affairs for discharge of any kind into the navigable waters. These discharges must be consistent with applicable effluent limitations and water quality standards.
- (4) The National Flood Insurance Program was established under the Flood Disaster Protection Act and the National Flood Insurance Act to make flood insurance available to property owners in flood-prone areas and to require that appropriate measures be applied in the management of flood-prone areas.
- (5) The National Historic Preservation Act of 1966 as amended, requires that the Advisory Council on Historic Preservation have the opportunity to review and comment on all Federally licensed or funded projects having an effect on properties in, or eligible for listing in, the National Register of Historic Places."
- (6) U. S. Fish and Wildlife Service reviews and comments on all Federally sponsored, authorized, or permitted or licensed works which alter aquatic ecosystems under the Fish and Wildlife Coordination Act.
- (7) The U. S. Department of the Interior administers the oil, gas, and mineral resources reserved by Congress in the transfer of the submerged and filled lands to the territorial Government. The exploration or development of these resources requires permission from this department under a permit lease agreement.
- (8) The Fishery Conservation and Management Act of 1976 has applied in the territory of the Virgin Islands since March 1, 1977. The Federal Government will control fishing within 200 nautical miles of the territory.
- (9) The U. S. Coast Guard is responsible among other things for:
  - (a) boating safety and law enforcement on the navigable waters, including the rules of the road and anchorage regulations, and Federal laws on those waters subject to the jurisdiction of the

U.S.; (b) enforcing regulations relating to the safeguarding of vessels, harbors, ports and waterfront facilities; (c) issuing and enforcing regulations relative to procedures, methods and equipment for preventing discharges of oil; (d) and determining the responsibility for an oil spill and what actions are necessary for its containment and clean-up.

In addition, three functions require a permit and bear mentioning.

The U. S. Coast Guard issues permits for: (a) regulating the establishment of private aids to navigation; (b) the establishment of bridges and causeways over navigable waters; and (c) the processing of applications for deepwater ports.

- (10) The U. S. Fish and Wildlife Service (Department of the Interior) and the National Marine Fisheries Service (U. S. Department of Commerce), under the Endangered Species Act of 1973, develop and enforce regulations, land acquisitions, cooperative agreements and management assistance to states having such agreements. The U. S. Fish and Wildlife Service among other statutes and laws works through the National Environmental Policy Act of 1969, Marine Protection, Research and Sanctuaries Act of 1972, Migratory Bird Act, and Executive Order No. 11990 (protection of wetlands) and Executive Order No. 11988 (floodplain management).

## **CHAPTER FOUR**

### **Problems and Issues to be Addressed by the Coastal Zone Management Program**

The purpose of this chapter is to outline the specific coastal problems, conflicts, and issues which have been identified by the Virgin Islands CZMP. Subsequent chapters will detail the proposed management program designed to remedy these problems.

#### **The Economic Boom of the 1960's and Need for Planning**

Despite the lure of its coastal resources, the Virgin Islands remained relatively undeveloped until the late 1950's, at which time it was "discovered" by residents of the U.S. mainland. Population and construction activity grew rapidly in the 1960's as a result of a large number of visitors to the islands. In the span of a decade, from 1960 to 1970, total population more than doubled from 32,000 to 75,000. Hotels, condominium apartments, and second homes began to locate along ridgelines and adjacent to beaches and other waterfront areas. A large number of public housing projects, as well as commercial and industrial developmental activities, were established throughout the islands.

While growth has been beneficial in many ways (most notably providing employment and a higher standard of living), there have been concomitant environmental, social and economic problems. Given the pace of development during the 1960's, it is hardly surprising that much of this activity was haphazard and unplanned. Unfortunately, the implications of poor development practices are highly magnified in a small island system. For example, loss of natural areas such as mangrove systems, salt ponds, reefs, and marine grass beds has resulted in a decline in both marine productivity and wildlife habitat. Development has often degraded amenity resources, threatened traditional public rights to use water and shoreline areas, and encouraged relatively uncontrolled use of the shorelands. In recent years, many of these problems have been recognized and some legislative remedies have been enacted. Despite such attention, however, the Virgin Islands Government has been only partially able to deal with development induced problems.

Important social changes have occurred also. Until 1940, Virgin Islanders comprised 75-80 percent of the total population. Since 1940, this native hegemony has steadily decreased and by 1970, native islanders made up less than half of the total population. This change in ethnic composition is a direct result of the large-scale economic growth. The large influx of British West Indian, Puerto Rican, and continental American immigrants has dramatically altered the traditional Virgin Islands culture. As a result, racial and ethnic tensions exist between some groups, and many natives feel that they are "losing out" and "losing control" to these newcomers. In conclusion, it should be emphasized that socio-cultural changes, as well as environmental changes, are implicit in economic development and underline the need for comprehensive planning.

### **Specific Problems and Issues**

Rapid unplanned growth has led to a number of specific issues and problems that have served as an impetus to the development of a coastal management program. Many of these problems relate to water quality and land and water use conflicts. Additionally, the issues of shoreline allocation and access, and administration and enforcement of regulations are addressed.

#### WATER QUALITY

The quality of most coastal waters is still relatively high, and some areas improved in recent years. Others are still polluted or showing signs of deterioration. The quality of the surrounding waters is affected mainly by sediment runoff, dredging and filling activities, discharge of sewage effluents, and disposal of solid waste materials.

#### SEDIMENT RUNOFF

The problem of excessive sediment runoff is caused primarily by increased urbanization of previously undeveloped lands. Construction activities disturb the soil by stripping vegetation and altering natural landforms. Alterations to the existing land cover, such as housing developments and paving, increase runoff and the flow of sediments, thereby contributing to turbidity in coastal waters. The effects of sediment runoff are particularly acute and noticeable in the bays and harbors adjacent to developed watersheds immediately following a heavy rainfall. Large plumes of silt extend from the mouths of drainage guts into the adjacent waters. The sedimentation effects are harmful to the marine environment, aesthetically objectionable, and increase the necessity for maintenance dredging.

#### DREDGING AND FILLING ACTIVITIES

Dredging of sand and other materials to create artificial landfill, marina sites, improve navigation and provide construction aggregate, has occurred in nearshore areas on a large scale and altered and destroyed natural cycles and ecosystems, such as mangrove areas, saltponds and beaches.

Nearshore dredging activities increase turbidity which disrupts natural marine ecological systems and creates potential beach erosion problems. The alteration and destruction of wetlands and ponds affect fish and wildlife productivity and the drainage and flushing of storm and flood waters on adjacent beaches.

The most notable activities of this type are: the filling and dredging of Krause Lagoon, St. Croix, and Mosquito (Lindberg) Bay, St. Thomas, the piecemeal construction activities at the Mangrove Lagoon, St. Thomas, the stripping of sand on the East End of St. Croix, dredging in Christiansted Harbor, and the alteration of the Mandahl Saltpond, St. Thomas.

Both sediment runoff and dredge and fill activities have resulted in temporarily increased water turbidity. Heavy sedimentation has damaged both reef and fish-life, and is also unappealing for swimming or snorkeling. Turbid or cloudy waters limit light needed for flood production by marine plants.

#### DISCHARGE OF SEWAGE EFFLUENTS

The discharge of raw sewage and toxic substances from boats and marine operations as well as from sewage treatment plants contributes significantly to changes in water quality. In many instances, liquid waste is disposed of in pristine waters or in waters with the least capacity to tolerate further stresses. Even minimal degradation of water quality can have severe adverse impacts upon certain fragile nearshore ecosystems.

#### SOLID WASTE DISPOSAL

Careless solid waste disposal practices affect water quality, litter the shoreline and bottom of the sea, and in the instance of abandoned vessels, obstruct navigation. The primary sources are marine land-fills eroded by ocean currents. Offshore dumping by boats and cruise ships is also a contributing factor.



## USE CONFLICTS

Increased economic activities and the accompanying large scale urban growth have created unprecedented pressure on the resources of the islands' coastline. Shoreline areas are highly desirable for development for a number of reasons. As a result, residential, commercial, industrial, recreational, public and institutional uses compete for severely limited space.

The most significant problems include: the loss of important natural areas, visual conflict, inappropriate shoreline zoning, lack of general land and water use plan, development in hazard prone areas, and constraints on public beach access.

### LOSS OF NATURAL AREAS

Unfortunately, areas that are frequently attractive for the location of economic activities, are ecologically fragile and extremely vulnerable to development of any kind. The loss of natural areas is frequently the result of dredge and fill operations. Ecologically valuable reefs have been blasted and mangroves, saltponds, and beaches have been filled or dredged to accommodate industrial, resort or marina development. In other instances, the functioning of these vital areas has been impaired by encroaching development. These losses are irrevocable and have contributed to declining marine productivity, as well as other coastal resource related problems.

### VISUAL CONFLICT

One of the most important resources of the Virgin Islands is its high degree of visual quality. The islands are beautiful, and their beauty satisfies residents and tourists alike. A problem which results from the competition for shoreline space is visual conflict from haphazard development. Piecemeal destruction of coastal resources, and the type of construction, and location of facilities along the shoreline is becoming a major aesthetic concern. Frequently, adjacent uses conflict drastically in character, as well as the quality of design, construction and maintenance. No single incongruity is so serious, but cumulatively even small projects deface the landscape.

### INAPPROPRIATE SHORELINE ZONING

Current zoning for many shoreline areas, particularly those surrounding prime beaches, reflects excessively high expectations regarding property use. Extensive construction of hotels, condominiums, and even private residences, has often created water quality, visual and public access problems. Many important recreational and natural resources, such as Magens Bay or Mandahl on St. Thomas, and Sandy Point or Great Saltpond on St. Croix, are currently zoned for high intensity use. If these areas are to be protected, existing zoning should be re-evaluated.

LACK OF A COASTAL LAND AND WATER USE  
PLAN AND DEVELOPMENT POLICIES

Loss of natural areas, development of hazard areas, visual conflict, and constraints on public access are all related to the lack of a coastal land and water use plan and development policies. The development of a comprehensive and enforceable program for the coastal zone is essential not only to the maintenance of environmental quality, but also to present and future economic productivity.

Space for Water Dependent Uses:

Much of the limited amount of land suitable for intense development is located along the shoreline. Shoreline areas are also generally the most attractive and convenient location for many types of development.

As a result, uses which must be located on the shore to function face competition from non-water oriented uses. This precludes use of the area for legitimate water dependent uses, and reduces options for their siting.

Displacement of Non-Coastal Dependent  
Activities:

Scarce and expensive coastal real estate has encouraged many types of non-coastal dependent development to move inland and upland. While this does alleviate coastal development pressures, it has several negative impacts: a) the necessity for expensive extensions of public facilities and services; b) urban sprawl with a resultant loss of agricultural land and open space, as well as the blurring of town and country; c) increased travel and with it traffic congestion, air pollution and energy consumption.

This trend will undoubtedly be accelerated by shoreline restrictions. A plan for future coastal land and water use can not ignore the inland development pressures and associated impacts which will be created by coastal regulations. Mechanisms for encouraging new development to cluster in and around existing infrastructure must be considered.

Development in Hazard Areas:

Although no major hurricane has struck since 1932, the Virgin Islands lie in a "hurricane belt." That hurricane and others previously have had disastrous consequences. Buildings were destroyed and sections of the developed areas inundated by flood waters. Hurricanes in Paradise, a historical as well as predictive report on hurricanes in the Virgin Islands, indicates there is a considerable likelihood of another major storm before the year 2000. All low-lying coastal areas are flood-prone, and particularly those at the mouths of guts, or

drainage ways. The fill activities of the past twenty years have considerably increased the amount of low-lying coastal areas subject to flooding.

The situation has been exacerbated by the increased development upland and subsequent intensification of runoff from the watersheds. Commercial and residential development has been sited on those filled lands, thereby increasing the amount of high intensity areas threatened by the consequences of dual flooding from runoff and tidal surge. Potential damages and economic losses related to development in these areas include: loss of life, replacement and rehabilitation costs, higher insurance premiums, and the costs of protective works.

Since the mid-1800's, there have been three (3) major earthquakes and a history of a number of smaller seismic activities, some with observed seismic sea waves. In recent years (since 1962) seismic activities have been observed with an intensity of 4.0 to 5.0 on the Richter's scale with related property damages.

### **Short Term vs. Long Term Productivity**

Past experience has demonstrated that a market allocation of coastal resources will likely result in short-term economic benefits being favored over long-term economic productivity. While major projects may have a direct and readily identifiable adverse impact upon the coastal zone, the negative impacts of most proposed activities will be far less severe. Any single project, viewed in isolation, will likely yield benefits in terms of income and employment with only minor environmental losses.

The gradual, piecemeal loss of resources has not usually been recognized as an economic loss; however, these relatively small, incremental impacts pose a serious problem in terms of economic productivity. For example, a single waste discharge in the coastal zone waters may have little, if any, adverse impact upon those waters. Several discharges, over time, may result in the loss of those waters as a recreation resource because of odor, turbidity, or disease potential. Increased storm runoff may not be attributable to any single activity; however, the cumulative effects of upland development may result in increased flooding problems. These kinds of environmental degradation must be viewed as economic losses as well. While such losses may often be mitigated through corrective action, in some instances, the loss is permanent.

### **Shoreline Access**

Intensive commercial and residential development along the shorelines, particularly beaches, has restricted public use. Although for the most part property owners no longer charge entrance fees, many are not required to provide access. Even where public access is available, the aura that surrounds resort development often presents an effective psychological barrier.

The problem is compounded by the loss of swimming beaches and recreational areas where one could enjoy the coastal environment near, or adjacent to the urban population centers of

Christiansted and Charlotte Amalie. Buck Hole, Bay Side, Long Bay, Barracks Yard, Boat House and Gregory Channel once provided Charlotte Amalie residents with easy access to the water, but filling, construction, and poor water quality obliterated most, and precluded the use of the few remaining areas.

By restricting the use of privately owned beaches, and the loss of urban beaches and swimming areas, residents who generally live within close proximity to the water frequently travel some distance to public beaches, with transportation a problem for many, particularly the young and lower income groups. Furthermore, a heavy demand and burden is placed on those public beaches by the user, resulting in beach litter and erosion, particularly on the unattended beaches.

### **Administration and Enforcement**

This section describes some of the obstacles to effective resolution of development-induced environmental problems. Previous attempts to resolve environmental problems have involved the establishment of separate programs under different agencies with an overwhelming array of requirements. The Open Shorelines Act, The Earth Change Law, Trustlands Occupancy and Alteration Control Act are acts pertaining to the coastal zone, and each requires some form of permit or approval process. The Zoning Law is also applicable to coastal lands, adding to the necessity for another permit as well.

The Territory's system of permits, coupled with Federal requirements, can delay even the smallest of projects for years. Under the current situation, private sector developers are faced with uncertain public policy and unclear public guidelines for development. Inadequate administrative procedures compound uncertainties and delays, and as a result, much time and money is wasted in obtaining decisions on projects. There is a definite need to streamline the process and to consolidate agency responsibilities. Enforcement problems are further compounded by insufficient personnel. Agencies have all too often been entrusted with environmental responsibilities, but with no additional funds to carry them out.

A jurisdictional dispute presently exists between the Department of Conservation and Cultural Affairs and the Virgin Islands Port Authority over control of portions of filled lands. Upon its creation, the Port Authority was vested with administrative responsibility over all coastal lands used for port and related purposes. With the transfer of the submerged and filled lands from the Federal government to the Virgin Islands, and subsequent enactment of the Trustlands, Occupancy and Alteration Control Act and the applicability of the Open Shorelines Act to these areas, the Department of Conservation and Cultural Affairs was made responsible for the management and use of all filled, reclaimed or submerged lands. The Port Authority contends that its properties are exempt from those provisions while the Department of Conservation and Cultural Affairs maintains they are not.

Finally, the Zoning Law in its present form is not particularly effective for implementing a CZMP. While there are some seventeen districts (including two waterfront districts), the Law does not establish any special regulations that address the peculiar environmental or developmental needs of coastal areas.

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**THE  
MANAGEMENT  
PROGRAM**

## CHAPTER FIVE

### Authorities    Organization

This chapter presents the mechanisms for implementing the management program and discusses the organization and permit systems under the revised coastal regulatory regime.

The reorganization within the Department of Conservation and Cultural Affairs, the creation of a Coastal Zone Management Commission, and a revised permit system have been established to facilitate the program's implementation and administration. The relationship of leases and other Territorial and Federal permits to the program are discussed and the coastal zone boundary is also outlined.

## Virgin Islands Coastal Zone Management Act

As Chapter Three, Context for Planning indicates, prior to the enactment of the Virgin Islands Coastal Zone Management Act of 1978 (Title 12, VIC, Chapter 21) there existed a considerable base of authority to implement a coastal zone management program. However, the authority for that regulatory system was founded in a number of statutes, with the responsibility for the administration and enforcement vested in several governmental entities. As a result, the arrangements were characterized by fragmentation, overlap, and multiple processes. The most salient problem was not the lack of adequate laws to protect the coastal resources, but that the existing laws were redundant or conflicting, lacked appropriate standards or administrative action, or failed to specify any time limit within which an agency or administrator must take final action (see Chapter Four, Problems and Issues and Figure 5.2). In addition, the permitting processes and procedures followed in granting, modifying or revoking permits were vague, and frequently raised questions of whether they provide due process of law for the permittee.

### Overview

The Virgin Islands Coastal Zone Management Act (VICZMA) puts forth mechanisms to implement the Virgin Islands Coastal Zone Management Program. These mechanisms consist of two parts: (1) an organization with administrative, fiscal and monitoring responsibility, and (2) the means or necessary powers to administer land and water use regulations, control development in accordance with the management program, resolve conflicts among competing uses, and acquire interests in lands, waters and other property through condemnation or other means. With respect to the implementation and enforcement of a coastal zone management program, it is worthwhile to note that the territorial government is the only level of government in the Virgin Islands, and as such, will continue to directly exercise authority over all land and water uses within the coastal zone. Accordingly, all authority for implementation of the program will be vested in an agency at the territorial level.



The VICZMA creates organizational changes within the Department of Conservation and Cultural Affairs and establishes a Coastal Commission. The existing Bureau of Shoreline and Land Management becomes the Division of Coastal Zone Management. A seventeen member Coastal Commission has primary responsibility for the implementation of the VICZMA.

A coastal zone permit is required for all development activities within the first tier of the coastal zone. The permit system is jointly administered by the Division of Conservation and Cultural Affairs and the Coastal Commission. There will be two types of permits: minor and major. The Commissioner of Conservation and Cultural Affairs approves, disapproves or conditions all minor coastal zone permits. The appropriate committee of the Commission issues major coastal zone permits. A well defined appeal mechanism and a specified time limit for reviewing permits is also set forth in the Coastal Act. Essentially the Coastal Zone permit is a certification that a particular project conforms to:

1. The goals and policies of the VICZMA
2. All applicable rules, regulations, and standards which are administered by the Department of Conservation and Cultural Affairs

#### COASTAL GOALS AND POLICIES

Goals and policies found in Section 903 and 906 of the VICZMA have been derived from two sources: those policies previously endorsed by the Government of the Virgin Islands in legislation acts, and those resulting from the findings of the Study Procedures as detailed in Chapter Two. Many of the policies are a reiteration of policies, goals, and objectives articulated in existing Virgin Islands legislation. The CZM program has analyzed these coastal related policies, developed additional policies based on the technical findings, and synthesized the two. The goals and policies also reflect the national policies outlined in the national Coastal Zone Management Act (Sections 302 and 303).

In Section 903(b) the Legislature has determined that the goals of the Virgin Islands for the Coastal Zone are to:

- (1) protect, maintain, preserve, and where feasible, enhance and restore, the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors to the Virgin Islands;

- (2) promote economic development and growth in the coastal zone and consider the need for development of greater than local concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment.
- (3) assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses.
- (4) assure the orderly, balanced utilization and conservation of the resources of the coastal zone taking into account the social and economic needs of the residents of the Virgin Islands;
- (5) preserve, protect and maintain the trustlands and other submerged and filled lands of the Virgin Islands so as to promote the general welfare of the people of the Virgin Islands;
- (6) preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally-protected rights of private property owners;
- (7) promote and provide affordable and diverse public recreational opportunities in the coastal zone for all residents of the Virgin Islands through acquisition, development, and restoration of areas consistent with sound resource conservation principles;
- (8) conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas;
- (9) maintain or increase coastal water quality through control of erosion, sedimentation, run-off, siltation, and sewage discharge;
- (10) consolidate the existing regulatory controls applicable to uses of land and water in the coastal zone into a single unified process consistent with the provisions of this Chapter, and coordinate therewith the various regulatory requirements of the United States Government.
- (11) promote public participation in decisions affecting coastal planning, conservation and development.

Section 906 sets forth policies that shall apply to all development in the first tier of the coastal zone. The policies are divided into three categories; those relating to development, the environment, and amenities.

(a) Development policies in the first tier shall be as follows:

- (1) to guide new development to the maximum extent feasible into locations with, contiguous with, or in close proximity to existing developed sites and into areas with adequate public services; and to allow well-planned, self-sufficient development in other suitable areas where it will have no significant adverse effects, individually or cumulatively, on coastal zone resources.
- (2) to give highest priority to water dependent uses, particularly in those areas suitable for commercial uses including resort hotels and related facilities, industrial uses including port and marine facilities, and recreation; to give secondary priority to those uses that are water-related or have special siting needs; and to discourage uses which are neither water-dependent, water-related nor have special siting needs in areas suitable for the highest and secondary priority uses;

- (3) to assure that new or expended public capital improvement projects will be designed to accommodate those needs generated by development or uses permitted consistent with the Coastal Land and Water Use Plan and provisions of this Chapter;
  - (4) to assure that all new subdivisions, in addition to the other requirements contained in this Chapter and in the Virgin Islands Zoning and Subdivision Law, are physically suitable for the proposed sites and are designed and improved so as to avoid causing environmental damage or problems of public health;
  - (5) to encourage waterfront redevelopment and renewal in developed harbors in order to preserve and improve physical and visual access to the waterfront from residential neighborhoods and commercial downtown areas;
  - (6) to assure that development will be sited and designed to protect views to and along the sea and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas;
  - (7) to encourage fishing and carefully monitor mariculture and, to the maximum extent feasible, to protect local fishing activities from encroachment by non-related development;
  - (8) to assure that dredging or filling of submerged lands is clearly in the public interest; and to ensure that such proposals are consistent with specific marine environment policies contained in this Chapter. To these ends, the diking, filling or dredging of coastal waters, salt ponds, lagoons, marshes or estuaries may be permitted in accordance with other applicable provisions of this Chapter, only where feasible, mitigation measures have been provided to minimize adverse environmental effects, and in any event shall be limited to the following:
    - (i) maintenance dredging required for existing navigational channels, vessel berthing and mooring areas;
    - (ii) incidental public service purposes, including but not limited to the burying of cables and pipes, the inspection of piers, and the maintenance of existing intake and outfall lines;
    - (iii) new or expanded port, oil, gas and water transportation, and coastal dependent industrial uses, including commercial fishing facilities, cruise ship facilities, and boating facilities and marinas;
    - (iv) except as restricted by federal law, mineral extraction, including sand, provided that such extraction shall be prohibited in significant natural areas; and
    - (v) restoration purposes;
- (b) Environmental policies in the first tier shall be as follows:
- (1) to conserve significant natural areas for their contributions to marine productivity and value as habitats for endangered species and other wildlife;
  - (2) to protect complexes of marine resource systems of unique productivity, including reefs, marine meadows, salt ponds, mangroves and other natural systems, and assure that activities in or adjacent to such complexes are designed and carried out so as to minimize adverse effects on marine productivity, habitat value, storm buffering capabilities, and water quality of the entire complex;
  - (3) to consider use impacts on marine life and adjacent and related coastal environments;
  - (4) to assure that siting criteria, performance standards, and activity regulations are stringently enforced and upgraded to reflect advances in related technology and knowledge of adverse effects on marine productivity and public health;
  - (5) to assure that existing water quality standards for all point source discharge activities are stringently enforced and that the standards are continually upgraded to achieve the highest possible conformance with Federally promulgated water quality criteria;
  - (6) to preserve and protect the environments of offshore islands and cays;

(7) to accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect marine resources and navigation. To this end, sand, rock, mineral, marine growth and coral (including black coral), natural materials, or other natural products of the sea, excepting fish and wildlife, shall not be taken from the shoreline without first obtaining a coastal zone permit, and no permit shall be granted unless it is established that such materials or products are not otherwise obtainable at reasonable cost, and that the removal of such materials or products will not significantly alter the physical characteristics of the area or adjacent areas on an immediate or long-term basis, or unless the Commission has determined that a surplus of such materials or products exists at specifically designated locations;

(8) to assure that dredging and disposal of dredged material will cause minimal adverse affects to marine and wildlife habitats and water circulation;

(9) to assure that development in areas adjacent to environmentally sensitive habitat areas, especially those of endangered species, significant natural areas, and parks and recreation areas, is sited and designed to prevent impacts which would significantly degrade such areas;

(10) to assure all of the foregoing, development must be designed so that adverse impacts on marine productivity, habitat value, storm buffering capabilities and water quality are minimized to the greatest feasible extent by careful integration of construction with the site. Significant erosion, sediment transport, land settlement or environmental degradation of the site shall be identified in the environmental assessment report prepared for or used in the review of the development, or described in any other study, report, test results or comparable documents.

(c) Amenity policies in the first tier shall be as follows:

(1) to protect and, where feasible or appropriate, enhance and increase public coastal recreational uses, areas and facilities;

(2) to protect and enhance the characteristics of those coastal areas which are most valued by the public as amenities and which are scarce, or which would be significantly altered in character by development, or which would cause significant environmental degradation if developed;

(3) to preserve agricultural land uses in the coastal zone by encouraging either maintenance of such present agricultural use or use as open-space areas;

(4) to incorporate visual concerns into the early stages of the planning and design of facilities proposed for siting in the coastal zone and, to the extent feasible, maintain or expand visual access to the coastline and coastal waters;

(5) to foster, protect, improve, and ensure optimum access to, and recreational opportunities at, the shoreline for all the people, consistent with public rights, constitutionally protected rights of private property owners, and the need to protect natural resources from overuse;

(6) to ensure that development will not interfere with the public's right of access to the sea where acquired through customary use, legislative authorization or dedication, including without limitation the use of beaches to the landward extent of the shoreline;

(7) to require, in the discretion of the Commission, that public access from the nearest public roadway to the shoreline be dedicated in land subdivisions or in new development projects requiring a major coastal zone permit. Factors to be considered in requiring such dedication of public access include (i) whether it is consistent with public safety or protection of fragile coastal zone resources; (ii) whether adequate public access exists nearby; (iii) whether existing or proposed uses or development would be adversely affected; (iv) consideration of the

type of shoreline and its appropriate potential recreational, educational, and scientific uses; and (v) the likelihood of trespass on private property resulting from such access and availability of reasonable means for avoiding such trespass. Dedicated accessways shall not be required to be open to public use until a public agency or private association agrees to accept responsibility for providing off-street parking areas and for maintenance and liability of the accessway, shoreline, and beach areas. Nothing in this subsection shall be construed as restricting existing public access nor shall it excuse the performance of duties and responsibilities of public agencies as provided by law to acquire or provide public access to the shoreline. This provision shall not be construed as requiring free use of private facilities on land adjoining any beach or shoreline but only as requiring access to the beach or shoreline to the general public as a condition precedent to the grant of a coastal zone permit.

## ORGANIZATION

The Coastal Act restructures certain governmental relationships and establishes a coastal commission and appeals board. This organization is outlined below and illustrated in Figure 5.1.

### COMMISSIONER OF CONSERVATION AND CULTURAL AFFAIRS

The Commissioner is responsible for directing the activities of the Division of Coastal Zone Management. The Commissioner will be empowered to issue, deny or modify all minor coastal zone permits. Therefore, in granting a permit, the Commissioner may prescribe reasonable terms and conditions to assure consistency with the CZMP and to avoid significant adverse impact on the coastal environment.

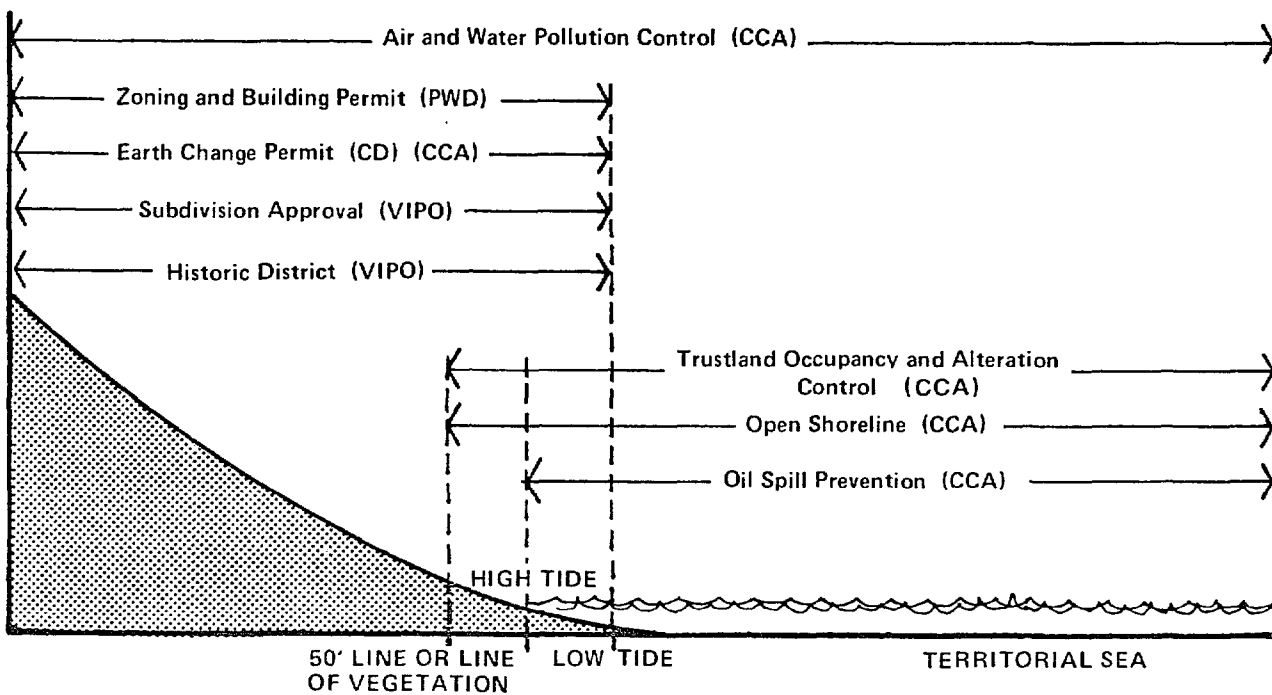
The Commissioner, through the enforcement powers of the Department, shall be responsible for all enforcement actions arising from the implementation of the permit system.

### DIVISION OF COASTAL ZONE MANAGEMENT

The Bureau of Shoreline and Land Management within the Division of Natural Resources Management has been redesignated as the Division of Coastal Zone Management (DCZM) and is vested with the

FIGURE 5.1  
AREAS OF JURISDICTION

PRE-VICZMA



VICZMA

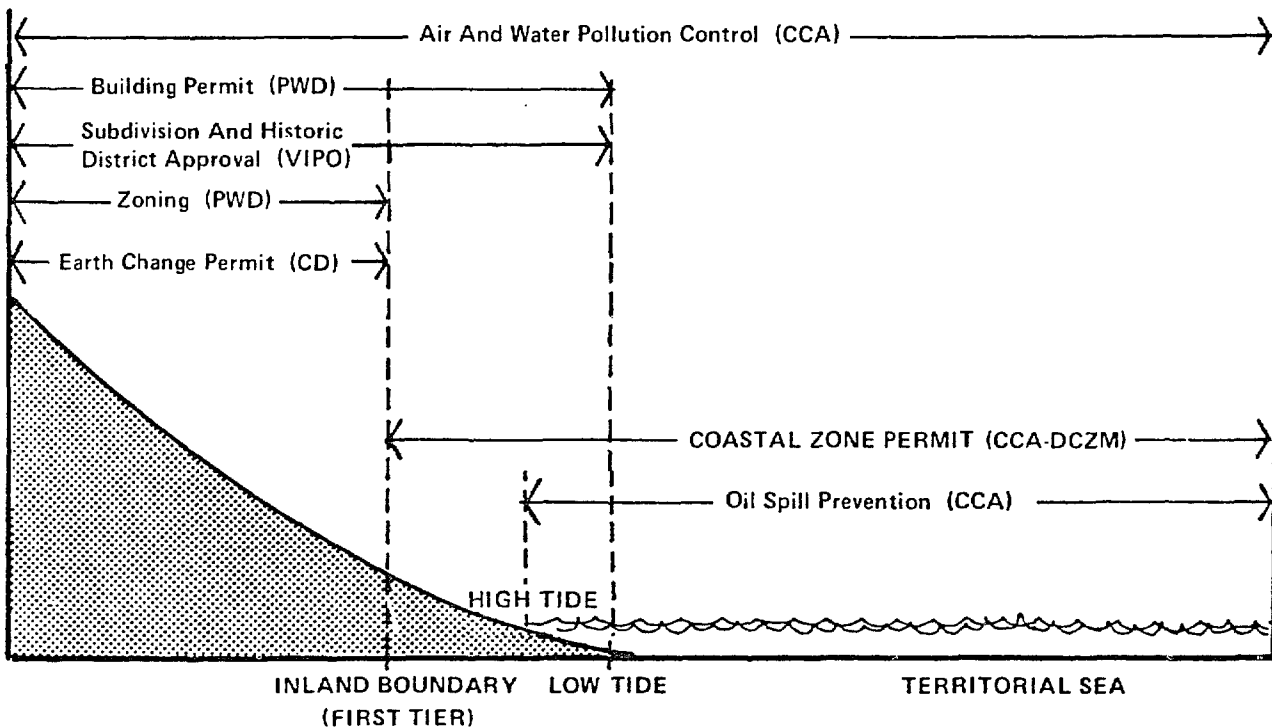
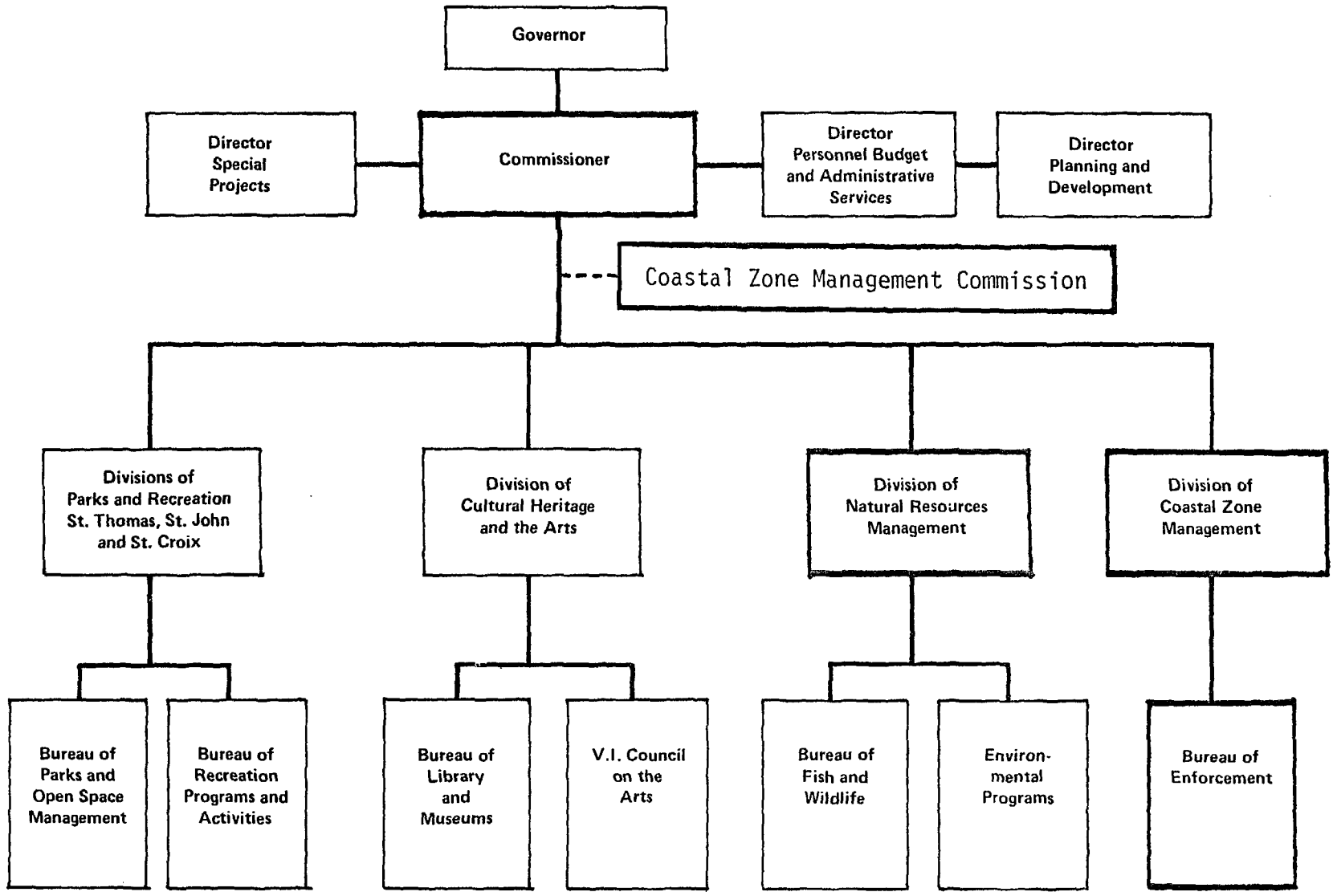


FIGURE 5.2  
 ORGANIZATION  
 DEPARTMENT OF CONSERVATION AND CULTURAL AFFAIRS



## THE COASTAL ZONE PERMIT

The Coastal Zone Permit (CZP) is a comprehensive permit that incorporates, subsumes, or supplants, in whole or in part, all of the coastal management-related permitting functions previously conducted under the environmental programs of the Bureau of Shoreline and Land Management, the Department of Public Works, and the Virgin Islands Conservation District.

The coastal zone permit incorporates the Earth Change permit for all public and private projects within the first tier of the coastal zone. Earth Change permits for all private and public developments in the second tier will be issued by DCCA, rather than the Department of Public Works.

The permitting functions under the Open Shorelines and the Submerged Lands permit under the Trustlands Occupancy, Alteration and Control Act are merged and incorporated as provisions of the CZP. The use permit administered by the Department of Public Works under the Zoning Law within the first tier of the Coastal Zone is also incorporated into the CZP (See Figure 5.2). The dual processing procedure of the U.S. Army Corps of Engineers permits and local permits will continue.

In serving the Division of Coastal Zone Management's function as a "clearinghouse," the coastal zone permit will initiate the appropriate processing for both the NPDES and the Air Pollution Discharge Permit when one of these permits is required for a coastal zone activity, or when Federal consistency certification is required.

The procedure for processing subdivision applications is virtually unchanged. The Planning Office remains the agency responsible for approving subdivision plans. Rather than receipt of an Earth Change permit from the Bureau of Shoreline and Land Management, the applicant will now receive a coastal zone permit. The CZP for subdivisions is a partial permit with final approval contingent upon the Planning Office. The permit indicates that the subdivision is consistent with the provisions of the Coastal Zone Management Program.

All of the implementation procedures and authorities are described in detail in the following sections.



primary responsibilities for the administration of the CZMP (Section 904(g)). The major function of the DCZM is to provide support such as administrative, clerical, technical, and legal and other services which may be required by the Commissioner in carrying out his duties with regard to the program. The DCZM shall also serve as a "clearinghouse" for all permits issued by DCCA that deal with development activities in the coastal zone.

#### BUREAU OF ENFORCEMENT

A Bureau of Enforcement has been created within the DCZM to enforce all environmental rules, regulations, and standards within the jurisdiction of the Commissioner of Conservation and Cultural Affairs. The Bureau of Enforcement is responsible for ensuring that after a permit is issued by the Department, the authorized work or activity will be performed in the manner, and for the purpose, for which the permit was granted.

The Commissioner of Conservation and Cultural Affairs, with assistance from the Bureau of Enforcement, may issue cease and desist orders and initiate judicial proceedings in the District Court to prevent violations of the CZMP or the permit system. All enforcement actions brought by the DCCA will be represented by the Attorney General or his designated legal representative within the Department of Conservation and Cultural Affairs. This authority is explicitly intended to allow the Department to bring suit against all other Departments, agencies or instrumentalities of the Government of the Virgin Islands for violations coming within the Department's jurisdiction.

#### COASTAL ZONE COMMISSION

A Coastal Zone Commission is established by Section 904 of the Act. The Commission consists of seventeen members and is empowered to promulgate rules and regulations and issue major coastal zone permits. It is composed of the Commissioner of Conservation and Cultural Affairs and the Director of Planning, both of whom shall be non-voting members, ex officio, and fifteen citizen members appointed by the Governor and approved by the Legislature. Of the fifteen appointed members, five shall reside in St. Croix, five shall reside in St. Thomas, and five shall reside on St. John. The five members for each island are a Committee of the Commission. Each appointed member will serve a term of two years, and may be reappointed.

## APPEALS BOARD

The Board of Zoning, Subdivision, and Building Appeals has been redesignated the Virgin Islands Land Use Appeals Board (Section 914). In addition to its present duties, this board is empowered to act upon appeals arising from decisions by the Commission and Commissioner of Conservation and Cultural Affairs with regard to the permit system. It may affirm, reverse, or modify the Commissioner's determination, that a permit is required or the type of permit needed or the Commissioner's decision on any permit.

## JUDICIAL REVIEW

Any person aggrieved by the granting or denial of an application for a coastal permit or issuance of a cease and desist order has a right to judicial review of such action or decision by filing a petition in the District Court of the Virgin Islands within 45 days of such decision or order has become final and provided that all administrative remedies have been exhausted.

## VIRGIN ISLANDS PLANNING OFFICE (VIPO)

Section 912 directs the Planning Office regularly to review and develop any necessary changes to the Program. Furthermore VIPO shall continue to be involved in research related to coastal management and engage in comprehensive review of the all Program amendments and may recommend to the Commission the designation of additional areas of particular concern.

## THE PERMIT SYSTEM

The major provision for implementation of the coastal management program is through the institution of a permit system to regulate all development activities: (a) minor permit and (b) major permit. There are also provisions for an emergency permit to be granted under special "emergency conditions."

### Types of Permits and Excluded Activities

Specific standards for determining the type of permit required are found in Section 910(c) of the VICZMA. The following standards are stipulated by the Act.

Major Permit - A major permit is required for any project or activity unless the development is to be completely conducted landward of the line of mean high tide and satisfies one of the following criteria, in which case a minor coastal zone permit shall be required:

- a) The development consists of a subdivision or the construction of one or two single-family residences or a duplex on any parcel of record on the effective date of this chapter; or
- b) the development consists entirely of improvements to an existing structure for which improvements cost the developer less than fifty-two thousand dollars (\$52,000); or
- c) the development consists of one or more structures valued in their entirety at less than seventy-five thousand dollars (\$75,000); or
- d) the development consists of any other development, except the extraction of materials, valued at less than fifty-six thousand dollars (\$56,000); or
- e) the development consists of the extraction of materials valued at less than seventeen thousand dollars (\$17,000) except when the Commissioner determines that there will be a significant adverse environmental consequence.

Emergency Permit - The Commissioner or the appropriate committee of the Commission is empowered to waive permits in cases of emergency. For the purpose of this program "emergency" is defined in Section 902 of the VICZMA as an unexpected situation that poses an immediate danger to life, health or property and demands immediate action to prevent or mitigate loss or damage to life, health, property or essential public service (see also Section 910(b)(2)).

Excluded Activities - Certain activities are excluded from the permit provisions. Ordinary maintenance and repair do not require a coastal permit. Any permitted facility located in the coastal zone may be repaired and maintained without a coastal zone permit provided there is no structural alteration, expansion, or enlargement of the facility.

## ADMINISTRATIVE PROCEDURES

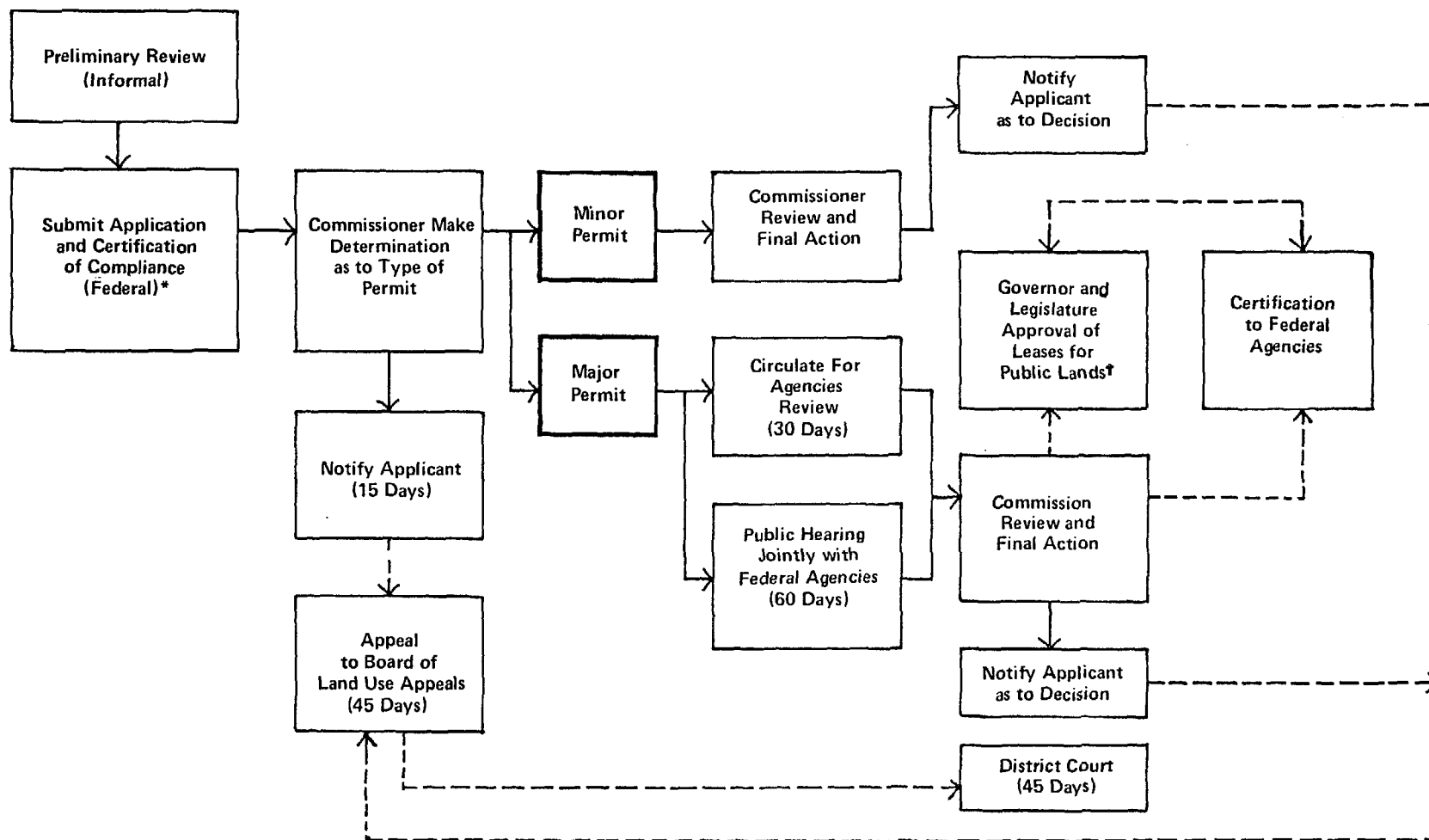
Upon submission of any application (see Figure 5.3) for a coastal zone permit, the Commissioner will determine whether such application is complete. If the Commissioner determines that such application is not complete, he shall promptly notify, in no event more than 15 days after receipt thereof, the applicant of the deficiencies in such application. The application shall specify the type of permit being sought.

Minor Permits

(1) Decision - The Commissioner of Conservation and Cultural Affairs is empowered to issue or deny all minor permits. The Commissioner may conditionally approve a permit application to ensure that mitigating measures are employed to minimize impacts on coastal resources. When denying a permit, the Commissioner will make findings of fact in support of stated conclusions that the proposed development would be inconsistent with the specific objectives and policies of the CZMP.

(2) Time to Act - The Commissioner will grant or deny minor permit requests no later than sixty (60) days after a completed application has been submitted. If a decision on the application is not made either denying or granting the permit within the stipulated sixty (60) day time period, the application will automatically be deemed approved.

FIGURE 5.3  
 COASTAL ZONE PERMIT REVIEW PROCESS:  
 DIVISION OF COASTAL ZONE MANAGEMENT (DCZM)



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\* Certification Required: Activities Needing Federal License of Permit or Federal Activities or Development Projects Request for Federal Assistance

† Governor and Legislature must approve all leases for publicly owned filled lands and permits for the use or occupancy of all submerged lands.

(3) Appeal - Any applicant or aggrieved person has the opportunity to appeal any decision made by the Commissioner on a minor permit within forty-five (45) days after the decision becomes final. The Board of Land Use Appeals is empowered to affirm, reverse or modify the decision of the Commissioner.

(4) Judicial Review - An applicant or person aggrieved by a decision of the Board of Land Use Appeals has the right to file a petition for judicial review in the District court of the Virgin Islands within forty-five (45) days after the Board's decision has become final.

#### MAJOR PERMIT

(1) Review by Agencies - All major permits will be referred by the Division of CZM for review and comment to all relevant public agencies, the Virgin Islands Department of Commerce, Virgin Islands Planning Office, Department of Public Works, Virgin Islands Port Authority, Caribbean Research Institute of the College of the Virgin Islands, National Park Service, and Virgin Islands Conservation District. Comments must be submitted to the Division of CZM within thirty (30) days of receipt of an application referred by the Division, after which it may be presumed the agency consulted has no comments to make. Consulted agencies may request a specific extension of time of up to thirty (30) additional days in order to respond to an application. In addition to consultation with governmental agencies, the Commissioner will consult private organizations and persons who have expressed an interest in a project in order to solicit their information, opinions, recommendations, and advice on the proposed project. The Commissioner shall make available to the public such materials as may be necessary to promote better understanding of the project.

(2) Hearing - A public hearing shall be conducted by the appropriate committee of the Commission within sixty (60) days after a completed application has been filed, and after appropriate written notice of the time and place and the nature of the application. Whenever practicable and necessary, the Division of CZM will arrange with Federal agencies to conduct joint public hearings.

(3) Decision and Standards for Permits - The appropriate committee of the Commission is empowered to issue, deny, or modify all major coastal zone permits and variances based on specific findings of fact in support of stated conclusions relative to the objectives and policies of the CZMP. The

Commission will prescribe appropriate rules, regulations, and standards related to the submission of applications for major coastal zone permits.

(4) Time to Act - The Commission will take action upon an application for a major permit after public hearings, within ninety (90) days after a completed application has been filed with the Commissioner.

(5) Appeal - An applicant or aggrieved person has the opportunity to appeal any decision made by the Commission on a major permit within forty-five (45) days after the decision becomes final. The Board of Land Use Appeals is empowered to affirm, reverse or modify the decision of the Commission.

(6) Judicial Review - An applicant or person aggrieved by a decision of the Board of Land Use Appeals has the right to file a petition for judicial review in the District Court of the Virgin Islands within forty-five (45) days after the Board's decision has become final.

#### LEASES OR OTHER AUTHORIZATIONS

The leasing or occupancy of any filled or submerged lands in the territory within the jurisdiction of the Government of the Virgin Islands will continue to require the approval of the Governor and Legislature. A coastal zone permit will be issued by the Commission for a development activity before the issuance of a lease permit by the Governor or Legislature for filled and submerged lands.

#### **Boundary Definition**

The national Coastal Zone Management Act requires that the management program include an "identification of the boundaries of the coastal zone subject to the management program." The Act proceeds to define "coastal zone" and "coastal waters". The coastal zone boundary delimits the extent of geographic area to be managed by the Virgin Islands CZM program.

Coastal zone means the coastal waters (including the lands therein and thereunder) and the adjacent shore lands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines. . . . and includes islands, transitional and intertidal areas, salt marshes, wetlands and beaches. The zone extends . . . seaward to the outer limits of the United States territorial sea. The zone extends inland from the shorelines only to the extent necessary to control

shorelands the uses of which have a direct and significant impact on the coastal waters. Excluded from the coastal zone are lands, the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents (Section 304(a)).

Coastal waters means . . . those waters, adjacent to the shorelines, which contain a measurable quantity or percentage of sea water, including, but not limited to, sounds, bays, lagoons, bayous, ponds, and estuaries (Section 304(b)).

On the three main islands, St. Croix, St. Thomas, St. John, no location is farther than five miles from the shoreline, and this relatively small size means that all areas have the potential to impact coastal waters. The considerable amount of land with steep slope, the large numbers of guts draining inland watersheds into coastal waters, and the associated problems of erosion, siltation, and sedimentation all serve to make the islands a unified coastal zone. The offshore islands and cays bear an even more direct relation to the coastal waters as the largest Hans Lollick, is less than 500 acres. Accordingly, the entire Virgin Islands (the main islands and the offshore islands and cays) are considered to be within the coastal zone boundary.

At the same time, certain portions of the islands have a much stronger relationship to the coastal waters than others. These are areas adjacent to the coastal waters where a delicate land/water interface exists, and where special attention must be directed to maintain the integrity of critical and complex natural processes. Recognizing the need for a different treatment of this coastal fringe and the upland areas, an inland coastal zone boundary has been delineated for the Virgin Islands utilizing a two tier approach.

The first tier is composed of a relatively narrow strip along the coast and subject to regulation under the provisions of the VICZMA. All offshore islands and cays are included in the first tier, except areas of excluded federal land: (i.e., Water and Buck Islands, St. Thomas; Trunk Cay, St. John; Buck Island and Green Cay, St. Croix.)

The second tier of the Boundary includes all watersheds and adjacent areas and consists of the remaining interior portions of the three main islands. A coastal zone permit is not necessary within the second tier. Enforcement of the management provisions rests with existing authorities, primarily under the Earth Change Law. Section 908 of the Virgin Islands Coastal Act adopts the following boundaries and identification of the coastal zone.

#### CRITERIA FOR INCLUSION INTO THE FIRST TIER BOUNDARY

The landward extent of the first tier has been drawn to meet several criteria:



1. It must be sufficient to encompass uses along the shoreline which will directly and significantly affect coastal waters.
2. It must include areas designated as being of particular concern.
3. It must include transitional and intertidal areas, salt marshes, wetlands, and beaches. Mangrove areas and salt ponds/tidal flats can be classified as wetlands and intertidal areas and are environments which are critical to the resources of coastal waters. They also function as natural systems that intervene and serve to mitigate consequences of various land based uses. Because of these considerations, all of these areas have been included. Furthermore, the boundary should be drawn in such manner that their integrity and function are assured.
4. The boundary must include all of the submerged and filled lands whose jurisdiction has been transferred to the Virgin Islands Government, and administered by the Department of Conservation and Cultural Affairs under the Trustlands, Occupancy and Shoreline Alteration Act.
5. Because one intent of the national CZMA is to prevent undue disruption to natural coastal ecosystems, the urbanized areas of Christiansted, Federiksted and Charlotte Amalie, where these systems and shorelines have been extremely modified and altered, are included only to the limit of the first roadway or property line, or the extent of filled lands under jurisdiction of Conservation and Cultural Affairs.
6. The boundary shall include those coastal areas subject to tidal and gut flooding. The first tier boundary must be readily comprehensible to property owners, Virgin Islands and Federal government agencies, and the public in general, and it must be administrable. Therefore, the boundary has been delineated along cultural and administrative features in accordance with approximate biophysical criteria. Suitable features are roadways, landmarks, property lines, U.S.G.S. contour lines, and uniform distances from the mean low tide mark.

#### EXTENT OF THE SEAWARD BOUNDARY

The seaward extent of the coastal zone is the limit of the territorial sea or a distance of three nautical miles from the offshore islands and cays, or the international boundary.

#### EXTENT OF THE LANDWARD BOUNDARY

The boundaries and identification of the coastal zone are shown on the Coastal Zone Management Plan Maps filed in the Office of the Lieutenant Governor. Below is a narrative description of the landward extent of the coastal zone.

#### ST CROIX BOUNDARY

##### WEST END:

Included is the coastal plain or 1000-foot inland from Ham's Bay to Frederiksted where the boundary is a coastal roadway to Smithfield, following the proposed cross-island highway. At Concordia it resumes the 1000-foot width.

South Side:

The boundary consists of a 1000-foot width along south shore side to Manning Bay race-track; following the public roadway passing north of Martin Marietta and Hess properties, south to Estate Cane Garden where the 1000 foot width is resumed to Great Salt Pond. The boundary is a 500-foot band around the pond, continuing east along the south shore road.

East End:

The boundary follows the ridge line connecting the south shore road with the East End Road.

North Side:

West along the East End Road to the road along Altona Lagoon, the boundary follows the road to Christiansted where the boundary becomes the first property line adjacent to the shoreline. It then proceeds along waterfront road to the ruins at Golden Rock and along the coastal road northwest to Judith's Fancy and the Salt River area where the boundary is drawn along a series of ridgelines and roadways. From Kirkegaard Hill to the Ham's Bluff area, the boundary continues to follow the roadway and ridgeline of the coastal hills.

ST THOMAS BOUNDARY

West End:

Starting from the Botany Bay area proceeding southwest, the boundary follows the 200-foot contour line until the first set of coastal hills where it runs along the first set of ridges at Barents Bay and follows a combination of coastal ridges and 200-foot contour lines to the Fortuna Bay area. From there it proceeds along the 440-foot contour. At the juncture of the 200-foot contour and the West End road, the boundary proceeds along that road southeast through Estate Bonne Esperance past the College and the Harry S. Truman Airport to the Sub Base area.

South Side:

Following the road system, the boundary proceeds along the Waterfront Drive and continues east along the Waterfront Drive or the inland limit of formerly filled land (whichever is greater) to Long Bay Road. It continues along Long Bay Road through the Havensight area. In Bakeroe, Frenchman's Bay, and Bolongo area, the boundary is a composite of ridge lines and contours approximating the 200-foot contour line.

East End:

In the East, the first tier boundary is coterminous with the Bovoni Road to the intersection with Turpentine Run. From that juncture the boundary follows a series of ridge lines to Estate Nazareth and joins the Nazareth Bay/Smith Bay Road at Vessup Bay. From there, the boundary is coterminous with the Smith Bay Road to Mount Pleasant where it follows the ridge line. From that point, the boundary again proceeds along the Smith Bay Road. Starting in Frydendal the boundary is a series of first ridge lines continuing along the north east.

North Side:

A series of contours and ridge lines comprises the boundary. This series approximates either the 200- or 400-foot contours to Lovenlund Bay and the Peterborg Peninsula: all of which is included. The boundary then proceeds southwest following the Magens Bay Road to Drake's Seat. The boundary continues along the Louisenhoj Road to Misgunst, where it assumes approximately the 200-foot contour to Botany Bay.

#### ST JOHN BOUNDARY

A large part of St. John (approximately 50 percent) lies within the Virgin Islands National Park and is therefore excluded from the management area. For the most part, the first tier boundary is drawn along a series of contours, roadways and the boundaries of inholdings (those properties within the confines of the park and slated for acquisition but which have not been purchased).

Cruz Bay to Fish Bay Area:

From Cruz Bay to Fish Bay the boundary has been drawn along a combination of property lines, roads, and the 200-foot contour.

Coral Bay Area:

Starting at Concordia, Drunk Bay, to Coral Harbor the boundary is coterminous with the National Park boundary. The entire East End from Haulover is included.

Cinnamon Bay - Caneel Bay Areas:

At the Cinnamon and Caneel Bay areas the boundary includes all of the "inholdings".

SECOND TIER MANAGEMENT AREA

Management of the second tier is effectively conducted through the existing Earth Change Law (Chapter 13, Section 531, Title 12 of the Virgin Islands Code and the Rules and Regulations sub-chapter 532-1 et seq.). The declaration of policy and intent of the law is consistent with the goals of the VICZMA of 1978. The law recognizes the adverse environmental consequences of sedimentation and siltation to the coastal waters from inland and watershed erosion. All significant land alteration activities are covered by the law and subject to permit requirements. The following is the Declaration of Policy found in the Earth Change Law:

The Legislature of the Virgin Islands hereby determines and finds that the lands and waters comprising the watersheds of the Virgin Islands are great natural assets and resources; and that improper development of land results in changes watershed conditions such as: erosion and sediment deposition on lower-lying land and in the tidal waters, increased flooding, gut and drainage fillings and alteration, pollution, and other harmful environmental changes to such a degree that fish, marine life, and recreational and other private and public uses of lands and waters are being adversely affected. In order to protect the natural resources of the Virgin Islands, promote the health, safety and general welfare of the citizens of the Virgin Islands, and to protect private and public property, the Legislature further finds and determines that it is necessary to establish by law an environmental protection program for land development to prevent soil erosion and for the conservation of beaches, shorelines and the coastal zones of the Virgin Islands.

#### EXCLUDED FEDERAL LANDS

The boundary of the coastal zone, by law, must exclude "lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal government, its officers or agents" (Section 304(a)), CZMA. The guidelines require that management plans identify Federal lands over which the states do not exercise jurisdiction as to use.

There has been considerable controversy surrounding the definition of "sole discretion", and provisions of the Act. A ruling from the U.S. Attorney General was requested by the Office of Coastal Zone Management-NOAA to clarify this issue. A letter of August 10, 1976 states, "if full power to control the use of lands of the United States resides in Congress, such power must also be the sole power, for power is not full if subject to the actions of another. Thus, the plain language of the Federal lands exclusion makes it clear that all Federal lands are excluded from the coastal zone" (emphasis added). Accordingly, all Federal areas owned, leased, held in trust, or whose use is otherwise by law subject solely to the discretion of the Federal government within the Virgin Islands are excluded from the coastal zone boundary. Pursuant to Section 307(c)(1) and (2), activities which "directly affect the coastal zone are subject to the so called "consistency provisions". A list of excluded Federal land is found in Appendix B. Excluded Federal lands are also delineated on the Coastal Land and Water Use Map.

## CHAPTER SIX

### Areas of Particular Concern

The national Coastal Zone Management Act, while noting the importance of the entire coastal zone, declares that certain areas are of yet greater significance. As a prerequisite to program approval, the Act requires "an inventory and designation of areas of particular concern within the coastal zone" (Section 305(b)(3)). In addition, it is necessary that "the management program makes provision for procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, or esthetic values" (Section 306(c)(9)).

#### CRITERIA FOR AREAS OF PARTICULAR CONCERN (APCs) AND AREAS FOR RESTORATION AND PRESERVATION (APRs)

After consideration of the criteria suggested for APC designation by the 15 CFR Part 923 regulations, the Planning Office incorporated those that were relevant to the Virgin Islands and developed the following seven categories of areas that could be nominated as being of particular concern:

1. Significant Natural Areas - These are areas of unique, scarce, or fragile natural habitat or physical features; areas of high natural productivity; or essential habitat for living resources, endangered species including fish and wildlife and various levels of the food chain critical to their well being. Examples of significant areas are unique or remnant plant and animal species of special interest; natural areas that provide scientific and educational value; and areas necessary for nesting, spawning, rearing of young, or resting during migration. Also included are areas needed to protect, maintain, or replenish coastal lands and resources.
2. Culturally Important Areas - These are coastal lands and waters where sites of historic and archaeological significance, cultural or traditional value, or scenic importance are located.

3. Recreation Areas - Coastal lands and waters of substantial recreational value and/or opportunity. Examples include areas well suited for public parks, beaches, boat launching and mooring, and other recreational activities.
4. Prime Industrial and Commercial Areas - Those coastal lands and waters with existing or potential geologic and topographic amenability to industrial and/or commercial development, especially those requiring a waterfront location.
5. Developed Areas - Those urbanized or highly populated and intensively developed areas, where shoreline utilization and water uses are highly competitive or in conflict.
6. Hazard Areas - Coastal locations that, if developed, would pose a hazard because of periodic flooding, storms, erosion or land settlement.
7. Mineral Resources - Coastal areas with existing or potentially important mineral resources, particularly sand deposits for commercial extraction.

Two methods were utilized to identify potential APCs - staff determinations and public nominations. Initially, tentative designations were made by the coastal zone staff. APC designations were based upon the technical aspects of the program development including the land and marine inventories, the capability analysis, the results of the household survey and economic analysis, the results of the newspaper survey, and consultations with Advisory Committees and Federal and Territorial Government personnel, particularly those from the Virgin Islands Department of Conservation and Cultural Affairs and the U.S. Fish and Wildlife Service, U.S. Department of the Interior.

The second method of identifying potential APCs was a standardized form for public nomination. A copy of this form was distributed to Federal and Territorial agency personnel, legislators and citizens. Forms were also available at public libraries and at the Administrators office on each island. Each public nomination was reviewed by the coastal zone staff for compliance with criteria. The public nominations were encouraged to be accompanied by suggestions for recommended use, as well as a statement indicating problems associated with the area. A copy of this form is provided in Appendix D.

Based on an analysis of the information gathered by the above methods, the Virgin Islands Planning Office has designated eighteen land and water areas within the first tier

of the coastal zone as areas of particular concern and areas for restoration and preservation. These areas are designated both in Figure 6.1 Areas of Particular Concern and on the coastal land and water use maps. Section 909 of the VICZMA provides a mechanism for future designation through adoption by the legislature.

Most of the areas of particular concern and areas for restoration and preservation encompass areas of significant natural value and importance and transitional or intensely developed areas where reclamation, restoration and other actions are needed. In addition, some APCs are areas especially suited for intensive use or development.

Guidance as to the management of both APCs and APRs is provided by the coastal zone management goals and policies contained in section 906 of the Virgin Islands CZMA and the Coastal Land and Water Use Plan (CLWUP) as adopted by the Virgin Islands CZMA. Section 906 specifically mandates that all development within the first tier of the coastal zone, which includes all APCs and APRs, must be consistent with the policies in that section.

Additional guidance is also provided to the Commissioner and CZM Commission for the purposes of managing APCs in the form of site specific recommendation which have been developed for APC/APRs. The following specific recommendations are an outgrowth of the coastal zone planning process and represent a synthesis of many diverse considerations.

### **Site Specific Recommendations**

#### ST CROIX

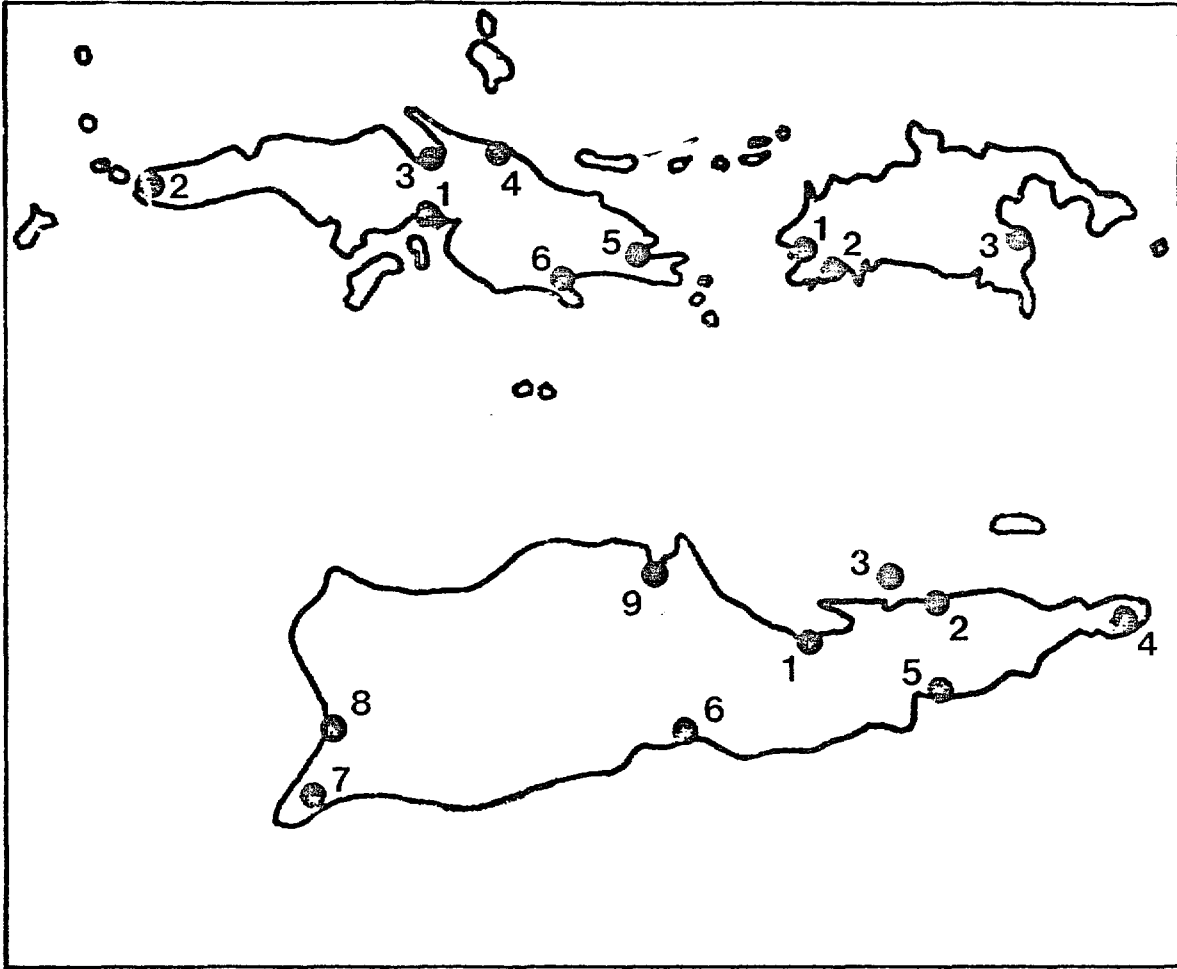
##### (1) CHRISTIANSTED WATERFRONT

(a) Fort Christiansvaern to Vicinity of Antilles Airboats. Christiansted is the largest urban area on St. Croix and is also an important commercial center. Most of the town itself is included in the historic district and several notable landmarks are situated along the waterfront. The Christiansted National Historic Site includes Fort Christiansvaern, the Scalehouse and surrounding areas, and Government House.

A number of hotels and tourist related shops are located in the downtown area. The development pattern along the waterfront has resulted in poor lateral access to many areas of the shoreline. Waterfront access is primarily by means of numerous small alley-ways which lead directly to the shore with lateral movement hindered or even blocked by buildings or fences. There are several small finger piers along the waterfront and the harbor is heavily used for small boat anchorage.



FIGURE 6.1  
AREAS OF PARTICULAR CONCERN



ST. THOMAS

1. St. Thomas Harbor and Waterfront
2. Botany Bay (APR) †
3. Magens Bay and Watershed
4. Mandahl Bay (APR)
5. Vessup Bay - East End
6. Mangrove Lagoon - Benner Bay (APR)

ST. JOHN

1. Enighed Pond - Cruz Bay
2. Chocolate Hole - Great Cruz Bay (APR)
3. Lagoon Point - Coral Harbor (APR)

ST. CROIX

1. Christiansted Waterfront
2. Southgate Pond - Cheney Bay (APR)
3. St. Croix Coral Reef System (APR)
4. East End (APR)
5. Great Salt Pond Bay (APR)
6. Southshore Industrial Area
7. Sandy Point
8. Frederiksted Waterfront
9. Salt River - Sugar Bay (APR)

Downtown vehicular congestion and lack of adequate parking space are serious problems in the area and are impediments to waterfront redevelopment. The removal of heavy cargo traffic associated with the Gallows Bay Port may decrease this traffic congestion somewhat. At present, much of the last remaining open space in the downtown waterfront is used for parking. This shoreline parking area, surrounding the Scalehouse and adjacent to Hamilton Jackson Park, restricts pedestrian movement and is incompatible with the scenic character of the National Historic Site. Several alternate parking schemes and sites have been suggested as possible remedies to this and other parking problems in the downtown area.

Water quality in Christiansted Harbor has been degraded by numerous dredging activities, urban runoff, and sewage discharges. The well-developed reef system which defines the harbor is apparently recovering from the turbidity caused by recent dredging operations. All untreated sewage discharges into the adjacent coastal waters will cease upon completion of interceptor lines next year. It is probable that the 16 foot controlling depth for the harbor should be adequate to meet the draft requirements for the islands' trading vessels and pleasure crafts. The construction of the new Southport facilities should help eliminate the need for further increasing the depth of the harbor.

Protestant Cay, located just 500 feet offshore of Fort Christiansvaern, is an important element of Christiansted Harbor. Although the cay is only 5 acres in size, it adds significant visual interest to the view from the Christiansted Waterfront. The government of the Virgin Islands owns Protestant Cay. A private company holds the lease and operates a resort hotel on the cay. Ferry service is provided for a fee between Christiansted and the hotel on the cay. An endangered species of lizard, Ameiva polops, is found only on Protestant Cay and Green Cay.

#### Recommendations:

It is recommended that pedestrian access to the downtown area be improved by constructing a pedestrian walk-way along the waterfront. Safe, continuous lateral movement should be provided by extending and improving the existing broadwalk westward to the limits of existing waterfront commercial development. Existing parking areas along the waterfront near the Scalehouse should be relocated to insure that the integrity of the Historic Site is maintained and that safe and adequate access to the entire waterfront is available. Any maintenance dredging which may be required should be undertaken only after careful study. In order to protect the remaining habitat for the endangered wildlife and to maintain the scenic quality of the waterfront, it is recommended that any development activities that take place on Protestant Cay be carefully designed and sited.

(b) FORT LOUISE AUGUSTA - ALTONA LAGOON - GALLOWS BAY

This area is just east of the Christiansted downtown, extending from Fort Christiansvaern westward to the vicinity of Fort Louise Augusta. It includes the Gallows Bay Port and marina facilities and the filled land adjacent to the Altona Lagoon.

Presently, most of the maritime commerce for St. Croix is handled by the limited Port Authority facilities at Gallows Bay. There is also substantial traffic in small inter-island vessels and local fishing boats. Cargo movement to and from this area contributes to severe traffic congestion in Christiansted. Presently, the size of vessels entering Christiansted is limited by the channel depth of 16 feet; however, the new Southport facilities will enable all shipping activity, with the exception of the small traditional traders, to relocate out of the Gallows Bay area. This area contains Christiansted's only marina and has traditionally been used for small boat mooring and repair.

Altona Lagoon is connected to the sea by a small channel located just east of the Gallows Bay marina. This Lagoon is fringed by healthy mangroves, providing significant habitat for birds and mangrove oysters; however, drainage and circulation for the lagoon is poor as a result of frequent obstructions in this narrow channel. Altona Beach, the filled land adjacent to the lagoon, has been partially developed for recreation; however, it does not receive heavy use except for special holidays and large scale gatherings.

Recommendations:

It is recommended that the Gallows Bay area be redeveloped primarily for recreational boating upon completion of the new southport. New or expanded marina sites should be developed within Gallows Bay. All heavy cargo operations should be relocated to the new Southport location. Adequate docking and storage area for the small inter-island trading vessels should be maintained. The area used for small fishing boats should be improved by developing adequate docking, mooring, and land based facilities.

Altona Lagoon should retain its function primarily as a natural scenic area. The entire perimeter of the Lagoon is fringed by mangroves. Circulation within the Lagoon should be improved by removing obstructions from the channel which connects with the harbor.

A feasibility study should be done to determine if a portion of the Lagoon could be utilized as a marina and small boat anchorage. In addition, the possibility of improving the beach and recreation area should be investigated.

(c) WESTERN CHRISTIANSTED HARBOR

This large area of undeveloped filled land extends westward from the Antilles Airboat facilities to the V.I. Water and Power Authority Plant. Much of the adjacent inland area is occupied by Housing Authority developments including JFK Terrace, DeChabert, and Water Gut Homes. The Department of Conservation and Cultural Affairs has recently completed preliminary plans for "Christiansted West Waterfront Park," a large recreation complex for this area. At present, there are few recreational facilities available for nearby residents. The plans include extensive land and water recreation facilities, including a bicycle path, pedestrian boardwalk, swimming and boating, tennis courts and play fields.

Recommendations:

It is recommended that the development of this area for recreational use be accomplished as expeditiously as possible. The plans developed by the Department of Conservation and Cultural Affairs for "The Christiansted West Waterfront Park," should be implemented. When a public beach site for this area is identified, steps should be taken to improve the quality of the beach and adjacent water.

(2) SOUTHGATE POND - CHENEY BAY

Southgate Pond has been divided by fill to form two separate ponds. The western portion has been opened to the sea and is the site of a limited boat anchorage. The eastern, larger pond is still an important wildlife, scenic, and educational area. Cheney Bay Beach is located between the sea and the eastern pond. Fine views of Green Cay can be experienced from the entire area. A hotel-condominium development is located adjacent to the opened western pond. Because of its proximity to Christiansted, Cheney Bay Beach has some potential for public recreational use.

Recommendations:

The eastern portion of the former Southgate pond should be preserved as a wildlife-educational and research area. Public access to the Cheney Bay Beach should be secured. Cheney Bay should be acquired and developed as a public beach facility. The impacts of having opened the western portion of the pond should be investigated. If no severe impacts are found, the western portion of the pond could be devoted to a protected anchorage for recreational boating.

### (3) ST. CROIX CORAL REEF SYSTEM

The best example of coral reefs in the U.S. Virgin Islands is found offshore of St. Croix. These reefs provide spectacular opportunities for underwater recreation and are areas of high marine productivity. The bank Barrier reefs which extend along the entire northeastern and southeastern coasts are the most extensive and most developed of all the St. Croix's reefs and, as such, deserve special management. Fine examples of algal ridges can also be found within this area of particular concern. Algal ridges are important sources of nutrients to coastal waters. Clear water that enables maximum penetration of sunlight is essential for the development of algal ridges. On the northwest shore the sea floor drops off abruptly, producing an unusual type of Reef System. The deep water reefs between Cane Bay and Davis Bay are the best examples of this marine environment in the U.S. Virgin Islands. The Coral Reef area of particular concern, which extends from Long Reef in Christiansted Harbor, includes the non-Federal areas of Buck Island Reef, Boiler Bay Reefs, and the Southeastern Reefs from East point to Great Pond Bay, including the well developed algal ridges of the southeast shore, and the reefs between Cane and Davis Bays.

#### Recommendations:

This portion of the St. Croix coral reef system should be preserved as an underwater park and placed within the Territorial Park System.

### (4) EAST END

The extent of this APC includes all of the East End from Hughes Point northeast to Cramer Park. This area is the driest environment on St. Croix, and as such, includes a fine example of the thorn-scrub ecosystem. East End Point, the easternmost point of the Virgin Islands, is an excellent example of dwarf vegetation due to salt spray and wind shear. The ecology of this area, because of its dryness and proximity to the wind and salt spray from the sea, is extremely sensitive to disruption. Issac and Jacks Bay Beaches and coral reef systems are considered as one of the best snorkeling spots in the Virgin Islands. The entire East End area is presently owned by the Virgin Islands government and Fairleigh Dickinson.

Recommendations:

The East End should remain in its present undeveloped state, and integrated into the Territorial Park System.

(5) GREAT SALT POND AND BAY

Great Pond is the second largest salt pond in the Virgin Islands with black mangroves rimming most of the pond. In addition to serving as a large sediment trap between upland and Great Pond Bay, Great Pond is a significant wildlife area. Offshore is a barrier reef/turtle grass meadow system. The close proximity of these three natural systems makes the Great Salt Pond and Bay a unique natural area.

Recommendations:

The Great Salt Pond and Bay area should be preserved as a wildlife, educational, and natural area.

(6) SOUTHSHORE INDUSTRIAL AREA

The Industrial area extends from Canegarden Bay, the site of a planned petroleum refinery to Manning Bay, just south of the Hamilton Airport. The shoreline and adjacent inland areas here are among the most heavily developed coastal areas in the Virgin Islands. Massive dredge and fill activities have occurred throughout most of this area. These developments include:

a) Virgin Islands Refinery Corporation (VIRCO) - All local and federal permits have been approved for a 200,000 barrel per day refinery on a 300 acre site on Canegarden Bay. A submarine pipeline extending two miles offshore to a marine platform terminal is included in the project. No construction activity has yet begun.

b) Hess Oil Virgin Islands Corporation (HOVIC) - The 750,000 barrel per day refinery here is one of the largest in the world. The Hess Port facilities are extensive and are large enough to accommodate all conventional oil tankers. Very large Crude Carriers (VLCC's tankers larger than 200,000 DWT) use the port only after being lightered offshore near

Frederiksted. All necessary permits for the construction of a crude oil terminal and submarine pipeline 2 miles offshore have been issued. The VLCC's would be unloaded at this offshore terminal, thus foregoing the need for lightering the tankers.

New public port facilities are being constructed by HOVIC between the existing Hess and Martin Marietta ports. The Army Corps of Engineers issued a permit in October 1976 for the offshore terminal.

c) Martin Marietta Alumina Plant - The Martin Marietta processing operation occupies much of the former Krause Lagoon. This area has been altered extensively by dredging and filling. The company also maintains excellent port facilities here. A large dredge-spoil island is located just offshore from the entrance to the Martin Marietta channel. Some fringe mangrove areas remain at the southern edge of the property.

d) Water and Power Authority Plant - The Virgin Islands Water and Power Authority has recently constructed a 35,000 KW generating plant just east of the Martin Marietta channel opening. The Authority sold this plant to the Dominican Republic in 1977.

e) St. Croix Landfill - The Department of Public Works operates a sanitary landfill just west of the Martin Marietta property. The new landfill is located inland just north of the previously used coastal site. A government abattoir is also situated nearby.

f) Wastewater Treatment Plant - A large wastewater treatment plant with ocean outfall is located near the sanitary landfill. Ultimately, almost all wastewater flows from Christiansted, Frederiksted, and central St. Croix will be treated at this plant.

g) Manning Bay Racetrack - The racetrack is located west of the landfill and wastewater treatment plant. The track is just south of the airport and occupies much of a large parcel of government land which extends from the airport south to Manning Bay. The Mangrove shoreline in this area is still healthy and productive.

There are numerous potential adverse environmental impacts associated with the entire south shore industrial area. The foremost problem among these is the potential for large scale oil spills along the entire south shore. The volume of petroleum products which are presently being transported, loaded, and unloaded in the area from Hess west to Frederiksted is immense. Regardless of the safety precautions which are taken, an element of risk is always present for these operations. An additional refinery will only add to these risks. Other adverse impacts include degradation of water quality which results from the massive alteration of drainage patterns, both in the immediate area of development and also run-off problems associated with upland developments. Another potential water problem for the area

is that of waste discharge including chemical, and thermal wastes from the industrial plants, the sewage treatment plant, and the solid waste disposal site. The Mangrove areas near Martin Marietta and Manning Bay are also vulnerable to industrial impacts.

Recommendations:

It is recommended that special procedures be established for monitoring the environmental impacts, especially water and air quality impacts associated with the south shore industrial area. Therefore, future development should be in close coordination with the Department of Conservation and Cultural Affairs. Oil spill contingency plans should be formulated and reviewed regularly for adequacy. Any future dredging activity, such as that between the Hess and Martin Marietta channel or the dredging and backfilling necessary for the proposed submarine pipelines, should be carefully monitored to insure that undue damage does not occur. Mangrove restoration should be undertaken along the southern boundary of the Martin Marietta site. Existing mangroves at Manning Bay should be protected.

(7) SANDY POINT

Sandy Point is a peninsula of approximately 500 acres at the southwest tip of St Croix. Sandy Point is both an important natural area and an area that has potential for development. Within Sandy Point are:

1. The largest salt pond in the Virgin Islands
2. The longest beaches in the Virgin Islands. The beaches at Sandy Point are important recreational areas and important sea turtle nesting sites. A .8 mile stretch of beach at Sandy Point is the only known beach under U.S. jurisdiction used extensively for nesting by the endangered Leatherback sea turtle. In 1977 this portion of Sandy Point Beach, .8 mile long by .1 mile wide, was declared to be an Emergency Critical Habitat by the Fish and Wildlife Service. The adjacent waters have also been proposed for designation by NMFS.
3. Onshore and offshore sand deposits that may be exploitable.

Recommendations:

The .8 mile by .1 mile portion of Sandy Point Beach has been declared a Critical Habitat for endangered species of sea turtles by the U.S. Fish and Wildlife Service and is of national significance. Designation of the adjacent waters has been proposed by NMFS. Purchase of this portion of Sandy Point by the U.S. Government is strongly recommended. Funding for the purchase of the critical habitat area should be sought under provisions of the Endangered Species Act. Development permitted on Sandy Point should be carefully planned, sited and designed in order to protect the unusual number of valuable recreation, environmental, and scenic resources. A sand survey conducted by the Department of Conservation and Cultural Affairs and federal agencies



should be encouraged and supported. Sand mining after the necessary environmental assessments may prove feasible for both off-shore and on-shore areas at Sandy Point.

Alternatively, the U.S. Department of the Interior should designate the entire Sandy Point peninsula as a National Recreation Area of Seashore encompassing the beach, salt pond, land, and water areas of approximately 500 acres.

#### (8) FREDERIKSTED

The town of Frederiksted has been declining in importance as a commercial center for several years. Although some limited cruise ship facilities are available, relatively few cruise ship calls are made in the town. One large finger pier is presently in use for passenger and cargo operations; however, it can be expected that all cargo activities will be moved to the new Southport upon its completion. The downtown waterfront area is not heavily used and most of the shoreline here is occupied by park area and Fort Frederik, a National Historic Site. In addition, much of the town itself is included in the Historic District. A Virgin Islands Port Authority Study "Plans for Seaport Development and Relocation" (Madigan-Praeger, 1974) includes proposals designed to revitalize the Frederiksted Waterfront including expanded tourist oriented facilities and downtown redevelopment.

#### Recommendations:

The CZMP endorses the major proposals for Frederiksted as outlined in the 1974 Port Authority Study "Plans for Seaport Development and Relocation." It is recommended that a revitalization plan for Frederiksted include the following elements:

(a) Active encouragement of cruise ships to visit Frederiksted, repairs and improvements to the existing pier, construction of a visitor center plus other waterfront amenities for both visitors and residents;

(b) Development and improvements of Frederiksted beach and the waterfront park with special emphasis upon the integration of historical areas especially (Fort Frederik) into the shoreline park areas; and

(c) Relocation of all cargo shipping to the Southport with any future marina construction encouraged to locate adjacent to the cruise ship area.

#### (9) SALT RIVER - SUGAR BAY

Salt River is one of the few major mangrove lagoons remaining in the U.S. Virgin Islands. It is the largest on St. Croix and is an important habitat for many species of marine, bird and terrestrial wildlife. The area, also has important scientific, educational and cultural values.

Located off-shore at the mouth of Salt River is a well developed reef system and submarine canyon. Fairleigh Dickinson University has an important underwater research station here. Because the Lagoon is well protected it serves as a hurricane hole for boats during storms. To provide more permanent anchorage, work on two marine projects was initiated. A great deal of shoreline alteration occurred (through dredging, filling, bulkheading), but both were abandoned for economic reasons. A third marina project has been proposed.

Finally, on the northwest side of Salt River is a National Historic Site commemorating Columbus Landing in 1493.

Recommendations:

The natural, scientific, educational scenic and historic values of this area should be protected and consideration should be given to incorporating part of the area into the Territorial Park System. Marina, resort and other related development can be accommodated with proper planning, design, construction and operation. It is preferable that Marina type projects locate in the areas which have already been significantly altered.

ST THOMAS

(1) CHARLOTTE AMALIE HARBOR AND WATERFRONT

a) West Indian Company and Vicinty

The area in the vicinity of the West Indian Company docks is one of the most heavily used of the St. Thomas waterfront. The company properties include the best equipped and most extensive passenger and cargo handling facilities in the Virgin Islands. The docks provide complete service for cruise ships, cargo vessels, fuel tankers and an occasional military vessel. A large marina and numerous small boat moorings are located adjacent to the dock area.

Because of the great number of cruise ships which normally call at St. Thomas, the company docks frequently are unable to accommodate all of the vessels requiring services. There is only one additional cruise ship docking space available in St. Thomas (the Port Authority Sub-Base pier). If docking space is not available, cruise vessels anchor in the harbor and transfer passengers to the waterfront by launch. In addition, several of the

larger cruise ships are forced to anchor in the outer harbor because of the insufficient depth alongside the docks.

The marina adjacent to the West Indian Company docks is large and well-equipped for both sailing vessels and large power boats. A resort hotel with gift shops, restaurant, and night club is located near the marina operation. A number of vessels at the marina and adjacent mooring sites serve as permanent live-in facilities.

b) Long Bay and Downtown Waterfront

The waterfront area which extends from Pearson Gardens to the inter-island ferry and airboat facilities near Frenchtown is used primarily for recreation and traditional commerce. This area also includes Veteran's Drive, the principal land transportation route for the island. Traditionally, the beach area near Pearson Gardens and the docking facilities near the Legislature Building have been used by the local fishermen for mooring and boat repair. The small island trading vessels are the principal users of the bulkheaded area along the downtown waterfront. These activities play an important role in the day-to-day commercial and cultural life of the islands. The bulkheaded area also receives considerable use by private yachts and tour boats. Because of traffic congestion, continued safe public access to the waterfront is threatened. Both residents and visitors often experience difficulty in crossing Veteran's Drive in order to reach the glass bottom boats, island trading vessels and other waterfront markets.

Recommendations:

Future development activity West of the Frederiksberg Point and extending to the vicinity of the Antilles Airboats operation should be restricted to maintain this area in its present use. Any shoreline alterations for this area should be minimal. The native fishing boat uses, recreation uses and traditional waterfront commerce activities should be protected from encroachment by other uses. Any public service facilities for this shoreline area, including land transportation, public buildings, utilities, or public recreation, should be designed in such a way that the public's physical and visual access to the waterfront is enhanced, not hindered. Safety measures such as crosswalks should be utilized to insure safe and adequate access to the waterfront.

c) Frenchtown and Vicinity

The waterfront area from the inter-island ferry and U.S. Customs facilities to Frenchtown is used for transportation services, traditional fishing and boating activities, and for marina facilities. Most of the available shoreline is presently developed. In addition,

the marine areas receive very heavy use and are stressed by considerable runoff from upland areas. The marina area here is often congested. The narrow channel at Haulover Cut represents a potential safety hazard to both boat traffic and incoming airboats.

Recommendations:

It is recommended that the waterfront area of Frenchtown and vicinity be maintained in its present use. Continued attention to congestion and safety problems in the marine area is warranted.

d) CROWN BAY

The Crown Bay area, extending from the sand-fill near Aspinall School to the former submarine base piers, is among the most heavily developed areas of the St. Thomas waterfront. The shoreline uses in this area range from container ship facilities to derelict ship and auto dumping. The sand-fill area south of Wayne Aspinall School receives heavy use from shallow draft container vessels and bulk carriers and also serves as a beaching area for local fishermen. Sub-base activities include warehousing, restaurants, a small marina with dry storage, government motor pool, auto and boat repair shops, and office buildings. One of the Port Authority Sub Base piers provides docking space for one large vessel and is the only facility of its type available on St. Thomas other than those of the West Indian Company. The pier is used mainly for cruise ship docking and fuel tanker unloading. Remnants of other piers are present; however, for the most part, these ancient wooden piers are in dangerous disrepair and seldom used. In addition to the highly developed shoreline, most other areas of the former naval base are presently occupied by private concerns which lease from the Government.

This area represents the greatest potential site for industrial and commercial development of the Island of St. Thomas. This is a suitable site for future expansion of public cargo and passenger handling facilities. Presently the entire area is adversely affected by traffic congestion, inadequate public services, refuse dumping and general disrepair and poor management of existing facilities. The future needs of St. Thomas for passenger and

cargo handling and industrial and commercial space will almost certainly require the re-development of this area. Because of the limited areas available for this type of development, it is probable that competition for Crown Bay locations will become much more intense over time.

The Port Authority has recently completed a detailed study outlining possible re-development options for the Crown Bay area. Three alternative bulkhead configurations have been suggested calling for filled areas of between 29 and 59 acres. The Plans include proposals for cargo, passenger, retail, and commercial facilities. A 60 boat marina is included in the plans as a possible option. The principal uses for the new facilities would be for cargo handling and cruise ship-oriented activities. Considerable dredging in Crown Bay and immediate off-shore areas would be required for the proposed project.

Recommendations:

It is recommended that the general Crown Bay redevelopment plan suggested by the Port Authority be endorsed. Specific configurations and facility plans for the filled lands should be decided upon after consultations with the coastal zone management agency, the Port Authority, and the Department of Commerce. The marina facility should be included in the Crown Bay redevelopment with additional attention given to the the need for a larger facility than that outlined in the Port Authority plan.

e) KRUM BAY

The Water and Power Authority electric generation and desalinization plants occupy much of the Krum Bay shoreline. Bulk materials such as sand and fuel are also unloaded and stored here. The Authority's sea water intake pipes are located just offshore. All of the available shoreline is presently developed and much of the surrounding hillside is used for fuel and water storage tanks.

Recommendations:

It is recommended that this area be maintained for heavy industrial activities such as those which presently operate here. The quality of the water in the bay which is processed by the desalinization plants should be protected from industrial pollution.

f) HASSEL ISLAND

Hassel Island is a small offshore island (139 acres) which is a resource of historic, recreational, and scenic value. Because of its close proximity to Charlotte Amalie (150 feet across Haulover Cut), Hassel Island's development potential is high. Presently the island serves to preserve the visual integrity of St. Thomas Harbor. The maintenance of Hassel Island in its present state is essential to the preservation and enhancement of the visual quality and character of the harbor. The southernmost third of the island (48 acres) is already a Historic District on the National Register of Historic Places. The Omnibus Territories Bill provided authorization for the purchase of most of the island by the National Park Service with the approval of the President.

Recommendations:

The present character of Hassel Island should be maintained. Water dependent uses such as reviving and restoring Creque's Boat Yard or the mooring of small boats in Careening Cove should be allowed. Portions of the island should be considered as prime addition(s) to the Territorial Park System or National Park Service Holdings.

g) WATER ISLAND

Water Island, southwest of the entrance to St. Thomas Harbor, is the fourth largest island in the Territory (500 acres). The island is Federally owned and, as such, is an "excluded Federal land," not subject to provisions of the Virgin Islands CZMP.

Based upon the findings of the Federal consultation-coordination element of the program, it does not appear that the island includes any resources or uses of "national interest" nor is there any existing or proposed "national defense" use for the area. The island is presently under a long-term lease to a private corporation. Scattered development has occurred including hotels and private homes. The primary use is for estate type residential development. Because of the island's size and location, it is likely that any development activity there will have a direct impact on the coastal zone.

Recommendations:

Based upon the finding that Water Island development does not involve the "national interest" and the finding that direct impacts may occur, it is recommended that Water

Island be developed in a manner consistent with the CZM Land and Water Use Plan and policies.

## 2. ESTATE BOTANY BAY

The area is located at the western end of St. Thomas and includes the marine resources of Botany and Sandy Bays.

Within the 400 acres of Estate Botany Bay are an unusual combination of historic, natural, recreation and scenic resources. An archaeological district with the remains of an Arawak village and the historic mill and sugar factory have been placed on the National Register of Historic Places. A wildlife sanctuary and arboretum are additional features of note within the site. The marine life of Botany Bay and Sandy Bay is particularly rich with good examples of sponges, corals, and fish. At present, Estate Botany Bay is privately owned. The Estate and associated marine resources have been recommended as a "national natural landmark."

Negotiations between the owner of Estate Botany Bay and the Virgin Islands Government are in progress. Possibly certain portions of the estate will be donated to the Territorial Park System. In addition, public access rights to Sandy Beach may be granted.

### Recommendations:

It is strongly recommended that Estate Botany Bay, including the offshore reefs, be included in the Territorial Park System. The archaeological and historic sites should be protected from degradation and serve as an outdoor classroom for students. The basic natural character of both the terrestrial and marine portions of this site should be protected. Public beaches within Estate Botany Bay should be secured by the government.

## (3) MAGENS BAY

Magens Bay is the most distinctive coastal feature on the north shore of St. Thomas. As one of the largest bays in the Virgin Islands - 4,000 feet wide and over two miles long, it is also one of the most significant recreation resources of St. Thomas. The entire viewshed is one of the most scenic in the Virgin Islands.

Beyond the beach itself, the area is a concentration of several resources that make the entire watershed one of the highest value resource areas in the islands. The archaeological

site is on the National Register of Historic Places. This site is of considerable cultural and educational value to the people of the Islands. An arboretum of extensive tropical flora also exists behind the beach area.

Almost any place leaves an "image" with its inhabitants and visitors. The "image" of St. Thomas for many people is summed up by the view of Magens Bay from the observation points at Mountain Top and Drake's Seat. Therefore, as the many factors outlined indicate, Magens Bay is a resource worthy of special management.

Recommendations:

Viewshed/Watershed Management - The viewshed (the area of Lerkenlund, Misgunst, Canaan, Lovelund and Peterborg Peninsula) from Drake's Seat seaward should receive careful management. The view should be protected and enhanced. Watershed management of this area is needed to protect Magens Bay, the beach, and the archaeological sites. Upland development should be held at a minimum, and conducted in a manner that will prevent erosion of the hillsides and subsequent siltation and sedimentation of the Bay.

Improvement of Public Access to the Beach and Park - Magens is difficult to reach without a car. Public bus service, especially on weekends, should be developed from Charlotte Amalie and Estate Tutu.

The Magen's Bay Authority currently charges 50 cents per person plus 50 cents per vehicle to enter the beach. While this fee may be necessary to underwrite the costs of beach maintenance it is nevertheless excessive for many island residents. In addition, the imposition of a beach user fee by the Magens Bay Authority - a public agency - sets a poor precedent that may induce other beach facility owners to assess a beach user's fee.

A portion of the administrative CZM (306) funding and possibly staff from the Department of Conservation and Cultural Affairs should be made available to help maintain Magens Bay Beach.

Arboretum Restoration - The coconut grove and entire arboretum area should be restored and managed.

(4) MANDAH L BAY

The salt pond at Mandahl Bay was opened as part of a plan to develop the Bay as a marina and Hans Lollick Island as a resort. The project development was abandoned, leaving a massive rip rap breakwater at the opening to the proposed mooring and docking areas and some site preparation. Winter swells, high energy wave action, dangerous sailing, and inaccessible location preclude the future use of this area as a marina.



At the present time, the site is functioning as an excellent wildlife area. Sea birds and fish are very common. Possibilities for restoration have been positively assessed by the U.S. Fish and Wildlife Service. The site is presently owned by the government of the Virgin Islands.

Recommendations:

The recommended use for the area is as a wildlife and scenic park. Accessibility should not be significantly improved. While it is not feasible to restore the salt pond to its original condition, a "lagoon" may be created by replanting and restoring damaged vegetation.

(5) VESSUP BAY - EAST END

The future development of Vessup Bay, Red Hook and eastern St. Thomas are interrelated. Vessup Bay functions as the focal point of the entire east end of the island. Commercial development, such as the new Red Hook shopping center, numerous marina developments, Eudora Kean High School, and the Red Hook-Cruz Bay ferry dock all are located in or adjacent to Vessup Bay. Many hotels and condominiums are also located on the east end of St. Thomas.

Because of its proximity to the excellent sailing areas of St. John, the British Virgin Islands, and Sir Francis Drake's Passage, Vessup Bay is the site of intense boating activity. As a result the bay is quickly becoming overcrowded. The marinas are filled to capacity and the mooring of sailing vessels utilizes a substantial portion of the deeper water of the bay. The Red Hook-Cruz Bay ferry dock on the north side of the bay, and the National Park service dock on the south side, add significantly to the heavy use of Vessup Bay. The concomitant problems of safety, lowered water quality, and lowered visual quality are evident.

Recommendations:

The expansion of boating facilities at Vessup Bay should be encouraged. The existing ferry boat dock should be improved and enlarged. There are plans to open the salt pond

adjacent to the ferry dock and to develop a marina and associated facilities. This proposal has been issued an Army Corps permit but it is unlikely that the project will become a reality. As soon as the Army Corps permit for this project expires, any future plans the Red Hook salt pond must conform to the policies of the Coastal Zone Management Act of 1978 and will require a Coastal Zone Management permit.

Mueller Beach and Vessup Beach are excellent recreational beaches located in Red Hook Bay. Public access to both beaches is currently limited since the uplands behind the beach are in private ownership. Access to Mueller and Vessup Beaches should be secured.

(6) JERSEY BAY: MANGROVE LAGOON/BENNER BAY

Mangrove Lagoon/Benner Bay comprise a complex section of the coastal zone of southeast St. Thomas. The Mangrove Lagoon is the last stand of Mangrove ecosystem on the island. The Department of Conservation and Cultural Affairs has recently completed plans for a large wastewater treatment facility in the Mangrove Lagoon area. This treatment plant and its associated interceptors will eventually serve most of the Turpentine Run drainage basin. A final decision on plant and ocean outfall location has not yet been made. Benner Bay, directly east of the Lagoon, is an area of very important marina activity. The basic problem is to reconcile and harmonize the apparently conflicting goals of protecting a healthy mangrove ecosystem and encouraging the existence of the vital marina industry of Benner Bay.

The demand for docking facilities has, in part, encouraged piecemeal illegal destruction of sections of the mangrove fringe. Mangroves are hacked away, and fill added to create small private docks and piers. Where the water is shallow, propeller backwash (blow-out) is utilized to dredge the bottom. Some of these illegal users cannot find adequate docking space, some cannot bear the financial cost, and others have merely taken advantage of the previously inaequate enforcement system.

Recommendations:

The overall policy for Jersey Bay should be one in which the mangrove area receives either protection or restoration with limited marina expansion.

All of the management guidelines and recommendations set forth in the Development Guidelines section of Chapter Seven should be stringently enforced in the Mangrove Lagoon area.

A portion of the Mangrove Lagoon area should be preserved. The proposed boundary of the mangrove preservation zone is as follows:

A line from the coastal road through parcel number one, to the northeast point of Bovoni Cay shall divide the mangrove preservation zone from the area of permitted marina development. Land to the west of this line will be within the mangrove preservation zone (this boundary approximates the line dividing the present W-1 zone from P zone on the zoning map).<sup>1</sup>

The preservation zone should extend west to Long Point. A second preservation zone should consist of an area from Compass Point north to the existing marina.

A program of mangrove restoration should be initiated for the old race track area near the lagoon, and for the former lagoon area between Antilles Yachting and Compas Point Road.

The area of Benner Bay east from the preservation boundary to Compass Point should be an area where marina development is permitted if it is consistent with the provisions for the protection or restoration of mangroves. Limited dredging of Benner Bay should be permitted contingent upon an environmental impact assessment. Ancillary marina facilities (e.g., parking, boat cleaning, solid waste disposal, fueling) has had significant impact on the water quality of the entire bay. Therefore, careful attention should be given to the impacts of fueling, runoff, and other related activities. A public dock should be constructed and marina owners should be encouraged to construct public facilities in return for various tax concessions. Those who moor boats within the preservation area, and who cannot afford commercial docking space, should be given first priority in relocating to any new public docks.

Watershed management of Turpentine Run gut and other water courses is needed to protect the water quality of both the Lagoon and Benner Bay.

#### ST. JOHN

##### (1) ENIGHED POND - CRUZ BAY

Cruz Bay is the major residential center and port of entry for St. John. A recent Port Authority study includes several proposals for the Enighed Pond-Cruz Bay area. The major proposals included in this Master Plan are:

- a) to improve and develop Enighed Pond to include a marina, dry boat storage, charter boat storage, charter boat dock, a cargo area with storage facilities for bulk materials, and a park and recreation area;
- b) to improve and develop Cruz Bay Beach to its fullest potential as a bathing beach and park;
- c) to utilize the Port Authority ferry dock for passenger operations only; and
- d) to improve and develop Little Cruz Bay (Creek Area) for light cargo, boat repair, and for foreign arrivals while clearing customs.

<sup>1</sup> A similar proposal for a preservation zone is advocated by Grigg, van Eepoel, and Brody in "Water Quality and Environmental Status of Benner Bay-Mangrove Lagoon," Water Pollution Report No. 10, Caribbean Research Institute, April 1971.

Recommendations:

In addition to these activities, a wastewater treatment facility is planned for the Enighed Pond area. It is recommended that the general concepts of the proposed master plan suggested by the Port Authority be enforced. Plans for the wastewater treatment plant should be reviewed to insure that this activity will not interfere with future development. It is also recommended that ferry boat docking be relocated to Little Cruz Bay (Creek Area). This measure would enable the water quality in Cruz Bay to improve and in turn make Cruz Bay Beach a more viable recreation resource. In addition, the area surrounding Little Cruz Bay can better accommodate taxis and tour buses.

All detailed site plans should be subject to review by the coastal zone management agency. As a condition for any work in Enighed Pond, the constraints on development of Salt Pond areas must be considered. Protection of the marine environment must be given high priority during construction of any proposed improvements. Strong erosion and drainage control measures must be taken to replace the salt pond's function as a sediment trap.

(2) CHOCOLATE HOLE - GREAT CRUZ BAY

Chocolate Hole and Great Cruz Bay are located on the southwest coast of St. John. The two areas are both significant natural areas and areas subject to strong development pressure. Water quality in both areas is subject to degradation from surrounding residential developments. Great Cruz Bay has already been impacted by these development activities.

Special attention to the salt ponds surrounding Chocolate Hole, the nearby beach, and Chocolate Hole Bay is needed. The two salt ponds and former pond now open to the sea are important as wildlife areas and as sediment traps to protect the water quality of Chocolate Hole.

Recommendations:

Generally, the policies outlined in this program should suffice to insure that development of Great Cruz Bay and Chocolate Hole will not destroy the amenities that the area presently enjoys. The coastal zone management recommendations with respect to salt ponds, mangroves, beaches, and steep slopes development should be strictly applied to these areas. Future development of Great Cruz Bay and Chocolate Hole should be done in such a manner as to minimize environmental and visual impacts.

(3) LAGOON POINT - CORAL BAY

Although one half of St. John's land area is owned by the National Park Service, there is still a need to protect significant natural areas outside of the Park's boundary. Lagoon Point and its associated coastal and marine resources is such an area. Located in Coral

Bay, east of Calabash Boom, Lagoon Point can be a resource complex of immeasurable wealth. In a small area, consisting of 150 acres, Lagoon Point concentrates fine examples of the lagoon and salt pond can all easily be observed. Fishing, swimming and snorkeling can be enjoyed at Friis Bay, within Lagoon Point. An additional value of this site is its function as a living classroom that illustrates some basic lessons in Virgin Islands ecology such as the role of the shoreline by healthy mangroves. Lagoon Point, as an excellent example of the "classical Caribbean fringing reef" has been recommended for inclusion in the Registry of Natural Landmarks. The Department of Conservation and Cultural Affairs has designated 140 acres of submerged land as "The Lagoon Point Territorial Reef Reserve." Both the marine resources and adjacent land area are planned for inclusion in the Territorial Park System.

Coral Bay is the population center of the East End of St. John. Inner Coral Bay Harbor is the site of an illegal fill project as well as a U.S.D.I. Fish and Wildlife Service mangrove restoration project. The best storm anchorage in the U.S. Virgin Islands for larger boats and ships, Hurricane Hole, is located east of Coral Bay.

Recommendations:

The CZMP strongly endorses the inclusion of Lagoon Point into the Territorial Park System. Careful park management to balance utilization with protection will be needed. It is strongly recommended that Lagoon Point serve as an Environmental Studies Program outdoor classroom to expose students to the lessons to be learned from this area. It is also strongly recommended that development in the upland watersheds adjacent to Lagoon Point be monitored and controlled to minimize adverse impacts to coastal water quality.

The on-going mangrove restoration project should be encouraged and its success monitored. The use of Hurricane Hole for fishing, recreational boating, and as a storm anchorage should be maintained.

## CHAPTER SEVEN

### Coastal Land and Water Use Plan

This chapter presents the coastal land and water use plan and further development guidelines for the first tier of the coastal zone. The land and water use plan has been adopted by the VICZMA for guiding future coastal development. A series of guidelines pertaining to the conduction of activities in certain coastal environments is outlined. The guidelines have been developed following the resource capability analyses, public preference assessments and other technical analysis outlined in Chapter Two, Study Procedures. These recommended guidelines can assist in developing criteria for issuing coastal permits and developing rules and regulations pursuant to section 904(f) of the Coastal Act.

#### Land and Water Use Plan

Section 907 of the Coastal Act adopts the Coastal Land and Water Uses Plan (CLWUP) to be used as a long range guide by the Commission, Commissioner, Virgin Islands Planning Office, and any other agency of the government of the Virgin Islands for the following purposes:

- 1) reviewing and recommending zoning amendments;
- 2) reviewing and recommending capital improvement programs and projects;
- 3) reviewing and recommending public land acquisition or disposition;
- 4) designating areas of particular concern; and

- 5) reviewing other development activities in the first tier coastal zone that do not require a coastal zone permit.

The Land and Water Use Plan is intended to serve as a long range planning guide for the future of the first tier coastal zone. The long range actions of the Coastal Zone Commission and the Government of the Virgin Islands should conform to the pattern indicated by the land and water use plan. The day to day permit decisions of the Commissioner of Conservation and Cultural Affairs and the Coastal Zone Commission will be guided by the goals and policies as stipulated in the Coastal Zone Management Act of 1978.

The Coastal Land and Water Use Plan is not intended to change any of the existing zoning districts. The Legislature may amend the Land and Water Use Plan by following the same procedures and requirements that are necessary to amend the zoning law, which includes public hearings.

The Coastal Land and Water Use Plan maps graphically represent the recommended future uses of the first tier. Nine land and water use categories were developed spanning a continuum of use of intensity ranging from preservation (no development) to industrial (high intensity). The process of designating each section of the first tier into one of the nine use categories included (see Chapter Two, Study Procedures):

- 1) technical studies such as an economic Impact Report and a Resource Inventory;
- 2) designation of Areas of Particular Concern;
- 3) capability of each coastal environment for various uses; and
- 4) public review through meetings and hearings.

Based on the suitability, one of the nine broad categories was assigned to each section of the first tier of the coastal zone. The following is a description of the use categories, a general list of the type of permitted activities, and the coastal environments most often associated with the use category.

#### PRESERVATION DISTRICT

This district comprises areas that provide valuable public benefits but cannot tolerate the impacts of development. The majority of these areas are owned by the Virgin Islands Government. These areas include mangrove lagoons, many offshore islands and cays,

most coral reef and algal ridge systems, and certain salt ponds. Mangrove areas provide habitat for rare and endangered species, function as a breeding ground and nursery for fish and other related marine species, and trap sediment and debris to maintain coastal water quality.

Offshore islands and cays represent relatively pristine natural environments, nesting sites for local and migratory birds and turtles, some of which are rare and endangered species, and are characterized by a general lack of accessibility and other use constraints. Coral reefs and algal ridges have narrow tolerances to such environmental variables as temperature, salinity, turbidity, eutrophication and effluent discharges. Reefs protect shoreline areas by abatement of waves, and most species of finfish and shellfish either live on the reefs, or depend on them for nutrients. Salt ponds have a high vulnerability to physical alteration with sediments unsuitable for foundation. Salt ponds function as natural run-off retention basins. Most of these areas should be preserved in their natural condition

The best uses for this district consist of passive recreation, scientific research, education, and carefully planned environmental restoration programs.

#### CONSERVATION, RECREATION, TRADITIONAL USES DISTRICT

This district consists of areas where present functions and uses should be continued. These areas include sand beaches, many of which are being utilized for recreational uses, and portions of urban waterfronts including sections of the shoreline devoted to traditional highly valued activities such as fishing, boating and docking, and agricultural uses. Many of the beach areas are highly mobile, and serve as buffers to protect shorefront property from wave action. They are vulnerable to aesthetic intrusions the impact of vegetative clearing building scale and height, and roadcuts and foundations. Beaches and the waterfronts serve as valuable recreational and aesthetic assets and are highly valued in their natural state by residents and visitors alike. Presently, only limited waterfront areas are available for public use and it is anticipated that the need for these areas will increase. Furthermore, many beaches, urban waterfronts, and sections of the shoreline, are areas of traditional activities.

The best uses for this district are generally the existing uses or activities. Recreational beaches, waterfront parks, and waterfront markets, are typical examples. Ancillary



structures closely related to the function of these uses such as accessways, boardwalks, and park fixtures are acceptable.

#### PROTECTION, RESIDENTIAL LOW DENSITY DISTRICT

This district consists mainly of hillsides, many of which are characterized by slopes greater than 20 percent, minimum soil depths over rocky surfaces, moderate to severe susceptibility to erosion upon site disturbance and high potential for creating unpleasant appearance if heavily developed. Sewage disposal is normally by septic tanks. These areas may be developed for low density residential uses if care is taken in siting, design and construction. But they are not generally amenable to large scale development or high intensity uses requiring extensive site coverage.

The best uses for this district include carefully designed and sited one or two family detached or attached residential units. Clustering units should be encouraged to minimize the various impacts of development, including sprawl.

#### RESIDENTIAL, MEDIUM DENSITY DISTRICT

This district consists of areas that possess the necessary topography and available services, such as sewer and water facilities, utilities and roads, to support multi-family housing, apartments, condominiums and moderate sized hotels. To a large extent the areas in this district have been already developed for such purposes and some further development to accommodate additional housing and resort developments would be encouraged.

Uses suggested for this district are generally those permitted in the R-3 Zone district such as condominiums and hotels.

#### RESIDENTIAL, HIGH DENSITY DISTRICT

This district covers a very small area presently devoted mainly to large hotels and high density apartments (R-5 Zoning), condominiums, and ancillary structures and uses important to the tourist industry of the Virgin Islands.

#### WATER DEPENDENT AND RELATED COMMERCIAL-MARINE FACILITIES DISTRICT

This district consists of areas best suited for non-industrial but commercial uses which require direct waterfront access, such as marinas, docks and associated facilities for cruise ships. These uses are vital for the Virgin Islands and there is a need to accommodate some growth in these activities. Suitable sites for these activities are ones where destruction of vital marine resources will be minimized. Most of the areas contained in this district are near presently developed bays and shorelines or in areas with existing environmental perturbations. Because the number of such areas is small, this district should be limited to water-dependent uses and new development which is non-water related should be excluded.

Typical uses for this district include cruise ship docks, cargo docks, and marinas.

#### WATER DEPENDENT AND RELATED INDUSTRIAL-MARINE FACILITIES DISTRICT

This district consists of those areas needed to accommodate industrial uses which require direct waterfront access, such as oil ports and desalinization plants and energy facilities.

#### COMMERCIAL AND INDUSTRIAL DISTRICT

These districts contain existing uses which are non-water dependent. In most instances these districts are located in the coastal zone, but not along the shoreline.

This district includes areas presently zoned B,C, or I.

#### FEDERAL LANDS AND SUBMERGED LAND AND WATER

Land and submerged land owned by the United States Government is excluded from the direct control of the Coastal Zone Management Program. Those areas owned in fee simple by the U.S. Government are indicated by the shaded areas on the land and water use maps. While

federal lands per se are excluded from the Coastal Zone Management Program, Federal activities are to be, to the maximum feasible, consistent with the management program.

#### IMPLEMENTATION OF THE COASTAL LAND AND WATER USE PLAN

The primary responsibility for the implementation of the Coastal Land and Water Use Plan will be delegated to the Coastal Zone Management Commission and the Planning Office. All amendments to the zoning maps, capital improvement projects, and land acquisitions will be reviewed by the Commission for conformity with the Land and Water Use Plan. Prior to the Budget Office recommending capital improvement programs the Commission will be given the opportunity to make a review and comment on such programs to ensure consistency with the Land and Water Use Plan. The Land and Water Use Plan will also be used by the Commission in the process of issuing certificates of Federal consistency. All Federal activities must, to the maximum extent feasible, be consistent with the management program. This includes Federally funded capital improvement projects as well as all Federal permits. Therefore the Commission will use the Land and Water Use Plan in addition to the goals and policies of the management program in making their determination of Federal consistency.

#### **Guidelines**

The following is a set of guidelines for development in specific coastal environments. These guidelines were developed to be consistent with the coastal goals and policies, and can serve as a basis for developing the rules, regulations and standards for issuing coastal permits.

#### STEEP AND LOW RELIEF SHORELINES

Steep slopes are most appropriate for low intensity uses, water dependent recreation, conservation and watershed protection, siting navigational aids, controlled grazing and low density residential development.

The most appropriate uses for low relief shorelines are grazing, agriculture, conservation and low and medium density development.

Areas of severe building constraints should be utilized as greenbelts by zoning for open space, fee simple acquisition, or purchase of scenic easements or development rights.

Structures should be regulated with respect to height restrictions, setback, site preparation and landscaping and color, particularly on the crest of hills, ridgelines and other highly visible and/or aesthetically vulnerable areas.

Development should be clustered to minimize visibility and more efficiently utilize land.

#### DEVELOPED BAYS AND SHORELINES

The urban waterfront should be reserved for recreational and traditional uses, conservation, water dependent commercial activities, navigational aids, limited cruise and passenger facilities and other water dependent transportation.

The management program should be closely related and coordinated with Historic District activities of Charlotte Amalie, Christiansted and Frederiksted.

Waterfront parks should be given greater attention. Existing parks should receive priority from Conservation and Cultural Affairs beautification funds. An effort should be made to create new parks, even vest-pocket parks, along urban waterfronts - especially in the many areas in which re-development is anticipated.

Developed industrial areas should be reserved for water dependent transportation and port facilities, water dependent/related uses, special needs, heavy and light industry, and utilities siting.

Developed bays should be reserved for port and marine facilities, industry, hotels and water dependent uses, and where appropriate, waterfront recreation.

Marina capacity should be increased by the use of dry-land storage areas, with careful landscape integration to eliminate extensive docks and slips.

Because of limited circulation and existing pollution load, developed bays should not be considered for direct waste discharge of any type.

TABLE 7.1

COASTAL LAND AND WATER USE CLASSIFICATION SYSTEM

<u>LAND AND WATER USE CATEGORY</u>	<u>COASTAL ENVIRONMENT</u>	<u>USES</u>
Preservation	Mangroves Salt Ponds Reefs and Algal Ridges	limited passive recreation and scientific study
Conservation, Preservation, Traditional Uses	Urban Waterfronts Marine Meadows and Algal Plains Beaches Reefs Salt Ponds	agriculture/mariculture water dependent recreation traditional docking and fishing
Protection, Residential/Low Density	Steep Slopes Low Relief	low density residential (one and two family dwelling), Agriculture
Residential Medium Density	Low Relief Beaches Developed	medium density residential (multi- family dwelling unit) hotel/resort
Residential High Density	Developed	hotel/resort, high residential (multi- family dwelling unit) development
Water Dependent and Related Commercial and Marine Facilities	Developed Shorelines and Waters Sand Bottoms	low intensity port and marine and commercial facilities, that require a coastal location (marinas, cruise ships, mining)
Water Dependent and Related Industrial Marine Facilities	Developed	high intensity port and commercial and industrial uses that require a coastal site (container docks, water and power plants)
Commercial	Developed	business and other commercial uses not requiring a coastal location (warehousing, retail business)
Industrial	Developed	industrial uses not requiring a coastal location

## BEACHES

All sand beaches should be conserved for recreational purposes. Other appropriate beach uses are traditional docking and boating and navigational aids.

Beaches not designated as recreational, may be designated for a wider array of water dependent uses, consistent with other policies and recommendations.

Dredging in bays with beaches should not be allowed, except under carefully planned and monitored conditions.

Shoreward earth change and drainage modifications must be controlled to protect beach areas from pollution by storm runoff.

Structures (pipes, docks, groins, walls) should never be constructed across, or at right angles to, a beach unless careful, extensive study of a longshore sand transport regimes indicate they will be innocuous or advantageous.

Sand should not be removed from beaches.

Structures in beach areas should be regulated with respect to color, height and vegetable screening, and landscaping.

## MANGROVES

The remaining large mangrove areas (especially Salt River, St Croix and Jersey Bay, St. Thomas) should be placed in the territorial park system. Their development should be restricted for recreational, aesthetic and research and teaching use. Only minimal, carefully planned construction, compatible with their protected status, should be permitted.

As a rule, dredging and filling should be prohibited except on a small, carefully controlled scale and only if thorough study has indicated the absolute necessity for some purpose which is consistent with protective management.

Sport fishing may be permitted, but it may also be necessary to specify allowable areas, and fishing gear.

Boat traffic within the area must be strictly controlled. Some portions may be opened to small outboard powered boats, while other areas (shallows, quiet waters, muddy bottoms) should be closed to all motor boats.

Points for small boat docks, launching ramps, and other access structures should be carefully selected and structures carefully planned, constructed, licensed, and managed.

No waste discharges or pollution substances of any kind should be permitted into the area. Upland sewage systems should provide for treatment or recycling which will not allow seepage of effluent to shore waters.

Development guidelines should be promulgated for the watershed which drains into the mangrove areas in order to control the volume of runoff.

By zoning, licensing, or other appropriate controls, buffer zones should be maintained adjacent to the mangrove area to minimize runoff, erosion, and air or water pollution which may adversely affect the mangrove area. Impervious surfaces (asphalt, concrete, etc.) should be kept to a minimum and provisions made to impound runoff from such surfaces and store it for use or percolate it into the soil.

Within the context of the recommended protected status, the natural attributes of the two large mangrove areas (Salt River and Jersey Bay) should be developed for multiple uses to translate these attributes into useable social resources. Use of the areas could include passive recreation (nature trails, underwater trails, hiking), controlled fishing, swimming, and educational study.

#### SALT PONDS

The most appropriate and highest priority use for many salt ponds is the preservation and maintenance of their function as sediment traps and wildlife sanctuaries.

Management of salt ponds should be undertaken on an individual basis with the impacts of modifications assessed. The relationship of each pond to the surrounding watershed should be determined. This consideration may determine whether or not pond modification is advisable and what alternate or restorative drainage provisions are required.

No waste discharge or dumping should be permitted.

Watershed drainage and runoff patterns which would adversely affect ponds should not be permitted.

#### MARINE MEADOWS (GRASS BEDS)

Priority uses for marine meadows and algal plains are conservation (with limited fishing) and carefully monitored mariculture.

Any uses in or adjacent to marine meadows and algal plains that create chronic, heavy turbidity or otherwise impede sunlight penetration, or cause perturbation, should be prohibited.

In cases where marine grass beds or algal plains must be damaged during construction of projects not contrary to the public interest, project design shall include re-establishment of bottom conditions favorable to natural regeneration of sea grasses.

Unless a bay has been committed specifically for anchorage areas, boat density should be specified. Fixed moorings, privately or publicly maintained and leased, are essential.

#### SAND BOTTOMS

Because a critical shortage of sand and aggregate material exists in the Virgin Islands, it is recommended that further detailed studies be conducted to locate areas that are environmentally and economically viable for extraction.

Use options should be considered in light of the relatively tolerant quality of the habitat. The uses of sandy areas should be consistent with maintenance of adjacent reefs, beaches, grass beds, etc.

#### CORAL REEFS AND ALGAL RIDGES

As with salt ponds, the importance of coral reefs and algal ridges should be assessed on an individual basis to determine the value to ecological systems and man.

Certain areas should be given high priority for preservation and conservation, particularly those with high aesthetic and natural resource attributes, or where wave abatement is necessary. Uses such as recreational diving, mariculture, siting navigational aids, and recreational and traditional fishing should be encouraged and permitted where appropriate.

Localized development of marine parks and underwater trails in conjunction with sound environmental management practices may be permitted.



Except where absolutely necessary, reefs and ridges should not be subjected directly to filling, cutting, blasting or waste discharge of any type,

Chemical or thermal discharges should not be permitted.

All shore and water related developments should be evaluated for their relationship and possible effects upon adjacent coral reefs and algal ridges.

There should be strict enforcement of the Earth Change Law and revegetation required for all inland development to prevent excessive siltation and sedimentation.

Salt ponds and mangroves, with their natural capacities as sediment traps and filters, should be maintained to insure that water quality parameters necessary for reef and algal ridge survival are preserved.

#### OFFSHORE ISLANDS AND CAYS

In keeping with their importance as wildlife habitats, their generally "wild" and remote character, and the recommendations of the Department of Conservation and Cultural Affairs, certain cays should be set aside as inviolate wildlife sanctuaries.

Other publicly owned cays should be developed for multiple use as recreation and nature areas, or as a wildlife area.

For those cays and islands where development is permitted, site preparation and development design guidelines should be developed and strictly enforced.

## CHAPTER EIGHT

### Shoreline Access

This chapter represents a portion of the development of the shorefront access and protection element of the Virgin Islands CZMP (pursuant to Section 305(b) (7), CZMA Amendment of 1976, P.L. 94-370). This chapter focuses on the shorefront access aspect. It presents a brief legal analysis of the shoreline access issue, defines shoreline, outlines enforceable policies, identifies critical access areas and identifies funding sources. The development of a process for the protection of shoreline areas of environmental, aesthetic, recreational historical, cultural and ecological value are demonstrated in other sections of the Program.

Goals and policies related to shorefront protection are contained in Chapter Five, Authorities and Organizations of the program and Sections 903 and 906 of the Virgin Islands Coastal Zone Management Act (VICZMA). Designation of areas for shorefront protection and guidelines on use are found in Chapter Six, Areas of Particular Concern. The method for designating shorefront areas as areas of particular concern or as areas for preservation and restoration is also outlined in Chapter Six and Section 909 of the VICZMA.

The protection needs of the offshore islands and cays have been addressed by the Virgin Islands Program. Chapter Seven contains guidelines for their use and protection. Chapter Six designates certain islands as areas of particular concern and outlines further use/protection guidelines. The Section 903 Goals and Findings and Section 906 Policies speak to the islands protection issue.

#### BACKGROUND OF THE PROBLEM

The importance of the shoreline to the lives of the people of the Virgin Islands is clear. However, in the last quarter century, the patterns of shoreline use in the Territory have been drastically altered. Several beaches and shoreline areas available to many users have disappeared due to dredging, the mining of sand, landfill operations, or commercial developments. Some have been severely altered as a result of the secondary effects of shoreline development. Additionally, access to beaches has been intentionally or unintentionally restricted by shorefront development. Accordingly, shoreline and particularly beach access has developed into an important social, cultural, political, and legal issue in recent years.

Over the past several years, considerable legislative and judicial attention has been devoted to preserving and establishing the public's right to utilize the shorelines of the Virgin Islands. Considerably less attention and energy has been directed to providing public access rights to the shoreline or towards resolving a variety of problems associated with increased public use (congestion, parking, safety, liability, maintenance, etc.)

The principal issue involved with shoreline access is that of the public's right to free and unrestricted utilization of the recreational beaches of the Virgin Islands. The territorial government took action to remedy the latter situation by enacting the "Open Shorelines Act" (No. 3063) in 1971. Essentially, the Act affirms the public's right to use the shorelines of the islands. The shoreline, as defined by the Act, includes "the area along the coastline ... from the seaward line of low tide, running inland a distance of 50 feet; or to the extreme seaward boundary of natural vegetation which spreads continuously inland, or to a natural barrier; whichever is the shortest distance.

While this legislation creates a "zone of public use", and assures seaward access and lateral use and access along the shoreline, it does not assure landward access. An upland property owner is not required to permit beachgoers to cross his land to reach the zone of public use. Because of the terrain, and the pattern of development in the islands, landward access is often a critical factor in beach use.

Even when landward access is available (as is generally true of hotels), development may significantly alter the character of the beach not only in an aesthetic sense, but also in terms of the numbers and types of users it attracts.

The declining availability of prime beaches and other amenity areas places an increased burden on those remaining. Some beaches are so heavily used that congestion and parking are becoming problems, and use conflicts among swimmers, divers, picknickers, fishermen and boatsmen arises. In many areas unsanitary, unsightly, even dangerous, conditions prevail. With the exception of the few public facilities, the Virgin Islands government has not assumed general responsibility for maintenance or liability. Since resident and tourist populations are growing steadily, increasing demand is inevitable and can be expected to exacerbate these shoreline access and use problems.

#### MEANS OF ACQUIRING ACCESS

The Virgin Islands Government can acquire public accessways and shoreline areas in a variety of ways. These include: (1) acquiring shoreline areas and accessways via the

expenditure of public funds or donations; (2) seeking judicial confirmation of existing access and use rights via implied dedication or customary use; and (3) obtaining accessways to shoreline areas and/or facilities as a condition of granting certain development permits or tax incentives. The principal attributes of each type of action are outlined below:

(1) ACQUISITION THROUGH EXPENDITURE OF PUBLIC FUNDS

One means by which public access can be provided is for the Virgin Islands government to acquire such access by fee simple purchase or gifts. Such direct action, although usually requiring the expenditure of public funds, affords certain advantages that the other means do not. For example, acquisition of access can be effected with less time or delay than would be involved in acquiring access by judicial determination. Similarly, planned acquisitions could implement broader recreation programs or plans and could be planned and coordinated with the ongoing programs of other territorial agencies. Such acquisitions could be made in fee simple ownership or in lesser interests such as easements.

Purchase in fee simple would vest all ownership rights in the Territorial Government. This is the most expensive option and is efficient only where intensive use is anticipated and the ownership of the beach uplands would serve some useful public purpose. Where only moderate use and no further public facility development are intended, there is little point in increasing public holdings of economically unproductive land.

The Virgin Islands government may secure an easement (that is, a particular portion of the ownership rights) on beachfront land without assuming ownership. In this case, an easement would consist of the right of the public to cross the beach uplands, or a specified portion to reach the shoreline. Easements may be acquired by gift, negotiation, condemnation, or required as a condition for a development permit.

Securing beach access easements assures the public of its right to use the shoreline, and allows the economic use of the uplands to remain in the private sector. In particular, it facilitates beach access in areas which are already developed. The concept of purchasing easements has been relatively untried in the Virgin Islands, and it is difficult to estimate cost, in advance.

Easements or fee simple ownership also may be obtained through gifts, but for the most part will require purchase through negotiation or condemnation. The former solutions are preferable, and the revised Organic Act of 1954, does provide the Legislature with the authority to enact legislation for the condemnation of lands, or interest in such

lands, for public purposes. There would be little doubt that a properly drawn statute that provided for condemnation of access easements to the shoreline would be constitutional. Furthermore, acquisitions pursuant to its authority would be similarly valid.

(2) JUDICIAL DETERMINATION

There are two primary theories supporting the creation of public access rights over private land of non-consenting landowners. One theory is implied dedication. Closely akin to this theory is the doctrine of adverse possession and prescription which, for the purpose of this discussion, will be analyzed in the same manner as implied dedication. The other theory is customary use.

ADVERSE POSSESSION, PRESCRIPTION, IMPLIED DEDICATION

Adverse possession, prescription, and implied dedication are legal doctrines which recognize that under certain circumstances, rights to land may be obtained through use and may be applied to maintain public access to privately held shoreline areas. To secure this right under adverse possession and prescription, the use must be actual, adverse, continuous and uninterrupted on the lands of another, and either be conducted with the knowledge of the owner, or so open, notorious, and visible, that knowledge of the use is implied to the owner.

There are subtle, if not clearly agreed upon, distinctions between adverse possession and prescription. In adverse possession, the claimant must be in "possession" of land, while under prescription the claimant may have the use or privilege without possession. Furthermore, under the doctrine of prescription the owner may enjoy the use in common with the claimant. With adverse possession he may not.<sup>1</sup> The Virgin Islands Code (Title 28, Chapter 1, Section 11) statutorily defines adverse possession. The Code recognizes that exclusive actual, physical, adverse, continuous or notorious possession of real property after fifteen years or more shall be conclusively presumed to give title thereto, except as against the government.

The theory of implied dedication is also a common law doctrine and, as in adverse possession and prescription, the key issue is whether a landowner by his conduct (expressed implied actions) has indicated an intent to dedicate his land for public use, and that the public use

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<sup>1</sup>Downing v Beid (Fla. Supreme Court 1958) 100 So. 2nd, 57,64,65

itself is evidence of the public's intention to accept the dedication offered. The landowner's inaction may be evidence of his acquiescence in the public use and thus of his intention to donate land. A recent California Supreme Court decision recognized and affirmed the importance of adverse public use, rather than the owner's donative intent, as being the critical doctrinal element supporting the conclusion of public use.<sup>2</sup> The court allowed the dedication of use only after five years of public use.

Whether the theory is implied dedication or prescriptive rights the results are the same: the public, by using the property in a particular way for a particular purpose, in a manner adverse to the true owner for a period of five years, acquires the right to continue to use such property, regardless of the landowner's later intent or actions. In light of recent litigation, implied dedication will necessitate the documentation of access or use over a period of time. While this procedure may require little capital outlay, there may be lengthy legal procedures, thus making this option less satisfactory than others.

#### CUSTOMARY USE

Customary use (or customary right) is a legal doctrine which arose in medieval England and which until recently had little application in the United States. The doctrine establishes that customary use of land peaceably engaged, consensual or not, for a long period of time without a claim of superior right interrupting such use, establishes public rights in such land without regard to the record title held by private landowners.

Customary right arose in favor of the community and was strictly limited to a small geographic location. Examples of local customary rights included the right to place nets on a certain beach, to use a certain green, or pasture animals in a certain field. Traditionally, only easements of passage or use are obtained through custom. Recent court rulings, however, have expanded this doctrine. The Oregon Supreme Court ruled that the doctrine applied to the entire State coastline, rather than just the particular property under litigation.<sup>3</sup>

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<sup>2</sup> Dietz v King and Gion v City of Santa Cruz - The Court upheld that there had been an implied dedication of an easement for recreational purposes because the public had used the land for more than five years with "knowledge of the owner, without asking or receiving permission to do so."

<sup>3</sup> State ex rel. Thornton V., V. Hay, 462 P. 2nd 67 (1969).

The doctrine of customary use of beaches was recognized as being applicable in the Virgin Islands in the recent decision of the United States of America and Government of the Virgin Islands v St. Thomas Beach Resorts, Inc., VIDC Number 74-339, affirmed by the Third Circuit of Appeals, Number 75-1242 (3d Cir., 1967), more commonly known as the Bolongo Beach case. The court upheld the constitutionality of the Open Shorelines Act which sought to recognize and maintain this public right of use. However, it did not address the issue of rights to traverse private property for the purpose of gaining access to the shoreline.

Securing beach access through the customary use doctrine would require no capital outlay on the part of the Virgin Islands Government. It would, however, require lengthy court procedures and a documented history of public use over a long period of time. This action has one built-in advantage. Culturally important beaches which have sustained public usage over a period of years are those properties for which a case for customary usage can be most easily documented. However, while it may be feasible to use this doctrine to secure the use of the shoreline, its applicability for assuring access is questionable.

### (3) OTHER MEANS OF ACQUIRING ACCESS

Subdivision and zoning regulations offer two possible means of obtaining public accessways to the shoreline. Since private development of uplands along the coastline may often impair public shoreline access, developers can be required to dedicate public easements for beach access where the subdivision would block existing or potential shoreline access. Regulations can be drafted to require applicants to dedicate lands (and improvements) to public use as a pre-condition to receiving development approval.

The rationale for requiring such dedications has been clearly upheld by most courts in the United States. The process and result of development creates demands on existing public facilities, or for new facilities, which should be satisfied in whole, or in part, by the developer. Although these requirements are usually applied in the context of parks, playgrounds, streets or drainage facilities, and sometimes even schools, this rationale can be applied to providing public access to the shoreline as well. Indeed, whether the specific rationale is that the purchaser will benefit from the dedication (or improvements) as well as the general public, or that the development of the land will inevitably produce increased pressures on such resources or preclude public use the result is that reasonable public dedications can be required. This theory is most appropriate in the subdivision context

where the process of subdivision clearly justifies and provides a rationale for such dedications. However, such dedications can also be required as part of a rezoning application, or grant of a conditional use or special exception permit.

Although there are advantages and disadvantages to such requirements, the advantages, particularly in the Virgin Islands, are so significant that dedication requirements could be the critical factor in insuring a successful beach (or shoreline) access program.

This means of acquiring public accessways can be utilized by the Virgin Islands Government through the Industrial Incentive Act (Title 29, Chapter 12) and VICZMA the Coastal Zone Management Act of 1978 (Title 12, Chapter 21). These statutes provide means by which the dedication of accessways may be required as a condition of receiving tax exemption status or a coastal zone permit. The relevant provisions of these Acts are discussed below.

#### SHORELINE ACCESS POLICIES

Several Virgin Islands laws contain enforceable shorefront access policies. The most notable is the provision in the "Open Shorelines Act" which provides for lateral public access along the coastline from the line of low tide running inland a distance of 50 feet or the line of natural vegetation or natural barrier.

The Industrial Development Law provides a stipulation that as a requirement for tax exemption each business with a coastal site "grant to the Government of the Virgin Islands a perpetual easement upon and across such land to the beach or shoreline to provide for an unrestricted access thereto to the public".

The Virgin Islands Coastal Zone Management Act of 1978 is explicit in its enunciation of enforceable access policy. In the Act the legislature determined that the basic goals (section 903) of the Virgin Islands for its coastal zone are to:

(6) preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally protected rights of private property owners;

(7) promote and provide affordable and diverse public recreation opportunities in the coastal zone for all residents of the Virgin Islands through acquisition, development, and restoration of areas consistent with sound resource conservation principles;

In Section 906 the Legislature has declared it a policy;

(5) To foster, protect, improve, and ensure optimum access to, and recreational opportunities at, the shoreline for all the people, consistent with public rights, constitutionally protected rights of private property owners, and the need to protect natural resources from overuse.



(6) Development shall not interfere with the public's right of access to the sea where acquired through customary use, legislative authorization or dedication, including without limitation the use of beaches to the landward extent of the shoreline.

The Coastal Act not only provides for the dedication of "perpendicular", or "landward" access, but outlines a procedure for assessing whether an access easement is appropriate. Before requiring the dedication, the Commission or Commissioner is directed to consider the five criteria found in policy (7) below.

(7) The Commission may require that public access from the nearest public roadway to the shoreline be dedicated in land subdivisions or in new development projects requiring a major coastal zone permit. Factors to be considered in requiring such dedication of public access include (i) whether it is consistent with public safety or protection of fragile coastal zone resources; (ii) whether adequate public access exists nearby; (iii) whether existing or proposed uses or development would be adversely affected; (iv) the type of shoreline and its appropriate potential recreational, educational, and scientific uses; and (v) the likelihood of trespass on private property resulting from such access and the availability of reasonable means for avoiding such trespass. Dedicated accessways shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for providing off-street parking areas and for maintenance and liability of the accessway, shoreline, and beach areas.

The Act further clarifies the conditions placed upon access by stating:

Nothing in this subsection shall be construed as restricting existing public access nor shall it excuse the performance of duties and responsibilities of public agencies as provided by law to acquire or provide public access to the shoreline. This provision shall not be construed as requiring free use of private facilities on land adjoining any beach or shoreline but only as requiring access to the beach or shoreline to the general public as a condition precedent to the grant of a coastal zone permit.

#### BEACH INVENTORY

In addition to policies which insure shorefront access where appropriate, public sentiment has directed the management program to focus on securing access and providing adequate services and/or facilities in those areas having the greatest need. Consequently, attention should be directed toward ensuring that some of the higher quality undeveloped beaches be acquired and developed as public beaches. If conveniently located and properly developed with attractive facilities, such public beaches can attract and accommodate a larger share of resident demand. Establishing good public beaches should ease some of the pressure on other areas, would make it easier for the government to provide for maintenance, resolve conflicts among user groups, and insure that some undeveloped beaches are preserved for the future.

Not all of these objectives can be attained by enforcing the "zone of public use" provision of the Open Shorelines Act or the easement dedications under the Industrial Incentive and Coastal Zone Management Acts. The construction of public facilities and preservation of undeveloped beaches will require not only the acquisition of accessways, but sufficient upland property. In an effort to identify particular shorefront areas where either access should be acquired, or beach and upland property purchased, the Coastal Management Program looked to a study by the Department of Conservation and Cultural Affairs.

In the spring of 1976, the Office of Planning and Development of the Department of Conservation and Cultural Affairs, in conjunction with the CZMP study of the Virgin Island Planning Office, undertook a complete field inventory of Virgin Islands beaches. An evaluation of this type was mandated by the Open Shorelines Act. The study was undertaken to help determine the area where landward access and major public beaches should be established.

The beach inventory procedures were developed to assess the particular conditions in the Virgin Islands. Objective physical, recreational, and land use data for each beach as well as an evaluation of the scenic and environmental quality of the site was recorded. The beach inventory form is included in Appendix F, and copy of the inventory for Cruz Bay, St. John, is included as an example of the manner in which information was collected.

#### BEACH EVALUATION AND RECOMMENDED CRITICAL AREAS

The criteria which were used to identify and evaluate the critical shoreline areas are discussed below.

##### CRITERIA FOR EVALUATION BEACHES

1. Accessibility - Beaches were evaluated on the basis of proximity to population concentrations, and by the presence of an access road usable by the general public. This factor will prove of importance since the territorial government may become responsible for beach maintenance.
2. Beach Quality - Evaluation of beach quality was based on factors such as the area of the beach, the beach material, the type and appearance of shoreline vegetation, the attractiveness of the user's view from the beach, and the beach's scenic quality. These factors are complementary rather than cumulative. Therefore, a very attractive small beach may receive a heavier weighting than a large uninteresting one.
3. Potential for Multiple Activities - In addition to swimming, the potential of each beach for other water-related activities, such as snorkeling, offshore diving, or pleasure boating was noted. The inventory of land-based activities included picnicking, tidal pool walking, and the possible educational opportunities offered by historic ruin or a salt pond. Beaches which offer users a choice of activities were rated more highly than "swimming only" beaches.

4. Environmental Damage Potential - At several of the beaches inventoried, the existing land use was natural open space. Very often these areas constitute extremely fragile offshore and onshore environments. This is especially true of several beaches, in northeast St. Croix which cannot sustain heavy use without environmental damage.
5. The Multiple Effects - Priority attention was given to the sites which are potentially the basis of a complex recreational facility, or where a single easement will provide access to an extensive shoreline.
6. Access - Priority attention has also been given to those areas which ranked high in criteria threatened 1-5 and where access is threatened. These areas included beaches and shoreline areas where access is presently restricted, or where impending or proposed development may restrict free access in the near future.

#### RECOMMENDED AREAS FOR GOVERNMENT ACTION

In developing recommendations regarding the areas where government action is needed to improve public access and use, consideration was given to several other factors besides beach inventory information. Supply and demand was a major consideration. The Coastal Zone Management staff was concerned about the availability of public beaches near highly populated areas. A second consideration was the need to alleviate user conflicts and problems at heavily used beaches. Third consideration was availability of adequate land adjacent to desirable beaches for parking and beach facilities. A final factor given consideration was public attitude.

Throughout the course of program development of a number of informal and formal public meetings and hearings were held to obtain public sentiment regarding shorefront access. Many individuals and groups expressed concern, commented, and made suggestions concerning both the issue of access in general and as it relates to specific shorefront areas. This input was taken into account and considered in the development of the following list of critical areas where it is recommended that access and use need to be improved. Only St. Thomas and St. Croix are dealt with, since the most significant beaches on St. John are already within the National Park. Further study of these areas will be undertaken in order to develop a specific program for action.

#### St. Croix

1. West Christiansted - Christiansted is heavily populated and has several large public housing projects and hotels, but is lacking in terms of good beaches. The best beach runs westward from Antille Airboats to St. Croix by the Sea. Most of the shoreline here, however, is extensively developed with condominium complexes and therefore beach access and facilities are largely restricted to condominium residents. A good public beach is needed in this area for Christiansted residents.
2. Cane Bay/Davis Bay - Cane Bay and Davis Bay are two beautiful undeveloped beaches on the northwest shore. They currently serve many tourists, as well as residents

from all over the the island. Cane Bay experiences the heavier use partly because an access fee is charged at Davis Bay and partly because it is so popular with scuba divers, fishermen and picknickers. On the weekends user and vehicular congestion is extreme and potentially dangerous. Both beaches have maintenance and sanitation problems. Davis Bay should be acquired and developed as public beach. The government should assist with maintenance at Cane Bay Beach and should acquire some land for parking and restrooms.

3. Machenil Bay/Ha'penny Bay

This area is centrally located on the south shore and is very popular with local residents. Its attractiveness is due to its accessibility, as well as the quality of the beach and swimming conditions - features which are rare on the south shore. The accessibility of this area, however, poses maintenance, sanitation and liability problems for adjacent property owners. One of these two beaches should be acquired and developed as a public beach.

4. Chenay Bay/Coakley Bay

Reasonably convenient to Christiansted on the northeast shore, both of these areas have good potential for multiple activities. Both Bays have attractive beaches with good picknicking, swimming and snorkeling. Some both are adjacent to salt ponds of considerable ecological value, and there is also potential for educational and scientific activities. Green Cay, which was recently set aside as a wildlife preserve, is a quarter mile off Chenay Bay. Coakley Bay has some ruins of historic interest as well. Chenay Bay, or alternatively Coakley Bay, should be acquired and developed as a public beach.

St. Thomas

1. Smith Bay

Smith Bay is located on the east end of St. Thomas near the growing population centers of Tutu and Estate Smith Bay. The crescent shaped white sand beach approximately 1/4 mile long, is in a protected bay. The beach uplands are relatively undeveloped at this time although there are tentative plans proposed for a golf course. In addition to good swimming and snorkeling, the beach is a popular picknicking area which is used by organized groups with the owner's permission. The vegetative cover is not dense but there are many large shade trees on the beach and fine views of St. John and offshore cays.

Because of the high use potential of Smith Bay and the growing development pressure on the surrounding area, high priority should be given to public acquisition of Smith Bay Beach and the upland area.

2. Mueller Bay

Mueller Bay is located on the east end of St. Thomas in Redhook Bay. Mueller Bay contains two beach areas; Vessup Beach and Mueller Beach, both of which can provide important recreation opportunities for East End residents. Access to Mueller Bay is currently limited since it is necessary to cross private property to reach the beaches. The east end of St. Thomas is experiencing one of the fastest growth rates in the Virgin Islands. The demand for housing, new tourist facilities, public services, and recreational areas in this area is intense. Therefore, the government should take steps to secure the Mueller Bay Beaches, including sufficient area for public facilities before this option is foreclosed by private development.

3. Magens Bay Beach - South End

The extreme southern end of the Beach is not publicly owned. Since this portion of the bay is presently zoned W-1, there exists the possibility of some future development threatening the natural and unique character of Magens Bay Beach. Accordingly, the southern end of Magens Bay Beach should be acquired.

4. Botany Bay

Estate Botany Bay comprises the westernmost end of St. Thomas. Included within the estate are: two beaches, (one in Sandy Bay and one in Botany Bay,) a long expanse of highly scenic but steep shoreline, and an important historic site. At the present time, landward access is limited since the surrounding upland is in private ownership.

Negotiations between the owner of Estate Botany Bay and the Virgin Islands Government are in progress. Possibly certain portions of the estate will be donated to the Territorial Park System. In addition, public access rights to Sandy Beach Bay may be granted.

Since Estate Botany Bay and particularly the shoreline and beach areas are of outstanding recreational, educational and scenic value, every effort should be made to ensure that this area can be enjoyed by island residents.

5. Frenchman's Bay

Frenchman's Bay is situated on the southeast coast of St. Thomas; directly north of Green Cay. The beach at Frenchman's Bay is the only undeveloped one remaining between Morningstar and Benner's Bay.

Presently, access to Frenchman's Bay is by boat only. The potential recreational and educational value of this shoreline area is high and there is adequate level land behind the beach for parking and other necessary facilities. The adjacent salt pond and nearby offshore island, Green Cay add to the educational and aesthetic value of the site.

The government should make an effort to acquire Frenchman's Bay Beach. Access from the main road to the beach and sufficient space for parking must also be secured.

6. Neltjeberg Beach

Neltjeberg Beach is located on the northwest coast of St. Thomas due south of Inner Brass Island and directly west of Ruy Point. The Virgin Islands Government already owns 17.42 acres of Estate Neltjeberg including an access-way from the main road to the beach. The area already owned by the government is inadequate to provide for public use. The beach should be purchased, as well as some of the surrounding upland area for parking. Neltjeberg Beach and the surrounding area should be incorporated into the Territorial Park System.

NEW GOVERNMENT RESPONSIBILITIES

Regardless of whether improved public access and use are secured through purchases, gifts, judicial determinations, or the conditioning of development permits and incentives, the Government of the Virgin Islands will probably have to assume some liability and responsibility for support services. Public safety and maintenance are two important issues.

The government's liability in case of injury or death on newly opened beaches is unclear. The best, but most expensive, protection would be the provision of lifeguards. At a minimum a warning will have to be posted on each beach. The presence of lifeguards, however, might also help to deter crime and littering problems. The introduction of the mounted patrol has been highly effective in St. Thomas in protecting public safety on the beaches. The ex-

pansion of this program may be appropriate.

In studying the maintenance problem, interviews were conducted with the maintenance supervisors at Magens Bay, the National Park Service on St. John, and the College of the Virgin Islands (Brewer's Bay Beach).

The maintenance effort will depend on the intensity of beach use, the desired level of maintenance, and consists primarily of the removal and disposal of trash. The Magens Bay Authority requires a full-time crew of nine to maintain that heavily used beach at a moderate level. In season, a three man National Park Service crew works full time on the maintenance of Trunk Bay, St. John, and receives some additional assistance from the lifeguards. Finally, the College of the Virgin Islands employs one maintenance worker full time at Brewer's Beach, which receives consistent, frequent use. These examples overstate the possible obligation of the Territorial Government since each of those crews performs activities, e.g., cutting back brush, other than cleanup. It is unlikely that existing Department of Conservation crews will "stretch" to cover additional beach cleanup, especially as properties are acquired for the Territorial Park System. The formation and equipping of additional crews will require a budget of \$100,000 - \$150,000 per year.

#### IDENTIFICATION OF FUNDING PROGRAMS THAT CAN HELP MEET MANAGEMENT NEEDS

Depending on the proposed scope of such an acquisition program, the major difficulty to implementing such an effort would be financing the costs of such land acquisition and management. Financial assistance in securing shoreline access is forthcoming from Section 315(2) of the CZMA Amendments, which authorizes grants for up to 50 percent of the cost of acquiring lands to provide access to public beaches and other public coastal areas of value.

The Land and Water Conservation Fund, Bureau of Recreation, U.S. Department of the Interior; Community Development Block Grants, U.S. Department of Housing and Urban Renewal; and the Virgin Islands General Fund, among others can also provide sources of funding for land acquisition and management.

In addition, administrative funds (Section 306 of the national Coastal Zone Management Act) can be used to fund beach maintenance. The funds can be utilized for the purchase of

beach cleaning equipment and to hire the necessary staff and personnel.

FURTHER RECOMMENDATIONS CONCERNING PUBLIC SHORELINE ACCESS AND USE

Based upon investigations conducted by the CZM staff and the Department of Conservation and Cultural Affairs, as well as public discussion, and input, the following actions and guidelines are recommended:

1. Continued public use and enjoyment of the shoreline should be guaranteed.
  - a. To accommodate increasing demand for recreational opportunities and ease the resulting strain on accessible recreational resources, several new public beaches should be acquired on both St. Croix and St. Thomas.
  - b. In other areas where it is appropriate and feasible, public access rights, under implied dedication and customary use doctrines, should be established.
  - c. The subdivision and zoning laws should be amended to allow the requirement of a dedicated accessway in instances where this is appropriate and desirable.
  - d. Vigorously enforce the provisions of the Industrial Incentive and Coastal Zone Management Acts which require the dedication of accessways for public use.
  - e. The beach inventory conducted by Conservation and Cultural Affairs should be refined and expanded to assess other shoreline areas where public access and use should be improved.
  - f. Development should be discouraged from encroaching on public use areas not currently protected by the Open Shoreline and Coastal Zone Management Acts. Such areas include bluffs, other areas landward of the statutory definition of shoreline.
  - g. In urbanized areas, in addition to maintaining access to the shoreline, maximum feasible opportunity for lateral pedestrian access along the urbanized waterfront should be included on any development or alteration of the shoreline.
2. The territorial government should absorb the necessary costs of shoreline maintenance and safety resulting from public access and use. Additionally, a program should be developed to educate the public regarding the constraints and responsibilities involved in using public accessways and shoreline areas.
3. The emerging Territorial Park System should be utilized to coordinate the acquisition and management of public accessways and shoreline areas.

## CHAPTER NINE

### SHORELINE EROSION/MITIGATION AND ENERGY FACILITY SITING

#### Shoreline Erosion Mitigation Planning

This section constitutes the fulfillment of the requirements of subsection 305(b)(9) of the national Coastal Zone Management Act of 1972 (CZMA), which mandates the development of a process to evaluate and, if appropriate, mitigate and control shoreline erosion. Included is a discussion of the method of identification and assessment of shoreline erosion; issues and problems relating to the causes of erosion; a method of designating areas for erosion control as an area of particular concern; a discussion of policies, procedures, and legal authorities for controlling erosion; and an identification of funding programs that can be used to meet management needs. Several studies have formed a basis for developing the Virgin Islands shoreline erosion/mitigation planning process. The Marine Environments of the Virgin Islands, study by Island Resources Foundation for the Coastal Zone Management Program, discusses shoreline erosion in the Virgin Islands context. This report has been used as the primary source for assessing the effects of the shoreline erosion. In addition, the Army Corps of Engineers study, Flood Plain Information, and the Environmental Protection Handbook by the U.S.D.A. and Virgin Islands Soil and Water Conservation District, served as a basis of information.

#### Identification And Assessment Of Shoreline Erosion

Most Virgin Islands beaches are undergoing erosion at varying rates. Erosion rates are generally greatest on exposed windward coasts; especially where the rate of sand supply from coral reefs, or cliff recession is low. Beaches on windward coasts are generally narrow and less stable than on leeward coasts inasmuch as they are affected by seasonal changes in wave direction and wave height created by "northerners" and passing hurricanes. Beaches along deeply indented bays on St. John and St. Thomas are more stable seasonally than those on open, exposed bays. Depositional beaches which are relatively wide and often backed by dunes occur on coasts having coral reefs that protect the beach and supply sand. A few are associated with intermittent stream deltas, a source of supply at some localities. The most rapid accretion occurs around Sandy Point along the southwest end of St. Croix where the beaches receive a dual supply, sand by littoral drifts from west and south coasts.



### EMBAYED BEACHES

The deeply indented or pocket bays of St. Thomas and St. John display little change in plan. Most changes are onshore and offshore, and many of these beach faces show little seasonal change. Sand transport is largely within the bay itself, and the rates of sand input, transport and loss are more or less in equilibrium. There is little exchange of sediment from bay to bay around the enclosing headland. However, some sand is normally eroded from northern beaches during the winter because of the seasonal high swells, and redeposited in the summer.

Typically, littoral drift and longshore currents along sides of the bays drive the sand inward where it accumulates near the current convergence at the bay head. Part of the sand may be carried toward the sea by rip currents directed offshore from the bay head. Another portion of the sand may be driven back ashore by waves acting on the central bay floor. Some bays show a long-term history of accretion at the bay head, particularly where streams contribute sediment to the nearshore zone. By contrast, bays having deep floors, such as Cane Bay on the north coast of St. Croix, permanently lose sand from the beach by transport down submarine channels that terminate close to shore.

### STRAIGHT COASTS

Most of the relatively straight coastal areas of the Virgin Islands are located on the island of St. Croix. These coastlines are subject to a different set of erosion/accretion processes than the embayed beaches. The sections of the north and south coasts of St. Croix are aligned approximately parallel to the direction of wave approach. Consequently, sand which is carried by the receding wave is transported downdrift of its origin. As a result of waves approaching the west coast of St. Croix at an angle, particularly in the winter during the "northerners," or "Christmas winds," sand is continually transported southward by the littoral drift. Accordingly, the northwestern beaches erode and become narrow, while the southwestern beaches receive sand, accrete and become wider. In many of these north shore areas, the beaches lose sand in the winter because of the northern swells, and gain sand in the summer as the "Easterlies" or "tradewinds" drive sand transport west.

Along the south coast, a littoral drift directed westward also contributes sand. The combined transport from the north and east provides an excess amount of sand to the region and thus tends to extend Sandy Point.

### Issues and Problems Relating to Shoreline Erosion

Three groups of factors influence shoreline, particularly beach, erosion in the Virgin Islands. The first is shoreline activities which includes beach mining and structural modifications to shorelines. The second is upland activities which increase run-off and include the construction of residential and commercial structures and roadways. The third is off-shore uses and activities. These include dredging and uses that impact reefs and marine grass beds.

The mining of sand from beaches can have severely deleterious consequences. When large quantities of sand are removed from the beach, the natural transport dynamics are affected in several ways: (1) the wave refraction pattern is changed so that sand from both sides of the excavation is moved into the void; (2) sand transported by littoral drift is trapped in the excavation. Therefore, less sand is available for the beach down coast.

On exposed coasts, removal of large quantities of beach sand results in rapid erosion over the entire beach. The rate of beach recovery from sand mining is reportedly slow, especially where the nearshore bed is excavated and the rate of sand supply to the beach is low. Because production of coral beach sand is slow, erosion caused by sand mining is semi-permanent.

These impacts from beach sand mining are apparent at Boiler Bay and East Bay, St. Croix, and until beach replenishment, at Brewers Bay, St. Thomas. Sand was mined from these areas in the 1960's before passage of the Open Shoreline Act and the subsequent prohibition of the excavation of beach sand. However, the problem was not completely resolved by the Act and a shortage of aggregate for construction has created pressures for renewed mining activities.

Engineering structures intended for the beneficial purpose of shore protection often cause opposite effects when they interfere with natural processes. Effects similar to those caused by sand mining take place when indiscriminate alteration of the beach profile is made by developers. By interfering with littoral drift and longshore transport, groins (structures at right angles to the beach) are designed to build up beaches. However, they often cause of shortage of sand on the down current side of the structure and erosion sets in. A groin only fifty feet long at the Mill Harbor condominium on St. Croix created a

high beach but caused severe erosion at neighboring Turquoise Beach. Failure of groins attests to the lack of knowledge concerning the behavior of wave and current processes that they are intended to resist.

By absorbing reflecting wave energy, sea walls may protect the shore, but they do not prevent the loss of sand on the beach in front of them. In fact, they often accelerate the loss of sand by deflecting wave forces downward onto the beach deposits. At LaGrande Princess St. Croix, construction of a sea wall in front of the Cruzan Princess condominiums not only caused the beach to recede 23 feet within one year, but also caused severe erosion on adjoining property to the east that received much deflected energy from the wall.

Besides accelerating erosion, such structures may result in a hazard as well. Scour holes often develop at the toe of vertical walls and broken masses of concrete and steel rod often protrude from displaced sections. At Cinnamon Bay, St. John, a rock revetment constructed to protect an old Danish warehouse created wave reflection (rather than energy dissipation) that increased the scour at the base of the wall and produced sediment plumes extending offshore onto the reef. The wall itself was undermined and collapsed.

Activities upland from the shoreline have caused increased erosion, particularly along beaches. Increased residential, and commercial development and the construction of roadways has resulted in site clearing activities and an increase in impermeable surface material. Brush areas have been cut and cleared for development and roadways. As a result, less rain is absorbed by the soil, and runoff is increased. Surfacing land area with concrete and other impermeable materials has reduced the amount of area able to absorb and retain rainfall. This has had a dramatic affect on diffuse surface water. In addition, roadways further exacerbate the problem by channelling runoff into torrents. As a result of the increased volume of runoff, guts become raging streams during extended periods of rainfall and wash out large sections of the beach where they enter the sea. Beach erosion from this source has occurred at Magens, Brewers, and Hull Bays, St. Thomas.

Offshore activities can also affect the rate of shoreline erosion. The destruction of nearshore grass beds and reefs can impact bottom stability and increase the rate of shoreline erosion. Nearshore grass beds Thalassia (turtle grass) and Syrinodium (manatee grass) stabilize the beach by absorbing wave energy. When they are eliminated, the shore sands are subject to erosion.

Dredging seashore can cause sandy beaches and dunes to either erode severely or to slump away into the dredged hole. The beach at Sugar Bay on the south shore of Water Bay, St. Thomas was lost in this way. Dredging and extensions of the shoreline seaward through landfill in Gordon Bay, St. Thomas Harbor, allowed wave energy to extend farther landward than normal and caused erosion of the nearshore bottom by two or three feet in forty years.

The effects of dredging may be extended to distant beaches via nearshore transport. Serious erosion in Estate Whim, Long Point Bay, St. Croix relates to dredging of the Hess Oil channel five miles to the east. In this case, turbidity generated by dredge spoil caused a reduction in the near-shore grass cover off the beach, which adversely affected beach stability.

The coral reef system relates to shoreline erosion in several ways. Coral reefs are a major producer and supplier of sand for many beaches. Reefs also dissipate wave energy before it reaches the beach. When reefs are destroyed, the source of sand replenishment is diminished and wave abatement ceases, causing erosion to the shoreline areas.

Beaches are subject to a variety of different impacts from time to time, and these may have cumulative effects over the years. For example, dredging or blasting of coral reefs off a beach often leads to a die-off of the reef. In turn, this reduces the rate of reef-borne sand supply and increases wave attack and erosion on the beach. In areas of high ship and motor boat traffic, boat wakes cause erosion and turbidity of nearshore water. Large-scale reclamation of lowlands can disturb the natural equilibrium of the beaches over wide stretches of coast. Along some areas a small change in coast line configuration or the vitality of mangroves and near-shore grass beds can have a large effect as demonstrated at Estate Whim, St. Croix.

#### Designation of Erosion Areas as Areas of Particular Concern

The Virgin Islands Coastal Zone Management Act of 1978 (Chapter 21, Title 12) outlines a process for designating areas of particular concern in Section 909. Based upon the criteria described in the Management Program, (Chapter Six, Areas of Particular Concern), the Planning Office may recommend additional APC to the Coastal Zone Commission for submittal to the Legislature for designation. One of the criteria for nomination is hazard areas; coastal locations that pose a hazard because of flooding, storms, erosion, or land settlement. Using this method, areas of shoreline erosion can be designated as areas of particular concern.

### Mechanism for the Continuing Assessment of Erosion

As part of an application for a coastal zone permit, an applicant must complete an environmental assessment report (EAR). Section 902(0) of the Virgin Islands Coastal Zone Management Act of 1978, requires that the report contain detailed and appropriate information on the existing environment in the area of the proposed development, and the effects which a proposed development is likely to have on the environment. Development policy (10) of Section 906 further requires that significant erosion and sediment transport problems be identified and included as part of the information in the assessment report. Section 906 states:

Significant erosion, sediment transport, land settlement or environmental degradation of the site shall be identified in the environmental assessment report prepared for, or used in the review of, the development, or described in any other study, report, test results or comparable documents (emphasis added).

Accordingly, because of the information required for the assessment report, the EAR will serve as a mechanism for the continual identification and assessment of erosion.

### Policies and Procedures and Authorities for Managing Shoreline Erosion

Human interference with natural process is one of the major causes of serious beach erosion in the Virgin Islands. There is realization that most of the erosion is natural and controlled by the seasonal variations in wave swell and wind direction. Past experiences with structural solutions have not been successful. Accordingly, the Virgin Islands emphasis is clearly a non-structural approach where erosion control is necessary. The two major Virgin Islands Coastal Acts emphasize the maintenance of natural systems to check erosion. Both Acts define shoreline, and articulate a set of policies which discourage erosion control devices, and seek to prevent erosion by encouraging the use of coastal resources consistent with wise resource management.

The Open Shorelines Act (Chapter 13, Title 12) defines the shorelines of the Virgin Islands. Section 402(b) states that:

Shorelines of the Virgin Islands' shall mean the areas along the coast lines of the Virgin Islands from the seaward line of low tide, running inland a distance of fifty (50) feet; or to the extreme seaward boundary of natural vegetation which spreads continuously inland; or to a natural barrier; whichever is the shortest distance.

The Virgin Islands Coastal Zone Management Act of 1978 reaffirms this definition of "shorelines" in Section 902(Z) adding to the definition that, "Whenever the shore is extended into the sea by or as a result of filling, dredging, or other manmade alteration activities, the landward boundary of the shorelines shall remain at the line previously established."

Section 403 of the Open Shorelines Act prohibits the construction of any barrier upon, across, or within the shorelines that would interfere with public use. This restriction prohibits the construction of any structural approaches to erosion control without a coastal permit and serves as a minimum setback zone.

The Coastal Act also requires a permit for any development within the first tier of the coastal zone. Development is defined as, "the placement, erection...of any fill,...or structure on the land, in or under the water, ...." For the purposes of the Act, any structural erosion mitigation measure constitutes a "development."

The goals and policies of the Act are applicable to any coastal development. A number are either directly or indirectly relevant to shoreline erosion. Several speak to the erosion issue per se. Others address the problems of the improper conduction of coastal activities which affect the natural erosion/accretion processes and patterns. These are policies that relate to conditions imposed upon dredging, sand removal and the placement of structures along the shoreline. The following is a reiteration of the relevant findings and goals of Section 903.

In considering the need for the Coastal Act, the Legislature has found inter alia that:

Improper development of the coastal zone has resulted in...erosion, sediment transport,... and has affected the beneficial uses of the coastal zone..."

As a result, the Legislature has declared its goals of the Virgin Islands to:

(5) preserve, protect and maintain the trustlands and other submerged and filled lands of the Virgin Islands so as to promote the general welfare of the people of the Virgin Islands; (emphasis added).

(8) conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas; (emphasis added).

(9) maintain or increase coastal water quality through control of erosion, sedimentation, run-off, siltation, and sewage discharge; (emphasis added)

Section 906 of the Coastal Act indicates policies that are applicable to coastal development and effect shoreline erosion. In issuing a coastal permit the Commission or Commissioner is directed to:

assure that development will be sited and designed to protect views to and along the sea and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas (emphasis added).

assure that dredging or filling of submerged lands is...consistent with ... policies contained in this Chapter. Towards these ends, diking, filling or dredging ... may be permitted ... only where no feasible less environmentally damaging alternatives exist ...,

protect complexes of marine resource systems of unique productivity, including reefs, marine meadows, salt ponds, mangroves and other natural systems, and assure that activities in or adjacent to such complexes are designed and carried out so as to minimize adverse effects on marine productivity, habitat value, storm buffering capabilities, and water quality of the entire complex (emphasis added);

consider use impacts on marine life and adjacent and related coastal environments when assessing recommendations for development within the coastal zone (emphasis added);

accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect marine resources and navigation. Towards this end, sand, rock, mineral, marine growth and coral (including black coral), natural materials, or other natural products of the sea, excepting fish and wildlife, shall not be taken from the shoreline without first obtaining a coastal zone permit, and no permit shall be granted unless it is established that such materials or products are not otherwise obtainable at reasonable cost, and that the removal of such materials or products will not significantly alter the physical characteristics of the areas or adjacent areas on an immediate or long-term basis; or unless the Commission has determined that a surplus of such materials or products exists at particularly designated locations (emphasis added).

To assure all of the foregoing, development must be designed so that adverse impacts on marine productivity, habitat value, storm buffering capabilities and water quality are minimized to the maximum extent feasible by careful integration of construction to the site.

#### Identification of Funding Sources

While it is highly unlikely that the Virgin Islands will need to engage in structural erosion mitigation measures, several sources of funding have been identified.

The Legislature of the Virgin Islands has the authority to appropriate funds for erosion mitigation. The Virgin Islands Department of Public Works is authorized to expend funds for structural and non-structural erosion control.

Under the Beach Erosion Control Program (33 U.S.C. 426 et. seg.) and the Rivers and Harbors Acts of 1962 and 1968, the U.S. Army Corps of Engineers may perform studies and carry out structural and non-structural mitigation projects on public lands. Projects undertaken on Virgin Islands Government land require territorial matching funds.

Administrative (306) funds of the CZMA 1972 can be used for expendable materials of restoration or preservation purposes in APRs. There is a \$50,000 limit per grant.

#### ENERGY FACILITY SITING PLANNING

This section constitutes fulfillment of the requirements set forth in Section 305(b)(8) of the National Coastal Zone Management Act (CZMA) that States develop a planning process for energy facilities which are likely to locate in or affect the coastal zone. Included in this section is an identification of energy facilities likely to locate in, or significantly affect the coastal zone; procedures for assessing the suitability of sites for such facilities; an articulation of policies and conditions that are imposed on facility development; an identification of legal authorities for these management techniques; and an identification of how interested and affected public and private parties are involved in the process.

The tenor of the Virgin Islands program could be characterized as balancing economic and social growth with environmental and amenity concerns. At this time funds from Section 308(c)(1) and (d)(4) of the CZMA are being used in response to the environmental effects of energy production on St. Croix. 308(c)(1) funds are being used for studying tanker traffic and updating the oil spill contingency plan, while the VIPO has made some use of the 308(d)(4) grant funds to mitigate recreation losses. The Virgin Islands Coastal Zone Management Act of 1978 (Title 12, Chapter 21) provides the basis for regulatory authority over the first tier of the Islands' coastal zone. In the Act the Legislature declares that among things, it is a goal to protect the natural and scenic resources of the coastal zone, to enhance the overall quality of the coastal environment, and to promote economic growth and development in the coastal zone. In keeping with the philosophy and spirit of both the Virgin Islands Coastal Act and the national CZMA, an energy facility planning process has been devised which acknowledges the need for national energy self-sufficiency and development, yet mitigates the adverse environmental consequences of such energy facility siting.

#### IDENTIFICATION OF ENERGY FACILITIES LIKELY TO LOCATE IN OR SIGNIFICANTLY AFFECT THE VIRGIN ISLANDS COASTAL ZONE

The facilities that are likely to locate in the Virgin Islands coastal zone, can be conveniently dicotomized into two broad classes, traditional and less traditional alternative



The former mode is represented by petroleum refining complexes and electrical generating facilities. The less conventional techniques comprise the more futuristic solar, ocean thermal, and wind power approaches to energy generation.

### TRADITIONAL ENERGY FACILITIES

#### Refineries and Petrochemical Facilities

Petroleum refinery complexes and associated facilities, such as pipelines and tank farms are likely to seek location in the Virgin Islands. Located only 600 miles from South America, the islands are readily accessible to the oil fields of Venezuela. The strategic Caribbean location also places the islands in route to receive crude oil from both the Middle East and Africa.

In all probability, petroleum facilities will seek siting on the island of St. Croix. As Chapter Three, Context for Planning, Resource Setting, indicates, the physiography of St. Croix makes it the only one of the three islands with the prerequisite physical features necessary for the siting of facilities of this nature and magnitude. The Hess Oil Virgin Islands Corporation presently operates a 500,000 barrel per day oil refinery on the south shore of St. Croix (see consideration of the National Interest, and Chapter 3, Context for Planning, Existing Uses and Future Needs.) The Virgin Islands Refinery Corporation (VIRCO) is planning the construction of a 200,000 barrel per day petroleum refinery and submarine pipeline extending two miles offshore to a marine facility. The site is located adjacent to the Hess Oil refinery site on the south side of St. Croix (see Chapter Three, Major Plans/Proposals in the Coastal Zone, and Chapter Six, Areas of Particular Concern).

#### Offshore Terminals

Offshore terminals and connecting pipelines are a likely facility to site in the Virgin Islands Coastal Zone. Currently, Hess Oil Virgin Islands Corporation (HOVIC) is planning to construct an operation of this type. The project consists of a crude oil terminal two miles off shore with a connecting pipeline. Very large crude carriers (VLCC) would be unloaded at the offshore terminals.

### Oil Tanker Facilities

Any large energy generating facility will probably require an associated docking or port facility. The need may range from facilities to service super tankers, or a single barge to supply fuel oil for electrical power plants. The present port facilities at the Hess complex on St. Croix accomodates supertankers which service the HOVIC refinery. A new project is to be constructed by HOVIC between the existing Hess and Marin Marietta ports (see Chapters Three and Six).

### Electric Power Plants and Related Facilities

The location of the Islands precludes the development of electric generating facilities for any purpose other than local consumption. The distance to the continental U.S. and the depths of the Caribbean Sea and the Atlantic Ocean make energy transmission to the mainland technically and economically infeasible (see Chapter Three Context for Planning, Resource Setting). Given the anticipated demand and present generation capabilities, it is unlikely that another facility will be needed within this century. The Water and Power Authority recently constructed a 35,000KW generating plant on St. Croix. The facility has never been used because of a lessening of demand and the plant has been sold to the Dominican Republic.

### Nuclear Power Plants and LNG Facilities

It is unlikely that nuclear power plants and liquified natural gas facilities will seek to locate in the Virgin Islands. The energy demand of the islands and their distance from the Continental U.S. virtually precludes the development of these facilities.

### ALTERNATIVE ENERGY SOURCES

With the rising cost of fossil fuels and the national emphasis on energy self-sufficiency, the Virgin Islands should look to renewable energy sources.

Fortunately, the favorable climate and location present the Virgin Islands with several viable alternatives utilizing indigenous resources. The alternative modes of energy generation holding promise for the islands are solar, ocean thermal, and windpower.

#### Solar

Solar energy generating facilities are becoming more feasible throughout the U.S. and elsewhere. There is no more suitable location for this form of energy development than the Virgin Islands. The almost everpresent and intense Caribbean sun provides a free, inexhaustible source of power. Several solar projects are in the planning stages. The Frenchman's Reef Holiday Inn on St. Thomas is already airconditioning the resort hotel by solar energy (a demonstration project was sponsored by an FEA grant).

#### Oceanthermal and Wind

The high surface temperatures of the Caribbean and deep water close to shore create a marine environment with extreme temperature differences that can result in electrical generation from heat exchanges. This differential is the basis for Oceanthermal Energy Conversion (OTEC), and may become an important source to supplement land requirements. Several sources, including a report by the University of Texas Marine Science Institute 71% of the Earth has acknowledged the possibility of OTEC in the Virgin Islands.

The "Easterlies" or "Trade Winds" blow almost constantly across the Islands and wind power was a major source of energy for centuries. The many windmill ruins, particularly on St. Croix, attest to its past success. The Caribbean Research Institute of the College of the Virgin Islands, is presently exploring on a preliminary basis the potential wind power may hold as an alternative energy source.

#### PROCEDURES FOR ASSESSING THE SUITABILITY OF SITES

The development of a process to assess the suitability of sites for energy facilities has been integrated into the overall development of the Virgin Islands program.

In particular, the requirement to assess sites has been addressed in satisfying the requirement of Section 305(b)(2), uses to be managed, and 305(b)(3), areas of particular concern. This section will pinpoint where in that overall program development process the aspects relevant to planning for energy facilities are located. Appendix G Permissible Land and Water Uses, explores the approach taken toward the management and priority of uses. Chapter Seven, The Land and Water Use Plan, discusses the site specific land and water use designation. In the generic discussion of impacts (Table H.1), 'rototypical environmental impacts from both the operation of facilities and associated site disruptive construction activities were assessed. Energy facilities are considered under the headings heavy industry (land based) and heavy-off shore facility (water based). In Table G.2, Priority of Use Designations, energy and associated facilities are assigned a relative priority rating.

The processes outlined in Appendix H and the analysis described in Chapter Two Study Procedures (capability analysis, public attitude assessment, needs/demand study), conjunctively determined the site specific designation of land and water uses. As part of this process, the entire coastal zone was assessed for the possible location of energy facilities. Sites that were selected are indicated on the land and water use maps, Figure 9.1, and Chapter Seven, Land and Water Use Plan.

The description of the land water use categories clearly states that such uses as "oil ports ... and energy facilities" are included under the heading Water Dependent and Related Industrial-Marine Facilities District. In addition, the existing zoning designations (pursuant to Title 29, Chapter 3 of the Virgin Islands Code) remain in place under the VICZMA 1978. These sites are consistent with those designated on the land and water use plan. The I-1 zone permits heavy industrial uses such as petroleum refining and other energy generating facilities. These sites exist on the north and south sides of St. Croix, and in Krum Bay, St. Thomas.

#### POLICIES REGARDING ENERGY FACILITY SITING

Of paramount importance in the Virgin Islands Program is the notion of "coastal or water dependence." The Virgin Islands Coastal Management Act of 1978 defines

ENERGY FACILITIES IN THE V.I.

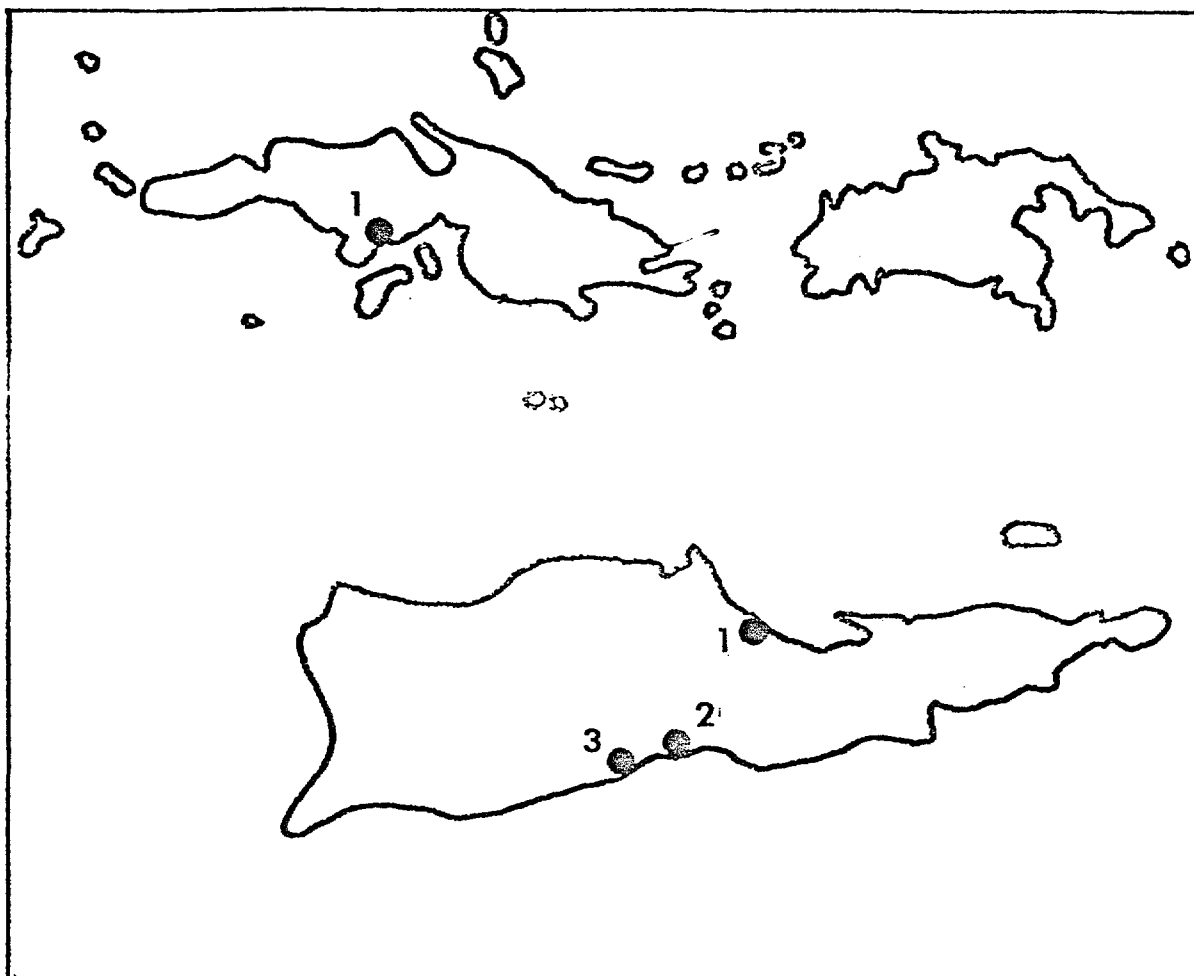


FIGURE 9.1

ST. THOMAS

1. Water and Power Authority

ST. CROIX

1. Water and Power Authority

2. V.I. Refinery Corporation

3. Hess Oil Corporation

"coastal dependency" as "any development or use which requires a site on, or adjacent to the sea to be able to function effectively" (Section 902(d)). Within the Virgin Islands context, there is no feasible possibility for "inland" sites for energy activities. All of the identified facilities require a coastal location. The crude oil and refined products enter and leave the Islands via tankers and the fuel for electrical generation is supplied likewise. Therefore, any of the traditional method of energy generation must be considered "coastal dependent".

The Act speaks to coastal use priorities as well. Section 906(a)(2), Development policies, clearly demonstrates that the highest use priority in the first tier of the coastal zone is accorded coastal dependent uses. The second development policy states:

To give highest priority along the shoreline to wataer dependent uses, particularly in those areas suitable for commercial uses including resort hotels and related facilities, industrial uses, including port and marine facilities, and recreation; to give secondary priority ...

#### THE ENERGY FACILITY SITING PROCESS

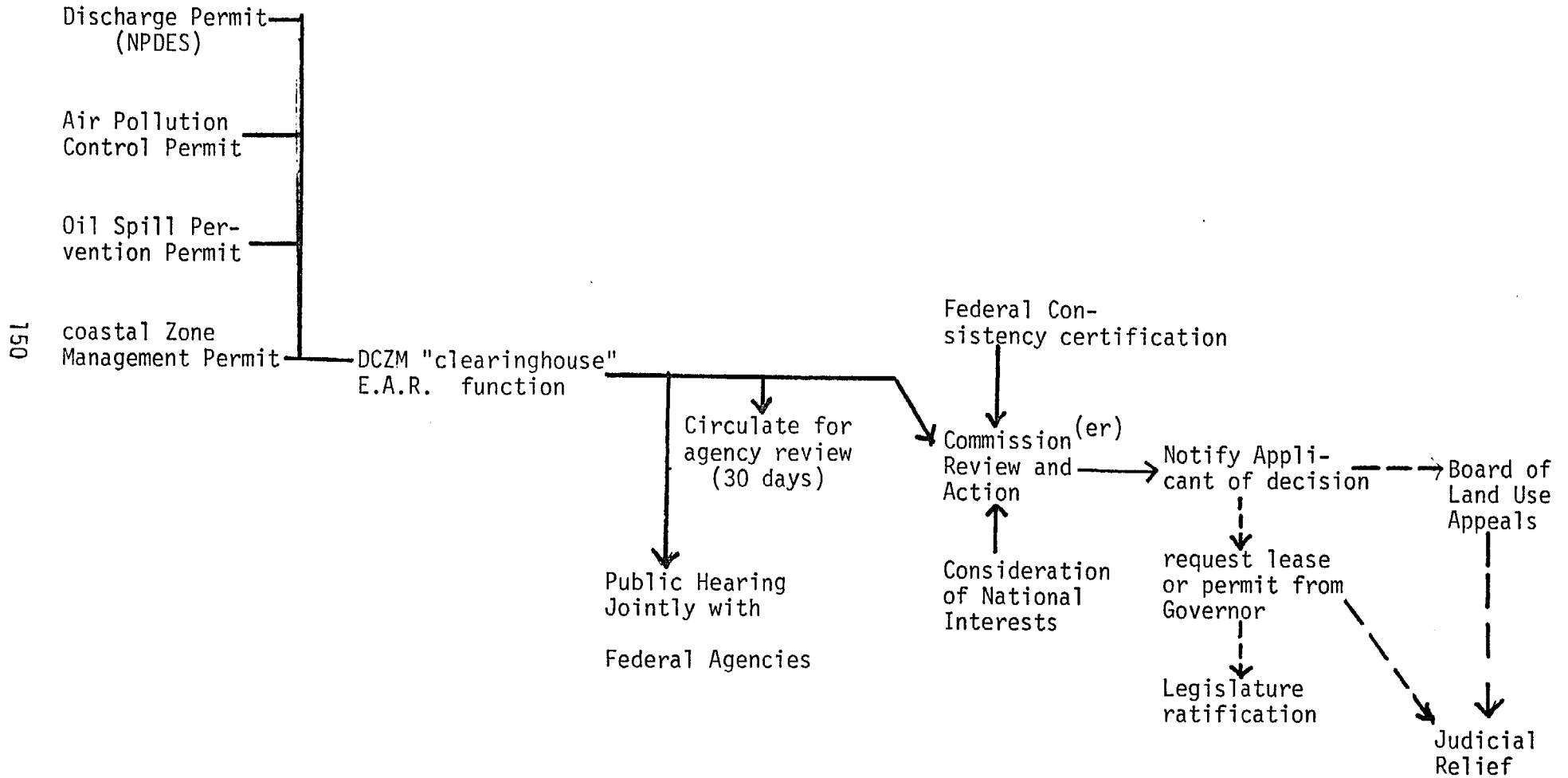
As the preceding discussion clearly indicates, specific sites exist which can accomodate energy facilities. This section will focus on the procedures required of an applicant in siting the facility. The coastal zone permit process as it relates to energy facilities is discussed, the permits listed, and the conditions which may be imposed articulated.

As a class, energy facilities seeking to locate in the first tier of the coastal zone are treated as any coastal dependent industrial use. There are no special provisions or prohibitions. In order to site an energy facility, the following Virgin Islands permits may be required:

- 1) Coastal Zone Management Permit, pursuant to the VICZMA 1978
- 2) Discharge (NPDES) Permit pursuant to FWPCA from DCCA
- 3) Air Pollution Permit pursuant to the Clean Air Act from DCCA
- 4) Oil Spill Prevention Act Permit (licenses for terminal facility) from DCCA
- 5) Occupancy Permit or Lease from Governor and Legislature of the Virgin Islands. Any development in or on submerged or filled lands (lands burdened with the public trust) require an occupancy permit or lease.

FIGURE 9.2

ENERGY FACILITY SITING PROCESS



The conditions, standards and criteria which may be applied are those required pursuant to the appropriate Act. The most significant of these is the VICZMA of 1978. No activity can be conducted in the first tier of the coastal zone without the issuance of a coastal zone permit. All development must be in compliance with the Coastal Act. While the goals of section 903 and policies of section 906 constitute the conditions of the permit, the Coastal Zone Commission is directed by Section 904 to promulgate standards and criteria to be used in granting or denying coastal zone permits. (see Chapter Five and attached VICZMA 1978.) Chapter Five, Authorities and Organization also contains a more detailed description of each permit. Several permits are required, and the Department of Conservation and Cultural Affairs administers them all, with the coastal zone permit also serving a "clearinghouse" function.

Section 910(c)(2)(B) of the VICZMA requires the completion of an environmental assessment report (EAR) as part of the application for a coastal permit. The assessment report presents information that will describe and permit evaluation to determine whether the proposed development complies with the statutory criteria of Section 905. Section 902(0) requires the EAR to include detailed information about the existing environment in the area of a proposed development; and about the effects which a proposed development is likely to have on the environment; an analysis and description of ways in which the significant adverse effects of such development might be mitigated and minimized; and an identification and analysis of reasonable alternatives to such development.

The EAR will also serve as a mechanism to obtain all the necessary information for the air and water pollution and Oil Spill prevention permits. Figure 9.2 illustrates the siting process.

As Chapter Five demonstrates that the Coastal Zone permit process draws upon the reviews of many actors and participants. All major coastal zone permits are reviewed by the Virgin Islands Planning Office, the Virgin Islands Department of Commerce, the Department of Public Works, the Virgin Islands Port Authorities, the Caribbean Research Institute of the College of the Virgin Islands, the National Park Service, the Virgin Islands Conservation District and any Federal agency which expresses interest. In addition, the general public and other interested and affected public and private parties are involved through required public hearings pursuant to section 910(c)(2)(B).



The need for consideration of the national interest in facilities is addressed, Chapter Ten, National Interest and Federal Consistency clearly illustrates mechanisms by which the national interest in energy facilities is considered. Figure 9.2 illustrates at which juncture in the coastal permit process this consideration is statutorially mandated to occur.

#### PROCESS FOR SITING ALTERNATIVE ENERGY FACILITIES

The site suitability assessment undertaken as part of the development of the coastal land and water use plan did not include consideration of the site requirements of alternative energy sources. The present zoning categories do not address the placement of windmills, or structures associated with oceanthermal generation. Specific marine sites suitable for oceanthermal development were not designated. The siting of these facilities will require a slightly different process than the siting of traditional facilities.

The state of the art in solar energy is such that most solar energy generation is ancillary to the structure itself and commensurate in scale. Accordingly, it is permitted in accordance with the permissibility of the use.

Ocean thermal, or other marine generated sources of energy would require a land based facility as well as an ocean operation. The land facility must be consistent with the provisions of the VICZMA and the zoning law. The marine production aspect will require a Coastal Zone Permit from the Commission and a permit to occupy submerged lands from the Legislature and the Governor.

Windmills will require an amendment to the zoning law. Provisions are not made for their construction in any use district under the current zoning law. An applicant wishing to site a windmill, must petition the Legislature to make the appropriate zoning change. As a part of this process, the Planning Office makes a recommendation for, or against the proposed change. This recommendation must be consistent with the coastal land and water use plan and in concert with the goals, objectives, and policies of the Coastal Act. Accordingly, the Planning Office must adequately consider the national interest in the recommendation decision. If the Legislature approves the zoning change, a coastal zone permit must be obtained as illustrated in Figure 9.2 and the process described under Energy Facility Siting Process.

## CHAPTER TEN

### National Interest and Federal Consistency

#### CONSIDERATION OF THE NATIONAL INTEREST

Recognizing the distinct and irreplaceable nature of the nation's coast, the United States Congress, in enacting the Coastal Zone Management Act of 1972, found that, "...there is a national interest in the effective management, beneficial use, protection, and development of the coastal zone." The Virgin Islands Coastal Management Program clearly provides forums and policy statements which reflect the national interest in coastal management in the Islands. Specifically, Section 306(c)(8) of the national Coastal Zone Management Act requires that "the management program provides for adequate consideration of the national interest involved in the siting of facilities (including ... energy ...) necessary to meet requirements which are other than local in nature." The requirement is intended to assure that national concerns over facility siting are expressed and dealt with in the development and implementation of the coastal zone management program. Consideration of these requirements and facilities need not be a separate and distinct element of the plan, and may be intergrated into the other aspects of the program.

In order to meet the requirements of subsection 306(c)(8) and the 15 CFR Part 923.52 Regulations, States must:

Describe which national interest in the planning for the siting of facilities...were considered during program development.

Indicate the sources relied upon for a description of the national interest for each of the facilities. . .

Indicate how and where the consideration of those national interests is reflected in the substance of the management program:

Describe a process for continued consideration of the national interests...during program implementation, including a clear detailed description of administrative procedures and decision points where such interests can be considered.

In addition, to a consideration of the National interest section 307(b) requires an opportunity for full participation by relevant Federal agencies in the development of the state CZM program.

The Virgin Islands program has utilized the full participation concept as one means in determining the national interest. In January of 1976 each agency was contacted and requested to designate a CZM liaison and state their "interest" in the development of the Virgin Islands Program. In July 1976 each agency was sent a form for nominating areas of particular concern (Appendix D) and requested to participate in the process. An informal working discussion draft (pre-DEIS document) was distributed in December 1976. Each designated contact was requested to comment. Comments were incorporated into the DEIS and represented a further effort at coordination and consultation.

The Virgin Islands fully recognizes that coastal issues and concerns reflect a national interest in national defense, energy and other facility siting and certain resource protection issues such as wetlands management and the protection of rare and endangered species. Many national interests are mutually shared by the Virgin Islands and are illustrated in goals, policy statements, and action programs, such the coastal land and water use plan and areas of particular concern and areas for preservation and restoration.

The primary focus of this section is to demonstrate adequate consideration of facilities in which there is a national interest. However, in an overall balanced coastal management program it is perforce to recognize that other national interests such as a national interest in resource conservation and protection will be involved in some decisions regarding the siting of national interest facilities. Consequently, these resource issues; wetland and endangered species protection, air and water quality, and historic and archeological concerns have been included in this discussion.

The Virgin Islands Coastal Management Program evaluated, and will continue to evaluate, the following sources for policies and information to adequately consider the national interest in planning and management responsibilities:

- o Federal laws and regulations.
- o Policy statements or Executive Orders from the President of the United States (e.g., National Energy Plan).
- o Special reports, studies and comments from federal and state agencies.
- o Testimony received at public hearings and meetings on the Virgin Islands Coastal Management Program.
- o Certificates, policy statements and solicited opinions issued on specific projects by federal regulatory agencies.
- o Statements of national interest issued by federal agencies.

The Virgin Islands does not exclude any national interests so long as they conform to requirements of the applicable Virgin Islands authorities. This represents a performance approach for assuring both proper resource protection and management and facility siting.

#### STATUTORY BASIS FOR THE CONTINUED CONSIDERATION OF THE NATIONAL INTEREST

Consideration of the national interest in program development is represented in the goals and policies of the "Virgin Islands Coastal Zone Management Act of 1978," the coastal land and water use plan, designation of areas of particular concern and priority guidelines. Continued consideration is manifested in the goals and policies of the VICZMA that promote facilities and activities which have been identified as being in the national interest. These are defense and national security, energy, transportation, recreation facilities, air and water quality, archeological and historic sites, and wetlands and endangered species habitats.

The most significant statement mandating continued consideration of the national interest in facilities is the second goal of section 903(b). It has been specifically developed to assure a statutory basis to compel the consideration of the national interest. It reads as follows:

(2) promote economic development and growth in the coastal zone and consider the need for development of greater than territorial concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment, (emphasis added).

The Coastal Act proceeds to define development to mean:

the placement, erection, or removal of any fill, solid material or structure of land, in or under the water; discharge or disposal of any dredged material or of any liquid or solid waste; grading, removing, dredging, mining, or extraction of any materials; subdivision of land pursuant to Title 29, Chapter 3 of this Code; construction, reconstruction, removal, demolition or alteration of the size of any structure; or removal or harvesting of major vegetation, including coral, other than for agricultural purposes. Development shall not be defined or interpreted to include activities related to or undertaken in conjunction with the cultivation, use or subdivision of land for agricultural purposes or any improvements made in the interior of any structure, (902)(1).

Clearly, facilities in which there may be a national interest (as illustrated by Table I), constitute "development" under the terms of the Coastal Act and must be given adequate consideration consistent with 903(b)(2). Accordingly, in issuing a coastal zone permit either the Coastal Commission or Commissioner of DCCA must consider the national interest in that development. The juncture in the permit granting process where this national interest consideration occurs is found in Figure 9.2 of Chapter Nine, Energy facility Siting Process.

#### IDENTIFICATION OF THE NATIONAL INTERESTS

The following is an identification and discussion of the national interests represented in the Virgin Islands Coastal Zone.

##### National Defense

The Departments of Defense and the Army, Navy and the Air Force were contacted during the period of program development. The following are the major objectives for National defense:

- o to ensure sovereignty of the nation and protect its citizens from physical harm or expropriation, and
- o to establish and maintain the facilities necessary to carry out the first objective.

The history of the Virgin Islands as part of the U.S. begins with a need for national security. The Islands were purchased from Denmark in 1917 to further

the American naval presence in the Caribbean. Accordingly, The Virgin Islands recognizes the importance in national defense facilities.

The Naval presence in the Territory, though not significant in terms of facilities and area, nevertheless is important. There are underwater range activities of the Department of the Navy off the west coast of St. Croix as well as the Navy property radar facilities on Crown Mountain, St. Thomas. While the management program excludes Federally owned and leased land from the coastal zone, it anticipates that the defense agencies will conform to the VICZMP to the maximum extent practicable, and that Federal consistency mediation procedures will be used as necessary. The Virgin Islands Program recognizes that national security contingences may, in the future, require the coastal zone to be the location of defense facilities.

Specifically, no goal or policy found in the VICZMA contradicts or interferes with the siting of facilities in the national defense.

#### Energy

The Virgin Islands now accomodates the largest oil refinery in the Free World. The petroleum refining activities of Hess Oil Virgin Islands Corporation (HOVIC), ST. CROIX, consists of a 750,000 barrels per day capacity, representing approximately five percent of the crude oil refined in the United States.

The following agencies were contacted and/or have sent comments during the period of program development: Department of Energy, Corps of Engineers, and the Department of Interior (BLM and USGS). Furthermore, the National Energy Plan objectives were examined.

The National Energy Plan sets forth three energy objectives for the United States: As an immediate objective, and one that will become even more important in the future, to reduce dependence on foreign oil and vulnerability to supply interruptions; in the medium term, to keep U.S. imports sufficiently low to weather the period when world oil production approaches its capacity limitations; and in the long term, to have renewable and essential inexhaustible sources of energy for sustained economic growth.

Significant features of the National Energy Plan are: 1) conservation and fuel efficiency; 2) national pricing and production policies; 3) reasonable certainty and stability in government policies; 4) substitution of abundant energy resources for those in short supply; and 5) development of non-conventional technologies for the future.

The Virgin Islands Program has demonstrated consideration of the national interest in energy production as part of the development of permissible land and water uses, guidelines for GAPCs, and the planning process to site energy facilities (Chapters Five, Six, and Nine. Sites suitable for energy facilities have been identified and include (see Figure 9.1):

- o Krum Bay, St. Thomas
- o South Shore, St. Croix
- o Christiansted, St. Croix

One such site will be the location of the proposed Virgin Islands Refinery Corporation (VIRCO) refinery to be located in St. Croix and have a 200,000 barrel per day capacity. A mono-bouy terminal is also planned for the south shore of St. Croix and will tie into the existing HOVIC operation. In providing sites for energy facilities, the Virgin Islands has gone beyond the requirement of "adequate consideration" and made provisions for accomodation.

Fundamental to the policies regarding energy is the concept that some facilities are coastally dependent and if demand warrants, may be sited in the coastal zone. A detailed discussion of the policies relating to coastal dependent development and energy facilities is found in Chapter Nine. Energy Facility Siting Planning. Note that the process provides for consideration of the national interest.

Goals (2) and (3) of Section 903(b) of the VICZMA promote the national interest in energy, facilities. Goal (2) has been stated earlier in this Chapter. Goal (3) states:

(3) assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses (emphasis added).

Developmental policies (2) and (8) of Section 906(a) also assure adequate consideration of energy facilities. These policies direct the Commission or Commissioner:

(2) To give highest priority along the shoreline to water dependent uses, particularly ... industrial uses, including port and marine facilities...

(8) To assure that dredging and filling of submerged land is clearly in the public interest... Towards these ends, the diking, filling or dredging coastal waters, salt ponds, lagoons, marshes or estuaries may be permitted... and shall be limited to ... public services purposes, including ... burying of cables and pipes ... new or expanded port, oil, gas, water transportation, and coastal dependent industrial uses... (emphasis added).

#### Transportation

There is a national interest in maintaining and enhancing the commercial navigation and port facilities of the Virgin Islands. The following agencies were contacted and/or commented on the management program: Department of Transportation (Coast Guard), Federal Aviation Administration the Corps of Engineers and the Department of Commerce. Specifically, the interests of the Department of Transportation are represented by the Virgin Islands Department of Public Works and the Virgin Islands Port Authority. In addition other sources consulted by the management program include:

- o Federal agency area of particular concern nominations for transportation areas.
- o Activities and development plans conducted by the Department of Commerce's Maritime Administration and Economic Development Administration;
- o Department of Transportation Act; and
- o Environmental Impact Statements on the Harry S. Truman Airport expansion, the Southshore Public Port Facility in St. Croix, and the Crown Bay and Long Bay port facility plans, St. Thomas; and Enighed Head Cruz Bay Ferry dock (see Chapter Three, Context For Planning, Major Plans in the Coastal Zone).

The Following are the major objectives for transportation:

- o to develop a balanced transportation system,
- o to provide safe, efficient, and convenient access via one or more modes of transportation for the movement of people, goods and services to, from and through the coastal area.



The national interest in transportation is manifested in the land and water use plan and zoning designations which permit and encourage port and harbor development and the GAPC designations of Chapter Six. Areas suitable for transportation facilities are:

- o South Shore Industrial Area (Southport), St. Croix
- o Fredriksted, St. Croix
- o Charlotte Amalie Harbor, St. Thomas
- o Crown Bay, St. Thomas
- o Harry S. Truman Airport Expansion, St. Thomas
- o Enighed Pond - Cruz Bay, St. John

The Section 903(b) goals relating to transportation are goals (2) and (3)

Section 903(b) states:

(3) Assure priority for coastal dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including ... port and marine facilities...

The relevant 906 policies are development policies, (2), (5) and (8).

The Commission or Commissioner is directed:

(2) To give highest priority along the shoreline to water dependent uses... including marine and port facilities...

(5) To encourage waterfront re-development and renewal in developed harbors...

(8) To assure that dredging or filling of submerged lands is clearly in the public interest; ... Towards these ends, the diking, filling or dredging of coastal waters, salt ponds, lagoons, marshes or estuaries may be permitted... and ... shall be limited to the following: (1) maintenance dredging required for existing navigational channels, vessel berthing and mooring areas ... new or expanded port ... and water transportation, ... including commercial fishing facilities, cruise ship facilities, and boating facilities...

### Recreation

The primary national interest in the Virgin Islands is found in recreational facilities. The Virgin Islands is unique in beauty and affords a diversity of recreational uses for mainland tourists. In 1975-76 over one million tourists visited the islands. The National Park Service administers over one-half of St. John Island and Buck Island National Monument, St. Croix. Accordingly, the NPS and HCRS were extensively consulted and a representative from the NPS served on the CZM Technical Advisory Committee. Other sources consulted by the Virgin Islands CZM Program included:

- o Virgin Islands recreation programs (SCORP);
- o Federal Agency GAPC nominations for recreational areas;
- o Legislation creating the National Park in St. John and the Buck Island Monument.

The following are the major objectives for recreation:

- o Recreation should be considered as an equal among competing users of the coastal area;
- o To provide high quality recreational opportunities to all people of the U.S. while protecting coastal environment;
- o To protect existing recreation areas from adverse contiguous uses;
- o To accelerate the identification of no-cost transfer of surplus and under-utilized Federal property.

Recreation concerns are illustrated by a number of GAPC designations and priority of use guidelines as well as VICZM goals and policies. The following GAPC are related to recreational use that is in the national interest:

- o Christiansted Waterfront
- o Altona Lagoon, St. Croix
- o Western Christiansted Harbor, St. Croix
- o Cheney Bay, St. Croix
- o Green Cay, St. Croix
- o Salt River, St. Croix
- o Reef System, St. Croix
- o Downtown Charlotte Amalie, St. Thomas
- o Hassel Island, St. Thomas
- o Water Island, St. Thomas
- o Estate Botany Bay, St. Thomas
- o Magens Bay, St. Thomas
- o Mandahl Bay, St. Thomas
- o Chocolate Hole, St. John
- o Lagoon Point - Local Bay, St. John

The 903(b) goals relevant to the national interest are (1),(2),(3) and (6) and reiterated below.

(1) protect, maintain, preserve and where feasible enhance and restore the coastal zone for the benefit of residents of and visitors to the Virgin Islands

(3) assure priority for coastal dependent development ... by reserving areas suitable for ... hotels and related facilities ... and recreation uses.

(6) ... insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines...

The appropriate 906 policies require the Commission or Commissioner:

(2) to give highest priority along the shoreline to water dependent uses... including recreation...

(1) to protect and, where feasible or appropriate, enhance and increase public coastal recreational uses, areas and facilities

(5) To foster, protect, improve, and ensure optimum access to, and recreational opportunities at, the shoreline for all the people...

(6) Development shall not interfere with the public's right of access to the sea where acquired through customary use, legislative authorization or dedication, including without limitation the use of beaches to the landward extent of the shoreline.

(7) The Commission may require that public access from the nearest public roadway to the shoreline be dedicated in land subdivisions or in new development projects requiring a major coastal zone permit ...

#### Air and Water Quality

Protection of air and water quality is necessary to maintain the integrity of the Virgin Islands fragile coastal environment. The Environmental Protection Agency (EPA) and the Corps of Engineers have been consulted regarding these issues.

Other sources consulted by the Coastal Management Program in determining the national interest in air water quality include:

- o Federal Water Pollution Control Act of 1972 and recent amendments.
- o Clear Air Act of 1970 and Amendments.
- o Federal Refuse Act.
- o National Solid Waste Act.
- o Working agreements between the Virgin Islands and the United States Environmental Protection Agency, including specifically the "208" program, solid waste, air and water quality programs.
- o Area of particular concern nominations relating to air and water quality.

Objectives of the national interest with respect to air and water quality include: 1) provide adequate funds for sewage treatment facilities so that the

pollution of our nation's waters can be abated; 2) to control and abate pollution systematically by proper integration of a variety of research monitoring, standard setting and enforcement activities.

The Virgin Islands Coastal Management Program fully incorporates the national interests in air and water quality, and the requirements of the federal Water Pollution Control Act and Clean Air Act are made part of the Virgin Island Program, including nonpoint sources of water pollution and air pollution. The Virgin Islands air and water pollution control acts have been developed pursuant to the Federal statutes. Thus, the water and air national interest will be met during program implementation through the process of issuing Virgin Islands and federal air emission and waste water discharge permits.

The 903(b) goals which apply to the national interest in air and water quality are statements (2) and (9). Goal (2) is found in part A,(9) below:

(9) maintain or increase water quality through control of erosion, sedimentation, run-off, siltation, and sewage discharge;

Environmental Policies (4), (5), (8) and (10) also address the national interest in air and water quality. The Commission or Commissioner is directed:

(4) To assure that siting criteria, performance standards, and activity regulations are stringently enforced and upgraded to reflect advances in related technology and knowledge of adverse effects on marine productivity and public health.

(5) To assure that existing water quality standards for all point source discharge activities are stringently enforced and that the standards are continually upgraded to achieve the highest possible conformance with federally promulgated water quality criteria.

(8) To assure that dredging and disposal of dredged material will cause minimal adverse effects to marine and wildlife habitats and water circulation.

(10) To assure all of the foregoing, development must be designed so that adverse impacts or ... water quality are minimized to the maximum extent feasible...

#### Wetlands and Endangered Species Habitats

The Virgin Islands coastal wetlands support many habitats critical to fish and wildlife which are often threatened by development activities. Wetlands also play vital roles as water quality purifiers and retain flood waters.

Of particular concern are the habitats of the endangered sea turtles at Sandy Point, St. Croix and elsewhere. Sandy Point Beach has been designated a critical habitat by FWS and the adjacent waters have been proposed for such designation by NMFS. The Jersey area of St. Thomas comprises the last stand of

Mangrove ecosystem on the island. Lagoon Point and Chocolate Hole - Great Cruz Bay, St. John, provide other important resource areas. The Great Salt Pond and Bay and the Salt River - Sugar Bay area of St. Croix provide important wildlife habitat and wetland areas. Site specific recommendations for each of these areas are found in Chapter Six (Areas of Particular Concern and Areas for Restoration and Preservation).

The Fish and Wildlife Service, the Corps of Engineers, and the National Marine Fisheries Service were consulted on these issues. Other sources consulted by the Coastal Management Program to discern national wetlands and endangered species interests include:

- o The Endangered Species Act of 1972.
- o Area of particular concern nominations for wetlands, such as those nominations received from the U.S. Fish and Wildlife Service.
- o Fish and Wildlife Coordination Act.
- o Marine Protection, Research and Sanctuaries Act of 1972
- o Executive Order No. 11990 (protection of wetlands)
- o Migrating Bird Act
- o Executive Order No. 11988 (flood plain management)
- o Fishery Conservation and Management Act of 1976
- o Position paper from FWS regarding the national interest in mangrove stands. (Appendix E-1)

Objectives of the national interest in wetlands and endangered species habitats include: (1) to avoid to the extent possible the long and short-term adverse impacts associated with the distribution or modification of wetlands and to avoid direct or indirect support of new construction in wetlands whenever there is a reasonable and prudent alternative; (2) provide means whereby ecosystems upon which endangered and threatened species depend, may be preserved; and (3) to provide a program for the conservation of endangered and threatened species.

Goal (8) of Section 903(b) mandates consideration of wetland and endangered species habitat interests which are national concern. The Legislature declares it a goal for the Virgin Islands to:

- (8) conserve ecologically significant resource areas for the contribution to marine productivity and value as wildlife habitats, and preserve the

function and integrity of reefs, marine meadows, salt ponds, mangroves  
other significant natural areas:

Furthermore, in Section 906 the Legislature directs the Commission or Commissioner:

(1) To conserve significant natural areas for their contribution to marine productivity and value as habitats for endangered species and other life.

(2) To protect complexes of marine resource systems of unique productivity, including ... salt ponds, mangroves .., to assure that activities ... are carried out so as to minimize adverse effects on ... habitat value.

(5) To preserve and protect the environments of offshore island and cays.

(8) To assure the dredging and disposal of dredged material will cause minimal adverse effects to marine and wildlife habitats and water circulation.

(9) To assure that development in areas adjacent to environmentally sensitive habitat areas, especially those of endangered species, significant natural areas... is sited and designed to prevent impacts which would significantly degrade such areas.

(10) To assure all of the foregoing development must be designed so that adverse impacts on ... habitat value ... are minimized to the maximum extent feasible ...

#### Archaeological and Historic Sites

The Virgin Islands is a rich chronicle to the historic development of both the Virgin Islands and mainland U.S. Consideration of the national interest in archaeological and historic sites has been a major concern during program development. The Planning Office is also the designated State Historic Preservation agency and the Planning Director the State Historic Preservation Officer. Consultation has taken place with the HRCS and the NPS.

In determining the national interest in archaeological and historic areas, sources consulted by the Coastal Management Program include:

- o The Antiquities Act of 1906
- o Historic Site Act of 1935
- o National Historic Preservation Act of 1966
- o Archaeological and Historic Preservation Act of 1974
- o National Historic Preservation Act of 1966
- o National Environmental Policy Act of 1969
- o Federal agency nominations for historic and archaeological areas of particular concern

Major objectives of the national interest in historic and archaeological sites are:

- o to afford protection for designated historic and archaeological sites from adverse impacts and;

- o to consider cultural resources in assessing the environmental impacts of proposed activities.

These concerns are reflected in the designation of several GAPC's:

- o Fort Christiansvaern to Antilles Airboats, St. Croix
- o Frederiksted, St. Croix
- o Salt River-Sugar Bay, St. Croix
- o Charlotte Amalie, St. Thomas
- o Hassel Island, St. Thomas
- o Estate Botany Bay, St. Thomas
- o Magens Bay, St. Thomas

The appropriate 903(b) goals are (1) and (2), indicated in Figure I. Goal (1) is reiterated below:

- (1) protect, maintain, preserve and where feasible enhance and restore ... the scenic and historic resources of the coastal zone ...

#### SUMMARY

The Virgin Islands' effort to coordinate and consult with federal agencies and other national interests will continue during program implementation. During program development, the coordination effort strengthened the Virgin Islands Coastal Management Program through recognition of federal agency program concerns and missions and area of particular concern nominations. Through this involvement, the Virgin Islands Coastal Management Program can assist in developing and conserving a unique coastal zone for the health, safety and welfare of present and future generations. Passage of the VICZMA ensures continued consideration of the National interest.

## Federal Consistency

Section 307 (c), (1), (2), and (3) and 307 (d) of the Coastal Zone Management Act are termed the "Federal Consistency" provisions, and assure that Federal activities, development projects, licenses and permits, and financial assistance will be consistent with the approved management program.

### STANDARDS FOR DETERMINING CONSISTENCY

In determining whether Federal activities, development projects, licenses and permits, and financial assistance are consistent with the Virgin Islands Coastal Zone Management Program, the following shall be applied:

1. The goals and policies found in sections 903 and 906 of the VICZMA of 1978, as set forth in the EIS; and
2. Any additional policies, regulations, and plans that are incorporated by amendment into the Program in the future.

### TERRITORIAL AGENCY RESPONSIBLE FOR CONSISTENCY REVIEW

The DCCA is the agency to which consistency certifications and determinations are to be submitted (see Chapter Five, Authorities and Organization). Federal agencies with administrative responsibilities in or significantly affecting the Virgin Islands Coastal Zone are required to act in conformance with Section 307 of the CZMA and NOAA implementing regulations (15 CFR Section 930 Gt. Seq.).

### FEDERAL ACTIVITIES AND DEVELOPMENT PROJECTS (Section 307(c)(1) and (2))

Section 307(c)(1) and (2) of the CZMA require that Federal activities, including development projects significantly affecting the coastal zone "shall be conducted in a manner which is, to the maximum extent practicable, consistent with approved state management programs."

In the case of excluded Federal lands, activities on these lands that have an impact on the coastal zone beyond the boundaries of the Federal properties are subject to this provision, as are activities beyond the boundary of the coastal zone that significantly



affect the coastal zone. Federal agencies themselves determine whether or not an activity or project will significantly affect the coastal zone and whether or not it is consistent, to the maximum extent practicable, with the Coastal Management Program. The Federal agency must, however, notify the Virgin Islands of its proposed action and its consistency determination. Certain categories of Federal action can generally be acknowledged as not affecting the coastal zone. These include:

- o Radio transmission and placement and/or maintenance of aids to navigation placed or authorized by the U.S. Coast Guard; and
- o Any action for which the agencies' environmental impact procedures, established pursuant to the National Environmental Policy Act of 1969, do not require issuance of an Environmental Impact Statement or negative declaration.

Other activities and projects generally can be considered as significantly affecting the coastal zone. These activities include:

- o Federal agencies applying for licenses and permits,
- o Development projects in the coastal zone,
- o Land acquisition in the coastal zone,
- o Road construction in the watershed,
- o Waste discharge in the watershed,
- o Activities affecting or altering surface runoff quality or quantity in the coastal watershed, and the coastal zone,
- o Dredge, fill, development, construction, or waste discharge in coastal waters,
- o Any other activity which would, if carried on by a private party, require a VICZM permit.

To save time and funds, and to avoid conflicts involving substantial commitments or resources, consistency should be assessed at the earliest possible time. Preferably, this should occur as an integral part of planning and budgetary decisions.

The DCCA/DCZM is the single Territorial agency responsible for reviewing Federal agency determinations that their projects and activities are (or are not) consistent with the VICZMP. Each Federal Agency must provide DCCA/DCZM with notification of such activities and projects in the Virgin Islands. Direct notification by the Federal Agencies to the Department of Conservation and Cultural Affairs/Division of Coastal Zone Management is requested.

FEDERAL LICENSES AND PERMITS (Section 307(c)(e)(A & B))

Section 307(c)(3) of the National CZMA provides that any applicant for a Federal license or permit to conduct an activity significantly affecting land or water uses in the coastal zone must certify that the proposed activity complies with, and will be conducted in a manner consistent with, the management program, and submit all necessary information and data to the territory, DCCA/DCZM will then review the application and at the earliest possible time, but within 6 months (or 3 months for OCS plans), notify the Federal agency of its concurrence or objection. The CZMA requires that: "No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act (within 6 months) the concurrence is conclusively presumed. . ." Table 10.3 lists the kinds of Federal licenses and permits which may significantly affect the coastal zone, and which the Territory wishes to review for consistency with the Coastal Management Program. Such review is desired only for those licenses and permits that authorize activities within the boundaries of the coastal zone or which will have "spill over" effects, i.e., significant effects within the coastal zone. If it is found by monitoring through A-95 that the issuance of other kinds of Federal permits and licenses causes significant effects on coastal land and water uses, the list will be expended through appropriate OCZM procedures for changes to the VICZMP. Federal agencies are required to submit applications for unlisted permits or licenses to the territory if the DCCA/DCZM determines that the activity for which such a license or permit is sought would significantly affect the coastal zone. Within 30 days of receipt of such application the DCCA/DCZM must notify the Federal agency and applicant that the unlisted activity significantly affects the coastal zone and required DCCA/DCZM review or that the V.I. waives its review of the unlisted activity.

Non-Federal applications for Federal licenses or permits to conduct an activity affecting land or water uses in the coastal zone must submit a certification statement to DCCA/DCZM indicating that the proposed activity will be consistent with the program. The certification statements must be accompanied by sufficient information to support the applicant's consistency determination. The Federal license or permit may not be issued by the Federal agency if DCZM objects to the applicant's certification statement, unless the objection is overturned on an appeal to the Secretary of Commerce because the activity is consistent with the objections of the Act, or is in the interest of national security (Section 307(c)(3)(A)). Table 10.3 lists the licenses and permits that are to be considered subject to the consistency provisions and will require a certification of compliance. The issuance of a coastal zone permit by DCZM will indicate compliance with the program. If

an applicant to a Federal agency has a valid coastal zone permit issued by DCCA/DCZM, it will also indicate compliance with the program.

Applicants submitting exploration, development or production plans to the Secretary of the Interior pursuant to that requirements of the Outer Continental Shelf Lands Act, and regulations thereunder, shall, with respect to any exploration, development or production described in such plan, submit to DCCA/DCZM a copy of such plan accompanied by a certification statement that each activity which is described in detail in such plan will be carried out in a manner consistent with the CZM program. The certification statement must be accompanied by necessary data and information to support the applicant's certification statement. Federal licenses and permits for OCS activities described in detail in such plans shall not be issued by the Federal agency if DCCA/DCZM objects to the applicant's certification statement, unless the objection is overturned on an appeal to the Secretary of Commerce (Section 307(c)(3)(B)).

#### FEDERAL ASSISTANCE (Section 307(d))

Section 307(d) of the CZMA establishes consistency requirements for Federal Financial Assistance to the Territory, Federal assistance includes any grant, loan, contract, subsidy, guarantee, insurance, or other form of financial aid. If any such aid "affects the coastal zone," it must be consistent with the Coastal Management Program. Applications submitted for Federal Assistance for an activity affecting the coastal zone shall go through the A-95 notification and review process to permit DCCA/DCZM to review the consistency of the proposed Federal assistance activity. If DCCA/DCZM objects to the proposed Federal assistance, the application can not be granted unless the objection is overturned on an appeal to the Secretary of Commerce (Section 307(d)).

#### PROCESSING OF COMMENTS ON CONSISTENCY

The Virgin Islands will rely upon the public notice provided by the Federal agency reviewing the applications for the Federal license or permit. If such notice does not satisfy the minimum requirements of CCZM regulations adopted pursuant to Section 307(c)(3), DCCA/DCZM will require that the additional notice required be given by the applicant. DCCA/DCZM will consult with affected Federal agencies to determine whether the Federal notices comply with CCZM notice regulations. The DCCA/DCZM will review all comments received within

the time limit specified for a consistency finding by the CZMA and OCZM regulations. In addition, DCCZ/DCZM will make its own initial determination of consistency. If any comments are received suggesting that the action is not consistent, or if the Virgin Islands itself makes initial determination that the action is not consistent, DCCA/DCZM will attempt, through negotiation, to obtain modifications to the project or ensure that other appropriate steps are taken to achieve consistency. If the conflict cannot be resolved to the mutual satisfaction of all reviewers, DCCA/DCZM will review all comments and make a determination of consistency or lack of consistency on behalf of the Virgin Islands.

Table 10.3 FEDERAL LICENSES AND PERMITS SUBJECT TO CERTIFICATION OF CONSISTENCY

Type of Federal licenses or permit

Department of Agriculture

Permits for waterplants, dams etc. under 16 USC 497

Permits for construction of hotels etc. on National Forest Service lands under 16 USC 497.

Department of Commerce

Permits for activities within Marine Sanctuaries under 33 USC 1401-1444

Department of Defense - U.S. Army Corps of Engineers:

Permits and licenses required under Sections 9 and 10 of the River and Harbor Act of 1899. . . .

(dams; obstruction or lateration of, and excavation and depositing of material in navigable waters of the United States)

Permits and licenses required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1912 (Ocean Dumping). . .

Permits and licenses required under Section 404 of the Federal Water Pollution Control for (discharge of dredged or fill material into waters of the United States)

Nuclear Regulatory Commission:

Permits and licenses required for siting and operation of nuclear power plants. . .

Environmental Protection Agency:

Permits and licenses required under Section 402 and 405 of the FWPCA of 1972, as amended

Permits and applications under the Clean Air Act of 1974 as amended. . .

Department of Interior - Bureau of Land Management:

Permits for pipeline rights-of-way

Department of Transportation - U.S. Coast Guard:

Permits for construction of bridges under 33 USC 40k, 4591-50/ and 525-534. . .

Permits for deep-water ports (33 CFR 158 et seq.). . .

Department of Transportation - Federal Aviation Administration

Permits for operation of airports

Federal Energy Regulatory Commission

Permits for construction and operation of facilities needed to import or export natural gas under Section 7(c) of the Natural Gas Act (15 U.S.C. 717 f(b)).

OCS production plans

Department of Interior - U.S. Geological Survey

Plans for exploration, production, and development of OCS gas and oil

(Review pursuant to Section (307(c)(3)(B) of the CZMA)

SECTION TWO

Virgin Islands Coastal Zone Management Program  
Environmental Impacts

Appendices

**4**



**Environmental  
Impacts**

PART IV

Virgin Islands Coastal Zone Management Program Environmental Impacts

Description of the Environment Affected

see Part Two, Context for Planning: Chapter Three, Context for Planning: Background and Setting. Chapter Four, Issues and Problems

Description of the Proposed Action

See Part Three the Management Program: Chapter Five, Authorities and Organization . Chapter Six, Areas of Particular Concern and Areas for Preservation and Restoration. Chapter Eight, Shorefront Access and Protection Planning. Chapter Nine, Shoreline Erosion Mitigation Planning and Energy Facility Siting.

Relationship of the Action of Land Use Plans, Policies and Controls for the Virgin Islands.

See Chapter Three, Context for Planning (Development Proposals), and Appendix B, Virgin Islands Federal Interaction (Coordination with other Planning).



## PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

### 1. Impacts Resulting from Federal Approval

- A. Federal Funding. Federal approval of the VICZMP will permit OCZM to award program administrative grants (pursuant to Section 306 of the CZMA) to the Virgin Islands. The type of activities for which the Virgin Islands will use these funds includes provisions: for a larger staff in the DCZM and for enforcement, preparing and refining of regulations; additional beach cleaning services; and the development of detailed plans for areas of particular concern.
- B. Federal Consistency. Approval of the VICZMP will mean that all Federal agencies must follow the provisions of Section 307(c) and (d) of the CZMA. These consistency provisions and the manner in which the Virgin Islands intends to implement them are described in Chapter 10.
- C. National Interest. Federal approval of the VICZMP is dependent in part on a finding that the Virgin Islands has adequately considered the national interest in the siting of facilities and management of areas that are of more than local concern, such as energy and defense facilities, recreational areas, etc.. While a state is not compelled to propose a program which accommodates certain types of facilities, the impact of this procedure will assure that such national interests are not arbitrarily excluded or restricted from the coastal zone. The national interest in the Virgin Islands Coastal Zone is outlined in Chapter 10.
- D. Other Coastal Management Assistance. Federal approval will also assure continued eligibility of the Virgin Islands to receive funds under additional coastal zone management assistance programs, such as Coastal Energy Impact Program, interstate coordination, beach access, island preservation and research and training.

## 2. Impacts resulting from implementing

The emphasis of the Virgin Islands Coastal Zone Management effort has been to develop a rational environmental program; to accommodate development and economic growth while maintaining or enhancing the quality of the natural environment. As such, impacts of the proposed program on the natural, economic, and social environment have been assessed during several stages of program development. In the initial planning stages a "Capability Analysis" was conducted to assess the impact of various types of activities on a series of coastal environments (see Chapter Two, Study Procedures). A Technical Advisory Committee (TAC) was established to advise on scientific and technical matters. The TAC represented a variety of interdisciplinary professions and interests, and was responsible for conducting the Capability Analysis (See Appendix B, Public and Local Governmental Involvement).

The Virgin Islands Program is essentially composed of four components; the goals and policies, a coastal land and water use plan, and a permit system and administrative reorganization. The goals and policies (see Chapter Five) however are the basis of the program. The land and water use plan (see Chapter Five) is a graphic representation of the policies. The purpose of the permit system and reorganization is to implement the goals and policies (see Chapter Eight). Consequently, this section will discuss the probable impacts of the goals and policies on the natural, social and economic environment.

The program goals (see Chapter Five) emphasize the balance of social, environmental, economic cultural and aesthetic values, and the recognition of resource capabilities and limitations. Long term social and economic benefits, the protection of the environment and traditional activities, and the public use of the shoreline consistent with tradition, are the thrust of the Program.

The goals of the program will have several effects on the environment. Because the goals are applicable throughout both tiers of the coastal zone they assure that development practices will be consistent throughout the islands. The goals clearly recognize the importance of natural resources and are designed to guide development toward areas tolerant of development and away from areas unable to sustain such activities. Furthermore, they clearly indicate the importance of preserving, protecting and maintaining certain resources.

Coastal policies pertaining to the first tier of the coastal zone are concerned with development, the environment, and amenities.

As a group, the development policies will have a beneficial impact on the physical environment. Uses that are compatible with the natural marine environment, fishing and controlled mariculture are

given a high priority and encouraged. The policies recognized the role that a coastal location plays in industrial, commercial, residential, and recreational uses and designates appropriate areas for these activities consistent with natural resource constraints. Non-dependent or water related uses are not permitted in areas suited for coastal dependent commercial and industrial uses. These policies will have the impact of assuring that future economic development that requires coastal location, ports, marinas, certain industrial, commercial and tourist oriented activities, can occur.

Development along the coast will be clustered into existing developed areas. This will thereby minimize the further destruction of natural areas. The clustering of development will concentrate any negative impacts and make amelioration measures more feasible. Any adverse impacts will be located in predesignated locations. Furthermore, criteria for siting use designations considered impacts on the natural environment. Areas acting as natural buffers will also be preserved. Substantial public investment savings and increased efficiency in the delivery of public services will result. Costly extensions of public utilities and transportation services will be discouraged. Facilities and services can be provided at lower cost. The value of property in existing developed areas will tend to increase. There will tend to be a positive impact on the redevelopment of existing urbanized and downtown areas since business and commercial activities will be encouraged to locate in these areas.

The environmental policies will have a decidedly positive impact on the natural environment. Ecologically important systems will be preserved and protected. Mangroves, grass beds, certain salt ponds and reefs will be preserved thereby enhancing productivity of marine resources. Activities must consider impacts to marine life and seek to minimize any adverse impacts. The environmental policies also recognize that advances in technology and research should be reflected in siting criteria, performance standards and other regulations that relate to maintenance of environmental quality. This will ensure that future practices will be consistent to the maximum extent with sound environmental resource management.

Policies covering water quality acknowledge conformance with federally promulgated criteria and will result in continued upgarding in water quality. Construction in coastal waters will be conducted in a manner that minimizes interference with water circulation and sediment transport to preserve water quality and marine productivity. Offshore sand and gravel removal will also be conducted in a manner that will not adversely affect marine resources. Dredge and fill activities will be conducted with similar diligence.

As a group, the environmental policies will accommodate long term development while maintaining and enhancing the quality of the natural environment. Education, scientific, cultural, and historic values will be protected. Rare and endangered species habitat will also be protected.

The amenity policies will result in the encouragement of boating, fishing and common uses of coastal resources. Areas vulnerable to visual intrusions will be protected by the regulation of certain criteria: size, height, color, setback and landscaping criteria. These policies will result in the maintenance of high aesthetic qualities for many APCs and other areas within the coastal zone.

Agricultural land will be preserved; these areas being utilized either for agricultural purposes, or as open space/buffer zones. Increased development which would impact coastal waters will thereby be reduced. Site development and height restriction standards insure that visual access to the shoreline and of the coastal waters will continue to be maintained, if not increased.

One of the most significant social impacts of the program will be the adoption by the Virgin Islands Government of policies regarding public access to and of the shoreline. This will result in a basis from which a program for the securing of public access can be established utilizing a variety of common law doctrines, easement and fee simple purchases.

Coastal policies pertaining to the second tier of the coastal zone are derived from the existing Virgin Islands Earth Change Law, Chapter 13, Title 12, Virgin Islands Code. This law applies to all private and public land alteration activities effecting coastal land and water resources. The implementation of these policies, consistent with the goals of the management program will insure the mitigation of negative impacts such as erosion, sedimentation, siltation, and pollution on the coastal resources of the Virgin Islands. This will assure that adverse impacts particularly to reef areas and marine meadows which are intolerant to the effects of siltation and sedimentation will be attenuated and their vital natural functions maintained.

The management program also contains numerous guidelines for use in the promulgation of rules and regulations pursuant to the Virgin Islands Coastal Zone Management Act of 1977. A number of the guidelines refer to the conservation of and the specific use of coastal environments.

The guidelines for steep slopes and low relief shorelines address low density residential development and conservation uses on steep areas, and a maximum of medium density residential development for low relief areas. As a result, areas for future residential development to meet the need of a growing island are consistent with resource capabilities. Construction should be prohibited on areas of severe building constraints with these sites considered for incorporation into the emerging

Territorial Park System as open space areas. Degradation to the marine environment caused by siltation and sedimentation resulting from development will be alleviated or at least attenuated.

The guidelines for developed bays and shorelines insure that where appropriate, these areas will be utilized for water dependent commercial and industrial uses. The present problem of precluding uses that require a coastal site by those non-water dependent or related activities will be alleviated. A prohibition of direct wastewater discharge into any developed bay will facilitate improvement of coastal water quality and adherence to federal standards. The maintenance and creation of waterfront parks will be acknowledged as a priority use of urban waterfronts, thereby setting policy for the emerging Territorial Park System.

The guidelines for beach areas address the preservation and conservation of beaches. Adverse impacts to beaches caused from upland activities will be reduced. Shoreward earth change and drainage modifications will be controlled. Dredging will also be prohibited from bays with beaches except under certain carefully controlled and monitored situations. Therefore, possible beach erosion will be prevented.

The most significant impact of the guidelines for mangroves is the preservation of the two last remaining large mangrove areas. Salt River, St. Croix, and the Mangrove Lagoon, St. Thomas, are both APC/APR designated for preservation. Most activities should be prohibited outright and those permitted carefully controlled and monitored. These actions will result in maintenance of these important marine resource areas. As a result marine productivity will be maintained or enhanced (see Appendix E and E1). Habitat for wide variety of fish and wildlife will be maintained. Habitat for species as the White-crowned Pigeon (*Columba eurocephalus*) and the rare and endangered Brown Pelican (*Leucocorax carolinensis*) will be preserved.

The preservation of mangroves will have a positive impact upon the entire spectrum of marine resources. The high quality of adjacent coastal waters, reefs, grass beds, will in part be assured by the maintenance of mangrove areas which trap silt, debris, and ameliorate other consequences of runoff.

The crucial function of many salt ponds as sediment traps/retention ponds and filters can be assured by the preservation of these areas. Protection of salt ponds will result in the maintenance of high water quality and other marine resources that are intolerant to sedimentation and siltation.

Guidelines for grass beds and algal plains will assure that their destruction will be minimized. Any uses in or adjacent to grass beds that impede sunlight, or cause perturbations will be prohibited.

The integrity of these areas will be maintained. As a result, the myriad of marine species which inhabit the areas will continue. The most notable is the queen conch (*Strombus gigas*) and several species of rare and endangered sea turtles (green Hawskbill and Leatherback). In addition, retention of grass beds will have beneficial impacts on sand areas and help retard any loss of beach material by stabilizing effects.

The guidelines toward sand bottoms address the use of these areas in a manner that will be consistent with sound environmental management. Prior to any activity it should be demonstrated that there will not be an adverse impact to adjacent marine resources.

The tropical reef is a complex association of hundreds of species of plants and animals. Each reef and algal ridge should be individually assessed to determine its value to ecological systems. The guidelines toward reefs and algal ridges insure that, where appropriate, these resources will be preserved. Habitat for the fish and other marine species will be retained, thus assuring at least current levels of marine productivity. Preservation of important reef systems will assure maintenance of reefs as natural breakwaters, thereby attenuating wave action and maintaining natural erosion and accretion rates. As a result, valuable shorefront resources will be protected from loss.

Preservation of certain offshore islands and cays will have several positive impacts. The relatively pristine environments of the cays will be maintained. Use of the area for preservation will afford nesting and habitat areas for a number of wildlife species, some of which are rare and endangered or near being so.

#### PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The thrust of the Virgin Islands Program has been to accommodate economic growth and development while maintaining or enhancing the quality of the natural environment. The overall assessment is environmentally beneficial with two possible reservations.

The program will protect and conserve some areas, while encouraging development to be sited in others. Certain types of development such as non-water dependent/ related commercial and higher density residential uses will be displaced inland. While this may place greater protection on fragile and valuable coastal resources, it may place greater stress on inland areas and result in some resource damage. However, such loss of inland resources is already occurring and the coastal zone management program represents an improvement over present land use allocations.

Commercial and industrial growth will be limited to specific areas, with the result that it will be more densely concentrated. This may have the effect of concentrating pollution and other adverse affects such as traffic congestion. However, effective and diligent implementation of the program with existing environmental laws should act to mitigate such measures. The program and subsequent regulations may reduce or restrict the usability of certain lands, thereby reducing the value of some coastal property to the property owner. The program will cause the value of other areas to increase.

#### RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

In certain instances the approval of the proposed Program will restrict local short-term uses of the environment. It will also provide a long-term assurance that the natural resources and benefits of the Virgin Islands Coastal Zone will be available for future use and enjoyment.

Without the implementation of the Program, intense short-term uses and gains, such as provided by piecemeal residential, industrial, and commercial development might be realized. These gains would accrue to a certain segment of the private sector. For the most part, this would result in long-term restrictions on coastal resource use and benefit because of degradation to the environment and loss of basic coastal resources. Without coastal zone management, and a rational land and water use plan, the traditional conflict between coastal resources users will continue.

The Program provides a sound basis for decision making, protects the important natural systems and directs uses to areas with natural capabilities and infrastructure capabilities to absorb growth. As such, the Program will contribute to the long-term maintenance of the environment.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The approval of the Virgin Islands CZM Program will lead certain areas of the coastal zone to be intensely, and for all practical purposes, irreversibly developed. This would result in the loss of some natural resources. However, development would occur in the absence of Program approval. The CZM program channels this development away from fragile and important resource areas and to appropriate sites based upon land and water resources consideration.

CONSULTATION AND COORDINATION WITH OTHERS  
SEE CHAPTER 10 APPENDIX A, PUBLIC AND GOVERNMENT INVOLVEMENT, AND APPENDIX B, FEDERAL INTERACTION.

ALTERNATIVES TO THE VIRGIN ISLANDS COASTAL MANAGEMENT PROGRAM

Introduction:

Given the nature of the proposed action of approving the Virgin Islands Coastal Zone Management Program, all alternatives would involve a decision to delay or deny approval. Delay or denial of approval could be based on the failure of the VICZMP to meet any one of the requirements of the Federal Coastal Zone Management Act (CZMA). In approving a CZM program, affirmative findings must be made by the Assistant Administrator for Coastal Zone Management on over twenty such requirements.

During the early development of VICZMP several areas of potential deficiencies were identified. However, those deficiencies have now been addressed by the Virgin Islands and the Assistant Administrator has made a preliminary determination that the Virgin Islands has met the requirements for approval under Section 306 of the Coastal Zone Management Act. In order to elicit public and agency comment and assure that the Assistant Administrator's preliminary assessment is correct, this section identifies areas where there are possible deficiencies and considers alternatives of delay or denial based upon each.

The generalized impacts of delay or denial of approval of the Virgin Islands Coastal Zone Management Program, regardless of delay or denial, are as follows:

(1) Loss of Federal monies to administer the program

Under Section 306, the Virgin Islands would receive approximately \$600K per year to administer its coastal management program. Most basic to a loss of Federal funds



will be the inability of the Territory to provide adequate staffing and administrative support to its regulatory, and special management and natural resource planning elements of the program.

Additionally, the drafting and adopting of refined regulations would not take place. Such additional refinements would be aimed at simplifying permit decisions and increasing the predictability of those decisions.

- (2) Loss of consistency of Federal actions with the Virgin Islands Coastal Mgmt. Program  
Program approval would mean that Federal actions, in or affecting the Virgin Islands coastal area would have to be consistent with the Territory's management program under Section 307(c) of the CZMA. Loss of consistency would be of particular concern as the coastal area is heavily influenced by Federal activities (i.e., Corps, Navy, FWS, etc.).
- (3) Loss of adequate consideration of the national interest in the siting of facilities which are other than local in nature as required by Section 306(c)(8) of the CZMA  
By delaying or denying program approval, the Territory would be under no obligation to give adequate consideration to coastal resources and facilities that the use of such resources may provide. The national interest also encompasses a concern for the protection of resources such as water, air, wetlands, and wildlife. Consideration of the need for the national interest in facilities must take into account the impacts of facilities on these key resources.

Alternative 1: The Assistant Administrator could delay or deny program approval if the policies described in the VICZMP were not enforceable or sufficient.

Federal regulations require that sufficient policies be of an enforceable nature to ensure the implementation of and adherence to the management program. The Virgin Islands Legislature enacted the VICZMA on October 12, 1978, adopting the policies which had been heretofore proposed. As a result the policies, found in Section 906 of the VICZM and Chapter 5 of this document are enforceable as of February 1, 1979.

Alternative 2: The Assistant Administrator could delay or deny program approval if the VICZMA was not specific enough to implement the Program on at least an interim bases without formal rules and regulations.

The basic approval issue is whether under the legislation as passed and retained authorities and procedures the Territory could begin to implement its program sufficiently to qualify for approval under Section 306 of CZMA. As we have noted, the Act provides detailed policies which we feel will constitute enforceable and predictable authority. Certain other authorities are retained which also incorporate definite standards. These include standards under the Earth Change Law and the Open Shorelines Act and other legislation included in the program. The Act does authorize the Commission to adopt further substantive regulations, subject to disapproval by the Legislature. Section 904(g). However, we feel that the policies of the Act as well as those of the other applicable statutes provide sufficient enforceable authorities for approval.

The Act also authorizes the Commission to promulgate various procedural regulations. However, the Act itself, as detailed below, also specifies procedures and provides for temporary implementation procedures. Furthermore, certain existing procedures are retained, including the procedures of the Board of Land Use Appeals. We feel that these procedures are sufficient for interim implementation of the program. A list of the main provisions of the statute providing an interim organization for the program follows:

- o Specific definitions of terms. Section 902.
- o Goals and policies statements which are comprehensive and appear to be of a level of specificity that would provide for permit decisions to be made in an enforceable and predictable manner. Sections 903 & 906.
- o Adoption of the Coastal Land and Water Use Plan which is a graphic interpretation of the statutory goals and policies and must be used as a guide for zoning changes and capital expenditures in the first tier of the coastal zone. Section 907.
- o A clear description of when coastal zone permits are required and when they are not. Sections 910(a)(1), (b).
- o A description, with definite thresholds, of what constitute activities requiring major or minor permits. Section 910(c).
- o Procedures for making permit applications, holding public hearing(s), if appropriate, and the applicable time periods. Section 910(d).
- o Special requirements pertaining to filing for development or occupancy of trust lands or of submerged or filled lands, as well as procedures and criteria by which such applications will be reviewed. Section 911.

- o Procedures for enforcement, including notification requirements and penalties. Section 913.
- o Appeal through the existing Board of Land Use Appeals which already has the necessary procedures in place. Section 914.
- o Provision for adoption of a temporary application form by the Commissioner for use prior to the adoption of official rules and regulations by the Commission. Section 910(e) (1).

The legislation does not set filing fees, Section 910(e)(4), nor does it provide for specific reclamation fees that are authorized for alterations to submerged lands, Section 911(f). We feel that adoption of schedules for these fees is not necessary to implement the program on an interim basis.

We conclude that the Virgin Islands program could be approved on or after Feb. 1, 1979, the effective date of the major legislation, provided the Commission has been appointed by the time of program approval. An interim application form for coastal permits should be adopted by the Commissioner before approval.

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**APPENDICES**

APPENDICES

1. COMMENTS RECEIVED ON THE DRAFT EIS AND RESPONSES
2. VIRGIN ISLANDS COASTAL ZONE MANAGEMENT ACT OF 1978



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

Mr. Robert W. Knecht  
Office of Coastal Zone Management  
National Oceanic and Atmospheric Administration  
U. S. Department of Commerce  
Page Building No. 1  
3300 Whitehaven Street, N. W.  
Washington, D. C. 20235

Dear Mr. Knecht:

The Department of the Interior has completed a review of the Virgin Islands Coastal Management Program (VICMP) and Draft Environmental Impact Statement (DEIS) dated February 1979. This document is similar to the VICMP document circulated in summer of 1977. In fall, 1979, the approval process for the VICMP was suspended after the final environmental impact statement (FEIS) was published since expected necessary legislation did not materialize. The enactment of the Virgin Islands Coastal Zone Management Act of 1978 (VICZMA) cleared the way for reconsideration of approval of the VICMP by the Secretary of Commerce.

The proposed program and the VICZMA provide for comprehensive yet streamlined coastal management planning and permitting. The Territory's goals and policies regarding wetlands and endangered species are commendable. We are pleased with the designation of 18 land and water areas in the first tier of the coastal zone boundary as areas of particular concern (APC's). Eleven of these areas are specifically designated as areas for preservation and restoration. The VICMP adequately addresses mineral resource development and appears to provide an appropriate balance of incentives and controls related to other types of coastal development. Finally, the program provides an excellent discussion of the national interest in coastal management and indicates a commitment to continued consideration of the national interest during the implementation stage.

While we believe the VICMP is basically sound, we have concerns about some sections of the program. These sections could, and in our opinion should, be clarified and strengthened. Many of our concerns were included in our comments on the 1977 DEIS (see our letter dated September 6, 1977, in Attachment 2 of the 1977 FEIS). Others were prepared by the Department's Bureaus in response to the 1977 FEIS and have been updated by our current

review. These are included, by subject, in Attachment 1 to this letter.  
If you have any questions concerning the attached comments, please contact  
Paul Stang (343-7258) of my staff.

Sincerely,

Assistant Secretary --  
Policy, Budget and Administration

Attachments

### 1. Coordination with Federal Agencies

The Virgin Islands government, in developing the coastal management program, has done a commendable job of coordinating with Federal agencies. We are disappointed, therefore, to note an apparent lack of either formal commitment or procedure to involve Federal agencies in the continuing operation of its program, once approved. Several portions of the program will, on a continuing basis, address questions involving national interests (e.g., land use actions proximate to Federal holdings, or proposed activities within critical habitat or endangered or threatened species). We believe that a procedure for coordinating these questions with Federal agencies should be developed for such occasions. A solution could take the form of an organizational entity (e.g., advisory group) or a specific procedure. If adopted, this type of solution could serve to coordinate changes to the program at an early date with Federal agencies, thereby possibly precluding late stage confrontations. We would offer our full cooperation in such an endeavor.

### 2. Conflict Resolution

The VICMP includes many positive policy statements. However, potential conflicts among policy statements might be expected in management of some activities (such as non-energy facility construction) when priority among applicable policies is not provided. This would not appear to be a problem where detailed and specific use priorities have been established (Areas of Particular Concern, Chapter 7; Shoreline Access, Chapter 8; Shoreline Erosion/Mitigation and Energy Facility Siting, Chapter 9). We recommend that a mechanism be provided in the final VICMP for resolving conflicts between coastal goals and/or policies which have not been treated specifically as to their priority in the VICMP.

### 3. Enforcement

Program enforcement is mentioned several times in the program document. The newly created Bureau of Enforcement will be used to ensure compliance with the rules, regulations, and standards within the jurisdiction of the Commissioner of Conservation and Cultural Affairs (page 70). Enforcement of land use controls, both Territorial and Federal, has been a recurring problem in the Virgin Islands, particularly with regard to areas within the navigable waters (seaward of mean high water). The Bureau of Enforcement may provide a better means of controlling this problem. Nevertheless, we believe that the VICMP should supply additional information with regard to how the new enforcement mechanism will be an improvement over previous procedures insofar as assuring compliance with Territorial statutes, obtaining restoration of pre-existing conditions where appropriate, and preventing unauthorized actions. Documentation of such improvements is important in light of the requirements of the CZMA pertaining to restoration.

### 4. Impacts of Coastal Uses

The goals and policies of the Virgin Islands Coastal Zone Management Act are the major determinants regarding permissible uses in the coastal zone.

1. Continued coordination is required by the Federal CZMA. OCZM understands the DCCA will continue its coordination with Federal agencies bilaterally through a Special Assistant (to the Commissioner) for Policy and Planning. It is anticipated that continuing day-to-day interaction, e.g., permit review, will take place within the Division of Coastal Zone Management. Participation in the development of future special area plans and substantive standards and guidelines will be the responsibility of the Commissioner's special assistant and DCZM. OCZM will cooperate with DCCA, and affected Federal agencies in instituting any necessary coordination procedures and in assuring that continuing coordination take place.

2. OCZM anticipates, that any conflicts in the implementation of the policy statements will be resolved by either the Commissioner or the Commission (committees) in the process of applying and balancing the goals and policies for each permit decision. Permit decisions are subject to administrative appeal to the Board of Land Use Appeals. Please note that the V.I. Coastal Land and Water Use Plan provides a graphical interpretation of these policies, which are to be applied to each development which occurs in the first tier.

3. The V.I. intends to apply for 306 funds to hire 12 new enforcement officers and purchase a 30 foot boat during the first grant year. OCZM, as part of its grants monitoring and 312 responsibilities, will monitor the Bureau's enforcement efforts during implementation. With the reorganization of the DCCA all enforcement officers will be centralized



However, the program contains no methods or procedures for determining the impacts of these allowable uses on the coastal environment. We recommend that the development of criteria whereby the impacts of activities may be measured, be given high priority during the first year of program implementation.

#### 5 Archeological, Historic and Cultural Resources

The VICMP addresses archeological, historic and cultural resources in a number of sections. A resource inventory has been conducted of historic and archeological sites. Seven areas of particular concern (APC's) which have historic value have been designated. Archeological and historic sites are one of the seven national interests identified as important in the Virgin Islands.

While we believe these are valuable provisions, we have a number of recommendations for strengthening the VICMP. Procedures should be established to provide guidance to property owners and developers on protection of existing historic and archeological resources as well as those discovered during development. The final VICMP should also indicate how the program will comply with the requirements of new issued Federal regulations pertaining to Protection of Historic and Cultural Properties (Federal Register Vol. 44, No. 21 dated Tuesday, January 30, 1979). The definition of the term "undertaking" in these regulations appears to apply to some of actions to be undertaken under the VICMP.

The section on Boundary Definition (pages 77-83) needs amplification with regard to lands excluded from the coastal zone by virtue of the fact that their use is by law subject solely to the discretion of, or which are held in trust by, the Federal Government. The Department's Heritage Conservation and Recreation Service administers the Land and Water Conservation Fund which provides monies to acquire outdoor recreation lands and develop facilities on a matching grant basis. It is our understanding that both existing and new properties purchased through this grant program are subject to the general coastal zone review and planning process at the State level--that these grant lands are not Federal exclusions. However, it should be noted that the Land and Water Conservation Fund Act of 1965, Public Law 88-578, and Section 6(f) provides that "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses."

We note that projects planned for areas of the coastal zone have not yet been implemented for Christiansted and Fredricksted so we urge an active consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation as plans are implemented. In Christiansted, developers extending the boardwalk or constructing pedestrian walkways should be cognizant of their effects on historic structures. In Fredricksted, any active redevelopments should not be done at the expense of the historic and architectural character of the area.

in the Bureau of Enforcement. Additional supervision and legal guidance will be focused on the Bureau's enforcement activities. DCCA has drafted a Memorandum of Understanding with the Corps of Engineers to provide for coordinated enforcement of their requisite authorities. In addition, several enforcement officers may be deputized as NMFS enforcement officers.

4. The V.I. intends to develop substantive guidelines and standards in the form of a guidebook during the first part of the first year of program implementation under 306 funds. OCZM will monitor its development and affected agencies will be given an opportunity to comment.

5a. DCCA/DCZM intends to work closely with the V.I. Planning Office, the agency responsible for historic preservation during 306. The VIPO, through its Historic and Architectural Control Districts, under the V.I. Register of Historic Places provides administrative procedures to guide property owners and developers to the VIPO who requires protection of historic resources.

b. In response to this comment and as prescribed in the regulation for the Protection of Historic and Cultural Properties, OCZM is negotiating with the Advisory Council on Historic Preservation to draft a programmatic Memorandum of Agreement to address the new issues.

c. OCZM and DCCA/DCZM are aware of the provision of the Land and Water Conservation Fund Act of 1965 and there appears to be no conflict between Section 6(f) and the VICMP at this time.

The Director of the Virgin Islands Planning Office (VIPO) is the designated State Historic Preservation Officer (SHPO) for the Virgin Islands. The VICMP should clearly state (on page 49 and elsewhere) that the SHPO is to be involved in the permit process in the coastal zone, through the review and comment of any permit application which might have an effect on a property in or eligible for listing in the National Register of Historic Places. One possible technique which could help reduce the administrative burden of the permit process, is to develop categorical exclusions in conjunction with the SHPO by which minor changes to properties need not be brought to the attention of the SHPO.

While archeological and historic resources are quite properly criteria for APC's meriting special care (pages 84, 165), some protection should be given to historic resources where an APC might not be appropriate (e.g. adaptive uses in an historic neighborhood). In this connection, the VICMP should explicitly mention how protection of historic properties fit in with the nine land and water use categories (pages 110-114).

Additionally, paragraph (5) on page 51 should be rewritten to more accurately reflect the law. We suggest the following revision:

"(5) The National Historic Preservation Act of 1966, as amended, requires that the Advisory Council on Historic Preservation have the opportunity to review and comment on all Federally licensed or funded projects having an effect on properties in, or eligible for listing in, the National Register of Historic Places."

There is a mistaken citation on page 165. The National Historic Preservation Act of 1974 should be Archeological and Historic Preservation Act of 1974. The terms "historic properties" or "resources" mean:

any district, site, building, structure, or object significant in American history, architecture, archeology, and culture at the National State (territorial), or local level, 36 CFR 61.1(§), 60.6

#### 6. Sand and Gravel

The U.S. Geological Survey, through its Geologic Division's Branch of Atlantic - Gulf of Mexico Geology, has engaged in, at the request of the Virgin Islands Government, a project designed to investigate offshore sand resources of the Northern Virgin Islands Shelf (Project Chief, C. W. Holmes). This project has resulted in the identification of several offshore areas capable of supplying the sand-and-gravel needs of the Virgin Islands for up to 300 years. In view of the potential significance of this project to the coastal management program, and the fact that follow-on activities to this project are currently underway, we encourage the coastal management agency (The Bureau of Shoreline and Land Management within the Division of

d. There are no specific coastal zone development plans for Christiansted and Fredricksted. It is policy and practice of the DCCA to consult with the SHPO/VIPO on any planning project (see Section 912(b) of the VICZMA of 1978). Specifically Christiansted is on the V.I. Register, therefore all plans must be presented to the VIPO/SHPO.

e. The VICZMP clearly states that the VIPO/SHPO is involved in the permitting process through review and comment on any permit application as required by Virgin Islands law.

f. The VICZMP will not specifically mention how the protection of historic properties fits in with the land & water use categories as these categories are adopted by the legislature already. However, these properties will be adequately protected under the V.I. Register of Historic Places and through permitting based on the goals of the management program.

g. Revisions to p. 51 & 165 have been made.

6. OCZM agrees that there should be adequate coordination with DCCA and the sand study and will assist USGS in its efforts to do so.

Natural Resources Management, Department of Conservation and Cultural Affairs) to explore with us the means for adequate coordination of this and other activities of mutual interest.

7. OCS

The question of whether the Virgin Islands Territorial Government has jurisdiction over OCS mineral resources lying within the three-mile territorial sea should be clarified as a part of the discussion on program authorities in Chapter 3. This is necessary because, unlike a State, the Government of any U.S. territory such as the Virgin Islands or Puerto Rico cannot exercise controls over the territorial sea unless expressly granted by the Congress.

The time frame for State consistency review of OCS plans, given on p. 169, paragraph 1, should be revised pursuant to the OCS Lands Act Amendments of 1978. Additional revisions to this section also may be needed to insure compatibility of State review procedures with the Amendments.

7. Unlike Puerto Rico, the Virgin Islands, was granted control over the territorial sea and the submerged lands specifically in the Submerged Lands Act of 1953. The language on p. 169 has been revised to reflect the new amendments.

United States  
Environmental Protection  
Agency

Region 2  
26 Federal Plaza  
New York NY 10007

New Jersey, New York  
Puerto Rico  
Virgin Islands



Class. LO-1

27 MAR 1979

Gulf/Islands Regional Manager  
Office of Coastal Zone Management  
3300 Whitehaven Street, N.W.  
Washington, D.C. 20235

Dear Sir:

We have reviewed the draft environmental impact statement (EIS) discussing the Virgin Islands Coastal Management Program and while many of EPA's comments regarding previous EISs for this management plan were considered, one remains outstanding.

The serious problem of refuse disposal in the coastal zone should be afforded greater consideration in the coastal management plan. At the earliest possible stage in development of the plan, specific landfills that are creating problems should be identified, responsibilities for corrective action should be assigned, and recommendations should be made to assure acceptable siting of new landfills. In this regard, the roles of the Department of Public Works and the Department of Conservation and Cultural Affairs as they concern refuse disposal activities in the coastal zone should be clearly defined.

Thank you for your consideration of EPA's previous comments. Please contact this office if you have any questions regarding this matter.

Sincerely yours,

Kevin Bricke  
Chief  
Office of Federal Activities

cc: Sidney Galler, DOC

Environmental Protection Agency

1. The V.I. Department of Public Works is responsible for providing refuse disposal sites. Their activities must be consistent with the VICZMA (Section 905(j)). Any new or expanded discharge of any "liquid or solid waste" within the coastal zone is subject to a coastal permit (Section 902(1) and 910(a)(1)). Environmental policies in Section 906(b) will apply to refuse disposal sites. OCZM will recommend to DCCA that they examine the need for specific procedures and guidelines to further assist in the review of refuse disposal permits.

THE VIRGIN ISLANDS  
CONSERVATION  
SOCIETY, INC

P.O. BOX 4187 CHARLOTTE AMALIE  
ST. THOMAS, VIRGIN ISLANDS. 00801  
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CZM  
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MAR 22 11 45

FILED

March 15, 1979

Office of Coastal Zone Management  
National Oceanic and Atmospheric Administration  
3300 Whitehaven Street N.W.  
Washington, D.C. 20235  
Attention: Mr. Richard Gardner

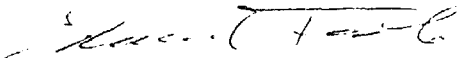
Dear Mr. Gardner:

Pursuant to the informal presentation I made on behalf of the Conservation Society at the recent public hearing in St. Thomas on the EIS (draft) prepared for the Virgin Islands Coastal Zone Management Program, I am submitting herewith the Society's formal, written statement for inclusion in the public record.

The Conservation Society is very pleased (and proud!) of the Virgin Islands CZM program, and wishes to be of whatever assistance required to help insure its successful implementation in the territory.

It was good to see you again in St. Thomas, and perhaps our paths will cross again during my fairly frequent trips to Washington.

Sincerely,



Edward L. Towle  
President

/ss  
Enclosure

cc: Commissioner Darlan Brin

8-V

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VIRGIN ISLANDS COASTAL ZONE MANAGEMENT PROGRAM

Prepared By

THE VIRGIN ISLANDS CONSERVATION SOCIETY

The Virgin Islands Conservation Society wishes to commend the Office of Coastal Zone Management in Washington, D.C. and the Virgin Islands Coastal Zone Management Office (formerly within the Planning Office and now a part of the Department of Conservation and Cultural Affairs) in the preparation of the draft Environmental Impact Statement for the Virgin Islands Coastal Zone Management Program.

As we have stated at earlier public hearings on the subject of the CZM program, the Conservation Society believes that the Virgin Islands program provides an eminently workable framework for dealing with the coastal zone environment, offering good guidelines for permissible uses, development zones, conservation areas and permit procedures.

Therefore, the comments presented below should in no way be construed as an indication that our support of the program has in any way been diminished. Nor do we wish to delay in any way the timely implementation of this program by calling attention to a few areas of concern. Instead, we would urge approval of and do endorse the draft Environmental Impact Statement as it has been prepared and presented at this hearing.

The Society is, however, concerned about the following areas and would urge public officials to give them consideration in the implementation phase of the Virgin Islands Coastal Zone Management program:

1. We wish to call to the attention of the federal CZM office the fact that, while the V.I. Conservation Society is listed in the draft EIS as a recipient of this document, we have not to date received it by mail from Washington. The copy of the EIS now in our possession was picked up from the Department of Conservation and Cultural Affairs on Friday, March 9, 1979, after several telephone calls to the Department during the previous week, meaning that the Society had only one working day, prior to this hearing, to review the document.

1. CCZM's records show that the DEIS was sent to the Virgin Islands Conservation Society on February 2, 1979. We apologize for the unfortunate delay apparently caused by the mail.

We, therefore, urge all federal agencies to take the mail delays into consideration in forwarding materials to non-government agencies in the Virgin Islands. Undoubtedly, the CZM office in Washington has mailed our copy of the EIS via surface mails, which means it will not appear here until May!

2. The Society recognizes the need for and urges those government officials who will be charged with implementation of this program to consider:
- a. Completion of a detailed resource base / user assessment of beaches, of commercial harbors (especially related to inter-island transportation), and/or stressed areas such as the Mangrove Lagoon/Benner Bay area, Vessup Bay, Cruz Bay, Salt River, Altona Lagoon, and Coral Bay.
  - b. Implementation of an ongoing public information program regarding objectives, procedures, options, and constraints for coastal resource users under the now-to-be-implemented legislation.
  - c. Clarifying and perhaps shortening the time frame for the permitting process which, if all strategies and time periods set under the legislation are utilized, could take as much as eight months or more. As conservationists and concerned citizens, the Society certainly does not advocate a "short" permitting process, for there must be sufficient time to allow for needed research and responses in each individual case. On the other hand, we do not want the process to become so cumbersome that its effectiveness is diminished.

On this point, the Society recognizes that only with time will the effectiveness of the currently outlined process be properly assessed. However, if it is found under the VICZM system that all relevant resource capability and suitability analyses and antecedent assessments of socio-economic considerations can be completed properly within a shorter timeframe, the Society suggests that eventually this might lend itself to a broader, community wide support pattern for the entire program.

2.a. Your comments will be taken into consideration when CCZM reviews the V.I. 306 application for implementation funds.

b. Same as above.

c. The VICZMA requires that a decision on coastal permits be issued within 90 days of the receipt of a complete application by the Commissioner. This 90 day limit represents a significant change over prior agency practice which had no time period for required action. The permit decision is subject to appeal to the Board of Land Use Appeals within 45 days of when the decision was final. The appeal provision is to provide affected parties with a legal safeguard to improper permit decisions.

- d. Strengthening the VICZM so as to more adequately deal with the question of oil spill disaster contingency planning and with the complex issues of water resources management planning.

Again, the Society wishes to reiterate that none of the above comments should be considered as sufficiently significant to warrant any delay in the implementation of the Virgin Islands Coastal Zone Management program. They are only provided as recommendations for consideration in the implementation of the Coastal Zone program by the Department of Conservation and Cultural Affairs.

March 13, 1979

d. OCZM is providing funding under Section 308 of the Federal CZMA to the V.I.P.O. to update the oil spill disaster contingency plan. The issue of water resources is a concern of all agencies in the V.I.. The VICMP will not hamper efforts to resolve this issue. OCZM will recommend that this issue be addressed, in cooperation with Federal and Territorial agencies, at some point during 306 implementation.





DEPARTMENT OF TRANSPORTATION  
REGIONAL REPRESENTATIVE OF THE SECRETARY  
26 FEDERAL PLAZA  
ROOM 1811  
NEW YORK, NEW YORK 10007

March 22, 1979

Gulf Islands Regional Manager  
Office of Coastal Zone Management  
3300 Whitehaven St. N.W.  
Washington, D.C. 20235

Dear Sir:

The Virgin Islands Coastal Zone Management Program and DEIS has been reviewed by the agencies of the U. S. Department of Transportation. The following comments are offered for evaluation and incorporation as appropriate:

1. Under Federal Activities and Development Projects (page 168)- The first category of Federal action generally acknowledged as not affecting the coastal zone should be reworded to read:  
o Radio transmission and placement and/or maintenance of aids to navigation placed or authorized by the U.S. Coast Guard.

2. Under Federal licenses and Permits (page 169) - We suggest the second sentence be changed to read, "DCCA/DCZM will then review the application and within 30 days, notify ...." This would provide a more workable time period and be consistent with the project notification and review system as outlined in OMB-95 procedures.

3. Page 28, last paragraph, fourth sentence. This sentence is not clear. Perhaps "Demand for" should be deleted.

The Department of Transportation appreciates the opportunity to comment on the plan.

Sincerely,  
*Thomas E. Blank*  
Thomas E. Blank  
Commander, U.S. Coast Guard  
Senior Staff Officer

cc Sidney Galler, DOC  
Office of Environment and Safety, DOT

1. The proposed change has been made on page 168.
2. The VICZMA requires that the decision on coastal permits be issued within 90 days of the receipt of a complete application by the Commission. The permit decision is subject to administrative appeal to the Board of Land Use appeals within 45 days of when decision is final. DCCA/DCZM will notify the affected Federal agency as soon as the permit is issued or denied for the purpose of transmitting the Federal consistency decision. Federal agency and/or applicant actions should be conditioned upon the expiration of the appeal period. The Federal CZMA provides states with a maximum of six months to act on Federal licenses and permits for the purposes of Federal consistency.
3. This sentence has been reworded.

A-12

0211  
REPLY  
MAR 27 1979  
MAIL ROOM



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration

JAN 14 1979

MEMORANDUM TO F - Terry Lettzell

FROM: Jc - OA - Richard F. Hallgren

SUBJECT: OAS Review of the Discussion Paper on the Draft Environmental Impact Statement Prepared on the Virgin Islands CZMP

We have reviewed the Virgin Islands CZMP discussion paper within the areas of OAS responsibilities and offer the following comments:

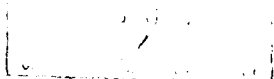
Hurricane Betsy (1956) qualified as a major storm in the Virgin Islands and is worthy of consideration in the discussion on page 57. See attached reference on Betsy.

We are aware of seismic risk in this area so the reference to this type of hazard is warranted and should be reflected in the Virgin Islands CZMP. Since the mid-1800's, there have been three (3) major earthquakes and a history of a number of smaller seismic activities, some with observed seismic sea waves. In recent years (since 1962) seismic activities have been observed with an intensity of 4.0 to 5.0 on the Richter's scale with related property damages. The matters of sand mining offshore and OTEC - type operations are suitably mentioned and we will reserve our comments on those until we receive the site - specific DEIS.

Attachment

1. DCCA has informed OCZM that Hurricane Betsy did not hit the Virgin Islands in 1956. Since there is a discrepancy, no further reference in the State program has been made but there is recognition of the hazards created by hurricanes in general.
2. Note of seismic risk has been made on page 58.

A-13



UNITED STATES OF AMERICA  
GENERAL SERVICES ADMINISTRATION

*Public Buildings Service*  
Washington, DC 20405



MAR 2

Gulf/Islands Regional Manager  
Office of Coastal Zone Management  
3300 Whitehaven Street, NW  
Washington, DC 20235

Dear Sir:

The General Services Administration has reviewed the draft environmental impact statement for the Virgin Islands Coastal Zone Management Program, and have no substantive comments to make.

Thank you for the opportunity to comment.

Sincerely,

CARL W. PENLAND  
Acting Director  
Environmental Affairs Division

Thank you for reviewing the draft environmental impact statement and the proposed Virgin Islands' Coastal Zone Management Program.

A-14

1975

12 March 1979

WRITTEN STATEMENT  
on  
THE DRAFT ENVIRONMENTAL IMPACT STATEMENT  
for the  
VIRGIN ISLANDS COASTAL ZONE MANAGEMENT PROGRAM

It is requested that approval of the draft environmental impact statement for the Virgin Islands Coastal Zone Management Program be delayed pending correction of the deficiencies noted below. This delay is requested because the Virgin Islands Coastal Zone Management Program is deficient in determining water uses which have a direct and significant impact on coastal waters.

Specifically, the seaward extent of the first tier of the coastal zone is not identified or delineated on the "Coastal Land and Water Use Plan," as specified on page three of the Virgin Islands Coastal Zone Management Program (VICZMP). Therefore, it would seem that the VICZMP would lack legal authority to enact or enforce rules and regulations for current or future water use.

Although the VICZMP does state that the seaward extent of the coastal zone "extends to the limits of the territorial sea," this is a vague and ambiguous term, not relevant to the specific water use authority and regulation contemplated for the Coastal Zone Management Program. For example, if the territorial sea is the area enclosed by lines tangent to a three mile radius drawn around the outermost cays, then many important fishing grounds, extended harbor approaches, and the seaward areas of the St. John National Park are included. If, however, the "territorial sea" jurisdiction of the VICZMP is a three mile limit from the nearest controlled shoreline, then fishing grounds, harbor approaches and sea areas offshore of the St. John National Park are not controlled.

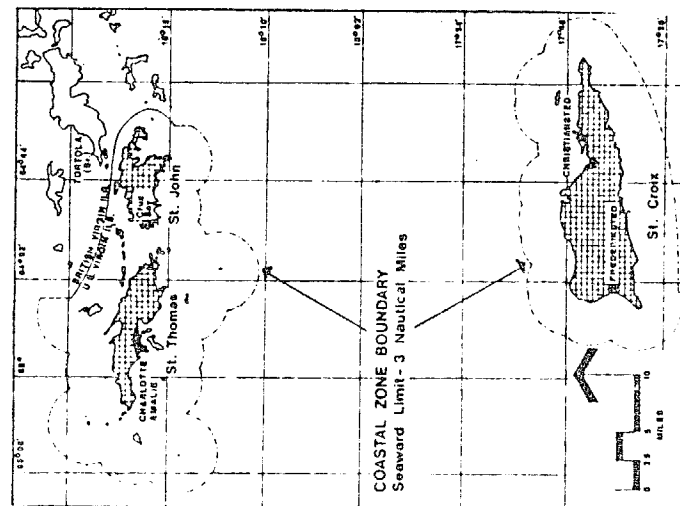
In addition, it should be noted that the Coastal Land and Water Use Plan does not identify or locate Sail Rock, which is one of the outermost cays of the Virgin Islands, and is managed as a wildlife sanctuary by the Department of Conservation and Cultural Affairs.

The VICZMP is also deficient in identifying the relative magnitude of marine traffic in the coastal zone of the Virgin Islands. A rough survey would indicate that there are over 1500 cruise ship arrivals and departures annually; one thousand or more tanker movements; hundreds of ocean freighter and naval ship passages; tens of thousands of small freighter, fishing and recreational boat transits; and sea plane traffic. This all implies

Bruce Potter  
Private Citizen

1. The seaward extent of the Virgin Islands coastal zone is the limit of the territorial sea or a distance of three nautical miles from the offshore islands and cays or the international boundary. All coastal waters are included in the first tier.

The map issued with the DEIS was at such a scale that it was impossible to delineate the seaward boundary of the coastal zone. Below is a sketch of the seaward limit:



2. Sail Rock as an offshore cay is included in the definition of the coastal zone as found on page 78 of the VICMP.

3. The danger of an oil spill is an important coastal related issue but regulation of maritime traffic is largely outside the scope of coastal zone management. Section 307(e)(1) of the CZMA provides that the Act

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a degree of water use congestion (and a need for effective management) that is nowhere evident in the VICZMP.

Finally, the VICZMP is negligent in not identifying oil spills as an imminent peril to the coastal zone. Because of the presence of the Hess Oil Virgin Islands Corporation (HOVIC) refinery in St. Croix, the Virgin Islands generally, and Hess Port specifically, are one of the world's most active oil ports. Each year over 380 million barrels of oil are shipped through the Virgin Islands in more than five hundred oil tankers, tank barges and super tankers, the bulk of which are registered under flags of convenience. The failure of the VICZMP to examine these facts in the context of the tourism economy and fragile natural environment of the territory is very disturbing.

According to the U.S. Coast Guard's "Pollution Incident Reporting System," from 1973 through 1977, there were 469 pollution incidents reported in the Virgin Islands. Two hundred eighty of these incidents were identified specifically as involving the discharge of oil from boats. Three-quarters of these, or 212 incidents, involved boats within two miles of the Hess Port terminal. Fifty-three incidents involved tankers and tank barges of over 50,000 dwt displacement, spilling nearly 400,000 gallons of crude oil and refined product in Virgin Islands waters.

In spite of the apparently large amounts of oil spilled, the Hess Port terminal actually has an incredibly low reported oil spill rate, which has not been examined by the Coastal Zone Management planning staff. Additional risk factors which need to be considered for the future include the aging, and increased potential for structural failure, of the super tanker fleet; the announced expansion of Martin-Marietta; the acquisition of six new tank barges by Hess; and the opening of the new containerport. All of these factors imply significantly increased ship traffic and collision risk.

It is not reasonable to expect that all of these deficiencies will need to be fully corrected before federal approval of the environmental impact statement. Nevertheless, definition of the seaward extent of the coastal zone in unambiguous terms, and the specific commitment of the VICZMP administrators to correct other problems would seem to be a reasonable and prudent federal response to the existing Virgin Islands Coastal Zone Management Program.

submitted by

*Bruce Potter* 3/12/79

Bruce Potter  
Director

should not be interpreted "to diminish either Federal or state jurisdiction ... in the field of ... control of ... navigable waters ...".

Whether there has been an assertion of Federal jurisdiction. Ray  
ARCO, 46 USLW 4200 (s. Ct., March 6, 1978). Given the difficulty in determining jurisdiction over such activities, navigation cannot be addressed in an overall manner in a coastal zone management program. However, the territory, in consultation with Federal authorities, may trace such steps as are necessary and desirable to address navigational issues. In view of the case-by-case determination that is required in determining whether specific navigational measures may be taken, OCZM feels that approval should not be postponed pending an overall resolution of this problem.

4. Oil spills are an imminent peril to the coastal zone and as result OCZM is providing funds under Section 308 of the Federal CZMA to the VIPO to revise the oil spill contingency plan for the Virgin Islands. Also "oil spill prevention" is not specifically part of the VICZMP but is housed in DCCA along with the CZMP.

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

RWK/SB

March 26, 1979

Mr. Robert W. Knecht  
Assistant Administrator for  
Coastal Zone Management  
National Oceanic and Atmospheric  
Administration  
3300 Whitehaven Street, N. W.  
Washington, D.C. 20235


Dear Mr. Knecht:

Transmitted herewith are the Federal Energy Regulatory Commission's (FERC's) staff comments on the Virgin Islands Coastal Management Program (VICMP) and Draft Environmental Impact Statement (DEIS).

These comments address the topics of General, Federal Consistency, Energy Facility Planning Process, FERC's Hydro-electric Licensing Authority, and Editorial Errors and are intended to aid in further development of the CMP.

We appreciate the opportunity to review the Virgin Islands Coastal Management Program and Draft Environmental Impact Statement and look forward to reviewing the final document.

Sincerely,

  
Carl N. Shuster, Jr. - Ph.D.  
Coordinator, Coastal Zone  
Management Affairs

Enclosure

cc: Honorable Charles Warren  
Dr. Sidney R. Galler  
Mr. Darlan Brin

A-17

Comments by  
Federal Energy Regulatory Commission Staff  
on the  
Virgin Islands Coastal Management Program and  
Draft Environmental Impact Statement

General

The Federal Energy Regulatory Commission (FERC) formerly the Federal Power Commission (FPC) is an independent regulatory commission within the Department of Energy (DOE). Nearly all of the responsibilities of the FPC were retained by the FERC. However, some responsibility was transferred to DOE and is administered by the Energy Regulatory Administration of DOE; such as the issuance of permits for the import or export of natural gas and electricity. Since FERC is an independent regulatory commission and considered as an "arm of Congress" it should be identified separately.

Federal Consistency

On page 172 under the Department of Energy the document incorrectly states, "Permits for construction and operation of facilities needed to import or export natural gas." The construction and operation authority was retained by FERC and the authority to import or export natural gas or electricity is administered by the Energy Regulatory Administration of the DOE. Currently FERC regulates four areas (see below) usually applicable to CMPs.

Federal Energy Regulatory Commission

- o Licenses required for non-Federal hydroelectric projects and associated transmission lines under Section 4(e) of the Federal Power Act (16 U.S.C. 797 (e)).
- o Orders interconnection of electric transmission facilities under Section 202(b) of the Federal Power Act (16 U.S.C. 824 a (b)).
- o Certificates required for the construction and operation of natural gas pipeline facilities, defined to include both interstate pipeline and terminal facilities under Section 7(c) of the Natural Gas Act (15 U.S.C. 717f(c)).
- o Permission and approval required for the abandonment of natural gas pipeline facilities under Section 7(b) of the Natural Gas Act (15 U.S.C. 717f(b)).

1. CCZM is aware of FERC's responsibilities and has made appropriate revisions to p. 172.

Also, on page 169, the VICMP incorrectly states that "Federal agencies are required to submit applications for unlisted permits or licenses to the territory . . ." The OCZM regulations on this point (15 CFR 930.54) clearly indicate that the State is to develop its own process for monitoring and reviewing unlisted Federal licenses and permits. This section should set out some procedures for territorial review of unlisted permit and license applications.

#### Energy Facility Planning Process

The VICMP states that given the anticipated demand and present generation capabilities, it is unlikely that another electric power facility will be needed within this century (page 145). We note that the projected resident population of the Virgin Islands may reach 120,000 by 1985, an increase of about 25,000 over 1976 estimates (page 24). We suggest that numerical data on electric power supply and demand should be presented in VICMP to clarify how the electric power demand for the increased population can be met without another electric power facility within the century.

The VICMP appears to cover adequately the energy facility planning process with respect to electric power facilities in the Virgin Islands' coastal zone provided that the above clarification is made.

#### FERC's Hydroelectric Licensing Authority

There are no existing or known potential hydroelectric development sites on the Virgin Islands. In view of this we would have no objection should the Virgin Islands not require consistency certification on licensing non-Federal hydroelectric projects (pages 169 and 172, and Federal Consistency, above).

#### Editorial Errors

Page 167, 2nd line "Section 307 (1), (2), (3), (c), and (d)..." should be "Section 307(c)(1), (2), and (3), and section 307(d) . . ."

Page 175, 11th line "Puerto Rico" should be "Virgin Islands."

2. Revisions to the language on p. 169 have been made to reflect the regulations concerning the monitoring of unlisted permits and licenses.

3. The total of installed electrical generating power on St. Thomas - St. John is 95,000 kwhr and on St. Croix is 80,000 kwhr. The present demand is 40,000 kwhr for St. Thomas - St. John and 35,000 kwhr for St. Croix. Projections for demand in 1988 are 75,000 kwhr in St. Thomas & St. John and 57,000 kwhr in St. Croix. It is anticipated that the existing generating capability is adequate to meet potential demand at least up to the year 2000.

4. The editorial errors have been corrected.





DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON, D.C. 20314

REPLY TO  
ATTENTION OF:

DAEN-CWP-P

19 MAR 1979

Mr. Robert W. Knecht  
Assistant Administrator for  
Coastal Zone Management  
National Oceanic and Atmospheric Administration  
Department of Commerce  
3300 Whitehaven Street, N.W.  
Washington, D. C. 20235

Dear Mr. Knecht:

We have reviewed the Virgin Islands Coastal Management Program and Draft Environmental Impact Statement.

Generally, we find that the program has been thoroughly prepared. However, we have some difficulty in understanding how the goals and policies of Sections 903 and 906 of the Virgin Islands Coastal Zone Management Act of 1978 will be implemented as standards and criteria by which Federal consistency may be judged.

In addition, a number of comments and concerns are discussed in the inclosure and should be addressed as appropriate.

Sincerely,

V. B. RATHBURN  
Colonel, Corps of Engineers  
Executive Director of Civil Works

1 Incl  
as

A-20

COMMENTS ON THE VIRGIN ISLANDS

COASTAL MANAGEMENT PROGRAM AND DEIS

1. Water resources, and in particular groundwater resources and aquifers, have not been considered in the subject report. Present and future water extractions from these coastal aquifers are expected to create serious and possibly irreparable salt water intrusion, eliminating a small but vital source of fresh water for St. Thomas and possibly the other two main islands. This should be one of the areas of concern under Chapter 6. This should consider:

(1) The efforts of development on groundwater recharge areas.

(2) Salt water intrusion and damage to a fresh water source.

(3) The possibility of a vigorous waste water management plant and water supply reuse.

(4) The effects on development of reduced or non-existent water supply sources.

2. We strongly support the policy stated on page 105 of the Program that the area of Benner Bay east of the Mangrove Lagoon preservation boundary should allow expansion of marinas and other boating related facilities only if these do not involve the destruction of the shoreline's mangrove fringe. A great deal of the Benner Bay mangrove fringe has been destroyed in an area that is already intensely developed. Additional boat traffic and crowding of berthing space in the area will have an adverse environmental impact. Expansion of facilities, where necessary, should involve the use of catwalks seaward of the mangroves using existing accesses through the mangroves. This policy should apply to the Vessup Bay - Redhook Bay area as well, which along with Benner Bay will probably support the bulk of pleasure boat traffic as has traditionally been the case. Controlled growth of these areas, minimizing environmental impact, will allow other areas to be protected from development.

3. Permits.

a. On page 169 it is stated that DCCA/DCZM will notify Federal agencies regarding their decision on a permit requiring federal authorization within six months of receipt of a correct application. The federal agency cannot process their permit until DCCA/DCZM decides. However, page 11-22 of the document states that if the appropriate committee of the Commission does not set a major application within 90 days of receipt of an application or if the Commissioner does not act within 60 days of receipt of a minor application, the permit will be granted. Therefore, the federal agency should be able to process applications and issue permits in fewer than six months.

1. OCZM agrees that water resources/supply is a significant problem in the V.I.. The staff of the DCZM will cooperate with efforts by Federal and Territorial agencies to resolve this issue. At this time, the coastal aquifers can not be designated as areas of particular concern without action of the legislature. OCZM does not feel that approval of VICZMP should be delayed to enable immediate designation, however we will recommend that this issue be addressed during the program's implementation under Section 306. OCZM will suggest that the Virgin Island government look into using Section 308 funds in this area if appropriate.

2. The Corps' suggestion concerning the recommendations about Vessup Bay - Redhook Bay Area are appropriate. The suggestions will be used to give greater clarification to the recommendations on page 105 when permitting activities are made in this area.

3. a. See comment above.

b. Corrections made.

b. Additional specific comments are as follows:

(1) Page 50 (Item 2) - The correct citation is: Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. Sec. 1344) prohibits, etc.

(2) Page 51 (Item 2 continued) - We suggest that Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052, 33 U.S.C. Sec. 1413) be cited separately and added to the list of Federal statutes applicable in the territory which affect the coastal zone.

(3) Page 169, Federal Licenses and Permits (Section 307 (c) (A&B)). Pursuant to 14 CFR 930.54(a), end of first paragraph should include the statement: "Within 30 days of receipt of such application, the Territory (or DCCA/DCZM) must notify the Federal agency and the applicant that the unlisted activity significantly affects the coastal zone and requires DCCA/DCZM review or the Territory (or DCCA/DCZM) waives its right to review the unlisted activity."

(4) Page 172, Table 10.3. Under Department of Defense U.S. Army Corps of Engineers, add "(dams; obstruction or alteration of, and excavation and depositing of material in navigable waters of the United States)" after permits and licenses required under Sections 9 and 10; "(discharge of dredged or fill material into waters of the United States)" after permits and licenses required under Section 404.

4. EIS, Part 4 (p. 175). Paragraph 1b probably refers to Virgin Islands consistency instead of Puerto Rico.

5. Appendix H. The Virgin Islands Coastal Zone Management Act, Section 911, paragraph (e) is a procedure by which the Legislature and Governor are provided an indefinite period for review. This is a potential problem area, in that experience indicates that the review can take up to two years.

4. Thank you for pointing out the error

5. OCZM agrees that the open ended procedure for obtaining a submerged lands lease may lead to delays in receiving final approval to develop. However, these delays will not be the result of decision making by DCCA as their period for granting or denying a coastal permit is prescribed by the VICZMA. If significant delays occur due to gubernatorial or Legislative reviews, OCZM will evaluate the overall situation during its Section 312 review and make the necessary recommendations to the V.I. government.



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

P.O. Box 2890  
Washington, D.C.  
20013

MAR 20 1979

Mr. Robert W. Knecht  
Assistant Administrator for  
Coastal Zone Management  
National Oceanic and  
Atmospheric Administration  
3300 Whitehaven Street, NW.  
Washington, D.C. 20235

Dear Mr. Knecht:

The Virgin Islands Coastal Management Program and Draft Environmental Impact Statement, transmitted to the U.S. Department of Agriculture on January 29, 1979, has been reviewed. The following comment represents the combined views of all of the concerned agencies within the Department.

The Estate Thomas Experimental Forest on St. Croix should be added to U.S. Attorney General's ruling of August 10, 1976. This addition is consistent with the statement on page 68 that "all Federally owned lands within the Virgin Islands are excluded from the Coastal Zone Boundary." Although the Estate Thomas Experimental Forest is excluded from the Coastal Zone Boundary, the Forest Service is willing to cooperate with the Virgin Islands in developing their Coastal Zone Program and conduct activities on the forest which are to the maximum extent practicably consistent with the approved State management program.

We trust that this comment will be helpful to you in your review of this program.

Sincerely,

  
Acting For

R. M. DAVIS  
Administrator

cc:  
M. Rupert Cutler, Assistant Secretary for Conservation, Research and Education, SEC  
John R. McGuire, Chief, Forest Service

Please note that the reference made in your letter of March 28, 1979, is to page 68 of the DEIS submitted for review in July of 1977 not to the DEIS which was submitted for review in January, 1979. Please note that a list including the Forest on St. Croix is found in the Appendix after page B-5. OCZM and DCCA is grateful for the USDA cooperation. Thank you.

A-23



# ACT. NO. 4248

BILL No. 8057

TWELFTH LEGISLATURE OF THE VIRGIN ISLANDS

OF THE UNITED STATES

APPROVED

Regular Session

DECEMBER 1978

1978

To add to Title 12, Virgin Islands Code, a new Chapter 21, entitled "Virgin Islands Coastal Zone Management" and for other purposes

---0---

BE IT ENACTED by the Legislature of the Virgin Islands:

SECTION 1. Title 12, Virgin Islands Code, is amended by adding thereto a new Chapter 21 to read as follows:

## "CHAPTER 21: VIRGIN ISLANDS COASTAL ZONE MANAGEMENT

### Section Analysis

- 901. Common Name
- 902. Definitions
- 903. Findings and Goals
- 904. Coastal Zone Management Commission
- 905. General Provisions
- 906. Specific Policies Applicable to the First Tier  
of the Coastal Zone
- 907. Coastal Land and Water Use Plan
- 908. Coastal Zone Boundary Maps
- 909. Areas of Particular Concern
- 910. Coastal Zone Permits
- 911. Additional Requirements for Development or Occu-  
pancy of Trustlands or Other Submerged or Filled  
Lands
- 912. Planning Program
- 913. Enforcement, Penalties, and Judicial Review
- 914. Board of Land Use Appeals

#### § 901. Common Name

This Chapter shall be known and may be cited as the Virgin Islands Coastal Zone Management Act of 1978.

#### § 902. Definitions

For the purposes of this Chapter, and unless the context otherwise requires:

(a) "Aggrieved person" means any person, including the applicant, who, in connection with a decision or action of the Commission on an application for a major coastal zone permit either appeared in person or through representatives at a public hearing of the Commission on said application, or prior to said decision or action informed the Commission in writing of the nature of his concern, or on an application for a minor coastal zone permit informed the Commissioner in writing prior to said decision or action of the nature of his concern, or who for good cause was unable to do any of the foregoing.

(b) "Areas of particular concern" means areas in the coastal zone that require special and more detailed planning analyses and the preparation of special plans and implementation mechanism.

(c) "Board" means the Board of Land Use Appeals established in Title 29, Chapter 3 of this Code.

(d) "Coastal dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function effectively.

(e) "Coastal Land and Water Use Plan" means the comprehensive plan for the development of the first tier of the coastal zone which is intended to serve as a policy guide for decision-making relative to development activities within this tier.

(f) "Coastal waters" means sea, as that term is defined in subsection (x) herein, as well as those waters adjacent to the shorelines which contain a measurable quantity or percentage of seawater, including, but not limited to, sounds, bays, lagoons, bayous, ponds and estuaries.

(g) "Coastal zone" means all land and water areas of the Territory of the Virgin Islands extending to the outer limits of the territorial sea, specified on the maps identified in Section 908, subsection (a) of this Chapter, and is composed of two parts, a first tier and a second tier.

(h) "Coastal Zone Management Program" means the program prepared by the Virgin Islands Planning Office for the management of the Coastal Zone of the Virgin Islands and submitted by the Government of the Virgin Islands to the U. S. Department of Commerce pursuant to Section 306, subsection (c), paragraph 4 of the Federal Coastal Zone Management Act of 1972 (P.L. 92-583).

(i) "Coastal zone permit" means a permit for any development within the first tier of the coastal zone that is required pursuant to Section 906 of this Chapter.

(j) "Commission" means the Coastal Zone Management Commission as created by Section 904 of this Chapter.

(k) "Commissioner" means the Commissioner of Conservation and Cultural Affairs.

(l) "Development" means the placement, erection, or removal of any fill, solid material or structure on land, in or under the water; discharge or disposal of any dredged material or of any liquid or solid waste; grading, removing, dredging, mining, or extraction of any materials, including mineral resources; subdivision of land pursuant to Title 29, Chapter 3 of this Code; construction, reconstruction, removal, demolition or alteration of the size of any structure; or removal or harvesting of vegetation, including coral. Development shall not be defined or interpreted to include activities related to or undertaken in conjunction with the cultivation, use or subdivision of land for agricultural purposes which do not disturb the coastal waters or sea, or any improvements made in the interior of any structure.

(m) "Emergency" means an unexpected situation that poses an immediate danger to life, health or property and demands immediate action to prevent or mitigate loss or damage to life, health, property or essential public services.

(n) "Environment" means the physical, social and economic conditions which exist within the area which will be affected by a proposed project.

(o) "Environmental Assessment Report" means an informational report prepared by the permittee available to public agencies and the public in general which, when required by this Chapter, shall be considered by the Commission prior to its approval or disapproval of an application for a major coastal zone permit. Such report shall include detailed information about the existing environment in the area of a proposed development, and about the effects which a proposed development is likely to have on the environment; an analysis and description of ways in which the significant adverse effects of such

development might be mitigated and minimized; and an identification and analysis of reasonable alternatives to such development.

(p) "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.

(q) "Fill" means earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area.

(r) "First tier" means that area extending landward from the outer limit of the territorial sea, including all offshore islands and cays, to distances inland as specified in the maps incorporated by reference in Section 908, subsection (a) of this Chapter.

(s) "Major coastal zone permit" means a permit required for development within the coastal zone, which development is not "minor development" as defined in Section 910, subsection (c) of this Chapter.

(t) "Minor coastal zone permit" means the permit required for development defined in Section 910, subsection (c) of this Chapter.

(u) "Permit" means any license, certificate, approval, or other entitlement for use granted or denied by any public agency.

(v) "Person" means any individual, organization, partnership, association, corporation or other entity, including any utility, the Government of the Virgin Islands, the Government of the United States, any department, agency, board, authority or commission of such governments, including specifically the Virgin Islands Port Authority and the Virgin Islands Water and Power Authority, and any officer or governing or managing body of any of the foregoing.



(w) "Public Agency" means Government of the United States, the Government of the Virgin Islands or any department, agency, board, authority, or commission of either government, including specifically the Virgin Islands Port Authority and the Virgin Islands Water and Power Authority, and any officer or governing or managing body of any of the foregoing

(x) "Sea" means the Atlantic Ocean, the Caribbean Sea and all coastal waters including harbors, bays, coves, channels, estuaries, salt ponds, marshes, sloughs and other areas subject to tidal action through any connection with the Atlantic Ocean or the Caribbean Sea, excluding streams, tributaries, creeks and flood control and drainage channels

(y) "Second tier" means the interior portions of the Islands of St. Thomas, St. John and St. Croix, including all watersheds and adjacent land areas not included in the first tier.

(z) "Shorelines" means the area along the coastline of the Virgin Islands from the seaward line of low tide, running inland a distance of fifty feet, or to the extreme seaward boundary of natural vegetation which spreads continuously inland, or to a natural barrier, whichever is the shortest distance. Whenever the shore is extended into the sea by or as a result of filling, dredging or other man-made alteration activities, the landward boundary of the shorelines shall remain at the line previously established.

(aa) "Significant natural area" means land and/or water areas within the coastal zone of major environmental value, including fish or wildlife habitat areas, valuable biological or natural productivity areas; and unique or fragile coastal ecological units or ecosystems which require special treatment and protection.

(bb) "Structure" means anything constructed or erected which requires location or placement on or in the ground, the submerged lands or coastal waters, or which is attached to something located in or on the ground, the submerged lands, or coastal waters.

(cc) "Submerged and filled lands" means all lands in the Virgin Islands permanently or periodically covered by tidal waters up to, but not above, the line of mean high tide, seaward to a line three geographical miles distant from the coastline of the Virgin Islands, and all artificially made, filled in, or reclaimed lands, salt ponds and marshes which were formerly permanently or periodically covered by tidal waters.

(dd) "Trust Lands" means all submerged and filled lands conveyed pursuant to Public Law 93-435, 88 Statutes 1210, by the United States to the Government of the Virgin Islands to be administered in trust for the benefit of the people of the Virgin Islands.

(ee) "Vested Rights" means the rights obtained by a person to complete development without having to obtain a coastal zone permit where, prior to the effective date of this Chapter, such person has obtained the necessary permit or permits, issued by the appropriate public agency(ies), which would have been sufficient to legally authorize such development prior to said effective date.

§ 903. Findings and goals

(a) The Legislature hereby finds and declares that:

(1) the coastal zone, and the lands and waters thereof, constitute a distinct and valuable natural resource of vital importance to the people and economy of the Virgin Islands;

(2) the protection of the natural and scenic resources of the coastal zone is of vital concern to present and future residents of the Virgin Islands;

(3) title to certain submerged and filled lands surrounding the Virgin Islands has been conveyed in trust to and is held in trust by the Government of the Virgin Islands for the benefit of the people of the Virgin Islands;

(4) the shorelines provide a constant source of food and recreation to, and enhance all aspects of the lives of, the people of the Virgin Islands, and the public has made frequent, uninterrupted and unobstructed use of the shorelines throughout Danish and American sovereignty;

(5) to promote the public safety, health and welfare, and to protect public and private property, wildlife, ocean resources and the natural environment, it is necessary to preserve the ecological balance of the coastal zone, and to prevent its deterioration and destruction;

(6) there has been uncontrolled and uncoordinated development of the shorelines and attempts to curtail the use of the shorelines by the public;

(7) improper development of the coastal zone and its resources has resulted in land use conflicts, erosion, sediment deposition, increased flooding, gut and drainage fillings, decline in productivity of the marine environment, pollution and other adverse environmental effects in and to the lands and waters of the coastal zone, and has adversely affected the beneficial uses of the coastal zone by the people of the Virgin Islands;

(8) the present system of regulatory controls in the Virgin Islands affecting the coastal zone consists of fragmented or overlapping laws and regulations which are not properly coordinated and which when taken together do not constitute a comprehensive or adequate response to the needs of the people of the Virgin Islands to protect, and to effect the best use of, the resources of the coastal zone; and

(9) there exists no comprehensive program for the overall management, conservation and development of the resources of the coastal zone, for the prevention of encroachment on natural areas in the coastal zone by urbanized developments and for the avoidance of irreversible commitments of coastal zone resources which provide short-term benefits at the cost of adverse effects on the long-term productivity and amenity of the coastal zone environment.

(b) The Legislature hereby determines that the basic goals of the Virgin Islands for its coastal zone are to:

(1) protect, maintain, preserve and, where feasible, enhance and restore, the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the

scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the Virgin Islands;

(2) promote economic development and growth in the coastal zone and consider the need for development of greater than territorial concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment.

(3) assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses.

(4) assure the orderly, balanced utilization and conservation of the resources of the coastal zone, taking into account the social and economic needs of the residents of the Virgin Islands;

(5) preserve, protect and maintain the trustlands and other submerged and filled lands of the Virgin Islands so as to promote the general welfare of the people of the Virgin Islands;

(6) preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally-protected rights of private property owners;

(7) promote and provide affordable and diverse public recreational opportunities in the coastal zone for all residents of the Virgin Islands through acquisition, development and restoration of areas consistent with sound resource conservation principles;

(8) conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas;

(9) maintain or increase coastal water quality through control of erosion, sedimentation, run-off, siltation and sewage discharge;

(10) consolidate the existing regulatory controls applicable to uses of land and water in the coastal zone into a single unified process consistent with the provisions of this Chapter, and coordinate therewith the various regulatory requirements of the United States Government;

(11) promote public participation in decisions affecting coastal planning conservation and development.

#### § 904. Coastal Zone Management Commission

(a) There is hereby created within the Department of Conservation and Cultural Affairs a Coastal Zone Management Commission composed of the Commissioner of Conservation and Cultural Affairs, who shall be a non-voting member, ex officio, the Director of the Virgin Islands Planning Office who shall be a non-voting member, ex officio, and fifteen other members appointed by the Governor with the advice and consent of the Legislature. Of the fifteen appointed members, five shall reside on St. Croix, five shall reside on St. Thomas and five shall reside on St. John. Ex officio members of the Commission may appoint a designee to serve at his or her pleasure who shall have all the powers and duties of such member pursuant to this Chapter. The Commission shall elect a Chairman from among its members. Eight voting members of the Commission shall constitute a quorum for the transaction of all business of the Commission. A majority of those voting members present shall decide on all matters before the Commission. The Commission may adopt such other rules as it deems necessary to conduct its business.

(b) There are created within the Coastal Zone Management Commission three Commission Committees: one of such Committees shall consist of the members who reside on St. Croix, one of such Committees shall consist of the members who reside on St. Thomas and one of such Committees shall consist of members who reside on St. John. Each Committee shall exercise the full authority

of the Commission over the issuance of Coastal Zone Permits within the jurisdiction of the Commission pertaining solely to the respective resident island of that Committee. Each Committee shall elect a Chairman from its members. A quorum of each Coastal Zone Management Committee shall consist of three of its members. A majority of those present shall decide on all matters before a Commission Committee.

(c) Appointed members of the Commission shall serve a term of two years and may be reappointed. Upon the conclusion of the term of any appointed member of the Commission, such person shall continue to serve until a new member has been appointed. The appointed members of the Commission shall receive the sum of \$30 for each day or part thereof spent in the performance of their duties. Every member of the Commission shall be reimbursed for necessary travel, subsistence and other expenses actually incurred in the discharge of his duties as a member of the Commission. Appointed members of the Commission may be removed by the Governor for cause.

(d) In addition to all powers specifically assigned the Commission by this Chapter, the Commission shall have the primary responsibility for the implementation of the provisions of this Chapter. The Department of Conservation and Cultural Affairs as directed by the Commission is hereby designated as the territorial coastal zone management agency for the purpose of exercising powers set forth in the Federal Coastal Zone Management Act of 1972 or any amendment thereto or any other federal act heretofore or hereafter enacted that relates to the management of the coastal zone except for those activities or programs presently being carried out by any other agency of the Government of the Virgin Islands or which the Governor may assign to any other agency. In addition to other authority, the Commission may grant or issue any certificate or statement required pursuant to any federal law that an activity of any person is in conformity with the provisions of this Chapter.

(e) The Commission shall prepare and submit to the Legislature of the Virgin Islands for adoption any additional plans and undertake any studies it deems necessary and appropriate to better accomplish the purposes, goals and policies of this Chapter.

(f) The Commission shall evaluate progress being made towards the implementation of the provisions of this Chapter and shall submit a report to the Governor and Legislature on an annual basis.

(g) The Commission shall promulgate rules and regulations necessary to carry out the provisions of this Chapter; provided, however, that no such rules or regulations shall be promulgated unless public hearings are held by the Commission after appropriate notice as hereinafter provided. Any rules or regulations promulgated pursuant to this Chapter may be modified, amended or revised by the Legislature in accordance with the provisions of subsection (b), Section 913, Title 3 of this Code.

(h) Division of Coastal Zone Management

There is hereby established within the Department of Conservation and Cultural Affairs a Division of Coastal Zone Management, the powers and duties of which are, without limitation, to assist the Commission and Commissioner in administering and enforcing the provisions of this Chapter.

§ 905. General Provisions

(a) Nothing in this Chapter shall be construed as amending or altering in any way the existing zoning designations of lands within the Virgin Islands or the Zoning District Maps adopted pursuant to Title 29, Chapter 3, of this Code.

(b) Every use permitted under an existing zoning designation of lands pursuant to Sections 227 and 228, Title 29, Chapter 3, of this Code shall be permitted provided the use is consistent with the provisions of Sections 903, 906 and 910 of this Chapter.

(c) Any proposed use for which a coastal zone permit is required but not permitted pursuant to Sections 227 and 228, Title 29, Chapter 3, of this Code, and is consistent with the applicable zoning district and goals and policies of this Chapter may be approved by the authority responsible for issuing such permits.

(d) This Chapter is not intended, and shall not be construed as authorizing the Commission, Commissioner or any public agency acting pursuant to this Chapter to exercise their power to grant or deny a permit in a manner which will take or damage private property for public use without the payment of just compensation therefor. This Chapter is not intended to increase or decrease the rights of any owner of property under the Revised Organic Act of the Virgin Islands or Constitution of the United States.

(e) In carrying out the provisions of this Chapter, conflicts between the policies of this Chapter shall be resolved in the manner which is the most protective of significant coastal resources.

(f) No provision of this Chapter is a limitation on any of the following:

(1) except as otherwise specifically limited by territorial or federal law, on the power of any public agency to adopt and enforce additional regulations, not in conflict with this Chapter, imposing further conditions or restrictions on land or water uses or other activities which might adversely affect coastal zone resources;

(2) on the power of the Government of the Virgin Islands to declare, prohibit and abate nuisances or to bring an action in the name of the people of the Virgin Islands to enjoin any waste or the pollution of resources of the coastal zone; and

(3) on the right of any person to maintain an appropriate action for relief against a private nuisance or for any other private relief.

(g) Nothing herein contained shall be construed to abridge or alter vested rights obtained in development in the first tier coastal zone prior to the effective date of this Chapter or any occupancy permit or lease of trustlands or other submerged or filled lands issued prior to the effective date of this Chapter, except to the extent provided in said occupancy permit or lease.

(h) No person who has obtained all necessary and required permits to construct or undertake development in the coastal zone and who, prior to the effective date of this Chapter, has commenced construction of such development in good faith, shall be required to secure approvals for such development pursuant to this Chapter; provided, however, that notwithstanding subsections (g) and (h) of this Section, no substantial change may be made in any such development without prior approval having been obtained in accordance with the provisions of this Chapter.

(i) Nothing herein contained shall be construed to repeal, alter, abrogate, annul or in any way diminish, impair or interfere with any of the following, but shall be held and construed as auxiliary and supplementary thereto:



(1) any easements, covenants or other agreements between parties to the extent that such easements, covenants, or agreements impose greater restrictions upon the use or alteration of land or water in the coastal zone than the requirements of this Chapter;

(2) any or all rights the public has acquired by whatever means to use, traverse, enjoy or occupy lands or waters or both in the coastal zone as of the effective date of this Chapter by reason of express or implied dedication or otherwise;

(3) the Commissioner's authority to administer and enforce any other provision of law related to, involving or affecting the coastal zone; and

(4) any laws of the Virgin Islands relating to air or water quality, air or water pollution, oil spill prevention or earth change.

(j) All public agencies of the Government of the Virgin Islands shall cooperate with the Commission, its Committees, and Commissioner in the administration and the enforcement of this Chapter. All public agencies of the Government of the Virgin Islands currently exercising regulatory authority in the coastal zone shall administer such authority consistent with the provisions of this Chapter and the rules and regulations promulgated hereunder.

§ 906. Specific Policies Applicable to the First Tier of the Coastal Zone

Consistent with the basic goals set forth in Section 903(b) of this Chapter, and except as may otherwise be specifically provided in this Chapter, the policies set forth in this Section shall apply to all proposed developments in the first tier of the coastal zone, and no such development shall be approved which is inconsistent with such goals and policies.

(a) Development policies in the first tier shall be as follows:

(1) to guide new development to the maximum extent feasible into locations with, contiguous with, or in close proximity to existing developed sites and into areas with adequate public services; and to allow well-planned, self-sufficient development in other suitable areas where it will have no significant adverse effects, individually or cumulative, on coastal zone resources;

(2) to give highest priority to water dependent uses, particularly in those areas suitable for commercial uses including resort hotels and related facilities, industrial uses including port and marine facilities, and recreation; to give secondary priority to those uses that are water-related or have special siting needs; and to discourage uses which are neither water-dependent, water-related nor have special siting needs in areas suitable for the highest and secondary priority uses;

(3) to assure that new or expanded public capital improvement projects will be designed to accommodate those needs generated by development or uses permitted consistent with the Coastal Land and Water Use Plan and provisions of this Chapter;

(4) to assure that all new subdivisions, in addition to the other requirements contained in this Chapter and in the Virgin Islands Zoning and Subdivision Law, are physically suitable for the proposed sites and are designed and improved so as to avoid causing environmental damage or problems of public health;

(5) to encourage waterfront redevelopment and renewal in developed harbors in order to preserve and improve physical and visual access to the waterfront from residential neighborhoods and commercial downtown areas;

(6) to assure that development will be sited and designed to protect views to and along the sea and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas;

(7) to encourage fishing and carefully monitor mariculture and, to the maximum extent feasible, to protect local fishing activities from encroachment by non-related development;

(8) to assure that dredging or filling of submerged lands is clearly in the public interest; and to ensure that such proposals are consistent with specific marine environment policies contained in this Chapter. To these ends, the diking, filling or dredging of coastal waters, salt ponds,

lagoons, marshes or estuaries may be permitted in accordance with other applicable provisions of this Chapter only where there are no feasible, less environmentally-damaging alternatives and, where feasible, mitigation measures have been provided to minimize adverse environmental effects, and in any event shall be limited to the following; (i) maintenance dredging required for existing navigational channels, vessel berthing and mooring areas; (ii) incidental public service purposes, including but not limited to the burying of cables and pipes, the inspection of piers and the maintenance of existing intake and outfall lines; (iii) new or expanded port, oil, gas and water transportation, and coastal dependent industrial uses, including commercial fishing facilities, cruise ship facilities, and boating facilities and marinas; (iv) except as restricted by federal law, mineral extraction, including sand, provided that such extraction shall be prohibited in significant natural areas; and (v) restoration purposes;

(9) to the extent feasible, discourage further growth and development in flood-prone areas and assure that development in these areas is so designed as to minimize risks to life and property;

(10) to comply with all other applicable laws, rules, regulations, standards and criteria of public agencies.

(b) Environmental policies in the first tier shall be as follows:

(1) to conserve significant natural areas for their contributions to marine productivity and value as habitats for endangered species and other wildlife;

(2) to protect complexes of marine resource systems of unique productivity, including reefs, marine meadows, salt ponds, mangroves and other natural systems, and assure that activities in or adjacent to such complexes are designed and carried out so as to minimize adverse effects on marine productivity, habitat value, storm buffering capabilities, and water quality of the entire complex;

(3) to consider use impacts on marine life and adjacent and related coastal environment;

(4) to assure that siting criteria, performance standards, and activity regulations are stringently enforced and upgraded to reflect advances in related technology and knowledge of adverse effects on marine productivity and public health;

(5) to assure that existing water quality standards for all point source discharge activities are stringently enforced and that the standards are continually upgraded to achieve the highest possible conformance with federally-promulgated water quality criteria;

(6) to preserve and protect the environments of offshore islands and cays;

(7) to accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect marine resources and navigation. To this end, sand, rock, mineral, marine growth and coral (including black coral), natural materials, or other natural products of the sea, excepting fish and wildlife, shall not be taken from the shorelines without first obtaining a coastal zone permit, and no permit shall be granted unless it is established that such materials or products are not otherwise obtainable at reasonable cost, and that the removal of such materials or products will not significantly alter the physical characteristics of the area or adjacent areas on an immediate or long-term basis; or unless the Commission has determined that a surplus of such materials or products exists at specifically designated locations;

(8) to assure that dredging and disposal of dredged material will cause minimal adverse affects to marine and wildlife habitats and water circulation;

(9) to assure that development in areas adjacent to environmentally-sensitive habitat areas, especially those of endangered species, significant natural areas, and parks and recreations areas, is sited and designed to prevent impacts which would significantly degrade such areas;

(10) to assure all of the foregoing, development must be designed so that adverse impacts on marine productivity, habitat value, storm buffering capabilities and water quality are minimized to the greatest feasible extent by careful integration of construction with the site. Significant erosion, sediment transport, land settlement or environmental degradation of the site shall be identified in the environmental assessment report prepared for or used in the review of the development, or described in any other study, report, test results or comparable documents.

(c) Amenity policies in the first tier shall be as follows:

(1) to protect and, where feasible or appropriate, enhance and increase public coastal recreational uses, areas and facilities;

(2) to protect and enhance the characteristics of those coastal areas which are most valued by the public as amenities and which are scarce, or which would be significantly altered in character by development, or which would cause significant environmental degradation if developed;

(3) to preserve agricultural land uses in the coastal zone by encouraging either maintenance of such present agricultural use or use as open-space areas;

(4) to incorporate visual concern into the early stages of the planning and design of facilities proposed by siting in the coastal zone and, to the extent feasible, maintain or expand visual access to the coastline and coastal waters;

(5) to foster, protect, improve, and ensure optimum access to, and recreational opportunities at, the shoreline for all the people consistent with public rights, constitutionally-protected rights of private property owners, and the need to protect natural resources from overuse;

(6) to ensure that development will not interfere with the public's right of access to the sea where acquired through customary use, legislative authorization or dedication including without limitation the use of beaches to the landward extent of the shoreline;

(7) to require, in the discretion of the appropriate Committee of the Commission, that public access from the nearest public roadway to the shoreline be dedicated in land subdivisions or in new development projects requiring a major coastal zone permit. Factors to be considered in requiring such dedication of public access include (i) whether it is consistent with public safety or protection of fragile coastal zone resources; (ii) whether adequate public access exists nearby; (iii) whether existing or proposed uses or development would be adversely affected; (iv) consideration of the type of shoreline and its appropriate potential recreational, educational, and scientific uses; and (v) the likelihood of trespass on private property resulting from such access and availability of reasonable means for avoiding such trespass. Dedicated accessways shall not be required to be open to public use until a public agency or private association agrees to accept responsibility for providing off-street parking areas and for maintenance and liability of the accessway, shoreline and beach areas. Nothing in this subsection shall be construed as restricting existing public access nor shall it excuse the performance of duties and responsibilities of public agencies as provided by law to acquire or provide public access to the shoreline. This provision shall not be construed as requiring free use of private facilities on land adjoining any beach or shoreline but only as requiring access to the beach or shoreline to the general public as a condition precedent to the grant of a coastal zone permit.

§ 907. The Coastal Land and Water Use Plan

The Coastal Land and Water Use Plan, identified as Document Numbers LWUP-1-4, inclusive, are hereby approved and shall be implemented. This plan shall be used to the maximum extent feasible as the long-range guide by the Commission, Commissioner, Virgin Islands Planning Office and any other agency of the Government of the Virgin Islands, in reviewing and recommending zoning amendments, capital improvement programs or projects, public land acquisition or disposition, designating areas of particular concern, and other development activities within the first tier of the coastal zone, but excluding development activities requiring a coastal zone permit under Section 910 of this Chapter. The Coastal Land and Water Use Plan is not intended to change any of the existing zoning district maps, or place any limitations on any of the uses permitted in the zoning districts established pursuant to Title 29, Chapter 3, of this Code.

§ 908. Coastal Zone Boundary Maps

The boundaries and identification of the coastal zone, including the first and second tier established by this Chapter, are shown on the Coastal Zone Management Plan Maps, identified as Document Number STCZM-1 to 5, SCCZM-1 to 11, SJCZM-1 to 4, and OICZM-1, inclusive, which are filed in the Office of the Lieutenant Governor (with copies in the offices of the Commissioner and the Virgin Islands Planning Office), and shall be interpreted by the Commissioner. Such maps are hereby declared to be part of this Chapter as if fully set forth herein.

§ 909. Areas of Particular Concern

The Commission may recommend, after reasonable notice and public hearings, designation of areas of particular concern within the first tier of the Coastal Zone and submit such recommendations to the Legislature for adoption. In recommending the designation of areas of particular concern, criteria for selection and implementing actions shall be included in a report prepared and adopted by the Commission.

§ 910. Coastal Zone Permit

(a) When Required, Terms and Conditions

(1) On or after the effective date of this Chapter, any person wishing to perform or undertake any development in the first tier of the coastal zone, except as provided in subsection (b) of this Section, shall obtain a coastal zone permit in addition to obtaining any other permit required by law from any public agency prior to performing or undertaking any development.

(2) A permit shall be granted for a development if the appropriate Committee of the Commission or the Commissioner, whichever is applicable, finds that (A) the development is consistent with the basic goals, policies and standards provided in Sections 903 and 906 of this Chapter; and (B) the development as finally proposed incorporates to the maximum extent feasible mitigation measures to substantially lessen or eliminate any and all adverse environmental impacts of the development; otherwise the permit application shall be denied. The applicant shall have the burden of proof to demonstrate compliance with these requirements.

(3) Any coastal zone permit that is issued shall be subject to reasonable terms and conditions imposed by the appropriate Committee of the Commission or the Commissioner, whichever is applicable, in order to ensure that such development will be in accordance with the provisions of this Chapter. To this end, any of the development provisions in Section 229 of Title 29, Chapter 3, of this Code may be made more or less restrictive by the appropriate Committee of the Commission in the case of a major coastal zone permit and more restrictive by the Commissioner in the case of a minor coastal zone permit.

(4) In connection with any land subdivision or major coastal zone permit issued for development adjacent to the shoreline, the appropriate Committee of the Commission may require the dedication of an easement or a fee interest in land for reasonable public access from public highways to the sea in accordance with Section 906, subsection (c), paragraph (7) of this Chapter.

(b) When not required or may be waived

(1) Notwithstanding any provision in this Chapter to the contrary, no coastal zone permit shall be required pursuant to this Chapter for activities related to the repair or maintenance of an object or facility located in the coastal zone, where such activities shall not result in an addition to, or enlargement or expansion of, such object or facility.

(2) Where immediate action by a person or public agency performing a public service is required to protect life and public property from imminent danger, or to restore, repair, or maintain public works, utilities or services destroyed, damaged, or interrupted by natural disaster or serious accident, or in other cases of emergency, the requirement of obtaining a permit under this Section may be waived by the appropriate Committee of the Commission or the Commissioner upon notification to the Commissioner of the type and location of the work, the length of time necessary to complete the work and the name of the person or public agency conducting the work.



(c) Standards for major and minor Coastal Zone Permits

A major coastal zone permit shall be issued by the appropriate Committee of the Commission for all approved applications for development except:

(1) a development which is to be conducted completely or substantially seaward of the line of mean high tide and is designated by the appropriate Committee of the Commission pursuant to subsection (e), paragraph (5) of this Section; or

(2) a development which is to be conducted completely landward of the line of mean high tide and satisfies one of the following criteria:

(A) the development consists of a subdivision, or the construction of one or two single-family residences or a duplex on any parcel of record on the effective date of this Chapter; or

(B) the development consists entirely of improvements to an existing structure, which improvements cost the developer less than fifty-two thousand dollars (\$52,000); or

(C) the development consists of one or more structures valued in their entirety at less than twenty-five thousand dollars (\$25,000); or

(D) the development consists of any other development, except the extraction of minerals, valued at less than sixty-six thousand dollars (\$66,000); or

(E) the development consists of the extraction of minerals valued at less than seventeen thousand dollars (\$17,000), in which case a minor coastal zone permit shall be issued by the Commissioner; provided, however that if the Commissioner, upon reviewing any minor permit application submitted pursuant to subsection (e), paragraph (3) of this Section, determines that the proposed activity is likely to have significant adverse environmental consequences he shall,

upon giving notice to the applicant, forward such application to the appropriate Committee of the Commission for review as a major coastal zone permit.

(d) Coastal zone permit procedures

(1) Upon submission of any application for a coastal zone permit, which application shall specify the type of permit being sought, the Commissioner shall determine whether such application is complete. If the Commissioner determines that such application is not complete, he shall promptly notify, in no event more than 15 days after receipt thereof, the applicant of the deficiencies in such application.

(2) Upon determination by the Commissioner that an application for a major coastal zone permit is complete, the Commissioner shall promptly transmit a copy thereof to all relevant public agencies for review and comment within thirty days of the receipt thereof, and shall schedule a public hearing to be conducted by the appropriate Committee of the Commission on such application, said hearing to be held within sixty days of the receipt of such completed application.

(3) Upon receipt of an application for a minor coastal zone permit which is deemed complete by the Commissioner, the Commissioner shall promptly give written notice of the filing of such application to any person who requests such notification in writing. In addition, the Commissioner shall give such notice to any person who he determines would be affected by or any person interested in such development. Upon a request from any such person, the Commissioner shall transmit a copy of the application and shall request comments thereon within thirty days thereafter.

(4) The appropriate Committee of the Commission shall act upon a major coastal zone permit application within thirty days after the conclusion of the public hearing required by paragraph (2) of this subsection, and the Commissioner shall act upon a minor coastal zone permit application within sixty days after receipt thereof.

Failure of the appropriate Committee of the Commission or the Commissioner to act within any time limit specified in this paragraph shall constitute an action taken and shall be deemed an approval of any such application. A copy of the decision of the appropriate Committee of the Commission or the Commissioner, whichever is applicable, on an application for a coastal zone permit shall be transmitted in writing to the applicant and to any person who requests a copy thereof.

(5) Any action by the appropriate Committee of the Commission or the Commissioner shall become final after the forty-fifth day following a decision, unless an appeal is filed with the Board of Land Use Appeals within such time. If such an appeal is filed, the operation and effect of the Committee's or the Commissioner's action shall be stayed pending a decision on appeal.

(6) If an application for a permit is denied by the appropriate Committee of the Commission pursuant to subsection (a), paragraph (2) of this Section, or by the Board of Land Use Appeals pursuant to Section 914 of this Chapter, the applicant may submit another application for a coastal zone permit no sooner than one hundred-twenty days after the date of such denial.

(7) Any development approved pursuant to this Chapter, including any action by the Board of Land Use Appeals, shall be commenced, performed and completed in compliance with the provisions of the permits for such development granted or issued by the appropriate Committee of the Commission, the Commissioner, the Board of Land Use Appeals or any other public agency. Any development or construction approved by a coastal zone permit shall be commenced within twelve months from the date such permit is issued. Failure to commence development or construction within such period shall cause the permit to lapse and render it null and void unless an extension is granted by the appropriate Committee of the Commission or the Commissioner.

(e) Regulations

The Commission shall, in the manner required by law and after public hearings, adopt such supplementary regulations pertaining to the issuance of coastal zone permits as it deems necessary. The Commission may thereafter, in the manner required by law, and from time to time, after public hearings, modify or adopt additional regulations or guidelines as deemed necessary to carry out the provisions of this Chapter; provided, any such rules, regulations, or guidelines issued by the Commission pursuant to this Chapter may be modified, amended or revised by the Legislature in accordance with the provisions of subsection (b), Section 913 of Title 3 of this Code. Such regulations shall include, but are not limited to the following:

(1) procedures for the submission, review and denial or approval of coastal zone permit applications, and the form of application for coastal zone permits. The Commissioner shall devise a temporary application form which shall be used upon enactment of this Chapter until such time as rules and regulations are adopted;

(2) information to be required in the application, including without limitation, proof or legal interest in the property, authority to sign the application, drawings, maps, data and charts concerning land and water uses and areas in the vicinity of the proposed development and, for major coastal permits, a completed environmental assessment report as defined in section 902, subsection (o) of this Chapter and appropriate supplementary data reasonably required to describe and evaluate the proposed development and to determine whether the proposed development complies with statutory criteria under which it might be approved;

(3) any person who must alter trust lands or submerged or filled lands in order to compile the data required by this Section must obtain prior written authorization from the appropriate Committee of the Commission for such alteration;

(4) the payment of a reasonable filing fee for the processing by the appropriate Committee of the Commission or the Commissioner of any application for a coastal zone permit. The funds received under this paragraph shall be placed in the Natural Resources Reclamation Fund as described and provided for in Section 911, subsection (f), paragraph (A) of this Chapter;

(5) designation of the types of development to be conducted completely or substantially seaward of the line of mean high tide requiring a minor coastal zone permit, including but not limited to swimming or navigation buoys, moorings for vessels, small intake and outfall pipes, small private piers, small boat ramps or slips, and underwater transmission lines or cables;

(6) standards in addition to those set out in subsection (c) of this Section for determining whether a development requires a minor coastal zone permit or a major coastal zone permit;

(7) requirements for the conduct and continuance of public hearings and the methods of providing public notice on major coastal zone permits. A public notice shall at a minimum state the nature and location of the proposed development, and the time and place of the public hearing, and shall be advertised in a newspaper of general circulation, and in addition be given to the applicant, any person who requests such notification in writing, any person who the Commissioner determines would be affected by or interested in such development, and the owner(s) of any/all lot(s) within or adjacent to the site of the proposed development. Joint public hearings may be held in conjunction with any such hearing required by any federal agency;

(8) contents of coastal zone permits;

(9) notifications of denial of applications;

(10) notices of completion and certificates of acknowledgment of compliance;

(11) amendment, modification and revocation of coastal zone permits;

(12) transfer or assignment of coastal zone permits.

(f) The Commissioner as Zoning Administrator

The Commissioner, pursuant to the provisions of Title 29, Section 235, subsection (a), unnumbered paragraph 2 of this Code, as amended, shall perform the duties of the Zoning Administrator with respect to the administration and enforcement of the Zoning Law within the first tier of the coastal zone, and the issuance of a coastal zone permit shall constitute compliance with the requirements of the zoning law.

(g) Coordination with other permit requirements

Where the development or occupancy of trustlands or other submerged or filled lands, or other development in the coastal zone, requires separate and distinct approval from the United States Government or any agency, department, commission or bureau thereof, the coastal zone permit shall be contingent upon receipt of all other such permits and approvals, and no such development or occupancy shall commence prior to receipt of all of such permits and approvals.

§ 911. Additional Requirements for Development or Occupancy of Trustlands or Other Submerged or Filled Lands

(a) Permit required prior to development or occupancy

(1) No person shall develop or occupy the trustlands or other submerged or filled lands of the Virgin Islands without securing a coastal zone permit which includes, in addition to the elements of a Section 910 permit, a permit or lease for the development or occupancy of the trustlands or other submerged or filled lands.

(2) The provisions of this Section shall be in addition to all other requirements of this Chapter and shall apply to all applications for, and issuance of, permits for development or occupancy of the trustlands or other submerged or filled lands, and for modifications or renewals of permits or leases for such development or occupancy issued prior to the effective date of this Chapter.

(b) Applications and procedures

(1) The Commission shall, in the manner required by law, adopt regulations governing the filing, content, review and processing of applications for coastal zone permits that include development or occupancy of trustlands or other submerged or filled lands; provided, however, that all applications for coastal zone permits that include development or occupancy of trustlands or other submerged or filled lands, shall include:

(A) an environmental assessment report, as defined in Section 902, subsection (o) of this Chapter, of the prevailing environmental conditions of the site and adjacent properties. The report must clearly indicate probable effects, including adverse effects, to the general environment should the proposed alteration be implemented;

(B) a complete and exact written description of the proposed site, including charts, maps, photographs, topographic charts, submerged land contours, and subsurface profile in accordance with the scope and complexity of the work and the time

(C) a complete and exact written description of the proposed occupancy or development for which the permit is sought, defining construction methods. This description must include the details of supervisory and control procedures and credentials of the personnel responsible for this function;

(D) a written statement of alternatives, if any, to the proposed alteration.

(2) The applicant for a coastal zone permit that includes development or occupancy of trustlands or other submerged or filled lands shall have the burden of proof in demonstrating that it meets the requisite criteria established by this Section.

(3) The appropriate Committee of the Commission or the Commissioner may recommend such reasonable terms and conditions to be included in any coastal zone permit that includes an occupancy or development permit or lease issued pursuant to this Section as it deems necessary to ensure that such occupancy and development will be in accordance with the provisions of this Chapter.

(c) Additional findings necessary

The appropriate Committee of the Commission or the Commissioner shall deny an application under Section 910 hereof for a coastal zone permit which includes development or occupancy of trustlands or other submerged or filled lands, unless it or he makes all of the following findings:

(1) that the application is consistent with the basic goals of Section 903 and with the policies and standards of Section 906 of this Chapter;

(2) that the grant of such permit will clearly serve the public good, will be in the public interest and will not adversely affect the public health, safety and general welfare or cause significant adverse environmental effects;



(3) that the occupancy and/or development to be authorized by such a permit will enhance the existing environment or will result in minimum damage to the existing environment;

(4) that there is no reasonably feasible alternative to the contemplated use or activity which would reduce the adverse environmental impact upon the trustlands or other submerged or filled lands;

(5) that there will be compliance with the Virgin Islands territorial air and water quality standards;

(6) that the occupancy and/or development will be adequately supervised and controlled to prevent adverse environmental effects; and

(7) that in the case of the grant of an occupancy or development lease, an occupancy or development permit for the filled land is not sufficient or appropriate to meet the needs of the applicant for such lease. The burden of proving such insufficiency or inappropriateness shall be upon the applicant.

(d) Terms of occupancy and development permits and leases

(1) A coastal zone permit that includes an occupancy or development permit shall be issued for a definite term, shall not constitute a property right and shall be renewable only if the requirements of this Section for the approval and issuance of such permits are satisfied.

(2) A coastal zone permit that includes an occupancy or development lease shall only be granted for a particular parcel of filled land and for a nonrenewable lease period of not more than 20 years.

- (e) Approval by Governor and ratification by Legislature of coastal zone permits that include development or occupancy of trustlands or other submerged or filled lands

Any coastal zone permit which the appropriate Committee of the Commission or the Commissioner recommends for approval pursuant to this Section, together with the recommended terms and conditions thereof, shall be forwarded by the Committee or Commissioner to the Governor for the Governor's approval or disapproval within thirty days following the Committee's or Commissioner's final action on the application for the coastal zone permit or the Board's decision on appeal to grant such a permit. The Governor's approval of any such permit or lease must be ratified by the Legislature of the Virgin Islands or, in the event that the Legislature is not in session, by the Committee on Conservation, Recreation and Cultural Affairs of the Legislature. Upon approval and ratification of such permit, occupancy and any development proposed in connection therewith shall not commence until the permittee has complied with the requirements of the United States Army Corps of Engineers pursuant to Title 33 of the United States Code.

- (f) Rental and reclamation fees

- (1) Coastal zone permits issued pursuant to this Section shall provide for the payment by the permittee or lessee of a rental fee.

- (2) Coastal zone permits issued pursuant to this Section which provide for or authorize the dredging and/or removal of sand, gravel, coral or aggregate shall provide for the payment of a reclamation fee.

- (3) The Commission shall, in the manner required by law for the adoption of rules and regulations, and after public hearings, establish a schedule of reasonable fees for the administration of this Section.

- (4) Rental and reclamation fees paid pursuant to this Section shall be paid to the Commissioner and covered into the Natural Resources Reclamation Fund, which fund is hereby continued by this paragraph, without hiatus, from existing law.

The Commissioner of Finance is directed to maintain and provide for the administration of this fund as a separate and distinct fund in the Treasury, and to authorize disbursements therefrom, upon the certification of the Commissioner, to meet expenses incurred in the administration and enforcement of the provisions of this Chapter and in the discharge of the Commission's duties thereunder. The Fund shall consist of permit and other fees and fines paid pursuant to the provisions of this Chapter, and such other funds as may from time to time be appropriated thereto by the Legislature.

(g) Modification and revocation

In addition to any other powers of enforcement set forth in Section 913 of this Chapter, the Governor may modify or revoke any coastal zone permit that includes development or occupancy of trustlands or submerged or filled lands approved pursuant to this Section upon a written determination that such action is in the public interest and that it is necessary to prevent significant environmental damage to coastal zone resources and to protect the public health, safety and general welfare. Such written determination shall be delivered both to the permittee and to the Legislature or its Committee on Conservation, Recreation and Cultural Affairs if the Legislature is not in session, together with a statement of the reasons therefor. It shall state the effective date of such modification or revocation, and shall provide a reasonable time in which the permittee or lessee either may correct the deficiencies stated in such written determination or may establish, to the Governor's satisfaction, that any or all of the deficiencies or reasons stated therein are incorrect. If the permittee shall fail to correct or establish the inaccuracy of such deficiencies or reasons within the time provided in such written determination, the modification or revocation of such occupancy permit shall be effective as of the date stated therein; provided, however, that the Legislature, or its Committee on Conservation, Recreation and Cultural Affairs if the Legislature is not in session, shall ratify the Governor's action within thirty days after said effective date. The failure of the Legislature, or its Committee on Conservation, Recreation and Cultural Affairs if the

Legislature is not in session, either to ratify or rescind the Governor's action within said thirty-day period shall constitute a ratification of the Governor's action.

(h) Transporting of sand or other aggregate

Every transporter of sand, gravel, coral, aggregate, minerals or other natural products of the sea, excepting fish and wildlife, from the trustlands or other submerged or filled lands shall display a coastal zone permit and an occupancy permit or lease as proof of authorization for such transport. The contents of such permit or lease and the manner of its display shall be prescribed by the Commission by regulation. To enforce this requirement, the Commissioner or his duly authorized representative shall have the right to stop any motor vehicle transporting sand, gravel, coral, aggregate, minerals or other natural products of the sea, excepting fish and wildlife, on the public roads and highways of the Virgin Islands for the purpose of ascertaining whether the material being transported has been taken from the trustlands or other submerged or filled lands and whether a coastal zone permit or occupancy permit or lease has been issued authorizing its removal pursuant to this Chapter.

§ 912. Planning Program

(a) Setting of boundaries, establishment of titles, identification of access and amendments

The Commission, with the assistance of the Planning Office, the Attorney General and other public agencies, shall conduct a comprehensive survey of the shorelines of the Virgin Islands to establish the landward boundaries of such shorelines in accordance with this Chapter; shall conduct a comprehensive study to determine the existing status of title, ownership and control, in accordance with the provisions of this Chapter, of all land within or adjoining the shorelines; and shall prepare surveys, maps and charts showing existing routes of public access to the shorelines.

(b) Continued planning

To ensure that the provisions of this Chapter are regularly reviewed and that recommendations for revisions of, or amendments to, the Virgin Islands Coastal Zone Management Program will be reviewed and developed, and to supplement the activities of other public agencies in matters relating to the planning for and management of the coastal zone and to provide for continued territorial coastal planning and management, the Virgin Islands Planning Office shall undertake on a continuing basis such activity and research as is necessary to maintain a continued involvement in the coastal zone management process and shall be responsible, with the assistance of the Commission, for comprehensive planning in the coastal zone, for review of all amendments to the Virgin Islands Coastal Zone Management Program, and for recommending the designation of areas of particular concern.

(c) Amendments

Any provisions of this Chapter, including the boundaries of the coastal zone and the use designations on the Land and Water Use Plan, may be amended or repealed by the Legislature of the Virgin Islands. The procedures and requirements for such amendment shall be the same as provided in Title 29, Section 238 of this Code for amendments to the Zoning Law. All proposed amendments not initiated by the Commission shall be referred by the Planning Office to the Commissioner for comment prior to public hearing.

§ 913. Enforcement, Penalties and Judicial Review

(a) General

The provisions of this Section shall be cumulative and not exclusive and shall be in addition to any other remedies available at law or equity.

(b) Enforcement

(1) Any person may maintain an action for declaratory and equitable relief to restrain any violation of this Chapter. On a prima facie showing of a violation of this Chapter, preliminary equitable relief shall be issued to restrain

any further violation hereof. No bond shall be required for an action under this subsection.

(2) Any person may maintain an action to compel the performance of the duties specifically imposed upon the Commission or the Commissioner of any public agency by this Chapter; provided, however, that no such action shall be brought prior to thirty days after written notice has been given to the Commission, its Committees, the Commissioner, or such public agency by the complainant specifying the duties which the complainant alleges have not been performed. No bond shall be required for an action under this subsection.

(3) The appropriate Committee of the Commission and the Commissioner shall regularly monitor a permittee's compliance with the terms and conditions of its coastal zone permit.

(4) The Commission, its Committees and the Commissioner shall have the power to enter at reasonable times upon any lands or waters in the coastal zone for which a coastal zone permit has been issued, and the permittee shall permit such entry for the purpose of inspecting and ascertaining compliance with the terms and conditions of said coastal zone permit, and to have access to such records as the Commission, its Committees, or the Commissioner in the performance of its or his duties hereunder may require permittee to maintain. Such records may be examined and copies shall be submitted to the Commission or Commissioner upon request.

(5) Violation of any term or condition of any coastal zone permit issued or approved pursuant to this Chapter shall be grounds for revocation or suspension thereof. Violation of any term or condition of any occupancy or development permit or lease issued prior to the effective date of this Chapter shall, to the maximum extent permitted by law, be grounds for revocation or suspension thereof.

(6) When the Commission or Commissioner has reason to believe that any person has undertaken, or is threatening to undertake, any activity that may require a coastal zone permit without securing a coastal zone permit, or that may be inconsistent with any coastal zone permit previously issued, the Commission or Commissioner may issue a written order directing such person to cease and desist. The cease and desist order shall state the reasons for the Commission's or Commissioner's decision and may be subject to such terms and conditions as the Commission or Commissioner deems necessary to insure compliance with the provisions of this Chapter including, without limitation, immediate removal of any fill or other material, suspension of the coastal zone permit, or the setting of a schedule within which steps must be taken to obtain a coastal zone permit pursuant to this Chapter. Said order shall be served by certified mail or hand delivery upon the person being charged with the actual or threatened violation of this Chapter, and shall be effective upon issuance; provided, however, that such order shall grant the opportunity for a hearing.

(7) In addition to any other remedy provided herein or at law or equity, the Attorney General, the Commission or Commissioner may institute a civil action in the District Court of the Virgin Islands for an injunction or other appropriate relief, including revocation of a permit issued hereunder, or an order to prevent any person from violating the provisions of this Chapter, including occupying or developing the trustlands or other submerged or filled lands, or to enforce any cease and desist order or any regulations issued hereunder.

(c) Penalties

(1) Any person who violates any provision of this Chapter, or any regulation or order issued hereunder, shall be subject to a civil fine of not to exceed ten thousand (\$10,000) dollars.

(2) Any violation of this Chapter or any regulation or order issued hereunder shall constitute a misdemeanor. Any person convicted of such a violation shall be fined in accordance with the provisions of subsection (c), paragraph (1) hereinabove, or imprisoned not more than one year, or both.

(3) In addition to any other penalties provided by law, any person who intentionally and knowingly performs any development in violation of this Chapter shall be subject to a civil fine of not less than one thousand dollars nor more than ten thousand dollars per day for each day during which such violation occurs.

(4) In addition to the foregoing and in order to deter further violations of the provisions of this Chapter, the Attorney General, the Commission or Commissioner may maintain an action for exemplary damages, the amount of which is left to the discretion of the Court, against any person who has intentionally and knowingly violated any provisions of this Chapter.

(5) All civil penalties permitted herein shall be assessed by the appropriate court; provided, however, that at such time, if any, that the Commission may promulgate rules and regulations establishing a procedure for the administrative assessment of civil penalties, it or the Commissioner shall have the alternative of proceeding by means of court assessment or such administrative procedure. The Commission is hereby authorized to promulgate all rules and regulations it deems necessary to implement the alternatives allowed by this paragraph.

(6) All fines collected under the provisions of this subsection (c) shall be deposited into the Natural Resources Reclamation Fund provided for in Section 911, subsection (f), paragraph (4) of this Chapter.



(d) Judicial review - writ of review

Pursuant to Title 5, Chapter 97 and Appendix V, Rules 10 and 11 of this Code, a petition for writ or review may be filed in the District Court of the Virgin Islands in the case of any person aggrieved by the granting or denial of an application for a coastal zone permit, including a permit or lease for the development or occupancy of the trustlands or other submerged or filled lands, or the issuance of a cease and desist order, within forty-five days after such decision or order has become final provided that such administrative remedies as are provided by this Chapter have been exhausted.

§ 914. Board of Land Use Appeals

(a) Administrative appeals or coastal zone permit applications

Notwithstanding any provision of law to the contrary, any aggrieved person may file an appeal of an action by the Commission, its Committees, or the Commissioner taken pursuant to Section 910 or 911 of this Chapter within forty-five days thereof with the Board of Land Use Appeals, and such appeal shall be governed solely by the provisions of this Section.

(b) Procedures on appeal

The Board shall prepare a form of application for such appeals and shall adopt in the manner required by law rules and regulations governing the submission and review of applications for appeal and the notice and procedures for conduct of public hearings on such an appeal. In addition to public notice, personal notice of such a public hearing on an appeal shall be served on the Commission or its Committees, the Commissioner, the applicant for the coastal zone permit and the aggrieved person, if they be different, any person who has requested in writing to be notified of such public hearing date, and any person who testified at the public hearing held by the appropriate Committee of the Commission to consider the original application.

(c) Public hearings

A public hearing on an appeal shall be held by the Board within sixty days after the appeal is filed with the Board, and a decision shall be rendered by the Board within thirty days after the conclusion of such public hearing. The Board shall notify the Commission or its Committee, the Commissioner, the applicant for the coastal zone permit and the aggrieved person, if they be different, of its decision by certified mail. Notice to all other persons who received notice of the public hearing on appeal may be by regular mail. Such notice shall be sent within four working days of the Board's decision.

(d) Actions of the Board

The Board, by majority vote of its authorized members, shall either affirm or reverse the Commission's or its appropriate Committee's or the Commissioner's action and shall either approve or deny an application for a coastal zone permit. If the Board grants an application for a coastal zone permit, The Board shall impose such reasonable terms and conditions on such permit as it deems necessary to achieve the objectives and purposes of this Chapter. The Board shall set forth in writing and in detail the reasons for its decision and findings of fact upon which its decision is based. If the Board reverses a Committee's or the Commissioner's action on a coastal zone permit, it must make all of the findings required by Section 910, subsection (a), paragraphs (2), (3) and (4) of this Chapter. A copy of the Board's action shall be available for public inspection at the Board's offices during ordinary business hours. The Board's action shall be final after four working days following its decision."

SECTION 2. Title 3, Section 406, subsection (a), paragraph (1), Virgin Islands Code, is amended by adding a new subparagraph (J) to read as follows:

"(J) coastal zone management."

SECTION 3. Title 3, Section 406, subsection (a), paragraph (2), subparagraph (G), Virgin Islands Code, is amended to read as follows:

"(G) employ such experts, scientists, consultants, technicians or other specially qualified persons as may be necessary for the proper and effective exercise and performance of its powers, duties and functions;"

SECTION 4. Title 12, Sections 404, 405, 406 and 407, Virgin Islands Code, are hereby repealed.

SECTION 5. Title 12, Virgin Islands Code, is amended by adding a new Section 539 to read as follows:

"§ 539. Compliance with the Virgin Islands Coastal Zone Management Act of 1978

Notwithstanding any provision in this Chapter to the contrary, any person wishing to perform or undertake any development in the first tier of the Coastal Zone, as defined in Title 12, Chapter 21 of this Code, shall obtain a coastal zone permit pursuant to Title 12, Chapter 21 of this Code, prior to commencing or undertaking such development. Issuance of a coastal zone permit for said development shall constitute compliance with this Chapter, and in such event no permit shall be required for said development pursuant to this Chapter."

SECTION 6. Title 12, Chapter 15, Virgin Islands Code, is hereby repealed.

SECTION 7. Title 12, Virgin Islands Code, is amended by adding a new Section 720 to read as follows:

"§ 720. Compliance with the Virgin Islands Coastal Zone Management Act of 1978

Notwithstanding any provision in this Chapter to the contrary, any person wishing to perform or undertake any development, as defined in Title 12, Chapter 21 of this Code, shall obtain a coastal zone permit pursuant to Title 12, Chapter 21 of this Code, prior to commencing or undertaking such development."

SECTION 8. Title 28, Section 47, paragraph (5), Virgin Islands Code, amended to read as follows:

"(5) When the shoreline is the boundary, the rights of the grantor to the line of mean high tide, subject to the right of the public to make reasonable recreational use of the shoreline, as "shoreline" is defined in Section 402 of Chapter 13 of Title 12 of this Code, are included in the conveyance."

SECTION 9. Title 28, Section 411, Virgin Islands Code, is amended by adding a new paragraph (9) thereto to read as follows:

"(9) For the acquisition of parks, lands for public recreation and significant natural areas as defined in Title 12, Chapter 21 of this Code."

SECTION 10. Title 29, Section 235, subsection (a), Virgin Islands Code, is amended by adding a new paragraph immediately following the first paragraph of such subsection, to read as follows:

"The Commissioner of Conservation and Cultural Affairs shall be the Zoning Administrator in connection with any development for which a coastal zone permit is required under Title 12, Chapter 21 of this Code (the Virgin Islands Coastal Zone Management Act of 1978)."

SECTION 11. Title 29, Virgin Islands Code, is amended by adding a new Section 278 to read as follows:

"§ 278. Subdivisions in the Coastal Zone

Notwithstanding anything in this Subchapter to the contrary, applications made pursuant to this Subchapter for subdivisions of land within the first tier of the coastal zone, as defined in Title 12, Chapter 21 of this Code, shall not be approved by the Planning Director unless the subdivider submits evidence or a copy of a valid coastal zone permit authorizing such subdivision. Compliance with the terms and conditions of such coastal zone permit shall also be a condition of approval of any preliminary plat, general subdivision plan or final plat pursuant to this Subchapter."

SECTION 12. (a) The captioned heading of Title 19, Section 236, Virgin Islands Code, is amended to read as follows:

"§ 236. The Board of Land Use Appeals".

(b) All references in Title 29, Sections 236, 277 and 295, Virgin Islands Code, to the Board of Zoning, Subdivision and Building Appeals shall be deemed to mean and refer to the Board of Land Use Appeals.

SECTION 13. Title 29, Virgin Islands Code, is amended by adding a new Section 580 to read as follows:

"§ 580. Compliance with the Virgin Islands Coastal Zone Management Act of 1978

Notwithstanding any provision in this Chapter to the contrary, the Authority shall comply with and be subject to all provisions and requirements of Title 12, Chapter 21 of this Code (the Virgin Islands Coastal Zone Management Act of 1978)."

SECTION 14. Title 30, Virgin Islands Code, is amended by adding a new Section 124 to read as follows:

"§ 124. Compliance with the Virgin Islands Coastal Zone Management Act of 1978

Notwithstanding any provision in this Chapter to the contrary, the Authority shall comply with and be subject to all provisions and requirements of Title 12, Chapter 21 of this Code (Virgin Islands Coastal Zone Management Act of 1978)."

SECTION 15. Title 31, Section 205, Virgin Islands Code, is amended by adding thereto a new subsection (h), to read as follows:

"(h) The provisions of subsection (g) of this Section shall not be applicable to developments in the coastal zone, as those terms are defined in Title 12, Chapter 21 of this Code."

SECTION 16. Title 31, Section 205, Virgin Islands Code, is amended by adding thereto a new subsection (i) to read as follows:

"(i) Notwithstanding any other provision of law to the contrary, no real property located in the coastal zone, as defined in Title 12, Chapter 21 of this Code, owned by any public agency shall be sold, conveyed or otherwise disposed of for uses or purposes inconsistent with the provisions of Title 12, Chapter 21 of this Code."

SECTION 17. Title 32, Section 21, subsection (b), Virgin Islands Code, is amended to read as follows:

"(b) It shall be the duty of the Division of Parks and Natural Resources to supervise, administer, manage regulate and control the use and operation of all parks, lands for public recreation, public monuments, memorials, sites of historic or archeological interest and value, coastal lands, marine parks, and such others as may be designated by regulations by the Commissioner,

including but not limited to beaches, off-shore islands and cays, within the coastal zone as defined in Title 12, Chapter 21 of this Code, that either are owned by or which may be acquired by the Government of the Virgin Islands, or to the operation, development, preservation or maintenance of which the Government may have made or may make contribution or appropriation of public funds."

SECTION 18. Title 32, Section 22, Virgin Islands Code, is amended by adding thereto a new subsection (h) to read as follows:

"(h) Notwithstanding any provision of law to the contrary, the Division of Parks and Natural Resources, in order to further the purposes of Title 12, Chapter 21 of this Code, shall have the power to acquire, in the name of the Government of the Virgin Islands, interests in land or water in the coastal zone, as defined in Title 12, Chapter 21 of this Code, for public parks or public recreational facilities, for purposes of preserving and maintaining significant natural areas, as defined in Title 12, Chapter 21 of this Code, or for providing public access to the shoreline. Acquisition may be by eminent domain proceedings pursuant to Title 28, Chapter 19 of this Code, purchase, gift, demise, bequest or other means. For purposes of this subsection, an interest in land includes a fee simple, leasehold interest, development right, or easement. The power granted by this subsection to acquire an interest in land does not imply any lack of power to accomplish the same objective by regulation or any other means, and is in addition to any power to acquire an interest in land under any other law."

SECTION 19. Title 32, Section 23, Virgin Islands Code, is amended to read as follows:

"§ 23. Rules and Regulations

The Division of Parks and Natural Resources may in the manner provided by law, adopt and enforce such rules and regulations as may be necessary for the protection, management, utilization, development, occupancy and use of all lands and waters within its jurisdiction, consistent with existing laws and with the purpose or purposes for which said lands and waters were acquired, designated or dedicated, and when such rules and regulations shall have been adopted they shall have the force and effect of law."

SECTION 20. Section 4 of Act No. 3053 is hereby repealed.

SECTION 21. Fees accruing to the use and benefit of the Government of the Virgin Islands from submerged lands permits granted by the Government of the United States prior to the effective date of Act No. 3667 and which, pursuant to Section 2 of that Act, were covered into the Natural Resources Reclamation Fund created by Section 1 of that Act, are hereby continued without hiatus for the purposes of Section 1 of this Act.

SECTION 22. Section 2 of Act No. 3667 is hereby repealed.

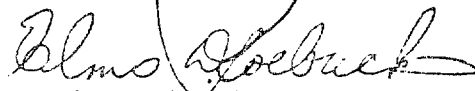
SECTION 23. (a) Any applications for submerged lands permits for occupancy or alteration of the Trustlands or other submerged or filler lands filed with the Department of Conservation and Cultural Affairs pursuant to Act No. 3667 and pending decision on the effective date of this Act, shall be granted or denied by the Commissioner on the basis of the policies and criteria established in Act No. 3667.

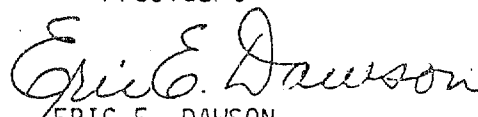
(b) All submerged lands permit applications referred to in subsection (a) above shall be either approved or denied by the Commissioner no later than sixty (60) days after the effective date of this Act. Failure of the Commissioner to act within that time shall constitute an action taken and shall be deemed an approval of any such application.

SECTION 24. The effective date of this Act shall be February 1, 1979.

Thus passed by the Legislature of the Virgin Islands on October 12, 1978.

Witness our Hands and the Seal of the Legislature of the Virgin Islands this 12th Day of October, A. D., 1978.

  
ELMO D. ROEBUCK  
President

  
ERIC E. DAWSON  
Legislative Secretary